

HOW WILL ADVANCEMENTS IN LESS THAN LETHAL TECHNOLOGY  
AFFECT THE ROLE OF SPECIAL WEAPONS AND TACTICS TEAMS IN MID-SIZED  
AGENCIES BY 2007?

A project presented to  
California Commission on  
Peace Officer Standards and Training

By

Lieutenant Tony Farrar  
Rialto Police Department

Command College Class XXXII

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This Command College project is a FUTURES study of a particular emerging issue in law enforcement. Its purpose is NOT to predict the future, but rather to project a number of possible scenarios for strategic planning consideration.

Defining the future differs from analyzing the past because the future has not yet happened. In this project, useful alternatives have been formulated systematically so that the planner can respond to a range of possible future environments.

Managing the future means influencing the future: creating it, constraining it, and adapting to it. A futures study points the way.

The views and conclusions expressed in this Command College project are those of the author and are not necessarily those of the Commission on Peace Officer Standards and Training (POST).

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# CHAPTER ONE

## THE HISTORY OF SWAT

### History of Special Weapons and Tactics Teams (SWAT)

Several events in police history have demonstrated how law enforcement agencies at every level are at times too poorly prepared, organized, trained and equipped to cope with increasingly more violent and sophisticated criminal elements. Special units to support or enhance police operations are not a new concept. Stakeout units, investigative units, detectives, narcotic, street crime, gang, and organized crime units have been with law enforcement for many years.

Special Weapons and Tactics (SWAT) teams are now moving into the fourth decade of their existence and have been adopted as an absolute necessity in virtually every western nation and emerging eastern block countries such as Russia, Hungary, and Czechoslovakia. Far East and Middle Eastern countries as well as our Federal Bureau of Investigation, the United States Secret Service, and the United States Military have also adopted this concept (Brock, 2000). These countries and organizations have recognized the need for a trained, technically proficient, disciplined, and controlled response to extreme violent actions that occur in their jurisdictions.

There is no part of the United States, urban or rural, rich or poor, heavily or sparsely populated that does not need a SWAT response. There is no neighborhood, town, county, suburb, or city immune from a violent offender or a group of criminals. Any community can be a victim of a major violent incident and there must be a system in place to respond to such incidents as rapidly as possible.

The fact that any area or community in the United States can fall victim to a mad man killing innocent people in a post office or a mentally deranged suspect in a school murdering children does not mean that every police or sheriff's department should have a SWAT team. It does, however, mean that a law enforcement agency must have a system in place that is viable and very quickly available to respond to major violent incidents.

The concept of Special Weapons and Tactics teams started in the City of Los Angeles in the 1960s, after the police shoot-outs with the Black Panthers. But until recently they were largely non-controversial, specialized teams trained to deal and negotiate with armed or mentally disturbed persons holding hostages or otherwise barricading themselves in buildings (Kolman, 1982).

Now, after more than a decade of America's drug war, the number of teams has dramatically increased. They still handle those high-risk, or major call out type incidents, but mostly they knock down the doors of suspected drug dealers. They accompany officers who execute drug arrests and search warrants if the suspects are known to have violent histories or are known to carry or use weapons.

Smaller departments are dispatching SWAT teams at a time when bigger city crime has increasingly trickled to smaller communities – and at a time when some larger departments have switched to more labor-intensive, undercover, non-confrontational approaches to snagging suspects. Nationwide, more than sixty-five percent of small community forces now have their own SWAT teams, according to a survey released in Justice Quarterly Magazine. Another twenty-eight percent report they will form one within the next few years (Randall, 1999).

This same survey, reported in an article entitled “Militarizing Mayberry: Making Sense of American Paramilitary Policing,” covered 473 departments serving towns and cities with populations between 25,000 and 50,000. The departments have steadily increased the number of call-outs to which they dispatch a SWAT team. Only seven percent of these calls match the work with which we normally associate SWAT work: hostage situations, civil disturbances, and terrorist incidents. The vast majority involved narcotic raids (Randall, 1999).

This new mission for America’s smaller and mid-sized police agencies crystallizes a growing chasm between two trends in American law enforcement. Trend one is non-confrontational community policing, in which police officers become part of neighborhoods to prevent small problems from turning into big ones without resorting to arrests or violence. Trend two is zero-tolerance, in which police use iron fisted attacks on all suspects, small time and major, to claim the streets for the good guys.

In a study conducted in 1997 by Peter Kraska, a professor of Police Studies at Eastern Kentucky University, and his colleague, Victor Kappeler, found there was a dramatic increase in the number of SWAT teams and a rapid expansion of their roles.

Kraska said his research showed that the rise in SWAT teams and their activities closely follows the increase in resources used to fight the anti-drug effort. Kraska surveyed 690 law enforcement agencies serving cities with populations of more than 50,000. According to his survey, 90 percent have active SWAT teams. In the early 1980s, only 60 percent of these cities had such teams. The researchers found that even in smaller cities and rural communities, two of every three police departments had SWAT teams, a trend he calls militarizing Mayberry (Kraska, Kappeler, 1997).

In addition to an increase in the number of SWAT teams, the underlying questions are: What do we want our police officers to be? How can they best achieve maximum success with minimal injury or destruction of property? And, what advancement in technology will, or could, change the future of SWAT?

## The Need for SWAT

In today's society and culture, violence, unfortunately, is prevalent in the everyday activities of life. No enterprise is safe from the many forms of violence that permeate communities of any size and make-up. Schools, businesses and community buildings as well as state and federal structures are the targets of disgruntled individuals and anti-government groups. Narcotics traffickers with exotic weapons and well-armed criminals, no longer fearing law enforcement and willing to confront and enter into deadly conflicts with the police, have created a need for highly trained and specially equipped tactical teams and/or units.

