



Office of the City Manager

SUPPLEMENTAL AGENDA MATERIAL**Meeting Date:** July 26, 2022**Item Description:** Police Equipment & Community Safety Ordinance Impact Statements and Policy 303 (Control Devices and Techniques)**Submitted by:** Jennifer Louis, Interim Chief of Police
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This supplemental communication provides the revised Impact Statements and Policy 303 (Control Devices and Techniques). The City Ordinance Impact Statements and Policy 303 were revised following the June 21st Special Meeting of the Berkeley City Council to reflect the approved Impact Statements and Policy 303 from the Supplemental Communications Packet #2 submitted by Vice Mayor Harrison and Councilmember Hahn. Both documents are attached to this supplemental agenda.



**Police Equipment and
Community Safety Ordinance
Impact Statements**

ACKNOWLEDGEMENTS

Thank you to the subject matter experts for helping author this report.

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INTRODUCTION

On May 11, 2021 the Berkeley City Council passed Ordinance NO. 7,760-N.S., the Police Equipment and Community Safety Ordinance. Section 2.100.020 of the ordinance mandates an impact statement for certain equipment that the Berkeley Police Department possesses. An impact statement is defined in section 2.100.020 (C) and is a publicly released written document that includes the following details for each equipment:

- 1) Description
- 2) Purpose
- 3) Fiscal cost
- 4) Impact
- 5) Mitigation
- 6) Alternatives
- 7) Third Party Dependence

An impact statement for each of the following equipment has been authored by subject matter experts in their respective fields:

- M4 rifle/Patrol Rifle
- Penn Arms 40MM launcher
- Milkor LTL multi-launcher
- FN 303 Launcher & FN Pava rounds
- Oleoresin capsicum (OC spray)
- Chlorobenzylidene Malononitrile and Oleoresin capsicum (tear gas)
- Remington 700 Rifle
- ReconRobotics Recon Scout XT Robots
- Andros Remotec HD-1 Hazardous Duty Robot
- Light/sound distraction device
- Long Range Acoustic Device (LRAD)
- 36" batons
- Mobile Command Vehicle
- Barret Model 99

Impact statements were compiled in this report in a prioritized ranking for the Police Accountability Board to consider in determining the order in which to perform its review per the Police Equipment and Community Safety Ordinance.

M4 Rifle and Associated Ammunition

(1) Description:

A. Background:

The “M4” was developed and produced for the United States government by Colt Firearms and was based off of the original Armalite Rifle (AR) patent purchased by Colt in 1959. Although Colt owned the trademarked name of “M4”, a number of other manufacturers offer M4-like firearms under various model names. The M4 and its variants fire 5.56×45mm NATO (and .223 Remington) ammunition, and are a gas-operated, magazine-fed firearm with a barrel length ranging from 11.5” to 16”.

The current Berkeley Police Department (BPD) rifle ammunition used is the .223 Remington, a rimless, bottlenecked rifle cartridge. The round was developed in 1957 by Remington Arms and Fairchild Industries. The .223 Remington is considered one of the most popular cartridges and is currently used by a wide range of semi-automatic and manual-action rifles as well as handguns. While the military uses the similar 5.56x45 NATO cartridge, BPD uses the more common and often regarded civilian cartridge of .223 Remington for all training and duty uses.

Currently, BPD uses two different kinds of .223 Remington ammunition: 55 grain FMJ (full metal jacket) for training purposes and 62 grain soft point for duty purposes. This is done for several reasons.

1. FMJ ammunition is cheaper to purchase. While many agencies use the same ammunition for training and duty use, the department saves a significant amount of money by using FMJ ammunition for training.
2. The observed performance between the two rounds is negligible for training purposes. Officers can use the FMJ ammunition in a training course and see no difference in operation and performance versus using 62 grain soft point duty ammunition.
3. The 62-grain soft point ammunition has been shown to have less over penetration and over travel compared to FMJ ammunition.

This means that rounds fired are less likely to hit unintended targets.

B. Quantity:

The Berkeley Department currently owns and maintains 96 rifles.

Quantity of rifle ammunition fluctuates significantly depending on training attended, including the standard basic police academy, officer assignments, and yearly mandate training cycles. For example, most police academy recruits are required to bring approximately 1,000 rounds to the basic POST approved academy. Most academies have a 16-24-hour rifle training course. The training is required for all officers who are issued a rifle and mandates between 800 and 1,200 rounds. As such, the inventory at the Berkeley Police Department fluctuates significantly depending on how many officers are attending state mandated training and can range from 10,000 round (our current inventory) to less than 1,000 rounds (our anticipated inventory at the end of December after scheduled department training in November.)

C. Capability:

The M4 pattern rifle is used only in situations when a potential life-threatening situation exists. While a pistol is the common firearm used by police in these dangerous situations, the M4 patterned rifle has numerous advantages over it. The ability to shoulder the rifle, coupled with the rifle's lengthened barrel and ammunition, result in higher accuracy and lessens the chance of officers missing the intended target. Additionally, due to the design of the rifle's bullet, the round is less likely to over penetrate commercial and residential walls should the officer miss the intended target. The rifle is also easier to use compared to a pistol because of the bullet's low recoil. Finally, as the rifle can be adjusted and customized, it can be configured to accommodate officers of any stature (hand size, strength, etc.).

The .223 Remington cartridge, depending on the weight of the bullet, 55 grain or 62 grain, travel at approximately 3,000 feet per second and 2,700 feet per second respectively. The round is highly regarded as having a high degree of consistency and accuracy, which is why it is the most common rifle round used in Law Enforcement around the world.

D. Lifespan:

Due to the rifle's ability to be maintained by department armorers, these rifles have a relatively long-life span if properly maintained. However, the design has

changed little in the last 60 years and we can expect new variations and designs to become the new industry standard in the coming years.

Like all ammunition, if kept cool and dry, ammunition lifespan can exceed ten years. Due to BPD's and State mandates on training, the majority of ammunition is cycled through within a year of purchase.

E. Use:

Used in the defense of life or great bodily injury to potential victims of violent crimes, general public, and officers.

F. How it Works:

The M4 patterned rifle works the same as a majority of all modern firearms. When the trigger is pressed, a firing pin strikes the primer of a bullet loaded into the chamber of the rifle. The ignited primer ignites gun powder contained in the bullet which pushes the bullet down the barrel and out the muzzle. As the bullet travels down the barrel, gas from the ignited powder also escapes from the muzzle. Some of that gas is recycled back into the chamber of the firearm which causes the firearm to cycle its action and load another bullet. From there the process repeats with each pull of the trigger.

The .223 Remington cartridge is made up of several parts, primarily the primer, casing, gunpowder, and bullet. The bullet is seated into the front or opening of the casing. Gunpowder is placed between the bullet and the interior of the casing and a primer is seated in the rear part of the casing. When the trigger of a firearm is pulled, it releases the hammer, which strikes the firing pin, driving it forward. The firing pin collides with the rear of the cartridge, where the primer is seated, which ignites the primer. The spark from the primer ignites the gunpowder. Gas converted from the burning powder rapidly expands in the cartridge. The expanding gas forces the bullet out of the cartridge and down the barrel with great speed. The rifling in the barrel causes the bullet to spin as it travels out of the barrel. The bullet's speed and escaping gases produce a "bang."

After the bullet exits the barrel, the spent casing which housed the bullet, gunpowder, and primer are ejected from the firearm.

(2) Purpose:

The M4 patterned rifle and associated ammunition is intended as a means to safely stop a lethal threat. While a pistol is the firearm that all officers are minimally

equipped with, the rifle is an ancillary firearm for situations where increased distance and accuracy are needed to safely resolve the situation.

(3) **Fiscal Cost:**

A. **Initial Cost:**

Rifle prices, like other firearms, will range depending on current market demand and availability. While M4 rifles purchased several years ago cost between \$1,000 and \$1,200 a piece, current rifles cost between \$1,400 and \$1,600. It should be expected that these prices will fluctuate and likely increase over time.

Ammunition costs fluctuate with the costs of components (brass, primers, gunpowder, and bullets) and supply/demand. Current costs for .223 Remington range from \$0.50 to \$0.75 a round for training ammunition (55 grain) and \$1.25 to \$1.50 a round for duty ammunition (62 grain).

B. **Cost of Use:**

Cost of use for all firearms should be based on the ammunition used in training and on duty. This will fluctuate based on whether the rifle is issued to a patrol officer, a firearms instructor, or a Special Response Team member as each assignment has different training requirements.

C. **Cost of Potential Adverse Effects:**

Adverse effects of improper use of a firearm are not calculable. It could lead to the loss of life or serious injury. Additionally, the improper use could result in civil liabilities.

D. **Annual and Ongoing Costs:**

See section B. above, these costs are determined based on the rifle's assignment.

E. **Training Costs:**

Every officer that is authorized to carry a rifle on duty must attend a 16-hour CA POST approved rifle instruction course before being authorized to carry the rifle on duty. This course may be administered by Berkeley Police Firearm Instructors or by other POST approved agencies. Tuition for the CA POST approved class is dependent on the hosting agency. If conducted in house the cost only includes the officer's hourly wage, range fee, and ammunition costs (all vary). Outside agencies charge between \$25 to \$500 depending on the range location and duration (some classes are 32-hours while POST only requires 16-hours.)

Additionally, all officers issued a rifle receive specific 8-hour rifle training every two years by POST certified BPD firearm instructors.

Typical round count for such classes range between 800 rounds and 1200 rounds per student. Additionally, all officers issued a rifle receive specific 8-hour rifle training every two years by a BPD firearm instructor which constitutes an additional 500 or so rounds per officer.

F. Maintenance and Storage Costs:

Maintenance costs vary depending on use over time. Traditionally, various springs and pins need to be replaced every five years and may cost between \$3 and \$30 per rifle. Other parts such as the barrel and bolt need replaced around ten years and range between \$150 and \$300 per rifle.

There are no costs associated with maintenance or storage of ammunition. All ammunition is stored in a climate-controlled room in the Berkeley Police Department.

G. Upgrade Costs:

Upgrade costs and Maintenance cost are synonymous due to the consistent design and lack of changes of the rifle over the last 60 years. Improvements in technology and new designs may be an additional cost but we can't predict what those will be at this time.

Should advancements be made in ammunition manufacturing, those upgrade costs are unknown at this time.

(4) Impact:

The Berkeley Police Department is committed to preserving and protecting human life and welfare. The M4 patterned rifle, which fires the .223 Remington cartridge, is a superior firearm to stop a lethal threat compared to the issued pistols to police officers, in that officers equipped with this firearm shoot less rounds, fire more accurately, and are less likely to fire errant rounds. Highly volatile and violent incidents, such as a hostage situation, can be more safely and efficiently resolved with a rifle.

The M4 patterned rifle, and the accompanying .223 Remington cartridge it fires, is intended as a tool to increase the safety and welfare of citizens and officers alike. Potential negative impacts include larger entry and exit wounds than from handgun bullets, more body tissue destruction; emotional trauma to vulnerable and/or minor bystanders; and potential litigation costs.

(5) **Mitigations:**

Per Policy 300, “Deadly force may only be used when it is objectively reasonable that such action is immediately necessary to protect the officer or another person from imminent danger of death or serious bodily harm.

Officers shall not use deadly force if it is objectively reasonable that alternative techniques will eliminate the imminent danger and ultimately achieve the law enforcement purpose with less risk of harm to the officer or to other persons.”

(6) **Alternatives:**

There are no suitable alternatives to the M4 rifle for the intended purpose. The M4 rifle is a law enforcement standard across the US and other countries due to its reliability, ease of use, ease of maintenance, and increased accuracy over other options.

There are no suitable alternatives to the .223 Remington cartridge, as the current BPD M4 rifle is designed for that particular cartridge. The .223 Remington cartridge is a law enforcement standard across the US and other countries due to its reliability, availability, and increased accuracy over other options.

(7) **Third Party Dependence:**

Berkeley Police Department armorers are trained and capable to handle any and all issues related to the maintenance or repair of the M4 rifles. Additionally, BPD firearm instructors are fully certified by state and private training institutes to fully educate and train BPD officers. No third party is required for maintenance, repair, or instruction.

All ammunition purchased by BPD, like all equipment, is dependent on Third Party vendors. Vendor stock and availability is outside BPD control or management. Once ammunition is purchased and in BPD custody there is no additional need for Third Party assistance.

Penn Arms 40mm Single Launcher

(1) **Description:**

A. **Background:**

The 40mm impact projectile was developed as an alternative to the 12-gauge bean bag round and other more indiscriminate less lethal options. Early 12-gauge bean bag round designs had somewhat unpredictable flight patterns and could

cause significant unwanted injury. The 40mm foam baton round was developed as a direct fire projectile designed to minimize the risk of unintended injuries. Currently, the Berkeley Police Department utilizes the CTS 4557 foam baton projectile and the Penn Arms L-140 single shot launcher.

B. Quantity:

The Berkeley Police Department currently owns and maintains 20 Penn Arms less lethal launchers.

C. Capability:

The Penn Arms single launcher is capable of firing a single projectile out to a maximum manufacturer recommended range of 45 meters. The Penn Arms 40mm projectiles are direct fire with a pliable “sponge” tip designed to mold to the body. The projectiles are about the size of a large egg. Upon impact, the projectile transfers kinetic energy to the body to gain pain compliance. Large muscle groups such as the upper legs or lower abdomen are approved target areas unless a higher level of force is justified. This level of force is considered to be similar to that of a baton strike.

D. Lifespan:

The manufacturer expected lifespan is about 10 years depending on use and regular maintenance.

E. Use:

The Penn Arms 40mm single launcher is designed to reduce the potential for a violent confrontation. Less lethal projectiles are less likely to result in serious bodily injury or death and can be used to de-escalate a potentially deadly situation.

Pursuant to Cal. Pen. Code § 13652, kinetic energy projectiles shall not be used to disperse any assembly, protest, or demonstration except as provided below.

Kinetic energy projectiles shall only be deployed by a peace officer that has received training on their proper use by the Commission on Peace Officer Standards and Training for crowd control if the use is objectively reasonable to defend against a threat to life or serious bodily injury to any individual, including any peace officer, or to bring an objectively dangerous and unlawful situation safely and effectively under control, and only in accordance with all of the following requirements:

- (1) De-escalation techniques or other alternatives to force have been attempted, when objectively reasonable, and have failed.
- (2) Repeated, audible announcements are made announcing the intent to use kinetic energy projectiles and the type to be used, when objectively reasonable to do so. The announcements shall be made from various locations, if necessary, and delivered in multiple languages, if appropriate.
- (3) Persons are given an objectively reasonable opportunity to disperse and leave the scene.
- (4) An objectively reasonable effort has been made to identify persons engaged in violent acts and those who are not, and kinetic energy projectiles are targeted toward those individuals engaged in violent acts. Projectiles shall not be aimed indiscriminately into a crowd or group of persons.
- (5) Kinetic energy projectiles and chemical agents are used only with the frequency, intensity, and in a manner that is proportional to the threat and objectively reasonable.
- (6) Officers shall minimize the possible incidental impact of their use of kinetic energy projectiles on bystanders, medical personnel, journalists, or other unintended targets.
- (7) An objectively reasonable effort has been made to extract individuals in distress.
- (8) Medical assistance is promptly provided, if properly trained personnel are present, or procured, for injured persons, when it is reasonable and safe to do so.
- (9) Kinetic energy projectiles shall not be aimed at the head, neck, or any other vital organs.
- (10) Kinetic energy projectiles shall not be used by BPD solely due to any of the following:
 - (A) A violation of an imposed curfew.
 - (B) A verbal threat.

(C) Noncompliance with a law enforcement directive.

F. How it works:

The Penn Arms 40mm single launcher is a double action, break open less lethal launcher. The launcher is capable of firing a single 40mm projectile. When fired, the hammer strikes the munition primer which ignites gun powder in the primer insert. Expelled gases propel the projectile through the rifled barrel. The projectile has a rear plastic portion called the ogive which catches the barrel rifling and provides spin. The spin provides a greater degree of accuracy and eliminates any potential the projectile will tumble when exiting the barrel.

The projectiles utilized by the Berkeley Police Department are the CTS 4557 40mm sponge baton round. The CTS 4557 has a maximum effective range of 45 meters. The tip of the projectile is a pliable rubber material which molds to the body upon impact. The projectile travels at an estimated 240 feet per second which is slower than the FN 303 projectile. However, the larger mass, about 60 grams, creates more kinetic energy upon impact which is similar to that of a baseball thrown by a pitcher. The additional kinetic energy becomes important when the suspect has on thick or layered clothing or demonstrates a high pain tolerance.

The Penn Arms single launcher is a basic design making it easy to operate and maintain.

(2) Purpose:

The purpose of kinetic energy impact projectiles, commonly referred to as “less lethal” is to preserve life, minimize the use of force and allow time for de-escalation. Less lethal projectiles allow the user to maintain a safe distance from a subject who is armed and/or demonstrates the intent to be violent. The ability to maintain a safe distance – while still providing a level of control over the subject – allows officers to employ de-escalation techniques, request additional resources and develop a plan to safely resolve the situation with the least amount of risk.

Violent or armed confrontations are inherently dangerous to all those involved. Officers are required to make split second judgments in circumstances that are tense, uncertain and rapidly evolving. An Officer’s threat perception of a person who is in close proximity as opposed to a person who is at a distance of 20 yards is naturally different. A person in close proximity intent on violence has the ability to immediately utilize personal body weapons, a bludgeoning device or cutting

instrument. The immediacy requires the Officer to react instantly and there is a greater potential that a higher level of force will be needed.

On the other hand, a person at a distance of 20 yards may not be perceived as having the immediate ability to violently attack the Officer. The person must first close the distance before certain weapons can be utilized. This fact may allow the Officer time to decide the most appropriate course of action, such as the use of a “less lethal” projectile.

The projectiles are designed to provide a high level of accuracy which minimizes the risk of unwanted impacts. The ability to apply force from a distance reduces the potential for violent confrontation and aides in reducing the level of force needed to safely resolve a conflict.

Additionally, it has been our experience that a 40mm projectile impact will almost always resolve a violent confrontation with 1 or 2 applications. The larger projectile produces more kinetic energy than the FN 303, which may require several applications to gain compliance.

Since 2015, there have been 31 incidents where Officers utilized less lethal applications. These applications have potentially prevented higher-level uses of force.

(3) Fiscal Cost:

A. Initial Cost:

Less lethal prices, like other equipment, varies depending on market demand and availability. The most recent Penn Arms purchased by the department cost \$815.00 each.

B. Cost of Use:

Cost for Penn Arms single launcher use should be based on the projectiles used in training and on duty. This will fluctuate based on department trainings, projectile availability and events that unfold in the city and surrounding region.

C. Cost of Potential Adverse Effects:

Adverse effects from improper use of less lethal are not calculable. Improper use could lead to serious bodily injury or death.

D. Annual and Ongoing Costs:

See section B above

E. Training Costs:

Every officer authorized to deploy a less lethal launcher must pass a certification course administered by a Berkeley Police Department Firearms Instructor. The certification class consists of classroom, range qualification and scenario application if the venue allows. This class is largely handled in house thus the cost only includes staff time, range fees, and projectile costs which all vary.

F. Maintenance and Storage Costs:

Maintenance costs vary depending on use. Generally, various springs and pins need to be replaced every 5 years which can cost \$3 to \$30.

G. Upgrade Costs:

There are no foreseeable upgrade costs. The Penn Arms single launcher has few working parts and is of a simple design.

(4) Impact:

The main function of a less lethal device is to preserve the sanctity of human life. The Berkeley Police Department is committed to reducing the potential for violent confrontations. Less lethal projectiles, when used properly, are less likely to result in serious bodily injury or death and can be used to de-escalate a potentially deadly situation. A less lethal application is an acknowledgment a given situation has the potential to elevate to lethal force and the Officers determined a less lethal application is not only objectively reasonable and objectively necessary, but hopefully the minimal amount of force needed to safely resolve the incident.

The Penn Arms single launcher, with its high level of accuracy can be utilized in a large violent group confrontation to specifically target those who are committing acts of violence on other members of the group, involved persons, or law enforcement personnel. It allows a more immediate action to stop a violent assault, overcome their resistance, and aid in the attempt to safely take them into custody. This tool does not require officers to overcome a hostile crowd to stop a violent assault.

Potential adverse impacts, especially from close-range use or injuries to the head or neck, include permanent injury and death.¹

¹ 1 Haar RJ, Iacopino V, Ranadive N, et al, Death, injury and disability from kinetic impact projectiles in crowd control settings: a systematic review, BMJ Open 2017;7:e018154. doi: 10.1136/bmjopen-2017-018154

(5) **Mitigation:**

Per Policy 300, "In all cases where physical force is used, officers shall use a minimum amount of force that is objectively reasonable, objectively necessary, and proportional to effectively and safely resolve a conflict." All uses of force require documentation that is completed by the supervisor in a use of force report and reviewed by the Chain of Command. Furthermore, all deployments of equipment outlined in the Police Equipment and Community Safety Ordinance are documented according to the reporting requirements as mandated in the ordinance.

Per Policy 303, "Officers are not required or compelled to use approved projectiles in lieu of other reasonable tactics if the involved officer determines that deployment of these projectiles cannot be done safely. Circumstances appropriate for deployment include, but are not limited to, situations in which: (a) The suspect is armed with a weapon and the tactical circumstances allow for the safe application of approved projectiles. (b) The suspect has made credible threats to harm him/herself or others. (c) The suspect is engaged in riotous behavior or is throwing rocks, bottles or other dangerous projectiles at people and/or officers. (d) There is probable cause to believe that the suspect has already committed a crime of violence and is refusing to comply with lawful orders."

The Berkeley Police Department also trains a recommended range of 3 to 30 meters. Berkeley Police Firearm Instructors recommend a minimum standoff of 3 meters to reduce the potential for unintended injury at a closer distance. The 30-meter maximum recommended range is intended to reduce the possibility of an unintended impact area if the suspect moves or the projectile trajectory begins to deteriorate.

Each officer is trained to aim for large muscle groups, such as the thigh or buttocks area, and avoid areas that may cause serious injury. The department also equips each launcher with a red dot optic. The optic greatly increases an officer's ability to target approved impact areas.

(6) **Alternative:**

The Penn Arms single launcher is one of three less lethal options the Berkeley Police Department possess that allow officers to address a potentially violent confrontation from a distance. All three (Penn Arms single launcher, Milkor LTL multi-launcher, and FN303) are viable options that have different strengths and weaknesses. The Penn Arms single launcher and the Milkor LTL multi-launcher operate very similarly and use the same projectile. The Penn Arms single launcher is smaller and easier to carry; however, the Penn Arms single launcher is capable of holding only one projectile

while the Milkor LTL multi-launcher is capable of holding six projectiles. The projectiles used by the Penn Arms single launcher and Milkor LTL multi-launcher are larger which results in more kinetic energy transferred compared to the projectiles used in the FN303; however, the FN303 holds 15 projectiles and is capable of launching it at a faster rate.

An alternative that the Berkeley Police Department does not possess is the TASER. The TASER allows an officer to maintain distance but limits the range to about 15 to 25 feet. Furthermore, the TASER requires two prongs (barbs) to penetrate the subject's clothing to be effective and if that is not accomplished the TASER will have no effect. Additionally, the TASER is not an approved less lethal device for the department.

(7) **Third Party Dependence:**

The Berkeley Police Department armorers are trained and capable of handling all issues related to the repair or maintenance of the Penn Arms single launcher. Additionally, Berkeley Police Department Less Lethal Instructors are fully certified by state and private training institutes to educate and train BPD officers. No third party is required for maintenance, repair, or instruction.

Milkor LTL Multi-launcher

(1) **Description:**

A. **Background:**

The 40mm impact projectile was developed as an alternative to the 12-gauge bean bag round and other more indiscriminate less lethal options. Early 12-gauge bean bag round designs had somewhat unpredictable flight patterns and could cause significant unwanted injury. The 40mm foam baton round was developed as a direct fire projectile designed to minimize the risk of unintended injuries. Currently, the Berkeley Police Department utilizes the CTS 4557 foam baton projectile and the Milkor LTL multi-shot launcher.

B. **Quantity:**

The Berkeley Police Department currently owns and maintains 2 Milkor LTL less lethal launchers. One Milkor launcher is assigned to the Berkeley Special Response Team.

C. Capability:

The Milkor LTL is capable of firing six 40mm projectiles before reloading is necessary. The Milkor LTL 40mm projectiles are direct fire with a pliable “sponge” tip designed to mold to the body. The projectiles are about the size of a large egg. Upon impact, the projectile transfers kinetic energy to the body to gain pain compliance. Large muscle groups such as the upper legs or lower abdomen are approved target areas unless a higher level of force is justified. This level of force is considered to be similar to that of a baton strike.

D. Lifespan:

The manufacturer expected lifespan is about 10 to 15 years depending on use and regular maintenance.

E. Use:

The Milkor LTL multi-shot launcher is designed to reduce the potential for a violent confrontation. Less lethal projectiles are less likely to result in serious bodily injury or death and can be used to de-escalate a potentially deadly situation.

Pursuant to Cal. Pen. Code § 13652, kinetic energy projectiles shall not be used to disperse any assembly, protest, or demonstration except as provided below.

Kinetic energy projectiles shall only be deployed by a peace officer that has received training on their proper use by the Commission on Peace Officer Standards and Training for crowd control if the use is objectively reasonable to defend against a threat to life or serious bodily injury to any individual, including any peace officer, or to bring an objectively dangerous and unlawful situation safely and effectively under control, and only in accordance with all of the following requirements:

(1) De-escalation techniques or other alternatives to force have been attempted, when objectively reasonable, and have failed.

(2) Repeated, audible announcements are made announcing the intent to use kinetic energy projectiles and the type to be used, when objectively reasonable to do so. The announcements shall be made from various locations, if necessary, and delivered in multiple languages, if appropriate.

(3) Persons are given an objectively reasonable opportunity to disperse and leave the scene.

(4) An objectively reasonable effort has been made to identify persons engaged in violent acts and those who are not, and kinetic energy projectiles are targeted toward those individuals engaged in violent acts. Projectiles shall not be aimed indiscriminately into a crowd or group of persons.

(5) Kinetic energy projectiles and chemical agents are used only with the frequency, intensity, and in a manner that is proportional to the threat and objectively reasonable.

(6) Officers shall minimize the possible incidental impact of their use of kinetic energy projectiles on bystanders, medical personnel, journalists, or other unintended targets.

(7) An objectively reasonable effort has been made to extract individuals in distress.

(8) Medical assistance is promptly provided, if properly trained personnel are present, or procured, for injured persons, when it is reasonable and safe to do so.

(9) Kinetic energy projectiles shall not be aimed at the head, neck, or any other vital organs.

(10) Kinetic energy projectiles shall not be used by BPD solely due to any of the following:

(A) A violation of an imposed curfew.

(B) A verbal threat.

(C) Noncompliance with a law enforcement directive.

F. How it works:

The Milkor LTL multi-shot launcher utilizes a spring actuated cylinder allowing it to fire 6 individual 40mm projectiles. When fired, the hammer strikes the munition primer which ignites gun powder in the primer insert. Expelled gases propel the projectile through the rifled barrel. The projectile has a rear plastic portion called the ogive which catches the barrel rifling and provides spin. The spin provides a greater degree of accuracy and eliminates any potential the

projectile will tumble when exiting the barrel. The spring assisted cylinder automatically turns and loads the next projectile.

The projectiles utilized by the Berkeley Police Department are the CTS 4557 40mm sponge baton round. The CTS 4557 has a maximum effective range of 45 meters. The tip of the projectile is a pliable rubber material which molds to the body upon impact. The projectile travels at an estimated 240 feet per second which is slower than FN 303 projectile. However, the larger mass, about 60 grams, creates more kinetic energy upon impact which is similar to that of a baseball thrown by a pitcher. The additional kinetic energy becomes important when the suspect has on thick or layered clothing or demonstrates a high pain tolerance.

The benefit to the Milkor LTL is its ability to provide a quick follow up less lethal application, if necessary. The Milkor holds 6 projectiles while the Penn Arms launcher only holds one. Reloading the Penn Arms single launcher can be time consuming and requires the officer to briefly change focus from the suspect to the reload procedure. The Milkor LTL on the other hand, allows the officer to maintain focus on the suspect and assess whether a follow up application is necessary. This ability is significant when the suspect is advancing, attempting to flee, or demonstrates a high pain compliance threshold.

(2) **Purpose:**

The purpose of kinetic energy impact projectiles, commonly referred to as “less lethal” is to preserve life, minimize the use of force and allow time for de-escalation attempts. Less lethal projectiles allow the user to maintain a safe distance from a subject who is armed and/or demonstrates the intent to be violent. The ability to maintain a safe distance – while still providing a level of control over the subject – allows officers to employ de-escalation techniques, request additional resources and develop a plan to safely resolve the situation with the least amount of risk.

Violent confrontations are inherently dangerous to all those involved. Officers are required to make split second judgments in circumstances that are tense, uncertain and rapidly evolving. An Officer’s threat perception of a person who is in close proximity as opposed to a person who is at a distance of 20 yards is naturally different. A person in close proximity intent on violence has the ability to immediately utilize personal body weapons, a bludgeoning device or cutting instrument. The immediacy requires the Officer to react instantly and there is a greater potential that a higher level of force will be needed.

On the other hand, a person at a distance of 20 yards may not be perceived as having the immediate ability to violently attack the Officer. The person must first close the distance before such weapons can be utilized. This may allow the Officer time to decide the most appropriate course of action, such as the use of a “less lethal” projectile.

The “less lethal” projectiles utilized by the Berkeley Police Department are generally considered discriminate versus indiscriminate uses of force. The projectiles are designed to provide a high level of accuracy which minimizes the risk of unwanted impacts. The ability to apply force from a distance reduces the potential for violent confrontation and aides in reducing the level of force needed to safely resolve a conflict.

Additionally, it has been our experience that a 40mm projectile impact will generally resolve the violent confrontation with 1 or 2 applications. The larger projectile produces more kinetic energy than the FN 303, which may require several applications to gain compliance.

Since 2015, there have been 31 incidents where Officers utilized less lethal applications. These applications have potentially prevented higher-level uses of force.

(3) **Fiscal Cost:**

A. **Initial Cost:**

Less lethal prices, like other equipment, varies depending on market demand and availability. The most recent Penn Arms purchased by the department cost \$3950.00 each.

B. **Cost of Use:**

Cost for the Milkor LTL launcher use should be based on the projectiles used in training and on duty. This will fluctuate based on department trainings, projectile availability and events that unfold in the city and surrounding region.

C. **Cost of Potential Adverse Effects:**

Adverse effects from improper use of less lethal are not calculable. Improper use could lead to serious bodily injury or death.

D. **Annual and Ongoing Costs:**

See section B above

E. Training Costs:

Every officer authorized to deploy a less lethal launcher must pass a certification course administered by a Berkeley Police Firearm Instructor. The certification class consists of classroom, range qualification and scenario application if the venue allows. This class is largely handled in house thus the cost only includes the officer's hourly wage, range fees, and projectile costs which all vary.

F. Maintenance and Storage Costs:

Maintenance costs vary depending on use.

G. Upgrade Costs:

There are no foreseeable upgrade costs.

(4) Impact:

The main function of a less lethal device is to preserve the sanctity of human life. The Berkeley Police Department is committed to reducing the potential for violent confrontations. Less lethal projectiles, when used properly, are less likely to result in serious bodily injury or death and can be used to de-escalate a potentially deadly situation. A less lethal application is an acknowledgment a given situation has the potential to elevate to lethal force and the Officers determined a less lethal application is not only objectively reasonable and objectively necessary, but also the minimal amount of force needed to safely resolve the incident.

The Milkor LTL launcher, with its high level of accuracy and 6 projectile capacity, can be utilized in a large violent group confrontation to specifically target those who are committing acts of violence on other members of the group, involved persons, or law enforcement personnel. It allows a more immediate action to stop a violent assault, overcome their resistance, and aid in the attempt to safely take them into custody. It also allows officers to prevent a more indiscriminate use of force, such as entering the group or crowd, to take a subject into custody.

Potential adverse impacts, especially from close-range use or injuries to the head or neck, include permanent injury and death.²

(5) Mitigation:

Per Policy 300, "In all cases where physical force is used, officers shall use a minimum amount of force that is objectively reasonable, objectively necessary, and proportional to effectively and safely resolve a conflict." All uses of force require

² Haar RJ, Iacopino V, Ranadive N, et al, Death, injury and disability from kinetic impact projectiles in crowd control settings: a systematic review, *BMJ Open* 2017;7:e018154. doi: 10.1136/bmjopen-2017-018154

documentation that is completed by the supervisor in a use of force report and reviewed by the Chain of Command. Furthermore, all deployments of equipment outlined in the Police Equipment and Community Safety Ordinance are documented according to the reporting requirements as mandated in the ordinance.

Per Policy 303, "Officers are not required or compelled to use approved projectiles in lieu of other reasonable tactics if the involved officer determines that deployment of these projectiles cannot be done safely. The safety of hostages, innocent persons and officers takes priority over the safety of subjects engaged in criminal or suicidal behavior. Circumstances appropriate for deployment include, but are not limited to, situations in which: (a) The suspect is armed with a weapon and the tactical circumstances allow for the safe application of approved projectiles. (b) The suspect has made credible threats to harm him/herself or others. (c) The suspect is engaged in riotous behavior or is throwing rocks, bottles or other dangerous projectiles at people and/or officers. (d) There is probable cause to believe that the suspect has already committed a crime of violence and is refusing to comply with lawful orders."

The Berkeley Police Department also trains a recommended range of 3 to 30 meters. Berkeley Police Firearm Instructors recommend a minimum standoff of 3 meters to reduce the potential for unintended injury at a closer distance. The 30-meter maximum recommended range is intended to reduce the possibility of an unintended impact area if the suspect moves or the projectile trajectory begins to deteriorate.

Each officer is trained to aim for large muscle groups, such as the thigh or buttocks area, and avoid areas that may cause serious injury. The department also equips each launcher with a red dot optic. The optic greatly increases an officer's ability to target approved impact areas.

(6) Alternative:

The Milkor LTL multi-launcher is one of three less lethal options the Berkeley Police Department possess that allow officers to address a potentially violent confrontation from a distance. All three (Penn Arms single launcher, Milkor LTL multi-launcher, and FN303) are viable options that have different strengths and weaknesses. The Penn Arms single launcher and the Milkor LTL multi-launcher operate very similarly and use the same projectile. The Penn Arms single launcher is smaller and easier to carry; however, the Penn Arms single launcher is capable of holding only one projectile while the Milkor LTL multi-launcher is capable of holding six projectiles. The projectiles used by the Penn Arms single launcher and Milkor LTL multi-launcher are larger which results in more kinetic energy transferred compared to the projectiles

used in the FN303; however, the FN303 holds 15 projectiles and is capable of launching it at a faster rate.

An alternative that the Berkeley Police Department does not possess is the TASER. The TASER allows an officer to maintain distance but limits the range to about 15 to 25 feet. Furthermore, the TASER requires two prongs (barbs) to penetrate the subject's clothing to be effective and if that is not accomplished the TASER will have no effect. Additionally, the TASER is not an approved less lethal device for the department.

(7) **Third Party Dependence:**

The Berkeley Police Department armorers are trained and capable of handling most issues related to the repair or maintenance of the Milkor LTL launcher. In the event of a catastrophic malfunction, the Milkor LTL will need to be sent to the manufacturer for repair. To date, there have been no significant repairs needed to the Milkor LTL. Additionally, Berkeley Police Department Less Lethal Instructors are fully certified by state and private training institutes to educate and train BPD officers. No third party is required for regular maintenance, repair, or instruction.

FN 303 and FN Pava Impact Projectile

(1) **Description:**

A. **Background:**

The FN 303 was developed in 2003 by Fabrique Nationale de Herstal as a less lethal option. The FN 303 is based on a concept developed by Monterey Bay Corporation. The development team consisted of designers and researchers from two paintball related companies. The FN 303 uses compressed air to propel a .68 caliber projectile similar to that of most manufactured paintball guns.

B. **Quantity:**

The Berkeley Police Department currently owns and maintains 8 FN 303 less lethal launchers.

C. **Capability:**

The FN 303 is capable of firing 15 projectiles out to a maximum manufacturer recommended range of 50 meters. The FN 303 projectiles are direct fire and designed to fragment upon impact to prevent penetration injury. Upon impact, the projectile transfers kinetic energy to the body to gain pain compliance. Large

muscle groups such as the upper legs or lower abdomen are approved target areas. This level of force is considered to be similar to that of a baton strike.

D. Lifespan:

The manufacturer expected lifespan is about 10 years depending on use and regular maintenance.

E. Use:

The FN 303 is designed to reduce the potential for a violent confrontation. Less lethal projectiles are less likely to result in serious bodily injury or death and can be used to de-escalate a potentially deadly situation.

Pursuant to Cal. Pen. Code § 13652, kinetic energy projectiles and chemical agents shall not be used by BPD to disperse any assembly, protest, or demonstration except as provided below.

Kinetic energy projectiles and chemical agents shall only be deployed by a peace officer that has received training on their proper use by the Commission on Peace Officer Standards and Training for crowd control if the use is objectively reasonable to defend against a threat to life or serious bodily injury to any individual, including any peace officer, or to bring an objectively dangerous and unlawful situation safely and effectively under control, and only in accordance with all of the following requirements:

- (1) De-escalation techniques or other alternatives to force have been attempted, when objectively reasonable, and have failed.
- (2) Repeated, audible announcements are made announcing the intent to use kinetic energy projectiles and chemical agents and the type to be used, when objectively reasonable to do so. The announcements shall be made from various locations, if necessary, and delivered in multiple languages, if appropriate.
- (3) Persons are given an objectively reasonable opportunity to disperse and leave the scene.
- (4) An objectively reasonable effort has been made to identify persons engaged in violent acts and those who are not, and kinetic energy projectiles or chemical agents are targeted toward those individuals engaged in violent acts. Projectiles shall not be aimed indiscriminately into a crowd or group of persons.

(5) Kinetic energy projectiles and chemical agents are used only with the frequency, intensity, and in a manner that is proportional to the threat and objectively reasonable.

(6) Officers shall minimize the possible incidental impact of their use of kinetic energy projectiles and chemical agents on bystanders, medical personnel, journalists, or other unintended targets.

(7) An objectively reasonable effort has been made to extract individuals in distress.

(8) Medical assistance is promptly provided, if properly trained personnel are present, or procured, for injured persons, when it is reasonable and safe to do so.

(9) Kinetic energy projectiles shall not be aimed at the head, neck, or any other vital organs.

(10) Kinetic energy projectiles or chemical agents shall not be used by BPD solely due to any of the following:

(A) A violation of an imposed curfew.

(B) A verbal threat.

(C) Noncompliance with a law enforcement directive.

F. How it works:

An air reservoir attaches to the FN 303 through an air hose coupler and provides pressure through compressed air. When fired, the compressed air drives a piston that pushes the .68 caliber projectile through the barrel at approximately 280 feet per second. For comparison, the FN projectile is the size of a paintball and the velocity is the same as a commercially manufactured paintball gun.

The projectiles are 8.5 grams in weight and utilize a polystyrene fin stabilized body with a non-toxic forward payload to aid in stability and accuracy. The projectile will deliver approximately 24-foot pounds of kinetic energy at the muzzle which is about double the kinetic energy of most paintball guns. Most paintballs have a mass of 3 grams while the FN 303 projectile has a mass of 8.5 grams which increases the kinetic energy produced.

Available projectiles are impact, impact + non-permanent marking, impact + permanent marking, and impact + PAVA (0.5% PAVA/Oleoresin Capsicum).

The impact + PAVA projectile is intended to be direct fired at an individual. In addition to delivering pain through kinetic energy upon impact, the PAVA projectile will deliver a secondary chemical irritant, which is the Oleoresin Capsicum (O.C.) payload. Oleoresin Capsicum generally causes irritation/burning at the application site, irritation to the eyes, and coughing. According to the National Institute of Health, the effects of O.C. power exposure tend to resolve on their own within 30 minutes.

Pain is highly subjective and other circumstances, such as heavy clothing, may render the impact ineffective. The application of a secondary chemical irritant may assist in gaining compliance and successfully resolving a potentially violent incident with the minimal amount of force necessary.

(2) **Purpose:**

The purpose of kinetic energy impact projectiles, commonly referred to as “less lethal” is to preserve life, minimize the use of force and allow time for de-escalation attempts. Less lethal projectiles allow the user to maintain a safe distance from a subject who is armed and/or demonstrates the intent to be violent. The ability to maintain a safe distance – while still providing a level of control over the subject – allows officers to employ de-escalation techniques, request additional resources and develop a plan to safely resolve the situation with the least amount of risk.

Violent confrontations are inherently dangerous to all those involved. Officers are required to make split second judgments in circumstances that are tense, uncertain and rapidly evolving. An Officer’s threat perception of a person who is in close proximity as opposed to a person who is at a distance of 20 yards is naturally different. A person in close proximity intent on violence has the ability to immediately utilize personal body weapons, a bludgeoning device or cutting instrument. The immediacy requires the Officer to react instantly and there is a greater potential that a higher level of force will be needed.

On the other hand, a person at a distance of 20 yards may not be perceived as having the immediate ability to violently attack the Officer. The person must first close the distance before such weapons can be utilized. This may allow the Officer time to decide the most appropriate course of action, such as the use of a “less lethal” projectile.

The “less lethal” projectiles utilized by the Berkeley Police Department are generally considered discriminate versus indiscriminate uses of force. Discriminate projectiles are designed to provide a high level of accuracy which minimizes the risk of unwanted impacts. The ability to apply force from a distance reduces the potential for violent confrontation and aides in reducing the level of force needed to safely resolve a conflict.

Since 2015, there have been 31 incidents where Officers utilized less lethal applications. These applications have potentially prevented higher-level uses of force.

(3) **Fiscal Cost:**

A. **Initial Cost:**

Less lethal prices, like other equipment, varies depending on market demand and availability. The most recent FN 303s purchased by the department cost \$800.00 each.

B. **Cost of Use:**

Cost for FN 303 use should be based on the projectiles used in training and on duty. This will fluctuate based on department trainings, projectile availability and events that unfold in the city and surrounding region.

C. **Cost of Potential Adverse Effects:**

Adverse effects from improper use of less lethal are not calculable. Improper use could lead to serious bodily injury or death. Only trained officers are authorized to use the FN 303.

D. **Annual and Ongoing Costs:**

See section B above

E. **Training Costs:**

Every officer authorized to deploy a less lethal launcher must pass a certification course administered by a Berkeley Police Firearm Instructor. The certification class consists of classroom, range qualification and scenario application if the venue allows. This class is largely handled in house thus the cost only includes the officer’s hourly wage, range fees, and projectile costs which all vary.

F. **Maintenance and Storage Costs:**

Maintenance costs vary depending on use. Generally, O-rings need to be replaced every 3000 rounds and cost \$30 per kit.

G. Upgrade Costs:

The overall design of the FN 303 has changed little since its initial release in the early 2000s thus anticipated upgrade costs will be minimal.

(4) Impact:

The main function of a less lethal device is to preserve the sanctity of human life. The Berkeley Police Department is committed to reducing the potential for violent confrontations. Less lethal projectiles, when used properly, are less likely to result in serious bodily injury or death and can be used to de-escalate a potentially deadly situation. A less lethal application is an acknowledgment a given situation has the potential to elevate to lethal force and the Officers determined a less lethal application is not only objectively reasonable and objectively necessary, but also the minimal amount of force needed to safely resolve the incident.

The FN 303, with its high level of accuracy can be utilized in a large violent group confrontation to specifically target those who are committing acts of violence on other members of the group, involved persons, or law enforcement personnel. It allows a more immediate action to stop a violent assault, overcome their resistance, and aid in the attempt to safely take them into custody. It also allows officers to prevent a more indiscriminate use of force, such as entering the group or crowd, to take a subject into custody.

Potential adverse impacts, especially from close-range use or injuries to the head or neck, include permanent injury and death.³

(5) Mitigation:

Per Policy 300, "In all cases where physical force is used, officers shall use a minimum amount of force that is objectively reasonable, objectively necessary, and proportional to effectively and safely resolve a conflict." All uses of force require documentation that is completed by the supervisor in a use of force report and reviewed by the Chain of Command. Furthermore, all deployments of equipment outlined in the Police Equipment and Community Safety Ordinance are documented according to the reporting requirements as mandated in the ordinance.

Per Policy 303, "Officers are not required or compelled to use approved projectiles in lieu of other reasonable tactics if the involved officer determines that deployment of these projectiles cannot be done safely. The safety of hostages, innocent persons

³ Haar RJ, Iacopino V, Ranadive N, et al, Death, injury and disability from kinetic impact projectiles in crowd control settings: a systematic review, *BMJ Open* 2017;7:e018154. doi: 10.1136/bmjopen-2017-018154

and officers takes priority over the safety of subjects engaged in criminal or suicidal behavior. Circumstances appropriate for deployment include, but are not limited to, situations in which: (a) The suspect is armed with a weapon and the tactical circumstances allow for the safe application of approved projectiles. (b) The suspect has made credible threats to harm him/herself or others. (c) The suspect is engaged in riotous behavior or is throwing rocks, bottles or other dangerous projectiles at people and/or officers. (d) There is probable cause to believe that the suspect has already committed a crime of violence and is refusing to comply with lawful orders.”

The Berkeley Police Department also trains a recommended range of 3 to 30 meters. Berkeley Police Firearm Instructors recommend a minimum standoff of 3 meters to reduce the potential for unintended injury at a closer distance. The 30-meter maximum recommended range is intended to reduce the possibility of an unintended impact area if the suspect moves or the projectile trajectory begins to deteriorate.

Each officer is trained to aim for large muscle groups, such as the thigh or buttocks area, and avoid areas that may cause serious injury. The department also equips each launcher with a red dot optic. The optic greatly increases an officer’s ability to target approved impact areas.

(6) Alternative:

The FN303 launcher is one of three less lethal options the Berkeley Police Department possess that allow officers to address a potentially violent confrontation from a distance. All three (Penn Arms single launcher, Milkor LTL multi-launcher, and FN303) are viable options that have different strengths and weaknesses. The Penn Arms single launcher and the Milkor LTL multi-launcher operate very similarly and use the same projectile. The Penn Arms single launcher is smaller and easier to carry; however, the Penn Arms single launcher is capable of holding only one projectile while the Milkor LTL multi-launcher is capable of holding six projectiles. The projectiles used by the Penn Arms single launcher and Milkor LTL multi-launcher are larger which results in more kinetic energy transferred compared to the projectiles used in the FN303; however, the FN303 holds 15 projectiles and is capable of launching it at a faster rate.

An alternative that the Berkeley Police Department does not possess is the TASER. The TASER allows an officer to maintain distance but limits the range to about 15 to 25 feet. Furthermore, the TASER requires two prongs (barbs) to penetrate the subject’s clothing to be effective and if that is not accomplished the TASER will have

no effect. Additionally, the TASER is not an approved less lethal device for the department.

(7) Third Party Dependence:

The Berkeley Police Department armorers are trained and capable of handling regular maintenance and most repairs. In the event of a catastrophic failure, the device will be sent to the manufacturer for repair. To date there have been 2 devices that required manufacturer repair, both of which were under warranty.

Additionally, department firearm instructors are fully certified by state and private training institutes to educate and train BPD officers. No third party is required for maintenance, most repairs, or instruction.

OC (oleoresin capsicum) Spray

(1) Description:

A. Background:

For the purposes of this portion of the Impact Statement, OC (Oleoresin capsicum) will be referred to in the spray form as opposed to the aerosol canister form. First Defense manufactures different sizes of OC sprays. OC is the chemical agent that is most widely used amongst Law Enforcement (LE) and the general public. OC has a pungent and irritating pepper odor. It is classified as an inflammatory agent. Besides being effective on humans, OC based chemical agents usually work on animals as well. In a liquid form, OC can appear as a clear, amber, or heavy dark red solution depending on the manufacturer. It is mixed with several types of solutions which act as carriers.

B. Quantity:

Qty 23 – First Defense MK-9 OC spray (13- ounces)

Qty 178 – First Defense MK-3 OC spray (3 ounces)

Most of the MK-3 OC sprays are issued to and maintained by individual officers; however, a small amount of these sprays is stored in a secured equipment room as spares in case of damage or new personnel issue.

C. Capability:

The First Defense MK-3 OC sprays are standard issued to all police officers and are worn on the police officers' belt. It has an effective range of 10-12 feet. The

larger First Defense MK-9 OC sprays are 13 ounces and are used in violent crowd situations. It has an effect range of 18-20 feet.

The use of the First Defense OC spray can render a dangerous and violent situation safe without using a higher level of force.

D. Lifespan:

Aerosol products eventually lose pressure over time. The lifespan of both the MK-9 and MK-3 OC spray are dependent on how well the pressure in the can is maintained, but is recommended to be replaced after 5 years.

E. Use:

OC spray may be considered for use to bring under control an individual or groups of individuals who are engaging in or about to engage in violent behavior. OC spray should not, however, be used against individuals or group who merely fail to disperse or do not reasonably appear to present a risk to the safety of officers or the public.

As per City Council resolution (June 9, 2020), pepper spray or smoke for crowd control by employees of the Berkeley Police Department, or any outside department or agency called to respond to mutual aid in Berkeley, is prohibited during the COVID-19 pandemic, or until such time as the City Council removes the prohibition.

Pursuant to Cal. Pen. Code § 13652, chemical agents shall not be used to disperse any assembly, protest, or demonstration except as provided below.

Chemical agents shall only be deployed by a peace officer that has received training on their proper use by the Commission on Peace Officer Standards and Training for crowd control if the use is objectively reasonable to defend against a threat to life or serious bodily injury to any individual, including any peace officer, or to bring an objectively dangerous and unlawful situation safely and effectively under control, and only in accordance with all of the following requirements:

- (1) De-escalation techniques or other alternatives to force have been attempted, when objectively reasonable, and have failed.
- (2) Repeated, audible announcements are made announcing the intent to use chemical agents and the type to be used, when objectively reasonable to do

so. The announcements shall be made from various locations, if necessary, and delivered in multiple languages, if appropriate.

(3) Persons are given an objectively reasonable opportunity to disperse and leave the scene.

(4) An objectively reasonable effort has been made to identify persons engaged in violent acts and those who are not, and chemical agents are targeted toward those individuals engaged in violent acts.

(5) Chemical agents are used only with the frequency, intensity, and in a manner that is proportional to the threat and objectively reasonable.

(6) Officers shall minimize the possible incidental impact of their use of chemical agents on bystanders, medical personnel, journalists, or other unintended targets.

(7) An objectively reasonable effort has been made to extract individuals in distress.

(8) Medical assistance is promptly provided, if properly trained personnel are present, or procured, for injured persons, when it is reasonable and safe to do so.

(9) Chemical agents shall not be used by BPD solely due to any of the following:

(A) A violation of an imposed curfew.

(B) A verbal threat.

(C) Noncompliance with a law enforcement directive.

F. How it Works:

A person subjected to OC can expect heavy tearing due to a burning sensation, involuntary closing or blinking of the eyes, burning/stinging skin sensation, redness of the skin, irritation and burning of the nose, runny nose, salivation and burning sensation of the mouth, cough, gagging sensation, shortness of breath, temporary paralysis of the larynx (person unable to speak) and nausea (caused by shock, not the OC itself). A person may also feel disorientated, anxiety, and/or panic. A complete recovery usually takes place within 45-60 minutes depending on the level of exposure.

(2) **Purpose:**

There are a variety of situations where officers may use OC spray such as: self-defense, overcoming the resistance of a noncompliant individual, effecting an arrest, preventing escape, violent crowd or riot control (except as limited by the June 9, 2020 Council policy), barricade or hostage situations and dealing with dangerous animals.

(3) **Fiscal Cost:**

A. **Initial Cost:**

The MK-3 OC spray cost approx. \$19 per unit and the MK-9 OC spray costs approx. \$60 per unit. The manufacturer is Defense Technology and the Berkeley Police Department purchase each unit from Galls Police Supply or LC Action Police Supply. Purchases for these tools are made when inventory gets low which is typically determined by how many new officers are sworn in, as well as if they are utilized in dangerous situations.

B. **Cost of Use:**

The cost of each usage is unpredictable due to the unknown nature of crime, timelines of dangerous situations, and number of applications.

C. **Cost of Potential Adverse Effects:**

Adverse effects of improper use of OC spray are not calculable. It could lead to serious injury. Additionally, the improper use could result in civil liabilities.

D. **Annual and Ongoing Costs:**

See below cost of training.

E. **Training Cost:**

Training is conducted in the police academy and in-house by a Police Officer Standard Training (POST) certified Berkeley Police chemical agent training officer. The cost of training is staff time.

F. **Maintenance and Storage Costs:**

The majority of the MK-3 OC sprays are either stored within the Police Department or with each sworn police officer while they conduct official duties. All MK-9 OC sprays are stored in the basement. There are no additional storage costs or associated costs to transporting, maintain, or upgrade.

G. **Upgrade Costs:**

No upgrades exist for this equipment as of this report.

(4) Impact:

The physical effects of being subjected to OC may significantly reduce an individual's aggressive behavior. Reports have shown that the use of OC can reduce the amount of officer and arrestee injuries due to its effectiveness. Chemists assigned to the FBI Forensic Science Research and Training Center report no long-term health risks associated with the use of OC. The use of the MK-3 or MK-9 OC spray can render a dangerous and violent situation safe without using a higher level of force.

Potential negative impacts include serious bodily injury and litigation costs associated with them.

(5) Mitigations:

Law Enforcement Officers attend a Police Officer Standard Training (POST) approved academy before they enter into a Field Training Program and continue their training. During this academy they are taught about OC, how to deploy it, its effects, and the decontamination process. They are also subjected to OC to physically feel the effects themselves. After the academy, each officer is issued a MK-3 OC spray which they are to keep on their person while on duty. If deployed and when practical, medical personnel should be summoned for the affected person(s) per policy 303.

All uses of force require documentation that is completed by the supervisor in a use of force report and reviewed by the Chain of Command. Furthermore, all deployments of equipment outlined in the Police Equipment and Community Safety Ordinance are documented according to the reporting requirements as mandated in the ordinance.

(6) Alternatives:

Alternatives to utilizing OC sprays are tools such as expandable batons, less lethal launchers, and/or physical body weapons. The rationale to use OC spray depends on the circumstances of each individual incident and the individual officer involved in the incident. As mentioned above, reports have shown that OC spray may significantly reduce an individual's aggressive behavior which can minimize the amount of force necessary to apprehend that subject. Per our Use of Force policy (Lexipol 300), we shall use the minimal amount of force possible during each incident, thus making OC spray a valuable option.

(7) Third Party Dependence:

There is no third-party dependence for the First Defense OC spray. Once they are purchased, they are secured in their designated locations within the Police Department or with sworn police officers while they conduct official duties.

Chlorobenzylidene Malononitrile and Oleoresin Capsicum

(1) Description:

A. **Background:**

Chlorobenzylidene malononitrile (CS):

Chlorobenzylidene malononitrile (CS) is one of the most commonly used “tear gases” in the world. It can be liquid, gaseous, or solid substance intended to produce temporary discomfort through being vaporized or otherwise dispersed in the air. Law enforcement (LE) agencies have found this agent invaluable when faced with combative suspects, for crowd/riot control, and for alleviating barricaded subject situations. LE use it to help control individuals or groups without the need for a higher level of force. There are four different deployment methods of chemical agents (Aerosol - most commonly used by police departments, Fogging, Pyrotechnics, and blast expulsion). All methods of deployment can be affected by certain environmental and physical conditions (wind, rain, temperature, distance, and proximity to others). At standard daily temperatures and pressures, CS forms a white crystal with a low vapor pressure and poor solubility in water.

Oleoresin capsicum (OC):

For this portion of the Impact Statement, Oleoresin capsicum (OC) will be referred to in the aerosol canister form. OC is the chemical agent that is most widely used amongst Law Enforcement (LE) and the general public. OC has a pungent and irritating pepper odor. It is classified as an inflammatory agent. OC is mixed with several types of solutions which act as carriers.

B. **Quantity:**

Inventory for CS canisters:

Qty 6 – 5230 CS Canisters

Qty 24 – 6230 CS Canisters

Qty 20 – 5230B CS Baffled Canister (flameless)

Qty 17 – 5231 CS Tri-Phaser Canisters

Qty 21 – 4630 CS Muzzle Blast (used with 40 mm less lethal launcher)

Qty 4 – 4530 CS Impact Rounds (used with 40 mm less lethal launcher)

Qty 19 – 4330 CS Barricade Projectile Rounds (used with 40 mm less lethal launcher)

Inventory for OC canisters:

Qty 54 - 9440 OC Tear Ball

Qty 19 - 5440 OC Flameless

Qty 20 - 6340 OC Vaper

C. Capability:

CS aerosols with microscopic particles which are potent sensory irritants becoming attached primarily to moist mucous membranes and moist skin. Common effects are: coughing, increased mucous secretion, difficulty breathing, skin reactions, and excessive salivation. The onset of symptoms typically occurs within 20 to 60 seconds, and if the exposed individual is placed in fresh air these effects generally cease in 10 to 30 minutes.

A person subjected to OC can expect heavy tearing due to a burning sensation, involuntary closing or blinking of the eyes, stinging skin sensation, redness of the skin, irritation of the nose, runny nose, salivation, cough, gagging sensation, and shortness of breath. A person may also experience anxiety and panic. A complete recovery usually takes place within 45-60 minutes depending on the level of exposure.

Both CS and OC canisters can render a dangerous and violent situation safe without using a higher level of force.

D. Lifespan:

CS and OC canisters expire in approximately 5 years.

E. Use:

As per City Council resolution (June 9, 2020), the use of tear gas by employees of the Berkeley Police Department, or any outside department or agency called to respond to mutual aid in Berkeley, is prohibited.

Pursuant to Cal. Pen. Code § 13652, kinetic energy projectiles and chemical agents shall not be used to disperse any assembly, protest, or demonstration except as provided below.

Kinetic energy projectiles and chemical agents shall only be deployed by a peace officer that has received training on their proper use by the Commission on Peace Officer Standards and Training for crowd control if the use is objectively reasonable to defend against a threat to life or serious bodily injury to any individual, including any peace officer, or to bring an objectively dangerous and unlawful situation safely and effectively under control, and only in accordance with all of the following requirements:

(1) Deescalation techniques or other alternatives to force have been attempted, when objectively reasonable, and have failed.

(2) Repeated, audible announcements are made announcing the intent to use kinetic energy projectiles and chemical agents and the type to be used, when objectively reasonable to do so. The announcements shall be made from various locations, if necessary, and delivered in multiple languages, if appropriate.

(3) Persons are given an objectively reasonable opportunity to disperse and leave the scene.

(4) An objectively reasonable effort has been made to identify persons engaged in violent acts and those who are not, and kinetic energy projectiles or chemical agents are targeted toward those individuals engaged in violent acts. Projectiles shall not be aimed indiscriminately into a crowd or group of persons.

(5) Kinetic energy projectiles and chemical agents are used only with the frequency, intensity, and in a manner that is proportional to the threat and objectively reasonable.

(6) Officers shall minimize the possible incidental impact of their use of kinetic energy projectiles and chemical agents on bystanders, medical personnel, journalists, or other unintended targets.

(7) An objectively reasonable effort has been made to extract individuals in distress.

(8) Medical assistance is promptly provided, if properly trained personnel are present, or procured, for injured persons, when it is reasonable and safe to do so.

(9) Kinetic energy projectiles shall not be aimed at the head, neck, or any other vital organs.

(10) Kinetic energy projectiles or chemical agents shall not be used by BPD solely due to any of the following:

(A) A violation of an imposed curfew.

(B) A verbal threat.

(C) Noncompliance with a law enforcement directive.

(11) If the chemical agent to be deployed is tear gas, only a commanding officer at the scene of the assembly, protest, or demonstration may authorize the use of tear gas.

(2) **Purpose:**

There are a variety of situations where peace officers may in the past have used chemical agents such as: self-defense, overcoming the resistance of a noncompliant individual, effecting an arrest, preventing escape, violent crowd or riot control, barricade or hostage situations and dealing with dangerous animals. Such uses of tear gas are now prohibited by Berkeley law.

(3) **Fiscal Cost:**

A. **Initial Cost:**

The cost for CS canisters ranges from \$20.00 to \$39.00 per unit. The cost for OC canisters ranges from \$36.00 to \$44.00 per unit. The Berkeley Police Department prefers the use of the Combined Tactical Systems (CTS) chemical agents and we purchase them from LC Action Police Supply.

B. **Cost of Use:**

The cost of each proposed use is unpredictable due to the demand, unknown nature and timelines of dangerous crowd/riots situations, dangerous barricade situations, and hostage situations.

C. **Cost of Potential Adverse Effects:**

Adverse effects of improper use of OC and CS are not calculable. It could lead to serious injury. Additionally, the improper use could result in civil liabilities.

D. **Annual and Ongoing Costs:**

See below cost of training.

E. **Training Cost:**

When purchased, each unit is given an expiration date which typically falls within a 2-3-year range. Every 2-3 years, new chemical agents are purchased to honor the expiration dates. The expired agents are then used during annual trainings thus minimizing the overall cost. Training is conducted by a Police Officer Standard Training (POST) certified Berkeley Police chemical agent training officer. The cost of training is staff time.

F. Maintenance and Storage Costs:

The majority of agents are stored inside of a marked chemical agent room within the Police Department, in the Special Response Team vehicle, or in the rescue Vehicle. There are no additional storage costs. There are no associated costs to transporting, maintenance, or upgrades.

G. Upgrade Costs:

No upgrades exist for this equipment as of this report.

(4) Impact:

BPD is committed to preserving and protecting human life and welfare. These tools allow us to fulfill our commitment to our community.

Law Enforcement, under Penal Code 12403.1, is able to lawfully purchase, possess, or use chemical agents in the discharge of their duties. CS and/or OC canisters have been prominently used to resolve dangerous barricaded suspect situations and violent crowd control/riot situations.

Berkeley Police officers are trained to utilize time and distance to de-escalate dangerous barricaded situations in order to resolve each incident with minimal the use of force (per Use of Force Policy 300). In some circumstances when all other options are exhausted, CS and/or OC can be inserted into the structure in which the barricaded suspect is, denying access to certain areas inside. Unless exigent circumstances arise, all attempts to evacuate the structure are made prior to any deployment. When CS and/or OC are deployed into a structure the suspect may be forced outside allowing the situation to resolve safely with no further use of force.

CS and/or OC chemical agents can be utilized to create order in dangerous crowd control/riot situations that have demonstrated violence or destruction. During these incidents, typically a clear and direct warning has been given to the crowd to disperse before the chemical agents are deployed. The ability to disperse crowds from a distance limits injury to Police Officers as well as damage to critical structures.

Severe injuries occur not infrequently from the use of CS and PC chemical agents, including to multiple body systems, with the majority to the skin, eyes, and cardiopulmonary system and may result in significant psychological symptoms and long-term disability.⁴

⁴ Rohini J. Haar, MD, MPH, and Vincent Iacopino, MD, PhD, Lethal in Disguise: The Health Consequences of Crowd Control Weapons, Physicians for Social Responsibility, 2016, p. 44.

(5) Mitigations:

Regarding the already mentioned impacts, the decision to utilize chemical agents (unless there are exigent circumstances) flows through the chain of command and ultimately makes its way to the Chief of Police and the City Manager. If there are exigent circumstances, the Field Commander makes the decision and then advises the Chief of Police as soon as practical. All uses of force require documentation that is completed by the supervisor in a use of force report and reviewed by the Chain of Command. Furthermore, all deployments of equipment outlined in the Police Equipment and Community Safety Ordinance are documented according to the reporting requirements as mandated in the ordinance.

With these procedures incorporated in BPD's policies, this mitigates many potential negative impacts. Per Policy 428 – First Amendment Assemblies - The Field Commander shall determine the type and quantity of chemical agents to be used. After use of chemical agents, the Field Commander shall re-evaluate the scene to determine if additional chemical agents are needed. Less-than-lethal munitions (40 mm CS impact rounds), chemical agents (including OC spray), and/or smoke shall only be deployed in crowd control situations as outlined in the Use of Force Policy. For planned events, inventories shall be conducted before and at the conclusion of the incident. Outside agency inventories shall also be tracked.

In addition to the mitigations in place, the Berkeley Police Special Response Team also receives annual training on the use of chemical agents, the effects, and the decontamination process. Per policy 303, when practical, medical personnel should be summoned for the affected person(s).

(6) Alternatives:

There are no direct alternatives for CS and OC. They are the industry's leading way to resolve barricaded suspects while reducing the likelihood of injury to the subject, community, and officers. Additionally, it is one of the only tools that allows officers to stop acts of violence or regain order during crowd control/riot situations. They are very distinct in nature and have direct purposes. The rationale to use CS or OC depends on the circumstances of each incident. The Berkeley Police Department shall use the minimal amount of force per our Use of Force Policy 300. The use of CS or OC allows the police personnel to maintain distance, giving officers more time to react and avoid a potential need for a higher level of force to safely resolve the situation.

(7) **Third Party Dependence:**

There is no third-party dependence for CS and OC chemical agents. Once they are purchased, they are secured in their designated areas and stay there until they are either used during incidents or training.

Remington 700 Rifle

(1) **Description:**

A. **Background:**

The Remington 700 is a series of bolt-action rifles designed in 1962 by the Remington Arms Company. The “700” designator is the generic name for multiple models of rifles with various parts, barrel lengths, stocks, etc. The Remington 700 rifle has long been used by law enforcement agencies and continues to be an industry standard for issued equipment. The Berkeley Police Department utilizes a custom Remington 700 action, chambered in the common .308-caliber round, with a 20” barrel and an Accuracy International chassis/stock. The rifle also includes a Nightforce 3-15x magnified optic and bipod.

BPD utilizes Hornady .308-caliber ammunition. This particular ammunition is specially designed for law enforcement applications due to its increased and consistent accuracy and performance.

B. **Quantity:**

The Berkeley Police Department Special Response Team (SRT) currently possesses six Remington 700 rifles, all configured in the same manner.

Currently, BPD has approximately 1,800 Hornady .308-caliber rounds. That quantity of ammunition fluctuates depending on supply from distributors and training schedules of those trained officers.

C. **Capability:**

The Remington 700 rifle, with the appropriate ammunition, training, and practice, is capable of consistent and highly accurate shooting out to a distance of approximately 500-yards.

The Remington 700 is intended to be used in emergency situations where there is a high potential for violence, where the need exists to put distance between officers and a specific individual, such as an armed hostage situation.

D. Lifespan:

The Remington 700 bolt-action rifles have an expected life span of 10-years if properly maintained.

E. Use:

Used in the defense of life or great bodily injury to potential victims of violent crimes, general public, and officers.

F. How it Works:

The Remington 700 is a manually operated rifle. It requires the officer to physically maneuver a handle to expel a spent cartridge and to load another unspent round of ammunition in order to fire a second round. When the trigger is pressed, a firing pin strikes the primer of a bullet loaded into the chamber of the rifle. The ignited primer ignites gun powder contained in the bullet which pushes the bullet down the barrel and out the muzzle. The officer must then pull a handle attached to the bolt to the rear, ejecting the spent cartridge. The officer then pushes the bolt forward, which picks up another bullet from the magazine, and closes the chamber, making the rifle ready to fire again.

(2) Purpose:

This rifle is to be used in the defense of life or great bodily injury to potential victims of violent crimes, general public, and officers. This rifle provides police with the benefit of adding distance to a volatile situation which can increase the safety for community members and officers. This rifle is an ancillary firearm for situations where increased distance and accuracy is needed to safely resolve the situation.

(3) Fiscal Cost:

A. Initial Cost:

The initial cost to purchase this rifle with its associated components is approximately \$10,000 dollars each. Their average life span is 10-years at which time it will likely need to be replaced.

B. Cost of Use:

Cost of use for all firearms should be based on the ammunition used in training and on duty. This will fluctuate based on training.

C. Cost of Adverse Effects:

Adverse effects and improper usage of a firearm are not calculable. It could lead to the loss of life or serious injury. Additionally, the improper use could result in civil liabilities.

D. Annual and Ongoing Costs:

If this rifle is not cared for or maintained well, then a potential financial adverse impact would be the premature purchasing of a replacement rifle or replacement parts. However, authorized and trained Berkeley Police armorers service and provide regular maintenance of the rifles. The cost of maintenance is staff time.

E. Training Costs:

The cost associated with training is the staff time, range fees, and cost of spent ammunition. SRT members train once a month and, on average, each member shoots approximately 50-rounds. Currently, there are only 4 members shooting at each training day. This equates to approximately 2,400 rounds of ammunition being fired per year. This does not include special training days or attendance to training schools/classes. A single box of 20-rounds costs approximately \$20-dollars or \$1 dollar per round.

F. Maintenance and Storage Costs:

Maintenance costs vary depending on use over time. Firing pins need to be replaced every 5 to 7 years. The maintenance cost associated with this rifle is minimal.

There are no costs associated with maintenance or storage of ammunition. All ammunition is stored in a climate-controlled room in the Berkeley Police Department.

G. Upgrade Costs:

Upgrade costs and maintenance cost are synonymous due to the consistent design. Improvements in technology and new designs may be an additional cost but we can't predict what those will be at this time.

Should advancements be made in ammunition manufacturing; those upgrade costs are unknown at this time.

(4) Impact:

The primary purpose of this rifle is to further SRT's goal of adding time and distance when dealing with a violent and dangerous individual(s). The rifle may allow SRT additional time by increasing the distance between law enforcement and the specific individual, thereby increasing the likelihood of a more peaceful resolution. Like all tools, it has a time and place for its intended operational efficacy.

(5) **Mitigations:**

Mitigating impacts from this tool's primary purpose is done through regular training. The training includes accuracy, decision making, scenarios, and various other training points. All uses of force require documentation that is completed by the supervisor in a use of force report and reviewed by the Chain of Command. Furthermore, all deployments of equipment outlined in the Police Equipment and Community Safety Ordinance are documented according to the reporting requirements as mandated in the ordinance.

(6) **Alternatives:**

The Remington 700 rifle is an industry standard tool used to deliver precision accuracy on an intended target. This tool can deliver accuracy and predictability through intermediate barriers like glass windows. It can be used at distances greater than any other tool currently possessed or authorized. No alternate tool or method would accomplish the same goal.

(7) **Third Party Dependence:**

These rifles are fairly simple in their design and operation. They do require regular maintenance which is commonly performed by each individual member. BPD Armorers are also capable of performing additional maintenance. If an issue arises which is beyond the scope of our Armorers we would seek professional assistance from the manufacturer. However, the need for this is very rare.

ReconRobotics Recon Scout XT

(1) **Description:**

A. **Background:**

The Recon Scout XT is a throwable micro-robot manufactured by ReconRobotics for use in law enforcement applications. The Recon Scout XT enables officers to obtain instantaneous video footage and audio within indoor or outdoor environments. Designed to withstand repeated drops onto concrete, the Recon Scout XT robot can be thrown into hazardous situations (hostage rescue, barricaded subjects, natural disasters, etc.) in order to allow officers to quickly and safely make informed decisions when seconds count.

B. **Quantity:**

The Berkeley Police Department has two Recon Scout XT throwable robots, both purchased in 2010.

C. Capability:

The Recon Scout XT robot is designed to be able to crawl over a variety of terrain, clearing obstacles up to 2" (5 cm) tall. It could be thrown into hazardous situations, indoor and outdoor, and provide live audio and video feed back to the controller.

D. Lifespan:

Both Recon Scout XT robots are over 10 years old and ReconRobotics have developed and manufactured more advanced robots. ReconRobotics have stopped manufacturing certain parts for the Recon Scout XT, so the lifespan is dependent on what parts need to be replaced.

E. Use:

The Recon Scout XT robot may be deployed to help police officers safely view potentially dangerous environments before entering them.

F. How it Works:

The Recon Scout XT robot has a cylindrical body with a finned-wheel at either end of its body, and is stabilized by a rubber "tail". It measures approximately 6 ½" wide, and each wheel is about 5" in diameter (fin to fin) and weights just over one pound (1.2 lbs.). The Recon Scout XT robot sends digital video and audio back to an Operator Control Unit (OCU; controller with a screen and joystick), which allows the officer to control the robot, which provides a live feedback containing audio and visual feeds. The Recon Scout XT robot does not record audio or video footage; there is no data storage capability.

(2) Purpose:

The Recon Scout XT robot is intended to safely provide police officers valuable information during high-risk, rapid evolving situations via real-time audio and video footage. It can be driven a distance away from the OCU, creating space between the officer and potential danger, thus decreasing the likelihood of injury to those involved in the event, or even a violent encounter between police officers and a dangerous subject. This asset furthers our commitment to the sanctity of life by offering time and distance in critical incidents.

(3) Fiscal Cost:

A. Initial cost:

The initial cost for the Recon Scout XT robot was about \$12,500 per unit (2010 cost).

B. Cost of Use:

There is no “per use” cost of this equipment. The Recon Scout XT is powered by a rechargeable battery.

C. Cost of Potential Adverse Impacts:

The likelihood of adverse impacts due to the use of the Recon Scout XT robot is low – it is small, lightweight and is not likely to injure persons or damage personal property when deployed; however, there is a small chance that the Recon Scout XT robot might cause damage to personal property when deployed (thrown) into a structure. Due caution is used when it becomes necessary to throw, rather than place, the robot into a structure.

D. Annual and Ongoing Cost:

There are no ongoing or annual costs associated with the use of the Recon Scout XT robot. Being that it is battery operated, there is a nominal cost associated with charging the Recon Scout XT robot’s batteries, and the batteries of the OCU. The Recon Scout XT robot is fairly simple to operate, thus there is no cost associated with training officers in its use. There are no costs with transportation or storage of the Recon Scout XT robot. While there are newer models of this robot available, there does not appear to be any upgrades available for the Recon Scout XT. The Recon Scout XT robot has been damaged on occasion, and there are costs associated with repair. But generally, the Recon Scout XT robot is robust and does not need regular repair.

E. Training Cost:

The Recon Scout XT robot is user friendly and simple to operate. Training is conducted by Berkeley Police personnel familiar with the operations and procedures of the Recon Scout XT robot. The cost of training is staff time.

F. Maintenance and Storage Costs:

There are no annual or storage costs.

G. Upgrade Costs:

There are no upgrades available at the time of this report.

(4) Impact:

The Recon Scout XT robot is used to safely gather information in situations where it may be dangerous to expose an officer, or officers, to gather the same information. Putting officers in such unknown, tense situations has the potential to create violent encounters, or otherwise place officers in unnecessary peril and danger that might

otherwise be avoided by the use of a tool like the Recon Scout XT robot. The Recon Scout XT robot is not likely to have a negative impact on the welfare or safety of the public as its role is to gather real-time information during high-risk incidents such as hostage or potentially life-threatening situations. The Recon Scout XT robot is likely to improve the welfare and increase the safety of the public through its ability to gather real-time information and feed it back to police officers. The Recon Scout XT robot does not have the capability to record or store data.

(5) **Mitigations:**

The use of the Recon Scout XT robot is limited to sworn police officers, and guided by field supervisors (Lieutenants and Sergeants). Procedurally, the Recon Scout XT robot is used when exigent circumstances exist (hostage situation, barricaded subject, natural disaster necessitating rescue, etc.) and real-time information is necessary to safely and effectively resolve the situation. The robot does not record or store data.

(6) **Alternatives:**

Unmanned aerial vehicles (UAV) are an alternative to robots such as the Recon Scout XT robot. However, the Berkeley City Council has prohibited the Berkeley Police Department from using UAVs. They are not constrained by obstacles on the ground and provide far superior perspective and situational awareness; at times, obstacles halt the Recon Scout XT robot's movement. There are several other robots on the market, however, the Recon Scout XT robot is compact, lightweight (weighing in at just over a pound), very maneuverable, and can easily be carried by an officer. It can also be introduced into structures by throwing it through any opening – an option not possible with other robot models.

(7) **Third Party Dependence:**

The Recon Scout XT robot does not currently rely on a third-party company or vendor for its use or maintenance. Should maintenance or parts be required beyond the scope of the members of the Berkeley Police Department, the robot would be sent to ReconRobotics for service.

Andros Remotec HD-1 Hazardous Duty Robot

(1) **Description:**

A. **Background:**

The Andros Remotec HD-1 Hazardous Duty Robot, hereinafter referred to as Remotec HD-1 robot, was designed to support a wide range of missions in demanding environments. The Remotec HD-1 robot is capable of lifting up to 125

pounds, tracked articulators stair climbing, and has an integrated Talisman radio system for a stronger radio wave connection between the controller and the robot.

Remotec has served explosive ordinance disposal units, hazardous materials units, and other first responders as a provider of mobile robotic systems for application into a variety of undesirable, hazardous and potentially life-threatening environments. The Remotec HD-1 robot allows individuals to approach hazardous devices to examine and manipulate the device without putting people in harm's way.

B. Quantity:

The Berkeley Police Department Bomb Squad has one robot, the Remotec HD-1 robot.

C. Capability:

Remotec HD-1 robot is used in situations where a potential life-threatening situation exists and is too hazardous for a bomb technician to approach in person. The Remotec HD-1 robot is also used to survey an area prior to a bomb technician approaching a scene to check for trip wires and ascertain a good approach path. The Remotec HD-1 robot has three cameras and audio monitoring that stream live video and audio back to the control module; however, it is unable to record and does not have any data storage capabilities. It has several attachment mounting options as well. The Remotec HD-1 robot also has the ability to carry a variety of tools. Some of the tools are:

- 1) A spike to break glass and access vehicles or homes with potential explosive devices inside
- 2) An X-ray mount in order to remotely X-ray suspected explosive devices.
- 3) Percussion actuated non-electric disruptors which are smooth barrels that are filled with water and fired at high speed with a blank shotgun round to open backpacks, suitcases, and packages from a distance
- 4) A hook with cutting blades that are used to cut backpack straps, ropes, etc.
- 5) PAN rounds containing various fills, from sand to slugs, in order to open sturdier packages made from metal or other hard covers.
- 6) Electrical connections to connect explosives that can be detonated remotely and from a safe distance.

D. Lifespan:

The Remotec HD-1 robot has an expected life span of 10 years. It is currently 13 years old and has begun exhibiting issues. The Remotec HD-1 robot weighs just over 200 lbs. and has been near multiple explosions over the years and crossed a variety of off-road terrain

E. Use:

Used to examine and possible destroy hazardous materials such as an explosive device.

F. How it Works:

The Remotec HD-1 robot is piloted by a bomb technician into a hazardous area to locate, examine, and render suspicious packages and explosive devices safe by utilizing a variety of attachable tools.

(2) Purpose:

The Remotec HD-1 robot is used as a means to approach hazardous situations where a potentially lethal threat such as an explosive device exist. The Remotec HD-1 robot allows for the examination and manipulation of an object or potential explosive device without unnecessarily putting a bomb technician's life at risk.

(3) Fiscal Cost:

A. Initial Cost:

Procured in 2008 for \$214,496 including on-site training through a UASI Grant. (64,292-N.S.)

B. Cost of Use:

None. The robot is electric and operated through the City's electricity for charging.

C. Cost of Potential Adverse Effects:

The Remotec HD-1 robot interacts with inanimate objects. However, should it encounter a package that explodes, it could potentially destroy the robot and damage other property.

D. Annual and Ongoing Costs:

There is no annual cost. Maintenance of the Remotec HD-1 robot is conducted by Berkeley Police Bomb Technicians.

E. Training Costs:

Berkeley Police Bomb Technicians are trained during regular bomb squad training sessions and maintain their skills through training scenarios. The cost of training is limited to staff time.

F. Maintenance and Storage Costs:

Remotec offers occasional maintenance and upkeep workshops free of charge.

G. Upgrade Costs:

There are no costs for upgrades as the company has stopped manufacturing the robot and any applicable upgrades.

(4) Impact:

The Remotec HD-1 robot is used by the Berkeley Police Department Bomb Squad as a means to examine a potentially explosive device in order to keep the community safe. Since April 2020, the Berkeley Police Department Bomb Squad has responded to 14 incidents. The impact of the Remotec HD-1 robot has been to reduce and minimize the danger posed by calls of possible explosive devices to the Berkeley Police Department's Bomb Technicians.

(5) Mitigations:

The Remotec HD-1 robot is used in situations where a hazardous device exists. In these situations, the area is always evacuated in order to ensure community safety.

(6) Alternatives:

The Remotec HD-1 robot is 13 years old and there has been significant development in technology. There are several alternatives that are far superior than our current Remotec HD-1; Mark V-A1 robot developed by Remotec Andros, Caliber Flex developed by ICOR Technology, Digital Vanguard-S developed by Med-Eng and T7 and T4 developed by L3Harris Technologies. These are alternatives that have newer and better technology and capabilities than the Remotec HD-1 robot.

(7) Third Party Dependence:

Remotec representatives are the only ones used to diagnose and maintain complex issues on the robot that cannot be done in-house. Since it is proprietary technology, Remotec may void warranties on any repairs made by outside vendors or by untrained personnel. Therefore, all complex issues with the Remotec HD-1 robot must be repaired by Remotec.

Light/Sound Diversionary Device

(1) Description:

A. **Background:**

Light/Sound Diversionary devices also known as distraction device, flashbang, light/sound and noise/flash devices have been available for approximately 40 years and are a safe and effective tool for Law Enforcement (LE) to use during challenging tactical incidents. The device will be referred to a diversionary device throughout this document.

B. **Quantity:**

Qty 50 - CTS 7290 Diversionary Device

C. **Capability:**

When a diversionary device is deployed they create a loud noise, heat and brilliant light and create an effective diversion. They can create psychological and physiological effects such as: hearing a loud noise beyond that of everyday living, seeing a short bright light, and feeling of a change in atmospheric pressure. These effects may disorient/confuse subjects for a short time giving tactical teams the ability to apprehend that subject without using a higher level of force.

D. **Lifespan:**

The lifespan of the CTS 7290 Diversionary Device is 5 years.

E. **Use:**

The use of a diversionary device is to create a diversion in order to facilitate entry and enable arrest. Circumstances justifying the use of a diversionary device may include, but not limited to barricaded subject or hostage situations and high-risk search warrants services.

F. **How it Works:**

The main charge of a modern diversionary device typically contains flash powder which is sometimes called photoflash powder. Upon initiation, this chemical compound causes the device to deflagrate (not detonate). The powder mixture is rapidly changed into gases that expand outward reaching upwards to 3,800 times the original volume of the charge itself. This process releases the desired effects of loud noise, bright light and the feeling of atmospheric pressure. Flash powder is typically made up of an oxidizer and some type of fuel. The oxidizer is needed to initiate and sustain the flash powder's rapid combustion. This is required since sufficient oxygen cannot be obtained from just the surrounding air.

(2) **Purpose:**

The purpose of a diversionary device is to create a reactionary gap of a person by temporarily disorienting them. This gap gives tactical teams an opportunity to apprehend a suspect while using the minimal amount of force possible. They can also be used to safely invoke a response or redirect the attention of subjects who are either feigning injury, ignoring police commands or are unresponsive while posing a threat to the public.

(3) **Fiscal Cost:**

A. **Initial Cost:**

Diversionary Devices cost approximately \$45 per unit and are purchased through LC Action Police Supply. Purchases for these tools are made when inventory becomes low, based upon critical incident usage and Special Response Team trainings that incorporate live devices.

B. **Cost of Use:**

The cost of each proposed use is unpredictable due to the unknown nature and timelines of dangerous barricade situations, critical incident, and hostage situations. The devices may be stored inside of the Police Department, in the Special Response Team Vehicle, or in the rescue vehicle. There are no additional storage costs. There are no associated costs for transporting, maintenance, training, or upgrades.

C. **Cost of Potential Advert Effects:**

Adverse effects of improper use of a diversionary device are not calculable. It could result in serious injury. Additionally, the improper use could result in civil liabilities.

D. **Annual and Ongoing Costs:**

See below training cost.

E. **Training Cost:**

Only trained and qualified personnel are permitted to deploy diversionary devices. These trained Berkeley Police officers are typically members of the Berkeley Police Department Special Response Team who receive monthly training which includes training in the deployment of diversionary devices. The cost of training is staff time.

F. Maintenance and Storage Costs:

The majority of diversionary devices are stored inside of a room in the basement within the Police Department. There are no additional storage costs. There are no associated costs to transporting, maintenance, or upgrades.

G. Upgrade Costs:

No upgrades exist for this equipment as of this report.

(4) Impact:

The Berkeley Police Department is committed to preserving and protecting human life and welfare. These tools allow us to fulfill our commitment to our community.

Diversionary Devices may be utilized in many situations to include potentially dangerous barricaded subject situations, hostage situations, and critical incidents. Some criteria considered prior to a deployment is dependent upon whether the suspect is a dangerous felon, causes a life-threatening situation and/or other unique incidents where it appears to be a reasonable method in which to resolve the situation. When deployed appropriately these devices can assist in safely apprehending suspects and resolving high risk critical incidents with minimal or no injuries to suspects and/or officers.

(5) Mitigations:

Since Diversionary Devices are considered low explosives, there are several protocols in place to mitigate possible negative results (i.e. minor or major injuries).

Only trained and qualified personnel are permitted to deploy diversionary devices; typically, members of the Special Response Team who receive constant training regarding the deployment, effects, and post deployment protocols.

Pre-deployment concerns are typically gathered and evaluated, such as:

- The number of people at a location and the individual location of suspects within the structure.
- Evaluation if there are children or elderly people present
- An evaluation of the suspect's mental and physical conditioning
- Evaluation of the building/room layout

- Possible combustible/flammable substances present
- Lighting conditions

When a diversionary device is deployed, the officer shall utilize a helmet, hearing protection, eye protection, body armor, and nomex (fire resistive) gloves.

If a diversionary device is used, a supervisor shall be notified, medical treatment/screening is conducted, and a collection of the deflagrated device is completed. Documentation utilizing the device serial number is recorded.

Per Policy 351 - Except in extreme emergencies (i.e., life-threatening situations), flash/sound diversionary devices shall not be used without prior authorization of the incident commander/on-scene supervisor. Whenever diversionary devices are carried by personnel in an actual situation or incident, that fact shall be noted in the after-action report or police report. In the event devices are deployed, the circumstances surrounding their deployment shall be fully described. The Chief of Police or his or her designee shall be responsible for reviewing any deployment of diversionary devices to ensure that policy was followed. Diversionary devices are registered by serial number with the Bureau of Alcohol, Tobacco, and Firearms (ATF). Typically, the police department's purchase of new devices is reported directly (by case-lot serial numbers) to ATF by the device manufacturer via ATF Form 5. The National Firearms Act requires the police department to notify ATF upon the use/expenditure of diversionary devices. A Special Response Team member shall be responsible for submitting written notification to ATF when all devices listed on a single ATF form 5 have been used/expended.

(6) Alternatives:

A possible alternative to a diversionary device (flashbang) is the Tactical Electronic Distraction Device (T.E.D.D.) which emits 2600 lumen light and high pitched 120 decibel sound to disorientate subjects. This could be a good tool as it is not a low explosive however it has its negative aspects as well:

- There is no feeling of atmospheric pressure, limiting the desired momentary physiological effect.
- A suspect could pick up and throw the device at potential victims and at police officers. The currently used diversionary devices are too hot to attempt this.

- In certain circumstances, a suspect could potentially steal the device during an escape.
- The individual cost per unit is approx. \$200 which is much more than a diversionary device
- This device is significantly less effective in disorienting subjects compared to a diversionary device.

(7) **Third Party Dependence:**

There is no third-party dependence for Diversionary Devices with the exception of communication with ATF of the purchase. Once they are purchased, they are secured within their designated locations where they are stored until they are either used during incidents or training.

Long Range Acoustic Device (LRAD)

(1) **Description:**

A. **Background:**

The Long-Range Acoustic Device (LRAD) is a high intensity directional acoustical array for long range, crystal clear notification system. The use of the LRAD is for communications.

B. **Quantity:**

The Berkeley Police Department possesses 2 Long Range Acoustic Devices (LRAD) speakers. One is an LRAD 450XL and the other is an LRAD 100X.

C. **Capability:**

Both of these speakers are able to focus sound in directional pattern allowing the user to make sound audible over distances much greater than conventional public address speakers. The LRAD 450XL is the larger of the two and designed to either be used in a fixed location or mounted on a vehicle to make it portable. It has a usable range of approximately 1 mile. The LRAD 100X is smaller and more portable. It can be carried or mounted to a person's chest for mobility or mounted to a vehicle. Its range is approximately 1/3 of a mile. Both of these systems allow for clear long-range communication, they are also able to play recorded messages.

D. Lifespan:

The lifespan for both LRADs is 25 years.

E. Use:

The LRADs are used to communicate with the community during natural disasters, crowd management and control situations, or when other forms of communications are ineffective or inoperable to unequivocally communicate messages from Police or Fire and safely resolve uncertain situations where communicating with the public is paramount.

F. How it Works:

The LRADs are essentially a long-range speaker or long-range megaphone and operates as such.

(2) Purpose:

The LRADs are designed for clear long-range communication. The LRAD's ability to communicate over a long distance is far superior to any megaphone or Public Address (PA) system mounted to a police vehicle. Additionally, LRAD's may be used to:

- Communicate lifesaving information to residents during disasters
- Communicate to large crowds during parades, festivals, concerts and sporting events
- Establish safety zones and perimeters
- Control traffic congestion
- Conduct Special Response Team operations
- Broadcast a dispersal order
- Communicate during hostage and barricaded subject situations
- Announce and serve high risk warrants
- Communicate to protesters
- Communicate to persons threatening suicide who are in an inaccessible location
- Conduct search and rescue operations

The ability to communicate with the public in a large area increases the safety of all members of the public and law enforcement. It allows everyone in a given area to know what is being communicated, gives more situational awareness to everyone in a given area and allows people to know where to go or not to go.

(3) **Fiscal Cost:**

A. **Initial Cost:**

The LRAD 450XL and the LRAD 100X were purchased in 2018. The total cost for both LRADs, rechargeable battery packs and accessories was \$49,999.

B. **Cost of Use:**

There is no cost associated with each use of the LRADs. The systems run on batteries or can plug into a vehicle.

C. **Cost of Potential Adverse Effects:**

Adverse effects of improper use of the LRADs are not calculable. It could lead to hearing loss. Additionally, the improper use could result in civil liabilities.

D. **Annual and Ongoing Costs:**

BPD has not incurred any additional cost to date for this equipment.

E. **Training Costs:**

Training is conducted by Berkeley Police personnel who are trained in the use and procedures of the LRAD. The cost to train is staff time.

F. **Maintenance and Storage Costs:**

There are no maintenance or storage costs for this equipment.

G. **Upgrade Costs:**

No upgrades exist for this equipment as of this report.

(4) **Impact:**

The Berkeley Police Department is committed to ensuring the safety of our community. Having the ability to communicate efficiently and effectively in different situations is crucial in providing potentially life-saving information to the public. The LRAD provides BPD personnel the ability to communicate long distances to people that are in a given area, inside structures, or barricaded inside a structure. The LRAD is very effective any situation involving communicating information to large crowds, or entire communities.

Over shorter distances, LRAD signals are loud enough to cause pain in the ears of people in their path. If used improperly they can cause permanent hearing damage,

including tinnitus or hyperacusis, to intended targets, bystanders, and police officers.⁵ Improper use may also result in litigation costs.

(5) **Mitigations:**

LRAD are capable of producing a high pitched “deterrent tone” that is designed to disperse a potential threat. This “deterrent tone” does have the ability to cause hearing damage. BPD Policy 707 strictly prohibits any member of BPD from using the LRAD as a weapon. Additionally, the LRAD can only be deployed at the direction of a Watch Commander or Incident Commander and may only be used by personnel specifically trained in the use of the LRAD.

(6) **Alternatives:**

BPD is not aware of any other sound speakers that are able to clearly communicate over long distances of up to 1 mile.

(7) **Third Party Dependence:**

To date, BPD has not depended on any third party for the use or maintenance of this equipment.

36” Baton

(1) **Description:**

A. **Background:**

The Berkeley Police Department issues a knurled grip, polycarbonate, fixed-length straight baton for crowd control purposes. The baton is 36” long and 1.25” in diameter and weighs about 1.64 pounds. Polycarbonate is a thermoplastic, which means it is durable, resistant to splintering and heat.

B. **Quantity:**

In 2017, BPD purchased 175 polycarbonate 36” batons to replace aging wood batons of the same purpose. Additional polycarbonate batons were purchased over the past four years to ensure all sworn police officers as well as trained reserve police officers are equipped with the 36” baton. BPD possesses approximately 195 - 36” polycarbonate batons. Most of these batons are issued to and maintained by individuals. However, a small amount of these batons is stored in a secure equipment room as spares in case of damage or new personnel issue.

⁵ Tyler Tracy, “Long Range Acoustic Devices (LRAD) and Public Safety,” Acentech, August 10, 2020, at <https://www.acentech.com/resources/2020/08/long-range-acoustic-devices-lrad-and-public-safety/>.

C. Capabilities:

The 36" baton is carried in a "baton ring" on an officer's belt just as any other baton. It is used as a safety tool and is a means for officers to defend themselves in certain crowd control or riot situations. Trained officers may employ particular applications of force with their 36" batons when directed by their chain of command. The 36" baton is the desirable baton in a crowd control situation as it is 7" longer than the standard 29" baton. The longer baton creates more distance between the officer and others, which is critical when dealing with violent or aggressive crowds.

D. Lifespan:

The manufacturer provides a lifetime repair or replacement guarantee.

E. Use:

The 36" baton is a less-lethal force tool and is intended to be used in crowd control situations in close quarters, where officers may defend an attack, or when engaging in physical contact with combative or aggressive crowd members. The 36" baton is only used for crowd situations.

F. How it Works:

There are a number of appropriate blocking or striking techniques an officer may use when force is justified and the decision is made to use the 36" baton to effectively gain control of a person or situation. The use of the baton requires the officer to continually monitor and assess effectiveness of any delivered strikes. The reason this type of force is administered is to stop a person's attack, threat or resistance, with the goal to place them under lawful arrest for their actions.

(2) Purpose:

The 36" baton is a less-lethal tool that may be used when a crowd becomes aggressive, hostile or violent. It is the most effective individual tool of choice when officers are in formation and engaged in crowd control duties.

When officers are deployed to maintain, disperse, or protect others from a violent crowd or civil disobedience, it is imperative that they have an adequate safety zone to protect themselves or others. The 36" baton provides officers additional distance from a potential threat than the standard issue 29" baton.

When the baton is used to strike a subject, kinetic energy transfer occurs. Kinetic energy is the energy of motion. The amount of translational kinetic energy which an object has depends upon two variables: the mass of the object and the speed of the

object. The desired effect is for the officer to apply a baton strike with the necessary energy to stop the threat as quickly and safely as possible. By targeting the large muscle areas of the arms or legs with sufficient kinetic energy, motor and sensory nerves can be affected. When the nerves are affected this will create momentary muscle dysfunction or pain, which will allow the officer the ability to gain control of the subject, while minimizing the possibility of long-term injury to the subject.

The head, neck, throat, spine, heart, kidneys and groin should not be intentionally targeted except when the person's conduct is creating an immediate threat of serious bodily injury or death to an officer or any other person as outlined in policy 303 and 300.

(3) **Fiscal Cost:**

A. **Initial Cost:**

The cost of the Monadnock MP36 2004 36" polycarbonate baton with knurled grip was \$53.00 per baton in September 2017. After tax, \$10,132.94 was spent for the purchase of 175 batons. The department placed an additional order for 20 batons in December 2019. It is anticipated that the cost of the baton will fluctuate a few dollars based on supply and demand over time.

B. **Cost of Use:**

The only cost associated with use that of ongoing departmental training to ensure officers are proficient in authorized baton techniques.

C. **Costs of Potential Adverse Impacts:**

Adverse effects from improper use of the 36" baton cannot be anticipated. Improper use could lead to serious bodily injury or death. Additionally, the improper use could result in civil liabilities.

D. **Annual and Ongoing Costs:**

There is no additional annual or ongoing cost associated with the 36" baton.

E. **Training costs:**

Training on the applications of the batons are conducted at the police academy. Police Office Standard Training (POST) requires "arrest and control" training every 2 years which includes portions of baton training. This training is conducted in-house by POST certified defensive tactics instructors.

F. **Maintenance and Storage Costs:**

There are no associated costs to transporting, maintenance, or upgrades.

G. Upgrade Costs:

No upgrades exist for this equipment as of this report.

(4) Impact:

Per Policy 300, "The Berkeley Police Department's highest priority is safeguarding the life, dignity, and liberty of all persons. The Department is committed to accomplishing this mission with respect and minimal reliance of the use of force by using rapport-building communication, crisis intervention, and de-escalation tactics before resorting to force."

At times, it may become necessary for police officers to use force in crowd control situations to move a crowd, stop violent behavior, overcome resistance or make a lawful arrest. Officers have been trained that they must do everything possible to avoid unnecessary uses of force, and minimize the force that is used, while still protecting themselves and the public. When deemed necessary, use of the 36" baton may be used as a tool to strike a person, create a barrier or used in formation in order to move a crowd in a certain direction. The use of the baton may cause discomfort, pain, blunt trauma and has the potential to cause serious injury. Their use is subject to the totality of the circumstances, proper training, department policy, as well as federal and state law.

Officers who use the 36" baton are trained to continuously assess each situation where force is used and only use the force that is reasonably necessary and proportional to respond to the threat or resistance to effectively and safely resolve the incident.

(5) Mitigations:

Per Policy 300, "In all cases where physical force is used, officers shall use a minimum amount of force that is objectively reasonable, objectively necessary, and proportional to effectively and safely resolve a conflict."

Per Policy 303, "Only officers who have successfully completed department-approved training in the use of any control device are authorized to carry and use the device. Control devices may be used when a decision has been made to control, restrain or arrest a subject who is violent or who demonstrates the intent to be violent, and the use of the device appears reasonable under the circumstances. When reasonable, a verbal warning and opportunity to comply should precede the use of these devices. When using control devices, officers should carefully consider potential impact areas in order to minimize injuries and unintentional targets."

Every officer who carries a 36" baton has been trained how to properly carry the equipment, it's intended use, target areas and non-target areas. Large muscle groups such as the upper legs or lower abdomen are approved target areas and areas to be avoided at the groin and head. When a baton strike is directed at an intended target area and the subject moves simultaneously, it is possible for the officer to unintentionally strike a non-target area. Officers are trained to consider the placement of baton strikes, and to immediately render medical aid to the subject as soon as it is safe to do so.

All uses of force require documentation that is completed by the supervisor in a use of force report and reviewed by the Chain of Command. Furthermore, all deployments of equipment outlined in the Police Equipment and Community Safety Ordinance are documented according to the reporting requirements as mandated in the ordinance.

(6) **Alternatives:**

The alternatives to the 36" crowd control baton are the 29" standard issue baton and collapsible 26" Rapid Containment Baton (RCB). The standard issue baton and RCB are shorter in length and require officers to be closer to the person they are engaging, thereby increasing the risk of injury to the officer and the person. A longer baton provides an officer with more distance which creates a small safety zone and allows the officer time to react and assess the situation before making use of force decisions.

(7) **Third Party Dependence:**

There is no requirement for a third-party service provider to issue the 36" crowd control baton. Berkeley Police Department Defensive Tactics Instructors provide in-house training on the proper use of the baton.

Mobile Command Vehicle

(1) **Description:**

A. Background

The Berkeley Police Department owns one Mobile Command Vehicle (MCV). Our MCV is a 2003 Freightliner MT55. This vehicle's most common use is as a commercial delivery vehicle. Our 2003 Freightliner MT55 was converted into a MCV by adding desktop work stations, additional police radios and emergency lighting. The MCV is 30' long and has a gross vehicle weight (GVW) of approximately 23,000 pounds.

B. Quantity:

The Berkeley Police Department owns 1 MCV.

C. Capability:

The MCV is a mobile office that provides shelter and may be used as a mobile command and communication center.

D. Lifespan:

This vehicle is approximately 20 years old and is at the tail end of its serviceable lifespan. All emergency vehicles need to be completely dependable and vehicles of this age start to lose dependability as old parts start to fail without warning. The modern versions of this type of vehicle are typically converted motorhomes.

E. Use:

This vehicle is used as a mobile command post for large scaled events.

F. How it Works:

This vehicle operates and drives like other vehicles.

(2) Purpose:

This vehicle may be used as a mobile command post for any larger scaled events or as a communications center in the event the communications center in the Public Safety Building is inoperable. Some examples of large-scale events include Solano Stroll, Juneteenth, 4th of July, critical incidents or natural disasters.

(3) Fiscal Cost:

A. Initial cost:

The initial cost of the MCV (2003 Freightliner MT55) was \$230,800.

B. Cost of Use:

The cost of use is the cost of fuel from the City Corporation Yard.

C. Cost of Potential Adverse Effects:

Adverse effects of improper use of the MCV are not calculable, but is the same as improper use of any vehicles. The improper use could result in civil liabilities.

D. Annual and Ongoing Costs:

There is no annual or ongoing cost associated with this vehicle. Maintenance of the vehicle is conducted by the City's Corporation Yard.

E. Training Costs:

Training is conducted in-house by Berkeley Police personnel who are trained in the operation of the vehicle. The training cost is staff time.

F. Maintenance and Storage Costs:

There are no storage costs and maintenance would be conducted by the City of Berkeley Corporation Yard.

G. Upgrade Cost:

The MCV is almost 20 years old and upgrades would involve replacing different parts of the vehicle. This work would be conducted by the City of Berkeley's Corporation Yard. The cost would be staff time plus the cost of any necessary parts.

(4) Impact:

The MCV is used as a command post for any large scaled event. It works as a mobile central location where resources can stage and be deployed from. It provides the police department with on-site command, supplying a control and communications hub that is needed for large community events, or critical incidents such as natural disasters in order to maintain public safety. The deployment or appearance of certain armored vehicles may escalate tension, provoke fear, prevent clear communication, or increase distrust.

(5) Mitigations:

The MCV shall only be operated by trained personnel that have demonstrated proficiency in the operations of this vehicle per Berkeley Police Department Policy 811.

(6) Alternatives:

The MCV is almost 20 years old. Current MCV from other agencies are large mobile homes converted into MCVs.

(7) Third Party Dependence:

All maintenance is completed through the Cities Corp Yard so there is no dependence on a third party.

Barrett Model 99 Rifle

(1) Description:

A. **Background:**

The Barrett Model 99 rifle is a single shot bolt-action 50-caliber rifle first introduced in 1999. It is intended to be used in emergency situations where there is a high potential for violence.

B. **Quantity:**

Berkeley Police Department Special Response Team (SRT) currently possess 1 (one) of these rifles and is not looking to purchase any others.

Currently BPD has approximately 100 Summit Ammunition .50-caliber BNG rounds.

C. **Capability:**

This rifle is used only in situations where a potential life-threatening situation exists. The length of the rifle's barrel coupled with the ammunition result in precision accuracy. This rifle is capable of disabling any vehicle engine block because of the large caliber round.

D. **Lifespan:**

This rifle has been in our possession for almost 15-years and we expect it to last for an additional 20 years or more considering how in-frequently it's used.

E. **Use:**

This rifle is used primarily in emergency situations where a life-threatening situation exists, necessitating a vehicle to be disabled.

F. **How it Works:**

This is a bolt-action rifle that fires one round at a time and needs to be reloaded by hand after each round. The Barrett Model 99 rifle works similar to all modern bolt-action rifles. When the trigger is pressed, a firing pin strikes the primer of a bullet loaded into the chamber of the rifle. The ignited primer ignites gun powder contained in the bullet which pushes the bullet down the barrel and out the muzzle. The operator pulls the bolt back, ejecting the spent cartridge. The operator then loads another bullet into the breach, pushes the bolt forward, and closes the chamber, making the rifle ready to fired again.

(2) **Purpose:**

The Barrett rifle is a firearm that may be used to stop a vehicle which poses a lethal threat to the public, or to disable a vehicle which presents a threat to the safety of another person(s) by its continued use. There are vehicle disabling tools that may disable vehicles by slowly deflating the tires; however, even with tires deflated a vehicle has the ability to operate and remain a threat to the public. Furthermore, these tools must be hand deployed and, in most circumstances, require officers to expose themselves to deadly threats. The Barrett rifle creates the ability to effectively disable vehicles instantaneously from a distance away.

(3) **Fiscal Cost:**

A. **Initial Cost:**

The Barrett Model 99 50-caliber rifle has a retail cost of approximately \$12,500 dollars. The Department of Justice provided the Barrett rifle to the Berkeley Police Department on 04/04/2007. There was no initial cost related to BPD taking possession of it.

B. **Cost of Use:**

The costs associated with its proposed uses is in the expenditure of its ammunition. The ammunition has a retail cost of approximately \$6 dollars per bullet; \$60 for a box of 10 and \$600 for a case of 10 boxes, plus shipping and handling. We currently possess 100 rounds of BMG ammunition.

C. **Cost of Potential Adverse Effects:**

Adverse effects of improper use of a firearm are not calculable. It could lead to the loss of life or serious injury. Additionally, the improper use could result in civil liabilities.

D. **Annual and Ongoing Costs:**

The annual cost of the equipment is minimal and includes ammunition expenditure, cleaning equipment, and possibly replacing the optics at some point in the future.

E. **Training Costs:**

The cost associated with training is the staff time, range fees, and cost of spent ammunition.

F. Maintenance and Storage Costs:

Maintenance costs vary depending on use over time and will vary. There are no costs associated with maintenance or storage of ammunition. All ammunition is stored in a climate-controlled room in the Berkeley Police Department.

G. Upgrade Costs:

Improvements in technology and new designs may be an additional cost but we can't predict what those will be at this time.

Should advancements be made in ammunition manufacturing; those upgrade costs are unknown at this time.

(4) Impact:

The Berkeley Police Department is committed to preserving and protecting human life and welfare. The Barrett rifle is a firearm the department would primarily use to stop a vehicle which poses a lethal threat to the public or used to disable a vehicle that presents a threat to the safety of another person(s) by its continued use.

The Barrett rifle is intended as a tool to increase the safety and welfare of community members and officers alike.

The Barrett rifle has minimal or no impact on civil rights or civil liberties as it will only be deployed in very specific situations, by very select members of the SRT. This is not a piece of equipment that is carried by an officer on routine patrol, and is highly unlikely that any members of our community would ever see this equipment due to its very selective use in the most critical of instances.

(5) Mitigations:

Only four BPD members are authorized to utilize this rifle. Authorized members are trained in its use as well as the very specific and limited circumstances where this equipment would be utilized.

(6) Alternatives:

There is no other alternative tool or asset available that could accomplish the same goal of this rifle. An alternative rifle to the Barrett model 99 is a different rifle of equal capability, such as a Lapua .338 caliber rifle.

(7) Third Party Dependence:

These rifles are simple in their design and operation. They do require regular maintenance which is performed by an SRT Team Leader. If an issue arises which is

beyond the scope of our Armorers we would seek manufacturer assistance. However, the need for this is expected to be very rare.

Appendix:

Applicable Lexipol Policies Respective to Each Equipment

Policies are hyperlinked to the Berkeley Police Department Lexipol policy website.

M4 rifle/Patrol Rifle

- [Policy 300 \(Use of Force\)](#)
- [Policy 349 \(Tactical Rifle Operator Program\)](#)

Penn Arms 40MM launcher

- [Policy 300 \(Use of Force\)](#)
- [Policy 303 \(Control Devices and Techniques\)](#)
- [Policy 428 \(First Amendment Assemblies\)](#)

Milkor LTL multi-launcher

- [Policy 300 \(Use of Force\)](#)
- [Policy 303 \(Control Devices and Techniques\)](#)
- [Policy 428 \(First Amendment Assemblies\)](#)

FN 303 Launcher & FN Pava rounds

- [Policy 300 \(Use of Force\)](#)
- [Policy 303 \(Control Devices and Techniques\)](#)
- [Policy 428 \(First Amendment Assemblies\)](#)

Chlorobenzylidene Malononitrile and Oleoresin Capsicum (canister and spray)

- [Policy 300 \(Use of Force\)](#)
- [Policy 303 \(Control Devices and Techniques\)](#)

Remington 700 Rifle

- [Policy 300 \(Use of Force\)](#)
- [Policy 354 \(Precision Rifle\)](#)

ReconRobotics Recon Scout XT Robots & Andros Remotec HD-1 Hazardous Duty Robot

- [Policy 708 \(Robot Cameras\)](#)

Light/Sound Diversionary Device

- [Policy 353 \(Diversionary Device\)](#)

Long Range Acoustic Device

- [Policy 707 \(Long Range Acoustical Device\)](#)

36" batons

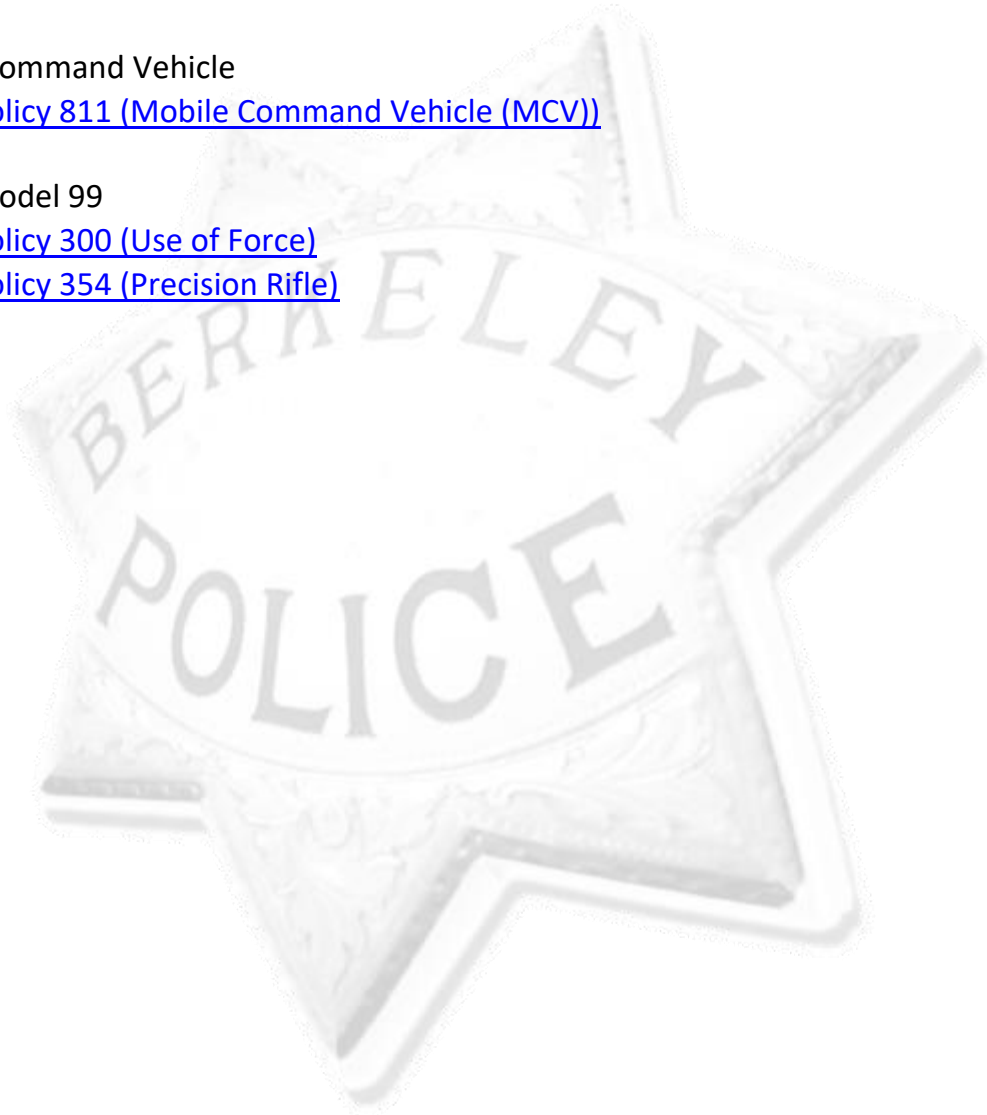
- [Policy 300 \(Use of Force\)](#)
- [Policy 303 \(Control Devices and Techniques\)](#)
- [Policy 428 \(First Amendment Assemblies\)](#)

Mobile Command Vehicle

- [Policy 811 \(Mobile Command Vehicle \(MCV\)\)](#)

Barret Model 99

- [Policy 300 \(Use of Force\)](#)
- [Policy 354 \(Precision Rifle\)](#)



Control Devices and Techniques

303.1 PURPOSE AND SCOPE

This policy provides guidelines for the use and maintenance of control devices that are described herein.

303.2 POLICY

In order to control subjects who are violent or who demonstrate the intent to be violent, the Berkeley Police Department authorizes officers to use control devices and techniques in accordance with the guidelines in this policy and the Use of Force Policy.

303.3 ISSUING, CARRYING AND USING CONTROL DEVICES

Control devices described in this policy may be carried and used by members of this department only if the device has been issued by the Department or approved by the Chief of Police, or his/her designee.

Only officers who have successfully completed department-approved training in the use of any control device are authorized to carry and use the device.

Control devices may be used when a decision has been made to control, restrain or arrest a subject who is violent or who demonstrates the intent to be violent, and the use of the device appears reasonable under the circumstances. When reasonable, a verbal warning and opportunity to comply should precede the use of these devices.

When using control devices, officers should carefully consider potential impact areas in order to minimize injuries and unintentional targets.

Except as otherwise provided in Section 303.9, kinetic energy projectiles and chemical agents shall not be used to disperse any assembly, protest, or demonstration (Penal Code 13652).

303.4 RESPONSIBILITIES

303.4.1 WATCH COMMANDER RESPONSIBILITIES

The Watch Commander may authorize the use of a control device by selected personnel or members of specialized units who have successfully completed the required training.

303.4.2 PERSONNEL AND TRAINING SERGEANT RESPONSIBILITIES

The Personnel and Training Sergeant, or designated instructor, shall control the inventory and issuance of all control devices and shall ensure that all damaged, inoperative, outdated or expended control devices or projectiles are properly disposed of, repaired or replaced.

Every control device will be periodically inspected by the Personnel and Training Sergeant or the designated instructor for a particular control device. The inspection shall be documented.

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303.4.3 USER RESPONSIBILITIES

All normal maintenance, charging or cleaning shall remain the responsibility of personnel using the various devices.

Any damaged, inoperative, outdated or expended control devices or projectiles, along with documentation explaining the cause of the damage, shall be returned to the Personnel and Training Sergeant for disposition. Damage to City Property forms shall also be prepared and forwarded through the chain of command, when appropriate, explaining the cause of damage.

303.5 BATON AND COLLAPSIBLE BATON GUIDELINES

The need to immediately control a suspect must be weighed against the risk of causing serious injury. The head, neck, throat, spine, heart, kidneys and groin should not be intentionally targeted except when the officer reasonably believes the suspect poses an imminent threat of serious bodily injury or death to the officer or others.

When carrying a baton, including a collapsible baton, uniformed personnel shall carry the baton in its authorized holder on the equipment belt. Plainclothes and non-field personnel may carry the baton as authorized and in accordance with the needs of their assignment or at the direction of their supervisor.

303.6 OLEORESIN CAPSICUM (OC) SPRAY GUIDELINES

As with other control devices, OC spray (aka pepper spray) and pepper projectiles may be considered for use to bring under control an individual or groups of individuals who are engaging in, or are about to engage in violent behavior. Pepper projectiles and OC spray should not, however, be used against individuals or groups who merely fail to disperse or do not reasonably appear to present a risk to the safety of officers or the public.

303.6.1 OC SPRAY

Uniformed personnel carrying OC spray shall carry the device in its holster on the equipment belt or external vest carrier. Plainclothes and non-field personnel may carry OC spray as authorized, in accordance with the needs of their assignment or at the direction of their supervisor.

303.6.2 PEPPER PROJECTILE SYSTEMS

Pepper projectiles (aka "Pava" rounds) are plastic spheres that are filled with a derivative of OC powder. Because the compressed gas launcher (aka "less lethal" launcher) delivers the projectiles with enough force to burst the projectiles on impact and release the OC powder, the potential exists for the projectiles to inflict injury if they strike the head, neck, spine or groin. Therefore, personnel using a launcher should not intentionally target those areas, except when the officer reasonably believes the suspect poses an imminent threat of serious bodily injury or death to the officer or others.

Officers encountering a situation that warrants the use of a launcher shall notify a supervisor as soon as practicable. A supervisor shall respond to all incidents where the suspect has been hit or

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exposed to the chemical agent. The supervisor shall ensure that all notifications and reports are completed as required by the Use of Force Policy.

303.6.3 TREATMENT FOR OC SPRAY EXPOSURE

Persons who have been sprayed with or otherwise affected by the use of OC should be promptly provided with clean water to cleanse the affected areas. Those persons who complain of further severe effects shall be examined by appropriate medical personnel.

303.7 POST-APPLICATION NOTICE

Whenever OC has been introduced into a residence, building interior, vehicle or other enclosed area, officers should provide the owners or available occupants with notice of the possible presence of residue that could result in irritation or injury if the area is not properly cleaned. Such notice should include advisement that clean up will be at the owner's expense. Information regarding the method of notice and the individuals notified should be included in related reports.

303.8 LESS LETHAL PROJECTILE GUIDELINES

This department is committed to reducing the potential for violent confrontations. "Less lethal" projectiles, when used properly, are less likely to result in death or serious physical injury and can be used in an attempt to de-escalate a potentially deadly situation.

303.8.1 DEPLOYMENT AND USE

Only department-approved projectiles shall be carried and deployed. Approved projectiles may be used to compel an individual to cease his/her actions when such projectiles present a reasonable option.

Approved projectiles include:

- (a) "Less Lethal" rounds: impact projectiles
- (b) "Pava" rounds: impact projectiles containing OC/pepper spray
- (c) "Marking" rounds: impact projectiles containing paint

Officers are not required or compelled to use approved projectiles in lieu of other reasonable tactics if the involved officer determines that deployment of these projectiles cannot be done safely. The safety of hostages, innocent persons and officers takes priority over the safety of subjects engaged in criminal or suicidal behavior.

Circumstances appropriate for deployment include, but are not limited to, situations in which:

- (a) The suspect is armed with a weapon and the tactical circumstances allow for the safe application of approved projectiles.
- (b) The suspect has made credible threats to harm him/herself or others.
- (c) The suspect is engaged in riotous behavior or is throwing rocks, bottles or other dangerous projectiles at people and/or officers.
- (d) There is probable cause to believe that the suspect has already committed a crime of violence and is refusing to comply with lawful orders.

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303.8.2 DEPLOYMENT CONSIDERATIONS

Before discharging projectiles, the officer should consider such factors as:

- (a) Distance and angle to target.
- (b) Type of projectiles employed.
- (c) Type and thickness of subject's clothing.
- (d) The subject's proximity to others.
- (e) The location of the subject.
- (f) Whether the subject's actions dictate the need for an immediate response and the use of control devices appears appropriate.

A verbal warning of the intended use of the device should precede its application, unless it would otherwise endanger the safety of officers or when it is not practicable due to the circumstances. The purpose of the warning is to give the individual a reasonable opportunity to voluntarily comply and to warn other officers and individuals that the device is being deployed.

Officers should keep in mind the manufacturer's recommendations and their training regarding effective distances and target areas. However, officers are not restricted solely to use according to manufacturer recommendations. Each situation must be evaluated on the totality of circumstances at the time of deployment.

The need to immediately incapacitate the subject must be weighed against the risk of causing serious injury or death. The head and neck should not be intentionally targeted, except when the officer reasonably believes the suspect poses an imminent threat of serious bodily injury or death to the officer or others.

303.8.3 SAFETY PROCEDURES

Officers will inspect the launcher and projectiles at the beginning of each shift to ensure that the launcher is in proper working order and the projectiles are of the approved type and appear to be free from defects.

When it is not deployed, the launcher will be unloaded and properly and securely stored.

303.9 CROWD CONTROL REQUIREMENTS

Pursuant to California Penal Code 13652, kinetic energy projectiles and chemical agents shall only be deployed by a peace officer that has received training on their proper use by the Commission on Peace Officer Standards and Training for crowd control if the use is objectively reasonable to defend against a threat to life or serious bodily injury to any individual, including any peace officer, or to bring an objectively dangerous and unlawful situation safely and effectively under control, and only in accordance with all of the following requirements:

- (a) Deescalation techniques or other alternatives to force have been attempted, when objectively reasonable, and have failed.
- (b) Repeated, audible announcements are made announcing the intent to use kinetic energy projectiles and chemical agents and the type to be used, when objectively

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reasonable to do so. The announcements shall be made from various locations, if necessary, and delivered in multiple languages, if appropriate.

- (c) Persons are given an objectively reasonable opportunity to disperse and leave the scene.
- (d) An objectively reasonable effort has been made to identify persons engaged in violent acts and those who are not, and kinetic energy projectiles or chemical agents are targeted toward those individuals engaged in violent acts. Projectiles shall not be aimed indiscriminately into a crowd or group of persons.
- (e) Kinetic energy projectiles and chemical agents are used only with the frequency, intensity, and in a manner that is proportional to the threat and objectively reasonable.
- (f) Officers shall minimize the possible incidental impact of their use of kinetic energy projectiles and chemical agents on bystanders, medical personnel, journalists, or other unintended targets.
- (g) An objectively reasonable effort has been made to extract individuals in distress.
- (h) Medical assistance is promptly provided, if properly trained personnel are present, or procured, for injured persons, when it is reasonable and safe to do so.
- (i) Kinetic energy projectiles shall not be aimed at the head, neck, or any other vital organs.
- (j) Kinetic energy projectiles or chemical agents shall not be used by any law enforcement agency solely due to any of the following:
 - 1. A violation of an imposed curfew.
 - 2. A verbal threat.
 - 3. Noncompliance with a law enforcement directive.

As per City Council resolution (June 9, 2020), pepper spray for crowd control by employees of the Berkeley Police Department, or any outside department or agency called to respond to mutual aid in Berkeley, is prohibited during the COVID-19 pandemic, or until such time as the City Council removes the prohibition.

303.10 TRAINING FOR CONTROL DEVICES

The Personnel and Training Sergeant shall ensure that all personnel who are authorized to carry a control device have been properly trained and certified to carry the specific control device and are retrained or recertified as necessary.

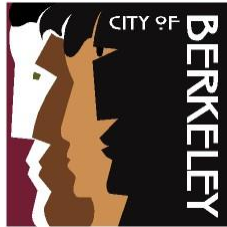
- (a) Proficiency training shall be monitored and documented by a certified, control-device weapons or tactics instructor.
- (b) All training and proficiency for control devices will be documented in the officer's training file.
- (c) Officers who fail to demonstrate proficiency with the control device or knowledge of this agency's Use of Force Policy will be provided remedial training. If an officer cannot

Control Devices and Techniques

demonstrate proficiency with a control device or knowledge of this agency's Use of Force Policy after remedial training, the officer will be restricted from carrying the control device and may be subject to discipline.

303.11 REPORTING USE OF CONTROL DEVICES AND TECHNIQUES

Any application of a control device or technique listed in this policy shall be documented in the related incident report and reported pursuant to California Penal Code 13652.1 and the Berkeley Use of Force Policy.



Kate Harrison
Vice Mayor, District 4

REVISED AGENDA MATERIAL for Supplemental Packet 2

Meeting Date: June 21, 2022

Item #: 2

Item Description: Police Equipment & Community Safety Ordinance Impact Statements, Associated Equipment Policies and Annual Equipment Use Report

Submitted by: Vice Mayor Harrison and Councilmember Hahn

RECOMMENDATION

1. Approve the revised Controlled Equipment Impact Statements and Policy 303 (Control Devices and Techniques) conforming to local and state law.
2. Refer Annual Equipment Use Report to PAB for review and recommendation within 60 days following Council approval of the Impact Statements and Policy 303.
3. Refer all other internal policies relevant to controlled equipment to the PAB and BPD to review and conform to the approved Controlled Equipment Impact Statements, and local/state laws for Council consideration by July 26.

BACKGROUND:

The acquisition and use of some police equipment and weapons can pose threats to civil liberties and public health and safety that need to be balanced against the benefits of their use. Consequently, the Berkeley City Council passed the BMC 2.100 to Regulate Police Acquisition and Use of Controlled Equipment (Harrison, Robinson, Taplin) in 2021.

The Controlled Equipment Impact Statement as submitted by the BPD needs to be revised to conform to state and local law. It is also in the public interest to provide additional direction to the PAB and BPD to collaborate in order to revise Use Policy 303 and Policy 709.

The Council appreciates the extensive work of the BPD in preparing materials related to the ordinance. However, in the course of its review, the PAB determined that ahead of Council approval a few Impact Statements and a single use policy (Policy 303) require revisions to conform to local and state laws as follows:

- **Impact Statements**

- Impact statements related to kinetic energy projectiles and chemical agents should be updated to reflect Cal. Pen. Code § 13652 (AB 48), which substantially limits the use of such equipment during crowd situations.
- Statements related to chemical agents also do not conform with the Council’s unanimous June 9, 2022 policy banning tear gas and instituting a moratorium on pepper spray for crowd control during the COVID-19 pandemic.
- The impact statements require additional detail about potential negative impacts of using controlled equipment to conform to BMC 2.100.020(C) requirement that they “identify... any potential impacts that the use of Controlled Equipment might have on the welfare, safety, civil rights, and civil liberties of the public.” The submitted Impact Statement draft includes limited consideration of the potential for injury, death, and legal liabilities, and little to no discussion of civil liberties impacts. The current language could benefit from additional detail and corresponding additions in the mitigation sections.

- **Use Policies**

- Policy 303 (Control Devices and Techniques) governing the use of non-lethal kinetic energy projectiles and chemical agents (e.g., tear gas, pepper spray) is out of date and needs to be updated to conform to the requirements of Cal. Pen. Code § 13652 and Council’s June 9 policy.¹

This supplemental includes an updated version of the Impact Statement and Policy 303 (Control Devices and Techniques), revised to conform to local and state laws.

The City Attorney has advised that the Annual Equipment Use Report is not required until after Council approves the Impact Statements and Use Policies. Accordingly, this supplemental asks Council to postpone Council consideration to 60 days following Council approval of the Impact Statements and Use Policies.

The revisions contain suggested language expanding on potential impacts and conforming legal language for the PAB and BPD to consider in reviewing Use Policy 303. Policy 709 also needs to conform to the Impact Statement and Policy and to state and local law.

Voters overwhelmingly established the PAB in 2020 to assist Council and provide timely recommendations with regard to policing matters. It is a critical matter of policy and process for the Council to provide this Charter body with sufficient time to conduct its important work.

ATTACHEMNTS

1. Revised Controlled Equipment Impact Statements
2. Revised Policy 303

¹ Compare to Policy 300, which is consistent with Council’s June 9 policy, and Policy 428, which references Cal. Pen. Code § 13652.



**Police Equipment and
Community Safety Ordinance
Impact Statements**

ACKNOWLEDGEMENTS

Thank you to the subject matter experts for helping author this report.

Officer Corey Bold –
Patrol Officer and chemical agent instructor

Officer Semir Muratovic –
Patrol Officer and Bomb Squad Technician

Officer Derek Radey –
Patrol Officer and less lethal coordinator/instructor

Lieutenant Kevin Reece –
Special Response Team Commander

Officer Scott Salas –
Patrol officer and Special Response Team high ground team leader

Lieutenant Jennifer Tate –
Traffic Lieutenant and defensive tactics instructor

Officer Jason Tillberg –
Department trainer and Department Armorer

Officer Sean Tinney –
Department trainer and Special Response Team member

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INTRODUCTION

On May 11, 2021 the Berkeley City Council passed Ordinance NO. 7,760-N.S., the Police Equipment and Community Safety Ordinance. Section 2.100.020 of the ordinance mandates an impact statement for certain equipment that the Berkeley Police Department possesses. An impact statement is defined in section 2.100.020 (C) and is a publicly released written document that includes the following details for each equipment:

- 1) Description
- 2) Purpose
- 3) Fiscal cost
- 4) Impact
- 5) Mitigation
- 6) Alternatives
- 7) Third Party Dependence

An impact statement for each of the following equipment has been authored by subject matter experts in their respective fields:

- M4 rifle/Patrol Rifle
- Penn Arms 40MM launcher
- Milkor LTL multi-launcher
- FN 303 Launcher & FN Pava rounds
- Oleoresin capsicum (OC spray)
- Chlorobenzylidene Malononitrile and Oleoresin capsicum (tear gas)
- Remington 700 Rifle
- ReconRobotics Recon Scout XT Robots
- Andros Remotec HD-1 Hazardous Duty Robot
- Light/sound distraction device
- Long Range Acoustic Device (LRAD)
- 36" batons
- Mobile Command Vehicle
- Barret Model 99

Impact statements were compiled in this report in a prioritized ranking for the Police Accountability Board to consider in determining the order in which to perform its review per the Police Equipment and Community Safety Ordinance.

M4 Rifle and Associated Ammunition

(1) Description:

A. Background:

The “M4” was developed and produced for the United States government by Colt Firearms and was based off of the original Armalite Rifle (AR) patent purchased by Colt in 1959. Although Colt owned the trademarked name of “M4”, a number of other manufacturers offer M4-like firearms under various model names. The M4 and its variants fire 5.56×45mm NATO (and .223 Remington) ammunition, and are a gas-operated, magazine-fed firearm with a barrel length ranging from 11.5” to 16”.

The current Berkeley Police Department (BPD) rifle ammunition used is the .223 Remington, a rimless, bottlenecked rifle cartridge. The round was developed in 1957 by Remington Arms and Fairchild Industries. The .223 Remington is considered one of the most popular cartridges and is currently used by a wide range of semi-automatic and manual-action rifles as well as handguns. While the military uses the similar 5.56x45 NATO cartridge, BPD uses the more common and often regarded civilian cartridge of .223 Remington for all training and duty uses.

Currently, BPD uses two different kinds of .223 Remington ammunition: 55 grain FMJ (full metal jacket) for training purposes and 62 grain soft point for duty purposes. This is done for several reasons.

1. FMJ ammunition is cheaper to purchase. While many agencies use the same ammunition for training and duty use, the department saves a significant amount of money by using FMJ ammunition for training.
2. The observed performance between the two rounds is negligible for training purposes. Officers can use the FMJ ammunition in a training course and see no difference in operation and performance versus using 62 grain soft point duty ammunition.
3. The 62-grain soft point ammunition has been shown to have less over penetration and over travel compared to FMJ ammunition.

This means that rounds fired are less likely to hit unintended targets.

B. Quantity:

The Berkeley Department currently owns and maintains 96 rifles.

Quantity of rifle ammunition fluctuates significantly depending on training attended, including the standard basic police academy, officer assignments, and yearly mandate training cycles. For example, most police academy recruits are required to bring approximately 1,000 rounds to the basic POST approved academy. Most academies have a 16-24-hour rifle training course. The training is required for all officers who are issued a rifle and mandates between 800 and 1,200 rounds. As such, the inventory at the Berkeley Police Department fluctuates significantly depending on how many officers are attending state mandated training and can range from 10,000 round (our current inventory) to less than 1,000 rounds (our anticipated inventory at the end of December after scheduled department training in November.)

C. Capability:

The M4 pattern rifle is used only in situations when a potential life-threatening situation exists. While a pistol is the common firearm used by police in these dangerous situations, the M4 patterned rifle has numerous advantages over it. The ability to shoulder the rifle, coupled with the rifle's lengthened barrel and ammunition, result in higher accuracy and lessens the chance of officers missing the intended target. Additionally, due to the design of the rifle's bullet, the round is less likely to over penetrate commercial and residential walls should the officer miss the intended target. The rifle is also easier to use compared to a pistol because of the bullet's low recoil. Finally, as the rifle can be adjusted and customized, it can be configured to accommodate officers of any stature (hand size, strength, etc.).

The .223 Remington cartridge, depending on the weight of the bullet, 55 grain or 62 grain, travel at approximately 3,000 feet per second and 2,700 feet per second respectively. The round is highly regarded as having a high degree of consistency and accuracy, which is why it is the most common rifle round used in Law Enforcement around the world.

D. Lifespan:

Due to the rifle's ability to be maintained by department armorers, these rifles have a relatively long-life span if properly maintained. However, the design has

changed little in the last 60 years and we can expect new variations and designs to become the new industry standard in the coming years.

Like all ammunition, if kept cool and dry, ammunition lifespan can exceed ten years. Due to BPD's and State mandates on training, the majority of ammunition is cycled through within a year of purchase.

E. Use:

Used in the defense of life or great bodily injury to potential victims of violent crimes, general public, and officers.

F. How it Works:

The M4 patterned rifle works the same as a majority of all modern firearms. When the trigger is pressed, a firing pin strikes the primer of a bullet loaded into the chamber of the rifle. The ignited primer ignites gun powder contained in the bullet which pushes the bullet down the barrel and out the muzzle. As the bullet travels down the barrel, gas from the ignited powder also escapes from the muzzle. Some of that gas is recycled back into the chamber of the firearm which causes the firearm to cycle its action and load another bullet. From there the process repeats with each pull of the trigger.

The .223 Remington cartridge is made up of several parts, primarily the primer, casing, gunpowder, and bullet. The bullet is seated into the front or opening of the casing. Gunpowder is placed between the bullet and the interior of the casing and a primer is seated in the rear part of the casing. When the trigger of a firearm is pulled, it releases the hammer, which strikes the firing pin, driving it forward. The firing pin collides with the rear of the cartridge, where the primer is seated, which ignites the primer. The spark from the primer ignites the gunpowder. Gas converted from the burning powder rapidly expands in the cartridge. The expanding gas forces the bullet out of the cartridge and down the barrel with great speed. The rifling in the barrel causes the bullet to spin as it travels out of the barrel. The bullet's speed and escaping gases produce a "bang."

After the bullet exits the barrel, the spent casing which housed the bullet, gunpowder, and primer are ejected from the firearm.

(2) Purpose:

The M4 patterned rifle and associated ammunition is intended as a means to safely stop a lethal threat. While a pistol is the firearm that all officers are minimally

equipped with, the rifle is an ancillary firearm for situations where increased distance and accuracy are needed to safely resolve the situation.

(3) **Fiscal Cost:**

A. **Initial Cost:**

Rifle prices, like other firearms, will range depending on current market demand and availability. While M4 rifles purchased several years ago cost between \$1,000 and \$1,200 a piece, current rifles cost between \$1,400 and \$1,600. It should be expected that these prices will fluctuate and likely increase over time.

Ammunition costs fluctuate with the costs of components (brass, primers, gunpowder, and bullets) and supply/demand. Current costs for .223 Remington range from \$0.50 to \$0.75 a round for training ammunition (55 grain) and \$1.25 to \$1.50 a round for duty ammunition (62 grain).

B. **Cost of Use:**

Cost of use for all firearms should be based on the ammunition used in training and on duty. This will fluctuate based on whether the rifle is issued to a patrol officer, a firearms instructor, or a Special Response Team member as each assignment has different training requirements.

C. **Cost of Potential Adverse Effects:**

Adverse effects of improper use of a firearm are not calculable. It could lead to the loss of life or serious injury. Additionally, the improper use could result in civil liabilities.

D. **Annual and Ongoing Costs:**

See section B. above, these costs are determined based on the rifle's assignment.

E. **Training Costs:**

Every officer that is authorized to carry a rifle on duty must attend a 16-hour CA POST approved rifle instruction course before being authorized to carry the rifle on duty. This course may be administered by Berkeley Police Firearm Instructors or by other POST approved agencies. Tuition for the CA POST approved class is dependent on the hosting agency. If conducted in house the cost only includes the officer's hourly wage, range fee, and ammunition costs (all vary). Outside agencies charge between \$25 to \$500 depending on the range location and duration (some classes are 32-hours while POST only requires 16-hours.)

Additionally, all officers issued a rifle receive specific 8-hour rifle training every two years by POST certified BPD firearm instructors.

Typical round count for such classes range between 800 rounds and 1200 rounds per student. Additionally, all officers issued a rifle receive specific 8-hour rifle training every two years by a BPD firearm instructor which constitutes an additional 500 or so rounds per officer.

F. Maintenance and Storage Costs:

Maintenance costs vary depending on use over time. Traditionally, various springs and pins need to be replaced every five years and may cost between \$3 and \$30 per rifle. Other parts such as the barrel and bolt need replaced around ten years and range between \$150 and \$300 per rifle.

There are no costs associated with maintenance or storage of ammunition. All ammunition is stored in a climate-controlled room in the Berkeley Police Department.

G. Upgrade Costs:

Upgrade costs and Maintenance cost are synonymous due to the consistent design and lack of changes of the rifle over the last 60 years. Improvements in technology and new designs may be an additional cost but we can't predict what those will be at this time.

Should advancements be made in ammunition manufacturing, those upgrade costs are unknown at this time.

(4) Impact:

The Berkeley Police Department is committed to preserving and protecting human life and welfare. The M4 patterned rifle, which fires the .223 Remington cartridge, is a superior firearm to stop a lethal threat compared to the issued pistols to police officers, in that officers equipped with this firearm shoot less rounds, fire more accurately, and are less likely to fire errant rounds. Highly volatile and violent incidents, such as a hostage situation, can be more safely and efficiently resolved with a rifle.

The M4 patterned rifle, and the accompanying .223 Remington cartridge it fires, is intended as a tool to increase the safety and welfare of citizens and officers alike. ~~The M4 patterned rifle and .223 Remington cartridge, both inanimate objects, have zero impact on things such as civil rights or civil liberties of the public.~~ Potential negative impacts include larger entry and exit wounds than from handgun bullets, and destroy more body tissue destruction; emotional trauma to vulnerable and/or minor bystanders; and potential litigation costs.

(5) **Mitigations:**

Per Policy 300, "Deadly force may only be used when it is objectively reasonable that such action is immediately necessary to protect the officer or another person from imminent danger of death or serious bodily harm.

Officers shall not use deadly force if it is objectively reasonable that alternative techniques will eliminate the imminent danger and ultimately achieve the law enforcement purpose with less risk of harm to the officer or to other persons."

(6) **Alternatives:**

There are no suitable alternatives to the M4 rifle for the intended purpose. The M4 rifle is a law enforcement standard across the US and other countries due to its reliability, ease of use, ease of maintenance, and increased accuracy over other options.

There are no suitable alternatives to the .223 Remington cartridge, as the current BPD M4 rifle is designed for that particular cartridge. The .223 Remington cartridge is a law enforcement standard across the US and other countries due to its reliability, availability, and increased accuracy over other options.

(7) **Third Party Dependence:**

Berkeley Police Department armorers are trained and capable to handle any and all issues related to the maintenance or repair of the M4 rifles. Additionally, BPD firearm instructors are fully certified by state and private training institutes to fully educate and train BPD officers. No third party is required for maintenance, repair, or instruction.

All ammunition purchased by BPD, like all equipment, is dependent on Third Party vendors. Vendor stock and availability is outside BPD control or management. Once ammunition is purchased and in BPD custody there is no additional need for Third Party assistance.

Penn Arms 40mm Single Launcher

(1) **Description:**

A. **Background:**

The 40mm impact projectile was developed as an alternative to the 12-gauge bean bag round and other more indiscriminate less lethal options. Early 12-gauge

bean bag round designs had somewhat unpredictable flight patterns and could cause significant unwanted injury. The 40mm foam baton round was developed as a direct fire projectile designed to minimize the risk of unintended injuries. Currently, the Berkeley Police Department utilizes the CTS 4557 foam baton projectile and the Penn Arms L-140 single shot launcher.

B. Quantity:

The Berkeley Police Department currently owns and maintains 20 Penn Arms less lethal launchers.

C. Capability:

The Penn Arms single launcher is capable of firing a single projectile out to a maximum manufacturer recommended range of 45 meters. The Penn Arms 40mm projectiles are direct fire with a pliable “sponge” tip designed to mold to the body. The projectiles are about the size of a large egg. Upon impact, the projectile transfers kinetic energy to the body to gain pain compliance. Large muscle groups such as the upper legs or lower abdomen are approved target areas unless a higher level of force is justified. This level of force is considered to be similar to that of a baton strike.

D. Lifespan:

The manufacturer expected lifespan is about 10 years depending on use and regular maintenance.

E. Use:

The Penn Arms 40mm single launcher is designed to reduce the potential for a violent confrontation. Less lethal projectiles are less likely to result in serious bodily injury or death and can be used to de-escalate a potentially deadly situation.

[Pursuant to Cal. Pen. Code § 13652, kinetic energy projectiles shall not be used to disperse any assembly, protest, or demonstration except as provided below.](#)

[Kinetic energy projectiles shall only be deployed by a peace officer that has received training on their proper use by the Commission on Peace Officer Standards and Training for crowd control if the use is objectively reasonable to defend against a threat to life or serious bodily injury to any individual, including any peace officer, or to bring an objectively dangerous and unlawful situation safely and effectively under control, and only in accordance with all of the following requirements:](#)

- (1) Deescalation techniques or other alternatives to force have been attempted, when objectively reasonable, and have failed.
- (2) Repeated, audible announcements are made announcing the intent to use kinetic energy projectiles and the type to be used, when objectively reasonable to do so. The announcements shall be made from various locations, if necessary, and delivered in multiple languages, if appropriate.
- (3) Persons are given an objectively reasonable opportunity to disperse and leave the scene.
- (4) An objectively reasonable effort has been made to identify persons engaged in violent acts and those who are not, and kinetic energy projectiles are targeted toward those individuals engaged in violent acts. Projectiles shall not be aimed indiscriminately into a crowd or group of persons.
- (5) Kinetic energy projectiles and chemical agents are used only with the frequency, intensity, and in a manner that is proportional to the threat and objectively reasonable.
- (6) Officers shall minimize the possible incidental impact of their use of kinetic energy projectiles on bystanders, medical personnel, journalists, or other unintended targets.
- (7) An objectively reasonable effort has been made to extract individuals in distress.
- (8) Medical assistance is promptly provided, if properly trained personnel are present, or procured, for injured persons, when it is reasonable and safe to do so.
- (9) Kinetic energy projectiles shall not be aimed at the head, neck, or any other vital organs.
- (10) Kinetic energy projectiles shall not be used by BPD solely due to any of the following:

 - (A) A violation of an imposed curfew.
 - (B) A verbal threat.

(C) Noncompliance with a law enforcement directive.

F. How it works:

The Penn Arms 40mm single launcher is a double action, break open less lethal launcher. The launcher is capable of firing a single 40mm projectile. When fired, the hammer strikes the munition primer which ignites gun powder in the primer insert. Expelled gases propel the projectile through the rifled barrel. The projectile has a rear plastic portion called the ogive which catches the barrel rifling and provides spin. The spin provides a greater degree of accuracy and eliminates any potential the projectile will tumble when exiting the barrel.

The projectiles utilized by the Berkeley Police Department are the CTS 4557 40mm sponge baton round. The CTS 4557 has a maximum effective range of 45 meters. The tip of the projectile is a pliable rubber material which molds to the body upon impact. The projectile travels at an estimated 240 feet per second which is slower than the FN 303 projectile. However, the larger mass, about 60 grams, creates more kinetic energy upon impact which is similar to that of a baseball thrown by a pitcher. The additional kinetic energy becomes important when the suspect has on thick or layered clothing or demonstrates a high pain tolerance.

The Penn Arms single launcher is a basic design making it easy to operate and maintain.

(2) Purpose:

The purpose of kinetic energy impact projectiles, commonly referred to as “less lethal” is to preserve life, minimize the use of force and allow time for de-escalation. Less lethal projectiles allow the user to maintain a safe distance from a subject who is armed and/or demonstrates the intent to be violent. The ability to maintain a safe distance – while still providing a level of control over the subject – allows officers to employ de-escalation techniques, request additional resources and develop a plan to safely resolve the situation with the least amount of risk.

Violent or armed confrontations are inherently dangerous to all those involved. Officers are required to make split second judgments in circumstances that are tense, uncertain and rapidly evolving. An Officer’s threat perception of a person who is in close proximity as opposed to a person who is at a distance of 20 yards is naturally different. A person in close proximity intent on violence has the ability to immediately utilize personal body weapons, a bludgeoning device or cutting instrument. The immediacy requires the Officer to react instantly and there is a greater potential that a higher level of force will be needed.

On the other hand, a person at a distance of 20 yards may not be perceived as having the immediate ability to violently attack the Officer. The person must first close the distance before certain weapons can be utilized. This fact may allow the Officer time to decide the most appropriate course of action, such as the use of a “less lethal” projectile.

The projectiles are designed to provide a high level of accuracy which minimizes the risk of unwanted impacts. The ability to apply force from a distance reduces the potential for violent confrontation and aides in reducing the level of force needed to safely resolve a conflict.

Additionally, it has been our experience that a 40mm projectile impact will almost always resolve a violent confrontation with 1 or 2 applications. The larger projectile produces more kinetic energy than the FN 303, which may require several applications to gain compliance.

Since 2015, there have been 31 incidents where Officers utilized less lethal applications. These applications have potentially prevented higher-level uses of force.

(3) **Fiscal Cost:**

A. **Initial Cost:**

Less lethal prices, like other equipment, varies depending on market demand and availability. The most recent Penn Arms purchased by the department cost \$815.00 each.

B. **Cost of Use:**

Cost for Penn Arms single launcher use should be based on the projectiles used in training and on duty. This will fluctuate based on department trainings, projectile availability and events that unfold in the city and surrounding region.

C. **Cost of Potential Adverse Effects:**

Adverse effects from improper use of less lethal are not calculable. Improper use could lead to serious bodily injury or death.

D. **Annual and Ongoing Costs:**

See section B above

E. **Training Costs:**

Every officer authorized to deploy a less lethal launcher must pass a certification

course administered by a Berkeley Police Department Firearms Instructor. The certification class consists of classroom, range qualification and scenario application if the venue allows. This class is largely handled in house thus the cost only includes staff time, range fees, and projectile costs which all vary.

Maintenance and Storage Costs:

Maintenance costs vary depending on use. Generally, various springs and pins need to be replaced every 5 years which can cost \$3 to \$30.

F. Upgrade Costs:

There are no foreseeable upgrade costs. The Penn Arms single launcher has few working parts and is of a simple design.

(4) **Impact:**

The main function of a less lethal device is to preserve the sanctity of human life. The Berkeley Police Department is committed to reducing the potential for violent confrontations. Less lethal projectiles, when used properly, are less likely to result in serious bodily injury or death and can be used to de-escalate a potentially deadly situation. A less lethal application is an acknowledgment a given situation has the potential to elevate to lethal force and the Officers determined a less lethal application is not only objectively reasonable and objectively necessary, but hopefully the minimal amount of force needed to safely resolve the incident.

The Penn Arms single launcher, with its high level of accuracy can be utilized in a large violent group confrontation to specifically target those who are committing acts of violence on other members of the group, involved persons, or law enforcement personnel. It allows a more immediate action to stop a violent assault, overcome their resistance, and aid in the attempt to safely take them into custody. This tool does not require officers to overcome a hostile crowd to stop a violent assault.

[Potential adverse impacts, especially from close-range use or injuries to the head or neck, include permanent injury and death.¹](#)

(5) **Mitigation:**

Per Policy 300, "In all cases where physical force is used, officers shall use a minimum amount of force that is objectively reasonable, objectively necessary, and

¹ Haar RJ, Iacopino V, Ranadive N, *et al*, Death, injury and disability from kinetic impact projectiles in crowd-control settings: a systematic review, *BMJ Open* 2017;7:e018154. doi: 10.1136/bmjopen-2017-018154

proportional to effectively and safely resolve a conflict.” All uses of force require documentation that is completed by the supervisor in a use of force report and reviewed by the Chain of Command. Furthermore, all deployments of equipment outlined in the Police Equipment and Community Safety Ordinance are documented according to the reporting requirements as mandated in the ordinance.

Per Policy 303, “Officers are not required or compelled to use approved projectiles in lieu of other reasonable tactics if the involved officer determines that deployment of these projectiles cannot be done safely. Circumstances appropriate for deployment include, but are not limited to, situations in which: (a) The suspect is armed with a weapon and the tactical circumstances allow for the safe application of approved projectiles. (b) The suspect has made credible threats to harm him/herself or others. (c) The suspect is engaged in riotous behavior or is throwing rocks, bottles or other dangerous projectiles at people and/or officers. (d) There is probable cause to believe that the suspect has already committed a crime of violence and is refusing to comply with lawful orders.”

The Berkeley Police Department also trains a recommended range of 3 to 30 meters. Berkeley Police Firearm Instructors recommend a minimum standoff of 3 meters to reduce the potential for unintended injury at a closer distance. The 30-meter maximum recommended range is intended to reduce the possibility of an unintended impact area if the suspect moves or the projectile trajectory begins to deteriorate.

Each officer is trained to aim for large muscle groups, such as the thigh or buttocks area, and avoid areas that may cause serious injury. The department also equips each launcher with a red dot optic. The optic greatly increases an officer’s ability to target approved impact areas.

(6) **Alternative:**

The Penn Arms single launcher is one of three less lethal options the Berkeley Police Department possess that allow officers to address a potentially violent confrontation from a distance. All three (Penn Arms single launcher, Milkor LTL multi-launcher, and FN303) are viable options that have different strengths and weaknesses. The Penn Arms single launcher and the Milkor LTL multi-launcher operate very similarly and use the same projectile. The Penn Arms single launcher is smaller and easier to carry; however, the Penn Arms single launcher is capable of holding only one projectile while the Milkor LTL multi-launcher is capable of holding six projectiles. The projectiles used by the Penn Arms single launcher and Milkor LTL multi-launcher are larger which results in more kinetic energy transferred compared to the projectiles used in the FN303; however, the FN303 holds 15 projectiles and is capable of

launching it at a faster rate.

An alternative that the Berkeley Police Department does not possess is the TASER. The TASER allows an officer to maintain distance but limits the range to about 15 to 25 feet. Furthermore, the TASER requires two prongs (barbs) to penetrate the subject's clothing to be effective and if that is not accomplished the TASER will have no effect. Additionally, the TASER is not an approved less lethal device for the department.

Third Party Dependence:

The Berkeley Police Department armorers are trained and capable of handling all issues related to the repair or maintenance of the Penn Arms single launcher. Additionally, Berkeley Police Department Less Lethal Instructors are fully certified by state and private training institutes to educate and train BPD officers. No third party is required for maintenance, repair, or instruction.

Milkor LTL Multi-launcher

(1) **Description:**

A. **Background:**

The 40mm impact projectile was developed as an alternative to the 12-gauge bean bag round and other more indiscriminate less lethal options. Early 12-gauge bean bag round designs had somewhat unpredictable flight patterns and could cause significant unwanted injury. The 40mm foam baton round was developed as a direct fire projectile designed to minimize the risk of unintended injuries. Currently, the Berkeley Police Department utilizes the CTS 4557 foam baton projectile and the Milkor LTL multi-shot launcher.

B. **Quantity:**

The Berkeley Police Department currently owns and maintains 2 Milkor LTL less lethal launchers. One Milkor launcher is assigned to the Berkeley Special Response Team.

C. **Capability:**

The Milkor LTL is capable of firing six 40mm projectiles before reloading is necessary. The Milkor LTL 40mm projectiles are direct fire with a pliable "sponge" tip designed to mold to the body. The projectiles are about the size of a large egg. Upon impact, the projectile transfers kinetic energy to the body to gain pain compliance. Large muscle groups such as the upper legs or lower abdomen are

approved target areas unless a higher level of force is justified. This level of force is considered to be similar to that of a baton strike.

D. Lifespan:

The manufacturer expected lifespan is about 10 to 15 years depending on use and regular maintenance.

Use:

The Milkor LTL multi-shot launcher is designed to reduce the potential for a violent confrontation. Less lethal projectiles are less likely to result in serious bodily injury or death and can be used to de-escalate a potentially deadly situation.

Pursuant to Cal. Pen. Code § 13652, kinetic energy projectiles shall not be used by BPD to disperse any assembly, protest, or demonstration except as provided below.

Kinetic energy projectiles shall only be deployed by a peace officer that has received training on their proper use by the Commission on Peace Officer Standards and Training for crowd control if the use is objectively reasonable to defend against a threat to life or serious bodily injury to any individual, including any peace officer, or to bring an objectively dangerous and unlawful situation safely and effectively under control, and only in accordance with all of the following requirements:

(1) Deescalation techniques or other alternatives to force have been attempted, when objectively reasonable, and have failed.

(2) Repeated, audible announcements are made announcing the intent to use kinetic energy projectiles and the type to be used, when objectively reasonable to do so. The announcements shall be made from various locations, if necessary, and delivered in multiple languages, if appropriate.

(3) Persons are given an objectively reasonable opportunity to disperse and leave the scene.

(4) An objectively reasonable effort has been made to identify persons engaged in violent acts and those who are not, and kinetic energy projectiles are targeted toward those individuals engaged in violent acts. Projectiles shall not be aimed indiscriminately into a crowd or group of persons.

(5) Kinetic energy projectiles and chemical agents are used only with the frequency, intensity, and in a manner that is proportional to the threat and objectively reasonable.

(6) Officers shall minimize the possible incidental impact of their use of kinetic energy projectiles on bystanders, medical personnel, journalists, or other unintended targets.

(7) An objectively reasonable effort has been made to extract individuals in distress.

(8) Medical assistance is promptly provided, if properly trained personnel are present, or procured, for injured persons, when it is reasonable and safe to do so.

(9) Kinetic energy projectiles shall not be aimed at the head, neck, or any other vital organs.

(10) Kinetic energy projectiles shall not be used by BPD solely due to any of the following:

(A) A violation of an imposed curfew.

(B) A verbal threat.

(C) Noncompliance with a law enforcement directive.

E. How it works:

The Milkor LTL multi-shot launcher utilizes a spring actuated cylinder allowing it to fire 6 individual 40mm projectiles. When fired, the hammer strikes the munition primer which ignites gun powder in the primer insert. Expelled gases propel the projectile through the rifled barrel. The projectile has a rear plastic portion called the ogive which catches the barrel rifling and provides spin. The spin provides a greater degree of accuracy and eliminates any potential the projectile will tumble when exiting the barrel. The spring assisted cylinder automatically turns and loads the next projectile.

The projectiles utilized by the Berkeley Police Department are the CTS 4557 40mm sponge baton round. The CTS 4557 has a maximum effective range of 45 meters. The tip of the projectile is a pliable rubber material which molds to the

body upon impact. The projectile travels at an estimated 240 feet per second which is slower than FN 303 projectile. However, the larger mass, about 60 grams, creates more kinetic energy upon impact which is similar to that of a baseball thrown by a pitcher. The additional kinetic energy becomes important when the suspect has on thick or layered clothing or demonstrates a high pain tolerance.

The benefit to the Milkor LTL is its ability to provide a quick follow up less lethal application, if necessary. The Milkor holds 6 projectiles while the Penn Arms launcher only holds one. Reloading the Penn Arms single launcher can be time consuming and requires the officer to briefly change focus from the suspect to the reload procedure. The Milkor LTL on the other hand, allows the officer to maintain focus on the suspect and assess whether a follow up application is necessary. This ability is significant when the suspect is advancing, attempting to flee, or demonstrates a high pain compliance threshold.

(2) **Purpose:**

The purpose of kinetic energy impact projectiles, commonly referred to as “less

lethal” is to preserve life, minimize the use of force and allow time for de-escalation attempts. Less lethal projectiles allow the user to maintain a safe distance from a subject who is armed and/or demonstrates the intent to be violent. The ability to maintain a safe distance – while still providing a level of control over the subject – allows officers to employ de-escalation techniques, request additional resources and develop a plan to safely resolve the situation with the least amount of risk.

Violent confrontations are inherently dangerous to all those involved. Officers are required to make split second judgments in circumstances that are tense, uncertain and rapidly evolving. An Officer’s threat perception of a person who is in close proximity as opposed to a person who is at a distance of 20 yards is naturally different. A person in close proximity intent on violence has the ability to immediately utilize personal body weapons, a bludgeoning device or cutting instrument. The immediacy requires the Officer to react instantly and there is a greater potential that a higher level of force will be needed.

On the other hand, a person at a distance of 20 yards may not be perceived as having the immediate ability to violently attack the Officer. The person must first close the distance before such weapons can be utilized. This may allow the Officer time to decide the most appropriate course of action, such as the use of a “less lethal” projectile.

The “less lethal” projectiles utilized by the Berkeley Police Department are generally

considered discriminate versus indiscriminate uses of force. The projectiles are designed to provide a high level of accuracy which minimizes the risk of unwanted impacts. The ability to apply force from a distance reduces the potential for violent confrontation and aides in reducing the level of force needed to safely resolve a conflict.

Additionally, it has been our experience that a 40mm projectile impact will generally resolve the violent confrontation with 1 or 2 applications. The larger projectile produces more kinetic energy than the FN 303, which may require several applications to gain compliance.

Since 2015, there have been 31 incidents where Officers utilized less lethal applications. These applications have potentially prevented higher-level uses of force.

(3) **Fiscal Cost:**

A. Initial Cost:

Less lethal prices, like other equipment, varies depending on market demand and availability. The most recent Penn Arms purchased by the department cost \$3950.00 each.

B. Cost of Use:

Cost for the Milkor LTL launcher use should be based on the projectiles used in training and on duty. This will fluctuate based on department trainings, projectile availability and events that unfold in the city and surrounding region.

C. Cost of Potential Adverse Effects:

Adverse effects from improper use of less lethal are not calculable. Improper use could lead to serious bodily injury or death.

D. Annual and Ongoing Costs:

See section B above

E. Training Costs:

Every officer authorized to deploy a less lethal launcher must pass a certification course administered by a Berkeley Police Firearm Instructor. The certification class consists of classroom, range qualification and scenario application if the venue allows. This class is largely handled in house thus the cost only includes the officer's hourly wage, range fees, and projectile costs which all vary.

F. Maintenance and Storage Costs:

Maintenance costs vary depending on use.

G. Upgrade Costs:

There are no foreseeable upgrade costs.

(4) Impact:

The main function of a less lethal device is to preserve the sanctity of human life. The Berkeley Police Department is committed to reducing the potential for violent confrontations. Less lethal projectiles, when used properly, are less likely to result in serious bodily injury or death and can be used to de-escalate a potentially deadly situation. A less lethal application is an acknowledgment a given situation has the potential to elevate to lethal force and the Officers determined a less lethal application is not only objectively reasonable and objectively necessary, but also the minimal amount of force needed to safely resolve the incident.

The Milkor LTL launcher, with its high level of accuracy and 6 projectile capacity, can be utilized in a large violent group confrontation to specifically target those who are committing acts of violence on other members of the group, involved persons, or law enforcement personnel. It allows a more immediate action to stop a violent

assault, overcome their resistance, and aid in the attempt to safely take them into custody. It also allows officers to prevent a more indiscriminate use of force, such as entering the group or crowd, to take a subject into custody.

[Potential adverse impacts, especially from close-range use or injuries to the head or neck, include permanent injury and death.²](#)

(5) Mitigation:

Per Policy 300, “In all cases where physical force is used, officers shall use a minimum amount of force that is objectively reasonable, objectively necessary, and proportional to effectively and safely resolve a conflict.” All uses of force require documentation that is completed by the supervisor in a use of force report and reviewed by the Chain of Command. Furthermore, all deployments of equipment outlined in the Police Equipment and Community Safety Ordinance are documented according to the reporting requirements as mandated in the ordinance.

Per Policy 303, “Officers are not required or compelled to use approved projectiles in

² Haar RJ, Iacopino V, Ranadive N, *et al*, Death, injury and disability from kinetic impact projectiles in crowd-control settings: a systematic review, *BMJ Open* 2017;7:e018154. doi: 10.1136/bmjopen-2017-018154

lieu of other reasonable tactics if the involved officer determines that deployment of these projectiles cannot be done safely. The safety of hostages, innocent persons and officers takes priority over the safety of subjects engaged in criminal or suicidal behavior. Circumstances appropriate for deployment include, but are not limited to, situations in which: (a) The suspect is armed with a weapon and the tactical circumstances allow for the safe application of approved projectiles. (b) The suspect has made credible threats to harm him/herself or others. (c) The suspect is engaged in riotous behavior or is throwing rocks, bottles or other dangerous projectiles at people and/or officers. (d) There is probable cause to believe that the suspect has already committed a crime of violence and is refusing to comply with lawful orders.”

The Berkeley Police Department also trains a recommended range of 3 to 30 meters. Berkeley Police Firearm Instructors recommend a minimum standoff of 3 meters to reduce the potential for unintended injury at a closer distance. The 30-meter maximum recommended range is intended to reduce the possibility of an unintended impact area if the suspect moves or the projectile trajectory begins to deteriorate.

Each officer is trained to aim for large muscle groups, such as the thigh or buttocks area, and avoid areas that may cause serious injury. The department also equips each launcher with a red dot optic. The optic greatly increases an officer’s ability to target approved impact areas.

(6) **Alternative:**

The Milkor LTL multi-launcher is one of three less lethal options the Berkeley Police Department possess that allow officers to address a potentially violent confrontation

from a distance. All three (Penn Arms single launcher, Milkor LTL multi-launcher, and FN303) are viable options that have different strengths and weaknesses. The Penn Arms single launcher and the Milkor LTL multi-launcher operate very similarly and use the same projectile. The Penn Arms single launcher is smaller and easier to carry; however, the Penn Arms single launcher is capable of holding only one projectile while the Milkor LTL multi-launcher is capable of holding six projectiles. The projectiles used by the Penn Arms single launcher and Milkor LTL multi-launcher are larger which results in more kinetic energy transferred compared to the projectiles used in the FN303; however, the FN303 holds 15 projectiles and is capable of launching it at a faster rate.

An alternative that the Berkeley Police Department does not possess is the TASER. The TASER allows an officer to maintain distance but limits the range to about 15 to 25 feet. Furthermore, the TASER requires two prongs (barbs) to penetrate the subject's clothing to be effective and if that is not accomplished the TASER will have no effect. Additionally, the TASER is not an approved less lethal device for the department.

(7) **Third Party Dependence:**

The Berkeley Police Department armorers are trained and capable of handling most issues related to the repair or maintenance of the Milkor LTL launcher. In the event of a catastrophic malfunction, the Milkor LTL will need to be sent to the manufacturer for repair. To date, there have been no significant repairs needed to the Milkor LTL. Additionally, Berkeley Police Department Less Lethal Instructors are fully certified by state and private training institutes to educate and train BPD officers. No third party is required for regular maintenance, repair, or instruction.

FN 303 and FN Pava Impact Projectile

(1) **Description:**

A. **Background:**

The FN 303 was developed in 2003 by Fabrique Nationale de Herstal as a less lethal option. The FN 303 is based on a concept developed by Monterey Bay Corporation. The development team consisted of designers and researchers from two paintball related companies. The FN 303 uses compressed air to propel a .68 caliber projectile similar to that of most manufactured paintball guns.