Police agencies, no matter what size, must have the proper tactical options readily available to them if they are to successfully resolve crisis incidents. SWAT is necessary to protect the lives of innocent citizens and police officers, as well as suspects. In furtherance of this justification, state and federal case law has in fact recognized SWAT as a legitimate use of force. The presence of a highly skilled, highly trained police tactical unit has been shown to substantially reduce shooting incidents and the risk of injury and loss of life to innocent citizens, police officers, and suspects. SWAT enhances the safety of everyone involved in an incident (Gray, 2001).

From the middle and late 1960s and early 1970s to the present, social and technical factors have been at work to change the complexion of law enforcement in general and tactical policing in particular. First, the war in Viet Nam and other conflicts resulted in a quantum increase in the number and variety of weapons available for law enforcement. Unfortunately, criminal elements throughout the world continue to have access to the same technology without the legal, social, and economic constraints endured by law enforcement (Dobson, Payne, 1982).

Second, America's space exploration program and its by-products have also had an impact on the technology of law enforcement and criminality. Third, the frequency and magnitude of special threats have increased beyond the imagination of the beat cop of a few decades ago. Regardless of the size of the law enforcement agency's jurisdiction, it is very naïve for a police administrator to ignore the possibility of extreme violence.

Finally, the effects of the technical sophistication were accelerated by the development of criminal groups from all points on the spectrum. These groups have often joined forces through networks and share, exchange and provide information to each other for mutual gain (Mullins, 1997).

### The Responsibility of SWAT

The primary responsibility of SWAT is to respond to barricaded persons, hostage incidents, emotionally disturbed persons who pose a threat to the community, and sniper incidents. In addition, SWAT functions as a mobile, flexible force for special

police problems, which require a highly trained, disciplined unit. These problems include, but are not limited to the following:

- Civil disturbances.

- Surveillance.

- Security details.

- Fugitive apprehension.

- High risk warrants.

- Crisis negotiator response.

In order to carry out these tasks, SWAT personnel must be trained to handle the following:

- Determine the goals and objectives of the incident.

- Gather available information and convert into intelligence.

- Analyze intelligence and develop a course of action.

- Weigh course of action against mission goals (risk assessment).

- Select course of action and implement.

- Conduct after-action review and debriefing.

Recognizing that SWAT operations are hazardous and that a successful resolution of an incident may involve the need for decisions that may affect the lives and safety of persons involved, the following shall always be a priority of life during a SWAT operation:

- Hostages.

- Citizens.

- Hostage takers.

SWAT can function as a stand-alone unit or mutual aid unit. Accordingly, decisions must be made as to whether the department's unit will be full time stand alone, a part time collateral duty unit, or a mutual aid unit.

## Public Perception

Critics of the rise in SWAT policing fear it increases the dangers for police officers and citizens alike. They see SWAT as part of a trend toward turning police officers into soldiers who attack a community instead of becoming part of it. They see the rise in SWAT drug-related raids as the product of an unwinnable drug war that values short-term battlefield victories over more difficult long-term medical solutions. They view social programs that could truly reduce the supply and demand of street drugs as the only solution.

Police officers and many citizens who support SWAT raids counter that criminals have become so well armed and wanton in their use of violence that police need special training and weapons to protect their own lives. Some even portray SWAT teams as a form of community policing – and use federal community policing dollars to fund them. The argument: SWAT can prevent violence by overpowering a violent person with sonic booms and massive displays of surprise force, preventing that person from shooting in the first place.

As usual, the police are caught between contradictory public demands: lock up all the drug dealers. Show us proof that you're out there, in charge of the streets. Respect our civil rights and liberties. Don't scare us. Send in the Army. But don't

attack or involve us. Protect our lives in a dangerous world, but don't make it more dangerous.

## Equipment Assessment

The acronym, SWAT (Special Weapons and Tactics), has traditionally suggested the police use of sophisticated weaponry to overcome unusually violent, well equipped, technically proficient, and highly motivated criminals. However, many times the perpetrators of incidents requiring more than a routine police response have enjoyed the element of surprise, fortified positions, and numerical advantages. Thus, at times the police response has been hindered by limited physical assets, restrained by a genuine concern for the safety of the victims and other innocent persons, and impeded by an inability to gain useful information concerning an exact location, condition, and activities of the persons committing the crime.

Advancements in technology available to the police have resulted in law enforcement's limited ability to employ graduated responses, at least in certain instances. Not as headline or newsworthy as the big shootout, but having the likelihood of a peaceful negotiated surrender. In many cases, these advancements in technology and in available police equipment have come from modifying developments in other fields and applying these developments to immediate law enforcement needs. This is intended to increase the number of options available for police officer response through an expansion of the use-of-force continuum, enhanced intelligence-gathering methods, and improved officer protection.

## The Evolution of Police Tactical Equipment

Even the least sophisticated of today's SWAT teams possess equipment that generally exceeds the quality of its parent police agency. The original SWAT teams were outfitted in machine-washable utility uniforms and baseball caps to allow more mobility than the amount allowed by a traditional police uniform. In many cases the utility uniform was not specifically designed for the wear and tear of law enforcement, as some SWAT officers took the appearance of jump-suited gas station attendants (Mijares, McCarthy, and Perkins, 2000).