B. Quantity:

The Berkeley Police Department currently owns and maintains 8 FN 303 less lethal launchers.

C. Capability:

The FN 303 is capable of firing 15 projectiles out to a maximum manufacturer recommended range of 50 meters. The FN 303 projectiles are direct fire and designed to fragment upon impact to prevent penetration injury. Upon impact, the projectile transfers kinetic energy to the body to gain pain compliance. Large muscle groups such as the upper legs or lower abdomen are approved target areas. This level of force is considered to be similar to that of a baton strike.

D. Lifespan:

The manufacturer expected lifespan is about 10 years depending on use and regular maintenance.

E. Use:

The FN 303 is designed to reduce the potential for a violent confrontation. Less lethal projectiles are less likely to result in serious bodily injury or death and can be used to de-escalate a potentially deadly situation.

[Pursuant to Cal. Pen. Code § 13652, kinetic energy projectiles and chemical agents shall not be used by BPD to disperse any assembly, protest, or demonstration except as provided below.](#)

[Kinetic energy projectiles and chemical agents shall only be deployed by a peace officer that has received training on their proper use by the Commission on Peace Officer Standards and Training for crowd control if the use is objectively reasonable to defend against a threat to life or serious bodily injury to any individual, including any peace officer, or to bring an objectively dangerous and unlawful situation safely and effectively under control, and only in accordance with all of the following requirements:](#)

[\(1\) Deescalation techniques or other alternatives to force have been attempted, when objectively reasonable, and have failed.](#)

[\(2\) Repeated, audible announcements are made announcing the intent to use kinetic energy projectiles and chemical agents and the type to be used, when objectively reasonable to do so. The announcements shall be made from various locations, if necessary, and delivered in multiple](#)

languages, if appropriate.

(3) Persons are given an objectively reasonable opportunity to disperse and leave the scene.

(4) An objectively reasonable effort has been made to identify persons engaged in violent acts and those who are not, and kinetic energy projectiles or chemical agents are targeted toward those individuals engaged in violent acts. Projectiles shall not be aimed indiscriminately into a crowd or group of persons.

(5) Kinetic energy projectiles and chemical agents are used only with the frequency, intensity, and in a manner that is proportional to the threat and objectively reasonable.

(6) Officers shall minimize the possible incidental impact of their use of kinetic energy projectiles and chemical agents on bystanders, medical personnel, journalists, or other unintended targets.

(7) An objectively reasonable effort has been made to extract individuals in distress.

(8) Medical assistance is promptly provided, if properly trained personnel are present, or procured, for injured persons, when it is reasonable and safe to do so.

(9) Kinetic energy projectiles shall not be aimed at the head, neck, or any other vital organs.

(10) Kinetic energy projectiles or chemical agents shall not be used by BPD solely due to any of the following:

(A) A violation of an imposed curfew.

(B) A verbal threat.

(C) Noncompliance with a law enforcement directive.

F. How it works:

An air reservoir attaches to the FN 303 through an air hose coupler and provides

pressure through compressed air. When fired, the compressed air drives a piston that pushes the .68 caliber projectile through the barrel at approximately 280 feet per second. For comparison, the FN projectile is the size of a paintball and the velocity is the same as a commercially manufactured paintball gun.

The projectiles are 8.5 grams in weight and utilize a polystyrene fin stabilized body with a non-toxic forward payload to aid in stability and accuracy. The projectile will deliver approximately 24-foot pounds of kinetic energy at the muzzle which is about double the kinetic energy of most paintball guns. Most paintballs have a mass of 3 grams while the FN 303 projectile has a mass of 8.5 grams which increases the kinetic energy produced.

Available projectiles are impact, impact + non-permanent marking, impact + permanent marking, and impact + PAVA (0.5% PAVA/Oleoresin Capsicum).

The impact + PAVA projectile is intended to be direct fired at an individual. In addition to delivering pain through kinetic energy upon impact, the PAVA

projectile will deliver a secondary chemical irritant, which is the Oleoresin Capsicum (O.C.) payload. Oleoresin Capsicum generally causes irritation/burning at the application site, irritation to the eyes, and coughing. According to the National Institute of Health, the effects of O.C. power exposure tend to resolve on their own within 30 minutes.

Pain is highly subjective and other circumstances, such as heavy clothing, may render the impact ineffective. The application of a secondary chemical irritant may assist in gaining compliance and successfully resolving a potentially violent incident with the minimal amount of force necessary.

(2) **Purpose:**

The purpose of kinetic energy impact projectiles, commonly referred to as “less lethal” is to preserve life, minimize the use of force and allow time for de-escalation attempts. Less lethal projectiles allow the user to maintain a safe distance from a subject who is armed and/or demonstrates the intent to be violent. The ability to maintain a safe distance – while still providing a level of control over the subject – allows officers to employ de-escalation techniques, request additional resources and develop a plan to safely resolve the situation with the least amount of risk.

Violent confrontations are inherently dangerous to all those involved. Officers are required to make split second judgments in circumstances that are tense, uncertain and rapidly evolving. An Officer’s threat perception of a person who is in close

proximity as opposed to a person who is at a distance of 20 yards is naturally different. A person in close proximity intent on violence has the ability to immediately utilize personal body weapons, a bludgeoning device or cutting instrument. The immediacy requires the Officer to react instantly and there is a greater potential that a higher level of force will be needed.

On the other hand, a person at a distance of 20 yards may not be perceived as having the immediate ability to violently attack the Officer. The person must first close the distance before such weapons can be utilized. This may allow the Officer time to decide the most appropriate course of action, such as the use of a “less lethal” projectile.

The “less lethal” projectiles utilized by the Berkeley Police Department are generally considered discriminate versus indiscriminate uses of force. Discriminate projectiles are designed to provide a high level of accuracy which minimizes the risk of unwanted impacts. The ability to apply force from a distance reduces the potential for violent confrontation and aides in reducing the level of force needed to safely resolve a conflict.

Since 2015, there have been 31 incidents where Officers utilized less lethal applications. These applications have potentially prevented higher-level uses of force.

(3) **Fiscal Cost:**

A. **Initial Cost:**

Less lethal prices, like other equipment, varies depending on market demand and availability. The most recent FN 303s purchased by the department cost \$800.00 each.

B. **Cost of Use:**

Cost for FN 303 use should be based on the projectiles used in training and on duty. This will fluctuate based on department trainings, projectile availability and events that unfold in the city and surrounding region.

C. **Cost of Potential Adverse Effects:**

Adverse effects from improper use of less lethal are not calculable. Improper use could lead to serious bodily injury or death. Only trained officers are authorized to use the FN 303.

D. **Annual and Ongoing Costs:**

See section B above

E. Training Costs:

Every officer authorized to deploy a less lethal launcher must pass a certification course administered by a Berkeley Police Firearm Instructor. The certification class consists of classroom, range qualification and scenario application if the venue allows. This class is largely handled in house thus the cost only includes the officer's hourly wage, range fees, and projectile costs which all vary.

F. Maintenance and Storage Costs:

Maintenance costs vary depending on use. Generally, O-rings need to be replaced every 3000 rounds and cost \$30 per kit.

G. Upgrade Costs:

The overall design of the FN 303 has changed little since its initial release in the early 2000s thus anticipated upgrade costs will be minimal.

Impact:

The main function of a less lethal device is to preserve the sanctity of human life. The Berkeley Police Department is committed to reducing the potential for violent confrontations. Less lethal projectiles, when used properly, are less likely to result in serious bodily injury or death and can be used to de-escalate a potentially deadly situation. A less lethal application is an acknowledgment a given situation has the potential to elevate to lethal force and the Officers determined a less lethal application is not only objectively reasonable and objectively necessary, but also the minimal amount of force needed to safely resolve the incident.

The FN 303, with its high level of accuracy can be utilized in a large violent group confrontation to specifically target those who are committing acts of violence on other members of the group, involved persons, or law enforcement personnel. It allows a more immediate action to stop a violent assault, overcome their resistance, and aid in the attempt to safely take them into custody. It also allows officers to prevent a more indiscriminate use of force, such as entering the group or crowd, to take a subject into custody.

[Potential adverse impacts, especially from close-range use or injuries to the head or neck, include permanent injury and death.](#)³

(4) Mitigation:

³ Haar RJ, Iacopino V, Ranadive N, *et al*, Death, injury and disability from kinetic impact projectiles in crowd-control settings: a systematic review, *BMJ Open* 2017;7:e018154. doi: 10.1136/bmjopen-2017-018154

Per Policy 300, "In all cases where physical force is used, officers shall use a minimum amount of force that is objectively reasonable, objectively necessary, and proportional to effectively and safely resolve a conflict." All uses of force require documentation that is completed by the supervisor in a use of force report and reviewed by the Chain of Command. Furthermore, all deployments of equipment outlined in the Police Equipment and Community Safety Ordinance are documented according to the reporting requirements as mandated in the ordinance.

Per Policy 303, "Officers are not required or compelled to use approved projectiles in lieu of other reasonable tactics if the involved officer determines that deployment of these projectiles cannot be done safely. The safety of hostages, innocent persons and officers takes priority over the safety of subjects engaged in criminal or suicidal behavior. Circumstances appropriate for deployment include, but are not limited to, situations in which: (a) The suspect is armed with a weapon and the tactical circumstances allow for the safe application of approved projectiles. (b) The suspect has made credible threats to harm him/herself or others. (c) The suspect is engaged in riotous behavior or is throwing rocks, bottles or other dangerous projectiles at people and/or officers. (d) There is probable cause to believe that the suspect has already committed a crime of violence and is refusing to comply with lawful orders."

The Berkeley Police Department also trains a recommended range of 3 to 30 meters.

Berkeley Police Firearm Instructors recommend a minimum standoff of 3 meters to reduce the potential for unintended injury at a closer distance. The 30-meter maximum recommended range is intended to reduce the possibility of an unintended impact area if the suspect moves or the projectile trajectory begins to deteriorate.

Each officer is trained to aim for large muscle groups, such as the thigh or buttocks area, and avoid areas that may cause serious injury. The department also equips each launcher with a red dot optic. The optic greatly increases an officer's ability to target approved impact areas.

(5) **Alternative:**

The FN303 launcher is one of three less lethal options the Berkeley Police Department possess that allow officers to address a potentially violent confrontation from a distance. All three (Penn Arms single launcher, Milkor LTL multi-launcher, and FN303) are viable options that have different strengths and weaknesses. The Penn Arms single launcher and the Milkor LTL multi-launcher operate very similarly and use the same projectile. The Penn Arms single launcher is smaller and easier to carry; however, the Penn Arms single launcher is capable of holding only one projectile while the Milkor LTL multi-launcher is capable of holding six projectiles. The

projectiles used by the Penn Arms single launcher and Milkor LTL multi-launcher are larger which results in more kinetic energy transferred compared to the projectiles used in the FN303; however, the FN303 holds 15 projectiles and is capable of launching it at a faster rate.

An alternative that the Berkeley Police Department does not possess is the TASER. The TASER allows an officer to maintain distance but limits the range to about 15 to 25 feet. Furthermore, the TASER requires two prongs (barbs) to penetrate the subject's clothing to be effective and if that is not accomplished the TASER will have no effect. Additionally, the TASER is not an approved less lethal device for the department.

(6) **Third Party Dependence:**

The Berkeley Police Department armorers are trained and capable of handling regular maintenance and most repairs. In the event of a catastrophic failure, the device will be sent to the manufacturer for repair. To date there have been 2 devices that required manufacturer repair, both of which were under warranty.

Additionally, department firearm instructors are fully certified by state and private training institutes to educate and train BPD officers. No third party is required for maintenance, most repairs, or instruction.

OC (oleoresin capsicum) Spray

(1) **Description:**

A. **Background:**

For the purposes of this portion of the Impact Statement, OC (Oleoresin capsicum) will be referred to in the spray form as opposed to the aerosol canister form. First Defense manufactures different sizes of OC sprays. OC is the chemical agent that is most widely used amongst Law Enforcement (LE) and the general public. OC has a pungent and irritating pepper odor. It is classified as an inflammatory agent. Besides being effective on humans, OC based chemical agents usually work on animals as well. In a liquid form, OC can appear as a clear, amber, or heavy dark red solution depending on the manufacturer. It is mixed with several types of solutions which act as carriers.

B. **Quantity:**

Qty 23 – First Defense MK-9 OC spray (13- ounces)

Qty 178 – First Defense MK-3 OC spray (3 ounces)

Most of the MK-3 OC sprays are issued to and maintained by individual officers; however, a small amount of these sprays is stored in a secured equipment room as spares in case of damage or new personnel issue.

C. Capability:

The First Defense MK-3 OC sprays are standard issued to all police officers and are worn on the police officers' belt. It has an effective range of 10-12 feet. The larger First Defense MK-9 OC sprays are 13 ounces and are used in violent crowd situations. It has an effect range of 18-20 feet.

The use of the First Defense OC spray can render a dangerous and violent situation safe without using a higher level of force.

D. Lifespan:

Aerosol products eventually lose pressure over time. The lifespan of both the MK-9 and MK-3 OC spray are dependent on how well the pressure in the can is maintained, but is recommended to be replaced after 5 years.

E. Use:

OC spray may be considered for use to bring under control an individual or groups of individuals who are engaging in or about to engage in violent behavior. OC spray should not, however, be used against individuals or group who merely fail to disperse or do not reasonably appear to present a risk to the safety of officers or the public.

[As per City Council resolution \(June 9, 2020\), pepper spray or smoke for crowd control by employees of the Berkeley Police Department, or any outside department or agency called to respond to mutual aid in Berkeley, is prohibited during the COVID-19 pandemic, or until such time as the City Council removes the prohibition.](#)

[Pursuant to Cal. Pen. Code § 13652, chemical agents shall not be used to disperse any assembly, protest, or demonstration except as provided below.](#)

[Chemical agents shall only be deployed by a peace officer that has received training on their proper use by the Commission on Peace Officer Standards and Training for crowd control if the use is objectively reasonable to defend against a threat to life or serious bodily injury to any individual, including any peace officer, or to bring an objectively dangerous](#)

and unlawful situation safely and effectively under control, and only in accordance with all of the following requirements:

(1) Deescalation techniques or other alternatives to force have been attempted, when objectively reasonable, and have failed.

(2) Repeated, audible announcements are made announcing the intent to use chemical agents and the type to be used, when objectively reasonable to do so. The announcements shall be made from various locations, if necessary, and delivered in multiple languages, if appropriate.

(3) Persons are given an objectively reasonable opportunity to disperse and leave the scene.

(4) An objectively reasonable effort has been made to identify persons engaged in violent acts and those who are not, and chemical agents are targeted toward those individuals engaged in violent acts.

(5) Chemical agents are used only with the frequency, intensity, and in a manner that is proportional to the threat and objectively reasonable.

(6) Officers shall minimize the possible incidental impact of their use of chemical agents on bystanders, medical personnel, journalists, or other unintended targets.

(7) An objectively reasonable effort has been made to extract individuals in distress.

(8) Medical assistance is promptly provided, if properly trained personnel are present, or procured, for injured persons, when it is reasonable and safe to do so.

(9) Chemical agents shall not be used by BPD solely due to any of the following:

(A) A violation of an imposed curfew.

(B) A verbal threat.

(C) Noncompliance with a law enforcement directive.

F. How it Works:

A person subjected to OC can expect heavy tearing due to a burning sensation, involuntary closing or blinking of the eyes, burning/stinging skin sensation, redness of the skin, irritation and burning of the nose, runny nose, salivation and burning sensation of the mouth, cough, gagging sensation, shortness of breath, temporary paralysis of the larynx (person unable to speak) and nausea (caused by shock, not the OC itself). A person may also feel disorientated, anxiety, and/or panic. A complete recovery usually takes place within 45-60 minutes depending on the level of exposure.

(2) Purpose:

There are a variety of situations where officers may use OC spray such as: self-defense, overcoming the resistance of a noncompliant individual, effecting an arrest, preventing escape, violent crowd or riot control ([except as limited by the June 9, 2020 Council policy](#)), barricade or hostage situations and dealing with dangerous animals.

(3) Fiscal Cost:**A. Initial Cost:**

The MK-3 OC spray cost approx. \$19 per unit and the MK-9 OC spray costs approx. \$60 per unit. The manufacturer is Defense Technology and the Berkeley Police Department purchase each unit from Galls Police Supply or LC Action Police Supply. Purchases for these tools are made when inventory gets low which is typically determined by how many new officers are sworn in, as well as if they are utilized in dangerous situations.

B. Cost of Use:

The cost of each usage is unpredictable due to the unknown nature of crime, timelines of dangerous situations, and number of applications.

C. Cost of Potential Adverse Effects:

Adverse effects of improper use of OC spray are not calculable. It could lead to serious injury. Additionally, the improper use could result in civil liabilities.

D. Annual and Ongoing Costs:

See below cost of training.

E. Training Cost:

Training is conducted in the police academy and in-house by a Police Officer Standard Training (POST) certified Berkeley Police chemical agent training officer. The cost of training is staff time.

F. Maintenance and Storage Costs:

The majority of the MK-3 OC sprays are either stored within the Police Department or with each sworn police officer while they conduct official duties. All MK-9 OC sprays are stored in the basement. There are no additional storage costs or associated costs to transporting, maintain, or upgrade.

G. Upgrade Costs:

No upgrades exist for this equipment as of this report.

(4) Impact:

The physical effects of being subjected to OC may significantly reduce an individual's aggressive behavior. Reports have shown that the use of OC can reduce the amount of officer and arrestee injuries due to its effectiveness. Chemists assigned to the FBI Forensic Science Research and Training Center report no long-term health risks associated with the use of OC. The use of the MK-3 or MK-9 OC spray can render a dangerous and violent situation safe without using a higher level of force.

[Potential negative impacts include serious bodily injury and litigation costs associated with them.](#)

(5) Mitigations:

Law Enforcement Officers attend a Police Officer Standard Training (POST) approved academy before they enter into a Field Training Program and continue their training. During this academy they are taught about OC, how to deploy it, its effects, and the decontamination process. They are also subjected to OC to physically feel the effects themselves. After the academy, each officer is issued a MK-3 OC spray which they are to keep on their person while on duty. If deployed and when practical, medical personnel should be summoned for the affected person(s) per policy 303. All uses of force require documentation that is completed by the supervisor in a use of force report and reviewed by the Chain of Command. Furthermore, all deployments of equipment outlined in the Police Equipment and Community Safety Ordinance are documented according to the reporting requirements as mandated in

the ordinance.

Alternatives:

Alternatives to utilizing OC sprays are tools such as expandable batons, less lethal launchers, and/or physical body weapons. The rationale to use OC spray depends on the circumstances of each individual incident and the individual officer involved in the incident. As mentioned above, reports have shown that OC spray may significantly reduce an individual's aggressive behavior which can minimize the amount of force necessary to apprehend that subject. Per our Use of Force policy (Lexipol 300), we shall use the minimal amount of force possible during each incident, thus making OC spray a valuable option.

(6) Third Party Dependence:

There is no third-party dependence for the First Defense OC spray. Once they are purchased, they are secured in their designated locations within the Police Department or with sworn police officers while they conduct official duties.

Chlorobenzylidene Malononitrile and Oleoresin Capsicum

(1) Description:

A. Background:

Chlorobenzylidene malononitrile (CS):

Chlorobenzylidene malononitrile (CS) is one of the most commonly used "tear gases" in the world. It can be liquid, gaseous, or solid substance intended to produce temporary discomfort through being vaporized or otherwise dispersed in the air. Law enforcement (LE) agencies have found this agent invaluable when faced with combative suspects, for crowd/riot control, and for alleviating barricaded subject situations. LE use it to help control individuals or groups without the need for a higher level of force. There are four different deployment methods of chemical agents (Aerosol - most commonly used by police departments, Fogging, Pyrotechnics, and blast expulsion). All methods of deployment can be affected by certain environmental and physical conditions (wind, rain, temperature, distance, and proximity to others). At standard daily temperatures and pressures, CS forms a white crystal with a low vapor pressure and poor solubility in water.

Oleoresin capsicum (OC):

For this portion of the Impact Statement, Oleoresin capsicum (OC) will be referred to in the aerosol canister form. OC is the chemical agent that is most widely used amongst Law Enforcement (LE) and the general public. OC has a

pungent and irritating pepper odor. It is classified as an inflammatory agent. OC is mixed with several types of solutions which act as carriers.

B. Quantity:

Inventory for CS canisters:

Qty 6 – 5230 CS Canisters

Qty 24 – 6230 CS Canisters

Qty 20 – 5230B CS Baffled Canister (flameless)

Qty 17 – 5231 CS Tri-Phaser Canisters

Qty 21 – 4630 CS Muzzle Blast (used with 40 mm less lethal launcher)

Qty 4 – 4530 CS Impact Rounds (used with 40 mm less lethal launcher)

Qty 19 – 4330 CS Barricade Projectile Rounds (used with 40 mm less lethal launcher)

Inventory for OC canisters:

Qty 54 - 9440 OC Tear Ball

Qty 19 - 5440 OC Flameless

Qty 20 - 6340 OC Vaper

C. Capability:

CS aerosols with microscopic particles which are potent sensory irritants becoming attached primarily to moist mucous membranes and moist skin. Common effects are: coughing, increased mucous secretion, difficulty breathing, skin reactions, and excessive salivation. The onset of symptoms typically occurs within 20 to 60 seconds, and if the exposed individual is placed in fresh air these effects generally cease in 10 to 30 minutes.

A person subjected to OC can expect heavy tearing due to a burning sensation, involuntary closing or blinking of the eyes, stinging skin sensation, redness of the skin, irritation of the nose, runny nose, salivation, cough, gagging sensation, and shortness of breath. A person may also experience anxiety and panic. A complete recovery usually takes place within 45-60 minutes depending on the level of exposure.

Both CS and OC canisters can render a dangerous and violent situation safe without using a higher level of force.

D. Lifespan:

CS and OC canisters expire in approximately 5 years.

E. Use:

As per City Council resolution (June 9, 2020), the use of tear gas by employees of the Berkeley Police Department, or any outside department or agency called to respond to mutual aid in Berkeley, is prohibited. Tear gas may be used for crowd control, crowd dispersal or against barricaded suspects based on the circumstances. Only the Chief of Police may authorize the delivery and use of tear gas, and only after evaluating all conditions known at the time and determining that such force reasonably appears justified and necessary.

Pursuant to Cal. Pen. Code § 13652, kinetic energy projectiles and chemical agents shall not be used to disperse any assembly, protest, or demonstration except as provided below.

Kinetic energy projectiles and chemical agents shall only be deployed by a peace officer that has received training on their proper use by the Commission on Peace Officer Standards and Training for crowd control if the use is objectively reasonable to defend against a threat to life or serious bodily injury to any individual, including any peace officer, or to bring an objectively dangerous and unlawful situation safely and effectively under control, and only in accordance with all of the following requirements:

(1) Deescalation techniques or other alternatives to force have been attempted, when objectively reasonable, and have failed.

(2) Repeated, audible announcements are made announcing the intent to use kinetic energy projectiles and chemical agents and the type to be used, when objectively reasonable to do so. The announcements shall be made from various locations, if necessary, and delivered in multiple languages, if appropriate.

(3) Persons are given an objectively reasonable opportunity to disperse and leave the scene.

(4) An objectively reasonable effort has been made to identify persons engaged in violent acts and those who are not, and kinetic energy projectiles or chemical agents are targeted toward those individuals engaged in violent acts. Projectiles shall not be aimed indiscriminately into a crowd or group of persons.

(5) Kinetic energy projectiles and chemical agents are used only with the frequency, intensity, and in a manner that is proportional to the threat and

objectively reasonable.

(6) Officers shall minimize the possible incidental impact of their use of kinetic energy projectiles and chemical agents on bystanders, medical personnel, journalists, or other unintended targets.

(7) An objectively reasonable effort has been made to extract individuals in distress.

(8) Medical assistance is promptly provided, if properly trained personnel are present, or procured, for injured persons, when it is reasonable and safe to do so.

(9) Kinetic energy projectiles shall not be aimed at the head, neck, or any other vital organs.

(10) Kinetic energy projectiles or chemical agents shall not be used by BPD solely due to any of the following:

(A) A violation of an imposed curfew.

(B) A verbal threat.

(C) Noncompliance with a law enforcement directive.

(11) If the chemical agent to be deployed is tear gas, only a commanding officer at the scene of the assembly, protest, or demonstration may authorize the use of tear gas.

(2) **Purpose:**

There are a variety of situations where peace officers may in the past have used chemical agents such as: self-defense, overcoming the resistance of a noncompliant individual, effecting an arrest, preventing escape, violent crowd or riot control, barricade or hostage situations and dealing with dangerous animals. Such uses of tear gas are now prohibited by Berkeley law.

(3) **Fiscal Cost:**

A. **Initial Cost:**

The cost for CS canisters ranges from \$20.00 to \$39.00 per unit. The cost for OC canisters ranges from \$36.00 to \$44.00 per unit. The Berkeley Police Department prefers the use of the Combined Tactical Systems (CTS) chemical agents and we

purchase them from LC Action Police Supply.

B. Cost of Use:

The cost of each proposed use is unpredictable due to the demand, unknown nature and timelines of dangerous crowd/riots situations, dangerous barricade situations, and hostage situations.

C. Cost of Potential Adverse Effects:

Adverse effects of improper use of OC and CS are not calculable. It could lead to serious injury. Additionally, the improper use could result in civil liabilities.

D. Annual and Ongoing Costs:

See below cost of training.

E. Training Cost:

When purchased, each unit is given an expiration date which typically falls within a 2-3-year range. Every 2-3 years, new chemical agents are purchased to honor the expiration dates. The expired agents are then used during annual trainings thus minimizing the overall cost. Training is conducted by a Police Officer Standard Training (POST) certified Berkeley Police chemical agent training officer. The cost of training is staff time.

Maintenance and Storage Costs:

The majority of agents are stored inside of a marked chemical agent room within the Police Department, in the Special Response Team vehicle, or in the rescue Vehicle. There are no additional storage costs. There are no associated costs to transporting, maintenance, or upgrades.

F. Upgrade Costs:

No upgrades exist for this equipment as of this report.

(4) Impact:

BPD is committed to preserving and protecting human life and welfare. These tools allow us to fulfill our commitment to our community.

Law Enforcement, under Penal Code 12403.1, is able to lawfully purchase, possess, or use chemical agents in the discharge of their duties. CS and/or OC canisters have been prominently used to resolve dangerous barricaded suspect situations and violent crowd control/riot situations.

Berkeley Police officers are trained to utilize time and distance to de-escalate

dangerous barricaded situations in order to resolve each incident with minimal the use of force (per Use of Force Policy 300). In some circumstances when all other options are exhausted, CS and/or OC can be inserted into the structure in which the barricaded suspect is, denying access to certain areas inside. Unless exigent circumstances arise, all attempts to evacuate the structure are made prior to any deployment. When CS and/or OC are deployed into a structure the suspect may be forced outside allowing the situation to resolve safely with no use further use of force.

CS and/or OC chemical agents can be utilized to create order in dangerous crowd control/riot situations that have demonstrated violence or destruction. During these incidents, typically a clear and direct warning has been given to the crowd to disperse before the chemical agents are deployed. The ability to disperse crowds from a distance limits injury to Police Officers as well as damage to critical structures.

[Severe injuries occur not infrequently from the use of CS and PC chemical agents, including to multiple body systems, with the majority to the skin, eyes, and cardiopulmonary system and may result in significant psychological symptoms and long-term disability.](#)⁴

(5) **Mitigations:**

Regarding the already mentioned impacts, the decision to utilize chemical agents (unless there are exigent circumstances) flows through the chain of command and ultimately makes its way to the Chief of Police and the City Manager. If there are exigent circumstances, the Field Commander makes the decision and then advises

⁴ [Rohini J. Haar, MD, MPH, and Vincent Iacopino, MD, PhD, *Lethal in Disguise: The Health Consequences of Crowd Control Weapons*, Physicians for Social Responsibility ,2016, p. 44.](#)

the Chief of Police as soon as practical. All uses of force require documentation that is completed by the supervisor in a use of force report and reviewed by the Chain of Command. Furthermore, all deployments of equipment outlined in the Police Equipment and Community Safety Ordinance are documented according to the reporting requirements as mandated in the ordinance.

With these procedures incorporated in BPD's policies, this mitigates many potential negative impacts. Per Policy 428 – First Amendment Assemblies - The Field Commander shall determine the type and quantity of chemical agents to be used. After use of chemical agents, the Field Commander shall re-evaluate the scene to determine if additional chemical agents are needed. Less-than-lethal munitions (40 mm CS impact rounds), chemical agents (including OC spray), and/or smoke shall only be deployed in crowd control situations as outlined in the Use of Force Policy. For planned events, inventories shall be conducted before and at the conclusion of the incident. Outside agency inventories shall also be tracked.

In addition to the mitigations in place, the Berkeley Police Special Response Team also receives annual training on the use of chemical agents, the effects, and the decontamination process. Per policy 303, when practical, medical personnel should be summoned for the affected person(s).

(6) **Alternatives:**

There are no direct alternatives for CS and OC. They are the industry's leading way to resolve barricaded suspects while reducing the likelihood of injury to the subject, community, and officers. Additionally, it is one of the only tools that allows officers to stop acts of violence or regain order during crowd control/riot situations. They are very distinct in nature and have direct purposes. The rationale to use CS or OC depends on the circumstances of each incident. The Berkeley Police Department shall use the minimal amount of force per our Use of Force Policy 300. The use of CS or OC allows the police personnel to maintain distance, giving officers more time to react and avoid a potential need for a higher level of force to safely resolve the situation.

(7) **Third Party Dependence:**

There is no third-party dependence for CS and OC chemical agents. Once they are purchased, they are secured in their designated areas and stay there until they are either used during incidents or training.

Remington 700 Rifle

(1) Description:

A. **Background:**

The Remington 700 is a series of bolt-action rifles designed in 1962 by the Remington Arms Company. The “700” designator is the generic name for multiple models of rifles with various parts, barrel lengths, stocks, etc. The Remington 700 rifle has long been used by law enforcement agencies and continues to be an industry standard for issued equipment. The Berkeley Police Department utilizes a custom Remington 700 action, chambered in the common .308-caliber round, with a 20” barrel and an Accuracy International chassis/stock. The rifle also includes a Nightforce 3-15x magnified optic and bipod.

BPD utilizes Hornady .308-caliber ammunition. This particular ammunition is specially designed for law enforcement applications due to its increased and consistent accuracy and performance.

B. **Quantity:**

The Berkeley Police Department Special Response Team (SRT) currently possesses six Remington 700 rifles, all configured in the same manner.

Currently, BPD has approximately 1,800 Hornady .308-caliber rounds. That quantity of ammunition fluctuates depending on supply from distributors and training schedules of those trained officers.

C. **Capability:**

The Remington 700 rifle, with the appropriate ammunition, training, and practice, is capable of consistent and highly accurate shooting out to a distance of approximately 500-yards.

The Remington 700 is intended to be used in emergency situations where there is a high potential for violence, where the need exists to put distance between officers and a specific individual, such as an armed hostage situation.

D. **Lifespan:**

The Remington 700 bolt-action rifles have an expected life span of 10-years if properly maintained.

E. Use:

Used in the defense of life or great bodily injury to potential victims of violent crimes, general public, and officers.

F. How it Works:

The Remington 700 is a manually operated rifle. It requires the officer to physically maneuver a handle to expel a spent cartridge and to load another unspent round of ammunition in order to fire a second round. When the trigger is pressed, a firing pin strikes the primer of a bullet loaded into the chamber of the rifle. The ignited primer ignites gun powder contained in the bullet which pushes the bullet down the barrel and out the muzzle. The officer must then pull a handle attached to the bolt to the rear, ejecting the spent cartridge. The officer then pushes the bolt forward, which picks up another bullet from the magazine, and closes the chamber, making the rifle ready to fire again.

(2) Purpose:

This rifle is to be used in the defense of life or great bodily injury to potential victims of violent crimes, general public, and officers. This rifle provides police with the benefit of adding distance to a volatile situation which can increase the safety for community members and officers. This rifle is an ancillary firearm for situations where increased distance and accuracy is needed to safely resolve the situation.

(3) Fiscal Cost:**A. Initial Cost:**

The initial cost to purchase this rifle with its associated components is approximately \$10,000 dollars each. Their average life span is 10-years at which time it will likely need to be replaced.

B. Cost of Use:

Cost of use for all firearms should be based on the ammunition used in training and on duty. This will fluctuate based on training.

C. Cost of Adverse Effects:

Adverse effects and improper usage of a firearm are not calculable. It could lead to the loss of life or serious injury. Additionally, the improper use could result in civil liabilities.

D. Annual and Ongoing Costs:

If this rifle is not cared for or maintained well, then a potential financial adverse impact would be the premature purchasing of a replacement rifle or replacement

parts. However, authorized and trained Berkeley Police armorers service and provide regular maintenance of the rifles. The cost of maintenance is staff time.

E. Training Costs:

The cost associated with training is the staff time, range fees, and cost of spent ammunition. SRT members train once a month and, on average, each member shoots approximately 50-rounds. Currently, there are only 4 members shooting at each training day. This equates to approximately 2,400 rounds of ammunition being fired per year. This does not include special training days or attendance to training schools/classes. A single box of 20-rounds costs approximately \$20-dollars or \$1 dollar per round.

F. Maintenance and Storage Costs:

Maintenance costs vary depending on use over time. Firing pins need to be replaced every 5 to 7 years. The maintenance cost associated with this rifle is minimal.

There are no costs associated with maintenance or storage of ammunition. All ammunition is stored in a climate-controlled room in the Berkeley Police Department.

G. Upgrade Costs:

Upgrade costs and maintenance cost are synonymous due to the consistent design. Improvements in technology and new designs may be an additional cost but we can't predict what those will be at this time.

Should advancements be made in ammunition manufacturing; those upgrade costs are unknown at this time.

(4) Impact:

The primary purpose of this rifle is to further SRT's goal of adding time and distance when dealing with a violent and dangerous individual(s). The rifle may allow SRT additional time by increasing the distance between law enforcement and the specific individual, thereby increasing the likelihood of a more peaceful resolution. Like all tools, it has a time and place for its intended operational efficacy.

(5) Mitigations:

Mitigating impacts from this tool's primary purpose is done through regular training. The training includes accuracy, decision making, scenarios, and various other training points. All uses of force require documentation that is completed by the supervisor

in a use of force report and reviewed by the Chain of Command. Furthermore, all deployments of equipment outlined in the Police Equipment and Community Safety Ordinance are documented according to the reporting requirements as mandated in the ordinance.

(6) **Alternatives:**

The Remington 700 rifle is an industry standard tool used to deliver precision accuracy on an intended target. This tool can deliver accuracy and predictability through intermediate barriers like glass windows. It can be used at distances greater than any other tool currently possessed or authorized. No alternate tool or method would accomplish the same goal.

(7) **Third Party Dependence:**

These rifles are fairly simple in their design and operation. They do require regular maintenance which is commonly performed by each individual member. BPD Armorers are also capable of performing additional maintenance. If an issue arises which is beyond the scope of our Armorers we would seek professional assistance from the manufacturer. However, the need for this is very rare.

ReconRobotics Recon Scout XT

(1) **Description:**

A. **Background:**

The Recon Scout XT is a throwable micro-robot manufactured by ReconRobotics for use in law enforcement applications. The Recon Scout XT enables officers to obtain instantaneous video footage and audio within indoor or outdoor environments. Designed to withstand repeated drops onto concrete, the Recon Scout XT robot can be thrown into hazardous situations (hostage rescue, barricaded subjects, natural disasters, etc.) in order to allow officers to quickly and safely make informed decisions when seconds count.

B. **Quantity:**

The Berkeley Police Department has two Recon Scout XT throwable robots, both purchased in 2010.

C. **Capability:**

The Recon Scout XT robot is designed to be able to crawl over a variety of terrain, clearing obstacles up to 2" (5 cm) tall. It could be thrown into hazardous

situations, indoor and outdoor, and provide live audio and video feed back to the controller.

D. Lifespan:

Both Recon Scout XT robots are over 10 years old and ReconRobotics have developed and manufactured more advanced robots. ReconRobotics have stopped manufacturing certain parts for the Recon Scout XT, so the lifespan is dependent on what parts need to be replaced.

E. Use:

The Recon Scout XT robot may be deployed to help police officers safely view potentially dangerous environments before entering them.

F. How it Works:

The Recon Scout XT robot has a cylindrical body with a finned-wheel at either end of its body, and is stabilized by a rubber "tail". It measures approximately 6 ½" wide, and each wheel is about 5" in diameter (fin to fin) and weights just over one pound (1.2 lbs.). The Recon Scout XT robot sends digital video and audio back to an Operator Control Unit (OCU; controller with a screen and joystick), which allows the officer to control the robot, which provides a live feedback containing audio and visual feeds. The Recon Scout XT robot does not record audio or video footage; there is no data storage capability.

(2) Purpose:

The Recon Scout XT robot is intended to safely provide police officers valuable information during high-risk, rapid evolving situations via real-time audio and video footage. It can be driven a distance away from the OCU, creating space between the officer and potential danger, thus decreasing the likelihood of injury to those involved in the event, or even a violent encounter between police officers and a dangerous subject. This asset furthers our commitment to the sanctity of life by offering time and distance in critical incidents.

(3) Fiscal Cost:

A. Initial cost:

The initial cost for the Recon Scout XT robot was about \$12,500 per unit (2010 cost).

B. Cost of Use:

There is no "per use" cost of this equipment. The Recon Scout XT is powered by a rechargeable battery.

C. Cost of Potential Adverse Impacts:

The likelihood of adverse impacts due to the use of the Recon Scout XT robot is low – it is small, lightweight and is not likely to injure persons or damage personal property when deployed; however, there is a small chance that the Recon Scout XT robot might cause damage to personal property when deployed (thrown) into a structure. Due caution is used when it becomes necessary to throw, rather than place, the robot into a structure.

D. Annual and Ongoing Cost:

There are no ongoing or annual costs associated with the use of the Recon Scout XT robot. Being that it is battery operated, there is a nominal cost associated with charging the Recon Scout XT robot's batteries, and the batteries of the OCU. The Recon Scout XT robot is fairly simple to operate, thus there is no cost associated with training officers in its use. There are no costs with transportation or storage of the Recon Scout XT robot. While there are newer models of this robot available, there does not appear to be any upgrades available for the Recon Scout XT. The Recon Scout XT robot has been damaged on occasion, and there are costs associated with repair. But generally, the Recon Scout XT robot is robust and does not need regular repair.

E. Training Cost:

The Recon Scout XT robot is user friendly and simple to operate. Training is conducted by Berkeley Police personnel familiar with the operations and procedures of the Recon Scout XT robot. The cost of training is staff time.

F. Maintenance and Storage Costs:

There are no annual or storage costs.

G. Upgrade Costs:

There are no upgrades available at the time of this report.

(4) Impact:

The Recon Scout XT robot is used to safely gather information in situations where it may be dangerous to expose an officer, or officers, to gather the same information. Putting officers in such unknown, tense situations has the potential to create violent encounters, or otherwise place officers in unnecessary peril and danger that might otherwise be avoided by the use of a tool like the Recon Scout XT robot. The Recon Scout XT robot is not likely to have a negative impact on the welfare or safety of the public as its role is to gather real-time information during high-risk incidents such as

hostage or potentially life-threatening situations. The Recon Scout XT robot is likely to improve the welfare and increase the safety of the public through its ability to gather real-time information and feed it back to police officers. The Recon Scout XT robot does not have the capability to record or store data.

(5) **Mitigations:**

The use of the Recon Scout XT robot is limited to sworn police officers, and guided by field supervisors (Lieutenants and Sergeants). Procedurally, the Recon Scout XT robot is used when exigent circumstances exist (hostage situation, barricaded subject, natural disaster necessitating rescue, etc.) and real-time information is necessary to safely and effectively resolve the situation. The robot does not record or store data.

(6) **Alternatives:**

Unmanned aerial vehicles (UAV) are an alternative to robots such as the Recon Scout XT robot. However, the Berkeley City Council has prohibited the Berkeley Police Department from using UAVs. They are not constrained by obstacles on the ground and provide far superior perspective and situational awareness; at times, obstacles halt the Recon Scout XT robot's movement. There are several other robots on the market, however, the Recon Scout XT robot is compact, lightweight (weighing in at just over a pound), very maneuverable, and can easily be carried by an officer. It can also be introduced into structures by throwing it through any opening – an option not possible with other robot models.

(7) **Third Party Dependence:**

The Recon Scout XT robot does not currently rely on a third-party company or vendor for its use or maintenance. Should maintenance or parts be required beyond the scope of the members of the Berkeley Police Department, the robot would be sent to ReconRobotics for service.

Andros Remotec HD-1 Hazardous Duty Robot

(1) **Description:**

A. **Background:**

The Andros Remotec HD-1 Hazardous Duty Robot, hereinafter referred to as Remotec HD-1 robot, was designed to support a wide range of missions in demanding environments. The Remotec HD-1 robot is capable of lifting up to 125 pounds, tracked articulators stair climbing, and has an integrated Talisman radio system for a stronger radio wave connection between the controller and the robot.

Remotec has served explosive ordinance disposal units, hazardous materials units, and other first responders as a provider of mobile robotic systems for application into a variety of undesirable, hazardous and potentially life-threatening environments. The Remotec HD-1 robot allows individuals to approach hazardous devices to examine and manipulate the device without putting people in harm's way.

B. Quantity:

The Berkeley Police Department Bomb Squad has one robot, the Remotec HD-1 robot.

C. Capability:

Remotec HD-1 robot is used in situations where a potential life-threatening situation exists and is too hazardous for a bomb technician to approach in person. The Remotec HD-1 robot is also used to survey an area prior to a bomb technician approaching a scene to check for trip wires and ascertain a good approach path. The Remotec HD-1 robot has three cameras and audio monitoring that stream live video and audio back to the control module; however, it is unable to record and does not have any data storage capabilities. It has several attachment mounting options as well. The Remotec HD-1 robot also has the ability to carry a variety of tools. Some of the tools are:

- 1) A spike to break glass and access vehicles or homes with potential explosive devices inside
- 2) An X-ray mount in order to remotely X-ray suspected explosive devices.
- 3) Percussion actuated non-electric disruptors which are smooth barrels that are filled with water and fired at high speed with a blank shotgun round to open backpacks, suitcases, and packages from a distance
- 4) A hook with cutting blades that are used to cut backpack straps, ropes, etc.
- 5) PAN rounds containing various fills, from sand to slugs, in order to open sturdier packages made from metal or other hard covers.
- 6) Electrical connections to connect explosives that can be detonated remotely and from a safe distance.

D. Lifespan:

The Remotec HD-1 robot has an expected life span of 10 years. It is currently 13 years old and has begun exhibiting issues. The Remotec HD-1 robot weighs just

over 200 lbs. and has been near multiple explosions over the years and crossed a variety of off-road terrain

E. Use:

Used to examine and possible destroy hazardous materials such as an explosive device.

F. How it Works:

The Remotec HD-1 robot is piloted by a bomb technician into a hazardous area to locate, examine, and render suspicious packages and explosive devices safe by utilizing a variety of attachable tools.

(2) Purpose:

The Remotec HD-1 robot is used as a means to approach hazardous situations where a potentially lethal threat such as an explosive device exist. The Remotec HD-1 robot allows for the examination and manipulation of an object or potential explosive device without unnecessarily putting a bomb technician's life at risk.

(3) Fiscal Cost:

A. Initial Cost:

Procured in 2008 for \$214,496 including on-site training through a UASI Grant. (64,292-N.S.)

B. Cost of Use:

None. The robot is electric and operated through the City's electricity for charging.

C. Cost of Potential Adverse Effects:

The Remotec HD-1 robot interacts with inanimate objects. However, should it encounter a package that explodes, it could potentially destroy the robot and damage other property.

D. Annual and Ongoing Costs:

There is no annual cost. Maintenance of the Remotec HD-1 robot is conducted by Berkeley Police Bomb Technicians.

E. Training Costs:

Berkeley Police Bomb Technicians are trained during regular bomb squad training sessions and maintain their skills through training scenarios. The cost of training is limited to staff time.

F. Maintenance and Storage Costs:

Remotec offers occasional maintenance and upkeep workshops free of charge.

G. Upgrade Costs:

There are no costs for upgrades as the company has stopped manufacturing the robot and any applicable upgrades.

(4) Impact:

The Remotec HD-1 robot is used by the Berkeley Police Department Bomb Squad as a means to examine a potentially explosive device in order to keep the community safe. Since April 2020, the Berkeley Police Department Bomb Squad has responded to 14 incidents. The impact of the Remotec HD-1 robot has been to reduce and minimize the danger posed by calls of possible explosive devices to the Berkeley Police Department's Bomb Technicians.

(5) Mitigations:

The Remotec HD-1 robot is used in situations where a hazardous device exists. In these situations, the area is always evacuated in order to ensure community safety.

(6) Alternatives:

The Remotec HD-1 robot is 13 years old and there has been significant development in technology. There are several alternatives that are far superior than our current Remotec HD-1; Mark V-A1 robot developed by Remotec Andros, Caliber Flex developed by ICOR Technology, Digital Vanguard-S developed by Med-Eng and T7 and T4 developed by L3Harris Technologies. These are alternatives that have newer and better technology and capabilities than the Remotec HD-1 robot.

(7) Third Party Dependence:

Remotec representatives are the only ones used to diagnose and maintain complex issues on the robot that cannot be done in-house. Since it is proprietary technology, Remotec may void warranties on any repairs made by outside vendors or by untrained personnel. Therefore, all complex issues with the Remotec HD-1 robot must be repaired by Remotec.

Light/Sound Diversionary Device

(1) Description:

A. **Background:**

Light/Sound Diversionary devices also known as distraction device, flashbang, light/sound and noise/flash devices have been available for approximately 40 years and are a safe and effective tool for Law Enforcement (LE) to use during challenging tactical incidents. The device will be referred to a diversionary device throughout this document.

B. **Quantity:**

Qty 50 - CTS 7290 Diversionary Device

C. **Capability:**

When a diversionary device is deployed they create a loud noise, heat and brilliant light and create an effective diversion. They can create psychological and physiological effects such as: hearing a loud noise beyond that of everyday living, seeing a short bright light, and feeling of a change in atmospheric pressure. These effects may disorient/confuse subjects for a short time giving tactical teams the ability to apprehend that subject without using a higher level of force.

D. **Lifespan:**

The lifespan of the CTS 7290 Diversionary Device is 5 years.

E. **Use:**

The use of a diversionary device is to create a diversion in order to facilitate entry and enable arrest. Circumstances justifying the use of a diversionary device may include, but not limited to barricaded subject or hostage situations and high-risk search warrants services.

F. **How it Works:**

The main charge of a modern diversionary device typically contains flash powder which is sometimes called photoflash powder. Upon initiation, this chemical compound causes the device to deflagrate (not detonate). The powder mixture is rapidly changed into gases that expand outward reaching upwards to 3,800 times the original volume of the charge itself. This process releases the desired effects of loud noise, bright light and the feeling of atmospheric pressure. Flash powder is typically made up of an oxidizer and some type of fuel. The oxidizer is needed to initiate and sustain the flash powder's rapid combustion. This is required since sufficient oxygen cannot be obtained from just the surrounding air.

(2) **Purpose:**

The purpose of a diversionary device is to create a reactionary gap of a person by temporarily disorienting them. This gap gives tactical teams an opportunity to apprehend a suspect while using the minimal amount of force possible. They can also be used to safely invoke a response or redirect the attention of subjects who are either feigning injury, ignoring police commands or are unresponsive while posing a threat to the public.

(3) **Fiscal Cost:**

A. **Initial Cost:**

Diversionary Devices cost approximately \$45 per unit and are purchased through LC Action Police Supply. Purchases for these tools are made when inventory becomes low, based upon critical incident usage and Special Response Team trainings that incorporate live devices.

B. **Cost of Use:**

The cost of each proposed use is unpredictable due to the unknown nature and timelines of dangerous barricade situations, critical incident, and hostage situations. The devices may be stored inside of the Police Department, in the Special Response Team Vehicle, or in the rescue vehicle. There are no additional storage costs. There are no associated costs for transporting, maintenance, training, or upgrades.

C. **Cost of Potential Advert Effects:**

Adverse effects of improper use of a diversionary device are not calculable. It could result in serious injury. Additionally, the improper use could result in civil liabilities.

D. **Annual and Ongoing Costs:**

See below training cost.

E. **Training Cost:**

Only trained and qualified personnel are permitted to deploy diversionary devices. These trained Berkeley Police officers are typically members of the Berkeley Police Department Special Response Team who receive monthly training which includes training in the deployment of diversionary devices. The cost of training is staff time.

F. Maintenance and Storage Costs:

The majority of diversionary devices are stored inside of a room in the basement within the Police Department. There are no additional storage costs. There are no associated costs to transporting, maintenance, or upgrades.

G. Upgrade Costs:

No upgrades exist for this equipment as of this report.

(4) Impact:

The Berkeley Police Department is committed to preserving and protecting human life and welfare. These tools allow us to fulfill our commitment to our community.

Diversionary Devices may be utilized in many situations to include potentially dangerous barricaded subject situations, hostage situations, and critical incidents. Some criteria considered prior to a deployment is dependent upon whether the suspect is a dangerous felon, causes a life-threatening situation and/or other unique incidents where it appears to be a reasonable method in which to resolve the situation. When deployed appropriately these devices can assist in safely apprehending suspects and resolving high risk critical incidents with minimal or no injuries to suspects and/or officers.

(5) Mitigations:

Since Diversionary Devices are considered low explosives, there are several protocols in place to mitigate possible negative results (i.e. minor or major injuries).

Only trained and qualified personnel are permitted to deploy diversionary devices; typically, members of the Special Response Team who receive constant training regarding the deployment, effects, and post deployment protocols.

Pre-deployment concerns are typically gathered and evaluated, such as:

- The number of people at a location and the individual location of suspects within the structure.
- Evaluation if there are children or elderly people present
- An evaluation of the suspect's mental and physical conditioning
- Evaluation of the building/room layout

- Possible combustible/flammable substances present
- Lighting conditions

When a diversionary device is deployed, the officer shall utilize a helmet, hearing protection, eye protection, body armor, and nomex (fire resistive) gloves.

If a diversionary device is used, a supervisor shall be notified, medical treatment/screening is conducted, and a collection of the deflagrated device is completed. Documentation utilizing the device serial number is recorded.

Per Policy 351 - Except in extreme emergencies (i.e., life-threatening situations), flash/sound diversionary devices shall not be used without prior authorization of the incident commander/on-scene supervisor. Whenever diversionary devices are carried by personnel in an actual situation or incident, that fact shall be noted in the after-action report or police report. In the event devices are deployed, the circumstances surrounding their deployment shall be fully described. The Chief of Police or his or her designee shall be responsible for reviewing any deployment of diversionary devices to ensure that policy was followed. Diversionary devices are registered by serial number with the Bureau of Alcohol, Tobacco, and Firearms (ATF). Typically, the police department's purchase of new devices is reported directly (by case-lot serial numbers) to ATF by the device manufacturer via ATF Form 5. The National Firearms Act requires the police department to notify ATF upon the use/expenditure of diversionary devices. A Special Response Team member shall be responsible for submitting written notification to ATF when all devices listed on a single ATF form 5 have been used/expended.

(6) **Alternatives:**

A possible alternative to a diversionary device (flashbang) is the Tactical Electronic Distraction Device (T.E.D.D.) which emits 2600 lumen light and high pitched 120 decibel sound to disorientate subjects. This could be a good tool as it is not a low explosive however it has its negative aspects as well:

- There is no feeling of atmospheric pressure, limiting the desired momentary physiological effect.
- A suspect could pick up and throw the device at potential victims and at police officers. The currently used diversionary devices are too hot to attempt this.

- In certain circumstances, a suspect could potentially steal the device during an escape.
- The individual cost per unit is approx. \$200 which is much more than a diversionary device
- This device is significantly less effective in disorienting subjects compared to a diversionary device.

(7) **Third Party Dependence:**

There is no third-party dependence for Diversionary Devices with the exception of communication with ATF of the purchase. Once they are purchased, they are secured within their designated locations where they are stored until they are either used during incidents or training.

Long Range Acoustic Device (LRAD)

(1) **Description:**

A. **Background:**

The Long-Range Acoustic Device (LRAD) is a high intensity directional acoustical array for long range, crystal clear notification system. The use of the LRAD is for communications.

B. **Quantity:**

The Berkeley Police Department possesses 2 Long Range Acoustic Devices (LRAD) speakers. One is an LRAD 450XL and the other is an LRAD 100X.

C. **Capability:**

Both of these speakers are able to focus sound in directional pattern allowing the user to make sound audible over distances much greater than conventional public address speakers. The LRAD 450XL is the larger of the two and designed to either be used in a fixed location or mounted on a vehicle to make it portable. It has a usable range of approximately 1 mile. The LRAD 100X is smaller and more portable. It can be carried or mounted to a person's chest for mobility or mounted to a vehicle. Its range is approximately 1/3 of a mile. Both of these systems allow for clear long-range communication, they are also able to play recorded messages.

D. Lifespan:

The lifespan for both LRADs is 25 years.

E. Use:

The LRADs are used to communicate with the community during natural disasters, crowd management and control situations, or when other forms of communications are ineffective or inoperable to unequivocally communicate messages from Police or Fire and safely resolve uncertain situations where communicating with the public is paramount.

F. How it Works:

The LRADs are essentially a long-range speaker or long-range megaphone and operates as such.

(2) Purpose:

The LRADs are designed for clear long-range communication. The LRAD's ability to communicate over a long distance is far superior to any megaphone or Public Address (PA) system mounted to a police vehicle. Additionally, LRAD's may be used to:

- Communicate lifesaving information to residents during disasters
- Communicate to large crowds during parades, festivals, concerts and sporting events
- Establish safety zones and perimeters
- Control traffic congestion
- Conduct Special Response Team operations
- Broadcast a dispersal order
- Communicate during hostage and barricaded subject situations
- Announce and serve high risk warrants
- Communicate to protesters
- Communicate to persons threatening suicide who are in an inaccessible location
- Conduct search and rescue operations

The ability to communicate with the public in a large area increases the safety of all members of the public and law enforcement. It allows everyone in a given area to know what is being communicated, gives more situational awareness to everyone in a given area and allows people to know where to go or not to go.

(3) **Fiscal Cost:**

A. **Initial Cost:**

The LRAD 450XL and the LRAD 100X were purchased in 2018. The total cost for both LRADs, rechargeable battery packs and accessories was \$49,999.

B. **Cost of Use:**

There is no cost associated with each use of the LRADs. The systems run on batteries or can plug into a vehicle.

C. **Cost of Potential Adverse Effects:**

Adverse effects of improper use of the LRADs are not calculable. It could lead to hearing loss. Additionally, the improper use could result in civil liabilities.

D. **Annual and Ongoing Costs:**

BPD has not incurred any additional cost to date for this equipment.

E. **Training Costs:**

Training is conducted by Berkeley Police personnel who are trained in the use and procedures of the LRAD. The cost to train is staff time.

F. **Maintenance and Storage Costs:**

There are no maintenance or storage costs for this equipment.

G. **Upgrade Costs:**

No upgrades exist for this equipment as of this report.

(4) **Impact:**

The Berkeley Police Department is committed to ensuring the safety of our community. Having the ability to communicate efficiently and effectively in different situations is crucial in providing potentially life-saving information to the public. The LRAD provides BPD personnel the ability to communicate long distances to people that are in a given area, inside structures, or barricaded inside a structure. The LRAD is very effective any situation involving communicating information to large crowds, or entire communities.

Over shorter distances, LRAD signals are loud enough to cause pain in the ears of people in their path. If used improperly they can cause permanent hearing damage, including tinnitus or hyperacusis, to intended targets, bystanders, and police officers.⁵ Improper use may also result in litigation

⁵ Tyler Tracy, "Long Range Acoustic Devices (LRAD) and Public Safety," *Acentech*, August 10, 2020, at

costs.

(5) **Mitigations:**

~~The only potential negative impact of the LRAD's is that they~~ are capable of producing a high pitched “deterrent tone” that is designed to disperse a potential threat. This “deterrent tone” does have the ability to cause hearing damage. BPD Policy 707 strictly prohibits any member of BPD from using the LRAD as a weapon. Additionally, the LRAD can only be deployed at the direction of a Watch Commander or Incident Commander and may only be used by personnel specifically trained in the use of the LRAD.

(6) **Alternatives:**

BPD is not aware of any other sound speakers that are able to clearly communicate over long distances of up to 1 mile.

(7) **Third Party Dependence:**

To date, BPD has not depended on any third party for the use or maintenance of this equipment.

36” Baton

(1) **Description:**

A. **Background:**

The Berkeley Police Department issues a knurled grip, polycarbonate, fixed-length straight baton for crowd control purposes. The baton is 36” long and 1.25” in diameter and weighs about 1.64 pounds. Polycarbonate is a thermoplastic, which means it is durable, resistant to splintering and heat.

B. **Quantity:**

In 2017, BPD purchased 175 polycarbonate 36” batons to replace aging wood batons of the same purpose. Additional polycarbonate batons were purchased over the past four years to ensure all sworn police officers as well as trained reserve police officers are equipped with the 36” baton. BPD possesses approximately 195 - 36” polycarbonate batons. Most of these batons are issued to and maintained by individuals. However, a small amount of these batons is stored in a secure equipment room as spares in case of damage or new personnel issue.

<https://www.acentech.com/resources/2020/08/long-range-acoustic-devices-lrad-and-public-safety/>.

C. Capabilities:

The 36" baton is carried in a "baton ring" on an officer's belt just as any other baton. It is used as a safety tool and is a means for officers to defend themselves in certain crowd control or riot situations. Trained officers may employ particular applications of force with their 36" batons when directed by their chain of command. The 36" baton is the desirable baton in a crowd control situation as it is 7" longer than the standard 29" baton. The longer baton creates more distance between the officer and others, which is critical when dealing with violent or aggressive crowds.

D. Lifespan:

The manufacturer provides a lifetime repair or replacement guarantee.

E. Use:

The 36" baton is a less-lethal force tool and is intended to be used in crowd control situations in close quarters, where officers may defend an attack, or when engaging in physical contact with combative or aggressive crowd members. The 36" baton is only used for crowd situations.

F. How it Works:

There are a number of appropriate blocking or striking techniques an officer may use when force is justified and the decision is made to use the 36" baton to effectively gain control of a person or situation. The use of the baton requires the officer to continually monitor and assess effectiveness of any delivered strikes. The reason this type of force is administered is to stop a person's attack, threat or resistance, with the goal to place them under lawful arrest for their actions.

(2) Purpose:

The 36" baton is a less-lethal tool that may be used when a crowd becomes aggressive, hostile or violent. It is the most effective individual tool of choice when officers are in formation and engaged in crowd control duties.

When officers are deployed to maintain, disperse, or protect others from a violent crowd or civil disobedience, it is imperative that they have an adequate safety zone to protect themselves or others. The 36" baton provides officers additional distance from a potential threat than the standard issue 29" baton.

When the baton is used to strike a subject, kinetic energy transfer occurs. Kinetic

energy is the energy of motion. The amount of translational kinetic energy which an object has depends upon two variables: the mass of the object and the speed of the object. The desired effect is for the officer to apply a baton strike with the necessary energy to stop the threat as quickly and safely as possible. By targeting the large muscle areas of the arms or legs with sufficient kinetic energy, motor and sensory nerves can be affected. When the nerves are affected this will create momentary muscle dysfunction or pain, which will allow the officer the ability to gain control of the subject, while minimizing the possibility of long-term injury to the subject.

The head, neck, throat, spine, heart, kidneys and groin should not be intentionally targeted except when the person's conduct is creating an immediate threat of serious bodily injury or death to an officer or any other person as outlined in policy 303 and 300.

(3) **Fiscal Cost:**

A. **Initial Cost:**

The cost of the Monadnock MP36 2004 36" polycarbonate baton with knurled grip was \$53.00 per baton in September 2017. After tax, \$10,132.94 was spent for the purchase of 175 batons. The department placed an additional order for 20 batons in December 2019. It is anticipated that the cost of the baton will fluctuate a few dollars based on supply and demand over time.

B. **Cost of Use:**

The only cost associated with use that of ongoing departmental training to ensure officers are proficient in authorized baton techniques.

C. **Costs of Potential Adverse Impacts:**

Adverse effects from improper use of the 36" baton cannot be anticipated. Improper use could lead to serious bodily injury or death. Additionally, the improper use could result in civil liabilities.

D. **Annual and Ongoing Costs:**

There is no additional annual or ongoing cost associated with the 36" baton.

E. **Training costs:**

Training on the applications of the batons are conducted at the police academy. Police Office Standard Training (POST) requires "arrest and control" training every 2 years which includes portions of baton training. This training is conducted in-house by POST certified defensive tactics instructors.

F. **Maintenance and Storage Costs:**

There are no associated costs to transporting, maintenance, or upgrades.

G. Upgrade Costs:

No upgrades exist for this equipment as of this report.

(4) Impact:

Per Policy 300, "The Berkeley Police Department's highest priority is safeguarding the life, dignity, and liberty of all persons. The Department is committed to accomplishing this mission with respect and minimal reliance of the use of force by using rapport-building communication, crisis intervention, and de-escalation tactics before resorting to force."

At times, it may become necessary for police officers to use force in crowd control situations to move a crowd, stop violent behavior, overcome resistance or make a lawful arrest. Officers have been trained that they must do everything possible to avoid unnecessary uses of force, and minimize the force that is used, while still protecting themselves and the public. When deemed necessary, use of the 36" baton may be used as a tool to strike a person, create a barrier or used in formation in order to move a crowd in a certain direction. The use of the baton may cause discomfort, pain, blunt trauma and has the potential to cause serious injury. Their use is subject to the totality of the circumstances, proper training, department policy, as well as federal and state law.

Officers who use the 36" baton are trained to continuously assess each situation where force is used and only use the force that is reasonably necessary and proportional to respond to the threat or resistance to effectively and safely resolve the incident.

(5) Mitigations:

Per Policy 300, "In all cases where physical force is used, officers shall use a minimum amount of force that is objectively reasonable, objectively necessary, and proportional to effectively and safely resolve a conflict."

Per Policy 303, "Only officers who have successfully completed department-approved training in the use of any control device are authorized to carry and use the device. Control devices may be used when a decision has been made to control, restrain or arrest a subject who is violent or who demonstrates the intent to be violent, and the use of the device appears reasonable under the circumstances. When reasonable, a verbal warning and opportunity to comply should precede the use of these devices. When using control devices, officers should carefully consider potential impact areas in order to minimize injuries and unintentional targets."

Every officer who carries a 36" baton has been trained how to properly carry the equipment, it's intended use, target areas and non-target areas. Large muscle groups such as the upper legs or lower abdomen are approved target areas and areas to be avoided at the groin and head. When a baton strike is directed at an intended target area and the subject moves simultaneously, it is possible for the officer to unintentionally strike a non-target area. Officers are trained to consider the placement of baton strikes, and to immediately render medical aid to the subject as soon as it is safe to do so.

All uses of force require documentation that is completed by the supervisor in a use of force report and reviewed by the Chain of Command. Furthermore, all deployments of equipment outlined in the Police Equipment and Community Safety Ordinance are documented according to the reporting requirements as mandated in the ordinance.

(6) **Alternatives:**

The alternatives to the 36" crowd control baton are the 29" standard issue baton and collapsible 26" Rapid Containment Baton (RCB). The standard issue baton and RCB are shorter in length and require officers to be closer to the person they are engaging, thereby increasing the risk of injury to the officer and the person. A longer baton provides an officer with more distance which creates a small safety zone and allows the officer time to react and access the situation before making use of force decisions.

(7) **Third Party Dependence:**

There is no requirement for a third-party service provider to issue the 36" crowd control baton. Berkeley Police Department Defensive Tactics Instructors provide in-house training on the proper use of the baton.

Mobile Command Vehicle

(1) **Description:**

A. **Background**

The Berkeley Police Department owns one Mobile Command Vehicle (MCV). Our MCV is a 2003 Freightliner MT55. This vehicle's most common use is as a commercial delivery vehicle. Our 2003 Freightliner MT55 was converted into a MCV by adding desktop work stations, additional police radios and emergency lighting. The MCV is 30' long and has a gross vehicle weight (GVW) of approximately 23,000 pounds.

B. Quantity:

The Berkeley Police Department owns 1 MCV.

C. Capability:

The MCV is a mobile office that provides shelter and may be used as a mobile command and communication center.

D. Lifespan:

This vehicle is approximately 20 years old and is at the tail end of its serviceable lifespan. All emergency vehicles need to be completely dependable and vehicles of this age start to lose dependability as old parts start to fail without warning. The modern versions of this type of vehicle are typically converted motorhomes.

E. Use:

This vehicle is used as a mobile command post for large scaled events.

F. How it Works:

This vehicle operates and drives like other vehicles.

(2) Purpose:

This vehicle may be used as a mobile command post for any larger scaled events or as a communications center in the event the communications center in the Public Safety Building is inoperable. Some examples of large-scale events include Solano Stroll, Juneteenth, 4th of July, critical incidents or natural disasters.

(3) Fiscal Cost:**A. Initial cost:**

The initial cost of the MCV (2003 Freightliner MT55) was \$230,800.

B. Cost of Use:

The cost of use is the cost of fuel from the City Corporation Yard.

C. Cost of Potential Adverse Effects:

Adverse effects of improper use of the MCV are not calculable, but is the same as improper use of any vehicles. The improper use could result in civil liabilities.

D. Annual and Ongoing Costs:

There is no annual or ongoing cost associated with this vehicle. Maintenance of the vehicle is conducted by the City's Corporation Yard.

E. Training Costs:

Training is conducted in-house by Berkeley Police personnel who are trained in the operation of the vehicle. The training cost is staff time.

Maintenance and Storage Costs:

There are no storage costs and maintenance would be conducted by the City of Berkeley Corporation Yard.

F. Upgrade Cost:

The MCV is almost 20 years old and upgrades would involve replacing different parts of the vehicle. This work would be conducted by the City of Berkeley's Corporation Yard. The cost would be staff time plus the cost of any necessary parts.

(4) Impact:

The MCV is used as a command post for any large scaled event. It works as a mobile central location where resources can stage and be deployed from. It provides the police department with on-site command, supplying a control and communications hub that is needed for large community events, or critical incidents such as natural disasters in order to maintain public safety. [The deployment or appearance of certain armored vehicles may escalate tension, provoke fear, prevent clear communication, or increase distrust.](#)

(5) Mitigations:

The MCV shall only be operated by trained personnel that have demonstrated proficiency in the operations of this vehicle per Berkeley Police Department Policy 811.

(6) Alternatives:

The MCV is almost 20 years old. Current MCV from other agencies are large mobile homes converted into MCVs.

(7) Third Party Dependence:

All maintenance is completed through the Cities Corp Yard so there is no dependence on a third party.

Barrett Model 99 Rifle

(1) Description:

A. Background:

The Barrett Model 99 rifle is a single shot bolt-action 50-caliber rifle first

introduced in 1999. It is intended to be used in emergency situations where there is a high potential for violence.

B. Quantity:

Berkeley Police Department Special Response Team (SRT) currently possess 1 (one) of these rifles and is not looking to purchase any others.

Currently BPD has approximately 100 Summit Ammunition .50-caliber BNG rounds.

C. Capability:

This rifle is used only in situations where a potential life-threatening situation exists. The length of the rifle's barrel coupled with the ammunition result in precision accuracy. This rifle is capable of disabling any vehicle engine block because of the large caliber round.

D. Lifespan:

This rifle has been in our possession for almost 15-years and we expect it to last for an additional 20 years or more considering how in-frequently it's used.

E. Use:

This rifle is used primarily in emergency situations where a life-threatening situation exists, necessitating a vehicle to be disabled.

F. How it Works:

This is a bolt-action rifle that fires one round at a time and needs to be reloaded by hand after each round. The Barrett Model 99 rifle works similar to all modern bolt-action rifles. When the trigger is pressed, a firing pin strikes the primer of a bullet loaded into the chamber of the rifle. The ignited primer ignites gun powder contained in the bullet which pushes the bullet down the barrel and out the muzzle. The operator pulls the bolt back, ejecting the spent cartridge. The operator then loads another bullet into the breach, pushes the bolt forward, and closes the chamber, making the rifle ready to fired again.

(2) Purpose:

The Barrett rifle is a firearm that may be used to stop a vehicle which poses a lethal threat to the public, or to disable a vehicle which presents a threat to the safety of another person(s) by its continued use. There are vehicle disabling tools that may disable vehicles by slowly deflating the tires; however, even with tires deflated a

vehicle has the ability to operate and remain a threat to the public. Furthermore, these tools must be hand deployed and, in most circumstances, require officers to expose themselves to deadly threats. The Barrett rifle creates the ability to effectively disable vehicles instantaneously from a distance away.

(3) **Fiscal Cost:**

A. **Initial Cost:**

The Barrett Model 99 50-caliber rifle has a retail cost of approximately \$12,500 dollars. The Department of Justice provided the Barrett rifle to the Berkeley Police Department on 04/04/2007. There was no initial cost related to BPD taking possession of it.

B. **Cost of Use:**

The costs associated with its proposed uses is in the expenditure of its ammunition. The ammunition has a retail cost of approximately \$6 dollars per bullet; \$60 for a box of 10 and \$600 for a case of 10 boxes, plus shipping and handling. We currently possess 100 rounds of BMG ammunition.

C. **Cost of Potential Adverse Effects:**

Adverse effects of improper use of a firearm are not calculable. It could lead to the loss of life or serious injury. Additionally, the improper use could result in civil liabilities.

D. **Annual and Ongoing Costs:**

The annual cost of the equipment is minimal and includes ammunition expenditure, cleaning equipment, and possibly replacing the optics at some point in the future.

E. **Training Costs:**

The cost associated with training is the staff time, range fees, and cost of spent ammunition.

F. **Maintenance and Storage Costs:**

Maintenance costs vary depending on use over time and will vary. There are no costs associated with maintenance or storage of ammunition. All ammunition is stored in a climate-controlled room in the Berkeley Police Department.

G. **Upgrade Costs:**

Improvements in technology and new designs may be an additional cost but we can't predict what those will be at this time.

Should advancements be made in ammunition manufacturing; those upgrade costs are unknown at this time.

(4) **Impact:**

The Berkeley Police Department is committed to preserving and protecting human life and welfare. The Barrett rifle is a firearm the department would primarily use to stop a vehicle which poses a lethal threat to the public or used to disable a vehicle that presents a threat to the safety of another person(s) by its continued use.

The Barrett rifle is intended as a tool to increase the safety and welfare of community members and officers alike.

The Barrett rifle has minimal or no impact on civil rights or civil liberties as it will only be deployed in very specific situations, by very select members of the SRT. This is not a piece of equipment that is carried by an officer on routine patrol, and is highly unlikely that any members of our community would ever see this equipment due to its very selective use in the most critical of instances.

(5) **Mitigations:**

Only four BPD members are authorized to utilize this rifle. Authorized members are trained in its use as well as the very specific and limited circumstances where this equipment would be utilized.

(6) **Alternatives:**

There is no other alternative tool or asset available that could accomplish the same goal of this rifle. An alternative rifle to the Barrett model 99 is a different rifle of equal capability, such as a Lapua .338 caliber rifle.

(7) **Third Party Dependence:**

These rifles are simple in their design and operation. They do require regular maintenance which is performed by an SRT Team Leader. If an issue arises which is beyond the scope of our Armorers we would seek manufacturer assistance. However, the need for this is expected to be very rare.

Appendix:

Applicable Lexipol Policies Respective to Each Equipment

Policies are hyperlinked to the Berkeley Police Department Lexipol policy website.

M4 rifle/Patrol Rifle

- [Policy 300 \(Use of Force\)](#)
- [Policy 349 \(Tactical Rifle Operator Program\)](#)

Penn Arms 40MM launcher

- [Policy 300 \(Use of Force\)](#)
- [Policy 303 \(Control Devices and Techniques\)](#)
- [Policy 428 \(First Amendment Assemblies\)](#)

Milkor LTL multi-launcher

- [Policy 300 \(Use of Force\)](#)
- [Policy 303 \(Control Devices and Techniques\)](#)
- [Policy 428 \(First Amendment Assemblies\)](#)

FN 303 Launcher & FN Pava rounds

- [Policy 300 \(Use of Force\)](#)
- [Policy 303 \(Control Devices and Techniques\)](#)
- [Policy 428 \(First Amendment Assemblies\)](#)

Chlorobenzylidene Malononitrile and Oleoresin Capsicum (canister and spray)

- [Policy 300 \(Use of Force\)](#)
- [Policy 303 \(Control Devices and Techniques\)](#)

Remington 700 Rifle

- [Policy 300 \(Use of Force\)](#)
- [Policy 354 \(Precision Rifle\)](#)

ReconRobotics Recon Scout XT Robots & Andros Remotec HD-1 Hazardous Duty Robot

- [Policy 708 \(Robot Cameras\)](#)

Light/Sound Diversionary Device

- [Policy 353 \(Diversionary Device\)](#)

Long Range Acoustic Device

- [Policy 707 \(Long Range Acoustical Device\)](#)

36" batons

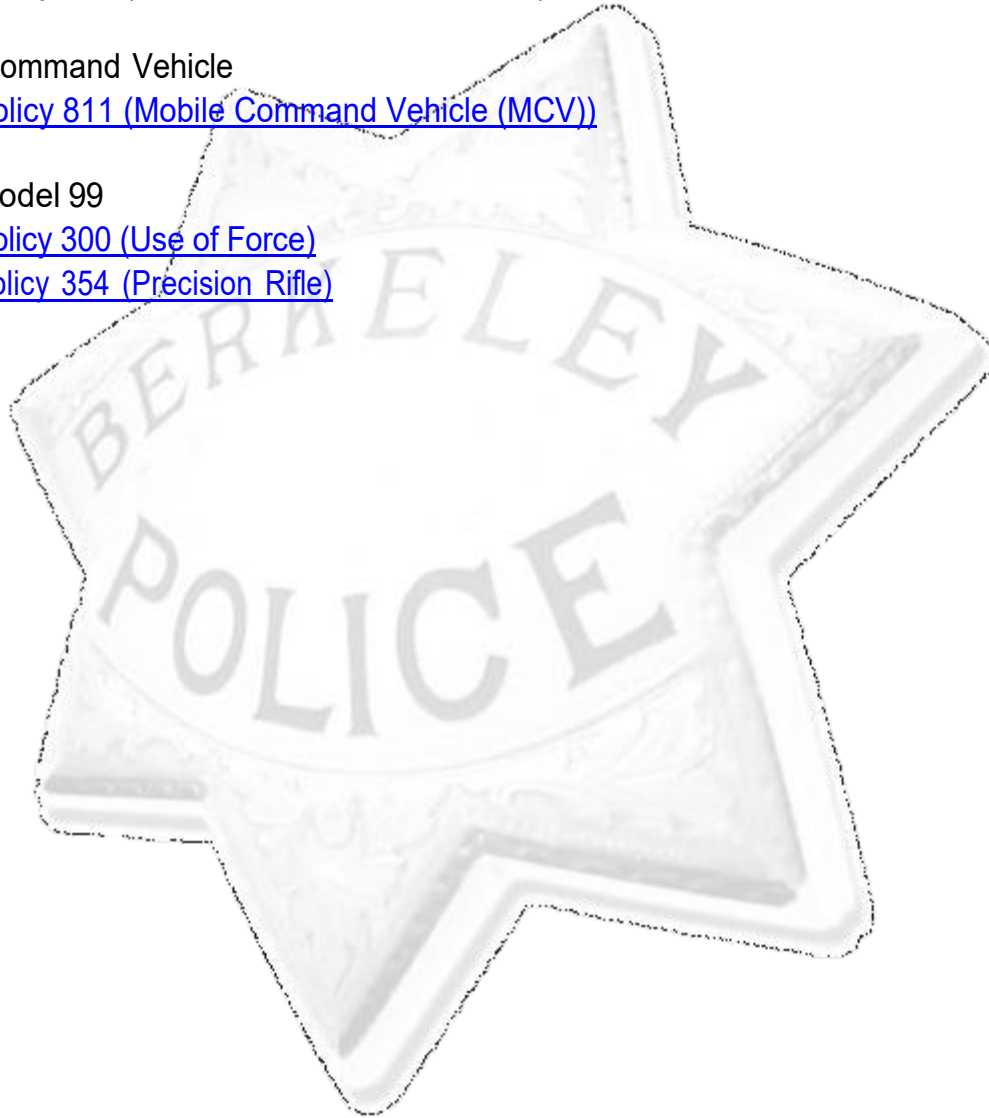
- [Policy 300 \(Use of Force\)](#)
- [Policy 303 \(Control Devices and Techniques\)](#)
- [Policy 428 \(First Amendment Assemblies\)](#)

Mobile Command Vehicle

- [Policy 811 \(Mobile Command Vehicle \(MCV\)\)](#)

Barret Model 99

- [Policy 300 \(Use of Force\)](#)
- [Policy 354 \(Precision Rifle\)](#)



Control Devices and Techniques

303.1 PURPOSE AND SCOPE

This policy provides guidelines for the use and maintenance of control devices that are described herein.

303.2 POLICY

In order to control subjects who are violent or who demonstrate the intent to be violent, the Berkeley Police Department authorizes officers to use control devices and techniques in accordance with the guidelines in this policy and the Use of Force Policy.

303.3 ISSUING, CARRYING AND USING CONTROL DEVICES

Control devices described in this policy may be carried and used by members of this department only if the device has been issued by the Department or approved by the Chief of Police, or his/her designee.

Only officers who have successfully completed department-approved training in the use of any control device are authorized to carry and use the device.

Control devices may be used when a decision has been made to control, restrain or arrest a subject who is violent or who demonstrates the intent to be violent, and the use of the device appears reasonable under the circumstances. When reasonable, a verbal warning and opportunity to comply should precede the use of these devices.

When using control devices, officers should carefully consider potential impact areas in order to minimize injuries and unintentional targets.

[Except as otherwise provided in Section 303.9, kinetic energy projectiles and chemical agents shall not be used to disperse any assembly, protest, or demonstration \(Penal Code 13652\).](#)

303.4 RESPONSIBILITIES

303.4.1 WATCH COMMANDER RESPONSIBILITIES

The Watch Commander may authorize the use of a control device by selected personnel or members of specialized units who have successfully completed the required training.

303.4.2 PERSONNEL AND TRAINING SERGEANT RESPONSIBILITIES

The Personnel and Training Sergeant, or designated instructor, shall control the inventory and issuance of all control devices and shall ensure that all damaged, inoperative, outdated or expended control devices or projectiles are properly disposed of, repaired or replaced.

Every control device will be periodically inspected by the Personnel and Training Sergeant or the designated instructor for a particular control device. The inspection shall be documented.

303.4.3 USER RESPONSIBILITIES

All normal maintenance, charging or cleaning shall remain the responsibility of personnel using the various devices.

Control Devices and Techniques

Any damaged, inoperative, outdated or expended control devices or projectiles, along with documentation explaining the cause of the damage, shall be returned to the Personnel and Training Sergeant for disposition. Damage to City Property forms shall also be prepared and forwarded through the chain of command, when appropriate, explaining the cause of damage.

303.5 BATON AND COLLAPSIBLE BATON GUIDELINES

The need to immediately control a suspect must be weighed against the risk of causing serious injury. The head, neck, throat, spine, heart, kidneys and groin should not be intentionally targeted except when the officer reasonably believes the suspect poses an imminent threat of serious bodily injury or death to the officer or others.

When carrying a baton, including a collapsible baton, uniformed personnel shall carry the baton in its authorized holder on the equipment belt. Plainclothes and non-field personnel may carry the baton as authorized and in accordance with the needs of their assignment or at the direction of their supervisor.

~~TEAR GAS GUIDELINES~~

~~Tear gas may be used for crowd control, crowd dispersal or against barricaded suspects based on the circumstances. Only the Chief of Police may authorize the delivery and use of tear gas, and only after evaluating all conditions known at the time and determining that such force reasonably appears justified and necessary.~~

- ~~(a) However, tear gas may used without the Chief's authorization when exigent circumstances prevent the request from being made and the delay would likely risk injury to citizens or police personnel (e.g., rocks, bottles, or other projectiles being thrown and immediate crowd dispersal is necessary). In the event immediate use is necessary, notification to the Chief of Police, or his/her designee, should be made as soon as possible after the deployment.~~

~~When practicable, fire personnel should be alerted or summoned to the scene prior to the deployment of tear gas to control any fires and to assist in providing medical aid or gas evacuation if needed.~~

~~303.7~~303.6 OLEORESIN CAPSICUM (OC) SPRAY GUIDELINES

As with other control devices, OC spray (aka pepper spray) and pepper projectiles may be considered for use to bring under control an individual or groups of individuals who are engaging in, or are about to engage in violent behavior. Pepper projectiles and OC spray should not, however, be used against individuals or groups who merely fail to disperse or do not reasonably appear to present a risk to the safety of officers or the public.

~~303.7.1~~303.6.1 OC SPRAY

Uniformed personnel carrying OC spray shall carry the device in its holster on the equipment belt or external vest carrier. Plainclothes and non-field personnel may carry OC spray as authorized, in accordance with the needs of their assignment or at the direction of their supervisor.

Control Devices and Techniques

303.7.2303.6.2 PEPPER PROJECTILE SYSTEMS

Pepper projectiles (aka "Pava" rounds) are plastic spheres that are filled with a derivative of OC powder. Because the compressed gas launcher (aka "less lethal" launcher) delivers the projectiles with enough force to burst the projectiles on impact and release the OC powder, the potential exists for the projectiles to inflict injury if they strike the head, neck, spine or groin. Therefore, personnel using a launcher should not intentionally target those areas, except when the officer reasonably believes the suspect poses an imminent threat of serious bodily injury or death to the officer or others.

Officers encountering a situation that warrants the use of a launcher shall notify a supervisor as soon as practicable. A supervisor shall respond to all incidents where the suspect has been hit or exposed to the chemical agent. The supervisor shall ensure that all notifications and reports are completed as required by the Use of Force Policy.

303.7.3303.6.3 TREATMENT FOR OC SPRAY EXPOSURE

Persons who have been sprayed with or otherwise affected by the use of OC should be promptly provided with clean water to cleanse the affected areas. Those persons who complain of further severe effects shall be examined by appropriate medical personnel.

303.8303.7 POST-APPLICATION NOTICE

Whenever ~~tear gas or~~ OC has been introduced into a residence, building interior, vehicle or other enclosed area, officers should provide the owners or available occupants with notice of the possible presence of residue that could result in irritation or injury if the area is not properly cleaned. Such notice should include advisement that clean up will be at the owner's expense. Information regarding the method of notice and the individuals notified should be included in related reports.

303.9303.8 LESS LETHAL PROJECTILE GUIDELINES

This department is committed to reducing the potential for violent confrontations. "Less lethal" projectiles, when used properly, are less likely to result in death or serious physical injury and can be used in an attempt to de-escalate a potentially deadly situation.

303.9.1303.8.1 DEPLOYMENT AND USE

Only department-approved projectiles shall be carried and deployed. Approved projectiles may be used to compel an individual to cease his/her actions when such projectiles present a reasonable option.

Approved projectiles include:

- (a) "Less Lethal" rounds: impact projectiles
- (b) "Pava" rounds: impact projectiles containing OC/pepper spray
- (c) "Marking" rounds: impact projectiles containing paint

Control Devices and Techniques

Officers are not required or compelled to use approved projectiles in lieu of other reasonable tactics if the involved officer determines that deployment of these projectiles cannot be done safely. The safety of hostages, innocent persons and officers takes priority over the safety of subjects engaged in criminal or suicidal behavior.

Circumstances appropriate for deployment include, but are not limited to, situations in which:

- (a) The suspect is armed with a weapon and the tactical circumstances allow for the safe application of approved projectiles.
- (b) The suspect has made credible threats to harm him/herself or others.
- (c) The suspect is engaged in riotous behavior or is throwing rocks, bottles or other dangerous projectiles at people and/or officers.
- (d) There is probable cause to believe that the suspect has already committed a crime of violence and is refusing to comply with lawful orders.

303.9.2303.8.2 DEPLOYMENT CONSIDERATIONS

Before discharging projectiles, the officer should consider such factors as:

- (a) Distance and angle to target.
- (b) Type of projectiles employed.
- (c) Type and thickness of subject's clothing.
- (d) The subject's proximity to others.
- (e) The location of the subject.
- (f) Whether the subject's actions dictate the need for an immediate response and the use of control devices appears appropriate.

A verbal warning of the intended use of the device should precede its application, unless it would otherwise endanger the safety of officers or when it is not practicable due to the circumstances. The purpose of the warning is to give the individual a reasonable opportunity to voluntarily comply and to warn other officers and individuals that the device is being deployed.

Officers should keep in mind the manufacturer's recommendations and their training regarding effective distances and target areas. However, officers are not restricted solely to use according to manufacturer recommendations. Each situation must be evaluated on the totality of circumstances at the time of deployment.

The need to immediately incapacitate the subject must be weighed against the risk of causing serious injury or death. The head and neck should not be intentionally targeted, except when the officer reasonably believes the suspect poses an imminent threat of serious bodily injury or death to the officer or others.

Control Devices and Techniques

303.9.3303.8.3 SAFETY PROCEDURES

Officers will inspect the launcher and projectiles at the beginning of each shift to ensure that the launcher is in proper working order and the projectiles are of the approved type and appear to be free from defects.

When it is not deployed, the launcher will be unloaded and properly and securely stored.

303.10303.9 CROWD CONTROL REQUIREMENTS

Pursuant to California Penal Code 13652, kinetic energy projectiles and chemical agents shall only be deployed by a peace officer that has received training on their proper use by the Commission on Peace Officer Standards and Training for crowd control if the use is objectively reasonable to defend against a threat to life or serious bodily injury to any individual, including any peace officer, or to bring an objectively dangerous and unlawful situation safely and effectively under control, and only in accordance with all of the following requirements:

- (a) Deescalation techniques or other alternatives to force have been attempted, when objectively reasonable, and have failed.
- (b) Repeated, audible announcements are made announcing the intent to use kinetic energy projectiles and chemical agents and the type to be used, when objectively reasonable to do so. The announcements shall be made from various locations, if necessary, and delivered in multiple languages, if appropriate.
- (c) Persons are given an objectively reasonable opportunity to disperse and leave the scene.
- (d) An objectively reasonable effort has been made to identify persons engaged in violent acts and those who are not, and kinetic energy projectiles or chemical agents are targeted toward those individuals engaged in violent acts. Projectiles shall not be aimed indiscriminately into a crowd or group of persons.
- (e) Kinetic energy projectiles and chemical agents are used only with the frequency, intensity, and in a manner that is proportional to the threat and objectively reasonable.
- (f) Officers shall minimize the possible incidental impact of their use of kinetic energy projectiles and chemical agents on bystanders, medical personnel, journalists, or other unintended targets.
- (g) An objectively reasonable effort has been made to extract individuals in distress.
- (h) Medical assistance is promptly provided, if properly trained personnel are present, or procured, for injured persons, when it is reasonable and safe to do so.
- (i) Kinetic energy projectiles shall not be aimed at the head, neck, or any other vital organs.
- (j) Kinetic energy projectiles or chemical agents shall not be used by any law enforcement agency solely due to any of the following:
 - (1) A violation of an imposed curfew.
 - (2) A verbal threat.

Control Devices and Techniques

(3) Noncompliance with a law enforcement directive.

As per City Council resolution (June 9, 2020), pepper spray for crowd control by employees of the Berkeley Police Department, or any outside department or agency called to respond to mutual aid in Berkeley, is prohibited during the COVID-19 pandemic, or until such time as the City Council removes the prohibition.

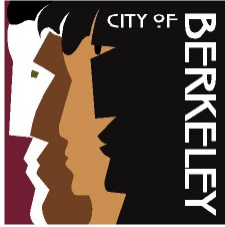
303.14303.10 TRAINING FOR CONTROL DEVICES

The Personnel and Training Sergeant shall ensure that all personnel who are authorized to carry a control device have been properly trained and certified to carry the specific control device and are retrained or recertified as necessary.

- (a) Proficiency training shall be monitored and documented by a certified, control-device weapons or tactics instructor.
- (b) All training and proficiency for control devices will be documented in the officer's training file
- (c) Officers who fail to demonstrate proficiency with the control device or knowledge of this agency's Use of Force Policy will be provided remedial training. If an officer cannot demonstrate proficiency with a control device or knowledge of this agency's Use of Force Policy after remedial training, the officer will be restricted from carrying the control device and may be subject to discipline.

303.12303.11 REPORTING USE OF CONTROL DEVICES AND TECHNIQUES

Any application of a control device or technique listed in this policy shall be documented in the related incident report and reported pursuant to [California Penal Code 13652.1](#) and the [Berkeley Use of Force Policy](#).



Office of the Director
of Police Accountability

SUPPLEMENTAL AGENDA MATERIAL for Supplemental Packet 2

Meeting Date: June 14, 2022

Item Number: 32

Item Description: Police Equipment & Community Safety Ordinance Impact Statements, Associated Equipment Policies and Annual Equipment Use Report

Submitted by: Michael Chang, Chairperson, Police Accountability Board
Katherine J. Lee, Interim Director of Police Accountability

The attached report contains the recommendation of the Police Accountability Board regarding the Police Department's proposed Impact Statements and Use Policies submitted under the Police Equipment & Community Safety Ordinance. The proposed Policy 709, submitted in accordance with AB 481, and the Annual Use Report required under the Ordinance, are also addressed.



Office of the Director
of Police Accountability

ACTION CALENDAR
June 14, 2022

To: Honorable Mayor and Members of the City Council

From: Police Accountability Board and
Office of the Director of Police Accountability

Submitted by: Michael Chang, Chairperson, Police Accountability Board
Katherine J. Lee, Interim Director of Police Accountability

Subject: Police Equipment & Community Safety Ordinance Impact Statements,
Associated Equipment Policies and Annual Equipment Use Report

RECOMMENDATIONS

1. In deciding whether to approve the Police Department's proposed Police Equipment & Community Safety Ordinance ("Ordinance") Impact Statements and Associated Equipment Policies, consider the shortcomings that the Police Accountability Board ("Board") has identified.
2. Postpone consideration of the Annual Equipment Use Report submitted under the Ordinance, as the statutory 60-day review period for the Board to review this report has not expired and the Board needs additional time to conduct its evaluation.
3. Regarding proposed Policy 709, Military Equipment, submitted to comply with Assembly Bill 481, postpone consideration of Policy 709 and refer this item to the Board for a review and recommendation to the Council.

FISCAL IMPACTS OF RECOMMENDATION

Unknown.

CURRENT SITUATION AND ITS EFFECTS

The Police Equipment & Community Safety Ordinance, codified in Berkeley Municipal Code Chapter 2.100, sets forth an approval process that the Police Department must follow before acquiring or using "controlled equipment," as defined in the Ordinance. The same approval process is required for previously acquired equipment. As part of this process, the Police Accountability Board is tasked with reviewing and making recommendations to the Council regarding Impact Statements and Equipment Policies (also referred to as Use Policies) prepared by the Police Department. The Ordinance also requires the Board to review and make a recommendation to the Council regarding the Police Department's Annual Equipment Use Report.

Separately, the Police Department must comply with AB 481, with similar, but not identical, reporting requirements, and a longer timeline for compliance than that under the Ordinance. The Police Accountability Board has no formal role in reviewing the Military Equipment Policy (Policy 709) prepared under AB 481, but has discretionary authority to do so.¹ Because the reporting requirements of AB 481 and the Ordinance are so similar, much of the Board's work in reviewing the reports produced under the Ordinance can be applied to reviewing Policy 709.

BACKGROUND

Impact Statements and Use Policies

Under the Ordinance, the Board must recommend that the City Council adopt, modify, or reject the proposed Controlled Equipment Use Policy, and present its recommendations to the City Council. (B.M.C. section 2.100.040.(E).²)

The Police Department submitted the Impact Statements and Use Policies to the Board on February 24, 2022. The Board convened a special meeting on March 30, 2022 for the sole purpose of evaluating these documents. It noted several deficiencies, and communicated these to the Chief of Police in a memorandum dated April 6, 2022.³ Although these comments were characterized as the Board's recommendations in the Department's May 10, 2022 report to the Council, the Board did not view them as such; as the City Attorney noted, the Board's April 6, 2022 memo did not contain explicit recommendations, nor were they presented to Council.

After Council's postponement of this item to June 14, the Board on May 11 established a Controlled Equipment Use & Reporting Subcommittee, composed of Vice-Chair Mizell and Board member Moore. The Subcommittee met three times, with Police Department representatives present at two of the meetings. Before its last meeting, the Police Department submitted revised Impact Statements, incorporating changes responding to some of the Board's April 6, 2022 comments.⁴ Shortly thereafter, the Police Department modified some of the Use Policies. The Subcommittee's recommendations to the Board were transmitted in a memo from the Interim Director to the Board dated June 5, 2022 (Attachment 1).

At its June 8, 2022 meeting, the Board reviewed the Subcommittee's recommendations and had an extensive and vigorous discussion about what it should recommend to the Council. Ultimately, the Board was unable to agree on a recommendation to adopt,

¹ Charter of the City of Berkeley, Article XVIII, Section 125(3)(a)(1).

² This section refers only to Use Policies, and not Impact Statements, which, in the context of the entire Ordinance, appears to be a drafting error.

³ See p. 81 of the original May 10, 2022 agenda item.

⁴ The revised Impact Statements and linked Use Policies are attached to the Police Department's submittal in the Supplemental 1 packet.

modify, or reject the Impact Statements and Use Policies, but found near unanimity on expressing the problems it found:

Motion: Communicate to the Council that the Board agreed on a list of problems that exist regarding the Impact Statements and Use Policies. Two votes were taken, one to reject, and one to approve, the Impact Statements and Use Policies, but each motion failed on a 4-4-1-1 vote. The Board unanimously agreed, however, that it had significant concerns with the serious flaws it identified in the Impact Statements and Use Policies, in that the following omissions and inconsistencies need to be corrected:

1. The “Impact” sections for each type of equipment in the Impact Statements need to describe potential adverse impacts in accord with the Ordinance.⁵

2. The “Uses” sections of the Impact Statements for chemical agents and kinetic impact projectiles need to reflect and be made consistent with Berkeley policy and state law.⁶

3. The policies attached in the Appendix, such as Policy 303 on Control Devices and Techniques, must be updated to be conform to state law.

The Board struggled with the challenges posed by the complexity of the task and time pressures. There was a great deal of ambivalence because many Board members did not want to reject the Equipment Statements and Use Policies in light of the impending deadlines, while other Board members did not want to approve the documents because of the serious deficiencies.

M/S/C (Calavita/Owens): Ayes – Calavita, Chang, Harris, Leftwich, Levine, Moore, Owens, Batista (alternate); Noes – None; Abstain – Mizell; Absent – Ramsey.

Essentially, the Board was divided on the message it wished to send. One group felt that the Board should approve the Impact Statements and Use Policies because it was highly unlikely that the Council would reject them and thus deprive the Police Department of many of its tools, including less-lethal options. The other group believed that the Board should stand by its assessment of the documents by rejecting them as failing to meet the requirements of the Ordinance. The Board was able to agree on communicating the shortcomings of the Impact Statements and Use Policies, however.

A note about Assembly Bill 48: This state law bans the use of less-lethal weapons and chemical agents for crowd control purposes, except by officers with specific training,

⁵ B.M.C. section 2.100.040(C)(4).

⁶ These sections are a subsection of the “Description” section. “Description: A description of each type of Controlled Equipment, the quantity sought, its capabilities, expected lifespan, **intended uses and effects**, and how it works, including product descriptions from the manufacturer of the Controlled Equipment.” (B.M.C. section 2.100.040(C)(1).) (Emphasis added.)

under certain conditions, and if specific requirements are met. The Board believes that the Impact Statements and Use Policies those documents should reflect the restrictions on use imposed by AB 48; this is the “state law” referred to in its motion.

Annual Equipment Use Report

“Within 60 days of the Police Department submitting an annual report, the Police Accountability Board shall place the report as an agenda item for an open session of a regular meeting. The Police Accountability Board shall determine, based on the report, whether each piece of Controlled Equipment reported on has complied with the standards for approval set forth in Section 2.100.040.” B.M.C. Sec. 2.100.050(B)(1).

The Police Department submitted the Annual Report to the Board on April 26, 2022. Thus, the Board has until June 25, 2022 to complete its assessment under Ordinance. The Controlled Equipment Subcommittee recommended to the full Board that, if it did not act on the Annual Report at the Board’s June 8 meeting, it request that Council postpone acting on June 14, to allow the Board to consider the report at its June 22 meeting. (See Attachment 1, p. 4.) Due to the Board’s lengthy and spirited discussion about the Impact Statements and Use Policies, however, it overlooked acting on this recommendation. Thus, the Interim Director recommends that the Council postpone consideration of the Annual Report so that the Board may review it for purposes of making a recommendation to the Council. This is consistent with advice provided by the City Attorney.

Policy 709, Military Equipment

The Police Accountability Board believes that its review Policy 709 on Military Equipment is appropriate, even though it is not required. The Board did not have time to undertake an evaluation of this policy, however. The Board’s Controlled Equipment Subcommittee recommended that the Board ask the Council postpone its consideration of this policy on June 14 (See Attachment 1, p. 4). However, this item, too, was overlooked by the Board in the wake of its intense discussion regarding the Impact Statements and Use Policies. Therefore, it is the recommendation of the Interim Director that the Council postpone consideration of Policy 709 and refer it to the Police Accountability Board for review and return with a recommendation. The Council must approve Policy 709 within 180 days from submittal which, according to the Police Department, was April 28, 2022.

ENVIRONMENTAL SUSTAINABILITY AND CLIMATE IMPACTS

No environmental or climate impacts.

RATIONALE FOR RECOMMENDATIONS

The rationale for each the recommendations from the Police Accountability Board and the Interim Director is explained above.

ALTERNATIVE ACTIONS CONSIDERED

The Board considered competing proposals regarding the Impact Statements and Use Policies, but could not agree on either.

CONTACT PERSON

Katherine J. Lee, Interim Director, Office of the Director of Police Accountability
(510) 981-4950

Attachments:

- 1: June 5, 2022 Memorandum from Interim Director Lee to Police Accountability Board re: Controlled Equipment – Agenda item #10.b. on [PAB's] June 8, 2022 agenda.
- 2: Chart: Guide to Controlled Equipment Item
- 3: Excerpt of minutes (unapproved) from June 8, 2022 Police Accountability Board meeting.



OFFICE OF THE DIRECTOR
OF POLICE ACCOUNTABILITY

June 5, 2022

To: Police Accountability Board
From: Katherine J. Lee, Interim Director of Police Accountability
Re: Controlled Equipment – Agenda Item #10.b. on June 8, 2022 agenda

This memo provides background and guidance on the Controlled Equipment item, and elaborates on the Subcommittee's recommendations. The table entitled "Guide to Controlled Equipment Item" on p. 13 of your agenda packet should help you sort out the voluminous amount of material comprising the Police Equipment and Community Safety Ordinance Impact Statements and related Use Policies, the Annual Use Report, and the Military Equipment Policy (Policy 709).

Background

Police Equipment and Community Safety Ordinance Impact Statements and related Use Policies were first considered by you at the March 30, 2022 special meeting. At that time, the Police Department (BPD) stated that those materials were also intended to fulfill the requirements of AB 481. Your assessment of the Impact Statements and Use Policies was communicated to Chief Louis in an April 6, 2022 memo. On April 25, the BPD sent me the Annual Use Report and, on May 4, Capt. Rolleri sent a memo responding your April 6 memo. Among his responses, he noted that it was an "editing error" to state that the Impact Statements were to meet the mandates of AB 481.

The BPD submitted the Impact Statements and Use Policies, Annual Use Report, and Military Equipment Policy to the Council for its May 10, 2022 meeting¹ and the Council postponed consideration until its June 14 meeting. Since then, the Department has revised the Impact Statements, Policy 303 (Control Devices and Techniques), Policy 428 (First Amendment Assemblies) and the Military Equipment Policy. Some of the changes respond to issues the Board raised in its April 6 memo.

You formed the Controlled Equipment Reporting Subcommittee on May 11, 2022, and Chair Chang appointed Vice-Chair Mizell and Board member Moore to the Subcommittee. The Subcommittee met on May 17, 23, and 31, with BPD personnel present for most or all of every meeting. In addition to the specific recommendations noted below, Subcommittee members wish to convey to the Board that they do not believe they had enough time, capacity, or expertise to thoroughly review the materials to meet the level of scrutiny that the Ordinance suggests is required.

¹ The complete Council item was included in your March 30, 2022 agenda packet.

I. Impact Statements and Use Policies

The critical task on June 8 is for you to make recommendations to the City Council on the Impact Statements and Use Policies. There is some debate as to the actual deadline for Council to take action on these, but arguably they must do so by their June 28 meeting. Because, however, final decisions on the FY 23 & 24 budget must be made on that date, they asked that the item be returned on June 14.

PAB responsibility

You are undertaking the “Review Process for Previously Acquired Equipment” in the Ordinance (Berkeley Municipal Code sec. 2.100.040 (G)). This entails the same consideration of Controlled Equipment Impact Reports and Use Policies as will be required when the BPD seeks to purchase or acquire by other means Controlled Equipment, or to use such equipment in a way not originally authorized. (BMC sec. 2.100.040(A).)

“**Controlled Equipment Impact Statement**” means a publicly released, written document that includes, at a minimum, all of the following:

- (1) Description: A description of each type of Controlled Equipment, the quantity sought, its capabilities, expected lifespan, intended uses and effects, and how it works, including product descriptions from the manufacturer of the Controlled Equipment.
 - (2) Purpose: The specific purpose or purposes that each type of Controlled Equipment is intended to achieve.
 - (3) Fiscal Cost: The fiscal cost of each type of Controlled Equipment, including the initial costs of obtaining the equipment, the costs of each proposed use, the costs of potential adverse impacts, and the annual, ongoing costs of the equipment, including operating, training, transportation, storage, maintenance, and upgrade costs.
 - (4) **Impact: An assessment specifically identifying any potential impacts that the use of Controlled Equipment might have on the welfare, safety, civil rights, and civil liberties of the public.** [emphasis added]
 - (5) Mitigations: Specific, affirmative technical and procedural measures that will be implemented to safeguard the public from such impacts.
 - (6) Alternatives: Alternative method or methods by which the Police Department can accomplish the purposes for which the Controlled Equipment is proposed to be used, and rationale for selection over alternative methods.
 - (7) Third Party Dependence: Whether use or maintenance of the Controlled Equipment will require the engagement of third party service providers.
- (BMC sec. 2.100.020(C).)

And:

Controlled Equipment requires a publicly available **use policy** that identifies the purpose, any prohibited uses, training requirements, and any process required prior to use.

(BMC sec. 2.100.030)

You are to apply the “Criteria for Police Accountability Board Recommendations” in BMC sec. 2.100.040(C):

- (1) The Police Accountability Board shall recommend approval of a request to fund, acquire, or use Controlled Equipment pursuant to this chapter only if it determines all of the following:

- (a) The Controlled Equipment is needed and there is no practicably available alternative equipment which is not Controlled Equipment that is sufficient for the purposes.
 - (b) The proposed Controlled Equipment Use Policy will safeguard the public's welfare, safety, civil rights, and civil liberties.
 - (c) The Controlled Equipment will not be used based on race, national origin, religion, sexual orientation, gender, gender identity, political viewpoint, or disability, or disproportionately impact any community or group.
- (2) If the submitted Controlled Equipment Impact Report identifies a risk of potential adverse effects on the public's welfare, safety, civil rights, or civil liberties, the Police Accountability Board's recommendation for approval for the funding, acquisition, or use of the Controlled Equipment shall not be deemed an acquiescence to those effects, but instead an acknowledgment of the risk of those effects and the need for the Police Department to take proactive steps to minimize those effects.

Subcommittee Recommendations

1. The Controlled Equipment Subcommittee recommends that you reject the Impact Statements based on the descriptions in category (4), "Impact" [in bold above], because the language for many pieces of equipment fails to adequately describe the full impacts of the equipment's use. BMC Section 2.100.020 (C)(4) requires identification of potential impacts that the use of Controlled Equipment might have on the welfare, safety, civil rights, and civil liberties of the public. While the Subcommittee does not take issue with much of the existing language, it believes more information is needed regarding potential negative effects.

For example, for the Impact of the M4 rifle (p. 7 of Impact Statements, p. 23 of packet), the BPD discusses how the rifle can stop a lethal threat from a greater distance and with more accuracy compared to a pistol, and is intended to increase the safety and welfare of citizens and officers; also, BPD states that abuses of authority or power would result from a violation of policies or law. Missing, however, is any consideration of how mere deployment of the rifle can have a potentially traumatic effect on bystanders.

2. The Subcommittee also recommends that the Impact Statements pertaining to chemical agents and kinetic impact projectiles fully delineate the City's policies on such weapons as well as the restrictions imposed by AB 48. This implicates the Impact Statements for the Penn Arms, Milkor, and FN 303 launchers; and Oleoresin Capsicum Spray (pepper spray), Chlorobenzylidene Malononitrile (CS gas, or tear gas) and OC in canister form.

AB 48 prohibits the use of chemical agents and impact projectiles for crowd control except in under certain conditions and only by peace officers with the requisite training. (Penal Code sec. 13652.) City of Berkeley policy bans the use of tear gas in all circumstances, and bans pepper spray or smoke for crowd control.

An issue that has not been resolved is to what extent the Impact Statements must incorporate the Use Policies, and whether the Use Policies sufficiently include the local and state limitations and prohibitions. BPD points out that applicable Use Policies are incorporated into the Impact Statements by reference in the Appendix. The Subcommittee noted that one of the required elements of the Impact Statements is "A description of each type of Controlled Equipment, the quantity sought, its capabilities, expected life span, **intended uses and effects**, and how it works . . ." (BMC sec. 2.100.020(C)(1) [Emphasis added].) An added complication is that there are policies for specific equipment (such as Policy 303, covering chemical weapons and less-lethal), while other policies such as Policy 300, Use of Force, provide general guidance on use of the equipment and Policy 428, First Amendment Assemblies, contains further guidelines for use in crowd control situations.

II. Annual Use Report

Under BMC section 2.100.050, BPD must submit to the Board an annual report covering the immediately preceding calendar year. The elements are found in BMC section 2.100.050(A)(1). The Board must determine whether each piece of equipment meets the standards for approval in BMC section 2.100.040; essentially, the same standards as for initial approval of equipment. (BMC sec. 2.100.050(B)(1).)

The Subcommittee has no recommendation regarding the Annual Use Report, as it did not have time to review the report. The Subcommittee thought that the full Board might be able to conduct the review, as it is shorter and less complex than the Impact Statements.

The Council is being asked to approve the Annual Use Report on June 14. However, as the requisite 60 days for PAB's review will not expire until June 25, if you do not have time to review and approve this report on June 8, you should request that the Council postpone its consideration until after you have completed your assessment at the June 22 meeting. The City Attorney recommended that the Board be given its opportunity to review before Council considers the Annual Use Report.²

III. Military Equipment Policy (Policy 709)

BPD prepared the Military Equipment Policy to meet the mandates of AB 481. The reporting requirements are similar, but not identical to, the Controlled Equipment Ordinance requirements, and the equipment subject to AB 481 is likewise very similar, but not identical, to that covered by the Ordinance.

There is no requirement that the Board review Policy 709. It seems logical for the Board to do so, however, as Policy 709 contains many of the same elements of the Impact Statements and Use Policies. That said, the Subcommittee did not have time to perform this review, and recommends that the Board refer Policy 709 to a subcommittee (possibly the Lexipol Subcommittee) with a request that it focus first on the rifle policies. Mr. John Lindsay-Poland suggested additions to Policy 349 (Tactical Rifle Operator Program) and Policy 354 (Precision Rifle) that would describe prohibited uses.

If the Board proceeds with a review of Policy 709, it should ask the Council to postpone its consideration on June 14. The Council has 180 days from submission of the proposed policy to approve it. (Gov't Code sec. 7071(a)(2).)

Additional Recommendation

As a final recommendation, the Subcommittee voted to recommend that members of the Police Accountability Board, Berkeley Police Department, and City Attorney's Office meet to discuss the discrepancies in interpreting the requirements of the Ordinance, with the goal of streamlining the process going forward for future reviews.

² May 13, 2022 email from City Attorney Farimah Brown to Vice-Mayor Kate Harrison and others (found in May 31, 2022 agenda packet, p. 39).

Guide to Controlled Equipment Item

DOCUMENT FOR REVIEW	APPLICABLE LAW	PAB ROLE	TIMING	RECOMMENDED ACTION
Impact Statements and Use Policies	Police Equipment and Community Safety Ordinance (BMC Ch. 2.100) (“Ordinance”).	Recommend that Council adopt, modify, or reject the proposed Impact Statements and Use Policies. May approve only if certain criteria met.	Subject to debate. Ordinance says within 90 days of BPD’s submission to PAB (sent Feb. 24), but BPD sent to Council before PAB sent recommendation.	<ul style="list-style-type: none"> - Act on June 8 for submittal to Council for its June 14 meeting. - Reject Impact Statements, as language for many pieces of equipment fails to describe full impacts of the equipment's use. (More details in memo TBD.) - See * below.
Annual Use Report	Ordinance.	Determine if each piece of equipment complies with the standards for initial approval.	PAB must agendize by June 25 (60 days from April 26 submission to PAB).	<ul style="list-style-type: none"> - Act at June 8 or June 22 meeting, and then submit to Council. - (If no action on June 8, ask Council to not act on June 14 and wait for PAB to submit its recommendation.) - Subcommittee proposed full PAB review.
Military Equipment Policy 709	AB 481 - adds Gov’t Code sections 7070 to 7075, requiring approval of “military equipment” by adopting a military equipment use policy.	No formal role, but given the similarity of the Ordinance and AB 481, makes sense for PAB to review.	No deadline for PAB. BPD to commence governing body approval process by May 1, 2022, and Council must approve in 180 days.	- Refer Policy 709 to a subcommittee, possibly Lexipol, with request to review the rifle policies first.
(Not for review, but restrictions should be reflected in policies above)	AB 48 - adds Penal Code section 13652, banning use of less-lethal weapons and chemical agents for crowd control except by officers with certain training and in specific circumstances.	No formal role. PAB should, however, ensure that BPD policies conform to state law.	Tied to above.	- * Ensure that Impact Statements pertaining to less-lethals and chemical agents fully delineate the City’s policies and AB 48.

Excerpt from draft minutes of Police Accountability Board meeting of June 8, 2022

10. NEW BUSINESS (DISCUSSION AND ACTION)

- b. Proposed Equipment Impact Statements, Use Policies, Military Equipment Policy, and Annual Use Report: Review and affirm or revise Subcommittee's proposals on how to proceed, and on substantive recommendations to City Council.

Main motion: The Board recommends provisional approval of the Impact Statements and Use Policies, only on the condition that within 90 days the Police Department makes the following critical modifications:

- 1. The "Impact" sections for each type of equipment in the Impact Statements need to describe potential adverse impacts in accord with the Ordinance.**
- 2. The "Uses" sections of the Impact Statements for chemical agents and kinetic impact projectiles need to reflect and be made consistent with Berkeley policy and state law;**
- 3. The policies attached in the Appendix, such as Policy 303 on Control Devices and Techniques, must be updated to conform to State law.**

The Board preferred to reject the Impact Statements and Use Policies, given the clear omissions and inconsistencies with law and policy. However, in light of the impending deadline, the Board offers this conditional approval.

Moved/Second (Calavita/Leftwich) Motion Failed

Ayes: Calavita, Chang, Leftwich, Owens

Noes: Harris, Mizell, Moore, Batista

Abstain: Levine Absent: Ramsey

Substitute motion: Recommend that the Council:

1) reject the Impact Statements based on the descriptions in category (4), "Impact", because the language for many pieces of equipment fails to adequately describe the full impacts of the equipment's use. BMC Section 2.100.020 (C)(4) requires identification of potential impacts that the use of Controlled Equipment might have on the welfare, safety, civil rights, and civil liberties of the public. While the Board does not take issue with much of the existing language, it believes more information is needed regarding potential negative effects;

2) reject the Impact Statements pertaining to chemical agents and kinetic impact projectiles because they fail to fully delineate the City's policies on such weapons as well as the restrictions imposed by AB 48. This implicates the Impact Statements for the Penn Arms, Milkor, and FN 303 launchers; and Oleoresin Capsicum Spray (pepper spray), Chlorobenzylidene Malononitrile (CS gas, or tear gas) and OC in canister form; and

3) recommend that members of the Police Accountability Board, Berkeley Police Department, and City Attorney's Office meet to discuss the discrepancies in interpreting the requirements of the Ordinance, with the goal of streamlining the process going forward for future reviews.

Moved/Second (Mizell/Moore) Motion Failed

Ayes: Harris, Mizell, Moore, Batista

Noes: Calavita, Chang, Owens, Leftwich

Abstain: Levine Absent: Ramsey



Office of the City Manager

**SUPPLEMENTAL AGENDA MATERIAL
for Supplemental Packet 1**

Meeting Date: June 14th, 2022

Item Number: 32

Item Description: Police Equipment & Community Safety Ordinance Impact Statements, Associated Equipment Policies and Annual Equipment Use Report

Submitted by: Jennifer Louis, Interim Chief of Police
Rico Roller, Captain Professional Standards Division

This supplemental communication provides an update on the revised Impact Statements that fulfill the requirements set forth within the Police Equipment and Community Safety Ordinance. The City ordinance Impact Statements were revised to clarify portions of the document and correct editing errors after the Police Accountability Board provided feedback to the Berkeley Police Department on April 6, 2022. The following were some of the concerns the Police Accountability Board provided and the subsequent related changes:

- The introduction to the Impact Statements noted that the document also fulfills the obligations set forth in Assembly Bill 481. The Police Accountability Board asked if the Lexipol Policies were intended to serve as use policies for Assembly Bill 481.
 - o The mention of Assembly Bill 481 in the City ordinance Impact Statements was an editing error and has been removed. Assembly Bill 481 is a separate state law with different requirements that are addressed in Lexipol Policy 709. A brief summary of the requirements from Assembly Bill 481 is outlined at the end of this supplemental agenda.
- The Police Accountability Board expressed concerns regarding language from Assembly Bill 48 not being incorporated into the Impact Statements and policies. Assembly Bill 48 addresses less lethal equipment use during crowd control situations and is not directly related to Assembly Bill 481, nor is there a reporting element of AB 48 in association with AB 481.

Annual Reporting and Impact Statements:
Police Equipment and Community
Safety Ordinance

- Berkeley Police Department Policy 428 “First Amendment Assemblies” was in existence prior to the passing of the City Ordinance and Assembly Bill 48. However, Policy 428 was modified in early 2022 to ensure that intent and language of the policy aligned with language in Assembly Bill 48. Policy 428 was originally included as an associated policy to the 36” batons in the City ordinance Appendix. More recently, Policy 428 was added to the ordinance Appendix associated with the three defined less lethal launchers.
- The Police Accountability Board pointed out that the Impact Statements sections containing less lethal launchers were inconsistent and two of the less lethal launcher sections contained identical language.
 - There are three types of less lethal launchers that may be used in various situations to address a potentially violent confrontation or certain armed persons from a distance. Two of the three less lethal launchers utilize the same projectile and operate virtually the same. All three sections within the Impact Statements detailing less lethal launchers were modified with more details on the differences between them and more clarity on the alternatives.

This revised document was provided to the Police Accountability Board Director on May 23, 2022.

ASSEMBLY BILL 481 REQUIREMENTS:

Although the requirements set forth in the Police Equipment and Community Safety Ordinance and Assembly Bill 481 share some similarities, there are different definitions, mandates and reporting requirements of the two pieces of legislation. The Impact Statements, policies and use reports delivered to the PAB were submitted to address the City Ordinance. Berkeley Police Department Policy 709 was created, with support from the City Attorney’s Office, to meet the formatting, definitions and reporting requirements of existing equipment owned and operated by the Berkeley Police Department prior to January 1, 2022, as defined in Assembly Bill 481.

Assembly Bill 481 requires the Berkeley Police Department to, among other mandates, commence a “governing body approval process by May 1, 2022.” “Governing body” is defined as “the elected body that oversees a law enforcement agency”, the City Council. Another requirement is for the Berkeley Police Department to author a “military use policy.” The Berkeley Police Department authored and submitted Lexipol Policy 709 (military use policy) for approval by the City Council on April 28th, 2022 to be placed on the May 10, 2020 Council agenda. Per AB 481, the governing body must approve the military use policy (Policy 709) within 180 days of the submission of the policy (Policy

Annual Reporting and Impact Statements:
Police Equipment and Community
Safety Ordinance

709) or the Berkeley Police Department must cease its use of the military equipment until it receives the approval by the governing body.

POLICE EQUIPMENT AND COMMUNITY SAFETY ORDINANCE:

2.100.040

(H) City Council Approval Process

(1) After the Police Accountability Board review requirements have been met, the Police Department shall schedule for City Council consideration the proposed Controlled Equipment Impact Report and proposed Controlled Equipment Use Policy, and include Police Accountability Board recommendations, at least fifteen (15) days prior to a public Meeting.

(2) If the City Council does not approve such item within four (4) regular City Council meetings from when the item is first scheduled, the Police Department shall cease its use of the Controlled Equipment until such review and approval occurs.

The revised City ordinance Impact Statements and military use policy (Policy 709) have been submitted with this supplemental packet.



**Police Equipment and
Community Safety Ordinance
Impact Statements**

ACKNOWLEDGEMENTS

Thank you to the subject matter experts for helping author this report.

Officer Corey Bold –
Patrol Officer and chemical agent instructor

Officer Semir Muratovic –
Patrol Officer and Bomb Squad Technician

Officer Derek Radey –
Patrol Officer and less lethal coordinator/instructor

Lieutenant Kevin Reece –
Special Response Team Commander

Officer Scott Salas –
Patrol officer and Special Response Team high ground team leader

Lieutenant Jennifer Tate –
Traffic Lieutenant and defensive tactics instructor

Officer Jason Tillberg –
Department trainer and Department Armorer

Officer Sean Tinney –
Department trainer and Special Response Team member

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INTRODUCTION

On May 11, 2021 the Berkeley City Council passed Ordinance NO. 7,760-N.S., the Police Equipment and Community Safety Ordinance. Section 2.100.020 of the ordinance mandates an impact statement for certain equipment that the Berkeley Police Department possesses. An impact statement is defined in section 2.100.020 (C) and is a publicly released written document that includes the following details for each equipment:

- 1) Description
- 2) Purpose
- 3) Fiscal cost
- 4) Impact
- 5) Mitigation
- 6) Alternatives
- 7) Third Party Dependence

An impact statement for each of the following equipment has been authored by subject matter experts in their respective fields:

- M4 rifle/Patrol Rifle
- Penn Arms 40MM launcher
- Milkor LTL multi-launcher
- FN 303 Launcher & FN Pava rounds
- Oleoresin capsicum (OC spray)
- Chlorobenzylidene Malononitrile and Oleoresin capsicum (tear gas)
- Remington 700 Rifle
- ReconRobotics Recon Scout XT Robots
- Andros Remotec HD-1 Hazardous Duty Robot
- Light/sound distraction device
- Long Range Acoustic Device (LRAD)
- 36" batons
- Mobile Command Vehicle
- Barret Model 99

Impact statements were compiled in this report in a prioritized ranking for the Police Accountability Board to consider in determining the order in which to perform its review per the Police Equipment and Community Safety Ordinance.

M4 Rifle and Associated Ammunition

(1) Description:

A. Background:

The “M4” was developed and produced for the United States government by Colt Firearms and was based off of the original Armalite Rifle (AR) patent purchased by Colt in 1959. Although Colt owned the trademarked name of “M4”, a number of other manufacturers offer M4-like firearms under various model names. The M4 and its variants fire 5.56×45mm NATO (and .223 Remington) ammunition, and are a gas-operated, magazine-fed firearm with a barrel length ranging from 11.5” to 16”.

The current Berkeley Police Department (BPD) rifle ammunition used is the .223 Remington, a rimless, bottlenecked rifle cartridge. The round was developed in 1957 by Remington Arms and Fairchild Industries. The .223 Remington is considered one of the most popular cartridges and is currently used by a wide range of semi-automatic and manual-action rifles as well as handguns. While the military uses the similar 5.56x45 NATO cartridge, BPD uses the more common and often regarded civilian cartridge of .223 Remington for all training and duty uses.

Currently, BPD uses two different kinds of .223 Remington ammunition: 55 grain FMJ (full metal jacket) for training purposes and 62 grain soft point for duty purposes. This is done for several reasons.

1. FMJ ammunition is cheaper to purchase. While many agencies use the same ammunition for training and duty use, the department saves a significant amount of money by using FMJ ammunition for training.
2. The observed performance between the two rounds is negligible for training purposes. Officers can use the FMJ ammunition in a training course and see no difference in operation and performance versus using 62 grain soft point duty ammunition.
3. The 62-grain soft point ammunition has been shown to have less over penetration and over travel compared to FMJ ammunition.

This means that rounds fired are less likely to hit unintended targets.

B. Quantity:

The Berkeley Department currently owns and maintains 96 rifles.

Quantity of rifle ammunition fluctuates significantly depending on training attended, including the standard basic police academy, officer assignments, and yearly mandate training cycles. For example, most police academy recruits are required to bring approximately 1,000 rounds to the basic POST approved academy. Most academies have a 16-24-hour rifle training course. The training is required for all officers who are issued a rifle and mandates between 800 and 1,200 rounds. As such, the inventory at the Berkeley Police Department fluctuates significantly depending on how many officers are attending state mandated training and can range from 10,000 round (our current inventory) to less than 1,000 rounds (our anticipated inventory at the end of December after scheduled department training in November.)

C. Capability:

The M4 pattern rifle is used only in situations when a potential life-threatening situation exists. While a pistol is the common firearm used by police in these dangerous situations, the M4 patterned rifle has numerous advantages over it. The ability to shoulder the rifle, coupled with the rifle's lengthened barrel and ammunition, result in higher accuracy and lessens the chance of officers missing the intended target. Additionally, due to the design of the rifle's bullet, the round is less likely to over penetrate commercial and residential walls should the officer miss the intended target. The rifle is also easier to use compared to a pistol because of the bullet's low recoil. Finally, as the rifle can be adjusted and customized, it can be configured to accommodate officers of any stature (hand size, strength, etc.).

The .223 Remington cartridge, depending on the weight of the bullet, 55 grain or 62 grain, travel at approximately 3,000 feet per second and 2,700 feet per second respectively. The round is highly regarded as having a high degree of consistency and accuracy, which is why it is the most common rifle round used in Law Enforcement around the world.

D. Lifespan:

Due to the rifle's ability to be maintained by department armorers, these rifles have a relatively long-life span if properly maintained. However, the design has

changed little in the last 60 years and we can expect new variations and designs to become the new industry standard in the coming years.

Like all ammunition, if kept cool and dry, ammunition lifespan can exceed ten years. Due to BPD's and State mandates on training, the majority of ammunition is cycled through within a year of purchase.

E. Use:

Used in the defense of life or great bodily injury to potential victims of violent crimes, general public, and officers.

F. How it Works:

The M4 patterned rifle works the same as a majority of all modern firearms. When the trigger is pressed, a firing pin strikes the primer of a bullet loaded into the chamber of the rifle. The ignited primer ignites gun powder contained in the bullet which pushes the bullet down the barrel and out the muzzle. As the bullet travels down the barrel, gas from the ignited powder also escapes from the muzzle. Some of that gas is recycled back into the chamber of the firearm which causes the firearm to cycle its action and load another bullet. From there the process repeats with each pull of the trigger.

The .223 Remington cartridge is made up of several parts, primarily the primer, casing, gunpowder, and bullet. The bullet is seated into the front or opening of the casing. Gunpowder is placed between the bullet and the interior of the casing and a primer is seated in the rear part of the casing. When the trigger of a firearm is pulled, it releases the hammer, which strikes the firing pin, driving it forward. The firing pin collides with the rear of the cartridge, where the primer is seated, which ignites the primer. The spark from the primer ignites the gunpowder. Gas converted from the burning powder rapidly expands in the cartridge. The expanding gas forces the bullet out of the cartridge and down the barrel with great speed. The rifling in the barrel causes the bullet to spin as it travels out of the barrel. The bullet's speed and escaping gases produce a "bang."

After the bullet exits the barrel, the spent casing which housed the bullet, gunpowder, and primer are ejected from the firearm.

(2) Purpose:

The M4 patterned rifle and associated ammunition is intended as a means to safely stop a lethal threat. While a pistol is the firearm that all officers are minimally

equipped with, the rifle is an ancillary firearm for situations where increased distance and accuracy are needed to safely resolve the situation.

(3) **Fiscal Cost:**

A. **Initial Cost:**

Rifle prices, like other firearms, will range depending on current market demand and availability. While M4 rifles purchased several years ago cost between \$1,000 and \$1,200 a piece, current rifles cost between \$1,400 and \$1,600. It should be expected that these prices will fluctuate and likely increase over time.

Ammunition costs fluctuate with the costs of components (brass, primers, gunpowder, and bullets) and supply/demand. Current costs for .223 Remington range from \$0.50 to \$0.75 a round for training ammunition (55 grain) and \$1.25 to \$1.50 a round for duty ammunition (62 grain).

B. **Cost of Use:**

Cost of use for all firearms should be based on the ammunition used in training and on duty. This will fluctuate based on whether the rifle is issued to a patrol officer, a firearms instructor, or a Special Response Team member as each assignment has different training requirements.

C. **Cost of Potential Adverse Effects:**

Adverse effects of improper use of a firearm are not calculable. It could lead to the loss of life or serious injury. Additionally, the improper use could result in civil liabilities.

D. **Annual and Ongoing Costs:**

See section B. above, these costs are determined based on the rifle's assignment.

E. **Training Costs:**

Every officer that is authorized to carry a rifle on duty must attend a 16-hour CA POST approved rifle instruction course before being authorized to carry the rifle on duty. This course may be administered by Berkeley Police Firearm Instructors or by other POST approved agencies. Tuition for the CA POST approved class is dependent on the hosting agency. If conducted in house the cost only includes the officer's hourly wage, range fee, and ammunition costs (all vary). Outside agencies charge between \$25 to \$500 depending on the range location and duration (some classes are 32-hours while POST only requires 16-hours.)

Additionally, all officers issued a rifle receive specific 8-hour rifle training every two years by POST certified BPD firearm instructors.

Typical round count for such classes range between 800 rounds and 1200 rounds per student. Additionally, all officers issued a rifle receive specific 8-hour rifle training every two years by a BPD firearm instructor which constitutes an additional 500 or so rounds per officer.

F. Maintenance and Storage Costs:

Maintenance costs vary depending on use over time. Traditionally, various springs and pins need to be replaced every five years and may cost between \$3 and \$30 per rifle. Other parts such as the barrel and bolt need replaced around ten years and range between \$150 and \$300 per rifle.

There are no costs associated with maintenance or storage of ammunition. All ammunition is stored in a climate-controlled room in the Berkeley Police Department.

G. Upgrade Costs:

Upgrade costs and Maintenance cost are synonymous due to the consistent design and lack of changes of the rifle over the last 60 years. Improvements in technology and new designs may be an additional cost but we can't predict what those will be at this time.

Should advancements be made in ammunition manufacturing, those upgrade costs are unknown at this time.

(4) Impact:

The Berkeley Police Department is committed to preserving and protecting human life and welfare. The M4 patterned rifle, which fires the .223 Remington cartridge, is a superior firearm to stop a lethal threat compared to the issued pistols to police officers, in that officers equipped with this firearm shoot less rounds, fire more accurately, and are less likely to fire errant rounds. Highly volatile and violent incidents, such as a hostage situation, can be more safely and efficiently resolved with a rifle.

The M4 patterned rifle, and the accompanying .223 Remington cartridge it fires, is intended as a tool to increase the safety and welfare of citizens and officers alike. The M4 patterned rifle and .223 Remington cartridge, both inanimate objects, have zero impact on things such as civil rights or civil liberties of the public. Any abuses of authority or power would be the result of an individual who violates the Berkeley Police Department's policies, including state and federal laws.

(5) **Mitigations:**

Per Policy 300, “Deadly force may only be used when it is objectively reasonable that such action is immediately necessary to protect the officer or another person from imminent danger of death or serious bodily harm.

Officers shall not use deadly force if it is objectively reasonable that alternative techniques will eliminate the imminent danger and ultimately achieve the law enforcement purpose with less risk of harm to the officer or to other persons.”

(6) **Alternatives:**

There are no suitable alternatives to the M4 rifle for the intended purpose. The M4 rifle is a law enforcement standard across the US and other countries due to its reliability, ease of use, ease of maintenance, and increased accuracy over other options.

There are no suitable alternatives to the .223 Remington cartridge, as the current BPD M4 rifle is designed for that particular cartridge. The .223 Remington cartridge is a law enforcement standard across the US and other countries due to its reliability, availability, and increased accuracy over other options.

(7) **Third Party Dependence:**

Berkeley Police Department armorers are trained and capable to handle any and all issues related to the maintenance or repair of the M4 rifles. Additionally, BPD firearm instructors are fully certified by state and private training institutes to fully educate and train BPD officers. No third party is required for maintenance, repair, or instruction.

All ammunition purchased by BPD, like all equipment, is dependent on Third Party vendors. Vendor stock and availability is outside BPD control or management. Once ammunition is purchased and in BPD custody there is no additional need for Third Party assistance.

Penn Arms 40mm Single Launcher

(1) **Description:**

A. **Background:**

The 40mm impact projectile was developed as an alternative to the 12-gauge bean bag round and other more indiscriminate less lethal options. Early 12-gauge

bean bag round designs had somewhat unpredictable flight patterns and could cause significant unwanted injury. The 40mm foam baton round was developed as a direct fire projectile designed to minimize the risk of unintended injuries. Currently, the Berkeley Police Department utilizes the CTS 4557 foam baton projectile and the Penn Arms L-140 single shot launcher.

B. Quantity:

The Berkeley Police Department currently owns and maintains 20 Penn Arms less lethal launchers.

C. Capability:

The Penn Arms single launcher is capable of firing a single projectile out to a maximum manufacturer recommended range of 45 meters. The Penn Arms 40mm projectiles are direct fire with a pliable “sponge” tip designed to mold to the body. The projectiles are about the size of a large egg. Upon impact, the projectile transfers kinetic energy to the body to gain pain compliance. Large muscle groups such as the upper legs or lower abdomen are approved target areas unless a higher level of force is justified. This level of force is considered to be similar to that of a baton strike.

D. Lifespan:

The manufacturer expected lifespan is about 10 years depending on use and regular maintenance.

E. Use:

The Penn Arms 40mm single launcher is designed to reduce the potential for a violent confrontation. Less lethal projectiles are less likely to result in serious bodily injury or death and can be used to de-escalate a potentially deadly situation.

F. How it works:

The Penn Arms 40mm single launcher is a double action, break open less lethal launcher. The launcher is capable of firing a single 40mm projectile. When fired, the hammer strikes the munition primer which ignites gun powder in the primer insert. Expelled gases propel the projectile through the rifled barrel. The projectile has a rear plastic portion called the ogive which catches the barrel rifling and provides spin. The spin provides a greater degree of accuracy and eliminates any potential the projectile will tumble when exiting the barrel.

The projectiles utilized by the Berkeley Police Department are the CTS 4557 40mm sponge baton round. The CTS 4557 has a maximum effective range of 45 meters. The tip of the projectile is a pliable rubber material which molds to the body upon impact. The projectile travels at an estimated 240 feet per second which is slower than the FN 303 projectile. However, the larger mass, about 60 grams, creates more kinetic energy upon impact which is similar to that of a baseball thrown by a pitcher. The additional kinetic energy becomes important when the suspect has on thick or layered clothing or demonstrates a high pain tolerance.

The Penn Arms single launcher is a basic design making it easy to operate and maintain.

(2) **Purpose:**

The purpose of kinetic energy impact projectiles, commonly referred to as “less lethal” is to preserve life, minimize the use of force and allow time for de-escalation. Less lethal projectiles allow the user to maintain a safe distance from a subject who is armed and/or demonstrates the intent to be violent. The ability to maintain a safe distance – while still providing a level of control over the subject – allows officers to employ de-escalation techniques, request additional resources and develop a plan to safely resolve the situation with the least amount of risk.

Violent or armed confrontations are inherently dangerous to all those involved. Officers are required to make split second judgments in circumstances that are tense, uncertain and rapidly evolving. An Officer’s threat perception of a person who is in close proximity as opposed to a person who is at a distance of 20 yards is naturally different. A person in close proximity intent on violence has the ability to immediately utilize personal body weapons, a bludgeoning device or cutting instrument. The immediacy requires the Officer to react instantly and there is a greater potential that a higher level of force will be needed.

On the other hand, a person at a distance of 20 yards may not be perceived as having the immediate ability to violently attack the Officer. The person must first close the distance before certain weapons can be utilized. This fact may allow the Officer time to decide the most appropriate course of action, such as the use of a “less lethal” projectile.

The projectiles are designed to provide a high level of accuracy which minimizes the risk of unwanted impacts. The ability to apply force from a distance reduces the

potential for violent confrontation and aides in reducing the level of force needed to safely resolve a conflict.

Additionally, it has been our experience that a 40mm projectile impact will almost always resolve a violent confrontation with 1 or 2 applications. The larger projectile produces more kinetic energy than the FN 303, which may require several applications to gain compliance.

Since 2015, there have been 31 incidents where Officers utilized less lethal applications. These applications have potentially prevented higher-level uses of force.

(3) **Fiscal Cost:**

A. **Initial Cost:**

Less lethal prices, like other equipment, varies depending on market demand and availability. The most recent Penn Arms purchased by the department cost \$815.00 each.

B. **Cost of Use:**

Cost for Penn Arms single launcher use should be based on the projectiles used in training and on duty. This will fluctuate based on department trainings, projectile availability and events that unfold in the city and surrounding region.

C. **Cost of Potential Adverse Effects:**

Adverse effects from improper use of less lethal are not calculable. Improper use could lead to serious bodily injury or death.

D. **Annual and Ongoing Costs:**

See section B above

E. **Training Costs:**

Every officer authorized to deploy a less lethal launcher must pass a certification course administered by a Berkeley Police Department Firearms Instructor. The certification class consists of classroom, range qualification and scenario application if the venue allows. This class is largely handled in house thus the cost only includes staff time, range fees, and projectile costs which all vary.

F. Maintenance and Storage Costs:

Maintenance costs vary depending on use. Generally, various springs and pins need to be replaced every 5 years which can cost \$3 to \$30.

G. Upgrade Costs:

There are no foreseeable upgrade costs. The Penn Arms single launcher has few working parts and is of a simple design.

(4) Impact:

The main function of a less lethal device is to preserve the sanctity of human life. The Berkeley Police Department is committed to reducing the potential for violent confrontations. Less lethal projectiles, when used properly, are less likely to result in serious bodily injury or death and can be used to de-escalate a potentially deadly situation. A less lethal application is an acknowledgment a given situation has the potential to elevate to lethal force and the Officers determined a less lethal application is not only objectively reasonable and objectively necessary, but hopefully the minimal amount of force needed to safely resolve the incident.

The Penn Arms single launcher, with its high level of accuracy can be utilized in a large violent group confrontation to specifically target those who are committing acts of violence on other members of the group, involved persons, or law enforcement personnel. It allows a more immediate action to stop a violent assault, overcome their resistance, and aid in the attempt to safely take them into custody. This tool does not require officers to overcome a hostile crowd to stop a violent assault.

(5) Mitigation:

Per Policy 300, "In all cases where physical force is used, officers shall use a minimum amount of force that is objectively reasonable, objectively necessary, and proportional to effectively and safely resolve a conflict." All uses of force require documentation that is completed by the supervisor in a use of force report and reviewed by the Chain of Command. Furthermore, all deployments of equipment outlined in the Police Equipment and Community Safety Ordinance are documented according to the reporting requirements as mandated in the ordinance.

Per Policy 303, "Officers are not required or compelled to use approved projectiles in lieu of other reasonable tactics if the involved officer determines that deployment of these projectiles cannot be done safely. Circumstances appropriate for deployment include, but are not limited to, situations in which: (a) The suspect is armed with a weapon and the tactical circumstances allow for the safe application of approved

projectiles. (b) The suspect has made credible threats to harm him/herself or others. (c) The suspect is engaged in riotous behavior or is throwing rocks, bottles or other dangerous projectiles at people and/or officers. (d) There is probable cause to believe that the suspect has already committed a crime of violence and is refusing to comply with lawful orders.”

The Berkeley Police Department also trains a recommended range of 3 to 30 meters. Berkeley Police Firearm Instructors recommend a minimum standoff of 3 meters to reduce the potential for unintended injury at a closer distance. The 30-meter maximum recommended range is intended to reduce the possibility of an unintended impact area if the suspect moves or the projectile trajectory begins to deteriorate.

Each officer is trained to aim for large muscle groups, such as the thigh or buttocks area, and avoid areas that may cause serious injury. The department also equips each launcher with a red dot optic. The optic greatly increases an officer’s ability to target approved impact areas.

(6) Alternative:

The Penn Arms single launcher is one of three less lethal options the Berkeley Police Department possess that allow officers to address a potentially violent confrontation from a distance. All three (Penn Arms single launcher, Milkor LTL multi-launcher, and FN303) are viable options that have different strengths and weaknesses. The Penn Arms single launcher and the Milkor LTL multi-launcher operate very similarly and use the same projectile. The Penn Arms single launcher is smaller and easier to carry; however, the Penn Arms single launcher is capable of holding only one projectile while the Milkor LTL multi-launcher is capable of holding six projectiles. The projectiles used by the Penn Arms single launcher and Milkor LTL multi-launcher are larger which results in more kinetic energy transferred compared to the projectiles used in the FN303; however, the FN303 holds 15 projectiles and is capable of launching it at a faster rate.

An alternative that the Berkeley Police Department does not possess is the TASER. The TASER allows an officer to maintain distance but limits the range to about 15 to 25 feet. Furthermore, the TASER requires two prongs (barbs) to penetrate the subject’s clothing to be effective and if that is not accomplished the TASER will have no effect. Additionally, the TASER is not an approved less lethal device for the department.

(7) **Third Party Dependence:**

The Berkeley Police Department armorers are trained and capable of handling all issues related to the repair or maintenance of the Penn Arms single launcher. Additionally, Berkeley Police Department Less Lethal Instructors are fully certified by state and private training institutes to educate and train BPD officers. No third party is required for maintenance, repair, or instruction.

Milkor LTL Multi-launcher

(1) **Description:**

A. **Background:**

The 40mm impact projectile was developed as an alternative to the 12-gauge bean bag round and other more indiscriminate less lethal options. Early 12-gauge bean bag round designs had somewhat unpredictable flight patterns and could cause significant unwanted injury. The 40mm foam baton round was developed as a direct fire projectile designed to minimize the risk of unintended injuries. Currently, the Berkeley Police Department utilizes the CTS 4557 foam baton projectile and the Milkor LTL multi-shot launcher.

B. **Quantity:**

The Berkeley Police Department currently owns and maintains 2 Milkor LTL less lethal launchers. One Milkor launcher is assigned to the Berkeley Special Response Team.

C. **Capability:**

The Milkor LTL is capable of firing six 40mm projectiles before reloading is necessary. The Milkor LTL 40mm projectiles are direct fire with a pliable “sponge” tip designed to mold to the body. The projectiles are about the size of a large egg. Upon impact, the projectile transfers kinetic energy to the body to gain pain compliance. Large muscle groups such as the upper legs or lower abdomen are approved target areas unless a higher level of force is justified. This level of force is considered to be similar to that of a baton strike.

D. **Lifespan:**

The manufacturer expected lifespan is about 10 to 15 years depending on use and regular maintenance.

E. Use:

The Milkor LTL multi-shot launcher is designed to reduce the potential for a violent confrontation. Less lethal projectiles are less likely to result in serious bodily injury or death and can be used to de-escalate a potentially deadly situation.

F. How it works:

The Milkor LTL multi-shot launcher utilizes a spring actuated cylinder allowing it to fire 6 individual 40mm projectiles. When fired, the hammer strikes the munition primer which ignites gun powder in the primer insert. Expelled gases propel the projectile through the rifled barrel. The projectile has a rear plastic portion called the ogive which catches the barrel rifling and provides spin. The spin provides a greater degree of accuracy and eliminates any potential the projectile will tumble when exiting the barrel. The spring assisted cylinder automatically turns and loads the next projectile.

The projectiles utilized by the Berkeley Police Department are the CTS 4557 40mm sponge baton round. The CTS 4557 has a maximum effective range of 45 meters. The tip of the projectile is a pliable rubber material which molds to the body upon impact. The projectile travels at an estimated 240 feet per second which is slower than FN 303 projectile. However, the larger mass, about 60 grams, creates more kinetic energy upon impact which is similar to that of a baseball thrown by a pitcher. The additional kinetic energy becomes important when the suspect has on thick or layered clothing or demonstrates a high pain tolerance.

The benefit to the Milkor LTL is its ability to provide a quick follow up less lethal application, if necessary. The Milkor holds 6 projectiles while the Penn Arms launcher only holds one. Reloading the Penn Arms single launcher can be time consuming and requires the officer to briefly change focus from the suspect to the reload procedure. The Milkor LTL on the other hand, allows the officer to maintain focus on the suspect and assess whether a follow up application is necessary. This ability is significant when the suspect is advancing, attempting to flee, or demonstrates a high pain compliance threshold.

(2) Purpose:

The purpose of kinetic energy impact projectiles, commonly referred to as “less lethal” is to preserve life, minimize the use of force and allow time for de-escalation attempts. Less lethal projectiles allow the user to maintain a safe distance from a subject who is armed and/or demonstrates the intent to be violent. The ability to

maintain a safe distance – while still providing a level of control over the subject – allows officers to employ de-escalation techniques, request additional resources and develop a plan to safely resolve the situation with the least amount of risk.

Violent confrontations are inherently dangerous to all those involved. Officers are required to make split second judgments in circumstances that are tense, uncertain and rapidly evolving. An Officer’s threat perception of a person who is in close proximity as opposed to a person who is at a distance of 20 yards is naturally different. A person in close proximity intent on violence has the ability to immediately utilize personal body weapons, a bludgeoning device or cutting instrument. The immediacy requires the Officer to react instantly and there is a greater potential that a higher level of force will be needed.

On the other hand, a person at a distance of 20 yards may not be perceived as having the immediate ability to violently attack the Officer. The person must first close the distance before such weapons can be utilized. This may allow the Officer time to decide the most appropriate course of action, such as the use of a “less lethal” projectile.

The “less lethal” projectiles utilized by the Berkeley Police Department are generally considered discriminate versus indiscriminate uses of force. The projectiles are designed to provide a high level of accuracy which minimizes the risk of unwanted impacts. The ability to apply force from a distance reduces the potential for violent confrontation and aides in reducing the level of force needed to safely resolve a conflict.

Additionally, it has been our experience that a 40mm projectile impact will generally resolve the violent confrontation with 1 or 2 applications. The larger projectile produces more kinetic energy than the FN 303, which may require several applications to gain compliance.

Since 2015, there have been 31 incidents where Officers utilized less lethal applications. These applications have potentially prevented higher-level uses of force.

(3) Fiscal Cost:

A. Initial Cost:

Less lethal prices, like other equipment, varies depending on market demand and availability. The most recent Penn Arms purchased by the department cost \$3950.00 each.

B. Cost of Use:

Cost for the Milkor LTL launcher use should be based on the projectiles used in training and on duty. This will fluctuate based on department trainings, projectile availability and events that unfold in the city and surrounding region.

C. Cost of Potential Adverse Effects:

Adverse effects from improper use of less lethal are not calculable. Improper use could lead to serious bodily injury or death.

D. Annual and Ongoing Costs:

See section B above

E. Training Costs:

Every officer authorized to deploy a less lethal launcher must pass a certification course administered by a Berkeley Police Firearm Instructor. The certification class consists of classroom, range qualification and scenario application if the venue allows. This class is largely handled in house thus the cost only includes the officer's hourly wage, range fees, and projectile costs which all vary.

F. Maintenance and Storage Costs:

Maintenance costs vary depending on use.

G. Upgrade Costs:

There are no foreseeable upgrade costs.

(4) Impact:

The main function of a less lethal device is to preserve the sanctity of human life. The Berkeley Police Department is committed to reducing the potential for violent confrontations. Less lethal projectiles, when used properly, are less likely to result in serious bodily injury or death and can be used to de-escalate a potentially deadly situation. A less lethal application is an acknowledgment a given situation has the potential to elevate to lethal force and the Officers determined a less lethal application is not only objectively reasonable and objectively necessary, but also the minimal amount of force needed to safely resolve the incident.

The Milkor LTL launcher, with its high level of accuracy and 6 projectile capacity, can be utilized in a large violent group confrontation to specifically target those who are committing acts of violence on other members of the group, involved persons, or law enforcement personnel. It allows a more immediate action to stop a violent

assault, overcome their resistance, and aid in the attempt to safely take them into custody. It also allows officers to prevent a more indiscriminate use of force, such as entering the group or crowd, to take a subject into custody.

(5) Mitigation:

Per Policy 300, "In all cases where physical force is used, officers shall use a minimum amount of force that is objectively reasonable, objectively necessary, and proportional to effectively and safely resolve a conflict." All uses of force require documentation that is completed by the supervisor in a use of force report and reviewed by the Chain of Command. Furthermore, all deployments of equipment outlined in the Police Equipment and Community Safety Ordinance are documented according to the reporting requirements as mandated in the ordinance.

Per Policy 303, "Officers are not required or compelled to use approved projectiles in lieu of other reasonable tactics if the involved officer determines that deployment of these projectiles cannot be done safely. The safety of hostages, innocent persons and officers takes priority over the safety of subjects engaged in criminal or suicidal behavior. Circumstances appropriate for deployment include, but are not limited to, situations in which: (a) The suspect is armed with a weapon and the tactical circumstances allow for the safe application of approved projectiles. (b) The suspect has made credible threats to harm him/herself or others. (c) The suspect is engaged in riotous behavior or is throwing rocks, bottles or other dangerous projectiles at people and/or officers. (d) There is probable cause to believe that the suspect has already committed a crime of violence and is refusing to comply with lawful orders."

The Berkeley Police Department also trains a recommended range of 3 to 30 meters. Berkeley Police Firearm Instructors recommend a minimum standoff of 3 meters to reduce the potential for unintended injury at a closer distance. The 30-meter maximum recommended range is intended to reduce the possibility of an unintended impact area if the suspect moves or the projectile trajectory begins to deteriorate.

Each officer is trained to aim for large muscle groups, such as the thigh or buttocks area, and avoid areas that may cause serious injury. The department also equips each launcher with a red dot optic. The optic greatly increases an officer's ability to target approved impact areas.

(6) Alternative:

The Milkor LTL multi-launcher is one of three less lethal options the Berkeley Police Department possess that allow officers to address a potentially violent confrontation

from a distance. All three (Penn Arms single launcher, Milkor LTL multi-launcher, and FN303) are viable options that have different strengths and weaknesses. The Penn Arms single launcher and the Milkor LTL multi-launcher operate very similarly and use the same projectile. The Penn Arms single launcher is smaller and easier to carry; however, the Penn Arms single launcher is capable of holding only one projectile while the Milkor LTL multi-launcher is capable of holding six projectiles. The projectiles used by the Penn Arms single launcher and Milkor LTL multi-launcher are larger which results in more kinetic energy transferred compared to the projectiles used in the FN303; however, the FN303 holds 15 projectiles and is capable of launching it at a faster rate.

An alternative that the Berkeley Police Department does not possess is the TASER. The TASER allows an officer to maintain distance but limits the range to about 15 to 25 feet. Furthermore, the TASER requires two prongs (barbs) to penetrate the subject's clothing to be effective and if that is not accomplished the TASER will have no effect. Additionally, the TASER is not an approved less lethal device for the department.

(7) **Third Party Dependence:**

The Berkeley Police Department armorers are trained and capable of handling most issues related to the repair or maintenance of the Milkor LTL launcher. In the event of a catastrophic malfunction, the Milkor LTL will need to be sent to the manufacturer for repair. To date, there have been no significant repairs needed to the Milkor LTL. Additionally, Berkeley Police Department Less Lethal Instructors are fully certified by state and private training institutes to educate and train BPD officers. No third party is required for regular maintenance, repair, or instruction.

FN 303 and FN Pava Impact Projectile

(1) **Description:**

A. **Background:**

The FN 303 was developed in 2003 by Fabrique Nationale de Herstal as a less lethal option. The FN 303 is based on a concept developed by Monterey Bay Corporation. The development team consisted of designers and researchers from two paintball related companies. The FN 303 uses compressed air to propel a .68 caliber projectile similar to that of most manufactured paintball guns.

B. Quantity:

The Berkeley Police Department currently owns and maintains 8 FN 303 less lethal launchers.

C. Capability:

The FN 303 is capable of firing 15 projectiles out to a maximum manufacturer recommended range of 50 meters. The FN 303 projectiles are direct fire and designed to fragment upon impact to prevent penetration injury. Upon impact, the projectile transfers kinetic energy to the body to gain pain compliance. Large muscle groups such as the upper legs or lower abdomen are approved target areas. This level of force is considered to be similar to that of a baton strike.

D. Lifespan:

The manufacturer expected lifespan is about 10 years depending on use and regular maintenance.

E. Use:

The FN 303 is designed to reduce the potential for a violent confrontation. Less lethal projectiles are less likely to result in serious bodily injury or death and can be used to de-escalate a potentially deadly situation.

F. How it works:

An air reservoir attaches to the FN 303 through an air hose coupler and provides pressure through compressed air. When fired, the compressed air drives a piston that pushes the .68 caliber projectile through the barrel at approximately 280 feet per second. For comparison, the FN projectile is the size of a paintball and the velocity is the same as a commercially manufactured paintball gun.

The projectiles are 8.5 grams in weight and utilize a polystyrene fin stabilized body with a non-toxic forward payload to aid in stability and accuracy. The projectile will deliver approximately 24-foot pounds of kinetic energy at the muzzle which is about double the kinetic energy of most paintball guns. Most paintballs have a mass of 3 grams while the FN 303 projectile has a mass of 8.5 grams which increases the kinetic energy produced.

Available projectiles are impact, impact + non-permanent marking, impact + permanent marking, and impact + PAVA (0.5% PAVA/Oleoresin Capsicum).

The impact + PAVA projectile is intended to be direct fired at an individual. In addition to delivering pain through kinetic energy upon impact, the PAVA

projectile will deliver a secondary chemical irritant, which is the Oleoresin Capsicum (O.C.) payload. Oleoresin Capsicum generally causes irritation/burning at the application site, irritation to the eyes, and coughing. According to the National Institute of Health, the effects of O.C. power exposure tend to resolve on their own within 30 minutes.

Pain is highly subjective and other circumstances, such as heavy clothing, may render the impact ineffective. The application of a secondary chemical irritant may assist in gaining compliance and successfully resolving a potentially violent incident with the minimal amount of force necessary.

(2) **Purpose:**

The purpose of kinetic energy impact projectiles, commonly referred to as “less lethal” is to preserve life, minimize the use of force and allow time for de-escalation attempts. Less lethal projectiles allow the user to maintain a safe distance from a subject who is armed and/or demonstrates the intent to be violent. The ability to maintain a safe distance – while still providing a level of control over the subject – allows officers to employ de-escalation techniques, request additional resources and develop a plan to safely resolve the situation with the least amount of risk.

Violent confrontations are inherently dangerous to all those involved. Officers are required to make split second judgments in circumstances that are tense, uncertain and rapidly evolving. An Officer’s threat perception of a person who is in close proximity as opposed to a person who is at a distance of 20 yards is naturally different. A person in close proximity intent on violence has the ability to immediately utilize personal body weapons, a bludgeoning device or cutting instrument. The immediacy requires the Officer to react instantly and there is a greater potential that a higher level of force will be needed.

On the other hand, a person at a distance of 20 yards may not be perceived as having the immediate ability to violently attack the Officer. The person must first close the distance before such weapons can be utilized. This may allow the Officer time to decide the most appropriate course of action, such as the use of a “less lethal” projectile.

The “less lethal” projectiles utilized by the Berkeley Police Department are generally considered discriminate versus indiscriminate uses of force. Discriminate projectiles are designed to provide a high level of accuracy which minimizes the risk of unwanted impacts. The ability to apply force from a distance reduces the potential

for violent confrontation and aides in reducing the level of force needed to safely resolve a conflict.

Since 2015, there have been 31 incidents where Officers utilized less lethal applications. These applications have potentially prevented higher-level uses of force.

(3) Fiscal Cost:

A. Initial Cost:

Less lethal prices, like other equipment, varies depending on market demand and availability. The most recent FN 303s purchased by the department cost \$800.00 each.

B. Cost of Use:

Cost for FN 303 use should be based on the projectiles used in training and on duty. This will fluctuate based on department trainings, projectile availability and events that unfold in the city and surrounding region.

C. Cost of Potential Adverse Effects:

Adverse effects from improper use of less lethal are not calculable. Improper use could lead to serious bodily injury or death. Only trained officers are authorized to use the FN 303.

D. Annual and Ongoing Costs:

See section B above

E. Training Costs:

Every officer authorized to deploy a less lethal launcher must pass a certification course administered by a Berkeley Police Firearm Instructor. The certification class consists of classroom, range qualification and scenario application if the venue allows. This class is largely handled in house thus the cost only includes the officer's hourly wage, range fees, and projectile costs which all vary.

F. Maintenance and Storage Costs:

Maintenance costs vary depending on use. Generally, O-rings need to be replaced every 3000 rounds and cost \$30 per kit.

G. Upgrade Costs:

The overall design of the FN 303 has changed little since its initial release in the early 2000s thus anticipated upgrade costs will be minimal.

(4) Impact:

The main function of a less lethal device is to preserve the sanctity of human life. The Berkeley Police Department is committed to reducing the potential for violent confrontations. Less lethal projectiles, when used properly, are less likely to result in serious bodily injury or death and can be used to de-escalate a potentially deadly situation. A less lethal application is an acknowledgment a given situation has the potential to elevate to lethal force and the Officers determined a less lethal application is not only objectively reasonable and objectively necessary, but also the minimal amount of force needed to safely resolve the incident.

The FN 303, with its high level of accuracy can be utilized in a large violent group confrontation to specifically target those who are committing acts of violence on other members of the group, involved persons, or law enforcement personnel. It allows a more immediate action to stop a violent assault, overcome their resistance, and aid in the attempt to safely take them into custody. It also allows officers to prevent a more indiscriminate use of force, such as entering the group or crowd, to take a subject into custody.

(5) Mitigation:

Per Policy 300, "In all cases where physical force is used, officers shall use a minimum amount of force that is objectively reasonable, objectively necessary, and proportional to effectively and safely resolve a conflict." All uses of force require documentation that is completed by the supervisor in a use of force report and reviewed by the Chain of Command. Furthermore, all deployments of equipment outlined in the Police Equipment and Community Safety Ordinance are documented according to the reporting requirements as mandated in the ordinance.

Per Policy 303, "Officers are not required or compelled to use approved projectiles in lieu of other reasonable tactics if the involved officer determines that deployment of these projectiles cannot be done safely. The safety of hostages, innocent persons and officers takes priority over the safety of subjects engaged in criminal or suicidal behavior. Circumstances appropriate for deployment include, but are not limited to, situations in which: (a) The suspect is armed with a weapon and the tactical circumstances allow for the safe application of approved projectiles. (b) The suspect has made credible threats to harm him/herself or others. (c) The suspect is engaged in riotous behavior or is throwing rocks, bottles or other dangerous projectiles at people and/or officers. (d) There is probable cause to believe that the suspect has already committed a crime of violence and is refusing to comply with lawful orders."

The Berkeley Police Department also trains a recommended range of 3 to 30 meters. Berkeley Police Firearm Instructors recommend a minimum standoff of 3 meters to reduce the potential for unintended injury at a closer distance. The 30-meter maximum recommended range is intended to reduce the possibility of an unintended impact area if the suspect moves or the projectile trajectory begins to deteriorate.

Each officer is trained to aim for large muscle groups, such as the thigh or buttocks area, and avoid areas that may cause serious injury. The department also equips each launcher with a red dot optic. The optic greatly increases an officer's ability to target approved impact areas.

(6) Alternative:

The FN303 launcher is one of three less lethal options the Berkeley Police Department possess that allow officers to address a potentially violent confrontation from a distance. All three (Penn Arms single launcher, Milkor LTL multi-launcher, and FN303) are viable options that have different strengths and weaknesses. The Penn Arms single launcher and the Milkor LTL multi-launcher operate very similarly and use the same projectile. The Penn Arms single launcher is smaller and easier to carry; however, the Penn Arms single launcher is capable of holding only one projectile while the Milkor LTL multi-launcher is capable of holding six projectiles. The projectiles used by the Penn Arms single launcher and Milkor LTL multi-launcher are larger which results in more kinetic energy transferred compared to the projectiles used in the FN303; however, the FN303 holds 15 projectiles and is capable of launching it at a faster rate.

An alternative that the Berkeley Police Department does not possess is the TASER. The TASER allows an officer to maintain distance but limits the range to about 15 to 25 feet. Furthermore, the TASER requires two prongs (barbs) to penetrate the subject's clothing to be effective and if that is not accomplished the TASER will have no effect. Additionally, the TASER is not an approved less lethal device for the department.

(7) Third Party Dependence:

The Berkeley Police Department armorers are trained and capable of handling regular maintenance and most repairs. In the event of a catastrophic failure, the device will be sent to the manufacturer for repair. To date there have been 2 devices that required manufacturer repair, both of which were under warranty.

Additionally, department firearm instructors are fully certified by state and private training institutes to educate and train BPD officers. No third party is required for maintenance, most repairs, or instruction.

OC (oleoresin capsicum) Spray

(1) **Description:**

A. Background:

For the purposes of this portion of the Impact Statement, OC (Oleoresin capsicum) will be referred to in the spray form as opposed to the aerosol canister form. First Defense manufactures different sizes of OC sprays. OC is the chemical agent that is most widely used amongst Law Enforcement (LE) and the general public. OC has a pungent and irritating pepper odor. It is classified as an inflammatory agent. Besides being effective on humans, OC based chemical agents usually work on animals as well. In a liquid form, OC can appear as a clear, amber, or heavy dark red solution depending on the manufacturer. It is mixed with several types of solutions which act as carriers.

B. Quantity:

Qty 23 – First Defense MK-9 OC spray (13- ounces)

Qty 178 – First Defense MK-3 OC spray (3 ounces)

Most of the MK-3 OC sprays are issued to and maintained by individual officers; however, a small amount of these sprays is stored in a secured equipment room as spares in case of damage or new personnel issue.

C. Capability:

The First Defense MK-3 OC sprays are standard issued to all police officers and are worn on the police officers' belt. It has an effective range of 10-12 feet. The larger First Defense MK-9 OC sprays are 13 ounces and are used in violent crowd situations. It has an effect range of 18-20 feet.

The use of the First Defense OC spray can render a dangerous and violent situation safe without using a higher level of force.

D. Lifespan:

Aerosol products eventually lose pressure over time. The lifespan of both the MK-9 and MK-3 OC spray are dependent on how well the pressure in the can is maintained, but is recommended to be replaced after 5 years.

E. Use:

OC spray may be considered for use to bring under control an individual or groups of individuals who are engaging in or about to engage in violent behavior. OC spray should not, however, be used against individuals or group who merely fail to disperse or do not reasonably appear to present a risk to the safety of officers or the public.

F. How it Works:

A person subjected to OC can expect heavy tearing due to a burning sensation, involuntary closing or blinking of the eyes, burning/stinging skin sensation, redness of the skin, irritation and burning of the nose, runny nose, salivation and burning sensation of the mouth, cough, gagging sensation, shortness of breath, temporary paralysis of the larynx (person unable to speak) and nausea (caused by shock, not the OC itself). A person may also feel disorientated, anxiety, and/or panic. A complete recovery usually takes place within 45-60 minutes depending on the level of exposure.

(2) Purpose:

There are a variety of situations where officers may use OC spray such as: self-defense, overcoming the resistance of a noncompliant individual, effecting an arrest, preventing escape, violent crowd or riot control, barricade or hostage situations and dealing with dangerous animals.

(3) Fiscal Cost:**A. Initial Cost:**

The MK-3 OC spray cost approx. \$19 per unit and the MK-9 OC spray costs approx. \$60 per unit. The manufacturer is Defense Technology and the Berkeley Police Department purchase each unit from Galls Police Supply or LC Action Police Supply. Purchases for these tools are made when inventory gets low which is typically determined by how many new officers are sworn in, as well as if they are utilized in dangerous situations.

B. Cost of Use:

The cost of each usage is unpredictable due to the unknown nature of crime, timelines of dangerous situations, and number of applications.

C. Cost of Potential Adverse Effects:

Adverse effects of improper use of OC spray are not calculable. It could lead to serious injury. Additionally, the improper use could result in civil liabilities.

D. Annual and Ongoing Costs:

See below cost of training.

E. Training Cost:

Training is conducted in the police academy and in-house by a Police Officer Standard Training (POST) certified Berkeley Police chemical agent training officer. The cost of training is staff time.

F. Maintenance and Storage Costs:

The majority of the MK-3 OC sprays are either stored within the Police Department or with each sworn police officer while they conduct official duties. All MK-9 OC sprays are stored in the basement. There are no additional storage costs or associated costs to transporting, maintain, or upgrade.

G. Upgrade Costs:

No upgrades exist for this equipment as of this report.

(4) Impact:

The physical effects of being subjected to OC may significantly reduce an individual's aggressive behavior. Reports have shown that the use of OC can reduce the amount of officer and arrestee injuries due to its effectiveness. Chemists assigned to the FBI Forensic Science Research and Training Center report no long-term health risks associated with the use of OC. The use of the MK-3 or MK-9 OC spray can render a dangerous and violent situation safe without using a higher level of force.