Shoulder weapons ranged from pump shotguns to fully automatic M-16 rifles. Some tactical units carried M-1, .30 caliber carbines made available through the National Rifle Association's Director of Civilian Marksmanship. Handguns could range from an American made .38 Special Revolver to a .45 caliber military Model 1911 A1 Pistol. Less than lethal munitions only consisted of variations of tear gas, either thrown by hand after activating a Bouchon fuse, or fired from a single shot 37 millimeter launcher or gas gun.

The MP-5 submachine gun, made by Germany's Heckler and Koch, is generally considered to be the shoulder weapon of choice. However, many police departments have elected to purchase less expensive weapons as a wide variety of automatic and semi-automatic weapons remain in the law enforcement realm. In step with the semi-automatic handguns and the fully automatic rifles has been the gradual move toward larger caliber rounds. Over the past ten years, incidents of deadly force have all too often seen multiple shots fired with little immediate effect upon the suspect.

Surveillance equipment was limited to hand-held mirrors, often removed from the handlebars of bikes or dental mirrors. Communication equipment was so heavy, limited in its transmission and reception capabilities, and unreliable when used indoors or around electrical equipment. Equipment vehicles were second hand delivery trucks that were often modified and painted by the officers without the necessary financial assistance from the police department. Decreased funding and budgetary constraints are some of the reasons for these financial issues.

### New Developments in Tactical Equipment

Contemporary SWAT teams have evolved from an accent on unusual and sometimes exotic weaponry to an emphasis on tactics and life-preserving technology. This evolution has largely been influenced by court decisions, community standards, and the recognition by criminal justice academics and practitioners alike that technology in many varying fields has grown dramatically; and that with creative and insightful minds, this technology can be applied directly to tactical situations. It cannot be overstated that the most important factor contributing to the successful resolution of a tactical incident is the training and discipline of officers associated with the selection process. However, there can be no doubt that the increase in technical options has resulted in an improved ability of tactical units to resolve complex and extremely violent situations with a decrease in casualties among victims, bystanders, police, and even the suspects who initiate these violent and hostile situations.

## Increasing Options Through Less Than Lethal Technology

Traditionally, law enforcement officers who were required to use force were limited to very little between the risky and the very often, unpredictable use of a nightstick and total commitment to the lethal force of a firearm. While tear gas has been in the police arsenal for several years, today's technology has begun to introduce a small additional number of graduated responses that allow the officer to complete a mission while keeping all risk factors to a minimum.

One of the most hazardous procedures of law enforcement is the neutralization of a barricaded suspect, especially if the suspect has a hostage. During the noise, excitement, and confusion of a rescue operation, hostages may not hear, understand, or heed the directions of rescuing law enforcement personnel. They may also attempt to flee the scene and become caught in a crossfire between rescue forces and the hostage takers. Various law enforcement and military technicians recognized this in the early 1970's when hostage seizures became an international epidemic (Mijares, McCarthy, and Perkins, 2000). They also recognized the need to devise a method to incapacitate both the hostages and the hostage-takers temporarily without permanent injury until rescue personnel could safely take all parties into custody.

A non-fragmenting hand-delivered device called a Flash Bang, was developed to meet this need. Activated by a standard Bouchon fuse with a one second delay, the device was composed of a cardboard canister containing a mixture of magnesium and gunpowder, which when ignited by the fuse, would immediately produce 20,000 footcandles of light and about 220 decibels of explosive noise. Flash/sound diversion

devices used by contemporary American law enforcement are specifically designed to produce less than 180 decibels (Tophoven, Verlag, and Verlag, 1984).

The less lethal flash/sound option affords an opportunity to examine a broader level of the legalistic waters concerning police choices of weaponry. Because firearms are inherently lethal, they are justified only in the most extreme conditions of immediate threat to human life. It must be also foreseen that shots fired at an assailant may miss or pass through the target or ricochet, so that while intended to disable the assailant, they may have dire consequences for the innocent (Waddington, 1990). Paradoxically, for police tactical units operating in the types of situations necessitating their mobilization, incapacitation of suspects must be both total and immediate.

To what extreme a situation must rise or thereafter remain before tactical units can finally justify applications of deadly force is a question that may be fraught with specters of civil liability. Since immediate and grave decisions will become necessary during an armed confrontation, the dangers to innocent persons can only be minimized by tactics that seek to avoid all-out confrontations (Franscell, 1996).

## Technology Developments

Technology has also begun to play a large role in SWAT operations. With the availability of less than lethal weapons and munitions, SWAT teams now have additional tools to use when dealing with potential dangerous situations. Advancements in less than lethal technology such as bean-bags, rubber bullets, rubber pellets, wooden dowels, sticky foam, pepper spray, capture nets, electric tasers, laser dazzlers, and microwave or laser guns, make for a optimistic future. In addition to these

advancements in less than lethal technology are the advancements in surveillance equipment, listening devices and other night vision options.

Funded with just 34 million dollars in 1998, the Joint Non-Lethal Weapons Program has begun to gain some progress in this area. Electromagnetic weapons may soon stop vehicles or even ships on the high seas. Microwave guns could trigger high fevers in adversaries. Researchers are working on laser dazzlers that could cause disorientation without permanent eye damage and heat induced energy beams that would have the same effects as touching a hot light bulb (Phinny, 2001). And don't forget things like stickums, slickums, super-acids, goop guns, aerial stink bombs, metal eating microbes, and computer viruses, along with experiments in acoustic energy and radio waves.

While many of these weapons are highly effective, they have also raised considerable concerns among some scientific organizations, as well as human rights groups. First, some of these groups say there is no guarantee that less than lethal weapons are always non-lethal, and even non-lethal advocates agree with that. Some technologies used under the wrong circumstances or without proper training could easily kill. What's more, some are capable of inducing effects such as permanent blindness. Many are also being developed in secret and are not being tested to the satisfaction of human rights groups.