(5) Mitigations:

Law Enforcement Officers attend a Police Officer Standard Training (POST) approved academy before they enter into a Field Training Program and continue their training. During this academy they are taught about OC, how to deploy it, its effects, and the decontamination process. They are also subjected to OC to physically feel the effects themselves. After the academy, each officer is issued a MK-3 OC spray which they are to keep on their person while on duty. If deployed and when practical, medical personnel should be summoned for the affected person(s) per policy 303. All uses of force require documentation that is completed by the supervisor in a use of force report and reviewed by the Chain of Command. Furthermore, all deployments of equipment outlined in the Police Equipment and Community Safety Ordinance are documented according to the reporting requirements as mandated in the ordinance.

(6) **Alternatives:**

Alternatives to utilizing OC sprays are tools such as expandable batons, less lethal launchers, and/or physical body weapons. The rationale to use OC spray depends on the circumstances of each individual incident and the individual officer involved in the incident. As mentioned above, reports have shown that OC spray may significantly reduce an individual's aggressive behavior which can minimize the amount of force necessary to apprehend that subject. Per our Use of Force policy (Lexipol 300), we shall use the minimal amount of force possible during each incident, thus making OC spray a valuable option.

(7) **Third Party Dependence:**

There is no third-party dependence for the First Defense OC spray. Once they are purchased, they are secured in their designated locations within the Police Department or with sworn police officers while they conduct official duties.

Chlorobenzylidene Malonitrile and Oleoresin Capsicum

(1) **Description:**

A. **Background:**

Chlorobenzylidene malonitrile (CS):

Chlorobenzylidene malonitrile (CS) is one of the most commonly used "tear gases" in the world. It can be liquid, gaseous, or solid substance intended to produce temporary discomfort through being vaporized or otherwise dispersed in the air. Law enforcement (LE) agencies have found this agent invaluable when faced with combative suspects, for crowd/riot control, and for alleviating barricaded subject situations. LE use it to help control individuals or groups without the need for a higher level of force. There are four different deployment methods of chemical agents (Aerosol - most commonly used by police departments, Fogging, Pyrotechnics, and blast expulsion). All methods of deployment can be affected by certain environmental and physical conditions (wind, rain, temperature, distance, and proximity to others). At standard daily temperatures and pressures, CS forms a white crystal with a low vapor pressure and poor solubility in water.

Oleoresin capsicum (OC):

For this portion of the Impact Statement, Oleoresin capsicum (OC) will be referred to in the aerosol canister form. OC is the chemical agent that is most widely used amongst Law Enforcement (LE) and the general public. OC has a

pungent and irritating pepper odor. It is classified as an inflammatory agent. OC is mixed with several types of solutions which act as carriers.

B. Quantity:

Inventory for CS canisters:

Qty 6 – 5230 CS Canisters

Qty 24 – 6230 CS Canisters

Qty 20 – 5230B CS Baffled Canister (flameless)

Qty 17 – 5231 CS Tri-Phaser Canisters

Qty 21 – 4630 CS Muzzle Blast (used with 40 mm less lethal launcher)

Qty 4 – 4530 CS Impact Rounds (used with 40 mm less lethal launcher)

Qty 19 – 4330 CS Barricade Projectile Rounds (used with 40 mm less lethal launcher)

Inventory for OC canisters:

Qty 54 - 9440 OC Tear Ball

Qty 19 - 5440 OC Flameless

Qty 20 - 6340 OC Vaper

C. Capability:

CS aerosols with microscopic particles which are potent sensory irritants becoming attached primarily to moist mucous membranes and moist skin. Common effects are: coughing, increased mucous secretion, difficulty breathing, skin reactions, and excessive salivation. The onset of symptoms typically occurs within 20 to 60 seconds, and if the exposed individual is placed in fresh air these effects generally cease in 10 to 30 minutes.

A person subjected to OC can expect heavy tearing due to a burning sensation, involuntary closing or blinking of the eyes, stinging skin sensation, redness of the skin, irritation of the nose, runny nose, salivation, cough, gagging sensation, and shortness of breath. A person may also experience anxiety and panic. A complete recovery usually takes place within 45-60 minutes depending on the level of exposure.

Both CS and OC canisters can render a dangerous and violent situation safe without using a higher level of force.

D. Lifespan:

CS and OC canisters expire in approximately 5 years.

E. Use:

Tear gas may be used for crowd control, crowd dispersal or against barricaded suspects based on the circumstances. Only the Chief of Police may authorize the delivery and use of tear gas, and only after evaluating all conditions known at the time and determining that such force reasonably appears justified and necessary.

(2) Purpose:

There are a variety of situations where peace officers may use chemical agents such as: self-defense, overcoming the resistance of a noncompliant individual, effecting an arrest, preventing escape, violent crowd or riot control, barricade or hostage situations and dealing with dangerous animals.

(3) Fiscal Cost:**A. Initial Cost:**

The cost for CS canisters ranges from \$20.00 to \$39.00 per unit. The cost for OC canisters ranges from \$36.00 to \$44.00 per unit. The Berkeley Police Department prefers the use of the Combined Tactical Systems (CTS) chemical agents and we purchase them from LC Action Police Supply.

B. Cost of Use:

The cost of each proposed use is unpredictable due to the demand, unknown nature and timelines of dangerous crowd/riots situations, dangerous barricade situations, and hostage situations.

C. Cost of Potential Adverse Effects:

Adverse effects of improper use of OC and CS are not calculable. It could lead to serious injury. Additionally, the improper use could result in civil liabilities.

D. Annual and Ongoing Costs:

See below cost of training.

E. Training Cost:

When purchased, each unit is given an expiration date which typically falls within a 2-3-year range. Every 2-3 years, new chemical agents are purchased to honor the expiration dates. The expired agents are then used during annual trainings thus minimizing the overall cost. Training is conducted by a Police Officer Standard Training (POST) certified Berkeley Police chemical agent training officer. The cost of training is staff time.

F. Maintenance and Storage Costs:

The majority of agents are stored inside of a marked chemical agent room within the Police Department, in the Special Response Team vehicle, or in the rescue Vehicle. There are no additional storage costs. There are no associated costs to transporting, maintenance, or upgrades.

G. Upgrade Costs:

No upgrades exist for this equipment as of this report.

(4) Impact:

BPD is committed to preserving and protecting human life and welfare. These tools allow us to fulfill our commitment to our community.

Law Enforcement, under Penal Code 12403.1, is able to lawfully purchase, possess, or use chemical agents in the discharge of their duties. CS and/or OC canisters have been prominently used to resolve dangerous barricaded suspect situations and violent crowd control/riot situations.

Berkeley Police officers are trained to utilize time and distance to de-escalate dangerous barricaded situations in order to resolve each incident with minimal the use of force (per Use of Force Policy 300). In some circumstances when all other options are exhausted, CS and/or OC can be inserted into the structure in which the barricaded suspect is, denying access to certain areas inside. Unless exigent circumstances arise, all attempts to evacuate the structure are made prior to any deployment. When CS and/or OC are deployed into a structure the suspect may be forced outside allowing the situation to resolve safely with no use further use of force.

CS and/or OC chemical agents can be utilized to create order in dangerous crowd control/riot situations that have demonstrated violence or destruction. During these incidents, typically a clear and direct warning has been given to the crowd to disperse before the chemical agents are deployed. The ability to disperse crowds from a distance limits injury to Police Officers as well as damage to critical structures.

(5) Mitigations:

Regarding the already mentioned impacts, the decision to utilize chemical agents (unless there are exigent circumstances) flows through the chain of command and ultimately makes its way to the Chief of Police and the City Manager. If there are exigent circumstances, the Field Commander makes the decision and then advises

the Chief of Police as soon as practical. All uses of force require documentation that is completed by the supervisor in a use of force report and reviewed by the Chain of Command. Furthermore, all deployments of equipment outlined in the Police Equipment and Community Safety Ordinance are documented according to the reporting requirements as mandated in the ordinance.

With these procedures incorporated in BPD's policies, this mitigates many potential negative impacts. Per Policy 428 – First Amendment Assemblies - The Field Commander shall determine the type and quantity of chemical agents to be used. After use of chemical agents, the Field Commander shall re-evaluate the scene to determine if additional chemical agents are needed. Less-than-lethal munitions (40 mm CS impact rounds), chemical agents (including OC spray), and/or smoke shall only be deployed in crowd control situations as outlined in the Use of Force Policy. For planned events, inventories shall be conducted before and at the conclusion of the incident. Outside agency inventories shall also be tracked.

In addition to the mitigations in place, the Berkeley Police Special Response Team also receives annual training on the use of chemical agents, the effects, and the decontamination process. Per policy 303, when practical, medical personnel should be summoned for the affected person(s).

(6) Alternatives:

There are no direct alternatives for CS and OC. They are the industry's leading way to resolve barricaded suspects while reducing the likelihood of injury to the subject, community, and officers. Additionally, it is one of the only tools that allows officers to stop acts of violence or regain order during crowd control/riot situations. They are very distinct in nature and have direct purposes. The rationale to use CS or OC depends on the circumstances of each incident. The Berkeley Police Department shall use the minimal amount of force per our Use of Force Policy 300. The use of CS or OC allows the police personnel to maintain distance, giving officers more time to react and avoid a potential need for a higher level of force to safely resolve the situation.

(7) Third Party Dependence:

There is no third-party dependence for CS and OC chemical agents. Once they are purchased, they are secured in their designated areas and stay there until they are either used during incidents or training.

Remington 700 Rifle

(1) Description:

A. **Background:**

The Remington 700 is a series of bolt-action rifles designed in 1962 by the Remington Arms Company. The “700” designator is the generic name for multiple models of rifles with various parts, barrel lengths, stocks, etc. The Remington 700 rifle has long been used by law enforcement agencies and continues to be an industry standard for issued equipment. The Berkeley Police Department utilizes a custom Remington 700 action, chambered in the common .308-caliber round, with a 20” barrel and an Accuracy International chassis/stock. The rifle also includes a Nightforce 3-15x magnified optic and bipod.

BPD utilizes Hornady .308-caliber ammunition. This particular ammunition is specially designed for law enforcement applications due to its increased and consistent accuracy and performance.

B. **Quantity:**

The Berkeley Police Department Special Response Team (SRT) currently possesses six Remington 700 rifles, all configured in the same manner.

Currently, BPD has approximately 1,800 Hornady .308-caliber rounds. That quantity of ammunition fluctuates depending on supply from distributors and training schedules of those trained officers.

C. **Capability:**

The Remington 700 rifle, with the appropriate ammunition, training, and practice, is capable of consistent and highly accurate shooting out to a distance of approximately 500-yards.

The Remington 700 is intended to be used in emergency situations where there is a high potential for violence, where the need exists to put distance between officers and a specific individual, such as an armed hostage situation.

D. **Lifespan:**

The Remington 700 bolt-action rifles have an expected life span of 10-years if properly maintained.

E. Use:

Used in the defense of life or great bodily injury to potential victims of violent crimes, general public, and officers.

F. How it Works:

The Remington 700 is a manually operated rifle. It requires the officer to physically maneuver a handle to expel a spent cartridge and to load another unspent round of ammunition in order to fire a second round. When the trigger is pressed, a firing pin strikes the primer of a bullet loaded into the chamber of the rifle. The ignited primer ignites gun powder contained in the bullet which pushes the bullet down the barrel and out the muzzle. The officer must then pull a handle attached to the bolt to the rear, ejecting the spent cartridge. The officer then pushes the bolt forward, which picks up another bullet from the magazine, and closes the chamber, making the rifle ready to fire again.

(2) Purpose:

This rifle is to be used in the defense of life or great bodily injury to potential victims of violent crimes, general public, and officers. This rifle provides police with the benefit of adding distance to a volatile situation which can increase the safety for community members and officers. This rifle is an ancillary firearm for situations where increased distance and accuracy is needed to safely resolve the situation.

(3) Fiscal Cost:**A. Initial Cost:**

The initial cost to purchase this rifle with its associated components is approximately \$10,000 dollars each. Their average life span is 10-years at which time it will likely need to be replaced.

B. Cost of Use:

Cost of use for all firearms should be based on the ammunition used in training and on duty. This will fluctuate based on training.

C. Cost of Adverse Effects:

Adverse effects and improper usage of a firearm are not calculable. It could lead to the loss of life or serious injury. Additionally, the improper use could result in civil liabilities.

D. Annual and Ongoing Costs:

If this rifle is not cared for or maintained well, then a potential financial adverse impact would be the premature purchasing of a replacement rifle or replacement

parts. However, authorized and trained Berkeley Police armorers service and provide regular maintenance of the rifles. The cost of maintenance is staff time.

E. Training Costs:

The cost associated with training is the staff time, range fees, and cost of spent ammunition. SRT members train once a month and, on average, each member shoots approximately 50-rounds. Currently, there are only 4 members shooting at each training day. This equates to approximately 2,400 rounds of ammunition being fired per year. This does not include special training days or attendance to training schools/classes. A single box of 20-rounds costs approximately \$20-dollars or \$1 dollar per round.

F. Maintenance and Storage Costs:

Maintenance costs vary depending on use over time. Firing pins need to be replaced every 5 to 7 years. The maintenance cost associated with this rifle is minimal.

There are no costs associated with maintenance or storage of ammunition. All ammunition is stored in a climate-controlled room in the Berkeley Police Department.

G. Upgrade Costs:

Upgrade costs and maintenance cost are synonymous due to the consistent design. Improvements in technology and new designs may be an additional cost but we can't predict what those will be at this time.

Should advancements be made in ammunition manufacturing; those upgrade costs are unknown at this time.

(4) Impact:

The primary purpose of this rifle is to further SRT's goal of adding time and distance when dealing with a violent and dangerous individual(s). The rifle may allow SRT additional time by increasing the distance between law enforcement and the specific individual, thereby increasing the likelihood of a more peaceful resolution. Like all tools, it has a time and place for its intended operational efficacy.

(5) Mitigations:

Mitigating impacts from this tool's primary purpose is done through regular training. The training includes accuracy, decision making, scenarios, and various other training points. All uses of force require documentation that is completed by the supervisor

in a use of force report and reviewed by the Chain of Command. Furthermore, all deployments of equipment outlined in the Police Equipment and Community Safety Ordinance are documented according to the reporting requirements as mandated in the ordinance.

(6) **Alternatives:**

The Remington 700 rifle is an industry standard tool used to deliver precision accuracy on an intended target. This tool can deliver accuracy and predictability through intermediate barriers like glass windows. It can be used at distances greater than any other tool currently possessed or authorized. No alternate tool or method would accomplish the same goal.

(7) **Third Party Dependence:**

These rifles are fairly simple in their design and operation. They do require regular maintenance which is commonly performed by each individual member. BPD Armorers are also capable of performing additional maintenance. If an issue arises which is beyond the scope of our Armorers we would seek professional assistance from the manufacturer. However, the need for this is very rare.

ReconRobotics Recon Scout XT

(1) **Description:**

A. **Background:**

The Recon Scout XT is a throwable micro-robot manufactured by ReconRobotics for use in law enforcement applications. The Recon Scout XT enables officers to obtain instantaneous video footage and audio within indoor or outdoor environments. Designed to withstand repeated drops onto concrete, the Recon Scout XT robot can be thrown into hazardous situations (hostage rescue, barricaded subjects, natural disasters, etc.) in order to allow officers to quickly and safely make informed decisions when seconds count.

B. **Quantity:**

The Berkeley Police Department has two Recon Scout XT throwable robots, both purchased in 2010.

C. **Capability:**

The Recon Scout XT robot is designed to be able to crawl over a variety of terrain, clearing obstacles up to 2" (5 cm) tall. It could be thrown into hazardous

situations, indoor and outdoor, and provide live audio and video feed back to the controller.

D. Lifespan:

Both Recon Scout XT robots are over 10 years old and ReconRobotics have developed and manufactured more advanced robots. ReconRobotics have stopped manufacturing certain parts for the Recon Scout XT, so the lifespan is dependent on what parts need to be replaced.

E. Use:

The Recon Scout XT robot may be deployed to help police officers safely view potentially dangerous environments before entering them.

F. How it Works:

The Recon Scout XT robot has a cylindrical body with a finned-wheel at either end of its body, and is stabilized by a rubber “tail”. It measures approximately 6 ½” wide, and each wheel is about 5” in diameter (fin to fin) and weights just over one pound (1.2 lbs.). The Recon Scout XT robot sends digital video and audio back to an Operator Control Unit (OCU; controller with a screen and joystick), which allows the officer to control the robot, which provides a live feedback containing audio and visual feeds. The Recon Scout XT robot does not record audio or video footage; there is no data storage capability.

(2) Purpose:

The Recon Scout XT robot is intended to safely provide police officers valuable information during high-risk, rapid evolving situations via real-time audio and video footage. It can be driven a distance away from the OCU, creating space between the officer and potential danger, thus decreasing the likelihood of injury to those involved in the event, or even a violent encounter between police officers and a dangerous subject. This asset furthers our commitment to the sanctity of life by offering time and distance in critical incidents.

(3) Fiscal Cost:

A. Initial cost:

The initial cost for the Recon Scout XT robot was about \$12,500 per unit (2010 cost).

B. Cost of Use:

There is no “per use” cost of this equipment. The Recon Scout XT is powered by a rechargeable battery.

C. Cost of Potential Adverse Impacts:

The likelihood of adverse impacts due to the use of the Recon Scout XT robot is low – it is small, lightweight and is not likely to injure persons or damage personal property when deployed; however, there is a small chance that the Recon Scout XT robot might cause damage to personal property when deployed (thrown) into a structure. Due caution is used when it becomes necessary to throw, rather than place, the robot into a structure.

D. Annual and Ongoing Cost:

There are no ongoing or annual costs associated with the use of the Recon Scout XT robot. Being that it is battery operated, there is a nominal cost associated with charging the Recon Scout XT robot's batteries, and the batteries of the OCU. The Recon Scout XT robot is fairly simple to operate, thus there is no cost associated with training officers in its use. There are no costs with transportation or storage of the Recon Scout XT robot. While there are newer models of this robot available, there does not appear to be any upgrades available for the Recon Scout XT. The Recon Scout XT robot has been damaged on occasion, and there are costs associated with repair. But generally, the Recon Scout XT robot is robust and does not need regular repair.

E. Training Cost:

The Recon Scout XT robot is user friendly and simple to operate. Training is conducted by Berkeley Police personnel familiar with the operations and procedures of the Recon Scout XT robot. The cost of training is staff time.

F. Maintenance and Storage Costs:

There are no annual or storage costs.

G. Upgrade Costs:

There are no upgrades available at the time of this report.

(4) Impact:

The Recon Scout XT robot is used to safely gather information in situations where it may be dangerous to expose an officer, or officers, to gather the same information. Putting officers in such unknown, tense situations has the potential to create violent encounters, or otherwise place officers in unnecessary peril and danger that might otherwise be avoided by the use of a tool like the Recon Scout XT robot. The Recon Scout XT robot is not likely to have a negative impact on the welfare or safety of the public as its role is to gather real-time information during high-risk incidents such as

hostage or potentially life-threatening situations. The Recon Scout XT robot is likely to improve the welfare and increase the safety of the public through its ability to gather real-time information and feed it back to police officers. The Recon Scout XT robot does not have the capability to record or store data.

(5) **Mitigations:**

The use of the Recon Scout XT robot is limited to sworn police officers, and guided by field supervisors (Lieutenants and Sergeants). Procedurally, the Recon Scout XT robot is used when exigent circumstances exist (hostage situation, barricaded subject, natural disaster necessitating rescue, etc.) and real-time information is necessary to safely and effectively resolve the situation. The robot does not record or store data.

(6) **Alternatives:**

Unmanned aerial vehicles (UAV) are an alternative to robots such as the Recon Scout XT robot. However, the Berkeley City Council has prohibited the Berkeley Police Department from using UAVs. They are not constrained by obstacles on the ground and provide far superior perspective and situational awareness; at times, obstacles halt the Recon Scout XT robot's movement. There are several other robots on the market, however, the Recon Scout XT robot is compact, lightweight (weighing in at just over a pound), very maneuverable, and can easily be carried by an officer. It can also be introduced into structures by throwing it through any opening – an option not possible with other robot models.

(7) **Third Party Dependence:**

The Recon Scout XT robot does not currently rely on a third-party company or vendor for its use or maintenance. Should maintenance or parts be required beyond the scope of the members of the Berkeley Police Department, the robot would be sent to ReconRobotics for service.

Andros Remotec HD-1 Hazardous Duty Robot

(1) **Description:**

A. **Background:**

The Andros Remotec HD-1 Hazardous Duty Robot, hereinafter referred to as Remotec HD-1 robot, was designed to support a wide range of missions in demanding environments. The Remotec HD-1 robot is capable of lifting up to 125 pounds, tracked articulators stair climbing, and has an integrated Talisman radio system for a stronger radio wave connection between the controller and the robot.

Remotec has served explosive ordinance disposal units, hazardous materials units, and other first responders as a provider of mobile robotic systems for application into a variety of undesirable, hazardous and potentially life-threatening environments. The Remotec HD-1 robot allows individuals to approach hazardous devices to examine and manipulate the device without putting people in harm's way.

B. Quantity:

The Berkeley Police Department Bomb Squad has one robot, the Remotec HD-1 robot.

C. Capability:

Remotec HD-1 robot is used in situations where a potential life-threatening situation exists and is too hazardous for a bomb technician to approach in person. The Remotec HD-1 robot is also used to survey an area prior to a bomb technician approaching a scene to check for trip wires and ascertain a good approach path. The Remotec HD-1 robot has three cameras and audio monitoring that stream live video and audio back to the control module; however, it is unable to record and does not have any data storage capabilities. It has several attachment mounting options as well. The Remotec HD-1 robot also has the ability to carry a variety of tools. Some of the tools are:

- 1) A spike to break glass and access vehicles or homes with potential explosive devices inside
- 2) An X-ray mount in order to remotely X-ray suspected explosive devices.
- 3) Percussion actuated non-electric disruptors which are smooth barrels that are filled with water and fired at high speed with a blank shotgun round to open backpacks, suitcases, and packages from a distance
- 4) A hook with cutting blades that are used to cut backpack straps, ropes, etc.
- 5) PAN rounds containing various fills, from sand to slugs, in order to open sturdier packages made from metal or other hard covers.
- 6) Electrical connections to connect explosives that can be detonated remotely and from a safe distance.

D. Lifespan:

The Remotec HD-1 robot has an expected life span of 10 years. It is currently 13 years old and has begun exhibiting issues. The Remotec HD-1 robot weighs just

over 200 lbs. and has been near multiple explosions over the years and crossed a variety of off-road terrain

E. Use:

Used to examine and possible destroy hazardous materials such as an explosive device.

F. How it Works:

The Remotec HD-1 robot is piloted by a bomb technician into a hazardous area to locate, examine, and render suspicious packages and explosive devices safe by utilizing a variety of attachable tools.

(2) Purpose:

The Remotec HD-1 robot is used as a means to approach hazardous situations where a potentially lethal threat such as an explosive device exist. The Remotec HD-1 robot allows for the examination and manipulation of an object or potential explosive device without unnecessarily putting a bomb technician's life at risk.

(3) Fiscal Cost:

A. Initial Cost:

Procured in 2008 for \$214,496 including on-site training through a UASI Grant. (64,292-N.S.)

B. Cost of Use:

None. The robot is electric and operated through the City's electricity for charging.

C. Cost of Potential Adverse Effects:

The Remotec HD-1 robot interacts with inanimate objects. However, should it encounter a package that explodes, it could potentially destroy the robot and damage other property.

D. Annual and Ongoing Costs:

There is no annual cost. Maintenance of the Remotec HD-1 robot is conducted by Berkeley Police Bomb Technicians.

E. Training Costs:

Berkeley Police Bomb Technicians are trained during regular bomb squad training sessions and maintain their skills through training scenarios. The cost of training is limited to staff time.

F. Maintenance and Storage Costs:

Remotec offers occasional maintenance and upkeep workshops free of charge.

G. Upgrade Costs:

There are no costs for upgrades as the company has stopped manufacturing the robot and any applicable upgrades.

(4) Impact:

The Remotec HD-1 robot is used by the Berkeley Police Department Bomb Squad as a means to examine a potentially explosive device in order to keep the community safe. Since April 2020, the Berkeley Police Department Bomb Squad has responded to 14 incidents. The impact of the Remotec HD-1 robot has been to reduce and minimize the danger posed by calls of possible explosive devices to the Berkeley Police Department's Bomb Technicians.

(5) Mitigations:

The Remotec HD-1 robot is used in situations where a hazardous device exists. In these situations, the area is always evacuated in order to ensure community safety.

(6) Alternatives:

The Remotec HD-1 robot is 13 years old and there has been significant development in technology. There are several alternatives that are far superior than our current Remotec HD-1; Mark V-A1 robot developed by Remotec Andros, Caliber Flex developed by ICOR Technology, Digital Vanguard-S developed by Med-Eng and T7 and T4 developed by L3Harris Technologies. These are alternatives that have newer and better technology and capabilities than the Remotec HD-1 robot.

(7) Third Party Dependence:

Remotec representatives are the only ones used to diagnose and maintain complex issues on the robot that cannot be done in-house. Since it is proprietary technology, Remotec may void warranties on any repairs made by outside vendors or by untrained personnel. Therefore, all complex issues with the Remotec HD-1 robot must be repaired by Remotec.

Light/Sound Diversionary Device

(1) Description:

A. **Background:**

Light/Sound Diversionary devices also known as distraction device, flashbang, light/sound and noise/flash devices have been available for approximately 40 years and are a safe and effective tool for Law Enforcement (LE) to use during challenging tactical incidents. The device will be referred to a diversionary device throughout this document.

B. **Quantity:**

Qty 50 - CTS 7290 Diversionary Device

C. **Capability:**

When a diversionary device is deployed they create a loud noise, heat and brilliant light and create an effective diversion. They can create psychological and physiological effects such as: hearing a loud noise beyond that of everyday living, seeing a short bright light, and feeling of a change in atmospheric pressure. These effects may disorient/confuse subjects for a short time giving tactical teams the ability to apprehend that subject without using a higher level of force.

D. **Lifespan:**

The lifespan of the CTS 7290 Diversionary Device is 5 years.

E. **Use:**

The use of a diversionary device is to create a diversion in order to facilitate entry and enable arrest. Circumstances justifying the use of a diversionary device may include, but not limited to barricaded subject or hostage situations and high-risk search warrants services.

F. **How it Works:**

The main charge of a modern diversionary device typically contains flash powder which is sometimes called photoflash powder. Upon initiation, this chemical compound causes the device to deflagrate (not detonate). The powder mixture is rapidly changed into gases that expand outward reaching upwards to 3,800 times the original volume of the charge itself. This process releases the desired effects of loud noise, bright light and the feeling of atmospheric pressure. Flash powder is typically made up of an oxidizer and some type of fuel. The oxidizer is needed to initiate and sustain the flash powder's rapid combustion. This is required since sufficient oxygen cannot be obtained from just the surrounding air.

(2) **Purpose:**

The purpose of a diversionary device is to create a reactionary gap of a person by temporarily disorienting them. This gap gives tactical teams an opportunity to apprehend a suspect while using the minimal amount of force possible. They can also be used to safely invoke a response or redirect the attention of subjects who are either feigning injury, ignoring police commands or are unresponsive while posing a threat to the public.

(3) **Fiscal Cost:**

A. **Initial Cost:**

Diversionary Devices cost approximately \$45 per unit and are purchased through LC Action Police Supply. Purchases for these tools are made when inventory becomes low, based upon critical incident usage and Special Response Team trainings that incorporate live devices.

B. **Cost of Use:**

The cost of each proposed use is unpredictable due to the unknown nature and timelines of dangerous barricade situations, critical incident, and hostage situations. The devices may be stored inside of the Police Department, in the Special Response Team Vehicle, or in the rescue vehicle. There are no additional storage costs. There are no associated costs for transporting, maintenance, training, or upgrades.

C. **Cost of Potential Advert Effects:**

Adverse effects of improper use of a diversionary device are not calculable. It could result in serious injury. Additionally, the improper use could result in civil liabilities.

D. **Annual and Ongoing Costs:**

See below training cost.

E. **Training Cost:**

Only trained and qualified personnel are permitted to deploy diversionary devices. These trained Berkeley Police officers are typically members of the Berkeley Police Department Special Response Team who receive monthly training which includes training in the deployment of diversionary devices. The cost of training is staff time.

F. Maintenance and Storage Costs:

The majority of diversionary devices are stored inside of a room in the basement within the Police Department. There are no additional storage costs. There are no associated costs to transporting, maintenance, or upgrades.

G. Upgrade Costs:

No upgrades exist for this equipment as of this report.

(4) Impact:

The Berkeley Police Department is committed to preserving and protecting human life and welfare. These tools allow us to fulfill our commitment to our community.

Diversionary Devices may be utilized in many situations to include potentially dangerous barricaded subject situations, hostage situations, and critical incidents. Some criteria considered prior to a deployment is dependent upon whether the suspect is a dangerous felon, causes a life-threatening situation and/or other unique incidents where it appears to be a reasonable method in which to resolve the situation. When deployed appropriately these devices can assist in safely apprehending suspects and resolving high risk critical incidents with minimal or no injuries to suspects and/or officers.

(5) Mitigations:

Since Diversionary Devices are considered low explosives, there are several protocols in place to mitigate possible negative results (i.e. minor or major injuries).

Only trained and qualified personnel are permitted to deploy diversionary devices; typically, members of the Special Response Team who receive constant training regarding the deployment, effects, and post deployment protocols.

Pre-deployment concerns are typically gathered and evaluated, such as:

- The number of people at a location and the individual location of suspects within the structure.
- Evaluation if there are children or elderly people present
- An evaluation of the suspect's mental and physical conditioning
- Evaluation of the building/room layout

- Possible combustible/flammable substances present
- Lighting conditions

When a diversionary device is deployed, the officer shall utilize a helmet, hearing protection, eye protection, body armor, and nomex (fire resistive) gloves.

If a diversionary device is used, a supervisor shall be notified, medical treatment/screening is conducted, and a collection of the deflagrated device is completed. Documentation utilizing the device serial number is recorded.

Per Policy 351 - Except in extreme emergencies (i.e., life-threatening situations), flash/sound diversionary devices shall not be used without prior authorization of the incident commander/on-scene supervisor. Whenever diversionary devices are carried by personnel in an actual situation or incident, that fact shall be noted in the after-action report or police report. In the event devices are deployed, the circumstances surrounding their deployment shall be fully described. The Chief of Police or his or her designee shall be responsible for reviewing any deployment of diversionary devices to ensure that policy was followed. Diversionary devices are registered by serial number with the Bureau of Alcohol, Tobacco, and Firearms (ATF). Typically, the police department's purchase of new devices is reported directly (by case-lot serial numbers) to ATF by the device manufacturer via ATF Form 5. The National Firearms Act requires the police department to notify ATF upon the use/expenditure of diversionary devices. A Special Response Team member shall be responsible for submitting written notification to ATF when all devices listed on a single ATF form 5 have been used/expended.

(6) Alternatives:

A possible alternative to a diversionary device (flashbang) is the Tactical Electronic Distraction Device (T.E.D.D.) which emits 2600 lumen light and high pitched 120 decibel sound to disorientate subjects. This could be a good tool as it is not a low explosive however it has its negative aspects as well:

- There is no feeling of atmospheric pressure, limiting the desired momentary physiological effect.
- A suspect could pick up and throw the device at potential victims and at police officers. The currently used diversionary devices are too hot to attempt this.

- In certain circumstances, a suspect could potentially steal the device during an escape.
- The individual cost per unit is approx. \$200 which is much more than a diversionary device
- This device is significantly less effective in disorienting subjects compared to a diversionary device.

(7) **Third Party Dependence:**

There is no third-party dependence for Diversionary Devices with the exception of communication with ATF of the purchase. Once they are purchased, they are secured within their designated locations where they are stored until they are either used during incidents or training.

Long Range Acoustic Device (LRAD)

(1) **Description:**

A. **Background:**

The Long-Range Acoustic Device (LRAD) is a high intensity directional acoustical array for long range, crystal clear notification system. The use of the LRAD is for communications.

B. **Quantity:**

The Berkeley Police Department possesses 2 Long Range Acoustic Devices (LRAD) speakers. One is an LRAD 450XL and the other is an LRAD 100X.

C. **Capability:**

Both of these speakers are able to focus sound in directional pattern allowing the user to make sound audible over distances much greater than conventional public address speakers. The LRAD 450XL is the larger of the two and designed to either be used in a fixed location or mounted on a vehicle to make it portable. It has a usable range of approximately 1 mile. The LRAD 100X is smaller and more portable. It can be carried or mounted to a person's chest for mobility or mounted to a vehicle. Its range is approximately 1/3 of a mile. Both of these systems allow for clear long-range communication, they are also able to play recorded messages.

D. Lifespan:

The lifespan for both LRADs is 25 years.

E. Use:

The LRADs are used to communicate with the community during natural disasters, crowd management and control situations, or when other forms of communications are ineffective or inoperable to unequivocally communicate messages from Police or Fire and safely resolve uncertain situations where communicating with the public is paramount.

F. How it Works:

The LRADs are essentially a long-range speaker or long-range megaphone and operates as such.

(2) Purpose:

The LRADs are designed for clear long-range communication. The LRAD's ability to communicate over a long distance is far superior to any megaphone or Public Address (PA) system mounted to a police vehicle. Additionally, LRAD's may be used to:

- Communicate lifesaving information to residents during disasters
- Communicate to large crowds during parades, festivals, concerts and sporting events
- Establish safety zones and perimeters
- Control traffic congestion
- Conduct Special Response Team operations
- Broadcast a dispersal order
- Communicate during hostage and barricaded subject situations
- Announce and serve high risk warrants
- Communicate to protesters
- Communicate to persons threatening suicide who are in an inaccessible location
- Conduct search and rescue operations

The ability to communicate with the public in a large area increases the safety of all members of the public and law enforcement. It allows everyone in a given area to know what is being communicated, gives more situational awareness to everyone in a given area and allows people to know where to go or not to go.

(3) **Fiscal Cost:**

A. **Initial Cost:**

The LRAD 450XL and the LRAD 100X were purchased in 2018. The total cost for both LRADs, rechargeable battery packs and accessories was \$49,999.

B. **Cost of Use:**

There is no cost associated with each use of the LRADs. The systems run on batteries or can plug into a vehicle.

C. **Cost of Potential Adverse Effects:**

Adverse effects of improper use of the LRADs are not calculable. It could lead to hearing loss. Additionally, the improper use could result in civil liabilities.

D. **Annual and Ongoing Costs:**

BPD has not incurred any additional cost to date for this equipment.

E. **Training Costs:**

Training is conducted by Berkeley Police personnel who are trained in the use and procedures of the LRAD. The cost to train is staff time.

F. **Maintenance and Storage Costs:**

There are no maintenance or storage costs for this equipment.

G. **Upgrade Costs:**

No upgrades exist for this equipment as of this report.

(4) **Impact:**

The Berkeley Police Department is committed to ensuring the safety of our community. Having the ability to communicate efficiently and effectively in different situations is crucial in providing potentially life-saving information to the public. The LRAD provides BPD personnel the ability to communicate long distances to people that are in a given area, inside structures, or barricaded inside a structure. The LRAD is very effective any situation involving communicating information to large crowds, or entire communities.

(5) **Mitigations:**

The only potential negative impact of the LRAD's is that they are capable of producing a high pitched "deterrent tone" that is designed to disperse a potential threat. This "deterrent tone" does have the ability to cause hearing damage. BPD Policy 707 strictly prohibits any member of BPD from using the LRAD as a weapon.

Additionally, the LRAD can only be deployed at the direction of a Watch Commander or Incident Commander and may only be used by personnel specifically trained in the use of the LRAD.

(6) **Alternatives:**

BPD is not aware of any other sound speakers that are able to clearly communicate over long distances of up to 1 mile.

(7) **Third Party Dependence:**

To date, BPD has not depended on any third party for the use or maintenance of this equipment.

36" Baton

(1) **Description:**

A. **Background:**

The Berkeley Police Department issues a knurled grip, polycarbonate, fixed-length straight baton for crowd control purposes. The baton is 36" long and 1.25" in diameter and weighs about 1.64 pounds. Polycarbonate is a thermoplastic, which means it is durable, resistant to splintering and heat.

B. **Quantity:**

In 2017, BPD purchased 175 polycarbonate 36" batons to replace aging wood batons of the same purpose. Additional polycarbonate batons were purchased over the past four years to ensure all sworn police officers as well as trained reserve police officers are equipped with the 36" baton. BPD possesses approximately 195 - 36" polycarbonate batons. Most of these batons are issued to and maintained by individuals. However, a small amount of these batons is stored in a secure equipment room as spares in case of damage or new personnel issue.

C. **Capabilities:**

The 36" baton is carried in a "baton ring" on an officer's belt just as any other baton. It is used as a safety tool and is a means for officers to defend themselves in certain crowd control or riot situations. Trained officers may employ particular applications of force with their 36" batons when directed by their chain of command. The 36" baton is the desirable baton in a crowd control situation as it is 7" longer than the standard 29" baton. The longer baton creates more distance

between the officer and others, which is critical when dealing with violent or aggressive crowds.

D. Lifespan:

The manufacturer provides a lifetime repair or replacement guarantee.

E. Use:

The 36" baton is a less-lethal force tool and is intended to be used in crowd control situations in close quarters, where officers may defend an attack, or when engaging in physical contact with combative or aggressive crowd members. The 36" baton is only used for crowd situations.

F. How it Works:

There are a number of appropriate blocking or striking techniques an officer may use when force is justified and the decision is made to use the 36" baton to effectively gain control of a person or situation. The use of the baton requires the officer to continually monitor and assess effectiveness of any delivered strikes. The reason this type of force is administered is to stop a person's attack, threat or resistance, with the goal to place them under lawful arrest for their actions.

(2) Purpose:

The 36" baton is a less-lethal tool that may be used when a crowd becomes aggressive, hostile or violent. It is the most effective individual tool of choice when officers are in formation and engaged in crowd control duties.

When officers are deployed to maintain, disperse, or protect others from a violent crowd or civil disobedience, it is imperative that they have an adequate safety zone to protect themselves or others. The 36" baton provides officers additional distance from a potential threat than the standard issue 29" baton.

When the baton is used to strike a subject, kinetic energy transfer occurs. Kinetic energy is the energy of motion. The amount of translational kinetic energy which an object has depends upon two variables: the mass of the object and the speed of the object. The desired effect is for the officer to apply a baton strike with the necessary energy to stop the threat as quickly and safely as possible. By targeting the large muscle areas of the arms or legs with sufficient kinetic energy, motor and sensory nerves can be affected. When the nerves are affected this will create momentary muscle dysfunction or pain, which will allow the officer the ability to gain control of the subject, while minimizing the possibility of long-term injury to the subject.

The head, neck, throat, spine, heart, kidneys and groin should not be intentionally targeted except when the person's conduct is creating an immediate threat of serious bodily injury or death to an officer or any other person as outlined in policy 303 and 300.

(3) **Fiscal Cost:**

A. **Initial Cost:**

The cost of the Monadnock MP36 2004 36" polycarbonate baton with knurled grip was \$53.00 per baton in September 2017. After tax, \$10,132.94 was spent for the purchase of 175 batons. The department placed an additional order for 20 batons in December 2019. It is anticipated that the cost of the baton will fluctuate a few dollars based on supply and demand over time.

B. **Cost of Use:**

The only cost associated with use that of ongoing departmental training to ensure officers are proficient in authorized baton techniques.

C. **Costs of Potential Adverse Impacts:**

Adverse effects from improper use of the 36" baton cannot be anticipated. Improper use could lead to serious bodily injury or death. Additionally, the improper use could result in civil liabilities.

D. **Annual and Ongoing Costs:**

There is no additional annual or ongoing cost associated with the 36" baton.

E. **Training costs:**

Training on the applications of the batons are conducted at the police academy. Police Office Standard Training (POST) requires "arrest and control" training every 2 years which includes portions of baton training. This training is conducted in-house by POST certified defensive tactics instructors.

F. **Maintenance and Storage Costs:**

There are no associated costs to transporting, maintenance, or upgrades.

G. **Upgrade Costs:**

No upgrades exist for this equipment as of this report.

(4) **Impact:**

Per Policy 300, "The Berkeley Police Department's highest priority is safeguarding the life, dignity, and liberty of all persons. The Department is committed to

accomplishing this mission with respect and minimal reliance of the use of force by using rapport-building communication, crisis intervention, and de-escalation tactics before resorting to force.”

At times, it may become necessary for police officers to use force in crowd control situations to move a crowd, stop violent behavior, overcome resistance or make a lawful arrest. Officers have been trained that they must do everything possible to avoid unnecessary uses of force, and minimize the force that is used, while still protecting themselves and the public. When deemed necessary, use of the 36” baton may be used as a tool to strike a person, create a barrier or used in formation in order to move a crowd in a certain direction. The use of the baton may cause discomfort, pain, blunt trauma and has the potential to cause serious injury. Their use is subject to the totality of the circumstances, proper training, department policy, as well as federal and state law.

Officers who use the 36” baton are trained to continuously assess each situation where force is used and only use the force that is reasonably necessary and proportional to respond to the threat or resistance to effectively and safely resolve the incident.

(5) Mitigations:

Per Policy 300, “In all cases where physical force is used, officers shall use a minimum amount of force that is objectively reasonable, objectively necessary, and proportional to effectively and safely resolve a conflict.”

Per Policy 303, “Only officers who have successfully completed department-approved training in the use of any control device are authorized to carry and use the device. Control devices may be used when a decision has been made to control, restrain or arrest a subject who is violent or who demonstrates the intent to be violent, and the use of the device appears reasonable under the circumstances. When reasonable, a verbal warning and opportunity to comply should precede the use of these devices. When using control devices, officers should carefully consider potential impact areas in order to minimize injuries and unintentional targets.”

Every officer who carries a 36” baton has been trained how to properly carry the equipment, it’s intended use, target areas and non-target areas. Large muscle groups such as the upper legs or lower abdomen are approved target areas and areas to be avoided at the groin and head. When a baton strike is directed at an intended target area and the subject moves simultaneously, it is possible for the officer to unintentionally strike a non-target area. Officers are trained to consider the

placement of baton strikes, and to immediately render medical aid to the subject as soon as it is safe to do so.

All uses of force require documentation that is completed by the supervisor in a use of force report and reviewed by the Chain of Command. Furthermore, all deployments of equipment outlined in the Police Equipment and Community Safety Ordinance are documented according to the reporting requirements as mandated in the ordinance.

(6) **Alternatives:**

The alternatives to the 36" crowd control baton are the 29" standard issue baton and collapsible 26" Rapid Containment Baton (RCB). The standard issue baton and RCB are shorter in length and require officers to be closer to the person they are engaging, thereby increasing the risk of injury to the officer and the person. A longer baton provides an officer with more distance which creates a small safety zone and allows the officer time to react and assess the situation before making use of force decisions.

(7) **Third Party Dependence:**

There is no requirement for a third-party service provider to issue the 36" crowd control baton. Berkeley Police Department Defensive Tactics Instructors provide in-house training on the proper use of the baton.

Mobile Command Vehicle

(1) **Description:**

A. Background

The Berkeley Police Department owns one Mobile Command Vehicle (MCV). Our MCV is a 2003 Freightliner MT55. This vehicle's most common use is as a commercial delivery vehicle. Our 2003 Freightliner MT55 was converted into a MCV by adding desktop work stations, additional police radios and emergency lighting. The MCV is 30' long and has a gross vehicle weight (GVW) of approximately 23,000 pounds.

B. Quantity:

The Berkeley Police Department owns 1 MCV.

C. Capability:

The MCV is a mobile office that provides shelter and may be used as a mobile command and communication center.

D. Lifespan:

This vehicle is approximately 20 years old and is at the tail end of its serviceable lifespan. All emergency vehicles need to be completely dependable and vehicles of this age start to lose dependability as old parts start to fail without warning. The modern versions of this type of vehicle are typically converted motorhomes.

E. Use:

This vehicle is used as a mobile command post for large scaled events.

F. How it Works:

This vehicle operates and drives like other vehicles.

(2) Purpose:

This vehicle may be used as a mobile command post for any larger scaled events or as a communications center in the event the communications center in the Public Safety Building is inoperable. Some examples of large-scale events include Solano Stroll, Juneteenth, 4th of July, critical incidents or natural disasters.

(3) Fiscal Cost:

A. Initial cost:

The initial cost of the MCV (2003 Freightliner MT55) was \$230,800.

B. Cost of Use:

The cost of use is the cost of fuel from the City Corporation Yard.

C. Cost of Potential Adverse Effects:

Adverse effects of improper use of the MCV are not calculable, but is the same as improper use of any vehicles. The improper use could result in civil liabilities.

D. Annual and Ongoing Costs:

There is no annual or ongoing cost associated with this vehicle. Maintenance of the vehicle is conducted by the City's Corporation Yard.

E. Training Costs:

Training is conducted in-house by Berkeley Police personnel who are trained in the operation of the vehicle. The training cost is staff time.

F. Maintenance and Storage Costs:

There are no storage costs and maintenance would be conducted by the City of Berkeley Corporation Yard.

G. Upgrade Cost:

The MCV is almost 20 years old and upgrades would involve replacing different parts of the vehicle. This work would be conducted by the City of Berkeley's Corporation Yard. The cost would be staff time plus the cost of any necessary parts.

(4) Impact:

The MCV is used as a command post for any large scaled event. It works as a mobile central location where resources can stage and be deployed from. It provides the police department with on-site command, supplying a control and communications hub that is needed for large community events, or critical incidents such as natural disasters in order to maintain public safety.

(5) Mitigations:

The MCV shall only be operated by trained personnel that have demonstrated proficiency in the operations of this vehicle per Berkeley Police Department Policy 811.

(6) Alternatives:

The MCV is almost 20 years old. Current MCV from other agencies are large mobile homes converted into MCVs.

(7) Third Party Dependence:

All maintenance is completed through the Cities Corp Yard so there is no dependence on a third party.

Barrett Model 99 Rifle

(1) Description:**A. Background:**

The Barrett Model 99 rifle is a single shot bolt-action 50-caliber rifle first

introduced in 1999. It is intended to be used in emergency situations where there is a high potential for violence.

B. Quantity:

Berkeley Police Department Special Response Team (SRT) currently possess 1 (one) of these rifles and is not looking to purchase any others.

Currently BPD has approximately 100 Summit Ammunition .50-caliber BNG rounds.

C. Capability:

This rifle is used only in situations where a potential life-threatening situation exists. The length of the rifle's barrel coupled with the ammunition result in precision accuracy. This rifle is capable of disabling any vehicle engine block because of the large caliber round.

D. Lifespan:

This rifle has been in our possession for almost 15-years and we expect it to last for an additional 20 years or more considering how in-frequently it's used.

E. Use:

This rifle is used primarily in emergency situations where a life-threatening situation exists, necessitating a vehicle to be disabled.

F. How it Works:

This is a bolt-action rifle that fires one round at a time and needs to be reloaded by hand after each round. The Barrett Model 99 rifle works similar to all modern bolt-action rifles. When the trigger is pressed, a firing pin strikes the primer of a bullet loaded into the chamber of the rifle. The ignited primer ignites gun powder contained in the bullet which pushes the bullet down the barrel and out the muzzle. The operator pulls the bolt back, ejecting the spent cartridge. The operator then loads another bullet into the breach, pushes the bolt forward, and closes the chamber, making the rifle ready to fired again.

(2) Purpose:

The Barrett rifle is a firearm that may be used to stop a vehicle which poses a lethal threat to the public, or to disable a vehicle which presents a threat to the safety of another person(s) by its continued use. There are vehicle disabling tools that may disable vehicles by slowly deflating the tires; however, even with tires deflated a vehicle has the ability to operate and remain a threat to the public. Furthermore, these tools must be hand deployed and, in most circumstances, require officers to expose themselves to deadly threats. The Barrett rifle creates the ability to effectively disable vehicles instantaneously from a distance away.

(3) Fiscal Cost:**A. Initial Cost:**

The Barrett Model 99 50-caliber rifle has a retail cost of approximately \$12,500 dollars. The Department of Justice provided the Barrett rifle to the Berkeley Police Department on 04/04/2007. There was no initial cost related to BPD taking possession of it.

B. Cost of Use:

The costs associated with its proposed uses is in the expenditure of its ammunition. The ammunition has a retail cost of approximately \$6 dollars per bullet; \$60 for a box of 10 and \$600 for a case of 10 boxes, plus shipping and handling. We currently possess 100 rounds of BMG ammunition.

C. Cost of Potential Adverse Effects:

Adverse effects of improper use of a firearm are not calculable. It could lead to the loss of life or serious injury. Additionally, the improper use could result in civil liabilities.

D. Annual and Ongoing Costs:

The annual cost of the equipment is minimal and includes ammunition expenditure, cleaning equipment, and possibly replacing the optics at some point in the future.

E. Training Costs:

The cost associated with training is the staff time, range fees, and cost of spent ammunition.

F. Maintenance and Storage Costs:

Maintenance costs vary depending on use over time and will vary. There are no costs associated with maintenance or storage of ammunition. All ammunition is stored in a climate-controlled room in the Berkeley Police Department.

G. Upgrade Costs:

Improvements in technology and new designs may be an additional cost but we can't predict what those will be at this time.

Should advancements be made in ammunition manufacturing; those upgrade costs are unknown at this time.

(4) **Impact:**

The Berkeley Police Department is committed to preserving and protecting human life and welfare. The Barrett rifle is a firearm the department would primarily use to stop a vehicle which poses a lethal threat to the public or used to disable a vehicle that presents a threat to the safety of another person(s) by its continued use.

The Barrett rifle is intended as a tool to increase the safety and welfare of community members and officers alike.

The Barrett rifle has minimal or no impact on civil rights or civil liberties as it will only be deployed in very specific situations, by very select members of the SRT. This is not a piece of equipment that is carried by an officer on routine patrol, and is highly unlikely that any members of our community would ever see this equipment due to its very selective use in the most critical of instances.

(5) **Mitigations:**

Only four BPD members are authorized to utilize this rifle. Authorized members are trained in its use as well as the very specific and limited circumstances where this equipment would be utilized.

(6) **Alternatives:**

There is no other alternative tool or asset available that could accomplish the same goal of this rifle. An alternative rifle to the Barrett model 99 is a different rifle of equal capability, such as a Lapua .338 caliber rifle.

(7) **Third Party Dependence:**

These rifles are simple in their design and operation. They do require regular maintenance which is performed by an SRT Team Leader. If an issue arises which is beyond the scope of our Armorers we would seek manufacturer assistance. However, the need for this is expected to be very rare.

Appendix:

Applicable Lexipol Policies Respective to Each Equipment

Policies are hyperlinked to the Berkeley Police Department Lexipol policy website.

M4 rifle/Patrol Rifle

- [Policy 300 \(Use of Force\)](#)
- [Policy 349 \(Tactical Rifle Operator Program\)](#)

Penn Arms 40MM launcher

- [Policy 300 \(Use of Force\)](#)
- [Policy 303 \(Control Devices and Techniques\)](#)
- [Policy 428 \(First Amendment Assemblies\)](#)

Milkor LTL multi-launcher

- [Policy 300 \(Use of Force\)](#)
- [Policy 303 \(Control Devices and Techniques\)](#)
- [Policy 428 \(First Amendment Assemblies\)](#)

FN 303 Launcher & FN Pava rounds

- [Policy 300 \(Use of Force\)](#)
- [Policy 303 \(Control Devices and Techniques\)](#)
- [Policy 428 \(First Amendment Assemblies\)](#)

Chlorobenzylidene Malononitrile and Oleoresin Capsicum (canister and spray)

- [Policy 300 \(Use of Force\)](#)
- [Policy 303 \(Control Devices and Techniques\)](#)

Remington 700 Rifle

- [Policy 300 \(Use of Force\)](#)
- [Policy 354 \(Precision Rifle\)](#)

ReconRobotics Recon Scout XT Robots & Andros Remotec HD-1 Hazardous Duty Robot

- [Policy 708 \(Robot Cameras\)](#)

Light/Sound Diversionary Device

- [Policy 353 \(Diversionary Device\)](#)

Long Range Acoustic Device

- [Policy 707 \(Long Range Acoustical Device\)](#)

36" batons

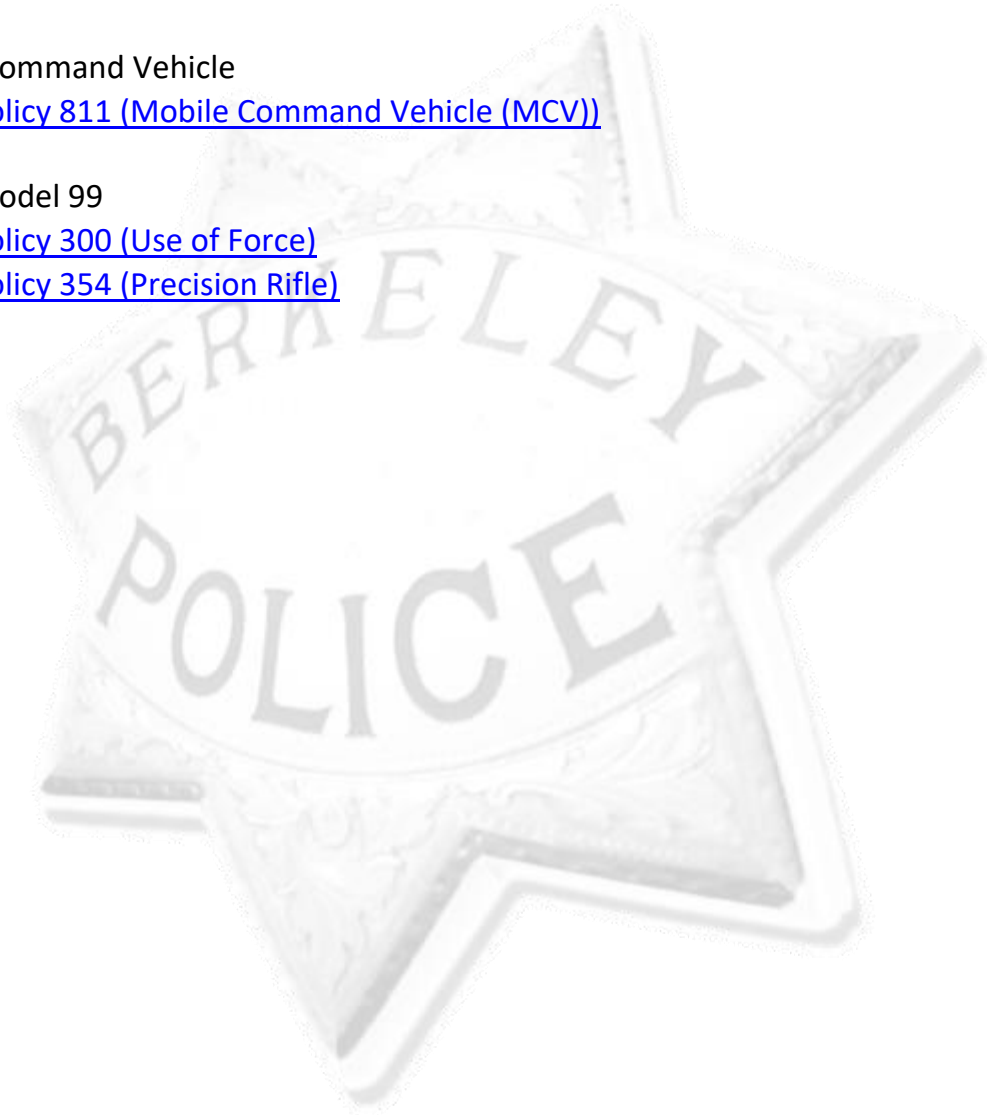
- [Policy 300 \(Use of Force\)](#)
- [Policy 303 \(Control Devices and Techniques\)](#)
- [Policy 428 \(First Amendment Assemblies\)](#)

Mobile Command Vehicle

- [Policy 811 \(Mobile Command Vehicle \(MCV\)\)](#)

Barret Model 99

- [Policy 300 \(Use of Force\)](#)
- [Policy 354 \(Precision Rifle\)](#)



Military Equipment

709.1 PURPOSE AND SCOPE

The purpose of this policy is to provide guidelines for the approval, acquisition, and reporting requirements of military equipment (Government Code § 7070; Government Code § 7071; Government Code § 7072).

709.1.1 DEFINITIONS

Definitions related to this policy include (Government Code § 7070):

Governing body – The Berkeley City Council.

Military equipment – Includes but is not limited to the following:

- Unmanned, remotely piloted, powered aerial or ground vehicles.
- Mine-resistant ambush-protected (MRAP) vehicles or armored personnel carriers.
- High mobility multipurpose wheeled vehicles (HMMWV), two-and-one-half-ton trucks, five-ton trucks, or wheeled vehicles that have a breaching or entry apparatus attached.
- Tracked armored vehicles that provide ballistic protection to their occupants.
- Command and control vehicles that are either built or modified to facilitate the operational control and direction of public safety units.
- Weaponized aircraft, vessels, or vehicles of any kind.
- Battering rams, slugs, and breaching apparatuses that are explosive in nature. This does not include a handheld, one-person ram.
- Firearms and ammunition of .50 caliber or greater, excluding standard-issue shotguns and standard-issue shotgun ammunition.
- Specialized firearms and ammunition of less than .50 caliber, including firearms and accessories identified as assault weapons in Penal Code § 30510 and Penal Code § 30515, with the exception of standard-issue firearms.
- Any firearm or firearm accessory that is designed to launch explosive projectiles.
- Noise-flash diversionary devices and explosive breaching tools.
- Munitions containing tear gas or OC, excluding standard, service-issued handheld pepper spray.
- TASER® Shockwave, microwave weapons, water cannons, and long-range acoustic devices (LRADs).
- Kinetic energy weapons and munitions.
- Any other equipment as determined by a governing body or a state agency to require additional oversight.

Military Equipment

709.2 POLICY

It is the policy of the Berkeley Police Department that members of this department comply with the provisions of Government Code § 7071 with respect to military equipment.

709.3 MILITARY EQUIPMENT COORDINATOR

The Chief of Police should designate a member of this department to act as the military equipment coordinator. The responsibilities of the military equipment coordinator include but are not limited to:

- (a) Acting as liaison to the governing body for matters related to the requirements of this policy.
- (b) Identifying department equipment that qualifies as military equipment in the current possession of the Department, or the equipment the Department intends to acquire that requires approval by the governing body.
- (c) Conducting an inventory of all military equipment at least annually.
- (d) Collaborating with any allied agency that may use military equipment within the jurisdiction of Berkeley Police Department (Government Code § 7071).
- (e) Preparing the annual military equipment report for submission to the Chief of Police and ensuring that the report is made available on the department website (Government Code § 7072).

709.4 MILITARY EQUIPMENT INVENTORY

The following constitutes a list of qualifying equipment for the Department:

- M4 rifle/Patrol Rifle
- Penn Arms 40MM Single Launcher
- Milkor LTL Multi-Launcher
- FN 303 Launcher & FN Pava Impact Projectile
- Oleoresin Capsicum Spray
- Chlorobenzylidene Malononitrile and Oleoresin capsicum
- Remington 700 Rifle
- ReconRobotics Recon Scout XT Robots
- Andros Remotec HD-1 Hazardous Duty Robot
- Light/Sound Diversionary Device
- Long Range Acoustic Device
- Mobile Command Vehicle
- Barret Model 99

Military Equipment

709.4.1 BERKELEY POLICE DEPARTMENT'S INVENTORY

Rifles and Associated Ammunitions

Rifle:

M4 Rifle (Description, purpose/authorized use, fiscal impact, legal and procedural, and training)

Description (type of equipment, quantity, capabilities, lifespan, and product description from manufacture)

Type: Colt M-4 patterned rifle, which fires the .223 Remington cartridge

Quantity: The Berkeley Department currently owns and maintains 96 rifles

Capabilities: The M4 pattern rifle is used only in situations when a potential life-threatening situation exists. While a pistol is the common firearm used by police in these dangerous situations, the M4 patterned rifle has numerous advantages over it. The ability to shoulder the rifle, coupled with the rifle's lengthened barrel and ammunition, result in higher accuracy and lessens the chance of officers missing the intended target. Additionally, due to the design of the rifle's bullet, the round is less likely to over penetrate commercial and residential walls should the officer miss the intended target. The rifle is also easier to use compared to a pistol because of the bullet's low recoil. Finally, as the rifle can be adjusted and customized, it can be configured to accommodate officers of any stature (hand size, strength, etc.).

Lifespan: Due to the rifle's ability to be maintained by department armorers, these rifles have a relatively long-life span if properly maintained. However, the design has changed little in the last 60 years and we can expect new variations and designs to become the new industry standard in the coming years.

Manufacturer's Description: This specially designed law enforcement weapon system features many of the combat proven advantages of the military Colt M4. With the 4-position buttstock fully retracted, the Colt Law Enforcement Carbine is less than 32inch length and weighs only 6.9 lb - ideal for tactical deployment and traditional patrol.

PURPOSE and AUTHORIZED USE:

Purpose: The M4 patterned rifle and associated ammunition is intended as a means to safely stop a lethal threat. While a pistol is the firearm that all officers are minimally equipped with, the rifle is an ancillary firearm for situations where increased distance and accuracy are needed to safely resolve the situation.

Authorized Uses: Used in the defense of life or great bodily injury to potential victims of violent crimes, general public, and officers.

FISCAL IMPACT:

Initial Cost: Exact costs unknown. Rifle prices, like other firearms, will range depending on current market demand and availability. While M4 rifles purchased several years ago cost between \$1,000

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and \$1,200 a piece, current rifles cost between \$1,400 and \$1,600. It should be expected that these prices will fluctuate and likely increase over time.

Annual cost: Cost of use for all firearms should be based on the ammunition used in training and on duty. This will fluctuate based on whether the rifle is issued to a patrol officer, a firearms instructor, or a Special Response Team member as each assignment has different training requirements.

Training costs: Every officer that is authorized to carry a rifle on duty must attend a 16-hour CA POST approved rifle instruction course before being authorized to carry the rifle on duty. This course may be administered by Berkeley Police Firearm Instructors or by other POST approved agencies. Tuition for the CA POST approved class is dependent on the hosting agency. If conducted in house the cost only includes the officer's hourly wage, range fee, and ammunition costs (all vary). Outside agencies charge between \$25 to \$500 depending on the range location and duration (some classes are 32-hours while POST only requires 16-hours.) Additionally, all officers issued a rifle receive specific 8-hour rifle training every two years by POST certified BPD firearm instructors.

Maintenance costs: Vary depending on use over time. Traditionally, various springs and pins need to be replaced every five years and may cost between \$3 and \$30 per rifle. Other parts such as the barrel and bolt need replaced around ten years and range between \$150 and \$300 per rifle.

LEGAL AND PROCEDURAL RULES:

Authorized use must comply with state, federal laws, and Lexipol Policy 300 Use of Force, and Policy 349 Tactical Rifle Operator Program. The use of this equipment shall comply with the authorizations and prohibitions set forth in Policy 300 – Use of Force. It is the policy of the BPD to utilize rifles only for official law enforcement purposes, and pursuant to State and Federal law regarding the use of force including the provisions of Penal Code Section 13652.

TRAINING:

Prior to using a rifle, officers must be certified by POST instructors in the operation of the rifle. Additionally, all members that operate any rifle are required to pass a range qualification.

Remington 700 Rifle (Description, purpose/authorized use, fiscal impact, legal and procedural, and training)

Description (type of equipment, quantity, capabilities, lifespan, and product description from manufacture)

Type: Remington 700 rifle, which fires the .308 caliber ammunition.

Quantity: The Berkeley Department currently owns and maintains 6 rifles

Capabilities: The Remington 700 rifle, with the appropriate ammunition, training, and practice, is capable of consistent and highly accurate shooting out to a distance of approximately 500-yards.

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The Remington 700 is intended to be used in emergency situations where there is a high potential for violence, where the need exists to put distance between officers and a specific individual, such as an armed hostage situation.

Lifespan: The Remington 700 bolt-action rifles have an expected life span of 10-years if properly maintained.

Manufacturer's Description: The Model 700 SPS Tactical is a highly maneuverable member of the family. It's built for tack-driving accuracy with a 20" heavy-contour tactical-style barrel and dual-point pillar bedding in its black synthetic stock. Hogue® overmoldings on the stock facilitate sure handling, and it has a semi-beavertail fore-end for added stability off a rest.

PURPOSE and AUTHORIZED USE:

Purpose: This rifle is to be used in the defense of life or great bodily injury to potential victims of violent crimes, general public, and officers. This rifle provides police with the benefit of adding distance to a volatile situation which can increase the safety for community members and officers. This rifle is an ancillary firearm for situations where increased distance and accuracy is needed to safely resolve the situation.

Authorized Uses: Used in the defense of life or great bodily injury to potential victims of violent crimes, general public, and officers.

FISCAL IMPACT:

Initial Cost: The initial cost to purchase this rifle with its associated components is approximately \$10,000 dollars each. Their average life span is 10-years at which time it will likely need to be replaced.

Annual cost: If this rifle is not cared for or maintained well, then a potential financial adverse impact would be the premature purchasing of a replacement rifle or replacement parts. However, authorized and trained Berkeley Police armorers service and provide regular maintenance of the rifles. The cost of maintenance is staff time.

Training costs: The cost associated with training is the staff time, range fees, and cost of spent ammunition. SRT members train once a month and, on average, each member shoots approximately 50-rounds. Currently, there are only 4 members shooting at each training day. This equates to approximately 2,400 rounds of ammunition being fired per year. This does not include special training days or attendance to training schools/classes. A single box of 20-rounds costs approximately \$20-dollars or \$1 dollar per round.

Maintenance costs: Maintenance costs vary depending on use over time. Firing pins need to be replaced every 5 to 7 years. The maintenance cost associated with this rifle is minimal.

There are no costs associated with maintenance or storage of ammunition. All ammunition is stored in a climate-controlled room in the Berkeley Police Department.

LEGAL AND PROCEDURAL RULES:

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Authorized use must comply with state, federal laws, and Lexipol Policy 300 Use of Force. The use of this equipment shall comply with the authorizations and prohibitions set forth in Policy 300 – Use of Force, Policy 354-Precision Rifle. It is the policy of the BPD to utilize rifles only for official law enforcement purposes, and pursuant to State and Federal law regarding the use of force including the provisions of Penal Code Section 13652.

TRAINING:

Prior to using a rifle, officers must be certified by POST instructors in the operation of the rifle. Additionally, all members that operate any rifle are required to pass a range qualification.

Barret Model 99 Rifle (Description, purpose/authorized use, fiscal impact, legal and procedural, and training)

Description (type of equipment, quantity, capabilities, lifespan, and product description from manufacture)

Type: The Barrett Model 99 rifle is a single shot bolt-action 50-caliber rifle

Quantity: The Berkeley Department currently owns and maintains 1 rifle.

Capabilities: This rifle is used only in situations where a potential life-threatening situation exists. The length of the rifle's barrel coupled with the ammunition result in precision accuracy. This rifle is capable of disabling any vehicle engine block because of the large caliber round.

Lifespan: This rifle has been in our possession for almost 15-years and we expect it to last for an additional 20 years or more considering how in-frequently it's used.

Manufacturer's Description: The Model 99 brings new levels of long-range precision shooting. Known as much for its dependability as its versatility, the Model 99 has unfailing accuracy you can rely on.

PURPOSE and AUTHORIZED USE:

Purpose: The Barrett rifle is a firearm that may be used to stop a vehicle which poses a lethal threat to the public, or to disable a vehicle which presents a threat to the safety of another person(s) by its continued use. There are vehicle disabling tools that may disable vehicles by slowly deflating the tires; however, even with tires deflated a vehicle has the ability to operate and remain a threat to the public. Furthermore, these tools must be hand deployed and, in most circumstances, require officers to expose themselves to deadly threats. The Barrett rifle creates the ability to effectively disable vehicles instantaneously from a distance away.

Authorized Uses: Used in the defense of life or great bodily injury to potential victims of violent crimes, general public, and officers.

FISCAL IMPACT:

Initial Cost: The Barrett Model 99 50-caliber rifle has a retail cost of approximately \$12,500 dollars. The Department of Justice provided the Barrett rifle to the Berkeley Police Department on 04/04/2007. There was no initial cost related to BPD taking possession of it.

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Annual cost: The annual cost of the equipment is minimal and includes ammunition expenditure, cleaning equipment, and possibly replacing the optics at some point in the future.

Training costs: The cost associated with training is the staff time, range fees, and cost of spent ammunition.

The costs associated with its proposed uses is in the expenditure of its ammunition. The ammunition has a retail cost of approximately \$6 dollars per bullet; \$60 for a box of 10 and \$600 for a case of 10 boxes, plus shipping and handling. We currently possess 100 rounds of BMG ammunition.

Maintenance costs: Maintenance costs vary depending on use over time and will vary. There are no costs associated with maintenance or storage of ammunition. All ammunition is stored in a climate-controlled room in the Berkeley Police Department.

LEGAL AND PROCEDURAL RULES:

Authorized use must comply with state, federal laws, and Lexipol Policy 300 Use of Force, and Policy 354 Precision Rifle. The use of this equipment shall comply with the authorizations and prohibitions set forth in Policy 300 – Use of Force. It is the policy of the BPD to utilize rifles only for official law enforcement purposes, and pursuant to State and Federal law regarding the use of force including the provisions of Penal Code Section 13652.

TRAINING:

Prior to using a rifle, officers must be certified by POST instructors in the operation of the rifle. Additionally, all members that operate any rifle are required to pass a range qualification.

RIFLE AMMUNITION:

.223 Remington ammunition: 55 grain FMJ (full metal jacket) for training purposes and 62 grain soft point for duty purposes. (Use in the Colt M4 Rifle)

(Description, purpose/authorized use, fiscal impact, legal and procedural, and training)

Description (type of equipment, quantity, capabilities, lifespan, and product description from manufacture)

Type:.223 Remington ammunition: 55 grain FMJ (full metal jacket)

.223 Remington ammunition 62 grain soft point for duty purposes

Quantity: Quantity of rifle ammunition fluctuates significantly depending on training attended, including the standard basic police academy, officer assignments, and yearly mandate training cycles. For example, most police academy recruits are required to bring approximately 1,000 rounds to the basic POST approved academy. Most academies have a 16-24-hour rifle training course. The training is required for all officers who are issued a rifle and mandates between 800 and 1,200 rounds. As such, the inventory at the Berkeley Police Department fluctuates significantly depending on how many officers are attending state mandated training and can range from 10,000

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round (our current inventory) to less than 1,000 rounds (our anticipated inventory at the end of December after scheduled department training in November.)

Capabilities: The .223 Remington cartridge, depending on the weight of the bullet, 55 grain or 62 grain, travel at approximately 3,000 feet per second and 2,700 feet per second respectively. The round is highly regarded as having a high degree of consistency and accuracy, which is why it is the most common rifle round used in Law Enforcement around the world.

Lifespan: Like all ammunition, if kept cool and dry, ammunition lifespan can exceed ten years. Due to BPD's and State mandates on training, the majority of ammunition is cycled through within a year of purchase.

Product Description:

.223 Remington ammunition: 55 grain FMJ (full metal jacket)

The full metal jacket ammunition features a 55 grain weight and includes 200 rounds. The caliber is .223 Rem, and the ammunition is made in the USA.

.223 Remington ammunition 62 grain soft point

Federal TRU 223 ammo is custom made ammunition for the Urban Law Enforcement Officer in mind. It features a lead core Hi Shock Soft Point bullet which offers great stopping power and excellent penetration, a non corrosive primer and brand new never fired brass casing and nickel plated brass primer. This LE Tactical ammo can be reloaded up to 5 times for those shooters that reload their 223 ammo. Federal LE 223 Remington has a muzzle velocity of 3050 feet per second and a muzzle energy of 1281 ft lbs. This 223 Federal ammo is new production packaged in 20 round boxes and 200 rounds per case. Federal TRU ammunition is engineered using Mil-Quality specifications. Each Federal TRU cartridge is made using select mil-quality low flash powders that do not disrupt an officer's night vision. The TRU case and web are built using thicker brass, adding the extra strength needed for the high powered rifle. TRU primers are crimped for added holding ability. This virtually eliminates backed out primers that can lock-up your weapon. With TRU ammunition, potentially disastrous situations are greatly reduced. TRU bullets are specifically engineered ranging from fragmenting designs for tactical entry to deeper penetrating bullets for patrol.

PURPOSE and AUTHORIZED USE:

Purpose: This rifle ammunition is capable of incapacitating an individual from a distance and providing greater accuracy at a distance. This ammunition is used in the M4 rifle.

Authorized Uses: Used in the defense of life or great bodily injury to potential victims of violent crimes, general public, and officers.

FISCAL IMPACT:

Initial Cost: Ammunition costs fluctuate with the costs of components (brass, primers, gunpowder, and bullets) and supply/demand. Current costs for .223 Remington range from \$0.50 to \$0.75 a round for training ammunition (55 grain) and \$1.25 to \$1.50 a round for duty ammunition (62 grain).

Military Equipment

Annual cost: The annual cost of the equipment is minimal, and is dependent on the amount of training.

Training costs: The cost associated with training is the staff time, range fees, and cost of spent ammunition.

Maintenance costs: Maintenance costs vary depending on use over time and will vary. There are no costs associated with maintenance or storage of ammunition. All ammunition is stored in a climate-controlled room in the Berkeley Police Department.

LEGAL AND PROCEDURAL RULES:

Authorized use must comply with state, federal laws, and Lexipol Policy 300 Use of Force, and Policy 349 Tactical Rifle Operator Program. The use of this equipment shall comply with the authorizations and prohibitions set forth in Policy 300 – Use of Force. It is the policy of the BPD to utilize rifles only for official law enforcement purposes, and pursuant to State and Federal law regarding the use of force including the provisions of Penal Code Section 13652.

TRAINING:

Prior to using a rifle, officers must be certified by POST instructors in the operation of the rifle. Additionally, all members that operate any rifle are required to pass a range qualification.

Hornady.308-caliber ammunition (for the Remington 700 Rifle)

(Description, purpose/authorized use, fiscal impact, legal and procedural, and training)

Description (type of equipment, quantity, capabilities, lifespan, and product description from manufacture)

Type: Hornady.308-caliber ammunition

Quantity: The Berkeley Department currently possess approximately 1800 rounds of this ammunition.

Capabilities: This rifle ammunition is capable of incapacitating an individual or disabling an object in emergency situations where there is a high potential for violence, where the need exists to put distance between officers and a specific individual, such as an armed hostage situation. This ammunition is specifically designed for accuracy at distances of 500 yards.

Lifespan: Like all ammunition, if kept cool and dry, ammunition lifespan can exceed ten years. Due to BPD's and State mandates on training, the majority of ammunition is cycled through within a year of purchase.

Manufacturer's Description: Millions of successful hunts have proven the accuracy and deadly effect of the famous Hornady[®] InterLock,[®] SST,[®] InterBond[®] and CX[™] bullets we load into Hornady[®] Custom[™] rifle ammunition.

Military Equipment

Every round of Hornady® Custom™ ammunition is hand inspected before packaging to ensure the highest levels of quality control. At Hornady,® we manufacture Custom™ ammunition to give shooters and hunters the advantage of handloaded accuracy in a factory load.

PURPOSE and AUTHORIZED USE:

Purpose: _ This rifle ammunition is capable of incapacitating an individual from a distance of 500 yards and providing greater accuracy at a distance. This ammunition is used in the Remington 700 rifle.

Authorized Uses: Used in the defense of life or great bodily injury to potential victims of violent crimes, general public, and officers.

FISCAL IMPACT:

Initial Cost: The costs associated with its proposed uses is in the expenditure of its ammunition. The ammunition has a retail cost of approximately \$1 dollars per bullet; \$20 for a box of 20, plus shipping and handling. We currently possess 1800 rounds of BMG ammunition, \$1800.

Annual cost: The annual cost of the equipment is minimal, and is dependent on the amount of training.

Training costs: The cost associated with training is the staff time, range fees, and cost of spent ammunition.

Maintenance costs: Maintenance costs vary depending on use over time and will vary. There are no costs associated with maintenance or storage of ammunition. All ammunition is stored in a climate-controlled room in the Berkeley Police Department.

LEGAL AND PROCEDURAL RULES:

Authorized use must comply with state, federal laws, and Lexipol Policy 300 Use of Force, and Policy 354 Precision Rifle. The use of this equipment shall comply with the authorizations and prohibitions set forth in Policy 300 – Use of Force. It is the policy of the BPD to utilize rifles only for official law enforcement purposes, and pursuant to State and Federal law regarding the use of force including the provisions of Penal Code Section 13652.

TRAINING:

Prior to using a rifle, officers must be certified by POST instructors in the operation of the rifle. Additionally, all members that operate any rifle are required to pass a range qualification.

Summit Ammunition.50-caliber BNG rounds of ammunition (for the Barrett Model 99)

(Description, purpose/authorized use, fiscal impact, legal and procedural, and training)

Description (type of equipment, quantity, capabilities, lifespan, and product description from manufacture)

Type: Summit Ammunition.50-caliber BNG rounds of ammunition

Military Equipment

Quantity: The Berkeley Department currently possess approximately 100 rounds of this ammunition.

Capabilities: This rifle ammunition is capable of disabling any vehicle engine block because of the large caliber round.

Lifespan: Like all ammunition, if kept cool and dry, ammunition lifespan can exceed ten years. Due to BPD's and State mandates on training, the majority of ammunition is cycled through within a year of purchase.

Manufacturer's Description: This is 50 Cal. BMG Summit Ammunition 700gr. M-2 Armor Piercing Ammo. Summit Ammunition has been manufacturing 50 Cal. BMG for over 10 years and they manufacture a premium quality product. They are a fully licensed and insured manufacturer. This ammo is loaded with NEW Winchester brass, New USGI powder and Pulled Lake City M-2 AP bullets.

PURPOSE and AUTHORIZED USE:

Purpose: This rifle ammunition is capable of disabling any vehicle engine block because of the large caliber round.

Authorized Uses: Used in the defense of life or great bodily injury to potential victims of violent crimes, general public, and officers.

FISCAL IMPACT:

Initial Cost: The costs associated with its proposed uses is in the expenditure of its ammunition. The ammunition has a retail cost of approximately \$6 per bullet; \$60 for a box of 10, and \$600 for a case of 10 boxes, plus shipping and handling. We currently possess 100 rounds of BMG ammunition.

Annual cost: The annual cost of the equipment is minimal.

Training costs: The cost associated with training is the staff time, range fees, and cost of spent ammunition.

Maintenance costs: Maintenance costs vary depending on use over time and will vary. There are no costs associated with maintenance or storage of ammunition. All ammunition is stored in a climate-controlled room in the Berkeley Police Department.

LEGAL AND PROCEDURAL RULES:

Authorized use must comply with state, federal laws, and Lexipol Policy 300 Use of Force, and Policy 354 Precision Rifle. The use of this equipment shall comply with the authorizations and prohibitions set forth in Policy 300 – Use of Force. It is the policy of the BPD to utilize rifles only for official law enforcement purposes, and pursuant to State and Federal law regarding the use of force including the provisions of Penal Code Section 13652.

TRAINING:

Military Equipment

Prior to using a rifle, officers must be certified by POST instructors in the operation of the rifle. Additionally, all members that operate any rifle are required to pass a range qualification.

ROBOTS:

ReconRobotics Recon Scout XT (Description, purpose/authorized use, fiscal impact, legal and procedural, and training)

Description (type of equipment, quantity, capabilities, lifespan, and product description from manufacture)

Type: ReconRobotics Recon Scout XT

Quantity: The Berkeley Police Department currently owns and maintains 2.

Capabilities: The Recon Scout XT robot is designed to be able to crawl over a variety of terrain, clearing obstacles up to 2" (5 cm) tall. It could be thrown into hazardous situations, indoor and outdoor, and provide live audio and video feed back to the controller.

Lifespan: Both Recon Scout XT robots are over 10 years old and ReconRobotics have developed and manufactured more advanced robots. ReconRobotics have stopped manufacturing certain parts for the Recon Scout XT, so the lifespan is dependent on what parts need to be replaced.

Manufacturer's Description: The Recon Scout XT is just eight inches long and weighs just 1.3 lbs., making it extremely easy to carry and throw. Moreover, deploying the Recon Scout XT takes just 5 seconds, and using it requires no special training. Simply pull the activation pin and throw the device through a doorway or over a wall, or drop it down a vertical shaft using a tether. Using a single joystick on the operator control unit (OCU), a tactical team leader or warfighter can then direct the device to move through the environment and send back real-time video. Equipped with an infrared optical system that automatically turns on when the ambient light is low, the Recon Scout XT can transmit video up to 100 feet indoors and 300 feet outdoors, day or night. The Recon Scout XT may also be specified in any of three transmitting frequencies, allowing police and military personnel to operate up to three robots in the same environment at the same time.

PURPOSE and AUTHORIZED USE:

Purpose: The Recon Scout XT robot is intended to safely provide police officers valuable information during high-risk, rapid evolving situations via real-time audio and video footage. It can be driven a distance away from the OCU, creating space between the officer and potential danger, thus decreasing the likelihood of injury to those involved in the event, or even a violent encounter between police officers and a dangerous subject. This asset furthers our commitment to the sanctity of life by offering time and distance in critical incidents.

Authorized Uses: The Recon Scout XT robot may be deployed to help police officers safely view potentially dangerous environments before entering them.

FISCAL IMPACT:

Initial Cost: The initial cost for the Recon Scout XT robot was about \$12,500 per unit (2010 cost).

Military Equipment

Annual cost: There are no ongoing or annual costs associated with the use of the Recon Scout XT robot. Being that it is battery operated, there is a nominal cost associated with charging the Recon Scout XT robot's batteries, and the batteries of the OCU. The Recon Scout XT robot is fairly simple to operate, thus there is no cost associated with training officers in its use. There are no costs with transportation or storage of the Recon Scout XT robot. While there are newer models of this robot available, there does not appear to be any upgrades available for the Recon Scout XT. The Recon Scout XT robot has been damaged on occasion, and there are costs associated with repair. But generally, the Recon Scout XT robot is robust and does not need regular repair.

Training costs: The Recon Scout XT robot is user friendly and simple to operate. Training is conducted by Berkeley Police personnel familiar with the operations and procedures of the Recon Scout XT robot. The cost of training is staff time.

Maintenance costs: There are no annual or storage costs.

LEGAL AND PROCEDURAL RULES:

Authorized use must comply with state, federal laws, and Lexipol Policy 708 Robot Cameras.

TRAINING:

The Recon Scout XT robot is user friendly and simple to operate. Training is conducted by Berkeley Police personnel who have familiarized themselves with the product manual, operations, procedures, and demonstrated competency in the product through hands on training, these trainings are often referred to as a train-the trainer training. The cost of training is staff time.

Andros Remotec HD-1 Hazardous Duty Robot (Description, purpose/authorized use, fiscal impact, legal and procedural, and training)

Description (type of equipment, quantity, capabilities, lifespan, and product description from manufacture)

Type: Andros Remotec HD-1 Hazardous Duty Robot

Quantity: The Berkeley Police Department Bomb Squad has one robot, the Remotec HD-1 robot.

Capabilities: Remotec HD-1 robot is used in situations where a potential life-threatening situation exists and is too hazardous for a bomb technician to approach in person. The Remotec HD-1 robot is also used to survey an area prior to a bomb technician approaching a scene to check for trip wires and ascertain a good approach path. The Remotec HD-1 robot has three cameras and audio monitoring that stream live video and audio back to the control module; however, it is unable to record and does not have any data storage capabilities. It has several attachment mounting options as well. The Remotec HD-1 robot also has the ability to carry a variety of tools. Some of the tools are:

- (a) A spike to break glass and access vehicles or homes with potential explosive devices inside
- (b) An X-ray mount in order to remotely X-ray suspected explosive devices.

Military Equipment

- (c) Percussion actuated non-electric disruptors which are smooth barrels that are filled with water and fired at high speed with a blank shotgun round to open backpacks, suitcases, and packages from a distance
- (d) A hook with cutting blades that are used to cut backpack straps, ropes, etc.
- (e) PAN rounds containing various fills, from sand to slugs, in order to open sturdier packages made from metal or other hard covers.
- (f) Electrical connections to connect explosives that can be detonated remotely and from a safe distance.

Lifespan: The Remotec HD-1 robot has an expected life span of 10 years. It is currently 13 years old and has begun exhibiting issues. The Remotec HD-1 robot weighs just over 200 lbs. and has been near multiple explosions over the years and crossed a variety of off-road terrain

Manufacturer's Description: The Remotec ANDROS fleet of hazardous duty unmanned vehicles is the preferred choice of first responders worldwide. The robust, mission-proven design of the ANDROS line keeps danger at a distance with:

- Simultaneous tool mounts for rapid response during dynamic missions (i.e. suits changing needs as the mission unfolds)
- A versatile array of two-way audio, video, advanced sensors, tools and controllers
- Easy maintainability for minimal downtime

Made in the USA and backed by world-class training and post-sale support, it's no wonder there are over 1,000 ANDROS robots deployed around the globe.

PURPOSE and AUTHORIZED USE:

Purpose: The Remotec HD-1 robot is used as a means to approach hazardous situations where a potentially lethal threat such as an explosive device exist. The Remotec HD-1 robot allows for the examination and manipulation of an object or potential explosive device without unnecessarily putting a bomb technician's life at risk.

Authorized Uses: Used to examine and possible destroy hazardous materials such as an explosive device.

FISCAL IMPACT:

Initial Cost: Procured in 2008 for \$214,496 including on-site training through a UASI Grant. (64,292-N.S.)

Annual cost: There is no annual cost. Maintenance of the Remotec HD-1 robot is conducted by Berkeley Police Bomb Technicians.

Training costs: Berkeley Police Bomb Technicians are trained during regular bomb squad training sessions and maintain their skills through training scenarios. The cost of training is limited to staff time.

Military Equipment

Maintenance costs: Remotec offers occasional maintenance and upkeep workshops free of charge.

LEGAL AND PROCEDURAL RULES:

Authorized use must comply with state, federal laws, and Lexipol Policy 708 Robot Cameras.

TRAINING:

Berkeley Police Bomb Technicians are trained during regular bomb squad training sessions and maintain their skills through training scenarios. All Berkeley Police Bomb Technicians are required to attend a federally mandated training that lasts approximately six weeks.

Less Lethal Launchers:

Penn Arms 40mm Single Launcher (Description, purpose/authorized use, fiscal impact, legal and procedural, and training)

Description (type of equipment, quantity, capabilities, lifespan, and product description from manufacture)

Type: Penn Arms 40mm Single Launcher

Quantity: The Berkeley Department currently owns and maintains 20.

Capabilities: The Penn Arms single launcher is capable of firing a single projectile out to a maximum manufacturer recommended range of 45 meters. The Penn Arms 40mm projectiles are direct fire with a pliable "sponge" tip designed to mold to the body. The projectiles are about the size of a large egg. Upon impact, the projectile transfers kinetic energy to the body to gain pain compliance. Large muscle groups such as the upper legs or lower abdomen are approved target areas unless a higher level of force is justified. This level of force is considered to be similar to that of a baton strike.

Lifespan: The manufacturer expected lifespan is about 10 years depending on use and regular maintenance.

Manufacturer's Description: A 40mm compact single-shot break-open frame launcher with a rifled barrel and folding stock. Features include: Double-action trigger, trigger lock push button and hammer lock safeties.

PURPOSE and AUTHORIZED USE:

Purpose: The purpose of kinetic energy impact projectiles, commonly referred to as "less lethal" is to preserve life, minimize the use of force and allow time for de-escalation. Less lethal projectiles allow the user to maintain a safe distance from a subject who is armed and/or demonstrates the intent to be violent. The ability to maintain a safe distance – while still providing a level of control over the subject – allows officers to employ de-escalation techniques, request additional resources and develop a plan to safely resolve the situation with the least amount of risk.

Violent or armed confrontations are inherently dangerous to all those involved. Officers are required to make split second judgments in circumstances that are tense, uncertain and rapidly

Military Equipment

evolving. An Officer's threat perception of a person who is in close proximity as opposed to a person who is at a distance of 20 yards is naturally different. A person in close proximity intent on violence has the ability to immediately utilize personal body weapons, a bludgeoning device or cutting instrument. The immediacy requires the Officer to react instantly and there is a greater potential that a higher level of force will be needed.

On the other hand, a person at a distance of 20 yards may not be perceived as having the immediate ability to violently attack the Officer. The person must first close the distance before certain weapons can be utilized. This fact may allow the Officer time to decide the most appropriate course of action, such as the use of a "less lethal" projectile.

The projectiles are designed to provide a high level of accuracy which minimizes the risk of unwanted impacts. The ability to apply force from a distance reduces the potential for violent confrontation and aides in reducing the level of force needed to safely resolve a conflict.

Authorized Uses: The Penn Arms 40mm single launcher is designed to reduce the potential for a violent confrontation. Less lethal projectiles are less likely to result in serious bodily injury or death and can be used to de-escalate a potentially deadly situation.

FISCAL IMPACT:

Initial Cost: Less lethal prices, like other equipment, varies depending on market demand and availability. The most recent Penn Arms purchased by the department cost \$815.00 each.

Annual cost: Cost for Penn Arms single launcher use should be based on the projectiles used in training and on duty. This will fluctuate based on department trainings, projectile availability and events that unfold in the city and surrounding region.

Training costs: Every officer authorized to deploy a less lethal launcher must pass a certification course administered by a Berkeley Police Department Firearms Instructor. The certification class consists of classroom, range qualification and scenario application if the venue allows. This class is largely handled in house thus the cost only includes staff time, range fees, and projectile costs which all vary.

Maintenance costs: Maintenance costs vary depending on use. Generally, various springs and pins need to be replaced every 5 years which can cost \$3 to \$30.

LEGAL AND PROCEDURAL RULES:

Authorized use must comply with state, federal laws, and Lexipol Policy 300 Use of Force, Policy 303 Control Devices, and Policy 428 First Amendment Assembly.

TRAINING:

Every officer authorized to deploy a less lethal launcher must pass a certification course administered by a Berkeley Police Department Firearms Instructor. The certification class consists of classroom, range qualification and scenario application if the venue allows.

Military Equipment

Milkor LTL Multi-launcher (Description, purpose/authorized use, fiscal impact, legal and procedural, and training)

Description (type of equipment, quantity, capabilities, lifespan, and product description from manufacture)

Type: Milkor LTL Multi-launcher

Quantity: The Berkeley Police Department currently owns and maintains 2.

Capabilities: The Milkor LTL is capable of firing six 40mm projectiles before reloading is necessary. The Milkor LTL 40mm projectiles are direct fire with a pliable "sponge" tip designed to mold to the body. The projectiles are about the size of a large egg. Upon impact, the projectile transfers kinetic energy to the body to gain pain compliance. Large muscle groups such as the upper legs or lower abdomen are approved target areas unless a higher level of force is justified. This level of force is considered to be similar to that of a baton strike.

Lifespan: The manufacturer expected lifespan is about 10 to 15 years depending on use and regular maintenance.

Manufacturer's Description: Developed with our partner company, Abrams Airborne Manufacturing, The 40mm Multi-Shot Less-Lethal Tactical Launcher (LTL) was manufactured with the needs of the modern tactical team at the forefront. The launcher is capable of firing a wide variety of 40mm LTL ammo.

PURPOSE and AUTHORIZED USE:

Purpose: The purpose of kinetic energy impact projectiles, commonly referred to as "less lethal" is to preserve life, minimize the use of force and allow time for de-escalation attempts. Less lethal projectiles allow the user to maintain a safe distance from a subject who is armed and/or demonstrates the intent to be violent. The ability to maintain a safe distance – while still providing a level of control over the subject – allows officers to employ de-escalation techniques, request additional resources and develop a plan to safely resolve the situation with the least amount of risk.

Violent confrontations are inherently dangerous to all those involved. Officers are required to make split second judgments in circumstances that are tense, uncertain and rapidly evolving. An Officer's threat perception of a person who is in close proximity as opposed to a person who is at a distance of 20 yards is naturally different. A person in close proximity intent on violence has the ability to immediately utilize personal body weapons, a bludgeoning device or cutting instrument. The immediacy requires the Officer to react instantly and there is a greater potential that a higher level of force will be needed.

On the other hand, a person at a distance of 20 yards may not be perceived as having the immediate ability to violently attack the Officer. The person must first close the distance before such weapons can be utilized. This may allow the Officer time to decide the most appropriate course of action, such as the use of a "less lethal" projectile.

Military Equipment

The "less lethal" projectiles utilized by the Berkeley Police Department are generally considered discriminate versus indiscriminate uses of force. The projectiles are designed to provide a high level of accuracy which minimizes the risk of unwanted impacts. The ability to apply force from a distance reduces the potential for violent confrontation and aides in reducing the level of force needed to safely resolve a conflict.

Authorized Uses: The Milkor LTL multi-shot launcher is designed to reduce the potential for a violent confrontation. Less lethal projectiles are less likely to result in serious bodily injury or death and can be used to de-escalate a potentially deadly situation.

FISCAL IMPACT:

Initial Cost: Less lethal prices, like other equipment, varies depending on market demand and availability. The most recent Penn Arms purchased by the department cost \$3950.00 each.

Annual cost: Cost for Penn Arms single launcher use should be based on the projectiles used in training and on duty. This will fluctuate based on department trainings, projectile availability and events that unfold in the city and surrounding region.

Training costs: Every officer authorized to deploy a less lethal launcher must pass a certification course administered by a Berkeley Police Department Firearms Instructor. The certification class consists of classroom, range qualification and scenario application if the venue allows. This class is largely handled in house thus the cost only includes staff time, range fees, and projectile costs which all vary.

Maintenance costs: Maintenance costs vary depending on use.

LEGAL AND PROCEDURAL RULES:

Authorized use must comply with state, federal laws, and Lexipol Policy 300 Use of Force, Policy 303 Control Devices, and Policy 428 First Amendment Assembly.

TRAINING:

Every officer authorized to deploy a less lethal launcher must pass a certification course administered by a Berkeley Police Department Firearms Instructor. The certification class consists of classroom, range qualification and scenario application if the venue allows.

FN 303 and FN Pava Impact Projectile (Description, purpose/authorized use, fiscal impact, legal and procedural, and training)

Description (type of equipment, quantity, capabilities, lifespan, and product description from manufacture)

Type: FN 303 and FN Pava Impact Projectile

Quantity: The Berkeley Department currently owns and maintains 8 FN 303 less lethal launchers.

Capabilities: The FN 303 is capable of firing 15 projectiles out to a maximum manufacturer recommended range of 50 meters. The FN 303 projectiles are direct fire and designed to fragment upon impact to prevent penetration injury. Upon impact, the projectile transfers kinetic energy to

Military Equipment

the body to gain pain compliance. Large muscle groups such as the upper legs or lower abdomen are approved target areas. This level of force is considered to be similar to that of a baton strike.

Lifespan: The manufacturer expected lifespan is about 10 years depending on use and regular maintenance.

Manufacturer's Description: The FN 303® Less Lethal Launcher is constructed from durable lightweight polymer with comfortable ergonomics and an easy to operate safety. The FN 303® Launcher is equipped with both flip-up iron sights and an integrated MIL-STD-1913 top mounting rail for optical or electronic sights or other accessories. The lightweight polymer magazine holds 15 projectiles and offers a clear rear cover to allow the operator to instantly verify both the payload type and the number of projectiles remaining.

PURPOSE and AUTHORIZED USE:

Purpose: The purpose of kinetic energy impact projectiles, commonly referred to as "less lethal" is to preserve life, minimize the use of force and allow time for de-escalation attempts. Less lethal projectiles allow the user to maintain a safe distance from a subject who is armed and/or demonstrates the intent to be violent. The ability to maintain a safe distance – while still providing a level of control over the subject – allows officers to employ de-escalation techniques, request additional resources and develop a plan to safely resolve the situation with the least amount of risk.

Violent confrontations are inherently dangerous to all those involved. Officers are required to make split second judgments in circumstances that are tense, uncertain and rapidly evolving. An Officer's threat perception of a person who is in close proximity as opposed to a person who is at a distance of 20 yards is naturally different. A person in close proximity intent on violence has the ability to immediately utilize personal body weapons, a bludgeoning device or cutting instrument. The immediacy requires the Officer to react instantly and there is a greater potential that a higher level of force will be needed.

On the other hand, a person at a distance of 20 yards may not be perceived as having the immediate ability to violently attack the Officer. The person must first close the distance before such weapons can be utilized. This may allow the Officer time to decide the most appropriate course of action, such as the use of a "less lethal" projectile.

The "less lethal" projectiles utilized by the Berkeley Police Department are generally considered discriminate versus indiscriminate uses of force. Discriminate projectiles are designed to provide a high level of accuracy which minimizes the risk of unwanted impacts. The ability to apply force from a distance reduces the potential for violent confrontation and aides in reducing the level of force needed to safely resolve a conflict.

Authorized Uses: The FN 303 is designed to reduce the potential for a violent confrontation. Less lethal projectiles are less likely to result in serious bodily injury or death and can be used to de-escalate a potentially deadly situation.

FISCAL IMPACT:

Military Equipment

Initial Cost: Less lethal prices, like other equipment, varies depending on market demand and availability. The most recent FN 303s purchased by the department cost \$800.00 each.

Annual cost: Cost for FN 303 use should be based on the projectiles used in training and on duty. This will fluctuate based on department trainings, projectile availability and events that unfold in the city and surrounding region.

Training costs: Every officer authorized to deploy a less lethal launcher must pass a certification course administered by a Berkeley Police Firearm Instructor. The certification class consists of classroom, range qualification and scenario application if the venue allows. This class is largely handled in house thus the cost only includes the officer's hourly wage, range fees, and projectile costs which all vary.

Maintenance costs: Maintenance costs vary depending on use. Generally, O-rings need to be replaced every 3000 rounds and cost \$30 per kit.

LEGAL AND PROCEDURAL RULES:

Authorized use must comply with state, federal laws, and Lexipol Policy 300 Use of Force, Policy 303 Control Devices, and Policy 428 First Amendment Assembly.

TRAINING:

Every officer authorized to deploy a less lethal launcher must pass a certification course administered by a Berkeley Police Department Firearms Instructor. The certification class consists of classroom, range qualification and scenario application if the venue allows.

Light/sound Diversionary Devices:

CTS 7290 Diversionary Device (Description, purpose/authorized use, fiscal impact, legal and procedural, and training)

Description (type of equipment, quantity, capabilities, lifespan, and product description from manufacture)

Type: CTS 7290 Diversionary Device

Quantity: The Berkeley Department currently owns and maintains 50.

Capabilities: When a diversionary device is deployed they create a loud noise, heat and brilliant light and create an effective diversion. They can create psychological and physiological effects such as: hearing a loud noise beyond that of everyday living, seeing a short bright light, and feeling of a change in atmospheric pressure. These effects may disorient/confuse subjects for a short time giving tactical teams the ability to apprehend that subject without using a higher level of force.

Lifespan: The lifespan of the CTS 7290 Diversionary Device is 5 years.

Manufacturer's Description: The CTS 7290 is the standard for diversionary flash-bang devices. The 7290 produces a 165-180 db and 6-8 million candela of light output. The patented design of the 7290, incorporates a porting system that eliminates movement of the body at detonation even

Military Equipment

if the top or bottom of the device should be in contact with a hard surface. In addition, internal adjustments have greatly reduced smoke output.

Flash Bangs are used by special tactical units during hostage rescue and high-risk warrants. It is an ATF-controlled Class-C explosive device that emits a bright light and thunderous noise to distract potentially dangerous individuals.

PURPOSE and AUTHORIZED USE:

Purpose: The purpose of a diversionary device is to create a reactionary gap of a person by temporarily disorienting them. This gap gives tactical teams an opportunity to apprehend a suspect while using the minimal amount of force possible. They can also be used to safely invoke a response or redirect the attention of subjects who are either feigning injury, ignoring police commands or are unresponsive while posing a threat to the public.

Authorized Uses: The use of a diversionary device is to create a diversion in order to facilitate entry and enable arrest. Circumstances justifying the use of a diversionary device may include, but not limited to barricaded subject or hostage situations and high-risk search warrants services.

FISCAL IMPACT:

Initial Cost: Diversionary Devices cost approximately \$45 per unit and are purchased through LC Action Police Supply. Purchases for these tools are made when inventory becomes low, based upon critical incident usage and Special Response Team trainings that incorporate live devices.

Annual cost: See below training cost.

Training costs: Only trained and qualified personnel are permitted to deploy diversionary devices. These trained Berkeley Police officers are typically members of the Berkeley Police Department Special Response Team who receive monthly training which includes training in the deployment of diversionary devices. The cost of training is staff time.

Maintenance costs: The majority of diversionary devices are stored inside of a room in the basement within the Police Department. There are no additional storage costs. There are no associated costs to transporting, maintenance, or upgrades.

LEGAL AND PROCEDURAL RULES:

Authorized use must comply with state, federal laws, and Lexipol Policy 353 Diversionary Devices.

TRAINING:

Only trained and qualified personnel are permitted to deploy diversionary devices. These trained Berkeley Police officers are typically members of the Berkeley Police Department Special Response Team who receive monthly training which includes training in the deployment of diversionary devices.

Long Range Acoustic Device

The Long-Range Acoustic Device (LRAD)(Description, purpose/authorized use, fiscal impact, legal and procedural, and training)

Military Equipment

Description (type of equipment, quantity, capabilities, lifespan, and product description from manufacture)

Type: The Long Range Acoustic Device (LRAD)

Quantity: The Berkeley Department currently owns and maintains possesses 2 Long Range Acoustic Devices (LRAD) speakers. One is an LRAD 450XL and the other is an LRAD 100X.

Capabilities: Both of these speakers are able to focus sound in directional pattern allowing the user to make sound audible over distances much greater than conventional public address speakers. The LRAD 450XL is the larger of the two and designed to either be used in a fixed location or mounted on a vehicle to make it portable. It has a usable range of approximately 1 mile. The LRAD 100X is smaller and more portable. It can be carried or mounted to a person's chest for mobility or mounted to a vehicle. Its range is approximately 1/3 of a mile. Both of these systems allow for clear long-range communication, they are also able to play recorded messages.

Lifespan: The lifespan for both LRADs is 25 years.

Manufacturer's Description: LRAD 100x In addition to being 20 – 30 decibels louder than bullhorns and vehicle-based P.A. systems, the LRAD 100X is also up to 6X louder and much more intelligible than other hailing devices of comparable size and weight. Live or recorded broadcasts from the portable LRAD 100X easily overcome engines, sirens and noisy crowds to ensure every message is heard and understood. The LRAD warning tone safely alerts attention to the voice messages that follow, establishes large standoff zones, and is the safer crowd control alternative to non-lethal and kinetic measures.

LRAD 450XL- The LRAD 450XL utilizes technology developed and patented* by Genasys Inc. to provide the audio output of larger acoustic hailers almost twice its size and weight, while delivering the same outstanding vocal clarity inherent in all LRAD systems. The LRAD 450XL broadcasts powerful warning tones to command attention to the highly intelligible voice messages that follow, enabling operators to change behavior and enhance response capabilities with safe, scalable escalation of force. Lightweight and designed for use on tripods or mounted on vessels, vehicles, and Remote Weapon Stations (RWS), the LRAD 450XL is a highly effective, long range communication system in use around the world for public safety, law enforcement, maritime and defense applications.

PURPOSE and AUTHORIZED USE:

Purpose: The LRADs are designed for clear long-range communication. The LRAD's ability to communicate over a long distance is far superior to any megaphone or Public Address (PA) system mounted to a police vehicle. Additionally, LRAD's may be used to:

- Communicate lifesaving information to residents during disasters
- Communicate to large crowds during parades, festivals, concerts and sporting events
- Establish safety zones and perimeters
- Control traffic congestion

Military Equipment

- Conduct Special Response Team operations
- Broadcast a dispersal order
- Communicate during hostage and barricaded subject situations
- Announce and serve high risk warrants
- Communicate to protesters
- Communicate to persons threatening suicide who are in an inaccessible location
- Conduct search and rescue operations

The ability to communicate with the public in a large area increases the safety of all members of the public and law enforcement. It allows everyone in a given area to know what is being communicated, gives more situational awareness to everyone in a given area and allows people to know where to go or not to go.

Authorized Uses: The LRADs are used to communicate with the community during natural disasters, crowd management and control situations, or when other forms of communications are ineffective or inoperable to unequivocally communicate messages from Police or Fire and safely resolve uncertain situations where communicating with the public is paramount.

FISCAL IMPACT:

Initial Cost: The LRAD 450XL and the LRAD 100X were purchased in 2018. The total cost for both LRADs, rechargeable battery packs and accessories was \$49,999.

Annual cost: BPD has not incurred any additional cost to date for this equipment.

Training costs: Training is conducted by Berkeley Police personnel who are trained in the use and procedures of the LRAD. The cost to train is staff time.

Maintenance costs: There are no maintenance or storage costs for this equipment.

LEGAL AND PROCEDURAL RULES:

Authorized use must comply with state, federal laws, and Lexipol Policy 707 Long Range Acoustic Device.

TRAINING:

Training is conducted by members of the Berkeley Police Department who have extensively reviewed the product manual, become knowledgeable and familiar in the operations and procedures of the LRAD. All trainers have proven demonstrated proficiency and competency in the product through hands on training, these trainings are often referred to as a train-the trainer training.

Mobile Command Vehicle

Mobile Command Vehicle (MCV)(Description, purpose/authorized use, fiscal impact, legal and procedural, and training)

Military Equipment

Description (type of equipment, quantity, capabilities, lifespan, and product description from manufacture)

Type: MCV is a 2003 Freightliner MT55

Quantity: The Berkeley Department currently owns and maintains 1 MCV, a 2003 Freightliner MT 55.

Capabilities: The MCV is a mobile office that provides shelter and may be used as a mobile command and communication center.

Lifespan: This vehicle is approximately 20 years old and is at the tail end of its serviceable lifespan. All emergency vehicles need to be completely dependable and vehicles of this age start to lose dependability as old parts start to fail without warning. The modern versions of this type of vehicle are typically converted motorhomes.

Manufacturer's Description: The 22' Freightliner MT55 P1200 is the biggest stepvan option for your delivery fleet, offering maximum capacity, accessibility and maneuverability. Built with a powerful Cummins 6.7L 200HP Diesel Motor, this route truck has folding lower shelves to optimize your cargo space and rear sonar for safety.

PURPOSE and AUTHORIZED USE:

Purpose: This vehicle may be used as a mobile command post for any larger scaled events or as a communications center in the event the communications center in the Public Safety Building is inoperable. Some examples of large-scale events include Solano Stroll, Juneteenth, 4th of July, critical incidents or natural disasters.

Authorized Uses: This vehicle is used as a mobile command post for large scaled events.

FISCAL IMPACT:

Initial Cost: The initial cost of the MCV (2003 Freightliner MT55) was \$230,800.

Annual cost: There is no annual or ongoing cost associated with this vehicle. Maintenance of the vehicle is conducted by the City's Corporation Yard.

Training costs: Training is conducted in-house by Berkeley Police personnel who are trained in the operation of the vehicle. The training cost is staff time.

Maintenance costs: There are no storage costs and maintenance would be conducted by the City of Berkeley Corporation Yard.

LEGAL AND PROCEDURAL RULES:

Authorized use must comply with state, federal laws, and Lexipol Policy 811 Mobile Command Vehicle.

TRAINING: Training is conducted by members of the Berkeley Police Department who have extensively reviewed the product manual, become knowledgeable and familiar in the operations of the 2003 Freightliner MT 55. All trainers have proven demonstrated proficiency and competency

Military Equipment

in the product through hands on training, these trainings are often referred to as a train-the trainer training. All operators have had behind the wheel practical training, wherein the operator drives various routes through the City of Berkeley with a trainer during training.

Chlorobenzylidene Malononitrile and Oleoresin Capsicum

Chlorobenzylidene Malononitrile (Description, purpose/authorized use, fiscal impact, legal and procedural, and training)

Description (type of equipment, quantity, capabilities, lifespan, and product description from manufacture)

Type: Chlorobenzylidene malononitrile (CS)

Quantity: The Berkeley Department currently owns and maintains Inventory for CS canisters:

Qty 6 – 5230 CS Canisters

Qty 24 – 6230 CS Canisters

Qty 20 – 5230B CS Baffled Canister (flameless)

Qty 17 – 5231 CS Tri-Phaser Canisters

Qty 21 – 4630 CS Muzzle Blast (used with 40 mm less lethal launcher)

Qty 4 – 4530 CS Impact Rounds (used with 40 mm less lethal launcher)

Qty 19 – 4330 CS Barricade Projectile Rounds (used with 40 mm less lethal launcher)

Capabilities: CS aerosols with microscopic particles which are potent sensory irritants becoming attached primarily to moist mucous membranes and moist skin. Common effects are: coughing, increased mucous secretion, difficulty breathing, skin reactions, and excessive salivation. The onset of symptoms typically occurs within 20 to 60 seconds, and if the exposed individual is placed in fresh air these effects generally cease in 10 to 30 minutes.

Lifespan: CS and OC canisters expire in approximately 5 years.

Manufacturer's Description: Unable to locate from the manufacturer, provided by the subject matter experts. Chlorobenzylidene malononitrile (CS) is one of the most commonly used "tear gases" in the world. It can be liquid, gaseous, or solid substance intended to produce temporary discomfort through being vaporized or otherwise dispersed in the air. Law enforcement (LE) agencies have found this agent invaluable when faced with combative suspects, for crowd/riot control, and for alleviating barricaded subject situations. LE use it to help control individuals or groups without the need for a higher level of force. There are four different deployment methods of chemical agents (Aerosol - most commonly used by police departments, Fogging, Pyrotechnics, and blast expulsion). All methods of deployment can be affected by certain environmental and physical conditions (wind, rain, temperature, distance, and proximity to others). At standard daily temperatures and pressures, CS forms a white crystal with a low vapor pressure and poor solubility in water.

Military Equipment

PURPOSE and AUTHORIZED USE:

Purpose: There are a variety of situations where peace officers may use chemical agents such as: self-defense, overcoming the resistance of a noncompliant individual, effecting an arrest, preventing escape, violent crowd or riot control, barricade or hostage situations and dealing with dangerous animals.

Authorized Uses: Tear gas may be used for crowd control, crowd dispersal or against barricaded suspects based on the circumstances. Only the Chief of Police may authorize the delivery and use of tear gas, and only after evaluating all conditions known at the time and determining that such force reasonably appears justified and necessary.

FISCAL IMPACT:

Initial Cost: The cost for CS canisters ranges from \$20.00 to \$39.00 per unit.

Annual cost: See below cost of training.

Training costs: When purchased, each unit is given an expiration date which typically falls within a 2-3-year range. Every 2-3 years, new chemical agents are purchased to honor the expiration dates. The expired agents are then used during annual trainings thus minimizing the overall cost. Training is conducted by a Police Officer Standard Training (POST) certified Berkeley Police chemical agent training officer. The cost of training is staff time.

Maintenance costs: The majority of agents are stored inside of a marked chemical agent room within the Police Department, in the Special Response Team vehicle, or in the rescue Vehicle. There are no additional storage costs. There are no associated costs to transporting, maintenance, or upgrades.

LEGAL AND PROCEDURAL RULES:

Authorized use must comply with state, federal laws, and Lexipol Policy 300 Use of Force, Policy 303 Control Devices, and Policy 428 First Amendment Assembly.

TRAINING:

Training is conducted by selected members of the Berkeley Police Department who have completed a Peace Officer Standards and Training (POST) certified course in chemical agent training.

Oleoresin Capsicum (Description, purpose/authorized use, fiscal impact, legal and procedural, and training)

Description (type of equipment, quantity, capabilities, lifespan, and product description from manufacture)

Type: Oleoresin capsicum (OC)

Quantity: The Berkeley Department currently owns and maintains Inventory for OC canisters:

Inventory for OC canisters:

Military Equipment

Qty 54 - 9440 OC Tear Ball

Qty 19 - 5440 OC Flameless

Qty 20 - 6340 OC Vaper

Capabilities: A person subjected to OC can expect heavy tearing due to a burning sensation, involuntary closing or blinking of the eyes, stinging skin sensation, redness of the skin, irritation of the nose, runny nose, salivation, cough, gagging sensation, and shortness of breath. A person may also experience anxiety and panic. A complete recovery usually takes place within 45-60 minutes depending on the level of exposure.

Both CS and OC canisters can render a dangerous and violent situation safe without using a higher level of force.

Lifespan: CS and OC canisters expire in approximately 5 years.

Manufacturer's Description: Unable to locate from the manufacturer, provided by BPD subject matter experts. Oleoresin capsicum (OC) will be referred to in the aerosol canister form. OC is the chemical agent that is most widely used amongst Law Enforcement (LE) and the general public. OC has a pungent and irritating pepper odor. It is classified as an inflammatory agent. OC is mixed with several types of solutions which act as carriers.

PURPOSE and AUTHORIZED USE:

Purpose: There are a variety of situations where peace officers may use chemical agents such as: self-defense, overcoming the resistance of a noncompliant individual, effecting an arrest, preventing escape, violent crowd or riot control, barricade or hostage situations and dealing with dangerous animals.

Authorized Uses: Tear gas may be used for crowd control, crowd dispersal or against barricaded suspects based on the circumstances. Only the Chief of Police may authorize the delivery and use of tear gas, and only after evaluating all conditions known at the time and determining that such force reasonably appears justified and necessary.

FISCAL IMPACT:

Initial Cost: The cost for OC canisters ranges from \$36.00 to \$44.00 per unit.

Annual cost: See below cost of training.

Training costs: When purchased, each unit is given an expiration date which typically falls within a 2-3-year range. Every 2-3 years, new chemical agents are purchased to honor the expiration dates. The expired agents are then used during annual trainings thus minimizing the overall cost. Training is conducted by a Police Officer Standard Training (POST) certified Berkeley Police chemical agent training officer. The cost of training is staff time.

Maintenance costs: The majority of agents are stored inside of a marked chemical agent room within the Police Department, in the Special Response Team vehicle, or in the rescue Vehicle.

Military Equipment

There are no additional storage costs. There are no associated costs to transporting, maintenance, or upgrades.

LEGAL AND PROCEDURAL RULES:

Authorized use must comply with state, federal laws, and Lexipol Policy 300 Use of Force, Policy 303 Control Devices, and Policy 428 First Amendment Assembly.

TRAINING:

Training is conducted by selected members of the Berkeley Police Department who have completed a Peace Officer Standards and Training (POST) certified course in chemical agent training.

Oleoresin Capsicum Spray (Description, purpose/authorized use, fiscal impact, legal and procedural, and training)

Description (type of equipment, quantity, capabilities, lifespan, and product description from manufacture)

Type: Oleoresin capsicum (OC) spray

Quantity: The Berkeley Department currently owns and maintains Inventory for OC canisters:

Qty 23- First Defense MK-9 OC spray (13 ounces)

Capabilities: The larger First Defense MK-9 OC sprays are 13 ounces and are used in violent crowd situations. It has an effect range of 18-20 feet.

The use of the First Defense OC spray can render a dangerous and violent situation safe without using a higher level of force.

Lifespan: Aerosol products eventually lose pressure over time. The lifespan the MK-9 OC spray are dependent on how well the pressure in the can is maintained, but is recommended to be replaced after 5 years.

Manufacturer's Description: The MK-4 is an ideal size for patrol officers to wear on a duty belt and will deliver 11-12 short bursts of OC at an effective range of 10-12 feet(18-20 for the MK9). This 1.3/% MC OC aerosol product features a 360-degree stream deliver method which allows the aerosol projector to disperse OC from any angle while providing a target specific, strong concentrated stream for greater standoff.

PURPOSE and AUTHORIZED USE:

Purpose: There are a variety of situations where officers may use OC spray such as: self-defense, overcoming the resistance of a noncompliant individual, effecting an arrest, preventing escape, violent crowd or riot control, barricade or hostage situations and dealing with dangerous animals.

Authorized Uses: OC spray may be considered for use to bring under control an individual or groups of individuals who are engaging in or about to engage in violent behavior. OC spray should

Military Equipment

not, however, be used against individuals or group who merely fail to disperse or do not reasonably appear to present a risk to the safety of officers or the public.

FISCAL IMPACT:

Initial Cost: The MK-9 OC spray costs approx. \$60 per unit. The manufacturer is Defense Technology and the Berkeley Police Department purchase each unit from Galls Police Supply or LC Action Police Supply. Purchases for these tools are made when inventory gets low which is typically determined by how many new officers are sworn in, as well as if they are utilized in dangerous situations.

Annual cost: See below cost of training.

Training costs: Training is conducted in the police academy and in-house by a Police Officer Standard Training (POST) certified Berkeley Police chemical agent training officer. The cost of training is staff time.

Maintenance costs: All MK-9 OC sprays are stored in the basement. There are no additional storage costs or associated costs to transporting, maintain, or upgrade.

LEGAL AND PROCEDURAL RULES:

Authorized use must comply with state, federal laws, and Lexipol Policy 300 Use of Force, Policy 303 Control Devices, and Policy 428 First Amendment Assembly.

TRAINING:

Training is conducted by selected members of the Berkeley Police Department who have completed a Peace Officer Standards and Training (POST) certified course in chemical agent training.

709.5 APPROVAL

The Chief of Police or the authorized designee shall obtain approval from the governing body by way of an ordinance adopting the military equipment policy. As part of the approval process, the Chief of Police or the authorized designee shall ensure the proposed military equipment policy is submitted to the governing body and is available on the department website at least 30 days prior to any public hearing concerning the military equipment at issue (Government Code § 7071). The military equipment policy must be approved by the governing body prior to engaging in any of the following (Government Code § 7071):

- (a) Requesting military equipment made available pursuant to 10 USC § 2576a.
- (b) Seeking funds for military equipment, including but not limited to applying for a grant, soliciting or accepting private, local, state, or federal funds, in-kind donations, or other donations or transfers.
- (c) Acquiring military equipment either permanently or temporarily, including by borrowing or leasing.
- (d) Collaborating with another law enforcement agency in the deployment or other use of military equipment within the jurisdiction of this department.

Military Equipment

- (e) Using any new or existing military equipment for a purpose, in a manner, or by a person not previously approved by the governing body.
- (f) Soliciting or responding to a proposal for, or entering into an agreement with, any other person or entity to seek funds for, apply to receive, acquire, use, or collaborate in the use of military equipment.
- (g) Acquiring military equipment through any means not provided above.

709.6 COORDINATION WITH OTHER JURISDICTIONS

Military equipment should not be used by any other law enforcement agency or member in this jurisdiction unless the military equipment is approved for use in accordance with this policy.

709.6.1 TEMPORARY USE IN EXIGENT CIRCUMSTANCES

The Berkeley Police Department may borrow and/or temporarily use Controlled Equipment in Exigent Circumstances without following the requirements in BMC 2.100.040, however the Department must take the following actions:

- (a) Provide written notice of the acquisitions or use to the City Council within 30 days following the commencement of such Exigent Circumstance, unless such information is confidential or privileged under local, state, or federal law
- (b) If it is anticipated that the use will continue beyond the Exigent Circumstance, submit a proposed Controlled Equipment Impact Report and Controlled Equipment Use Policy, as applicable, to the City Council within 90 days following the borrowing, acquisition or temporary use, and received approval, as applicable from the City Council pursuant to BMC 2.100.040
- (c) Include the Controlled Equipment in the Department's next annual Controlled Equipment Report.

709.7 ANNUAL REPORT

Upon approval of a military equipment policy, the Chief of Police or the authorized designee should submit a military equipment report to the governing body for each type of military equipment approved within one year of approval, and annually thereafter for as long as the military equipment is available for use (Government Code § 7072).

The Chief of Police or the authorized designee should also make each annual military equipment report publicly available on the department website for as long as the military equipment is available for use. The report shall include all information required by Government Code § 7072 for the preceding calendar year for each type of military equipment in department inventory.

709.8 COMMUNITY ENGAGEMENT

Within 30 days of submitting and publicly releasing the annual report, the Department shall hold at least one well-publicized and conveniently located community engagement meeting, at which the Department should discuss the report and respond to public questions regarding the funding, acquisition, or use of military equipment.

Military Equipment

709.9 MILITARY EQUIPMENT QUESTIONS

Any member of the public may direct their questions regarding this policy and ordinance to a Sergeant in the Professional Standards Bureau at 510-981-5734 or 510-981-5974. Concerns may also be directed to police@cityofberkeley.info. Questions will be answered in a timely manner by a member of the Berkeley Police Department.

709.9.1 MILITARY EQUIPMENT CONCERNS

Any member of the public may direct their concerns regarding this policy and any of the military equipment to Internal Affairs Bureau at 510-981-5706.

709.10 ASSOCIATED EQUIPMENT USE POLICIES

The below links will direct to the respective use policies:

[300-Use of Force](#)

[303-Control Devices and Techniques](#)

[349-Tactical Rifle Operator Program](#)

[353-Flash/Sound Diversionary Devices](#)

[354-Precision Rifle Operator Program](#)

[428-First Amendment Assemblies](#)

[707-Long Range Acoustical Device \(LRAD\)](#)

[708-Robot Cameras](#)

[811-Mobile Communications Vehicle \(MCV\)](#)

709.11 COMPLIANCE

The Department's Audit and Inspection Sergeant will ensure that the Department members comply with this policy. The Audit and Inspection Sergeant will conduct an annual audit with the assistance from members of the Professional Standards Bureau. Any violations will be referred to the Internal Affairs Bureau and handled in accordance with General Order P-26 (Personnel Compliant Procedures). All instances of non-compliance will be reported to the City Council via the annual military equipment report.



Office of the City Manager

ACTION CALENDAR

July 26, 2022

(Continued from June 21, 2022)

To: Honorable Mayor and Members of the City Council
From: Dee Williams-Ridley, City Manager
Submitted by: Jennifer Louis, Interim Chief of Police
Subject: Police Equipment & Community Safety Ordinance Impact Statements,
Associated Equipment Policies and Annual Equipment Use Report

RECOMMENDATION

Adopt a Resolution approving the Controlled Equipment Impact Statements, Associated Equipment Use Policies and equipment.

FISCAL IMPACTS OF RECOMMENDATION

The fiscal impacts are minimal as the Berkeley Police Department has possessed the equipment outlined in the impact statements for many years. The majority of the fiscal impacts are limited to staff time for reporting and continuous training.

CURRENT SITUATION AND ITS EFFECTS

The Police Equipment and Community Safety Ordinance and Assembly Bill No.481 require the Police Department to submit documents outlining details of specific equipment defined as “military equipment.” The definition of “military equipment” differs between the city ordinance and state law. The Berkeley Police Department impact statements and their associated policies are comprehensive and address equipment from both the ordinance and state law. All equipment outlined within the impact statements was previously acquired to the passage of this legislation and has been in the possession of the Berkeley Police Department and utilized for many years.

BACKGROUND

On May 11th, 2021 the city of Berkeley adopted the Police Equipment and Community Safety Ordinance, Ordinance NO. 7,760-N.S. This ordinance addresses military equipment funding, acquisition, and use. This ordinance requires the Berkeley Police Department to submit impact statements and associated equipment policies on certain equipment that the Berkeley Police Department already possesses to the Police Accountability Board and City Council for approval. An annual report is also mandated by the city ordinance for the usage of specified equipment.

On January 1st, 2022 Assembly Bill No.481 took effect. Similar to the city ordinance, this assembly bill also addresses military equipment funding, acquisition, and use. The assembly bill and the Police Equipment and Community Safety Ordinance address similar equipment and have similar requirements. However, Assembly Bill No.481 addresses additional equipment that the city ordinance does not and requires addition impact statements and addition equipment policies.

The city ordinance provides the Police Accountability Board 90-days to review Impact Statements and their associated use policies before making recommendations and before City Council’s consideration of approval. After reconciling the city ordinance and new state law mandates, the required documents were provided to the Police Accountability Board on February 24th, 2022. On April 6th, 2022 the Police Accountability Board provided the Berkeley Police Department with their recommendations on the Impact Statements and their associated use policies. The Police Accountability Board’s recommendations are submitted as an attachment to this council item pursuant to section 2.100.040 (H)(1), which requires the Berkeley Police department provide City Council with the Police Accountability Board’s recommendations 15 days prior to a public meeting.

It should be noted that Section 2.100.040 (H)(2) states “If the City Council does not approve such item within four (4) regular City Council meetings from when the item is first scheduled, the Police Department shall cease its use of the Controlled Equipment until such review and approval occurs.”

The Impact Statements and their associated use policies and Annual Report have been submitted as attachments to this council item. The attached Impact Statements and their associated use policies were also posted onto the Berkeley Police Department’s website thirty days prior to the May 10, 2022 Council Meeting, in line with the requirements of Assembly Bill No.481.

ENVIRONMENTAL SUSTAINABILITY AND CLIMATE IMPACTS

There are no identifiable environmental effects or opportunities associated with the subject of this report.

RATIONALE FOR RECOMMENDATION

The Police Equipment and Community Safety Ordinance and Assembly Bill No.481 require the approval of “military equipment” by a “governing body.”

ALTERNATIVE ACTIONS CONSIDERED

If the equipment outlined in the Impact Statements and their associated policies are not approved, the Berkeley Police Department is required to cease its use, per the city ordinance. Public safety and the safety of Berkeley Police Officers will be detrimentally impacted if the continued use of this equipment by the Berkeley Police Department is

Annual Reporting and Impact Statements:
Police Equipment and Community
Safety Ordinance

ACTION CALENDAR
July 26, 2022

not approved. This equipment has been relied on for many years, assisting in keeping the Berkeley community safe.

CONTACT PERSON

Jennifer Louis, Interim Chief of Police, (510) 981-5700

Attachments:

1. Resolution
2. Impact Statements and their associated use policies
3. 2021 Annual Equipment Use Report
4. Police Accountability Board Recommendation
5. Military Equipment Policy

RESOLUTION NO. ##,###-N.S.

ANNUAL REPORTING AND IMPACT STATEMENTS: POLICE EQUIPMENT AND
COMMUNITY SAFETY ORDINANCE

WHEREAS, the Berkeley City Council adopted Ordinance NO. 7,760-N.S., the Police Equipment and Community Safety Ordinance on May 11, 2021; and

WHEREAS, Section 2.100.020 of the city ordinance mandates Impact Statements and their associated equipment policies for certain equipment that the Berkeley Police Department possesses; and

WHEREAS, Section 2.100.050 of the ordinance mandates an annual report for the deployment of certain equipment that the Berkeley Police Department possesses; and

WHEREAS, per city ordinance, the Impact Statements, associated equipment policies, and the first annual report shall be submitted within one year of approval; and

WHEREAS, Assembly Bill No.481 was passed September 30, 2021; and mandates similar requirements to the city ordinance including “use policies” and “annual use report;” and

WHEREAS, the equipment outlined between Assembly Bill No.481 and the Police Equipment and Community Safety Ordinance are similar.

NOW THEREFORE, BE IT RESOLVED by the Council of the City of Berkeley that it accepts the Berkeley Police Department Impact Statements, associated equipment policies, and Annual Report, and approve the equipment outlined in the Impact Statements.



**Police Equipment and
Community Safety Ordinance
Impact Statements**

ACKNOWLEDGEMENTS

Thank you to the subject matter experts for helping author this report.

Officer Corey Bold –
Patrol Officer and chemical agent instructor

Officer Semir Muratovic –
Patrol Officer and Bomb Squad Technician

Officer Derek Radey –
Patrol Officer and less lethal coordinator/instructor

Lieutenant Kevin Reece –
Special Response Team Commander

Officer Scott Salas –
Patrol officer and Special Response Team high ground team leader

Lieutenant Jennifer Tate –
Traffic Lieutenant and defensive tactics instructor

Officer Jason Tillberg –
Department trainer and Department Armorer

Officer Sean Tinney –
Department trainer and Special Response Team member

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INTRODUCTION

On May 11, 2021 the Berkeley City Council passed Ordinance NO. 7,760-N.S., the Police Equipment and Community Safety Ordinance. Section 2.100.020 of the ordinance mandates an impact statement for certain equipment that the Berkeley Police Department possesses. An impact statement is defined in section 2.100.020 (C) and is a publicly released written document that includes the following details for each equipment:

- 1) Description
- 2) Purpose
- 3) Fiscal cost
- 4) Impact
- 5) Mitigation
- 6) Alternatives
- 7) Third Party Dependence

An impact statement for each of the following equipment has been authored by subject matter experts in their respective fields:

- M4 rifle/Patrol Rifle
- Penn Arms 40MM launcher
- Milkor LTL multi-launcher
- FN 303 Launcher & FN Pava rounds
- Oleoresin capsicum (OC spray)
- Chlorobenzylidene Malonitrile and Oleoresin capsicum (tear gas)
- Remington 700 Rifle
- ReconRobotics Recon Scout XT Robots
- Andros Remotec HD-1 Hazardous Duty Robot
- Light/sound distraction device
- Long Range Acoustic Device (LRAD)
- 36" batons
- Mobile Command Vehicle
- Barret Model 99

The impact statements required by the City ordinance also fulfill the obligations set forth in Assembly Bill 481. Impact statements were compiled in this report in a

prioritized ranking for the Police Accountability Board to consider in determining the order in which to perform its review per the Police Equipment and Community Safety Ordinance.

M4 Rifle and Associated Ammunition

(1) Description:

A. Background:

The “M4” was developed and produced for the United States government by Colt Firearms and was based off of the original Armalite Rifle (AR) patent purchased by Colt in 1959. Although Colt owned the trademarked name of “M4”, a number of other manufacturers offer M4-like firearms under various model names. The M4 and its variants fire 5.56×45mm NATO (and .223 Remington) ammunition, and are a gas-operated, magazine-fed firearm with a barrel length ranging from 11.5” to 16”.

The current Berkeley Police Department (BPD) rifle ammunition used is the .223 Remington, a rimless, bottlenecked rifle cartridge. The round was developed in 1957 by Remington Arms and Fairchild Industries. The .223 Remington is considered one of the most popular cartridges and is currently used by a wide range of semi-automatic and manual-action rifles as well as handguns. While the military uses the similar 5.56x45 NATO cartridge, BPD uses the more common and often regarded civilian cartridge of .223 Remington for all training and duty uses.

Currently, BPD uses two different kinds of .223 Remington ammunition: 55 grain FMJ (full metal jacket) for training purposes and 62 grain soft point for duty purposes. This is done for several reasons.

1. FMJ ammunition is cheaper to purchase. While many agencies use the same ammunition for training and duty use, the department saves a significant amount of money by using FMJ ammunition for training.
2. The observed performance between the two rounds is negligible for training purposes. Officers can use the FMJ ammunition in a training course and see no difference in operation and performance versus using 62 grain soft point duty ammunition.
3. The 62-grain soft point ammunition has been shown to have less over penetration and over travel compared to FMJ ammunition.

This means that rounds fired are less likely to hit unintended targets.

B. Quantity:

The Berkeley Department currently owns and maintains 96 rifles.

Quantity of rifle ammunition fluctuates significantly depending on training attended, including the standard basic police academy, officer assignments, and yearly mandate training cycles. For example, most police academy recruits are required to bring approximately 1,000 rounds to the basic POST approved academy. Most academies have a 16-24-hour rifle training course. The training is required for all officers who are issued a rifle and mandates between 800 and 1,200 rounds. As such, the inventory at the Berkeley Police Department fluctuates significantly depending on how many officers are attending state mandated training and can range from 10,000 round (our current inventory) to less than 1,000 rounds (our anticipated inventory at the end of December after scheduled department training in November.)

C. Capability:

The M4 pattern rifle is used only in situations when a potential life-threatening situation exists. While a pistol is the common firearm used by police in these dangerous situations, the M4 patterned rifle has numerous advantages over it. The ability to shoulder the rifle, coupled with the rifle's lengthened barrel and ammunition, result in higher accuracy and lessens the chance of officers missing the intended target. Additionally, due to the design of the rifle's bullet, the round is less likely to over penetrate commercial and residential walls should the officer miss the intended target. The rifle is also easier to use compared to a pistol because of the bullet's low recoil. Finally, as the rifle can be adjusted and customized, it can be configured to accommodate officers of any stature (hand size, strength, etc.).

The .223 Remington cartridge, depending on the weight of the bullet, 55 grain or 62 grain, travel at approximately 3,000 feet per second and 2,700 feet per second respectively. The round is highly regarded as having a high degree of consistency and accuracy, which is why it is the most common rifle round used in Law Enforcement around the world.

D. Lifespan:

Due to the rifle's ability to be maintained by department armorers, these rifles have a relatively long-life span if properly maintained. However, the design has

changed little in the last 60 years and we can expect new variations and designs to become the new industry standard in the coming years.

Like all ammunition, if kept cool and dry, ammunition lifespan can exceed ten years. Due to BPD's and State mandates on training, the majority of ammunition is cycled through within a year of purchase.

E. Use:

Used in the defense of life or great bodily injury to potential victims of violent crimes, general public, and officers.

F. How it Works:

The M4 patterned rifle works the same as a majority of all modern firearms. When the trigger is pressed, a firing pin strikes the primer of a bullet loaded into the chamber of the rifle. The ignited primer ignites gun powder contained in the bullet which pushes the bullet down the barrel and out the muzzle. As the bullet travels down the barrel, gas from the ignited powder also escapes from the muzzle. Some of that gas is recycled back into the chamber of the firearm which causes the firearm to cycle its action and load another bullet. From there the process repeats with each pull of the trigger.

The .223 Remington cartridge is made up of several parts, primarily the primer, casing, gunpowder, and bullet. The bullet is seated into the front or opening of the casing. Gunpowder is placed between the bullet and the interior of the casing and a primer is seated in the rear part of the casing. When the trigger of a firearm is pulled, it releases the hammer, which strikes the firing pin, driving it forward. The firing pin collides with the rear of the cartridge, where the primer is seated, which ignites the primer. The spark from the primer ignites the gunpowder. Gas converted from the burning powder rapidly expands in the cartridge. The expanding gas forces the bullet out of the cartridge and down the barrel with great speed. The rifling in the barrel causes the bullet to spin as it travels out of the barrel. The bullet's speed and escaping gases produce a "bang."

After the bullet exits the barrel, the spent casing which housed the bullet, gunpowder, and primer are ejected from the firearm.

(2) Purpose:

The M4 patterned rifle and associated ammunition is intended as a means to safely stop a lethal threat. While a pistol is the firearm that all officers are minimally

equipped with, the rifle is an ancillary firearm for situations where increased distance and accuracy are needed to safely resolve the situation.

(3) **Fiscal Cost:**

A. **Initial Cost:**

Rifle prices, like other firearms, will range depending on current market demand and availability. While M4 rifles purchased several years ago cost between \$1,000 and \$1,200 a piece, current rifles cost between \$1,400 and \$1,600. It should be expected that these prices will fluctuate and likely increase over time.

Ammunition costs fluctuate with the costs of components (brass, primers, gunpowder, and bullets) and supply/demand. Current costs for .223 Remington range from \$0.50 to \$0.75 a round for training ammunition (55 grain) and \$1.25 to \$1.50 a round for duty ammunition (62 grain).

B. **Cost of Use:**

Cost of use for all firearms should be based on the ammunition used in training and on duty. This will fluctuate based on whether the rifle is issued to a patrol officer, a firearms instructor, or a Special Response Team member as each assignment has different training requirements.

C. **Cost of Potential Adverse Effects:**

Adverse effects of improper use of a firearm are not calculable. It could lead to the loss of life or serious injury. Additionally, the improper use could result in civil liabilities.

D. **Annual and Ongoing Costs:**

See section B. above, these costs are determined based on the rifle's assignment.

E. **Training Costs:**

Every officer that is authorized to carry a rifle on duty must attend a 16-hour CA POST approved rifle instruction course before being authorized to carry the rifle on duty. This course may be administered by Berkeley Police Firearm Instructors or by other POST approved agencies. Tuition for the CA POST approved class is dependent on the hosting agency. If conducted in house the cost only includes the officer's hourly wage, range fee, and ammunition costs (all vary). Outside agencies charge between \$25 to \$500 depending on the range location and duration (some classes are 32-hours while POST only requires 16-hours.)

Additionally, all officers issued a rifle receive specific 8-hour rifle training every two years by POST certified BPD firearm instructors.

Typical round count for such classes range between 800 rounds and 1200 rounds per student. Additionally, all officers issued a rifle receive specific 8-hour rifle training every two years by a BPD firearm instructor which constitutes an additional 500 or so rounds per officer.

F. Maintenance and Storage Costs:

Maintenance costs vary depending on use over time. Traditionally, various springs and pins need to be replaced every five years and may cost between \$3 and \$30 per rifle. Other parts such as the barrel and bolt need replaced around ten years and range between \$150 and \$300 per rifle.

There are no costs associated with maintenance or storage of ammunition. All ammunition is stored in a climate-controlled room in the Berkeley Police Department.

G. Upgrade Costs:

Upgrade costs and Maintenance cost are synonymous due to the consistent design and lack of changes of the rifle over the last 60 years. Improvements in technology and new designs may be an additional cost but we can't predict what those will be at this time.

Should advancements be made in ammunition manufacturing, those upgrade costs are unknown at this time.

(4) Impact:

The Berkeley Police Department is committed to preserving and protecting human life and welfare. The M4 patterned rifle, which fires the .223 Remington cartridge, is a superior firearm to stop a lethal threat compared to the issued pistols to police officers, in that officers equipped with this firearm shoot less rounds, fire more accurately, and are less likely to fire errant rounds. Highly volatile and violent incidents, such as a hostage situation, can be more safely and efficiently resolved with a rifle.

The M4 patterned rifle, and the accompanying .223 Remington cartridge it fires, is intended as a tool to increase the safety and welfare of citizens and officers alike. The M4 patterned rifle and .223 Remington cartridge, both inanimate objects, have zero impact on things such as civil rights or civil liberties of the public. Any abuses of authority or power would be the result of an individual who violates the Berkeley Police Department's policies, including state and federal laws.

(5) **Mitigations:**

Per Policy 300, “Deadly force may only be used when it is objectively reasonable that such action is immediately necessary to protect the officer or another person from imminent danger of death or serious bodily harm.

Officers shall not use deadly force if it is objectively reasonable that alternative techniques will eliminate the imminent danger and ultimately achieve the law enforcement purpose with less risk of harm to the officer or to other persons.”

(6) **Alternatives:**

There are no suitable alternatives to the M4 rifle for the intended purpose. The M4 rifle is a law enforcement standard across the US and other countries due to its reliability, ease of use, ease of maintenance, and increased accuracy over other options.

There are no suitable alternatives to the .223 Remington cartridge, as the current BPD M4 rifle is designed for that particular cartridge. The .223 Remington cartridge is a law enforcement standard across the US and other countries due to its reliability, availability, and increased accuracy over other options.

(7) **Third Party Dependence:**

Berkeley Police Department armorers are trained and capable to handle any and all issues related to the maintenance or repair of the M4 rifles. Additionally, BPD firearm instructors are fully certified by state and private training institutes to fully educate and train BPD officers. No third party is required for maintenance, repair, or instruction.

All ammunition purchased by BPD, like all equipment, is dependent on Third Party vendors. Vendor stock and availability is outside BPD control or management. Once ammunition is purchased and in BPD custody there is no additional need for Third Party assistance.

Penn Arms 40mm Single Launcher

(1) **Description:**

A. **Background:**

The 40mm impact projectile was developed as an alternative to the 12-gauge bean bag round and other more indiscriminate less lethal options. Early 12-gauge

bean bag round designs had somewhat unpredictable flight patterns and could cause significant unwanted injury. The 40mm foam baton round was developed as a direct fire projectile designed to minimize the risk of unintended injuries. Currently, the Berkeley Police Department utilizes the CTS 4557 foam baton projectile and the Penn Arms L-140 single shot launcher.

B. Quantity:

The Berkeley Police Department currently owns and maintains 20 Penn Arms less lethal launchers.

C. Capability:

The Penn Arms single launcher is capable of firing a single projectile out to a maximum manufacturer recommended range of 45 meters. The Penn Arms 40mm projectiles are direct fire with a pliable “sponge” tip designed to mold to the body. The projectiles are about the size of a large egg. Upon impact, the projectile transfers kinetic energy to the body to gain pain compliance. Large muscle groups such as the upper legs or lower abdomen are approved target areas unless a higher level of force is justified. This level of force is considered to be similar to that of a baton strike.

D. Lifespan:

The manufacturer expected lifespan is about 10 years depending on use and regular maintenance.

E. Use:

The Penn Arms 40mm single launcher is designed to reduce the potential for a violent confrontation. Less lethal projectiles are less likely to result in serious bodily injury or death and can be used to de-escalate a potentially deadly situation.

F. How it works:

The Penn Arms 40mm single launcher is a double action, break open less lethal launcher. The launcher is capable of firing a single 40mm projectile. When fired, the hammer strikes the munition primer which ignites gun powder in the primer insert. Expelled gases propel the projectile through the rifled barrel. The projectile has a rear plastic portion called the ogive which catches the barrel rifling and provides spin. The spin provides a greater degree of accuracy and eliminates any potential the projectile will tumble when exiting the barrel.

The projectiles utilized by the Berkeley Police Department are the CTS 4557 40mm sponge baton round. The CTS 4557 has a maximum effective range of 45 meters. The tip of the projectile is a pliable rubber material which molds to the body upon impact. The projectile travels at an estimated 240 feet per second which is slower than the FN 303 projectile. However, the larger mass, about 60 grams, creates more kinetic energy upon impact which is similar to that of a baseball thrown by a pitcher. The additional kinetic energy becomes important when the suspect has on thick or layered clothing or demonstrates a high pain tolerance.

The Penn Arms single launcher is a basic design making it easy to operate and maintain.

(2) **Purpose:**

The purpose of kinetic energy impact projectiles, commonly referred to as “less lethal” is to preserve life, minimize the use of force and allow time for de-escalation. Less lethal projectiles allow the user to maintain a safe distance from a subject who is armed and/or demonstrates the intent to be violent. The ability to maintain a safe distance – while still providing a level of control over the subject – allows officers to employ de-escalation techniques, request additional resources and develop a plan to safely resolve the situation with the least amount of risk.

Violent or armed confrontations are inherently dangerous to all those involved. Officers are required to make split second judgments in circumstances that are tense, uncertain and rapidly evolving. An Officer’s threat perception of a person who is in close proximity as opposed to a person who is at a distance of 20 yards is naturally different. A person in close proximity intent on violence has the ability to immediately utilize personal body weapons, a bludgeoning device or cutting instrument. The immediacy requires the Officer to react instantly and there is a greater potential that a higher level of force will be needed.

On the other hand, a person at a distance of 20 yards may not be perceived as having the immediate ability to violently attack the Officer. The person must first close the distance before certain weapons can be utilized. This fact may allow the Officer time to decide the most appropriate course of action, such as the use of a “less lethal” projectile.

The projectiles are designed to provide a high level of accuracy which minimizes the risk of unwanted impacts. The ability to apply force from a distance reduces the

potential for violent confrontation and aides in reducing the level of force needed to safely resolve a conflict.

Additionally, it has been our experience that a 40mm projectile impact will almost always resolve a violent confrontation with 1 or 2 applications. The larger projectile produces more kinetic energy than the FN 303, which may require several applications to gain compliance.

Since 2015, there have been 31 incidents where Officers utilized less lethal applications. These applications have potentially prevented higher-level uses of force.

(3) **Fiscal Cost:**

A. **Initial Cost:**

Less lethal prices, like other equipment, varies depending on market demand and availability. The most recent Penn Arms purchased by the department cost \$815.00 each.

B. **Cost of Use:**

Cost for Penn Arms single launcher use should be based on the projectiles used in training and on duty. This will fluctuate based on department trainings, projectile availability and events that unfold in the city and surrounding region.

C. **Cost of Potential Adverse Effects:**

Adverse effects from improper use of less lethal are not calculable. Improper use could lead to serious bodily injury or death.

D. **Annual and Ongoing Costs:**

See section B above

E. **Training Costs:**

Every officer authorized to deploy a less lethal launcher must pass a certification course administered by a Berkeley Police Department Firearms Instructor. The certification class consists of classroom, range qualification and scenario application if the venue allows. This class is largely handled in house thus the cost only includes staff time, range fees, and projectile costs which all vary.

F. Maintenance and Storage Costs:

Maintenance costs vary depending on use. Generally, various springs and pins need to be replaced every 5 years which can cost \$3 to \$30.

G. Upgrade Costs:

There are no foreseeable upgrade costs. The Penn Arms single launcher has few working parts and is of a simple design.

(4) Impact:

The main function of a less lethal device is to preserve the sanctity of human life. The Berkeley Police Department is committed to reducing the potential for violent confrontations. Less lethal projectiles, when used properly, are less likely to result in serious bodily injury or death and can be used to de-escalate a potentially deadly situation. A less lethal application is an acknowledgment a given situation has the potential to elevate to lethal force and the Officers determined a less lethal application is not only objectively reasonable and objectively necessary, but hopefully the minimal amount of force needed to safely resolve the incident.

The Penn Arms single launcher, with its high level of accuracy can be utilized in a large violent group confrontation to specifically target those who are committing acts of violence on other members of the group, involved persons, or law enforcement personnel. It allows a more immediate action to stop a violent assault, overcome their resistance, and aid in the attempt to safely take them into custody. This tool does not require officers to overcome a hostile crowd to stop a violent assault.

(5) Mitigation:

Per Policy 300, "In all cases where physical force is used, officers shall use a minimum amount of force that is objectively reasonable, objectively necessary, and proportional to effectively and safely resolve a conflict." All uses of force require documentation that is completed by the supervisor in a use of force report and reviewed by the Chain of Command. Furthermore, all deployments of equipment outlined in the Police Equipment and Community Safety Ordinance are documented according to the reporting requirements as mandated in the ordinance.

Per Policy 303, "Officers are not required or compelled to use approved projectiles in lieu of other reasonable tactics if the involved officer determines that deployment of these projectiles cannot be done safely. Circumstances appropriate for deployment include, but are not limited to, situations in which: (a) The suspect is armed with a weapon and the tactical circumstances allow for the safe application of approved

projectiles. (b) The suspect has made credible threats to harm him/herself or others. (c) The suspect is engaged in riotous behavior or is throwing rocks, bottles or other dangerous projectiles at people and/or officers. (d) There is probable cause to believe that the suspect has already committed a crime of violence and is refusing to comply with lawful orders.”

The Berkeley Police Department also trains a recommended range of 3 to 30 meters. Berkeley Police Firearm Instructors recommend a minimum standoff of 3 meters to reduce the potential for unintended injury at a closer distance. The 30-meter maximum recommended range is intended to reduce the possibility of an unintended impact area if the suspect moves or the projectile trajectory begins to deteriorate.

Each officer is trained to aim for large muscle groups, such as the thigh or buttocks area, and avoid areas that may cause serious injury. The department also equips each launcher with a red dot optic. The optic greatly increases an officer’s ability to target approved impact areas.

(6) **Alternative:**

This is the only piece of less lethal equipment (other than the FN 303) that allows officers to address a potentially deadly threat from a distance. The TASER allows an officer to maintain distance but limits the range to about 15 to 25 feet. Furthermore, the TASER requires two prongs (barbs) to penetrate the subject’s clothing to be effective and if that is not accomplished the TASER will have no effect. Additionally, the TASER is not an approved less lethal device for the department.

(7) **Third Party Dependence:**

The Berkeley Police Department armorers are trained and capable of handling all issues related to the repair or maintenance of the Penn Arms single launcher. Additionally, Berkeley Police Department Less Lethal Instructors are fully certified by state and private training institutes to educate and train BPD officers. No third party is required for maintenance, repair, or instruction.

Milkor LTL Multi-launcher

(1) **Description:**

A. **Background:**

The 40mm impact projectile was developed as an alternative to the 12-gauge bean bag round and other more indiscriminate less lethal options. Early 12-gauge

bean bag round designs had somewhat unpredictable flight patterns and could cause significant unwanted injury. The 40mm foam baton round was developed as a direct fire projectile designed to minimize the risk of unintended injuries. Currently, the Berkeley Police Department utilizes the CTS 4557 foam baton projectile and the Milkor LTL multi-shot launcher.

B. Quantity:

The Berkeley Police Department currently owns and maintains 2 Milkor LTL less lethal launchers. One Milkor launcher is assigned to the Berkeley Special Response Team.

C. Capability:

The Milkor LTL is capable of firing six 40mm projectiles before reloading is necessary. The Milkor LTL 40mm projectiles are direct fire with a pliable “sponge” tip designed to mold to the body. The projectiles are about the size of a large egg. Upon impact, the projectile transfers kinetic energy to the body to gain pain compliance. Large muscle groups such as the upper legs or lower abdomen are approved target areas unless a higher level of force is justified. This level of force is considered to be similar to that of a baton strike.

D. Lifespan:

The manufacturer expected lifespan is about 10 to 15 years depending on use and regular maintenance.

E. Use:

The Milkor LTL multi-shot launcher is designed to reduce the potential for a violent confrontation. Less lethal projectiles are less likely to result in serious bodily injury or death and can be used to de-escalate a potentially deadly situation.

F. How it works:

The Milkor LTL multi-shot launcher utilizes a spring actuated cylinder allowing it to fire 6 individual 40mm projectiles. When fired, the hammer strikes the munition primer which ignites gun powder in the primer insert. Expelled gases propel the projectile through the rifled barrel. The projectile has a rear plastic portion called the ogive which catches the barrel rifling and provides spin. The spin provides a greater degree of accuracy and eliminates any potential the projectile will tumble when exiting the barrel. The spring assisted cylinder automatically turns and loads the next projectile.

The projectiles utilized by the Berkeley Police Department are the CTS 4557 40mm sponge baton round. The CTS 4557 has a maximum effective range of 45 meters. The tip of the projectile is a pliable rubber material which molds to the body upon impact. The projectile travels at an estimated 240 feet per second which is slower than FN 303 projectile. However, the larger mass, about 60 grams, creates more kinetic energy upon impact which is similar to that of a baseball thrown by a pitcher. The additional kinetic energy becomes important when the suspect has on thick or layered clothing or demonstrates a high pain tolerance.

The benefit to the Milkor LTL is its ability to provide a quick follow up less lethal application, if necessary. The Milkor holds 6 projectiles while the Penn Arms launcher only holds one. Reloading the Penn Arms single launcher can be time consuming and requires the officer to briefly change focus from the suspect to the reload procedure. The Milkor LTL on the other hand, allows the officer to maintain focus on the suspect and assess whether a follow up application is necessary. This ability is significant when the suspect is advancing, attempting to flee, or demonstrates a high pain compliance threshold.

(2) **Purpose:**

The purpose of kinetic energy impact projectiles, commonly referred to as “less lethal” is to preserve life, minimize the use of force and allow time for de-escalation attempts. Less lethal projectiles allow the user to maintain a safe distance from a subject who is armed and/or demonstrates the intent to be violent. The ability to maintain a safe distance – while still providing a level of control over the subject – allows officers to employ de-escalation techniques, request additional resources and develop a plan to safely resolve the situation with the least amount of risk.

Violent confrontations are inherently dangerous to all those involved. Officers are required to make split second judgments in circumstances that are tense, uncertain and rapidly evolving. An Officer’s threat perception of a person who is in close proximity as opposed to a person who is at a distance of 20 yards is naturally different. A person in close proximity intent on violence has the ability to immediately utilize personal body weapons, a bludgeoning device or cutting instrument. The immediacy requires the Officer to react instantly and there is a greater potential that a higher level of force will be needed.

On the other hand, a person at a distance of 20 yards may not be perceived as having the immediate ability to violently attack the Officer. The person must first close the distance before such weapons can be utilized. This may allow the Officer

time to decide the most appropriate course of action, such as the use of a “less lethal” projectile.

The “less lethal” projectiles utilized by the Berkeley Police Department are generally considered discriminate versus indiscriminate uses of force. The projectiles are designed to provide a high level of accuracy which minimizes the risk of unwanted impacts. The ability to apply force from a distance reduces the potential for violent confrontation and aides in reducing the level of force needed to safely resolve a conflict.

Additionally, it has been our experience that a 40mm projectile impact will generally resolve the violent confrontation with 1 or 2 applications. The larger projectile produces more kinetic energy than the FN 303, which may require several applications to gain compliance.

Since 2015, there have been 31 incidents where Officers utilized less lethal applications. These applications have potentially prevented higher-level uses of force.

(3) **Fiscal Cost:**

A. **Initial Cost:**

Less lethal prices, like other equipment, varies depending on market demand and availability. The most recent Penn Arms purchased by the department cost \$3950.00 each.

B. **Cost of Use:**

Cost for the Milkor LTL launcher use should be based on the projectiles used in training and on duty. This will fluctuate based on department trainings, projectile availability and events that unfold in the city and surrounding region.

C. **Cost of Potential Adverse Effects:**

Adverse effects from improper use of less lethal are not calculable. Improper use could lead to serious bodily injury or death.

D. **Annual and Ongoing Costs:**

See section B above

E. **Training Costs:**

Every officer authorized to deploy a less lethal launcher must pass a certification course administered by a Berkeley Police Firearm Instructor. The certification

class consists of classroom, range qualification and scenario application if the venue allows. This class is largely handled in house thus the cost only includes the officer's hourly wage, range fees, and projectile costs which all vary.

F. Maintenance and Storage Costs:

Maintenance costs vary depending on use.

G. Upgrade Costs:

There are no foreseeable upgrade costs.

(4) Impact:

The main function of a less lethal device is to preserve the sanctity of human life. The Berkeley Police Department is committed to reducing the potential for violent confrontations. Less lethal projectiles, when used properly, are less likely to result in serious bodily injury or death and can be used to de-escalate a potentially deadly situation. A less lethal application is an acknowledgment a given situation has the potential to elevate to lethal force and the Officers determined a less lethal application is not only objectively reasonable and objectively necessary, but also the minimal amount of force needed to safely resolve the incident.

The Milkor LTL launcher, with its high level of accuracy and 6 projectile capacity, can be utilized in a large violent group confrontation to specifically target those who are committing acts of violence on other members of the group, involved persons, or law enforcement personnel. It allows a more immediate action to stop a violent assault, overcome their resistance, and aid in the attempt to safely take them into custody. It also allows officers to prevent a more indiscriminate use of force, such as entering the group or crowd, to take a subject into custody.

(5) Mitigation:

Per Policy 300, "In all cases where physical force is used, officers shall use a minimum amount of force that is objectively reasonable, objectively necessary, and proportional to effectively and safely resolve a conflict." All uses of force require documentation that is completed by the supervisor in a use of force report and reviewed by the Chain of Command. Furthermore, all deployments of equipment outlined in the Police Equipment and Community Safety Ordinance are documented according to the reporting requirements as mandated in the ordinance.

Per Policy 303, "Officers are not required or compelled to use approved projectiles in lieu of other reasonable tactics if the involved officer determines that deployment of these projectiles cannot be done safely. The safety of hostages, innocent persons

and officers takes priority over the safety of subjects engaged in criminal or suicidal behavior. Circumstances appropriate for deployment include, but are not limited to, situations in which: (a) The suspect is armed with a weapon and the tactical circumstances allow for the safe application of approved projectiles. (b) The suspect has made credible threats to harm him/herself or others. (c) The suspect is engaged in riotous behavior or is throwing rocks, bottles or other dangerous projectiles at people and/or officers. (d) There is probable cause to believe that the suspect has already committed a crime of violence and is refusing to comply with lawful orders.”

The Berkeley Police Department also trains a recommended range of 3 to 30 meters. Berkeley Police Firearm Instructors recommend a minimum standoff of 3 meters to reduce the potential for unintended injury at a closer distance. The 30-meter maximum recommended range is intended to reduce the possibility of an unintended impact area if the suspect moves or the projectile trajectory begins to deteriorate.

Each officer is trained to aim for large muscle groups, such as the thigh or buttocks area, and avoid areas that may cause serious injury. The department also equips each launcher with a red dot optic. The optic greatly increases an officer’s ability to target approved impact areas.

(6) Alternative:

This is the only piece of less lethal equipment (other than the FN 303) that allows officers to address a potentially deadly threat from a distance. The TASER allows an officer to maintain distance but limits the range to about 15 to 25 feet. Furthermore, the TASER requires two prongs (barbs) to penetrate the subject’s clothing to be effective and if that is not accomplished the TASER will have no effect. Additionally, the TASER is not an approved less lethal device for the department.

(7) Third Party Dependence:

The Berkeley Police Department armorers are trained and capable of handling most issues related to the repair or maintenance of the Milkor LTL launcher. In the event of a catastrophic malfunction, the Milkor LTL will need to be sent to the manufacturer for repair. To date, there have been no significant repairs needed to the Milkor LTL. Additionally, Berkeley Police Department Less Lethal Instructors are fully certified by state and private training institutes to educate and train BPD officers. No third party is required for regular maintenance, repair, or instruction.

FN 303 and FN Pava Impact Projectile

(1) Description:

A. Background:

The FN 303 was developed in 2003 by Fabrique Nationale de Herstal as a less lethal option. The FN 303 is based on a concept developed by Monterey Bay Corporation. The development team consisted of designers and researchers from two paintball related companies. The FN 303 uses compressed air to propel a .68 caliber projectile similar to that of most manufactured paintball guns.

B. Quantity:

The Berkeley Police Department currently owns and maintains 8 FN 303 less lethal launchers.

C. Capability:

The FN 303 is capable of firing 15 projectiles out to a maximum manufacturer recommended range of 50 meters. The FN 303 projectiles are direct fire and designed to fragment upon impact to prevent penetration injury. Upon impact, the projectile transfers kinetic energy to the body to gain pain compliance. Large muscle groups such as the upper legs or lower abdomen are approved target areas. This level of force is considered to be similar to that of a baton strike.

D. Lifespan:

The manufacturer expected lifespan is about 10 years depending on use and regular maintenance.

E. Use:

The FN 303 is designed to reduce the potential for a violent confrontation. Less lethal projectiles are less likely to result in serious bodily injury or death and can be used to de-escalate a potentially deadly situation.

F. How it works:

An air reservoir attaches to the FN 303 through an air hose coupler and provides pressure through compressed air. When fired, the compressed air drives a piston that pushes the .68 caliber projectile through the barrel at approximately 280 feet per second. For comparison, the FN projectile is the size of a paintball and the velocity is the same as a commercially manufactured paintball gun.

The projectiles are 8.5 grams in weight and utilize a polystyrene fin stabilized body with a non-toxic forward payload to aid in stability and accuracy. The

projectile will deliver approximately 24-foot pounds of kinetic energy at the muzzle which is about double the kinetic energy of most paintball guns. Most paintballs have a mass of 3 grams while the FN 303 projectile has a mass of 8.5 grams which increases the kinetic energy produced.

Available projectiles are impact, impact + non-permanent marking, impact + permanent marking, and impact + PAVA (0.5% PAVA/Oleoresin Capsicum).

The impact + PAVA projectile is intended to be direct fired at an individual. In addition to delivering pain through kinetic energy upon impact, the PAVA projectile will deliver a secondary chemical irritant, which is the Oleoresin Capsicum (O.C.) payload. Oleoresin Capsicum generally causes irritation/burning at the application site, irritation to the eyes, and coughing. According to the National Institute of Health, the effects of O.C. power exposure tend to resolve on their own within 30 minutes.

Pain is highly subjective and other circumstances, such as heavy clothing, may render the impact ineffective. The application of a secondary chemical irritant may assist in gaining compliance and successfully resolving a potentially violent incident with the minimal amount of force necessary.

(2) **Purpose:**

The purpose of kinetic energy impact projectiles, commonly referred to as “less lethal” is to preserve life, minimize the use of force and allow time for de-escalation attempts. Less lethal projectiles allow the user to maintain a safe distance from a subject who is armed and/or demonstrates the intent to be violent. The ability to maintain a safe distance – while still providing a level of control over the subject – allows officers to employ de-escalation techniques, request additional resources and develop a plan to safely resolve the situation with the least amount of risk.

Violent confrontations are inherently dangerous to all those involved. Officers are required to make split second judgments in circumstances that are tense, uncertain and rapidly evolving. An Officer’s threat perception of a person who is in close proximity as opposed to a person who is at a distance of 20 yards is naturally different. A person in close proximity intent on violence has the ability to immediately utilize personal body weapons, a bludgeoning device or cutting instrument. The immediacy requires the Officer to react instantly and there is a greater potential that a higher level of force will be needed.

On the other hand, a person at a distance of 20 yards may not be perceived as having the immediate ability to violently attack the Officer. The person must first close the distance before such weapons can be utilized. This may allow the Officer time to decide the most appropriate course of action, such as the use of a “less lethal” projectile.

The “less lethal” projectiles utilized by the Berkeley Police Department are generally considered discriminate versus indiscriminate uses of force. Discriminate projectiles are designed to provide a high level of accuracy which minimizes the risk of unwanted impacts. The ability to apply force from a distance reduces the potential for violent confrontation and aides in reducing the level of force needed to safely resolve a conflict.

Since 2015, there have been 31 incidents where Officers utilized less lethal applications. These applications have potentially prevented higher-level uses of force.

(3) Fiscal Cost:

A. Initial Cost:

Less lethal prices, like other equipment, varies depending on market demand and availability. The most recent FN 303s purchased by the department cost \$800.00 each.

B. Cost of Use:

Cost for FN 303 use should be based on the projectiles used in training and on duty. This will fluctuate based on department trainings, projectile availability and events that unfold in the city and surrounding region.

C. Cost of Potential Adverse Effects:

Adverse effects from improper use of less lethal are not calculable. Improper use could lead to serious bodily injury or death. Only trained officers are authorized to use the FN 303.

D. Annual and Ongoing Costs:

See section B above

E. Training Costs:

Every officer authorized to deploy a less lethal launcher must pass a certification course administered by a Berkeley Police Firearm Instructor. The certification class consists of classroom, range qualification and scenario application if the

venue allows. This class is largely handled in house thus the cost only includes the officer's hourly wage, range fees, and projectile costs which all vary.

F. Maintenance and Storage Costs:

Maintenance costs vary depending on use. Generally, O-rings need to be replaced every 3000 rounds and cost \$30 per kit.

G. Upgrade Costs:

The overall design of the FN 303 has changed little since its initial release in the early 2000s thus anticipated upgrade costs will be minimal.

(4) Impact:

The main function of a less lethal device is to preserve the sanctity of human life. The Berkeley Police Department is committed to reducing the potential for violent confrontations. Less lethal projectiles, when used properly, are less likely to result in serious bodily injury or death and can be used to de-escalate a potentially deadly situation. A less lethal application is an acknowledgment a given situation has the potential to elevate to lethal force and the Officers determined a less lethal application is not only objectively reasonable and objectively necessary, but also the minimal amount of force needed to safely resolve the incident.

The FN 303, with its high level of accuracy can be utilized in a large violent group confrontation to specifically target those who are committing acts of violence on other members of the group, involved persons, or law enforcement personnel. It allows a more immediate action to stop a violent assault, overcome their resistance, and aid in the attempt to safely take them into custody. It also allows officers to prevent a more indiscriminate use of force, such as entering the group or crowd, to take a subject into custody.