Even within the military strategic and policy community, there is criticism that less than lethal force, is at best, only useful in highly specific situations such as where chaotic crowds can easily be dispersed or where there is no organized force prepared

to retaliate with lethal force. In some instances, non-lethal force could be counterproductive.

As with any type of device or weapon, there is always fear it will fall into the hands of criminals. Stun guns and other temporary immobilizers would give criminals a powerful new option to commit crimes without the fear of capital reprisals or life sentences they would risk if using a firearm. However, many police organizations and the military clearly believe this emerging, non-lethal technology has a place in the wars against crime and the enemies of the future. The question to ask is: to what extent will these less than lethal weapons affect special weapons and tactics teams in the future?

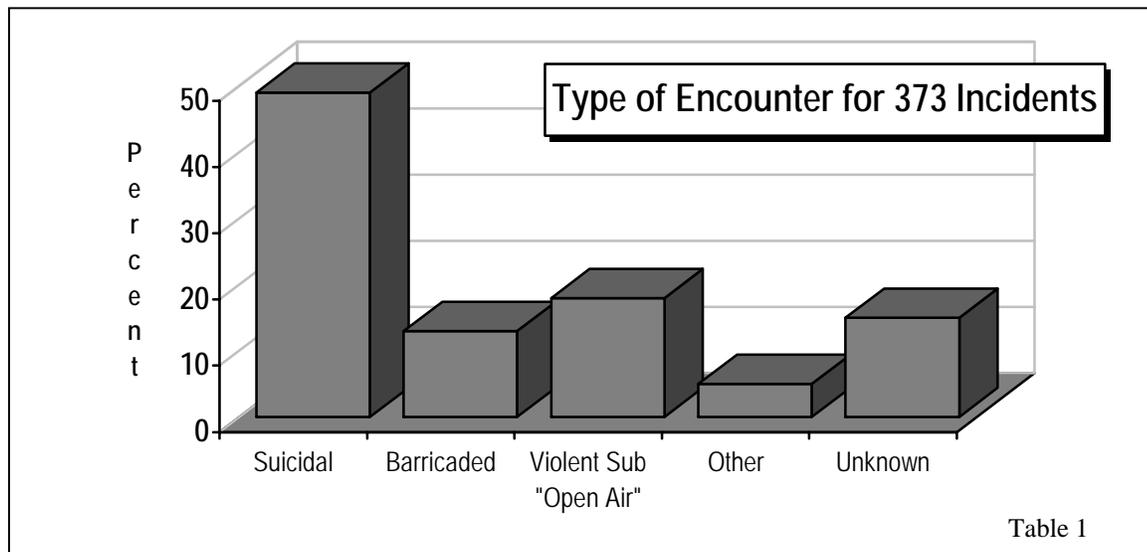
#### Current Use of Less Than Lethal Technology

The use of force by police officers has undergone increased scrutiny in both the legal community and the public arena. This has heightened the need for non-lethal or less than lethal weapons to control combative suspects. The police beanbag is the latest alternative to deadly force. The police beanbag is a synthetic bag filled with lead pellets that is fired from a pump shotgun. Although it was first developed in the early 1970s, it has only been in use in the United States since 1994. In the 1970s, the US Army used mathematic models and anthropomorphic dummies to investigate the weapon's morbidity and mortality. In this investigation, it was theorized that the liver and the spleen would be vulnerable to the weapon if impacts occurred directly to them.

In the following study, members of The National Institute of Justice (NIJ), The City of San Diego Police Department, the California Tactical Officers Association (CTOA), and the University of Houston, conducted a twenty-four month study on the

effects of less than lethal weapons, to include bean bags. Information was collected via a survey of North American law enforcement agencies that include less than lethal technology in their weapons inventory. The data collection process yielded reports on 373 separate incidents where police officers fired at least one impact projectile at citizens. This report focuses on what the analysis of these 373 cases discloses about using impact munitions against citizens and discussed the implications of these findings for contemporary law enforcement (Hubbs, Klinger, 2000).

As indicated in Table 1, one of the aspects in which impact munitions are used is the type of problem confronting the involved officers. Impact munitions have received a great deal of attention from law enforcement as a possible means of de-escalating numerous types of violent encounters, and thus minimizing injuries to both citizens and officers.



Although this has proven to be true, the research concluded that impact munitions do not always succeed in accomplishing their intended goal of resolving

violent police-citizen encounters short of deadly force. Because impact munitions are not 100 percent effective in resolving crisis situations, police officers need to ensure that they have lethal force readily available to protect themselves and others, should the weapon have no intended effect.

Respondents of this survey were also asked to indicate where on the suspect's body each projectile that hit its intended target landed. Those that did not strike the subject were reported as misses and hits were reported by placing marks on data collection sheets. As indicated in Table 2, these marks were then grouped together and placed into categories.