(5) Mitigation:

Per Policy 300, "In all cases where physical force is used, officers shall use a minimum amount of force that is objectively reasonable, objectively necessary, and proportional to effectively and safely resolve a conflict." All uses of force require documentation that is completed by the supervisor in a use of force report and reviewed by the Chain of Command. Furthermore, all deployments of equipment outlined in the Police Equipment and Community Safety Ordinance are documented according to the reporting requirements as mandated in the ordinance.

Per Policy 303, "Officers are not required or compelled to use approved projectiles in lieu of other reasonable tactics if the involved officer determines that deployment of

these projectiles cannot be done safely. The safety of hostages, innocent persons and officers takes priority over the safety of subjects engaged in criminal or suicidal behavior. Circumstances appropriate for deployment include, but are not limited to, situations in which: (a) The suspect is armed with a weapon and the tactical circumstances allow for the safe application of approved projectiles. (b) The suspect has made credible threats to harm him/herself or others. (c) The suspect is engaged in riotous behavior or is throwing rocks, bottles or other dangerous projectiles at people and/or officers. (d) There is probable cause to believe that the suspect has already committed a crime of violence and is refusing to comply with lawful orders.”

The Berkeley Police Department also trains a recommended range of 3 to 30 meters. Berkeley Police Firearm Instructors recommend a minimum standoff of 3 meters to reduce the potential for unintended injury at a closer distance. The 30-meter maximum recommended range is intended to reduce the possibility of an unintended impact area if the suspect moves or the projectile trajectory begins to deteriorate.

Each officer is trained to aim for large muscle groups, such as the thigh or buttocks area, and avoid areas that may cause serious injury. The department also equips each launcher with a red dot optic. The optic greatly increases an officer’s ability to target approved impact areas.

(6) Alternative:

This is the only piece of equipment that allows officers to address a potentially deadly threat from a distance. The TASER allows an officer to maintain distance but limits the range to about 15 to 25 feet. Furthermore, the TASER requires two prongs (barbs) to penetrate the subject’s clothing to be effective and if that is not accomplished the TASER will have no effect. Additionally, the TASER is not an approved less lethal device for the Berkeley Police Department.

Unlike the Penn Arms 40mm single shot and the Milkor LTL multi-shot launcher, the FN 303 is capable of propelling 15 projectiles before a reload is required. The 15 round magazine allows for a quick follow-up application should the situation warrant with an effective range of over 160 feet; compared to the Penn Arms 40mm single shot and the Milkor LTL multi-shot launcher’s 100 feet. The FN303’s smaller and faster projectiles also generally allow for a higher level of accuracy compared to the 40mm foam baton rounds. The FN 303 rounds is also capable of carrying payloads such as paint or PAVA (Oleoresin capsicum).

(7) **Third Party Dependence:**

The Berkeley Police Department armorers are trained and capable of handling regular maintenance and most repairs. In the event of a catastrophic failure, the device will be sent to the manufacturer for repair. To date there have been 2 devices that required manufacturer repair, both of which were under warranty.

Additionally, department firearm instructors are fully certified by state and private training institutes to educate and train BPD officers. No third party is required for maintenance, most repairs, or instruction.

OC (oleoresin capsicum) Spray

(1) **Description:**

A. **Background:**

For the purposes of this portion of the Impact Statement, OC (Oleoresin capsicum) will be referred to in the spray form as opposed to the aerosol canister form. First Defense manufactures different sizes of OC sprays. OC is the chemical agent that is most widely used amongst Law Enforcement (LE) and the general public. OC has a pungent and irritating pepper odor. It is classified as an inflammatory agent. Besides being effective on humans, OC based chemical agents usually work on animals as well. In a liquid form, OC can appear as a clear, amber, or heavy dark red solution depending on the manufacturer. It is mixed with several types of solutions which act as carriers.

B. **Quantity:**

Qty 23 – First Defense MK-9 OC spray (13- ounces)

Qty 178 – First Defense MK-3 OC spray (3 ounces)

Most of the MK-3 OC sprays are issued to and maintained by individual officers; however, a small amount of these sprays is stored in a secured equipment room as spares in case of damage or new personnel issue.

C. **Capability:**

The First Defense MK-3 OC sprays are standard issued to all police officers and are worn on the police officers' belt. It has an effective range of 10-12 feet. The larger First Defense MK-9 OC sprays are 13 ounces and are used in violent crowd situations. It has an effect range of 18-20 feet.

The use of the First Defense OC spray can render a dangerous and violent situation safe without using a higher level of force.

D. Lifespan:

Aerosol products eventually lose pressure over time. The lifespan of both the MK-9 and MK-3 OC spray are dependent on how well the pressure in the can is maintained, but is recommended to be replaced after 5 years.

E. Use:

OC spray may be considered for use to bring under control an individual or groups of individuals who are engaging in or about to engage in violent behavior. OC spray should not, however, be used against individuals or group who merely fail to disperse or do not reasonably appear to present a risk to the safety of officers or the public.

F. How it Works:

A person subjected to OC can expect heavy tearing due to a burning sensation, involuntary closing or blinking of the eyes, burning/stinging skin sensation, redness of the skin, irritation and burning of the nose, runny nose, salivation and burning sensation of the mouth, cough, gagging sensation, shortness of breath, temporary paralysis of the larynx (person unable to speak) and nausea (caused by shock, not the OC itself). A person may also feel disorientated, anxiety, and/or panic. A complete recovery usually takes place within 45-60 minutes depending on the level of exposure.

(2) Purpose:

There are a variety of situations where officers may use OC spray such as: self-defense, overcoming the resistance of a noncompliant individual, effecting an arrest, preventing escape, violent crowd or riot control, barricade or hostage situations and dealing with dangerous animals.

(3) Fiscal Cost:

A. Initial Cost:

The MK-3 OC spray cost approx. \$19 per unit and the MK-9 OC spray costs approx. \$60 per unit. The manufacturer is Defense Technology and the Berkeley Police Department purchase each unit from Galls Police Supply or LC Action Police Supply. Purchases for these tools are made when inventory gets low which is typically determined by how many new officers are sworn in, as well as if they are utilized in dangerous situations.

B. Cost of Use:

The cost of each usage is unpredictable due to the unknown nature of crime, timelines of dangerous situations, and number of applications.

C. Cost of Potential Adverse Effects:

Adverse effects of improper use of OC spray are not calculable. It could lead to serious injury. Additionally, the improper use could result in civil liabilities.

D. Annual and Ongoing Costs:

See below cost of training.

E. Training Cost:

Training is conducted in the police academy and in-house by a Police Officer Standard Training (POST) certified Berkeley Police chemical agent training officer. The cost of training is staff time.

F. Maintenance and Storage Costs:

The majority of the MK-3 OC sprays are either stored within the Police Department or with each sworn police officer while they conduct official duties. All MK-9 OC sprays are stored in the basement. There are no additional storage costs or associated costs to transporting, maintain, or upgrade.

G. Upgrade Costs:

No upgrades exist for this equipment as of this report.

(4) Impact:

The physical effects of being subjected to OC may significantly reduce an individual's aggressive behavior. Reports have shown that the use of OC can reduce the amount of officer and arrestee injuries due to its effectiveness. Chemists assigned to the FBI Forensic Science Research and Training Center report no long-term health risks associated with the use of OC. The use of the MK-3 or MK-9 OC spray can render a dangerous and violent situation safe without using a higher level of force.

(5) Mitigations:

Law Enforcement Officers attend a Police Officer Standard Training (POST) approved academy before they enter into a Field Training Program and continue their training. During this academy they are taught about OC, how to deploy it, its effects, and the decontamination process. They are also subjected to OC to physically feel the effects themselves. After the academy, each officer is issued a MK-3 OC spray which they

are to keep on their person while on duty. If deployed and when practical, medical personnel should be summoned for the affected person(s) per policy 303. All uses of force require documentation that is completed by the supervisor in a use of force report and reviewed by the Chain of Command. Furthermore, all deployments of equipment outlined in the Police Equipment and Community Safety Ordinance are documented according to the reporting requirements as mandated in the ordinance.

(6) **Alternatives:**

Alternatives to utilizing OC sprays are tools such as expandable batons, less lethal launchers, and/or physical body weapons. The rationale to use OC spray depends on the circumstances of each individual incident and the individual officer involved in the incident. As mentioned above, reports have shown that OC spray may significantly reduce an individual's aggressive behavior which can minimize the amount of force necessary to apprehend that subject. Per our Use of Force policy (Lexipol 300), we shall use the minimal amount of force possible during each incident, thus making OC spray a valuable option.

(7) **Third Party Dependence:**

There is no third-party dependence for the First Defense OC spray. Once they are purchased, they are secured in their designated locations within the Police Department or with sworn police officers while they conduct official duties.

Chlorobenzylidene Malononitrile and Oleoresin Capsicum

(1) **Description:**

A. **Background:**

Chlorobenzylidene malononitrile (CS):

Chlorobenzylidene malononitrile (CS) is one of the most commonly used "tear gases" in the world. It can be liquid, gaseous, or solid substance intended to produce temporary discomfort through being vaporized or otherwise dispersed in the air. Law enforcement (LE) agencies have found this agent invaluable when faced with combative suspects, for crowd/riot control, and for alleviating barricaded subject situations. LE use it to help control individuals or groups without the need for a higher level of force. There are four different deployment methods of chemical agents (Aerosol - most commonly used by police departments, Fogging, Pyrotechnics, and blast expulsion). All methods of deployment can be affected by certain environmental and physical conditions (wind, rain, temperature, distance, and proximity to others). At standard daily

temperatures and pressures, CS forms a white crystal with a low vapor pressure and poor solubility in water.

Oleoresin capsicum (OC):

For this portion of the Impact Statement, Oleoresin capsicum (OC) will be referred to in the aerosol canister form. OC is the chemical agent that is most widely used amongst Law Enforcement (LE) and the general public. OC has a pungent and irritating pepper odor. It is classified as an inflammatory agent. OC is mixed with several types of solutions which act as carriers.

B. Quantity:

Inventory for CS canisters:

Qty 6 – 5230 CS Canisters

Qty 24 – 6230 CS Canisters

Qty 20 – 5230B CS Baffled Canister (flameless)

Qty 17 – 5231 CS Tri-Phaser Canisters

Qty 21 – 4630 CS Muzzle Blast (used with 40 mm less lethal launcher)

Qty 4 – 4530 CS Impact Rounds (used with 40 mm less lethal launcher)

Qty 19 – 4330 CS Barricade Projectile Rounds (used with 40 mm less lethal launcher)

Inventory for OC canisters:

Qty 54 - 9440 OC Tear Ball

Qty 19 - 5440 OC Flameless

Qty 20 - 6340 OC Vaper

C. Capability:

CS aerosols with microscopic particles which are potent sensory irritants becoming attached primarily to moist mucous membranes and moist skin. Common effects are: coughing, increased mucous secretion, difficulty breathing, skin reactions, and excessive salivation. The onset of symptoms typically occurs within 20 to 60 seconds, and if the exposed individual is placed in fresh air these effects generally cease in 10 to 30 minutes.

A person subjected to OC can expect heavy tearing due to a burning sensation, involuntary closing or blinking of the eyes, stinging skin sensation, redness of the skin, irritation of the nose, runny nose, salivation, cough, gagging sensation, and shortness of breath. A person may also experience anxiety and panic. A complete recovery usually takes place within 45-60 minutes depending on the level of exposure.

Both CS and OC canisters can render a dangerous and violent situation safe without using a higher level of force.

D. Lifespan:

CS and OC canisters expire in approximately 5 years.

E. Use:

Tear gas may be used for crowd control, crowd dispersal or against barricaded suspects based on the circumstances. Only the Chief of Police may authorize the delivery and use of tear gas, and only after evaluating all conditions known at the time and determining that such force reasonably appears justified and necessary.

(2) Purpose:

There are a variety of situations where peace officers may use chemical agents such as: self-defense, overcoming the resistance of a noncompliant individual, effecting an arrest, preventing escape, violent crowd or riot control, barricade or hostage situations and dealing with dangerous animals.

(3) Fiscal Cost:

A. Initial Cost:

The cost for CS canisters ranges from \$20.00 to \$39.00 per unit. The cost for OC canisters ranges from \$36.00 to \$44.00 per unit. The Berkeley Police Department prefers the use of the Combined Tactical Systems (CTS) chemical agents and we purchase them from LC Action Police Supply.

B. Cost of Use:

The cost of each proposed use is unpredictable due to the demand, unknown nature and timelines of dangerous crowd/riots situations, dangerous barricade situations, and hostage situations.

C. Cost of Potential Adverse Effects:

Adverse effects of improper use of OC and CS are not calculable. It could lead to serious injury. Additionally, the improper use could result in civil liabilities.

D. Annual and Ongoing Costs:

See below cost of training.

E. Training Cost:

When purchased, each unit is given an expiration date which typically falls within a 2-3-year range. Every 2-3 years, new chemical agents are purchased to honor

the expiration dates. The expired agents are then used during annual trainings thus minimizing the overall cost. Training is conducted by a Police Officer Standard Training (POST) certified Berkeley Police chemical agent training officer. The cost of training is staff time.

F. Maintenance and Storage Costs:

The majority of agents are stored inside of a marked chemical agent room within the Police Department, in the Special Response Team vehicle, or in the rescue Vehicle. There are no additional storage costs. There are no associated costs to transporting, maintenance, or upgrades.

G. Upgrade Costs:

No upgrades exist for this equipment as of this report.

(4) Impact:

BPD is committed to preserving and protecting human life and welfare. These tools allow us to fulfill our commitment to our community.

Law Enforcement, under Penal Code 12403.1, is able to lawfully purchase, possess, or use chemical agents in the discharge of their duties. CS and/or OC canisters have been prominently used to resolve dangerous barricaded suspect situations and violent crowd control/riot situations.

Berkeley Police officers are trained to utilize time and distance to de-escalate dangerous barricaded situations in order to resolve each incident with minimal the use of force (per Use of Force Policy 300). In some circumstances when all other options are exhausted, CS and/or OC can be inserted into the structure in which the barricaded suspect is, denying access to certain areas inside. Unless exigent circumstances arise, all attempts to evacuate the structure are made prior to any deployment. When CS and/or OC are deployed into a structure the suspect may be forced outside allowing the situation to resolve safely with no use further use of force.

CS and/or OC chemical agents can be utilized to create order in dangerous crowd control/riot situations that have demonstrated violence or destruction. During these incidents, typically a clear and direct warning has been given to the crowd to disperse before the chemical agents are deployed. The ability to disperse crowds from a distance limits injury to Police Officers as well as damage to critical structures.

(5) Mitigations:

Regarding the already mentioned impacts, the decision to utilize chemical agents (unless there are exigent circumstances) flows through the chain of command and ultimately makes its way to the Chief of Police and the City Manager. If there are exigent circumstances, the Field Commander makes the decision and then advises the Chief of Police as soon as practical. All uses of force require documentation that is completed by the supervisor in a use of force report and reviewed by the Chain of Command. Furthermore, all deployments of equipment outlined in the Police Equipment and Community Safety Ordinance are documented according to the reporting requirements as mandated in the ordinance.

With these procedures incorporated in BPD's policies, this mitigates many potential negative impacts. Per Policy 428 – First Amendment Assemblies - The Field Commander shall determine the type and quantity of chemical agents to be used. After use of chemical agents, the Field Commander shall re-evaluate the scene to determine if additional chemical agents are needed. Less-than-lethal munitions (40 mm CS impact rounds), chemical agents (including OC spray), and/or smoke shall only be deployed in crowd control situations as outlined in the Use of Force Policy. For planned events, inventories shall be conducted before and at the conclusion of the incident. Outside agency inventories shall also be tracked.

In addition to the mitigations in place, the Berkeley Police Special Response Team also receives annual training on the use of chemical agents, the effects, and the decontamination process. Per policy 303, when practical, medical personnel should be summoned for the affected person(s).

(6) Alternatives:

There are no direct alternatives for CS and OC. They are the industry's leading way to resolve barricaded suspects while reducing the likelihood of injury to the subject, community, and officers. Additionally, it is one of the only tools that allows officers to stop acts of violence or regain order during crowd control/riot situations. They are very distinct in nature and have direct purposes. The rationale to use CS or OC depends on the circumstances of each incident. The Berkeley Police Department shall use the minimal amount of force per our Use of Force Policy 300. The use of CS or OC allows the police personnel to maintain distance, giving officers more time to react and avoid a potential need for a higher level of force to safely resolve the situation.

(7) **Third Party Dependence:**

There is no third-party dependence for CS and OC chemical agents. Once they are purchased, they are secured in their designated areas and stay there until they are either used during incidents or training.

Remington 700 Rifle

(1) **Description:**

A. **Background:**

The Remington 700 is a series of bolt-action rifles designed in 1962 by the Remington Arms Company. The “700” designator is the generic name for multiple models of rifles with various parts, barrel lengths, stocks, etc. The Remington 700 rifle has long been used by law enforcement agencies and continues to be an industry standard for issued equipment. The Berkeley Police Department utilizes a custom Remington 700 action, chambered in the common .308-caliber round, with a 20” barrel and an Accuracy International chassis/stock. The rifle also includes a Nightforce 3-15x magnified optic and bipod.

BPD utilizes Hornady .308-caliber ammunition. This particular ammunition is specially designed for law enforcement applications due to its increased and consistent accuracy and performance.

B. **Quantity:**

The Berkeley Police Department Special Response Team (SRT) currently possesses six Remington 700 rifles, all configured in the same manner.

Currently, BPD has approximately 1,800 Hornady .308-caliber rounds. That quantity of ammunition fluctuates depending on supply from distributors and training schedules of those trained officers.

C. **Capability:**

The Remington 700 rifle, with the appropriate ammunition, training, and practice, is capable of consistent and highly accurate shooting out to a distance of approximately 500-yards.

The Remington 700 is intended to be used in emergency situations where there is a high potential for violence, where the need exists to put distance between officers and a specific individual, such as an armed hostage situation.

D. Lifespan:

The Remington 700 bolt-action rifles have an expected life span of 10-years if properly maintained.

E. Use:

Used in the defense of life or great bodily injury to potential victims of violent crimes, general public, and officers.

F. How it Works:

The Remington 700 is a manually operated rifle. It requires the officer to physically maneuver a handle to expel a spent cartridge and to load another unspent round of ammunition in order to fire a second round. When the trigger is pressed, a firing pin strikes the primer of a bullet loaded into the chamber of the rifle. The ignited primer ignites gun powder contained in the bullet which pushes the bullet down the barrel and out the muzzle. The officer must then pull a handle attached to the bolt to the rear, ejecting the spent cartridge. The officer then pushes the bolt forward, which picks up another bullet from the magazine, and closes the chamber, making the rifle ready to fire again.

(2) Purpose:

This rifle is to be used in the defense of life or great bodily injury to potential victims of violent crimes, general public, and officers. This rifle provides police with the benefit of adding distance to a volatile situation which can increase the safety for community members and officers. This rifle is an ancillary firearm for situations where increased distance and accuracy is needed to safely resolve the situation.

(3) Fiscal Cost:**A. Initial Cost:**

The initial cost to purchase this rifle with its associated components is approximately \$10,000 dollars each. Their average life span is 10-years at which time it will likely need to be replaced.

B. Cost of Use:

Cost of use for all firearms should be based on the ammunition used in training and on duty. This will fluctuate based on training.

C. Cost of Adverse Effects:

Adverse effects and improper usage of a firearm are not calculable. It could lead to the loss of life or serious injury. Additionally, the improper use could result in civil liabilities.

D. Annual and Ongoing Costs:

If this rifle is not cared for or maintained well, then a potential financial adverse impact would be the premature purchasing of a replacement rifle or replacement parts. However, authorized and trained Berkeley Police armorers service and provide regular maintenance of the rifles. The cost of maintenance is staff time.

E. Training Costs:

The cost associated with training is the staff time, range fees, and cost of spent ammunition. SRT members train once a month and, on average, each member shoots approximately 50-rounds. Currently, there are only 4 members shooting at each training day. This equates to approximately 2,400 rounds of ammunition being fired per year. This does not include special training days or attendance to training schools/classes. A single box of 20-rounds costs approximately \$20-dollars or \$1 dollar per round.

F. Maintenance and Storage Costs:

Maintenance costs vary depending on use over time. Firing pins need to be replaced every 5 to 7 years. The maintenance cost associated with this rifle is minimal.

There are no costs associated with maintenance or storage of ammunition. All ammunition is stored in a climate-controlled room in the Berkeley Police Department.

G. Upgrade Costs:

Upgrade costs and maintenance cost are synonymous due to the consistent design. Improvements in technology and new designs may be an additional cost but we can't predict what those will be at this time.

Should advancements be made in ammunition manufacturing; those upgrade costs are unknown at this time.

(4) Impact:

The primary purpose of this rifle is to further SRT's goal of adding time and distance when dealing with a violent and dangerous individual(s). The rifle may allow SRT additional time by increasing the distance between law enforcement and the specific individual, thereby increasing the likelihood of a more peaceful resolution. Like all tools, it has a time and place for its intended operational efficacy.

(5) **Mitigations:**

Mitigating impacts from this tool's primary purpose is done through regular training. The training includes accuracy, decision making, scenarios, and various other training points. All uses of force require documentation that is completed by the supervisor in a use of force report and reviewed by the Chain of Command. Furthermore, all deployments of equipment outlined in the Police Equipment and Community Safety Ordinance are documented according to the reporting requirements as mandated in the ordinance.

(6) **Alternatives:**

The Remington 700 rifle is an industry standard tool used to deliver precision accuracy on an intended target. This tool can deliver accuracy and predictability through intermediate barriers like glass windows. It can be used at distances greater than any other tool currently possessed or authorized. No alternate tool or method would accomplish the same goal.

(7) **Third Party Dependence:**

These rifles are fairly simple in their design and operation. They do require regular maintenance which is commonly performed by each individual member. BPD Armorers are also capable of performing additional maintenance. If an issue arises which is beyond the scope of our Armorers we would seek professional assistance from the manufacturer. However, the need for this is very rare.

ReconRobotics Recon Scout XT

(1) **Description:**

A. **Background:**

The Recon Scout XT is a throwable micro-robot manufactured by ReconRobotics for use in law enforcement applications. The Recon Scout XT enables officers to obtain instantaneous video footage and audio within indoor or outdoor environments. Designed to withstand repeated drops onto concrete, the Recon Scout XT robot can be thrown into hazardous situations (hostage rescue, barricaded subjects, natural disasters, etc.) in order to allow officers to quickly and safely make informed decisions when seconds count.

B. **Quantity:**

The Berkeley Police Department has two Recon Scout XT throwable robots, both purchased in 2010.

C. Capability:

The Recon Scout XT robot is designed to be able to crawl over a variety of terrain, clearing obstacles up to 2" (5 cm) tall. It could be thrown into hazardous situations, indoor and outdoor, and provide live audio and video feed back to the controller.

D. Lifespan:

Both Recon Scout XT robots are over 10 years old and ReconRobotics have developed and manufactured more advanced robots. ReconRobotics have stopped manufacturing certain parts for the Recon Scout XT, so the lifespan is dependent on what parts need to be replaced.

E. Use:

The Recon Scout XT robot may be deployed to help police officers safely view potentially dangerous environments before entering them.

F. How it Works:

The Recon Scout XT robot has a cylindrical body with a finned-wheel at either end of its body, and is stabilized by a rubber "tail". It measures approximately 6 ½" wide, and each wheel is about 5" in diameter (fin to fin) and weights just over one pound (1.2 lbs.). The Recon Scout XT robot sends digital video and audio back to an Operator Control Unit (OCU; controller with a screen and joystick), which allows the officer to control the robot, which provides a live feedback containing audio and visual feeds. The Recon Scout XT robot does not record audio or video footage; there is no data storage capability.

(2) Purpose:

The Recon Scout XT robot is intended to safely provide police officers valuable information during high-risk, rapid evolving situations via real-time audio and video footage. It can be driven a distance away from the OCU, creating space between the officer and potential danger, thus decreasing the likelihood of injury to those involved in the event, or even a violent encounter between police officers and a dangerous subject. This asset furthers our commitment to the sanctity of life by offering time and distance in critical incidents.

(3) Fiscal Cost:**A. Initial cost:**

The initial cost for the Recon Scout XT robot was about \$12,500 per unit (2010 cost).

B. Cost of Use:

There is no "per use" cost of this equipment. The Recon Scout XT is powered by a rechargeable battery.

C. Cost of Potential Adverse Impacts:

The likelihood of adverse impacts due to the use of the Recon Scout XT robot is low – it is small, lightweight and is not likely to injure persons or damage personal property when deployed; however, there is a small chance that the Recon Scout XT robot might cause damage to personal property when deployed (thrown) into a structure. Due caution is used when it becomes necessary to throw, rather than place, the robot into a structure.

D. Annual and Ongoing Cost:

There are no ongoing or annual costs associated with the use of the Recon Scout XT robot. Being that it is battery operated, there is a nominal cost associated with charging the Recon Scout XT robot's batteries, and the batteries of the OCU. The Recon Scout XT robot is fairly simple to operate, thus there is no cost associated with training officers in its use. There are no costs with transportation or storage of the Recon Scout XT robot. While there are newer models of this robot available, there does not appear to be any upgrades available for the Recon Scout XT. The Recon Scout XT robot has been damaged on occasion, and there are costs associated with repair. But generally, the Recon Scout XT robot is robust and does not need regular repair.

E. Training Cost:

The Recon Scout XT robot is user friendly and simple to operate. Training is conducted by Berkeley Police personnel familiar with the operations and procedures of the Recon Scout XT robot. The cost of training is staff time.

F. Maintenance and Storage Costs:

There are no annual or storage costs.

G. Upgrade Costs:

There are no upgrades available at the time of this report.

(4) Impact:

The Recon Scout XT robot is used to safely gather information in situations where it may be dangerous to expose an officer, or officers, to gather the same information. Putting officers in such unknown, tense situations has the potential to create violent encounters, or otherwise place officers in unnecessary peril and danger that might otherwise be avoided by the use of a tool like the Recon Scout XT robot. The Recon Scout XT robot is not likely to have a negative impact on the welfare or safety of the public as its role is to gather real-time information during high-risk incidents such as hostage or potentially life-threatening situations. The Recon Scout XT robot is likely to improve the welfare and increase the safety of the public through its ability to gather real-time information and feed it back to police officers. The Recon Scout XT robot does not have the capability to record or store data.

(5) Mitigations:

The use of the Recon Scout XT robot is limited to sworn police officers, and guided by field supervisors (Lieutenants and Sergeants). Procedurally, the Recon Scout XT robot is used when exigent circumstances exist (hostage situation, barricaded subject, natural disaster

necessitating rescue, etc.) and real-time information is necessary to safely and effectively resolve the situation. The robot does not record or store data.

(6) **Alternatives:**

Unmanned aerial vehicles (UAV) are an alternative to robots such as the Recon Scout XT robot. However, the Berkeley City Council has prohibited the Berkeley Police Department from using UAVs. They are not constrained by obstacles on the ground and provide far superior perspective and situational awareness; at times, obstacles halt the Recon Scout XT robot's movement. There are several other robots on the market, however, the Recon Scout XT robot is compact, lightweight (weighing in at just over a pound), very maneuverable, and can easily be carried by an officer. It can also be introduced into structures by throwing it through any opening – an option not possible with other robot models.

(7) **Third Party Dependence:**

The Recon Scout XT robot does not currently rely on a third-party company or vendor for its use or maintenance. Should maintenance or parts be required beyond the scope of the members of the Berkeley Police Department, the robot would be sent to ReconRobotics for service.

Andros Remotec HD-1 Hazardous Duty Robot

(1) **Description:**

A. **Background:**

The Andros Remotec HD-1 Hazardous Duty Robot, hereinafter referred to as Remotec HD-1 robot, was designed to support a wide range of missions in demanding environments. The Remotec HD-1 robot is capable of lifting up to 125 pounds, tracked articulators stair climbing, and has an integrated Talisman radio system for a stronger radio wave connection between the controller and the robot.

Remotec has served explosive ordinance disposal units, hazardous materials units, and other first responders as a provider of mobile robotic systems for application into a variety of undesirable, hazardous and potentially life-threatening environments. The Remotec HD-1 robot allows individuals to approach hazardous devices to examine and manipulate the device without putting people in harm's way.

B. **Quantity:**

The Berkeley Police Department Bomb Squad has one robot, the Remotec HD-1 robot.

C. **Capability:**

Remotec HD-1 robot is used in situations where a potential life-threatening situation exists and is too hazardous for a bomb technician to approach in person. The Remotec HD-1 robot is also used to survey an area prior to a bomb technician approaching a

scene to check for trip wires and ascertain a good approach path. The Remotec HD-1 robot has three cameras and audio monitoring that stream live video and audio back to the control module; however, it is unable to record and does not have any data storage capabilities. It has several attachment mounting options as well. The Remotec HD-1 robot also has the ability to carry a variety of tools. Some of the tools are:

- 1) A spike to break glass and access vehicles or homes with potential explosive devices inside
- 2) An X-ray mount in order to remotely X-ray suspected explosive devices.
- 3) Percussion actuated non-electric disruptors which are smooth barrels that are filled with water and fired at high speed with a blank shotgun round to open backpacks, suitcases, and packages from a distance
- 4) A hook with cutting blades that are used to cut backpack straps, ropes, etc.
- 5) PAN rounds containing various fills, from sand to slugs, in order to open sturdier packages made from metal or other hard covers.
- 6) Electrical connections to connect explosives that can be detonated remotely and from a safe distance.

D. Lifespan:

The Remotec HD-1 robot has an expected life span of 10 years. It is currently 13 years old and has begun exhibiting issues. The Remotec HD-1 robot weighs just over 200 lbs. and has been near multiple explosions over the years and crossed a variety of off-road terrain

E. Use:

Used to examine and possible destroy hazardous materials such as an explosive device.

F. How it Works:

The Remotec HD-1 robot is piloted by a bomb technician into a hazardous area to locate, examine, and render suspicious packages and explosive devices safe by utilizing a variety of attachable tools.

(2) Purpose:

The Remotec HD-1 robot is used as a means to approach hazardous situations where a potentially lethal threat such as an explosive device exist. The Remotec HD-1 robot allows for the examination and manipulation of an object or potential explosive device without unnecessarily putting a bomb technician's life at risk.

(3) Fiscal Cost:

A. Initial Cost:

Procured in 2008 for \$214,496 including on-site training through a UASI Grant. (64,292-N.S.)

B. Cost of Use:

None. The robot is electric and operated through the City's electricity for charging.

C. Cost of Potential Adverse Effects:

The Remotec HD-1 robot interacts with inanimate objects. However, should it encounter a package that explodes, it could potentially destroy the robot and damage other property.

D. Annual and Ongoing Costs:

There is no annual cost. Maintenance of the Remotec HD-1 robot is conducted by Berkeley Police Bomb Technicians.

E. Training Costs:

Berkeley Police Bomb Technicians are trained during regular bomb squad training sessions and maintain their skills through training scenarios. The cost of training is limited to staff time.

F. Maintenance and Storage Costs:

Remotec offers occasional maintenance and upkeep workshops free of charge.

G. Upgrade Costs:

There are no costs for upgrades as the company has stopped manufacturing the robot and any applicable upgrades.

(4) Impact:

The Remotec HD-1 robot is used by the Berkeley Police Department Bomb Squad as a means to examine a potentially explosive device in order to keep the community safe. Since April 2020, the Berkeley Police Department Bomb Squad has responded to 14 incidents. The impact of the Remotec HD-1 robot has been to reduce and minimize the danger posed by calls of possible explosive devices to the Berkeley Police Department's Bomb Technicians.

(5) Mitigations:

The Remotec HD-1 robot is used in situations where a hazardous device exists. In these situations, the area is always evacuated in order to ensure community safety.

(6) Alternatives:

The Remotec HD-1 robot is 13 years old and there has been significant development in technology. There are several alternatives that are far superior than our current Remotec HD-1; Mark V-A1 robot developed by Remotec Andros, Caliber Flex developed by ICOR Technology, Digital Vanguard-S developed by Med-Eng and T7 and T4 developed by L3Harris Technologies. These are alternatives that have newer and better technology and capabilities than the Remotec HD-1 robot.

(7) **Third Party Dependence:**

Remotec representatives are the only ones used to diagnose and maintain complex issues on the robot that cannot be done in-house. Since it is proprietary technology, Remotec may void warranties on any repairs made by outside vendors or by untrained personnel. Therefore, all complex issues with the Remotec HD-1 robot must be repaired by Remotec.

Light/Sound Diversionary Device

(1) **Description:**

A. **Background:**

Light/Sound Diversionary devices also known as distraction device, flashbang, light/sound and noise/flash devices have been available for approximately 40 years and are a safe and effective tool for Law Enforcement (LE) to use during challenging tactical incidents. The device will be referred to a diversionary device throughout this document.

B. **Quantity:**

Qty 50 - CTS 7290 Diversionary Device

C. **Capability:**

When a diversionary device is deployed they create a loud noise, heat and brilliant light and create an effective diversion. They can create psychological and physiological effects such as: hearing a loud noise beyond that of everyday living, seeing a short bright light, and feeling of a change in atmospheric pressure. These effects may disorient/confuse subjects for a short time giving tactical teams the ability to apprehend that subject without using a higher level of force.

D. **Lifespan:**

The lifespan of the CTS 7290 Diversionary Device is 5 years.

E. **Use:**

The use of a diversionary device is to create a diversion in order to facilitate entry and enable arrest. Circumstances justifying the use of a diversionary device may include, but not limited to barricaded subject or hostage situations and high-risk search warrants services.

F. **How it Works:**

The main charge of a modern diversionary device typically contains flash powder which is sometimes called photoflash powder. Upon initiation, this chemical compound causes the device to deflagrate (not detonate). The powder mixture is

rapidly changed into gases that expand outward reaching upwards to 3,800 times the original volume of the charge itself. This process releases the desired effects of loud noise, bright light and the feeling of atmospheric pressure. Flash powder is typically made up of an oxidizer and some type of fuel. The oxidizer is needed to initiate and sustain the flash powder's rapid combustion. This is required since sufficient oxygen cannot be obtained from just the surrounding air.

(2) **Purpose:**

The purpose of a diversionary device is to create a reactionary gap of a person by temporarily disorienting them. This gap gives tactical teams an opportunity to apprehend a suspect while using the minimal amount of force possible. They can also be used to safely invoke a response or redirect the attention of subjects who are either feigning injury, ignoring police commands or are unresponsive while posing a threat to the public.

(3) **Fiscal Cost:**

A. **Initial Cost:**

Diversionary Devices cost approximately \$45 per unit and are purchased through LC Action Police Supply. Purchases for these tools are made when inventory becomes low, based upon critical incident usage and Special Response Team trainings that incorporate live devices.

B. **Cost of Use:**

The cost of each proposed use is unpredictable due to the unknown nature and timelines of dangerous barricade situations, critical incident, and hostage situations. The devices may be stored inside of the Police Department, in the Special Response Team Vehicle, or in the rescue vehicle. There are no additional storage costs. There are no associated costs for transporting, maintenance, training, or upgrades.

C. **Cost of Potential Advert Effects:**

Adverse effects of improper use of a diversionary device are not calculable. It could result in serious injury. Additionally, the improper use could result in civil liabilities.

D. **Annual and Ongoing Costs:**

See below training cost.

E. Training Cost:

Only trained and qualified personnel are permitted to deploy diversionary devices. These trained Berkeley Police officers are typically members of the Berkeley Police Department Special Response Team who receive monthly training which includes training in the deployment of diversionary devices. The cost of training is staff time.

F. Maintenance and Storage Costs:

The majority of diversionary devices are stored inside of a room in the basement within the Police Department. There are no additional storage costs. There are no associated costs to transporting, maintenance, or upgrades.

G. Upgrade Costs:

No upgrades exist for this equipment as of this report.

(4) Impact:

The Berkeley Police Department is committed to preserving and protecting human life and welfare. These tools allow us to fulfill our commitment to our community.

Diversionsary Devices may be utilized in many situations to include potentially dangerous barricaded subject situations, hostage situations, and critical incidents. Some criteria considered prior to a deployment is dependent upon whether the suspect is a dangerous felon, causes a life-threatening situation and/or other unique incidents where it appears to be a reasonable method in which to resolve the situation. When deployed appropriately these devices can assist in safely apprehending suspects and resolving high risk critical incidents with minimal or no injuries to suspects and/or officers.

(5) Mitigations:

Since Diversionsary Devices are considered low explosives, there are several protocols in place to mitigate possible negative results (i.e. minor or major injuries).

Only trained and qualified personnel are permitted to deploy diversionary devices; typically, members of the Special Response Team who receive constant training regarding the deployment, effects, and post deployment protocols.

Pre-deployment concerns are typically gathered and evaluated, such as:

- The number of people at a location and the individual location of suspects within the structure.

- Evaluation if there are children or elderly people present
- An evaluation of the suspect's mental and physical conditioning
- Evaluation of the building/room layout
- Possible combustible/flammable substances present
- Lighting conditions

When a diversionary device is deployed, the officer shall utilize a helmet, hearing protection, eye protection, body armor, and nomex (fire resistive) gloves.

If a diversionary device is used, a supervisor shall be notified, medical treatment/screening is conducted, and a collection of the deflagrated device is completed. Documentation utilizing the device serial number is recorded.

Per Policy 351 - Except in extreme emergencies (i.e., life-threatening situations), flash/sound diversionary devices shall not be used without prior authorization of the incident commander/on-scene supervisor. Whenever diversionary devices are carried by personnel in an actual situation or incident, that fact shall be noted in the after-action report or police report. In the event devices are deployed, the circumstances surrounding their deployment shall be fully described. The Chief of Police or his or her designee shall be responsible for reviewing any deployment of diversionary devices to ensure that policy was followed. Diversionary devices are registered by serial number with the Bureau of Alcohol, Tobacco, and Firearms (ATF). Typically, the police department's purchase of new devices is reported directly (by case-lot serial numbers) to ATF by the device manufacturer via ATF Form 5. The National Firearms Act requires the police department to notify ATF upon the use/expenditure of diversionary devices. A Special Response Team member shall be responsible for submitting written notification to ATF when all devices listed on a single ATF form 5 have been used/expended.

(6) Alternatives:

A possible alternative to a diversionary device (flashbang) is the Tactical Electronic Distraction Device (T.E.D.D.) which emits 2600 lumen light and high pitched 120 decibel sound to disorientate subjects. This could be a good tool as it is not a low explosive however it has its negative aspects as well:

- There is no feeling of atmospheric pressure, limiting the desired momentary physiological effect.
- A suspect could pick up and throw the device at potential victims and at police officers. The currently used diversionary devices are too hot to attempt this.
- In certain circumstances, a suspect could potentially steal the device during an escape.
- The individual cost per unit is approx. \$200 which is much more than a diversionary device
- This device is significantly less effective in disorienting subjects compared to a diversionary device.

(7) **Third Party Dependence:**

There is no third-party dependence for Diversionary Devices with the exception of communication with ATF of the purchase. Once they are purchased, they are secured within their designated locations where they are stored until they are either used during incidents or training.

Long Range Acoustic Device (LRAD)

(1) **Description:**

A. **Background:**

The Long-Range Acoustic Device (LRAD) is a high intensity directional acoustical array for long range, crystal clear notification system. The use of the LRAD is for communications.

B. **Quantity:**

The Berkeley Police Department possesses 2 Long Range Acoustic Devices (LRAD) speakers. One is an LRAD 450XL and the other is an LRAD 100X.

C. **Capability:**

Both of these speakers are able to focus sound in directional pattern allowing the user to make sound audible over distances much greater than conventional public address speakers. The LRAD 450XL is the larger of the two and designed to either be used in a fixed location or mounted on a vehicle to make it portable. It

has a usable range of approximately 1 mile. The LRAD 100X is smaller and more portable. It can be carried or mounted to a person's chest for mobility or mounted to a vehicle. Its range is approximately 1/3 of a mile. Both of these systems allow for clear long-range communication, they are also able to play recorded messages.

D. Lifespan:

The lifespan for both LRADs is 25 years.

E. Use:

The LRADs are used to communicate with the community during natural disasters, crowd management and control situations, or when other forms of communications are ineffective or inoperable to unequivocally communicate messages from Police or Fire and safely resolve uncertain situations where communicating with the public is paramount.

F. How it Works:

The LRADs are essentially a long-range speaker or long-range megaphone and operates as such.

(2) Purpose:

The LRADs are designed for clear long-range communication. The LRAD's ability to communicate over a long distance is far superior to any megaphone or Public Address (PA) system mounted to a police vehicle. Additionally, LRAD's may be used to:

- Communicate lifesaving information to residents during disasters
- Communicate to large crowds during parades, festivals, concerts and sporting events
- Establish safety zones and perimeters
- Control traffic congestion
- Conduct Special Response Team operations
- Broadcast a dispersal order
- Communicate during hostage and barricaded subject situations
- Announce and serve high risk warrants
- Communicate to protesters
- Communicate to persons threatening suicide who are in an inaccessible location
- Conduct search and rescue operations

The ability to communicate with the public in a large area increases the safety of all members of the public and law enforcement. It allows everyone in a given area to know what is being communicated, gives more situational awareness to everyone in a given area and allows people to know where to go or not to go.

(3) **Fiscal Cost:**

A. **Initial Cost:**

The LRAD 450XL and the LRAD 100X were purchased in 2018. The total cost for both LRADs, rechargeable battery packs and accessories was \$49,999.

B. **Cost of Use:**

There is no cost associated with each use of the LRADs. The systems run on batteries or can plug into a vehicle.

C. **Cost of Potential Adverse Effects:**

Adverse effects of improper use of the LRADs are not calculable. It could lead to hearing loss. Additionally, the improper use could result in civil liabilities.

D. **Annual and Ongoing Costs:**

BPD has not incurred any additional cost to date for this equipment.

E. **Training Costs:**

Training is conducted by Berkeley Police personnel who are trained in the use and procedures of the LRAD. The cost to train is staff time.

F. **Maintenance and Storage Costs:**

There are no maintenance or storage costs for this equipment.

G. **Upgrade Costs:**

No upgrades exist for this equipment as of this report.

(4) **Impact:**

The Berkeley Police Department is committed to ensuring the safety of our community. Having the ability to communicate efficiently and effectively in different situations is crucial in providing potentially life-saving information to the public. The LRAD provides BPD personnel the ability to communicate long distances to people that are in a given area, inside structures, or barricaded inside a structure. The LRAD is very effective any situation involving communicating information to large crowds, or entire communities.

(5) **Mitigations:**

The only potential negative impact of the LRAD's is that they are capable of producing a high pitched "deterrent tone" that is designed to disperse a potential threat. This "deterrent tone" does have the ability to cause hearing damage. BPD Policy 707 strictly prohibits any member of BPD from using the LRAD as a weapon. Additionally, the LRAD can only be deployed at the direction of a Watch Commander or Incident Commander and may only be used by personnel specifically trained in the use of the LRAD.

(6) **Alternatives:**

BPD is not aware of any other sound speakers that are able to clearly communicate over long distances of up to 1 mile.

(7) **Third Party Dependence:**

To date, BPD has not depended on any third party for the use or maintenance of this equipment.

36" Baton

(1) **Description:**

A. **Background:**

The Berkeley Police Department issues a knurled grip, polycarbonate, fixed-length straight baton for crowd control purposes. The baton is 36" long and 1.25" in diameter and weighs about 1.64 pounds. Polycarbonate is a thermoplastic, which means it is durable, resistant to splintering and heat.

B. **Quantity:**

In 2017, BPD purchased 175 polycarbonate 36" batons to replace aging wood batons of the same purpose. Additional polycarbonate batons were purchased over the past four years to ensure all sworn police officers as well as trained reserve police officers are equipped with the 36" baton. BPD possesses approximately 195 - 36" polycarbonate batons. Most of these batons are issued to and maintained by individuals. However, a small amount of these batons is stored in a secure equipment room as spares in case of damage or new personnel issue.

C. Capabilities:

The 36" baton is carried in a "baton ring" on an officer's belt just as any other baton. It is used as a safety tool and is a means for officers to defend themselves in certain crowd control or riot situations. Trained officers may employ particular applications of force with their 36" batons when directed by their chain of command. The 36" baton is the desirable baton in a crowd control situation as it is 7" longer than the standard 29" baton. The longer baton creates more distance between the officer and others, which is critical when dealing with violent or aggressive crowds.

D. Lifespan:

The manufacturer provides a lifetime repair or replacement guarantee.

E. Use:

The 36" baton is a less-lethal force tool and is intended to be used in crowd control situations in close quarters, where officers may defend an attack, or when engaging in physical contact with combative or aggressive crowd members. The 36" baton is only used for crowd situations.

F. How it Works:

There are a number of appropriate blocking or striking techniques an officer may use when force is justified and the decision is made to use the 36" baton to effectively gain control of a person or situation. The use of the baton requires the officer to continually monitor and assess effectiveness of any delivered strikes. The reason this type of force is administered is to stop a person's attack, threat or resistance, with the goal to place them under lawful arrest for their actions.

(2) Purpose:

The 36" baton is a less-lethal tool that may be used when a crowd becomes aggressive, hostile or violent. It is the most effective individual tool of choice when officers are in formation and engaged in crowd control duties.

When officers are deployed to maintain, disperse, or protect others from a violent crowd or civil disobedience, it is imperative that they have an adequate safety zone to protect themselves or others. The 36" baton provides officers additional distance from a potential threat than the standard issue 29" baton.

When the baton is used to strike a subject, kinetic energy transfer occurs. Kinetic energy is the energy of motion. The amount of translational kinetic energy which an object has depends upon two variables: the mass of the object and the speed of the

object. The desired effect is for the officer to apply a baton strike with the necessary energy to stop the threat as quickly and safely as possible. By targeting the large muscle areas of the arms or legs with sufficient kinetic energy, motor and sensory nerves can be affected. When the nerves are affected this will create momentary muscle dysfunction or pain, which will allow the officer the ability to gain control of the subject, while minimizing the possibility of long-term injury to the subject.

The head, neck, throat, spine, heart, kidneys and groin should not be intentionally targeted except when the person's conduct is creating an immediate threat of serious bodily injury or death to an officer or any other person as outlined in policy 303 and 300.

(3) **Fiscal Cost:**

A. **Initial Cost:**

The cost of the Monadnock MP36 2004 36" polycarbonate baton with knurled grip was \$53.00 per baton in September 2017. After tax, \$10,132.94 was spent for the purchase of 175 batons. The department placed an additional order for 20 batons in December 2019. It is anticipated that the cost of the baton will fluctuate a few dollars based on supply and demand over time.

B. **Cost of Use:**

The only cost associated with use that of ongoing departmental training to ensure officers are proficient in authorized baton techniques.

C. **Costs of Potential Adverse Impacts:**

Adverse effects from improper use of the 36" baton cannot be anticipated. Improper use could lead to serious bodily injury or death. Additionally, the improper use could result in civil liabilities.

D. **Annual and Ongoing Costs:**

There is no additional annual or ongoing cost associated with the 36" baton.

E. **Training costs:**

Training on the applications of the batons are conducted at the police academy. Police Office Standard Training (POST) requires "arrest and control" training every 2 years which includes portions of baton training. This training is conducted in-house by POST certified defensive tactics instructors.

F. **Maintenance and Storage Costs:**

There are no associated costs to transporting, maintenance, or upgrades.

G. Upgrade Costs:

No upgrades exist for this equipment as of this report.

(4) Impact:

Per Policy 300, "The Berkeley Police Department's highest priority is safeguarding the life, dignity, and liberty of all persons. The Department is committed to accomplishing this mission with respect and minimal reliance of the use of force by using rapport-building communication, crisis intervention, and de-escalation tactics before resorting to force."

At times, it may become necessary for police officers to use force in crowd control situations to move a crowd, stop violent behavior, overcome resistance or make a lawful arrest. Officers have been trained that they must do everything possible to avoid unnecessary uses of force, and minimize the force that is used, while still protecting themselves and the public. When deemed necessary, use of the 36" baton may be used as a tool to strike a person, create a barrier or used in formation in order to move a crowd in a certain direction. The use of the baton may cause discomfort, pain, blunt trauma and has the potential to cause serious injury. Their use is subject to the totality of the circumstances, proper training, department policy, as well as federal and state law.

Officers who use the 36" baton are trained to continuously assess each situation where force is used and only use the force that is reasonably necessary and proportional to respond to the threat or resistance to effectively and safely resolve the incident.

(5) Mitigations:

Per Policy 300, "In all cases where physical force is used, officers shall use a minimum amount of force that is objectively reasonable, objectively necessary, and proportional to effectively and safely resolve a conflict."

Per Policy 303, "Only officers who have successfully completed department-approved training in the use of any control device are authorized to carry and use the device. Control devices may be used when a decision has been made to control, restrain or arrest a subject who is violent or who demonstrates the intent to be violent, and the use of the device appears reasonable under the circumstances. When reasonable, a verbal warning and opportunity to comply should precede the use of these devices. When using control devices, officers should carefully consider potential impact areas in order to minimize injuries and unintentional targets."

Every officer who carries a 36" baton has been trained how to properly carry the equipment, its intended use, target areas and non-target areas. Large muscle groups such as the upper legs or lower abdomen are approved target areas and areas to be avoided at the groin and head. When a baton strike is directed at an intended target area and the subject moves simultaneously, it is possible for the officer to unintentionally strike a non-target area. Officers are trained to consider the placement of baton strikes, and to immediately render medical aid to the subject as soon as it is safe to do so.

All uses of force require documentation that is completed by the supervisor in a use of force report and reviewed by the Chain of Command. Furthermore, all deployments of equipment outlined in the Police Equipment and Community Safety Ordinance are documented according to the reporting requirements as mandated in the ordinance.

(6) **Alternatives:**

The alternatives to the 36" crowd control baton are the 29" standard issue baton and collapsible 26" Rapid Containment Baton (RCB). The standard issue baton and RCB are shorter in length and require officers to be closer to the person they are engaging, thereby increasing the risk of injury to the officer and the person. A longer baton provides an officer with more distance which creates a small safety zone and allows the officer time to react and assess the situation before making use of force decisions.

(7) **Third Party Dependence:**

There is no requirement for a third-party service provider to issue the 36" crowd control baton. Berkeley Police Department Defensive Tactics Instructors provide in-house training on the proper use of the baton.

Mobile Command Vehicle

(1) **Description:**

A. Background

The Berkeley Police Department owns one Mobile Command Vehicle (MCV). Our MCV is a 2003 Freightliner MT55. This vehicle's most common use is as a commercial delivery vehicle. Our 2003 Freightliner MT55 was converted into a MCV by adding desktop work stations, additional police radios and emergency lighting. The MCV is 30' long and has a gross vehicle weight (GVW) of approximately 23,000 pounds.

B. Quantity:

The Berkeley Police Department owns 1 MCV.

C. Capability:

The MCV is a mobile office that provides shelter and may be used as a mobile command and communication center.

D. Lifespan:

This vehicle is approximately 20 years old and is at the tail end of its serviceable lifespan. All emergency vehicles need to be completely dependable and vehicles of this age start to lose dependability as old parts start to fail without warning. The modern versions of this type of vehicle are typically converted motorhomes.

E. Use:

This vehicle is used as a mobile command post for large scaled events.

F. How it Works:

This vehicle operates and drives like other vehicles.

(2) Purpose:

This vehicle may be used as a mobile command post for any larger scaled events or as a communications center in the event the communications center in the Public Safety Building is inoperable. Some examples of large-scale events include Solano Stroll, Juneteenth, 4th of July, critical incidents or natural disasters.

(3) Fiscal Cost:**A. Initial cost:**

The initial cost of the MCV (2003 Freightliner MT55) was \$230,800.

B. Cost of Use:

The cost of use is the cost of fuel from the City Corporation Yard.

C. Cost of Potential Adverse Effects:

Adverse effects of improper use of the MCV are not calculable, but is the same as improper use of any vehicles. The improper use could result in civil liabilities.

D. Annual and Ongoing Costs:

There is no annual or ongoing cost associated with this vehicle. Maintenance of the vehicle is conducted by the City's Corporation Yard.

E. Training Costs:

Training is conducted in-house by Berkeley Police personnel who are trained in the operation of the vehicle. The training cost is staff time.

F. Maintenance and Storage Costs:

There are no storage costs and maintenance would be conducted by the City of Berkeley Corporation Yard.

G. Upgrade Cost:

The MCV is almost 20 years old and upgrades would involve replacing different parts of the vehicle. This work would be conducted by the City of Berkeley's Corporation Yard. The cost would be staff time plus the cost of any necessary parts.

(4) Impact:

The MCV is used as a command post for any large scaled event. It works as a mobile central location where resources can stage and be deployed from. It provides the police department with on-site command, supplying a control and communications hub that is needed for large community events, or critical incidents such as natural disasters in order to maintain public safety.

(5) Mitigations:

The MCV shall only be operated by trained personnel that have demonstrated proficiency in the operations of this vehicle per Berkeley Police Department Policy 811.

(6) Alternatives:

The MCV is almost 20 years old. Current MCV from other agencies are large mobile homes converted into MCVs.

(7) Third Party Dependence:

All maintenance is completed through the Cities Corp Yard so there is no dependence on a third party.

Barrett Model 99 Rifle

(1) Description:

A. Background:

The Barrett Model 99 rifle is a single shot bolt-action 50-caliber rifle first

introduced in 1999. It is intended to be used in emergency situations where there is a high potential for violence.

B. Quantity:

Berkeley Police Department Special Response Team (SRT) currently possess 1 (one) of these rifles and is not looking to purchase any others.

Currently BPD has approximately 100 Summit Ammunition .50-caliber BNG rounds.

C. Capability:

This rifle is used only in situations where a potential life-threatening situation exists. The length of the rifle's barrel coupled with the ammunition result in precision accuracy. This rifle is capable of disabling any vehicle engine block because of the large caliber round.

D. Lifespan:

This rifle has been in our possession for almost 15-years and we expect it to last for an additional 20 years or more considering how in-frequently it's used.

E. Use:

This rifle is used primarily in emergency situations where a life-threatening situation exists, necessitating a vehicle to be disabled.

F. How it Works:

This is a bolt-action rifle that fires one round at a time and needs to be reloaded by hand after each round. The Barrett Model 99 rifle works similar to all modern bolt-action rifles. When the trigger is pressed, a firing pin strikes the primer of a bullet loaded into the chamber of the rifle. The ignited primer ignites gun powder contained in the bullet which pushes the bullet down the barrel and out the muzzle. The operator pulls the bolt back, ejecting the spent cartridge. The operator then loads another bullet into the breach, pushes the bolt forward, and closes the chamber, making the rifle ready to fired again.

(2) Purpose:

The Barrett rifle is a firearm that may be used to stop a vehicle which poses a lethal threat to the public, or to disable a vehicle which presents a threat to the safety of another person(s) by its continued use. There are vehicle disabling tools that may disable vehicles by slowly deflating the tires; however, even with tires deflated a vehicle has the ability to operate and remain a threat to the public. Furthermore,

these tools must be hand deployed and, in most circumstances, require officers to expose themselves to deadly threats. The Barrett rifle creates the ability to effectively disable vehicles instantaneously from a distance away.

(3) **Fiscal Cost:**

A. **Initial Cost:**

The Barrett Model 99 50-caliber rifle has a retail cost of approximately \$12,500 dollars. The Department of Justice provided the Barrett rifle to the Berkeley Police Department on 04/04/2007. There was no initial cost related to BPD taking possession of it.

B. **Cost of Use:**

The costs associated with its proposed uses is in the expenditure of its ammunition. The ammunition has a retail cost of approximately \$6 dollars per bullet; \$60 for a box of 10 and \$600 for a case of 10 boxes, plus shipping and handling. We currently possess 100 rounds of BMG ammunition.

C. **Cost of Potential Adverse Effects:**

Adverse effects of improper use of a firearm are not calculable. It could lead to the loss of life or serious injury. Additionally, the improper use could result in civil liabilities.

D. **Annual and Ongoing Costs:**

The annual cost of the equipment is minimal and includes ammunition expenditure, cleaning equipment, and possibly replacing the optics at some point in the future.

E. **Training Costs:**

The cost associated with training is the staff time, range fees, and cost of spent ammunition.

F. **Maintenance and Storage Costs:**

Maintenance costs vary depending on use over time and will vary. There are no costs associated with maintenance or storage of ammunition. All ammunition is stored in a climate-controlled room in the Berkeley Police Department.

G. **Upgrade Costs:**

Improvements in technology and new designs may be an additional cost but we can't predict what those will be at this time.

Should advancements be made in ammunition manufacturing; those upgrade costs are unknown at this time.

(4) **Impact:**

The Berkeley Police Department is committed to preserving and protecting human life and welfare. The Barrett rifle is a firearm the department would primarily use to stop a vehicle which poses a lethal threat to the public or used to disable a vehicle that presents a threat to the safety of another person(s) by its continued use.

The Barrett rifle is intended as a tool to increase the safety and welfare of community members and officers alike.

The Barrett rifle has minimal or no impact on civil rights or civil liberties as it will only be deployed in very specific situations, by very select members of the SRT. This is not a piece of equipment that is carried by an officer on routine patrol, and is highly unlikely that any members of our community would ever see this equipment due to its very selective use in the most critical of instances.

(5) **Mitigations:**

Only four BPD members are authorized to utilize this rifle. Authorized members are trained in its use as well as the very specific and limited circumstances where this equipment would be utilized.

(6) **Alternatives:**

There is no other alternative tool or asset available that could accomplish the same goal of this rifle. An alternative rifle to the Barrett model 99 is a different rifle of equal capability, such as a Lapua .338 caliber rifle.

(7) **Third Party Dependence:**

These rifles are simple in their design and operation. They do require regular maintenance which is performed by an SRT Team Leader. If an issue arises which is beyond the scope of our Armorers we would seek manufacturer assistance. However, the need for this is expected to be very rare.

Appendix:

Applicable Lexipol Policies Respective to Each Equipment

Policies are hyperlinked to its respective webpage.

M4 rifle/Patrol Rifle

- [Policy 300 \(Use of Force\)](#)
- [Policy 349 \(Tactical Rifle Operator Program\)](#)

Penn Arms 40MM launcher

- [Policy 300 \(Use of Force\)](#)
- [Policy 303 \(Control Devices and Techniques\)](#)

Milkor LTL multi-launcher

- [Policy 300 \(Use of Force\)](#)
- [Policy 303 \(Control Devices and Techniques\)](#)

FN 303 Launcher & FN Pava rounds

- [Policy 300 \(Use of Force\)](#)
- [Policy 303 \(Control Devices and Techniques\)](#)

Chlorobenzylidene Malononitrile and Oleoresin Capsicum (canister and spray)

- [Policy 300 \(Use of Force\)](#)
- [Policy 303 \(Control Devices and Techniques\)](#)

Remington 700 Rifle

- [Policy 300 \(Use of Force\)](#)
- [Policy 354 \(Precision Rifle\)](#)

ReconRobotics Recon Scout XT Robots & Andros Remotec HD-1 Hazardous Duty Robot

- [Policy 708 \(Robot Cameras\)](#)

Light/Sound Diversionary Device

- [Policy 353 \(Diversionary Device\)](#)

Long Range Acoustic Device

- [Policy 707 \(Long Range Acoustical Device\)](#)

36" batons

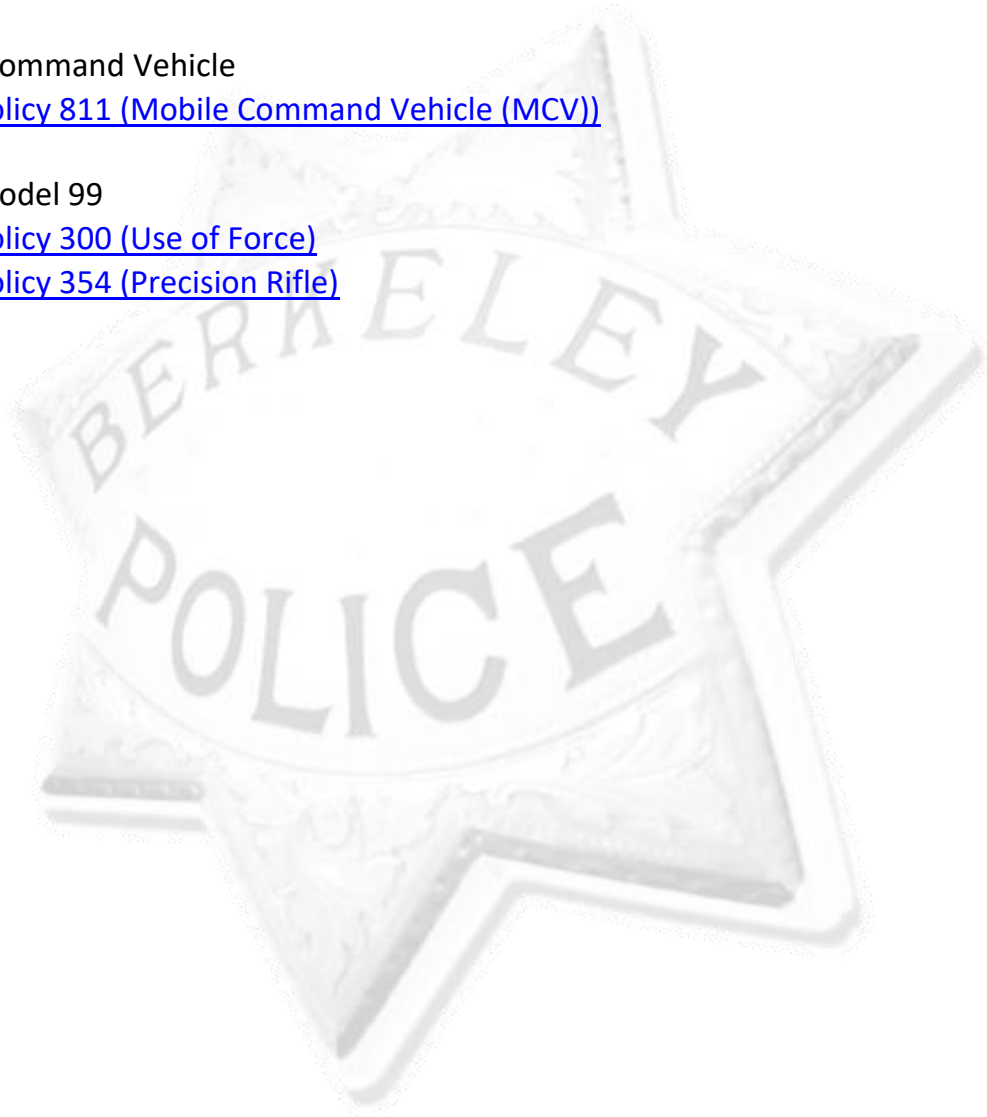
- [Policy 300 \(Use of Force\)](#)
- [Policy 303 \(Control Devices and Techniques\)](#)
- [Policy 428 \(First Amendment Assemblies\)](#)

Mobile Command Vehicle

- [Policy 811 \(Mobile Command Vehicle \(MCV\)\)](#)

Barret Model 99

- [Policy 300 \(Use of Force\)](#)
- [Policy 354 \(Precision Rifle\)](#)



Police Equipment and Community Safety Ordinance 2021 Annual Report



INTRODUCTION

On May 11, 2021 the Berkeley City Council passed Ordinance NO. 7,760-N.S., the Police Equipment and Community Safety Ordinance. Section 2.100.050 of the ordinance mandates an annual report for the deployment of specific equipment the Berkeley Police Department possesses. This annual report also fulfills the obligations set forth in Assembly Bill No.481. Below is a list of the reportable equipment under the city ordinance and Assembly Bill No.481:

- Patrol Rifle
- Less Lethal single 40MM launcher
- Less Lethal Milkor LTL 40 MM multi-launcher
- Less Lethal FN 303 Launcher
- FN Pava rounds
- Oleoresin capsicum (OC spray)
- Chlorobenzylidene Malononitrile and Oleoresin capsicum (tear gas)
- Remington 700 Precision Rifle
- ReconRobotics Recon Scout XT Robots
- Andros Remotec HD-1 Hazardous Duty Robot
- Light/sound distraction device
- Long Range Acoustic Device (LRAD)
- 36" batons
- Mobile Command Vehicle
- Barret Model 99 Precision Rifle

The annual report on the controlled equipment shall contain the following information per Ordinance NO. 7,760N.S.:

- (a) Production descriptions for Controlled Equipment and inventory numbers of each product in the Police Department's possession.
- (b) A summary of how Controlled Equipment was used. For the purposes of annual reports, "use" of equipment shall refer to equipment that is Deployed, not to transfers of location or placement of equipment inside Department vehicles.

- (c) If applicable, a breakdown of where Controlled Equipment was used geographically by individual police area. For each police area, the Police Department shall report the number of days or instances in which Controlled Equipment was used and what percentage of those daily reported uses were authorized by warrant and by non-warrant forms of court authorization.
- (d) A summary of any complaints or concerns received concerning Controlled Equipment.
- (e) The results of any internal audits, any information about violations of Controlled Equipment Use Policies, and any actions taken in response.

There have been no internal audits (other than those conducted to gather and confirm data for this report), identified violations of equipment use, or any complaints concerning the above listed equipment. For inventory numbers and description of each equipment refer to the Impact Statements.

Section 2.100.020 (D) defines deployment as “to utilize or employ Controlled Equipment for a deliberate purpose in the presence of members of the public during management or control of crowds, during any Special Response Team deployment or to affect some response from members of the public during any other operation or critical response. “Deployed” shall not mean an officer merely wearing a piece of Controlled Equipment on their belt or elsewhere on their person.” Deployment means the display of the equipment to affect some response from members of the public. The equipment does not have to be used; simply having it and in view of a person to specifically affect a response would be considered a deployment. Deployments are to be reported per the ordinance and the table on page 5 of this report reflects both deployments and uses of equipment.

On the date of passage of the Police Equipment and Community Safety Ordinance on May 11, 2021 the Police Department’s Blue Team system was already being utilized to capture the deployment of patrol rifles as well as all uses of force, including the use of less-lethal systems. However, although the use of the above listed equipment was thoroughly documented in police incident or crime reports, no system existed where the deployment of each defined equipment could be

extracted. In response to this, the Professional Standards Bureau and the Police Technology Unit collaborated to develop a new system that was capable of fulfilling the obligations set forth by the ordinance.

The development of the new system began immediately after the ordinance was adopted and the new Equipment Ordinance System was created. Every sworn member of the Berkeley Police Department was trained on this new Equipment Ordinance System, hereinafter referred to as EO System. The EO System was fully implemented in October 2021.

It should be noted that the data on equipment deployments in 2021 does not capture deployments for the entire year. The ordinance was passed in May of 2021. The development and implementation of the EO System and the training of all sworn personnel was completed in October 2021.

The Police Department responded to over 42,500 calls from the community in 2021 and 11,262 were calls which occurred following the development of the new EO System that captured equipment deployments mandated by the ordinance. Of the 11,262 calls received, 29 of them resulted in the deployment of either a patrol rifle or a less-lethal system capable of launching a rubber projectile or a projectile similar to that of a paintball. For details on these systems refer to the Impact Statements located on the Berkeley Police Department website.

The Blue Team system was fully implemented in March of 2021. The system documents all uses of force which includes patrol rifle deployments and uses of less-lethal systems. This system is maintained by the Internal Affairs Bureau. In 2021 there were five incidents where less-lethal systems were used and 14 incidents where a patrol rifle was deployed. These incidents were recorded prior to the EO System going live. Three of the five less-lethal system uses were also entries into the EO System because they occurred after the launch of the EO System.

The table on page 5 details each of the 47-equipment deployment/use incidents extracted from the Blue Team and EO systems as well as 2 deployments of the Hazardous Duty Robot by the Berkeley Police Bomb Squad. Each row within the table represents an incident where a specified equipment was deployed/used. The number of specified equipment deployed per incident is not represented. The

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table includes the service of 14 search warrants; 6 of which were served by the Special Response Team in cases involving a violent suspect. Equipment that is not outlined in the table was not used in 2021.

It should be noted that all other equipment deployments that are not related to the service of a search warrant were incidents where officers responded to a call for service by community members. Incident #6 & #17 are the only exceptions. #6 is an incident where an officer witnessed a stabbing and had to take immediate action to save the victim and apprehend the suspect and #17 is an incident where a stolen car and suspect were tracked down by officers. The 5 incidents where less-lethal systems were actually utilized are marked with asterisks next to the incident number. The incidents are listed in chronological order.

#	Equipment	Summary of Deployment and Use	Beat
1*	40MM Launcher	Victim called and reported being victim of a robbery. Suspect located still armed and refused many orders to drop the weapon. Attempts to deescalate not effective. Less-lethal and lethal force used.	6
2	Patrol Rifle	The victims reported that they were robbed via gun. A search warrant was conducted at the suspect's residence in another Bay Area city. Arrest made and evidence seized.	X
3	Andros Remotec HD-1 Hazardous Duty Robot	Suspicious package left in front of Bank of America with Hong Kong postage. Robot used for initial approach to ensure package is safe.	6
4	Patrol Rifle	Victim called and reported someone brandished him with a gun during an argument. Suspect located, but no gun found. Victim later advised that he never saw a gun. Suspect released on scene.	14
5	Patrol Rifle	Victim reported that his brother brandished him with a gun. The suspect was located in a vehicle nearby. Victim requested suspect be arrested.	4
6*	40MM Launcher	Officer witnessed a stabbing. Victim stabbed in neck. Suspect ran from officers still armed with the knife. 40MM used to stop suspect. She stopped, but held onto knife. Attempts to deescalate failed. Still non-compliant and with knife in hand, a sergeant snuck up behind the suspect and grabbed her hand and knife. Suspect arrested.	6

7	Patrol Rifle, Remington 700 Rifle, LRAD, Diversionary Device, FN303, 40mm launcher, Recon Scout XT	Special Response Team, search warrant on a shooting suspect. Suspect arrested and evidence seized.	9
8	Patrol Rifle, Remington 700 Rifle, LRAD, Diversionary Device, FN303, 40mm launcher, Recon Scout XT	Special Response Team, search warrant assist to outside agency. Suspect known to carry and sell firearms. Suspect later located by outside agency.	12
9	Patrol Rifle	Caller reported that someone was armed with a gun inside a store. The caller provided details on the gun and the suspect. Suspect was located inside of the store and was identified as the same person by the caller. No gun was located. No arrest.	15
10	Patrol Rifle	Victim reported that her vehicle was stolen. Investigations lead to the service of a search warrant by investigators at the location the suspects were residing. Suspects located and arrested	8
11	atrol Rifle	Victim reported that the suspect forcibly entered her RV armed with a handgun and attempted to rape her. Search warrant served for suspect in another Bay Area city. Suspect arrested	X
12	Patrol Rifle, Remington 700 Rifle, LRAD, Diversionary Device, FN303, 40mm launcher, Recon Scout XT	Special Response Team, search warrant conducted in another Bay Area city on a Berkeley shooting suspect. Suspect attempted to flee, but was stopped and arrested. A loaded-fully-automatic pistol was located.	X
13	Patrol Rifle	Multiple witnesses reported a drive-by shooting into a vehicle near a park. The victim later reported that the suspect fired multiple rounds at their vehicle for no apparent reason. A search warrant was conducted at the suspect's residence by investigators. Suspect located and three guns seized for evidence.	11
14	Patrol Rifle, Remington 700 Rifle, LRAD, Diversionary Device, FN303, 40mm launcher, Recon Scout XT	Special Response Team, search warrant assist to an outside agency on murder suspect. Suspect not located but evidence collected.	9

15	Andros Remotec HD-1 Hazardous Duty Robot	Employees at a business reported a disturbance. The employee pointed the suspect out to the officer. Officer contacted suspect and his friend in a stolen car. One of them had an improvised explosive device in his pocket. Both arrested. Bomb squad relocated the device to a safe location and utilized robot for "render safe procedure."	15
16	Patrol Rifle, Remington 700 Rifle, LRAD, Diversionary Device, FN303, 40mm launcher, Recon Scout XT	Special Response Team, search warrant on a shooting suspect. Suspect arrested and evidence located.	14
17	Patrol Rifle	Officers recognized a vehicle that was involved in a carjacking via gun and several other armed robberies in Berkeley. The car failed to stop for the police. The vehicle was eventually stopped after a lengthy pursuit. Patrol rifles deployed. Suspects arrested.	14
18	Patrol Rifle	Victim employee reported that someone brandished a firearm at him after an argument inside of a liquor store. The suspect was located down the street. Patrol rifle deployed. Suspect was detained. He was identified by the employee as the suspect. Surveillance video showed the suspect pointed the gun at the employee. Gun was later located and suspect arrested.	8
19	Patrol Rifle, Remington 700 Rifle, LRAD, Diversionary Device, FN303, 40mm launcher, Recon Scout XT	Special Response Team, search warrants on suspects residences who were involved in a daytime gun battle. Suspects arrested. Assault rifles located.	14
20	40MM Launcher	Community member reported a man having a "psychotic episode" and broke into an office. The man was naked and has prior history of smashing windows to use to harm himself. 40mm deployed. Subject safely detained. Property manager of office did not want to prosecute man. Mental Health professionals requested by PD and placed subject on psychiatric hold.	13
21	40MM Launcher	Burglary in progress, community member locked the suspect inside a workshop full of tools. Subject is a known to resist and fight the police. Subject was detained without incident. He was arrested and meth was located in his pockets. He later made suicidal statements and was placed on a psychiatric hold.	3

22*	FN303 Launcher	BART PD requested emergency assistance. Mental Health crisis, subject possession of knife refusing to drop. Verbal de-escalation attempts failed. Subject ran with knife still in hand. FN303 deployed and used, but had no effect. BART PD used taser which disarmed her. BARD PD placed subject on a psychiatric hold.	9
23	40MM Launcher	Officers responded to a residence after the caller reported a suspicious person prowling outside his house. As officers were at this house, they heard a female screaming from the house next door. A female came out of that house and screamed, "Help! Someone call the police!" She reported that a man broke into her house with no pants on. Officers entered the house. 40mm deployed. The subject was located and arrested.	11
24	Patrol Rifle, 40MM Launcher	Search warrant on sexual assault suspect who victimized a child. Suspect arrested and evidence seized.	1
25	Patrol Rifle, 40MM Launcher	Caller reported that a neighbor fired a gun while yelling threats to shoot. The subject cooperated with officers and exited his house and was detained. Further investigations showed no other neighbors heard gunshots. No firearms were located. No arrest made.	9
26	40MM Launcher, FN303 launcher	A caller reported a suspect pulling off a window to make entry inside. Officers arrived and the suspect locked himself inside of a room and did not comply with call out commands. Unknown if armed with a weapon. Less-lethal deployed but not used. Subject detained and arrested without incident.	3
27	40MM Launcher	Multiple community members called the police about a person who instructed her dog to bite the victim. Victim transported to hospital via ambulance from multiple bites/puncture wounds. Victim pointed suspect out to officers. Suspect refused to stop for the police and yelled at the officers causing the dog to lunge and try to bite officers. 40MM deployed. Mental health professionals were requested. Suspect placed on psychiatric hold by MH. Out of custody charges requested.	6
28	Patrol Rifle	Officers responded to reports of an armed robbery (gun) and located a vehicle fleeing the area that matched the description of a get-away car for other armed robberies in Berkeley. A high-risk stop was conducted where one of the 3 suspects fled. Patrol rifle was deployed during the block search. Two suspects were arrested. Stolen items recovered.	8

29	40MM Launcher, Patrol Rifle	<p>Caller reported multiple subjects inside a construction site after hours. Officers arrive and heard sawing items inside. Burglary subjects failed to comply with commands, barricaded, and hid during the search. Less-lethal was deployed but not used. Burglary tools located, two arrested. One suspect has extensive arrest history and a warrant for his arrest.</p>	14
30	40MM Launcher	<p>Responded for a medical call of a person badly cut (needed stitches) following a dispute. Officers had reasons to believe it was possibly an assault with a deadly weapon. Requested the 40mm on scene while contact was made with the involved party inside of residence where the assault may have occurred. Further investigation showed no domestic violence. No crime, no arrest made.</p>	4
31	FN303 launcher, 40MM Launcher	<p>Officers responded to victim's call for help after being assaulted by her husband. Officers arrived on scene and deployed a 40mm and FN303 due to the suspect's continued violent behavior. He was still breaking things in the house and yelling. Contact made with husband, husband arrested for domestic violence.</p>	1
32*	40MM Launcher	<p>Caller requested help with roommate who was "high on drugs" yelling and causing a disturbance. Officers arrived and located the front door unlocked, blood in the living room, broken window, and incoherent speech coming from a bedroom. Occupants including caller was evacuated for their safety while officers attempted to negotiate with subject to exit his room. Subject was naked, covered in blood and threatened to kill officers. Negotiations failed. Subject did not comply with commands and was ultimately hit with 2 rounds from the 40 mm launcher. Officers were able to detain the subject and provide him with medical attention. He was transported to the hospital by the fire department and placed on a psychiatric hold. Illegal drugs were located in subject's room. Out of custody charges requested.</p>	6
33	FN303 launcher	<p>Caller is social worker who requested a welfare check of her health client, a subject with a history of violence and history of fighting police. FN was deployed. Subject refused to speak to officers and grabbed several bricks and smashed them while screaming; there were children nearby that had to be escorted out of harm's way. Negotiations not effective. Subject tackled by own father. Subject detained, but continued to fight. Mental Health professions responded and placed a psychiatric hold on subject.</p>	11

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34	40MM Launcher	Caller reported ex-boyfriend had a knife and brandished it at him. While on phone with Dispatch caller yelled, "He's got a knife!" All parties located and detained. No knife located and further investigation shows no criminal threats were made. 40MM was deployed during detention. No arrest.	13
35	Patrol Rifle, FN303 launcher, 40MM Launcher	Highland Hospital reported a stabbing victim. Contact made with victim at hospital and she reported being stabbed at a specific location. Search warrant conducted at this location and less-lethal and patrol rifle deployed for service of search warrant. Suspect located and arrested for stabbing victim and puncturing victim's lung.	10
36	Patrol Rifle, FN303 launcher	Stolen vehicle was tracked by Officers. Stolen vehicle located abandoned by officer and suspect fled on foot into an apartment. Rifle and less-lethal deployment during service of search warrant. Suspect arrested	16
37	Patrol Rifle	Caller reported a suspect armed with a gun threatened to kill him. Officers located the suspect and patrol rifle was deployed. Suspect detained and identified by victim as the same person who threatened him. No gun located, but witnesses corroborated victim's account of events and how the suspect had a gun. Suspect had an alter state of mind. Psychiatric hold was placed on subject. Out of custody charges requested.	15
38	Patrol Rifle	Caller reported armed subject in a vehicle waving a firearm around. Car and subject description provided by caller. Car and driver that matched description were located by an officer. Patrol rifle deployed. Driver ordered out of car. Caller identified the driver as the same person he saw with a gun. A realistic black Beretta BB gun located in the car. Driver said he was shooting fish. Driver relinquished ownership of BB gun. No arrest made.	12
39*	Patrol Rifle, 40MM Launcher, FN303 launcher	Caller reported that a subject had hit his mother over the head with a saw-off shotgun. Victim sustained injuries to her head that required stiches. The suspect was reported as being agitated and was heard yelling on the phone by dispatch. Officers arrived on scene and could still hear the suspect yelling. Victim/mother was contacted outside of residence. Subject still had access to the shotgun. Many attempts to deescalate and negotiate for the suspects surrender failed. Subject was on the porch and refused to comply with orders. Patrol rifles and less-lethal deployed. 40mm and FN303 were utilized and caused suspect drop fall onto the ground. Subject immediately taken into custody. Medical attention provided to all parties	16
40	Patrol Rifle, 40MM Launcher	Search warrant service on rape suspect. One officer wore rifle slung on body. One officer wore 40MM slung on body. Suspect located and arrested	12

41	40MM Launcher	Victim called and reported that a neighbor and brandished a knife at him. Victim wanted to press charges. Officers arrived. Subject came out of his apartment and yelled at officers then went back in. 40mm deployed. Subject refused to come outside. Out of custody charges requested.	11
42	FN303 launcher	Caretakers called and reported a subject with a butcher knife chased caregivers who were attempting to bathe him. Caretakers ran out of the house to call the police. Officers responded with FN303. Subject's son was called to help speak to subject who suffers from dementia. The son agreed to stay to help care for subject and help caretakers. No prosecution requested by caretakers. No injuries sustained by caretakers.	10
43	Patrol Rifle, 40MM Launcher, FN303 launcher	Caller (ex-girlfriend) reported subject (ex-boyfriend) is suicidal and requested welfare check. Officers attempted a welfare check on a suicidal subject inside of his home. The subject told officers he was armed and told officers to leave. Subject hands were not visible to officers. Threat was deemed credible. Less-lethal systems and a Patrol rifle were deployed. Negotiator attempted to negotiate for the subject to exit his residence, but failed. Subject said officers are going to force a confrontation with him. Subject not a threat to others and refused officer's help. No crimes committed. Officers left the area.	11
44	Patrol Rifle, FN303 launcher	Officers responded to a call of a possible burglary. A patrol rifle and less-lethal were deployed to clear the building. Suspect located and arrested burglary.	4
45	40MM Launcher	Caller is security and reported a subject was verbally threatening staff and residents and assaulted security. Staff wanted him to leave. Subject is a known burglar and have fought officers in the past. Less-lethal deployed. Request subject to leave and he complied. No prosecution requested.	16
46	40MM Launcher	Caller (wife) reported subject (husband) had a knife and was threatening to kill himself. Caller was contacted outside of house while subject was still inside. 40MM deployed as officers contacted subject. Subject located safely and placed on a psychiatric hold.	12
47	40MM Launcher	Caller (mother) reported subject (son) having a mental health crisis. Caller reported the subject was armed with a knife and standing outside the house. 40mm deployed, subject safely located and placed on 5150 hold.	12

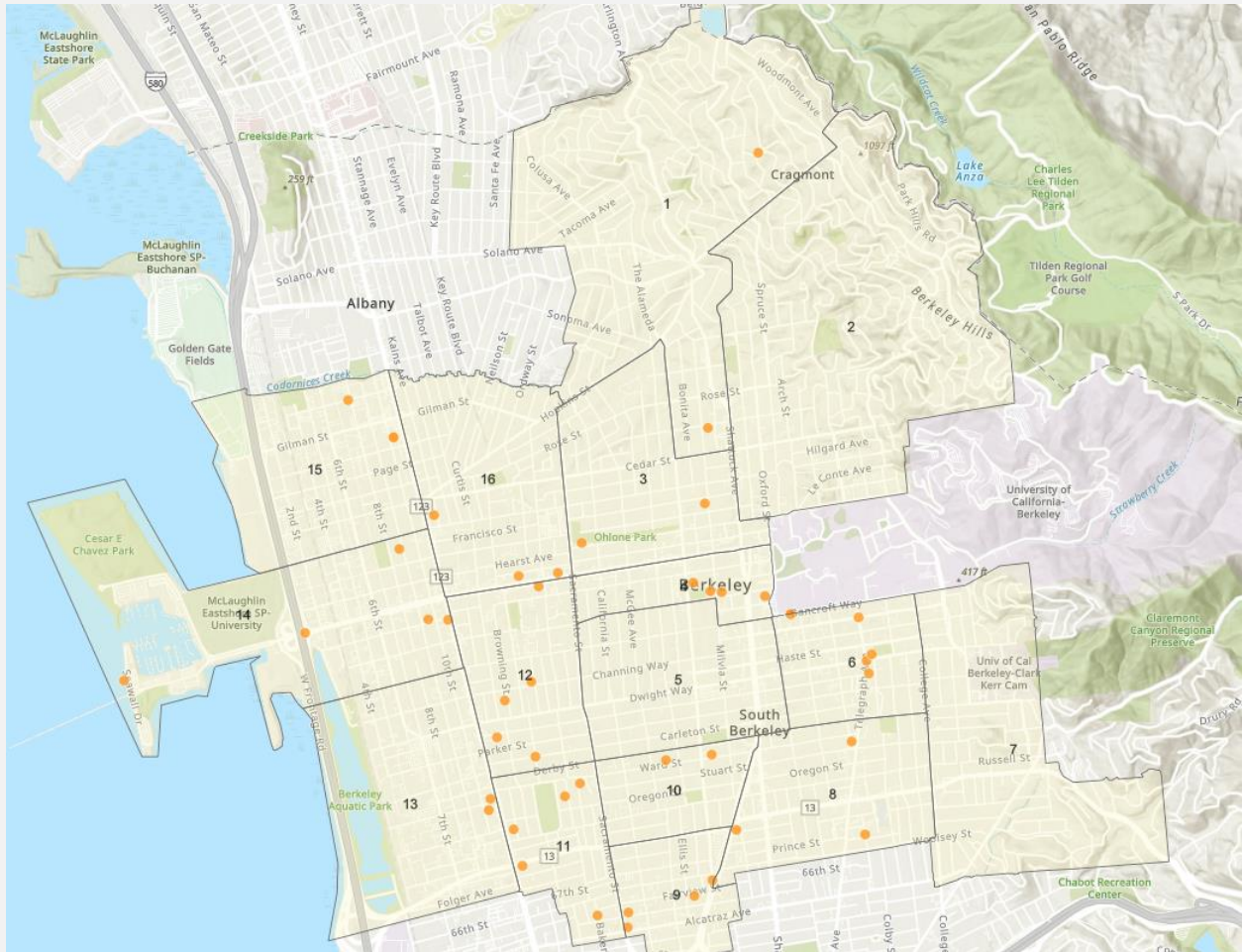
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Below is a table that shows the total number of incidents a specified equipment was deployed in 2021. It should be noted that different types of equipment may be deployed in one incident and the same equipment may be deployed by multiple officers within a single incident.