**Table 2: Number of Munitions Striking Subjects in 313 Cases**

| <i>Number Fired</i> | <i>Frequency</i> | <i>Percent</i> | <i>Cumulative Percent</i> |
|---------------------|------------------|----------------|---------------------------|
| 0                   | 1                | .3             | .3 <sup>5</sup>           |
| 1                   | 135              | 43.1           | 43.5                      |
| 2                   | 69               | 22.0           | 65.5                      |
| 3                   | 52               | 16.6           | 82.1                      |
| 4                   | 26               | 8.3            | 90.4                      |
| 5                   | 14               | 4.5            | 94.9                      |
| 6                   | 7                | 2.2            | 97.1                      |
| 7                   | 1                | .3             | 97.4                      |
| 8                   | 0                | ---            | ---                       |
| 9                   | 4                | 1.3            | 98.7                      |
| 10                  | 2                | .6             | 99.4                      |
| 11                  | 0                | ---            | ---                       |
| 12                  | 1                | .3             | 99.7                      |
| 13                  | 1                | .3             | 100.0                     |
| <b>Total</b>        | <b>313</b>       | <b>100.0</b>   |                           |

The sub 100 percent effectiveness, combined with the eight deaths attributed to impact munitions, suggests a second conclusion. The on-going search for effective less than lethal weapons for law enforcement use should continue. In recent past, some next generation impact projectile delivery systems have come available to law

enforcement. These include new types of beanbag projectiles, 40mm sponge rounds, and the pepper-ball system. The Jaycor, pepper-ball system, consists of a modified paintball launcher which can fire projectiles containing OC powder. These are designed to rupture on impact, delivering a blow to the subject and dispersing the chemical irritant on and around the body. The CTS 12 gauge beanbag consists of a fabric bag filled with 42 grams of lead shot and tied off in the middle to contain the shot. Defense Technologies has developed a sponge round projectile that is receiving considerable attention from law enforcement. This 40mm projectile is made from high-density sponge material and appears to deliver two very important requirements, long range accuracy and consistency.

Respondents to the survey also reported on injuries caused by 782 of the munitions that impacted the suspects. As indicated by the figures in Table 3, bruises were by far the most common injury sustained, occurring in 51 percent of the munitions strikes.

**Table 3: Injury Sustained by Subjects from 782 Projectile Impacts**

| <i>Injury Sustained</i> | <i>Frequency</i> | <i>Percent</i> | <i>Cumulative Percent</i> |
|-------------------------|------------------|----------------|---------------------------|
| Bruise                  | 398              | 50.9           | 50.9                      |
| Abrasion                | 239              | 30.6           | 81.5                      |
| Laceration              | 43               | 5.5            | 87.0                      |
| Fracture                | 27               | 3.5            | 90.5                      |
| Penetration             | 14               | 1.8            | 92.3                      |
| Death                   | 10               | 1.3            | 93.6                      |
| None                    | 51               | 6.5            | 100.0                     |
| <b>Total</b>            | <b>782</b>       | <b>100.0</b>   |                           |

Fortunately, the current study also developed enough information to draw several other conclusions about the use of impact munitions.

1. Impact munitions are safe as measured against the likelihood of fatal injury when officers shoot citizens with lethal munitions. It is clear that impact munitions rarely produce fatal injuries.
2. Impact munitions are effective as measured by the standard of resolving high-risk encounters without having to resort to deadly force. In current data, 93 percent of the incidents were resolved without the use of lethal fire.
3. Training in the proper use of the impact munitions is critical.
4. Impact munitions should be clearly identifiable.
5. Impact munitions can save lives. Deadly force could reasonably have been used in nearly all of the incidents involving suspects armed with deadly weapons (90 percent).

#### Problems to be Encountered by SWAT Units in the Future

A review of the Uniform Crime reports over the past several years may suggest a decrease in the crime rate among the adult population. However, a similar review would produce evidence that the tendency among juvenile offenders is the opposite. A particularly disturbing aspect of this projection is the observed increase in acts of violence involving multiple victims perpetrated by juveniles against other juveniles. These acts have been manifested through school shootings in Pearl, Mississippi; West Paduch, Kentucky; Jonesboro, Arkansas; and Littleton, Colorado. They have also been seen among the youthful participants in the fiercely competitive culture of gangs and drug sales. Finally, most young criminals surrendered to the superiority of responding police units in previous incidents. Tomorrow's youthful offenders may increasingly

refuse to lay down their weapons and may show little reluctance to stand fast as a situation escalates into full scale armed combat with the police.

Suicide is hardly a new phenomenon. As early as 580 B.C. the poet Sappho is said to have killed herself over her unrequited love for a boatman. Vexing circumstances and dramatic human conditions sometimes become subjects that require the action of police officers for resolution. Too often spurious theories, ill-conceived opinions, and incomplete research have forced ridiculous policies and impossible procedures on responding officers.

Approximately 25 percent of all police shootings are suicide by cop cases (Hutson et al., 1998). More suicidal subjects have become aware of the phenomenon of law enforcement assisted suicide and deadly force. Hutson and associates also found that 70 percent of these suicide by cop situations concluded in less than thirty minutes. This time frame would obviously make it extremely difficult for law enforcement officers to summon professional help that probably is not readily available.

In a completely independent study, Kennedy and Associates (1998) agreed that police responders may become involved in shootings motivated by suicidal suspects more often than commonly anticipated. This study found evidence of probable and possible suicidal motivations in 16 percent of the 240 incidents collected and analyzed. By far, pointing or firing a firearm at a responding police officer was identified as the precipitating factor.

Until recently, law enforcement has been relatively unconcerned about weapons of mass destruction and the likelihood of such an event occurring. The threat of an individual or group using a chemical or biological device to cause mass injuries, panic,

and long term fear has now taken on an air of reality. Should such events occur, they could be catastrophic and only with cooperative response can the situations be managed. If such an incident were to take place, it is suggested that SWAT personnel would have specific duties such as to keep the peace and order, provide security, preserve evidence and other similar tasks.

Let's not forget the possibility of additional burdens being placed on the line patrol officers. Should this technology be developed, there could be an expectation to have patrol officers handle more dangerous situations than in the past.

With these facts in mind, how will law enforcement and community members react to these advancements in less than lethal technology? Will there be expectations that patrol officers should handle more dangerous situations? Will community members have an expectation that only less than lethal weapons should be used in every situation? Will special weapons and tactics teams show a decrease in use of force incidents? Will there be a need for these teams at all?

## CHAPTER TWO

### FUTURES STUDY

#### Nominal Group Technique

A Nominal Group Technique (NGT) was used to identify trends and events that could impact how the advancements in less than lethal technology could affect the role of special weapons and tactics teams. This process involved bringing together a diverse group of people to provide input from their perspective on the subject matter over the next seven years.

The trends and events identified through the NGT process were utilized to develop potential futures scenarios, providing insight into potential intervention strategies and a starting point for strategic planning. The panel members were chosen based upon their unique perspective of how advancements in technology could affect the role of SWAT teams as a result of their occupation, experience, and expertise. Persons participating were two police SWAT commanders, a SWAT technology officer, a police crisis negotiator, a local university criminal justice professor, an author, trainer and less than lethal expert, a CEO from a less than lethal munitions company, a local pastor, a police captain specializing in threat management, a city attorney, an assistant chief of police, and a clinical psychologist specializing in threat management (Appendix A).

The process began with a review of the NGT overview paperwork that was sent to each participant a week prior. Several minutes were spent covering the NGT process, to include the process itself, trends, events, and how the meeting would be

conducted. The issue statement was presented to the group and the group was provided several minutes to think about the issue. This along with all of the events, trends and votes were recorded on flip charts for all to view as well as recorded on notes.

Prior to the NGT, each participant was asked to reflect upon trends and events that they felt would have the most impact from their perspective. During the NGT process, these trends and events were contributed by each participant, in a round robin fashion, for the group to consider. The participants described their contributions and provided a rationale for its inclusion. Input from each participant and the discussion it generated stimulated additional items to consider. From all of the trends and events contributed by the participants, the group then narrowed them down to those they collectively felt would have the most impact on the issue.

The description of the trends and events that follow are those provided by the NGT panel as a collective group. Statistical information was computed using the average.

### Trends

A trend is defined as a series of events that have a past, present and future. A trend can have either a positive or negative impact on the issue (Esensten, 2001).

To determine the direction and significance of each trend, a reference point of 100 was provided to the NGT panel as a benchmark level for today. The panel then provided relative changes using a numerical value for five years ago, five years in the future, and ten years in the future. A concern value, from 0-10, was then given to the

panel to signify the panel's concern of that trend's impact on the issue. The NGT panel results are depicted on Table 4.

Table 4. Trends Identified by NGT

| <b>Trends</b>                            | <b>-5</b> | <b>Today</b> | <b>+5</b> | <b>+10</b> | <b>Concern 1-10</b> |
|--|-----------|--------------|-----------|------------|---------------------|
| <b>T-1: Level of Deadly Force use</b>    | 25        | 100          | 150       | 50         | 8                   |
| <b>T-2: Level of Training</b>            | 0         | 100          | 150       | 200        | 9                   |
| <b>T-3: Level of Agency Liability</b>    | 25        | 100          | 150       | 200        | 9                   |
| <b>T-4: Level of Patrol Dependency</b>   | 35        | 100          | 140       | 200        | 9                   |
| <b>T-5: Number of Legal Mandates</b>     | 10        | 100          | 165       | 200        | 9                   |
| <b>T-6: Influence of Current Events</b>  | 55        | 100          | 150       | 150        | 8                   |
| <b>T-7: Level of Public Expectations</b> | 25        | 100          | 200       | 200        | 9                   |

#### Trend One, Level of Deadly Force Use

The panel felt that continued advancement in technology and the development of more sophisticated less than lethal weapons, will play a major role in the level and/or use of deadly force. As indicted in Table #4, the panel felt there was less use of deadly force five years ago. This level should increase within the next five years, however will significantly decrease within ten years. The level of concern remained high at eight, as the panel felt there would be a significant impact to law enforcement should this occur.

#### Trend Two, Level of Training

As with all police tactics, use of force options, and weapons, comes the responsibility to ensure that our personnel are receiving the proper training and tactics

associated with each. It is very important that we provide our field personnel with the most up-to-date training, especially in those perishable skill or use of force areas. With less than lethal technology on the rise, and the continued expectation placed on law enforcement to ensure the public safety, we could possibly see state regulated or mandated training in these areas.

#### Trend Three, Level of Agency Liability

The increased utilization of SWAT teams has resulted in an understandable increase in exposure to judicial review. However, there is still legal precedent with which to address potential problem areas. As with all use of force issues, and especially those surrounding less than lethal weapons, there is an element of liability attached. The police manager must be aware of these issues and the ramifications of any SWAT or less than lethal deployment. Regularly scheduled relevant training should be conducted by all personnel in order to stay up-to-date on changing issues, laws, or tactics.

#### Trend Four, Level of Patrol Dependency

With the increasing costs associated with SWAT call-outs, budgetary constraints and the increasing technology relating to less than lethal weapons, law enforcement could begin to experience a dependency on patrol to handle more serious situations. All of these factors could contribute to a very dangerous opinion that patrol officers armed with this new technology can, and should, handle potentially dangerous situations. This concept is very deceiving and should be avoided if at all possible.