EQUIPMENT	Number of Incidents
Patrol Rifle	27
40MM Single Launcher	27
40MM LTL Multi-Launcher	0
FN 303 Launcher	16
FN Pava Impact Projectile	0
Oleoresin Capsicum Spray	0
Chlorobenzylidene Malononitrile and Oleoresin capsicum	0
Remington 700 Rifle	6
ReconRobotics Recon Scout XT Robots	6
Andros Remotec HD-1 Hazardous Duty Robot	2
Light/Sound Diversionary Device	6
Long Range Acoustic Device	6
36" Batons	0
Mobile Command Vehicle	0
Barret Model 99	0

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Below is a map showing where each of the above 44 equipment deployments occurred in Berkeley. 3 occurred in other Bay Area cities.



Appendix:

Applicable Lexipol Policies Respective to Each Equipment

Patrol Rifle

- Policy 300 (Use of Force)
- Policy 349 (Tactical Rifle Operator Program)

40MM single launcher

- Policy 300 (Use of Force)
- Policy 303 (Control Devices and Techniques)

40MM LTL multi-launcher

- Policy 300 (Use of Force)
- Policy 303 (Control Devices and Techniques)

FN 303 Launcher & FN Pava rounds

- Policy 300 (Use of Force)
- Policy 303 (Control Devices and Techniques)

Chlorobenzylidene Malononitrile and Oleoresin Capsicum (canister and spray)

- Policy 300 (Use of Force)
- Policy 303 (Control Devices and Techniques)

Remington 700 Rifle

- Policy 300 (Use of Force)
- Policy 354 (Precision Rifle)

ReconRobotics Recon Scout XT Robots & Andros Remotec HD-1 Hazardous Duty Robot

- Policy 708 (Robot Cameras)

Light/Sound Diversionary Device

- Policy 353 (Diversionary Device)

Long Range Acoustic Device

- Policy 707 (Long Range Acoustical Device)

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36" batons

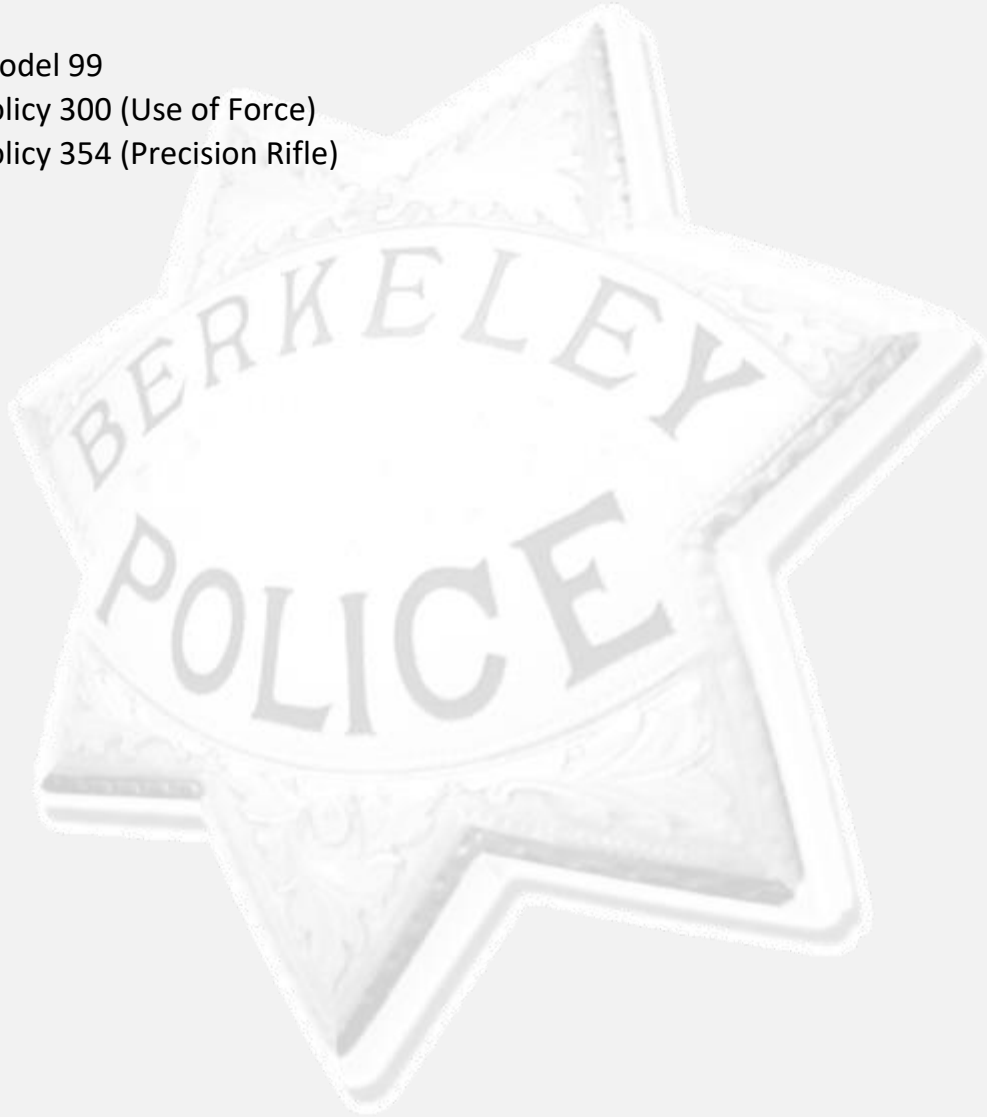
- Policy 300 (Use of Force)
- Policy 303 (Control Devices and Techniques)
- Policy 428 (First Amendment Assemblies)

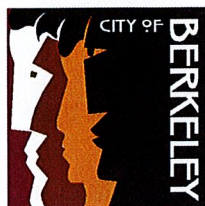
Mobile Command Vehicle

- Policy 811 (Mobile Command Vehicle (MCV))

Barret Model 99

- Policy 300 (Use of Force)
- Policy 354 (Precision Rifle)





OFFICE OF THE DIRECTOR
OF POLICE ACCOUNTABILITY

April 6, 2022

To: Interim Police Chief Jennifer Louis
From: Michael Chang, *Michael Chang* Chairperson, Police Accountability Board
Re: Police Equipment and Community Safety Ordinance Impact Statements

The Police Accountability Board (PAB) held a special meeting on March 30, 2022, for the purpose of reviewing the Impact Statements that the Police Department prepared and submitted to the PAB in order to meet the Department's obligations under the Police Equipment and Community Safety Ordinance ("Ordinance")¹; specifically under B.M.C. Section 2.100.040 (G), Review Process for Previously-Acquired Equipment.

Preliminarily, we note that the Appendix to the Impact Statements contains "Applicable Lexipol Policies Respective to Each Equipment." Thus, we presume that those Lexipol Policies are intended to serve as the Use Policies that also must be submitted under B.M.C. Section 2.100.040 (G). The introduction to the Impact Statements notes that they also fulfill the obligations set forth in Assembly Bill 481.²

However, the PAB identified several ways in which the Impact Statements fall short of meeting the requirements of the Ordinance and of AB 481. Furthermore, the PAB took notice of AB 48,³ which prohibits law enforcement agencies from using kinetic energy projectiles or chemical agents to disperse an assembly, protest, or demonstration, except in limited circumstances. The limitations in AB 48 do not appear to be incorporated either in the Impact Statements or the Lexipol Policies. Accordingly, the PAB requests that the Police Department revise the Impact Statements and Lexipol Policies so that they are fully compliant with the local Ordinance, state law, and any applicable federal law. The PAB further suggests consultation with the City Attorney's Office to ensure all the City's legal obligations are met.

1. Following are some examples of how the Impact Statements or Use Policies are lacking:

¹ Ordinance No. 7760-N.S., codified in Berkeley Municipal Code Chapter 2.100.

² Adding Sections 7070 through 7075 to the Government Code.

³ Adding Section 13652 to the Penal Code, and other provisions not relevant here.

- FN 303 and FN Pava Impact Projectile:

The Impact Statement for this launcher states in Section E., Use (p. 19), that the FN 303 is designed to reduce the potential for a violent confrontation; is less likely to result in serious bodily injury or death, and can be used to de-escalate a potentially deadly situation. Missing, however, is a reference to the prohibition on the use of kinetic energy projectiles to disperse any assembly, protest, or demonstration, except by a trained peace officer, if the use is objectively reasonable to defend against a threat to life or serious bodily injury, or to bring a dangerous and unlawful situation under control; and, in either case, by following certain guidelines. (AB 48; Penal Code Sec. 13652(b).) This Impact Statement thus fails to meet the conditions of the Ordinance because an Impact Statement must include “intended uses and effects” of each type of controlled equipment (B.M.C. Sec. 2.100.020 (C)).

Moreover, the applicable Lexipol Policies (300 – Use of Force, and 303 – Control Devices and Techniques), do not comply with AB 481, which requires that a “military equipment use policy” address “[t]he purposes and authorized uses for which the law enforcement agency . . . proposes to use each type of military equipment.” (Gov. Code sec. 7070(d)(2).) In omitting the limitations placed on kinetic energy projectiles by Penal Code Section 13652(b), Policies 300 and 303 do not accurately describe the authorized uses of the FN 303 launcher.

These same issues arise for the Impact Statements and Policies 300 and 303 with respect to the Penn Arms and Milkor launchers.

- OC Spray (Pepper Spray):

The Impact Statement for OC Spray is lacking in a way similar to that for the FN 303 launcher. The description of its Use (Section E, p. 25) states that OC spray may be considered for use to bring individuals or groups about to become violent under control; but should not be used against those who merely fail to disperse or do not appear to present a risk to the safety of others. It omits any reference to the stricter limitations on using this chemical agent under AB 48 (the same limitations as for kinetic energy projectiles cited above, under Penal Code Sec. 13652(b)), and thus falls short of compliance with the Ordinance.

Additionally, Lexipol Policy 303 does not reference the current ban on OC spray for crowd control during the COVID-19 pandemic, so it is not compliant with AB 481, requiring a listing of authorized uses. While that ban is included in Policy 300 on Use of Force (in Sec. 300.3.7), the lack of an up-front reference in the Impact Statement is confusing and possibly misleading.

- CS Gas (Tear Gas):

Currently, using tear gas is prohibited under any circumstances, so it is questionable whether an Impact Statement for this chemical agent should be

Interim Police Chief Jennifer Louis
Police Equipment and Community Safety Ordinance Impact Statements
April 6, 2022
p. 3 of 3

included. If it is included because the Department is reporting its possession of this equipment, the ban must be noted, to comply with local and state law.⁴

2. Another problem with the Impact Statements is internal inconsistency of the less-lethal launcher descriptions. For the Penn Arms launcher, Section 6, Alternative (p. 13), states, "This is the only piece of less lethal equipment (other than the FN 303) that allows officers to address a potentially deadly threat from a distance." But identical language is used in describing an Alternative for the Milkor launcher (p. 18), so two pieces of less lethal equipment have been identified as an alternative to the FN 303. Finally, the FN 303 itself is described as "the **only** piece of equipment that allows officers to address a potentially deadly threat from a distance" (p. 23; emphasis added), which contradicts the descriptions of the Penn Arms and Milkor launchers as alternatives to the FN 303.

3. The PAB also discussed a suggestion for the Department to employ best practices in developing its use policies, while acknowledging it did not have time at this point to suggest best practices for all relevant policies within the approval timeframe mandated by the Ordinance.

4. With respect to mutual aid, the PAB points out a pertinent provision of AB 481: A law enforcement agency must obtain the governing body's approval, by adopting a military equipment use policy, before engaging in a number of enumerated activities. (Gov. Code Sec. 7071(a)(1).) One of them is "(D) Collaborating with another law enforcement agency in the deployment or other use of military equipment within the territorial jurisdiction of the governing body." This means that, before any outside law enforcement agency uses military equipment within the City of Berkeley, an approved use policy for that equipment must be in place. As this language has no counterpart in the local Ordinance, it is important that your Department is mindful of this provision.

5. Finally, the PAB requests that when you submit your item seeking approval of the Impact Statements and Use Policies into City Council agenda process, that you also send a copy to the Interim Director of Police Accountability

The PAB approved communicating to you the points made in this memorandum by a unanimous vote at its March 30, 2022 special meeting: Moved/seconded – Owens/Ramsey; Ayes – Calavita, Chang, Harris, Levine, Mizell, Moore, Owens, Ramsey; Noes – none; Abstentions – none; Absent – Leftwich.

cc: Farimah Brown, City Attorney
Police Accountability Board Members

⁴ Interim Director Lee advised me that, during your April 5 phone conversation, you reminded her that in September 2020 the Police Review Commission supported the BPD's request for an exception to the tear gas ban for use during certain Special Response Team operations. This was not presented to the City Council but may be in the future.

Military Equipment

709.1 PURPOSE AND SCOPE

The purpose of this policy is to provide guidelines for the approval, acquisition, and reporting requirements of military equipment (Government Code § 7070; Government Code § 7071; Government Code § 7072).

709.1.1 DEFINITIONS

Definitions related to this policy include (Government Code § 7070):

Governing body – The Berkeley City Council.

Military equipment – Includes but is not limited to the following:

- Unmanned, remotely piloted, powered aerial or ground vehicles.
- Mine-resistant ambush-protected (MRAP) vehicles or armored personnel carriers.
- High mobility multipurpose wheeled vehicles (HMMWV), two-and-one-half-ton trucks, five-ton trucks, or wheeled vehicles that have a breaching or entry apparatus attached.
- Tracked armored vehicles that provide ballistic protection to their occupants.
- Command and control vehicles that are either built or modified to facilitate the operational control and direction of public safety units.
- Weaponized aircraft, vessels, or vehicles of any kind.
- Battering rams, slugs, and breaching apparatuses that are explosive in nature. This does not include a handheld, one-person ram.
- Firearms and ammunition of .50 caliber or greater, excluding standard-issue shotguns and standard-issue shotgun ammunition.
- Specialized firearms and ammunition of less than .50 caliber, including firearms and accessories identified as assault weapons in Penal Code § 30510 and Penal Code § 30515, with the exception of standard-issue firearms.
- Any firearm or firearm accessory that is designed to launch explosive projectiles.
- Noise-flash diversionary devices and explosive breaching tools.
- Munitions containing tear gas or OC, excluding standard, service-issued handheld pepper spray.
- TASER® Shockwave, microwave weapons, water cannons, and long-range acoustic devices (LRADs).
- Kinetic energy weapons and munitions.
- Any other equipment as determined by a governing body or a state agency to require additional oversight.

Military Equipment

709.2 POLICY

It is the policy of the Berkeley Police Department that members of this department comply with the provisions of Government Code § 7071 with respect to military equipment.

709.3 MILITARY EQUIPMENT COORDINATOR

The Chief of Police should designate a member of this department to act as the military equipment coordinator. The responsibilities of the military equipment coordinator include but are not limited to:

- (a) Acting as liaison to the governing body for matters related to the requirements of this policy.
- (b) Identifying department equipment that qualifies as military equipment in the current possession of the Department, or the equipment the Department intends to acquire that requires approval by the governing body.
- (c) Conducting an inventory of all military equipment at least annually.
- (d) Collaborating with any allied agency that may use military equipment within the jurisdiction of Berkeley Police Department (Government Code § 7071).
- (e) Preparing the annual military equipment report for submission to the Chief of Police and ensuring that the report is made available on the department website (Government Code § 7072).

709.4 MILITARY EQUIPMENT INVENTORY

The following constitutes a list of qualifying equipment for the Department:

- M4 rifle/Patrol Rifle
- Penn Arms 40MM Single Launcher
- Milkor LTL Multi-Launcher
- FN 303 Launcher & FN Pava Impact Projectile
- Oleoresin Capsicum Spray
- Chlorobenzylidene Malononitrile and Oleoresin capsicum
- Remington 700 Rifle
- ReconRobotics Recon Scout XT Robots
- Andros Remotec HD-1 Hazardous Duty Robot
- Light/Sound Diversionary Device
- Long Range Acoustic Device
- Mobile Command Vehicle
- Barret Model 99

Military Equipment

709.4.1 BERKELEY POLICE DEPARTMENT'S INVENTORY

Rifles and Associated Ammunitions

Rifle:

M4 Rifle (Description, purpose/authorized use, fiscal impact, legal and procedural, and training)

Description (type of equipment, quantity, capabilities, lifespan, and product description from manufacture)

Type: Colt M-4 patterned rifle, which fires the .223 Remington cartridge

Quantity: The Berkeley Department currently owns and maintains 96 rifles

Capabilities: The M4 pattern rifle is used only in situations when a potential life-threatening situation exists. While a pistol is the common firearm used by police in these dangerous situations, the M4 patterned rifle has numerous advantages over it. The ability to shoulder the rifle, coupled with the rifle's lengthened barrel and ammunition, result in higher accuracy and lessens the chance of officers missing the intended target. Additionally, due to the design of the rifle's bullet, the round is less likely to over penetrate commercial and residential walls should the officer miss the intended target. The rifle is also easier to use compared to a pistol because of the bullet's low recoil. Finally, as the rifle can be adjusted and customized, it can be configured to accommodate officers of any stature (hand size, strength, etc.).

Lifespan: Due to the rifle's ability to be maintained by department armorers, these rifles have a relatively long-life span if properly maintained. However, the design has changed little in the last 60 years and we can expect new variations and designs to become the new industry standard in the coming years.

Manufacturer's Description: This specially designed law enforcement weapon system features many of the combat proven advantages of the military Colt M4. With the 4-position buttstock fully retracted, the Colt Law Enforcement Carbine is less than 32in length and weighs only 6.9 lb - ideal for tactical deployment and traditional patrol.

PURPOSE and AUTHORIZED USE:

Purpose: The M4 patterned rifle and associated ammunition is intended as a means to safely stop a lethal threat. While a pistol is the firearm that all officers are minimally equipped with, the rifle is an ancillary firearm for situations where increased distance and accuracy are needed to safely resolve the situation.

Authorized Uses: Used in the defense of life or great bodily injury to potential victims of violent crimes, general public, and officers.

FISCAL IMPACT:

Initial Cost: Exact costs unknown. Rifle prices, like other firearms, will range depending on current market demand and availability. While M4 rifles purchased several years ago cost between \$1,000

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and \$1,200 a piece, current rifles cost between \$1,400 and \$1,600. It should be expected that these prices will fluctuate and likely increase over time.

Annual cost: Cost of use for all firearms should be based on the ammunition used in training and on duty. This will fluctuate based on whether the rifle is issued to a patrol officer, a firearms instructor, or a Special Response Team member as each assignment has different training requirements.

Training costs: Every officer that is authorized to carry a rifle on duty must attend a 16-hour CA POST approved rifle instruction course before being authorized to carry the rifle on duty. This course may be administered by Berkeley Police Firearm Instructors or by other POST approved agencies. Tuition for the CA POST approved class is dependent on the hosting agency. If conducted in house the cost only includes the officer's hourly wage, range fee, and ammunition costs (all vary). Outside agencies charge between \$25 to \$500 depending on the range location and duration (some classes are 32-hours while POST only requires 16-hours.) Additionally, all officers issued a rifle receive specific 8-hour rifle training every two years by POST certified BPD firearm instructors.

Maintenance costs: Vary depending on use over time. Traditionally, various springs and pins need to be replaced every five years and may cost between \$3 and \$30 per rifle. Other parts such as the barrel and bolt need replaced around ten years and range between \$150 and \$300 per rifle.

LEGAL AND PROCEDURAL RULES:

Authorized use must comply with state, federal laws, and Lexipol Policy 300 Use of Force, and Policy 349 Tactical Rifle Operator Program. The use of this equipment shall comply with the authorizations and prohibitions set forth in Policy 300 – Use of Force. It is the policy of the BPD to utilize rifles only for official law enforcement purposes, and pursuant to State and Federal law regarding the use of force including the provisions of Penal Code Section 13652.

TRAINING:

Prior to using a rifle, officers must be certified by POST instructors in the operation of the rifle. Additionally, all members that operate any rifle are required to pass a range qualification.

Remington 700 Rifle (Description, purpose/authorized use, fiscal impact, legal and procedural, and training)

Description (type of equipment, quantity, capabilities, lifespan, and product description from manufacture)

Type: Remington 700 rifle, which fires the .308 caliber ammunition.

Quantity: The Berkeley Department currently owns and maintains 6 rifles

Capabilities: The Remington 700 rifle, with the appropriate ammunition, training, and practice, is capable of consistent and highly accurate shooting out to a distance of approximately 500-yards.

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The Remington 700 is intended to be used in emergency situations where there is a high potential for violence, where the need exists to put distance between officers and a specific individual, such as an armed hostage situation.

Lifespan: The Remington 700 bolt-action rifles have an expected life span of 10-years if properly maintained.

Manufacturer's Description: The Model 700 SPS Tactical is a highly maneuverable member of the family. It's built for tack-driving accuracy with a 20" heavy-contour tactical-style barrel and dual-point pillar bedding in its black synthetic stock. Hogue® overmoldings on the stock facilitate sure handling, and it has a semi-beavertail fore-end for added stability off a rest.

PURPOSE and AUTHORIZED USE:

Purpose: This rifle is to be used in the defense of life or great bodily injury to potential victims of violent crimes, general public, and officers. This rifle provides police with the benefit of adding distance to a volatile situation which can increase the safety for community members and officers. This rifle is an ancillary firearm for situations where increased distance and accuracy is needed to safely resolve the situation.

Authorized Uses: Used in the defense of life or great bodily injury to potential victims of violent crimes, general public, and officers.

FISCAL IMPACT:

Initial Cost: The initial cost to purchase this rifle with its associated components is approximately \$10,000 dollars each. Their average life span is 10-years at which time it will likely need to be replaced.

Annual cost: If this rifle is not cared for or maintained well, then a potential financial adverse impact would be the premature purchasing of a replacement rifle or replacement parts. However, authorized and trained Berkeley Police armorers service and provide regular maintenance of the rifles. The cost of maintenance is staff time.

Training costs: The cost associated with training is the staff time, range fees, and cost of spent ammunition. SRT members train once a month and, on average, each member shoots approximately 50-rounds. Currently, there are only 4 members shooting at each training day. This equates to approximately 2,400 rounds of ammunition being fired per year. This does not include special training days or attendance to training schools/classes. A single box of 20-rounds costs approximately \$20-dollars or \$1 dollar per round.

Maintenance costs: Maintenance costs vary depending on use over time. Firing pins need to be replaced every 5 to 7 years. The maintenance cost associated with this rifle is minimal.

There are no costs associated with maintenance or storage of ammunition. All ammunition is stored in a climate-controlled room in the Berkeley Police Department.

LEGAL AND PROCEDURAL RULES:

Military Equipment

Authorized use must comply with state, federal laws, and Lexipol Policy 300 Use of Force. The use of this equipment shall comply with the authorizations and prohibitions set forth in Policy 300 – Use of Force, Policy 354-Precision Rifle. It is the policy of the BPD to utilize rifles only for official law enforcement purposes, and pursuant to State and Federal law regarding the use of force including the provisions of Penal Code Section 13652.

TRAINING:

Prior to using a rifle, officers must be certified by POST instructors in the operation of the rifle. Additionally, all members that operate any rifle are required to pass a range qualification.

Barret Model 99 Rifle (Description, purpose/authorized use, fiscal impact, legal and procedural, and training)

Description (type of equipment, quantity, capabilities, lifespan, and product description from manufacture)

Type: The Barrett Model 99 rifle is a single shot bolt-action 50-caliber rifle

Quantity: The Berkeley Department currently owns and maintains 1 rifle.

Capabilities: This rifle is used only in situations where a potential life-threatening situation exists. The length of the rifle's barrel coupled with the ammunition result in precision accuracy. This rifle is capable of disabling any vehicle engine block because of the large caliber round.

Lifespan This rifle has been in our possession for almost 15-years and we expect it to last for an additional 20 years or more considering how in-frequently it's used.

Manufacturer's Description: The Model 99 brings new levels of long-range precision shooting. Known as much for its dependability as its versatility, the Model 99 has unfailing accuracy you can rely on.

PURPOSE and AUTHORIZED USE:

Purpose: The Barrett rifle is a firearm that may be used to stop a vehicle which poses a lethal threat to the public, or to disable a vehicle which presents a threat to the safety of another person(s) by its continued use. There are vehicle disabling tools that may disable vehicles by slowly deflating the tires; however, even with tires deflated a vehicle has the ability to operate and remain a threat to the public. Furthermore, these tools must be hand deployed and, in most circumstances, require officers to expose themselves to deadly threats. The Barrett rifle creates the ability to effectively disable vehicles instantaneously from a distance away.

Authorized Uses: Used in the defense of life or great bodily injury to potential victims of violent crimes, general public, and officers.

FISCAL IMPACT:

Initial Cost: The Barrett Model 99 50-caliber rifle has a retail cost of approximately \$12,500 dollars. The Department of Justice provided the Barrett rifle to the Berkeley Police Department on 04/04/2007. There was no initial cost related to BPD taking possession of it.

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Annual cost: The annual cost of the equipment is minimal and includes ammunition expenditure, cleaning equipment, and possibly replacing the optics at some point in the future.

Training costs: The cost associated with training is the staff time, range fees, and cost of spent ammunition.

The costs associated with its proposed uses is in the expenditure of its ammunition. The ammunition has a retail cost of approximately \$6 dollars per bullet; \$60 for a box of 10 and \$600 for a case of 10 boxes, plus shipping and handling. We currently possess 100 rounds of BMG ammunition.

Maintenance costs: Maintenance costs vary depending on use over time and will vary. There are no costs associated with maintenance or storage of ammunition. All ammunition is stored in a climate-controlled room in the Berkeley Police Department.

LEGAL AND PROCEDURAL RULES:

Authorized use must comply with state, federal laws, and Lexipol Policy 300 Use of Force, and Policy 354 Precision Rifle. The use of this equipment shall comply with the authorizations and prohibitions set forth in Policy 300 – Use of Force. It is the policy of the BPD to utilize rifles only for official law enforcement purposes, and pursuant to State and Federal law regarding the use of force including the provisions of Penal Code Section 13652.

TRAINING:

Prior to using a rifle, officers must be certified by POST instructors in the operation of the rifle. Additionally, all members that operate any rifle are required to pass a range qualification.

RIFLE AMMUNITION:

.223 Remington ammunition: 55 grain FMJ (full metal jacket) for training purposes and 62 grain soft point for duty purposes. (Use in the Colt M4 Rifle)

(Description, purpose/authorized use, fiscal impact, legal and procedural, and training)

Description (type of equipment, quantity, capabilities, lifespan, and product description from manufacture)

Type: .223 Remington ammunition: 55 grain FMJ (full metal jacket)

.223 Remington ammunition 62 grain soft point for duty purposes

Quantity: Quantity of rifle ammunition fluctuates significantly depending on training attended, including the standard basic police academy, officer assignments, and yearly mandate training cycles. For example, most police academy recruits are required to bring approximately 1,000 rounds to the basic POST approved academy. Most academies have a 16-24-hour rifle training course. The training is required for all officers who are issued a rifle and mandates between 800 and 1,200 rounds. As such, the inventory at the Berkeley Police Department fluctuates significantly depending on how many officers are attending state mandated training and can range from 10,000

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round (our current inventory) to less than 1,000 rounds (our anticipated inventory at the end of December after scheduled department training in November.)

Capabilities: The .223 Remington cartridge, depending on the weight of the bullet, 55 grain or 62 grain, travel at approximately 3,000 feet per second and 2,700 feet per second respectively. The round is highly regarded as having a high degree of consistency and accuracy, which is why it is the most common rifle round used in Law Enforcement around the world.

Lifespan Like all ammunition, if kept cool and dry, ammunition lifespan can exceed ten years. Due to BPD's and State mandates on training, the majority of ammunition is cycled through within a year of purchase.

Product Description:

.223 Remington ammunition: 55 grain FMJ (full metal jacket)

Make sure you hit your target with the Winchester USA .223 Rem 55-Grain Full Metal Jacket Ammunition. The full metal jacket ammunition features a 55 grain weight and includes 200 rounds. The caliber is .223 Rem, and the ammunition is made in the USA.

.223 Remington ammunition 62 grain soft point

Federal TRU 223 ammo is custom made ammunition for the Urban Law Enforcement Officer in mind. It features a lead core Hi Shock Soft Point bullet which offers great stopping power and excellent penetration, a non corrosive primer and brand new never fired brass casing and nickel plated brass primer. This LE Tactical ammo can be reloaded up to 5 times for those shooters that reload their 223 ammo. Federal LE 223 Remington has a muzzle velocity of 3050 feet per second and a muzzle energy of 1281 ft lbs. This 223 Federal ammo is new production packaged in 20 round boxes and 200 rounds per case. Federal TRU ammunition is engineered using Mil-Quality specifications. Each Federal TRU cartridge is made using select mil-quality low flash powders that do not disrupt an officer's night vision. The TRU case and web are built using thicker brass, adding the extra strength needed for the high powered rifle. TRU primers are crimped for added holding ability. This virtually eliminates backed out primers that can lock-up your weapon. With TRU ammunition, potentially disastrous situations are greatly reduced. TRU bullets are specifically engineered ranging from fragmenting designs for tactical entry to deeper penetrating bullets for patrol.

PURPOSE and AUTHORIZED USE:

Purpose: This rifle ammunition is capable of incapacitating an individual from a distance and providing greater accuracy at a distance. This ammunition is used in the M4 rifle.

Authorized Uses: Used in the defense of life or great bodily injury to potential victims of violent crimes, general public, and officers.

FISCAL IMPACT:

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Initial Cost: Ammunition costs fluctuate with the costs of components (brass, primers, gunpowder, and bullets) and supply/demand. Current costs for .223 Remington range from \$0.50 to \$0.75 a round for training ammunition (55 grain) and \$1.25 to \$1.50 a round for duty ammunition (62 grain).

Annual cost: The annual cost of the equipment is minimal, and is dependent on the amount of training.

Training costs: The cost associated with training is the staff time, range fees, and cost of spent ammunition.

Maintenance costs: Maintenance costs vary depending on use over time and will vary. There are no costs associated with maintenance or storage of ammunition. All ammunition is stored in a climate-controlled room in the Berkeley Police Department.

LEGAL AND PROCEDURAL RULES:

Authorized use must comply with state, federal laws, and Lexipol Policy 300 Use of Force, and Policy 349 Tactical Rifle Operator Program. The use of this equipment shall comply with the authorizations and prohibitions set forth in Policy 300 – Use of Force. It is the policy of the BPD to utilize rifles only for official law enforcement purposes, and pursuant to State and Federal law regarding the use of force including the provisions of Penal Code Section 13652.

TRAINING:

Prior to using a rifle, officers must be certified by POST instructors in the operation of the rifle. Additionally, all members that operate any rifle are required to pass a range qualification.

Hornady .308-caliber ammunition (for the Remington 700 Rifle)

(Description, purpose/authorized use, fiscal impact, legal and procedural, and training)

Description (type of equipment, quantity, capabilities, lifespan, and product description from manufacture)

Type: Hornady .308-caliber ammunition

Quantity: The Berkeley Department currently possess approximately 1800 rounds of this ammunition.

Capabilities: This rifle ammunition is capable of incapacitating an individual or disabling an object in emergency situations where there is a high potential for violence, where the need exists to put distance between officers and a specific individual, such as an armed hostage situation. This ammunition is specifically designed for accuracy at distances of 500 yards.

Lifespan Like all ammunition, if kept cool and dry, ammunition lifespan can exceed ten years. Due to BPD's and State mandates on training, the majority of ammunition is cycled through within a year of purchase.

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Manufacturer's Description: Millions of successful hunts have proven the accuracy and deadly effect of the famous Hornady® InterLock®, SST®, InterBond® and CX™ bullets we load into Hornady® Custom™ rifle ammunition.

Every round of Hornady® Custom™ ammunition is hand inspected before packaging to ensure the highest levels of quality control. At Hornady®, we manufacture Custom™ ammunition to give shooters and hunters the advantage of handloaded accuracy in a factory load.

PURPOSE and AUTHORIZED USE:

Purpose: This rifle ammunition is capable of incapacitating an individual from a distance of 500 yards and providing greater accuracy at a distance. This ammunition is used in the Remington 700 rifle.

Authorized Uses: Used in the defense of life or great bodily injury to potential victims of violent crimes, general public, and officers.

FISCAL IMPACT:

Initial Cost: The costs associated with its proposed uses is in the expenditure of its ammunition. The ammunition has a retail cost of approximately \$1 dollars per bullet; \$20 for a box of 20, plus shipping and handling. We currently possess 1800 rounds of BMG ammunition, \$1800.

Annual cost: The annual cost of the equipment is minimal, and is dependent on the amount of training.

Training costs: The cost associated with training is the staff time, range fees, and cost of spent ammunition.

Maintenance costs: Maintenance costs vary depending on use over time and will vary. There are no costs associated with maintenance or storage of ammunition. All ammunition is stored in a climate-controlled room in the Berkeley Police Department.

LEGAL AND PROCEDURAL RULES:

Authorized use must comply with state, federal laws, and Lexipol Policy 300 Use of Force, and Policy 354 Precision Rifle. The use of this equipment shall comply with the authorizations and prohibitions set forth in Policy 300 – Use of Force. It is the policy of the BPD to utilize rifles only for official law enforcement purposes, and pursuant to State and Federal law regarding the use of force including the provisions of Penal Code Section 13652.

TRAINING:

Prior to using a rifle, officers must be certified by POST instructors in the operation of the rifle. Additionally, all members that operate any rifle are required to pass a range qualification.

Summit Ammunition.50-caliber BNG rounds of ammunition (for the Barrett Model 99)

(Description, purpose/authorized use, fiscal impact, legal and procedural, and training)

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Description (type of equipment, quantity, capabilities, lifespan, and product description from manufacture)

Type: Summit Ammunition.50-caliber BNG rounds of ammunition

Quantity: The Berkeley Department currently possess approximately 100 rounds of this ammunition.

Capabilities: This rifle ammunition is capable of disabling any vehicle engine block because of the large caliber round.

Lifespan Like all ammunition, if kept cool and dry, ammunition lifespan can exceed ten years. Due to BPD's and State mandates on training, the majority of ammunition is cycled through within a year of purchase.

Manufacturer's Description: This is 50 Cal. BMG Summit Ammunition 700gr. M-2 Armor Piercing Ammo. Summit Ammunition has been manufacturing 50 Cal. BMG for over 10 years and they manufacture a premium quality product. They are a fully licensed and insured manufacturer. This ammo is loaded with NEW Winchester brass, New USGI powder and Pulled Lake City M-2 AP bullets.

PURPOSE and AUTHORIZED USE:

Purpose: This rifle ammunition is capable of disabling any vehicle engine block because of the large caliber round.

Authorized Uses: Used in the defense of life or great bodily injury to potential victims of violent crimes, general public, and officers.

FISCAL IMPACT:

Initial Cost:

Annual cost: The annual cost of the equipment is minimal.

Training costs: The cost associated with training is the staff time, range fees, and cost of spent ammunition.

Maintenance costs: Maintenance costs vary depending on use over time and will vary. There are no costs associated with maintenance or storage of ammunition. All ammunition is stored in a climate-controlled room in the Berkeley Police Department.

LEGAL AND PROCEDURAL RULES:

Authorized use must comply with state, federal laws, and Lexipol Policy 300 Use of Force, and Policy 354 Precision Rifle. The use of this equipment shall comply with the authorizations and prohibitions set forth in Policy 300 – Use of Force. It is the policy of the BPD to utilize rifles only for official law enforcement purposes, and pursuant to State and Federal law regarding the use of force including the provisions of Penal Code Section 13652.

TRAINING:

Military Equipment

Prior to using a rifle, officers must be certified by POST instructors in the operation of the rifle. Additionally, all members that operate any rifle are required to pass a range qualification.

Robots:

ReconRobotics Recon Scout XT (Description, purpose/authorized use, fiscal impact, legal and procedural, and training)

Description (type of equipment, quantity, capabilities, lifespan, and product description from manufacture)

Type: ReconRobotics Recon Scout XT

Quantity: The Berkeley Department currently owns and maintains 2.

Capabilities The Recon Scout XT robot is designed to be able to crawl over a variety of terrain, clearing obstacles up to 2" (5 cm) tall. It could be thrown into hazardous situations, indoor and outdoor, and provide live audio and video feed back to the controller.

Lifespan: Both Recon Scout XT robots are over 10 years old and ReconRobotics have developed and manufactured more advanced robots. ReconRobotics have stopped manufacturing certain parts for the Recon Scout XT, so the lifespan is dependent on what parts need to be replaced.

Manufacturer's Description: The Recon Scout XT is just eight inches long and weighs just 1.3 lbs., making it extremely easy to carry and throw. Moreover, deploying the Recon Scout XT takes just 5 seconds, and using it requires no special training. Simply pull the activation pin and throw the device through a doorway or over a wall, or drop it down a vertical shaft using a tether. Using a single joystick on the operator control unit (OCU), a tactical team leader or warfighter can then direct the device to move through the environment and send back real-time video. Equipped with an infrared optical system that automatically turns on when the ambient light is low, the Recon Scout XT can transmit video up to 100 feet indoors and 300 feet outdoors, day or night. The Recon Scout XT may also be specified in any of three transmitting frequencies, allowing police and military personnel to operate up to three robots in the same environment at the same time.

PURPOSE and AUTHORIZED USE:

Purpose: The Recon Scout XT robot is intended to safely provide police officers valuable information during high-risk, rapid evolving situations via real-time audio and video footage. It can be driven a distance away from the OCU, creating space between the officer and potential danger, thus decreasing the likelihood of injury to those involved in the event, or even a violent encounter between police officers and a dangerous subject. This asset furthers our commitment to the sanctity of life by offering time and distance in critical incidents.

Authorized Uses: The Recon Scout XT robot may be deployed to help police officers safely view potentially dangerous environments before entering them.

FISCAL IMPACT:

Initial Cost: The initial cost for the Recon Scout XT robot was about \$12,500 per unit (2010 cost).

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Annual cost: There are no ongoing or annual costs associated with the use of the Recon Scout XT robot. Being that it is battery operated, there is a nominal cost associated with charging the Recon Scout XT robot's batteries, and the batteries of the OCU. The Recon Scout XT robot is fairly simple to operate, thus there is no cost associated with training officers in its use. There are no costs with transportation or storage of the Recon Scout XT robot. While there are newer models of this robot available, there does not appear to be any upgrades available for the Recon Scout XT. The Recon Scout XT robot has been damaged on occasion, and there are costs associated with repair. But generally, the Recon Scout XT robot is robust and does not need regular repair.

Training costs: The Recon Scout XT robot is user friendly and simple to operate. Training is conducted by Berkeley Police personnel familiar with the operations and procedures of the Recon Scout XT robot. The cost of training is staff time.

Maintenance costs: There are no annual or storage costs.

LEGAL AND PROCEDURAL RULES:

Authorized use must comply with state, federal laws, and Lexipol Policy 708 Robot Cameras.

TRAINING:

Andros Remotec HD-1 Hazardous Duty Robot (Description, purpose/authorized use, fiscal impact, legal and procedural, and training)

Description (type of equipment, quantity, capabilities, lifespan, and product description from manufacture)

Type: Andros Remotec HD-1 Hazardous Duty Robot

Quantity: The Berkeley Police Department Bomb Squad has one robot, the Remotec HD-1 robot.

Capabilities Remotec HD-1 robot is used in situations where a potential life-threatening situation exists and is too hazardous for a bomb technician to approach in person. The Remotec HD-1 robot is also used to survey an area prior to a bomb technician approaching a scene to check for trip wires and ascertain a good approach path. The Remotec HD-1 robot has three cameras and audio monitoring that stream live video and audio back to the control module; however, it is unable to record and does not have any data storage capabilities. It has several attachment mounting options as well. The Remotec HD-1 robot also has the ability to carry a variety of tools. Some of the tools are:

- (a) A spike to break glass and access vehicles or homes with potential explosive devices inside
- (b) An X-ray mount in order to remotely X-ray suspected explosive devices.
- (c) Percussion actuated non-electric disruptors which are smooth barrels that are filled with water and fired at high speed with a blank shotgun round to open backpacks, suitcases, and packages from a distance
- (d) A hook with cutting blades that are used to cut backpack straps, ropes, etc.

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- (e) PAN rounds containing various fills, from sand to slugs, in order to open sturdier packages made from metal or other hard covers.
- (f) Electrical connections to connect explosives that can be detonated remotely and from a safe distance.

Lifespan: The Remotec HD-1 robot has an expected life span of 10 years. It is currently 13 years old and has begun exhibiting issues. The Remotec HD-1 robot weighs just over 200 lbs. and has been near multiple explosions over the years and crossed a variety of off-road terrain

Manufacturer's Description: The Remotec ANDROS fleet of hazardous duty unmanned vehicles is the preferred choice of first responders worldwide. The robust, mission-proven design of the ANDROS line keeps danger at a distance with:

- Simultaneous tool mounts for rapid response during dynamic missions (i.e. suits changing needs as the mission unfolds)
- A versatile array of two-way audio, video, advanced sensors, tools and controllers
- Easy maintainability for minimal downtime

Made in the USA and backed by world-class training and post-sale support, it's no wonder there are over 1,000 ANDROS robots deployed around the globe.

PURPOSE and AUTHORIZED USE:

Purpose: The Remotec HD-1 robot is used as a means to approach hazardous situations where a potentially lethal threat such as an explosive device exist. The Remotec HD-1 robot allows for the examination and manipulation of an object or potential explosive device without unnecessarily putting a bomb technician's life at risk.

Authorized Uses: Used to examine and possible destroy hazardous materials such as an explosive device.

FISCAL IMPACT:

Initial Cost: Procured in 2008 for \$214,496 including on-site training through a UASI Grant. (64,292-N.S.)

Annual cost: There is no annual cost. Maintenance of the Remotec HD-1 robot is conducted by Berkeley Police Bomb Technicians.

Training costs: Berkeley Police Bomb Technicians are trained during regular bomb squad training sessions and maintain their skills through training scenarios. The cost of training is limited to staff time.

Maintenance costs: Remotec offers occasional maintenance and upkeep workshops free of charge.

LEGAL AND PROCEDURAL RULES:

Authorized use must comply with state, federal laws, and Lexipol Policy 708 Robot Cameras.

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TRAINING:

Less Lethal Launchers:

Penn Arms 40mm Single Launcher (Description, purpose/authorized use, fiscal impact, legal and procedural, and training)

Description (type of equipment, quantity, capabilities, lifespan, and product description from manufacture)

Type: Penn Arms 40mm Single Launcher

Quantity: The Berkeley Department currently owns and maintains 20.

Capabilities: The Penn Arms single launcher is capable of firing a single projectile out to a maximum manufacturer recommended range of 45 meters. The Penn Arms 40mm projectiles are direct fire with a pliable "sponge" tip designed to mold to the body. The projectiles are about the size of a large egg. Upon impact, the projectile transfers kinetic energy to the body to gain pain compliance. Large muscle groups such as the upper legs or lower abdomen are approved target areas unless a higher level of force is justified. This level of force is considered to be similar to that of a baton strike.

Lifespan The manufacturer expected lifespan is about 10 years depending on use and regular maintenance.

Manufacturer's Description: A 40mm compact single-shot break-open frame launcher with a rifled barrel and folding stock. Features include: Double-action trigger, trigger lock push button and hammer lock safeties.

PURPOSE and AUTHORIZED USE:

Purpose: The purpose of kinetic energy impact projectiles, commonly referred to as "less lethal" is to preserve life, minimize the use of force and allow time for de-escalation. Less lethal projectiles allow the user to maintain a safe distance from a subject who is armed and/or demonstrates the intent to be violent. The ability to maintain a safe distance – while still providing a level of control over the subject – allows officers to employ de-escalation techniques, request additional resources and develop a plan to safely resolve the situation with the least amount of risk.

Violent or armed confrontations are inherently dangerous to all those involved. Officers are required to make split second judgments in circumstances that are tense, uncertain and rapidly evolving. An Officer's threat perception of a person who is in close proximity as opposed to a person who is at a distance of 20 yards is naturally different. A person in close proximity intent on violence has the ability to immediately utilize personal body weapons, a bludgeoning device or cutting instrument. The immediacy requires the Officer to react instantly and there is a greater potential that a higher level of force will be needed.

On the other hand, a person at a distance of 20 yards may not be perceived as having the immediate ability to violently attack the Officer. The person must first close the distance before

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certain weapons can be utilized. This fact may allow the Officer time to decide the most appropriate course of action, such as the use of a "less lethal" projectile.

The projectiles are designed to provide a high level of accuracy which minimizes the risk of unwanted impacts. The ability to apply force from a distance reduces the potential for violent confrontation and aides in reducing the level of force needed to safely resolve a conflict.

Authorized Uses: The Penn Arms 40mm single launcher is designed to reduce the potential for a violent confrontation. Less lethal projectiles are less likely to result in serious bodily injury or death and can be used to de-escalate a potentially deadly situation.

FISCAL IMPACT:

Initial Cost: Less lethal prices, like other equipment, varies depending on market demand and availability. The most recent Penn Arms purchased by the department cost \$815.00 each.

Annual cost: Cost for Penn Arms single launcher use should be based on the projectiles used in training and on duty. This will fluctuate based on department trainings, projectile availability and events that unfold in the city and surrounding region.

Training costs Every officer authorized to deploy a less lethal launcher must pass a certification course administered by a Berkeley Police Department Firearms Instructor. The certification class consists of classroom, range qualification and scenario application if the venue allows. This class is largely handled in house thus the cost only includes staff time, range fees, and projectile costs which all vary.

Maintenance costs: Maintenance costs vary depending on use. Generally, various springs and pins need to be replaced every 5 years which can cost \$3 to \$30.

LEGAL AND PROCEDURAL RULES:

Authorized use must comply with state, federal laws, and Lexipol Policy 300 Use of Force, Policy 303 Control Devices, and Policy 428 First Amendment Assembly.

TRAINING:

Every officer authorized to deploy a less lethal launcher must pass a certification course administered by a Berkeley Police Department Firearms Instructor. The certification class consists of classroom, range qualification and scenario application if the venue allows.

Milkor LTL Multi-launcher (Description, purpose/authorized use, fiscal impact, legal and procedural, and training)

Description (type of equipment, quantity, capabilities, lifespan, and product description from manufacture)

Type: Milkor LTL Multi-launcher

Quantity: The Berkeley Department currently owns and maintains 2.

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Capabilities: The Milkor LTL is capable of firing six 40mm projectiles before reloading is necessary. The Milkor LTL 40mm projectiles are direct fire with a pliable "sponge" tip designed to mold to the body. The projectiles are about the size of a large egg. Upon impact, the projectile transfers kinetic energy to the body to gain pain compliance. Large muscle groups such as the upper legs or lower abdomen are approved target areas unless a higher level of force is justified. This level of force is considered to be similar to that of a baton strike.

Lifespan The manufacturer expected lifespan is about 10 to 15 years depending on use and regular maintenance.

Manufacturer's Description: Developed with our partner company, Abrams Airborne Manufacturing, The 40mm Multi-Shot Less-Lethal Tactical Launcher (LTL) was manufactured with the needs of the modern tactical team at the forefront. The launcher is capable of firing a wide variety of 40mm LTL ammo.

PURPOSE and AUTHORIZED USE:

Purpose: The purpose of kinetic energy impact projectiles, commonly referred to as "less lethal" is to preserve life, minimize the use of force and allow time for de-escalation attempts. Less lethal projectiles allow the user to maintain a safe distance from a subject who is armed and/or demonstrates the intent to be violent. The ability to maintain a safe distance – while still providing a level of control over the subject – allows officers to employ de-escalation techniques, request additional resources and develop a plan to safely resolve the situation with the least amount of risk.

Violent confrontations are inherently dangerous to all those involved. Officers are required to make split second judgments in circumstances that are tense, uncertain and rapidly evolving. An Officer's threat perception of a person who is in close proximity as opposed to a person who is at a distance of 20 yards is naturally different. A person in close proximity intent on violence has the ability to immediately utilize personal body weapons, a bludgeoning device or cutting instrument. The immediacy requires the Officer to react instantly and there is a greater potential that a higher level of force will be needed.

On the other hand, a person at a distance of 20 yards may not be perceived as having the immediate ability to violently attack the Officer. The person must first close the distance before such weapons can be utilized. This may allow the Officer time to decide the most appropriate course of action, such as the use of a "less lethal" projectile.

The "less lethal" projectiles utilized by the Berkeley Police Department are generally considered discriminate versus indiscriminate uses of force. The projectiles are designed to provide a high level of accuracy which minimizes the risk of unwanted impacts. The ability to apply force from a distance reduces the potential for violent confrontation and aides in reducing the level of force needed to safely resolve a conflict.

Authorized Uses: The Milkor LTL multi-shot launcher is designed to reduce the potential for a violent confrontation. Less lethal projectiles are less likely to result in serious bodily injury or death and can be used to de-escalate a potentially deadly situation.

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FISCAL IMPACT:

Initial Cost: Less lethal prices, like other equipment, varies depending on market demand and availability. The most recent Penn Arms purchased by the department cost \$3950.00 each.

Annual cost: Cost for Penn Arms single launcher use should be based on the projectiles used in training and on duty. This will fluctuate based on department trainings, projectile availability and events that unfold in the city and surrounding region.

Training costs Every officer authorized to deploy a less lethal launcher must pass a certification course administered by a Berkeley Police Department Firearms Instructor. The certification class consists of classroom, range qualification and scenario application if the venue allows. This class is largely handled in house thus the cost only includes staff time, range fees, and projectile costs which all vary.

Maintenance costs: Maintenance costs vary depending on use.

LEGAL AND PROCEDURAL RULES:

Authorized use must comply with state, federal laws, and Lexipol Policy 300 Use of Force, Policy 303 Control Devices, and Policy 428 First Amendment Assembly.

TRAINING:

Every officer authorized to deploy a less lethal launcher must pass a certification course administered by a Berkeley Police Department Firearms Instructor. The certification class consists of classroom, range qualification and scenario application if the venue allows.

FN 303 and FN Pava Impact Projectile (Description, purpose/authorized use, fiscal impact, legal and procedural, and training)

Description (type of equipment, quantity, capabilities, lifespan, and product description from manufacture)

Type: FN 303 and FN Pava Impact Projectile

Quantity: The Berkeley Department currently owns and maintains 8 FN 303 less lethal launchers.

Capabilities: The FN 303 is capable of firing 15 projectiles out to a maximum manufacturer recommended range of 50 meters. The FN 303 projectiles are direct fire and designed to fragment upon impact to prevent penetration injury. Upon impact, the projectile transfers kinetic energy to the body to gain pain compliance. Large muscle groups such as the upper legs or lower abdomen are approved target areas. This level of force is considered to be similar to that of a baton strike.

Lifespan The manufacturer expected lifespan is about 10 years depending on use and regular maintenance.

Manufacturer's Description: The FN 303® Less Lethal Launcher is constructed from durable lightweight polymer with comfortable ergonomics and an easy to operate safety. The FN 303® Launcher is equipped with both flip-up iron sights and an integrated MIL-STD-1913 top mounting rail for optical or electronic sights or other accessories. The lightweight polymer

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magazine holds 15 projectiles and offers a clear rear cover to allow the operator to instantly verify both the payload type and the number of projectiles remaining.

PURPOSE and AUTHORIZED USE:

Purpose: The purpose of kinetic energy impact projectiles, commonly referred to as "less lethal" is to preserve life, minimize the use of force and allow time for de-escalation attempts. Less lethal projectiles allow the user to maintain a safe distance from a subject who is armed and/or demonstrates the intent to be violent. The ability to maintain a safe distance – while still providing a level of control over the subject – allows officers to employ de-escalation techniques, request additional resources and develop a plan to safely resolve the situation with the least amount of risk.

Violent confrontations are inherently dangerous to all those involved. Officers are required to make split second judgments in circumstances that are tense, uncertain and rapidly evolving. An Officer's threat perception of a person who is in close proximity as opposed to a person who is at a distance of 20 yards is naturally different. A person in close proximity intent on violence has the ability to immediately utilize personal body weapons, a bludgeoning device or cutting instrument. The immediacy requires the Officer to react instantly and there is a greater potential that a higher level of force will be needed.

On the other hand, a person at a distance of 20 yards may not be perceived as having the immediate ability to violently attack the Officer. The person must first close the distance before such weapons can be utilized. This may allow the Officer time to decide the most appropriate course of action, such as the use of a "less lethal" projectile.

The "less lethal" projectiles utilized by the Berkeley Police Department are generally considered discriminate versus indiscriminate uses of force. Discriminate projectiles are designed to provide a high level of accuracy which minimizes the risk of unwanted impacts. The ability to apply force from a distance reduces the potential for violent confrontation and aides in reducing the level of force needed to safely resolve a conflict.

Authorized Uses: The FN 303 is designed to reduce the potential for a violent confrontation. Less lethal projectiles are less likely to result in serious bodily injury or death and can be used to de-escalate a potentially deadly situation.

FISCAL IMPACT:

Initial Cost: Less lethal prices, like other equipment, varies depending on market demand and availability. The most recent FN 303s purchased by the department cost \$800.00 each.

Annual cost: Cost for FN 303 use should be based on the projectiles used in training and on duty. This will fluctuate based on department trainings, projectile availability and events that unfold in the city and surrounding region.

Training costs Every officer authorized to deploy a less lethal launcher must pass a certification course administered by a Berkeley Police Firearm Instructor. The certification class consists of classroom, range qualification and scenario application if the venue allows. This class is largely

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handled in house thus the cost only includes the officer's hourly wage, range fees, and projectile costs which all vary.

Maintenance costs: Maintenance costs vary depending on use. Generally, O-rings need to be replaced every 3000 rounds and cost \$30 per kit.

LEGAL AND PROCEDURAL RULES:

Authorized use must comply with state, federal laws, and Lexipol Policy 300 Use of Force, Policy 303 Control Devices, and Policy 428 First Amendment Assembly.

TRAINING:

Every officer authorized to deploy a less lethal launcher must pass a certification course administered by a Berkeley Police Department Firearms Instructor. The certification class consists of classroom, range qualification and scenario application if the venue allows.

Light/sound Diversionary Devices:

CTS 7290 Diversionary Device (Description, purpose/authorized use, fiscal impact, legal and procedural, and training)

Description (type of equipment, quantity, capabilities, lifespan, and product description from manufacture)

Type: CTS 7290 Diversionary Device

Quantity: The Berkeley Department currently owns and maintains 50.

Capabilities: When a diversionary device is deployed they create a loud noise, heat and brilliant light and create an effective diversion. They can create psychological and physiological effects such as: hearing a loud noise beyond that of everyday living, seeing a short bright light, and feeling of a change in atmospheric pressure. These effects may disorient/confuse subjects for a short time giving tactical teams the ability to apprehend that subject without using a higher level of force.

Lifespan The lifespan of the CTS 7290 Diversionary Device is 5 years.

Manufacturer's Description: The CTS 7290 is the standard for diversionary flash-bang devices. The 7290 produces a 165-180 db and 6-8 million candela of light output. The patented design of the 7290, incorporates a porting system that eliminates movement of the body at detonation even if the top or bottom of the device should be in contact with a hard surface. In addition, internal adjustments have greatly reduced smoke output.

Flash Bangs are used by special tactical units during hostage rescue and high-risk warrants. It is an ATF-controlled Class-C explosive device that emits a bright light and thunderous noise to distract potentially dangerous individuals.

PURPOSE and AUTHORIZED USE:

Purpose: The purpose of a diversionary device is to create a reactionary gap of a person by temporarily disorienting them. This gap gives tactical teams an opportunity to apprehend a suspect

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while using the minimal amount of force possible. They can also be used to safely invoke a response or redirect the attention of subjects who are either feigning injury, ignoring police commands or are unresponsive while posing a threat to the public.

Authorized Uses: The use of a diversionary device is to create a diversion in order to facilitate entry and enable arrest. Circumstances justifying the use of a diversionary device may include, but not limited to barricaded subject or hostage situations and high-risk search warrants services.

FISCAL IMPACT:

Initial Cost: Diversionary Devices cost approximately \$45 per unit and are purchased through LC Action Police Supply. Purchases for these tools are made when inventory becomes low, based upon critical incident usage and Special Response Team trainings that incorporate live devices.

Annual cost: See below training cost.

Training costs Only trained and qualified personnel are permitted to deploy diversionary devices. These trained Berkeley Police officers are typically members of the Berkeley Police Department Special Response Team who receive monthly training which includes training in the deployment of diversionary devices. The cost of training is staff time.

Maintenance costs: The majority of diversionary devices are stored inside of a room in the basement within the Police Department. There are no additional storage costs. There are no associated costs to transporting, maintenance, or upgrades.

LEGAL AND PROCEDURAL RULES:

Authorized use must comply with state, federal laws, and Lexipol Policy 353 Diversionary Devices.

TRAINING:

Only trained and qualified personnel are permitted to deploy diversionary devices. These trained Berkeley Police officers are typically members of the Berkeley Police Department Special Response Team who receive monthly training which includes training in the deployment of diversionary devices.

Long Range Acoustic Device

The Long-Range Acoustic Device (LRAD)(Description, purpose/authorized use, fiscal impact, legal and procedural, and training)

Description (type of equipment, quantity, capabilities, lifespan, and product description from manufacture)

Type: The Long Range Acoustic Device (LRAD)

Quantity: The Berkeley Department currently owns and maintains possesses 2 Long Range Acoustic Devices (LRAD) speakers. One is an LRAD 450XL and the other is an LRAD 100X.

Capabilities: Both of these speakers are able to focus sound in directional pattern allowing the user to make sound audible over distances much greater than conventional public address speakers.

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The LRAD 450XL is the larger of the two and designed to either be used in a fixed location or mounted on a vehicle to make it portable. It has a usable range of approximately 1 mile. The LRAD 100X is smaller and more portable. It can be carried or mounted to a person's chest for mobility or mounted to a vehicle. Its range is approximately 1/3 of a mile. Both of these systems allow for clear long-range communication, they are also able to play recorded messages.

Lifespan The lifespan for both LRADs is 25 years.

Manufacturer's Description

LRAD 100x In addition to being 20 – 30 decibels louder than bullhorns and vehicle-based P.A. systems, the LRAD 100X is also up to 6X louder and much more intelligible than other hailing devices of comparable size and weight. Live or recorded broadcasts from the portable LRAD 100X easily overcome engines, sirens and noisy crowds to ensure every message is heard and understood. The LRAD warning tone safely alerts attention to the voice messages that follow, establishes large standoff zones, and is the safer crowd control alternative to non-lethal and kinetic measures.

LRAD 450XL- The LRAD 450XL utilizes technology developed and patented* by Genasys Inc. to provide the audio output of larger acoustic hailers almost twice its size and weight, while delivering the same outstanding vocal clarity inherent in all LRAD systems. The LRAD 450XL broadcasts powerful warning tones to command attention to the highly intelligible voice messages that follow, enabling operators to change behavior and enhance response capabilities with safe, scalable escalation of force. Lightweight and designed for use on tripods or mounted on vessels, vehicles, and Remote Weapon Stations (RWS), the LRAD 450XL is a highly effective, long range communication system in use around the world for public safety, law enforcement, maritime and defense applications.

PURPOSE and AUTHORIZED USE:

Purpose: The LRADs are designed for clear long-range communication. The LRAD's ability to communicate over a long distance is far superior to any megaphone or Public Address (PA) system mounted to a police vehicle. Additionally, LRAD's may be used to:

- Communicate lifesaving information to residents during disasters
- Communicate to large crowds during parades, festivals, concerts and sporting events
- Establish safety zones and perimeters
- Control traffic congestion
- Conduct Special Response Team operations
- Broadcast a dispersal order
- Communicate during hostage and barricaded subject situations
- Announce and serve high risk warrants
- Communicate to protesters

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- Communicate to persons threatening suicide who are in an inaccessible location
- Conduct search and rescue operations

The ability to communicate with the public in a large area increases the safety of all members of the public and law enforcement. It allows everyone in a given area to know what is being communicated, gives more situational awareness to everyone in a given area and allows people to know where to go or not to go.

Authorized Uses: The LRADs are used to communicate with the community during natural disasters, crowd management and control situations, or when other forms of communications are ineffective or inoperable to unequivocally communicate messages from Police or Fire and safely resolve uncertain situations where communicating with the public is paramount.

FISCAL IMPACT:

Initial Cost: The LRAD 450XL and the LRAD 100X were purchased in 2018. The total cost for both LRADs, rechargeable battery packs and accessories was \$49,999.

Annual cost: BPD has not incurred any additional cost to date for this equipment.

Training costs Training is conducted by Berkeley Police personnel who are trained in the use and procedures of the LRAD. The cost to train is staff time.

Maintenance costs:costs for this equipment.

LEGAL AND PROCEDURAL RULES:

Authorized use must comply with state, federal laws, and Lexipol Policy 707 Long Range Acoustic Device.

TRAINING:

Training is conducted by Berkeley Police personnel who are trained in the use and procedures of the LRAD.

Mobile Command Vehicle

Mobile Command Vehicle (MCV)(Description, purpose/authorized use, fiscal impact, legal and procedural, and training)

Description (type of equipment, quantity, capabilities, lifespan, and product description from manufacture)

Type: MCV is a 2003 Freightliner MT55

Quantity: The Berkeley Department currently owns and maintains 1.

Capabilities: The MCV is a mobile office that provides shelter and may be used as a mobile command and communication center.

Lifespan This vehicle is approximately 20 years old and is at the tail end of its serviceable lifespan. All emergency vehicles need to be completely dependable and vehicles of this age start to lose

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dependability as old parts start to fail without warning. The modern versions of this type of vehicle are typically converted motorhomes.

Manufacturer's Description

The 22' Freightliner MT55 P1200 is the biggest stepvan option for your delivery fleet, offering maximum capacity, accessibility and maneuverability. Built with a powerful Cummins 6.7L 200HP Diesel Motor, this route truck has folding lower shelves to optimize your cargo space and rear sonar for safety.

PURPOSE and AUTHORIZED USE:

Purpose: This vehicle may be used as a mobile command post for any larger scaled events or as a communications center in the event the communications center in the Public Safety Building is inoperable. Some examples of large-scale events include Solano Stroll, Juneteenth, 4th of July, critical incidents or natural disasters.

Authorized Uses: This vehicle is used as a mobile command post for large scaled events.

FISCAL IMPACT:

Initial Cost: The initial cost of the MCV (2003 Freightliner MT55) was \$230,800.

Annual cost: There is no annual or ongoing cost associated with this vehicle. Maintenance of the vehicle is conducted by the City's Corporation Yard.

Training costs Training is conducted in-house by Berkeley Police personnel who are trained in the operation of the vehicle. The training cost is staff time.

Maintenance costs: There are no storage costs and maintenance would be conducted by the City of Berkeley Corporation Yard.

LEGAL AND PROCEDURAL RULES:

Authorized use must comply with state, federal laws, and Lexipol Policy 811 Mobile Command Vehicle.

TRAINING:

Training is conducted in-house by Berkeley Police personnel who are trained in the operation of the vehicle.

Chlorobenzylidene Malononitrile and Oleoresin Capsicum

Chlorobenzylidene Malononitrile (Description, purpose/authorized use, fiscal impact, legal and procedural, and training)

Description (type of equipment, quantity, capabilities, lifespan, and product description from manufacture)

Type: Chlorobenzylidene malononitrile (CS)

Quantity: The Berkeley Department currently owns and maintains Inventory for CS canisters:

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Qty 6 – 5230 CS Canisters

Qty 24 – 6230 CS Canisters

Qty 20 – 5230B CS Baffled Canister (flameless)

Qty 17 – 5231 CS Tri-Phaser Canisters

Qty 21 – 4630 CS Muzzle Blast (used with 40 mm less lethal launcher)

Qty 4 – 4530 CS Impact Rounds (used with 40 mm less lethal launcher)

Qty 19 – 4330 CS Barricade Projectile Rounds (used with 40 mm less lethal launcher)

Capabilities: CS aerosols with microscopic particles which are potent sensory irritants becoming attached primarily to moist mucous membranes and moist skin. Common effects are: coughing, increased mucous secretion, difficulty breathing, skin reactions, and excessive salivation. The onset of symptoms typically occurs within 20 to 60 seconds, and if the exposed individual is placed in fresh air these effects generally cease in 10 to 30 minutes.

Lifespan CS and OC canisters expire in approximately 5 years.

Manufacturer's Description

Unable to locate. Chlorobenzylidene malononitrile (CS) is one of the most commonly used "tear gases" in the world. It can be liquid, gaseous, or solid substance intended to produce temporary discomfort through being vaporized or otherwise dispersed in the air. Law enforcement (LE) agencies have found this agent invaluable when faced with combative suspects, for crowd/riot control, and for alleviating barricaded subject situations. LE use it to help control individuals or groups without the need for a higher level of force. There are four different deployment methods of chemical agents (Aerosol - most commonly used by police departments, Fogging, Pyrotechnics, and blast expulsion). All methods of deployment can be affected by certain environmental and physical conditions (wind, rain, temperature, distance, and proximity to others). At standard daily temperatures and pressures, CS forms a white crystal with a low vapor pressure and poor solubility in water.

PURPOSE and AUTHORIZED USE:

Purpose: There are a variety of situations where peace officers may use chemical agents such as: self-defense, overcoming the resistance of a noncompliant individual, effecting an arrest, preventing escape, violent crowd or riot control, barricade or hostage situations and dealing with dangerous animals.

Authorized Uses: Tear gas may be used for crowd control, crowd dispersal or against barricaded suspects based on the circumstances. Only the Chief of Police may authorize the delivery and use of tear gas, and only after evaluating all conditions known at the time and determining that such force reasonably appears justified and necessary.

FISCAL IMPACT:

Initial Cost The cost for CS canisters ranges from \$20.00 to \$39.00 per unit.

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Annual cost: See below cost of training.

Training costs When purchased, each unit is given an expiration date which typically falls within a 2-3-year range. Every 2-3 years, new chemical agents are purchased to honor the expiration dates. The expired agents are then used during annual trainings thus minimizing the overall cost. Training is conducted by a Police Officer Standard Training (POST) certified Berkeley Police chemical agent training officer. The cost of training is staff time.

Maintenance costs: The majority of agents are stored inside of a marked chemical agent room within the Police Department, in the Special Response Team vehicle, or in the rescue Vehicle. There are no additional storage costs. There are no associated costs to transporting, maintenance, or upgrades.

LEGAL AND PROCEDURAL RULES:

Authorized use must comply with state, federal laws, and Lexipol Policy 300 Use of Force, Policy 303 Control Devices, and Policy 428 First Amendment Assembly.

TRAINING:

Training is conducted by a Police Officer Standard Training (POST) certified Berkeley Police chemical agent training officer.

Oleoresin Capsicum (Description, purpose/authorized use, fiscal impact, legal and procedural, and training)

Description (type of equipment, quantity, capabilities, lifespan, and product description from manufacture)

Type: Oleoresin capsicum (OC)

Quantity: The Berkeley Department currently owns and maintains Inventory for OC canisters:

Inventory for OC canisters:

Qty 54 - 9440 OC Tear Ball

Qty 19 - 5440 OC Flameless

Qty 20 - 6340 OC Vaper

Capabilities: A person subjected to OC can expect heavy tearing due to a burning sensation, involuntary closing or blinking of the eyes, stinging skin sensation, redness of the skin, irritation of the nose, runny nose, salivation, cough, gagging sensation, and shortness of breath. A person may also experience anxiety and panic. A complete recovery usually takes place within 45-60 minutes depending on the level of exposure.

Both CS and OC canisters ca

Lifespan CS and OC canisters expire in approximately 5 years.

Manufacturer's Description

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Unable to locate. For this portion of the Impact Statement, Oleoresin capsicum (OC) will be referred to in the aerosol canister form. OC is the chemical agent that is most widely used amongst Law Enforcement (LE) and the general public. OC has a pungent and irritating pepper odor. It is classified as an inflammatory agent. OC is mixed with several types of solutions which act as carriers.

PURPOSE and AUTHORIZED USE:

Purpose: There are a variety of situations where peace officers may use chemical agents such as: self-defense, overcoming the resistance of a noncompliant individual, effecting an arrest, preventing escape, violent crowd or riot control, barricade or hostage situations and dealing with dangerous animals.

Authorized Uses: Tear gas may be used for crowd control, crowd dispersal or against barricaded suspects based on the circumstances. Only the Chief of Police may authorize the delivery and use of tear gas, and only after evaluating all conditions known at the time and determining that such force reasonably appears justified and necessary.

FISCAL IMPACT:

Initial Cost The cost for OC canisters ranges from \$36.00 to \$44.00 per unit.

Annual cost: See below cost of training.

Training costs When purchased, each unit is given an expiration date which typically falls within a 2-3-year range. Every 2-3 years, new chemical agents are purchased to honor the expiration dates. The expired agents are then used during annual trainings thus minimizing the overall cost. Training is conducted by a Police Officer Standard Training (POST) certified Berkeley Police chemical agent training officer. The cost of training is staff time.

Maintenance costs: The majority of agents are stored inside of a marked chemical agent room within the Police Department, in the Special Response Team vehicle, or in the rescue Vehicle. There are no additional storage costs. There are no associated costs to transporting, maintenance, or upgrades.

LEGAL AND PROCEDURAL RULES:

Authorized use must comply with state, federal laws, and Lexipol Policy 300 Use of Force, Policy 303 Control Devices, and Policy 428 First Amendment Assembly.

TRAINING:

Training is conducted by a Police Officer Standard Training (POST) certified Berkeley Police chemical agent training officer.

Oleoresin Capsicum Spray (Description, purpose/authorized use, fiscal impact, legal and procedural, and training)

Description (type of equipment, quantity, capabilities, lifespan, and product description from manufacture)

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Type: Oleoresin capsicum (OC) spray

Quantity: The Berkeley Department currently owns and maintains Inventory for OC canisters:

Qty 178 – First Defense MK-3 OC spray (3 ounces)

Most of the MK-3 OC sprays are issued to and maintained by individual officers; however, a small amount of these sprays is stored in a secured equipment room as spares in case of damage or new personnel issue.

Capabilities: The First Defense MK-3 OC sprays are standard issued to all police officers and are worn on the police officers' belt. It has an effective range of 10-12 feet. The larger First Defense MK-9 OC sprays are 13 ounces and are used in violent crowd situations. It has an effect range of 18-20 feet.

The use of the First Defense OC spray can render a dangerous and violent situation safe without using a higher level of force.

Lifespan Aerosol products eventually lose pressure over time. The lifespan of both the MK-9 and MK-3 OC spray are dependent on how well the pressure in the can is maintained, but is recommended to be replaced after 5 years.

Manufacturer's Description

The MK-4 is an ideal size for patrol officers to wear on a duty belt and will deliver 11-12 short bursts of OC at an effective range of 10-12 feet(18-20 for the MK9). This 1.3/% MC OC aerosol product features a 360-degree stream deliver method which allows the aerosol projector to disperse OC from any angle while providing a target specific, strong concentrated stream for greater standoff.

PURPOSE and AUTHORIZED USE:

Purpose: There are a variety of situations where officers may use OC spray such as: self-defense, overcoming the resistance of a noncompliant individual, effecting an arrest, preventing escape, violent crowd or riot control, barricade or hostage situations and dealing with dangerous animals.

Authorized Uses: OC spray may be considered for use to bring under control an individual or groups of individuals who are engaging in or about to engage in violent behavior. OC spray should not, however, be used against individuals or group who merely fail to disperse or do not reasonably appear to present a risk to the safety of officers or the public.

FISCAL IMPACT:

Initial Cost The MK-3 OC spray cost approx. \$19 per unit and the MK-9 OC spray costs approx. \$60 per unit. The manufacturer is Defense Technology and the Berkeley Police Department purchase each unit from Galls Police Supply or LC Action Police Supply. Purchases for these tools are made when inventory gets low which is typically determined by how many new officers are sworn in, as well as if they are utilized in dangerous situations.

Annual cost: See below cost of training.

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Training costs Training is conducted in the police academy and in-house by a Police Officer Standard Training (POST) certified Berkeley Police chemical agent training officer. The cost of training is staff time.

Maintenance costs: The majority of the MK-3 OC sprays are either stored within the Police Department or with each sworn police officer while they conduct official duties. All MK-9 OC sprays are stored in the basement. There are no additional storage costs or associated costs to transporting, maintain, or upgrade.

LEGAL AND PROCEDURAL RULES:

Authorized use must comply with state, federal laws, and Lexipol Policy 300 Use of Force, Policy 303 Control Devices, and Policy 428 First Amendment Assembly.

TRAINING:

Training is conducted by a Police Officer Standard Training (POST) certified Berkeley Police chemical agent training officer.

709.5 APPROVAL

The Chief of Police or the authorized designee shall obtain approval from the governing body by way of an ordinance adopting the military equipment policy. As part of the approval process, the Chief of Police or the authorized designee shall ensure the proposed military equipment policy is submitted to the governing body and is available on the department website at least 30 days prior to any public hearing concerning the military equipment at issue (Government Code § 7071). The military equipment policy must be approved by the governing body prior to engaging in any of the following (Government Code § 7071):

- (a) Requesting military equipment made available pursuant to 10 USC § 2576a.
- (b) Seeking funds for military equipment, including but not limited to applying for a grant, soliciting or accepting private, local, state, or federal funds, in-kind donations, or other donations or transfers.
- (c) Acquiring military equipment either permanently or temporarily, including by borrowing or leasing.
- (d) Collaborating with another law enforcement agency in the deployment or other use of military equipment within the jurisdiction of this department.
- (e) Using any new or existing military equipment for a purpose, in a manner, or by a person not previously approved by the governing body.
- (f) Soliciting or responding to a proposal for, or entering into an agreement with, any other person or entity to seek funds for, apply to receive, acquire, use, or collaborate in the use of military equipment.
- (g) Acquiring military equipment through any means not provided above.

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709.6 COORDINATION WITH OTHER JURISDICTIONS

Military equipment should not be used by any other law enforcement agency or member in this jurisdiction unless the military equipment is approved for use in accordance with this policy.

709.6.1 TEMPORARY USE IN EXIGENT CIRCUMSTANCES

The Berkeley Police Department may borrow and/or temporarily use Controlled Equipment in Exigent Circumstances without following the requirements in BMC 2.100.040, however the Department must take the following actions:

- (a) Provide written notice of the acquisitions or use to the City Council within 30 days following the commencement of such Exigent Circumstance, unless such information is confidential or privileged under local, state, or federal law
- (b) If it is anticipated that the use will continue beyond the Exigent Circumstance, submit a proposed Controlled Equipment Impact Report and Controlled Equipment Use Policy, as applicable, to the City Council within 90 days following the borrowing, acquisition or temporary use, and received approval, as applicable from the City Council pursuant to BMC 2.100.040
- (c) Include the Controlled Equipment in the Department's next annual Controlled Equipment Report.

709.7 ANNUAL REPORT

Upon approval of a military equipment policy, the Chief of Police or the authorized designee should submit a military equipment report to the governing body for each type of military equipment approved within one year of approval, and annually thereafter for as long as the military equipment is available for use (Government Code § 7072).

The Chief of Police or the authorized designee should also make each annual military equipment report publicly available on the department website for as long as the military equipment is available for use. The report shall include all information required by Government Code § 7072 for the preceding calendar year for each type of military equipment in department inventory.

709.8 COMMUNITY ENGAGEMENT

Within 30 days of submitting and publicly releasing the annual report, the Department shall hold at least one well-publicized and conveniently located community engagement meeting, at which the Department should discuss the report and respond to public questions regarding the funding, acquisition, or use of military equipment.

709.9 MILITARY EQUIPMENT QUESTIONS

Any member of the public may direct their questions regarding this policy and ordinance to a Sergeant in the Professional Standards Bureau at 510-981-5734 or 510-981-5974. Concerns may also be directed to police@cityofberkeley.info. Questions will be answered in a timely manner by a member of the Berkeley Police Department.

Military Equipment

709.9.1 MILITARY EQUIPMENT CONCERNS

Any member of the public may direct their concerns regarding this policy and any of the military equipment to Internal Affairs Bureau at 510-981-5706.

709.10 ASSOCIATED EQUIPMENT USE POLICIES

The below links will direct to the respective use policies:

[300-Use of Force](#)

[303-Control Devices and Techniques](#)

[349-Tactical Rifle Operator Program](#)

[353-Flash/Sound Diversionary Devices](#)

[354-Precision Rifle Operator Program](#)

[428-First Amendment Assemblies](#)

[707-Long Range Acoustical Device \(LRAD\)](#)

[708-Robot Cameras](#)

[811-Mobile Communications Vehicle \(MCV\)](#)

709.11 COMPLIANCE

The Department's Audit and Inspection Sergeant will ensure that the Department members comply with this policy. The Audit and Inspection Sergeant will conduct an annual audit with the assistance from members of the Professional Standards Bureau. Any violations will be referred to the Internal Affairs Bureau and handled in accordance with General Order P-26 (Personnel Compliant Procedures). All instances of non-compliance will be reported to the City Council via the annual military equipment report.