#### Trend Five, Number of Legal Mandates

Special Weapons and Tactics Teams have continued to increase over the past several years. With this increase comes a definite exposure to judicial review and the possibility of legal mandates. As violence continues to increase, so will the need for special response teams and the use of advanced weaponry. It can be reasonably assumed that these developments will continue and that there will be legal issues to be addressed with the associated application of these developments to the law enforcement field, particularly in those areas where the exigent circumstances of classical incidents involving barricaded suspects are absent.

#### Trend Six, Influence of Current Events

With the September 11, 2001 events in New York, there is now a direct focus on terrorism. The response to terrorism has largely been addressed from the perspective of a national defense posture, however, this must be looked at closely. Law enforcement agencies are required to assume the initial responsibility for responding to a terrorist action within national borders, regardless of the suspect's identity, and even if an action can later be directly linked to an international conspiracy. A second point to consider is the fact that local governmental agencies, particularly police departments, are often among the first targets by terrorists.

#### Trend Seven, Level of Public Expectations

The citizens whom a law enforcement agency serves, continue to have expectations about their police department. There is a level of expectation that law enforcement will attempt to complete each mission with the least amount of damage or

injury to all persons involved. The public has set this standard and the trends indicate they will continue to hold their police agencies responsible for their actions.

## Events

An event is defined as a single incident or occurrence. An event can have either a positive or negative impact on the issue (Esensten, 2001). To identify the probability and potential impact of the events selected by the NGT panel, the panel identified the probability of each event's occurrence during the next five years and the next ten years in terms of a numerical value. Then they projected when the probability of occurrence was greater than zero percent. Finally, the panel decided what impact the event would have on the issue, from zero to ten. Additionally, a determination was made as to whether the impact on the issue was positive or negative. The results are depicted in Table 5.

Table 5. Events Identified by NGT

| <b>Events</b>   | <b>Year &gt; 0</b> | <b>+5</b> | <b>+10</b> | <b>Impact<br/>-10 to +10</b> |
|---|--------------------|-----------|------------|------------------------------|
| <b>E-1: Authorization of the Brain-Wave Gun</b>                             | 4                  | 60        | 90         | +9                           |
| <b>E-2: State Mandates Less Lethal Prior to Lethal</b>                      | 5                  | 5         | 25         | -4                           |
| <b>E-3: Repeat of Tiesha Miller Case</b>                                    | 2                  | 60        | 100        | -10                          |
| <b>E-4: Huge Civil Judgment due to Less Lethal Deployment</b>               | 4                  | 75        | 100        | -7                           |
| <b>E-5: POST Mandates Extensive Training for Less Than Lethal</b>           | 3                  | 80        | 100        | +6                           |
| <b>E-6: Death of a Hostage Due to Unavailability of Less Lethal Weapons</b> | 3                  | 95        | 100        | +5                           |
| <b>E-7: Courts Rule Use of Deadly Force Unconstitutional</b>                | 0                  | 0         | 0          | -10                          |

Event One, Authorization of Brain-Wave Gun

The panel forecasts that within four years, this type of technology would first become available. The panel felt there is a 60 percent chance this weapon would be available and operational by year five, and a 90 percent probability this weapon would be available at the ten year mark. This weapon would be the same size and configuration as a handgun, however, would fire some type of laser beam that would disorient and immobilize a potentially violent suspect. The majority of the panel felt having such technology would be a positive impact of nine, as injuries and the overall use of lethal force would decrease.

#### Event Two, State Mandates Less Lethal Prior to Lethal

The panel indicated that the first year this could occur would be five years. The panel felt that there was a 5 percent chance this event could occur by five years, and only a 25 percent chance this event could occur by ten years. Although this was seen as a critically negative event, especially by those panel members involved in law enforcement, some of the panel members felt if this event occurred, it could establish a universal use of force system that would be beneficial to law enforcement and citizens alike. The panel members felt that having such a use of force system could cut down on complaints and hold police officers more accountable for their actions. The panel as a whole felt that should this event occur, the overall impact would be a negative four.

#### Event Three, Repeat of the Tiesha Miller Incident

The panel forecasts that this event, or similar, would take place in two years. The panel felt that there was a 60 percent chance this event would occur by five year period, and 100 percent by the ten year period. The panel unanimously agreed that this type of event would occur within the ten year time period.

Although this event was viewed as extremely negative, two of the panel members felt it would be a positive. These panel members felt that should this event occur, it would place a lot of pressure on law enforcement and the courts to make sure all agencies had the proper training and equipment as it related to less than lethal technology. The panel as a whole did feel that should this event occur, the overall impact would be a negative ten.

#### Event Four, Huge Civil Judgment Due to Less Than Lethal Deployment

In light of the fact that more police departments are implementing Special Weapons and Tactics Teams (SWAT), and deploying more less than lethal weapons, the panel members felt that the exposure to judicial review and possible lawsuits was high. The panel members felt that a huge civil judgment would occur in four years. They also predicted that there would be a 75 percent chance this event would occur by the five year period, and 100 percent by the ten year time period. The panel came to a unanimous decision that should this event occur, it would have a negative seven impact. One interesting note, there were again two panel members who felt should this event occur, it would create a positive outcome.

#### Event Five, POST Mandates Extensive Less Than Lethal Training

This event was viewed by the majority of panel members as being positive. The panel forecasted that this event would first occur in three years. The panel felt there would be an 80 percent chance of this event occurring by the five year time period, and 100 percent chance by the ten year time period. The panel felt that this event would have a positive impact of six. Although this event was viewed by all panel members as positive, there were concerns expressed from four of the panel members regarding who would oversee the training, what would be the mandates, and how would this training affect the budgets of the agencies?

#### Event Six, Death of a Hostage Due to the Non-availability of Less Lethal

Although this was viewed as a very negative event, the panel felt the outcome could have a positive result. The panel felt this event could first occur in three years. The panel forecasted this event would have a 95 percent chance of occurring by the five

year time period, and a 100 percent chance of occurring by the ten-year period. The panel also felt should this event occur, it would be a positive five impact. The panel felt should this occur, it would force law enforcement and state officials to make all types of less than lethal technology and weapons available to all law enforcement agencies. It could establish mandates that would supply or fund such weapons and mandate the use of such weapons which could lower the rate of lethal force outcomes.

#### Event Seven, Courts Rule Deadly Force Unconstitutional

This was seen a very negative event by the entire panel. The panel unanimously felt this event, should it occur, would be the most damaging to law enforcement. There was significant discussion regarding this event as all agreed that if there was any way officers did not have to use lethal force, they would not.

The panel agreed that this event would not occur within the ten year time period however, if it did, it would have a negative impact of ten.

#### Cross Impact Analysis

After the trends and events were identified and defined by the panel members, an analysis was conducted to determine the impact each event would have on each trend (Esensten, 2001). Parameters for impact range from negative ten, the most negative impact, to positive ten, the most positive impact. A zero indicates no impact. The results are depicted in Table 6.

Table 6. Cross Impact Analysis

|       |   | TREND                     |                   |                  |                      |                |                |                    |
|-------|---|---------------------------|-------------------|------------------|----------------------|----------------|----------------|--------------------|
| EVENT |   | Level of Deadly Force Use | Level of Training | Liability Issues | Dependency on Patrol | Legal mandates | Current Events | Public Expectation |
|       | Authorization of Brain-Wave Gun                                   | +7                        | +3                | +6               | +1                   | +3             | +4             | +4                 |
|       | State Mandates Less Lethal Prior to Lethal                        | +4                        | +5                | +1               | 0                    | +1             | +2             | +3                 |
|       | Repeat of Tiesha Miller Case                                      | -3                        | +5                | -4               | -2                   | -4             | -2             | -7                 |
|       | Huge Civil Judgment Due to Less Lethal Deployment                 | -4                        | +4                | -4               | -3                   | -4             | -4             | -3                 |
|       | POST Mandates Extensive Training for Less Lethal                  | +6                        | +7                | +5               | +6                   | +5             | +7             | +6                 |
|       | Death of a Hostage Due to Non-Availability of Less Lethal Weapons | -6                        | +4                | -6               | 0                    | -6             | -4             | -7                 |
|       | Courts Rule Deadly Force Un-Constitutional                        | +9                        | +7                | -1               | -7                   | -6             | -9             | -9                 |

The primary purpose for developing a cross impact analysis is to determine what combination of trends and events will have the most positive, and negative, effect on how the advancements of less than lethal technology will affect the role of special weapons and tactics teams. In other words, a determination can be made as what

combination of trends and events will more likely lead toward a desired outcome and what combinations will more likely lead toward a negative outcome. Once that is established, an analysis can be made of the ability to influence the trends and events toward the desired outcomes, and away from the negative outcomes.

Event 1: Authorization of Brain Wave Gun – versus the trends was extremely positive.

Trend 1: Level of Deadly Force Use (+7). The consensus was unanimous that if and when the technology reached the level of a brainwave gun, the level of deadly force use would decrease, therefore, having a positive effect on law enforcement. This type of technology could not only reduce injuries and/or death, but could also reduce liability, and overall risk to the officers.

Trend 4: Level of Patrol Dependency (+1). This trend generated a lot of discussion both positive and negative. A few of the panel members felt that if this technology was developed to implement a brainwave gun, there would be an increased dependency on patrol to handle more dangerous situations. This was found to be mostly negative. The remaining panel members, and majority, felt that although the dependency on patrol could increase, the overall impact of such technology would be positive.

Event 2: State Mandates Less Lethal Prior to Lethal – versus the trends was mixed. There were panel members that felt should this occur, police officers would be at a disadvantage. Their judicial exposure level would increase, thus being a negative.

The remaining panel members felt that although this seemed difficult to accept, having such a mandate would set a standard for use of force in law enforcement. This would ensure that police officers would follow the use of force continuum, thus being an overall positive.

Trend 1: Level of Deadly Force Use (+4). The panel felt that if the state did mandate less than lethal force prior to use of lethal force, then the development of less than lethal weapons was never so important to law enforcement. The panel also felt that should this occur, it would have a positive impact.

Event 3: Repeat of Tiesha Miller Case – versus the trends was a surprise. Although this event was very negative, when crossed with the trends, it was in some ways viewed as a positive.

Trend 1: Level of Deadly Force Use (-3). The rationale here was that if there was a repeat of such an incident, this would cause law enforcement to look at its policies and procedures. And, although this was positive, it was still viewed as a negative impact.

Trend 2: Level of Training (+5). Although this event was negative, the rationale was that if this occurred, it would force law enforcement to increase training levels, to include the training received by specialized units such as SWAT. It would show the importance of having in-house certified instructors, and the importance of technology as it relates to less than lethal weapons and munitions.

Trend 7: Level of Public Expectation (-7). This was no surprise. Almost all panel members felt should this occur, it would be extremely negative. There was no further discussion here.

Event 4: Huge Civil Judgement Due to Less Lethal Deployment – versus the trends was no real surprise.

Trend 1: Level of Deadly Force Use (-4). If there is a huge civil judgment against an agency for a less than lethal deployment, this would be a negative impact on the level of deadly force. The rationale here is that law enforcement would not be seeking to use the less than lethal technology; therefore, the use of traditional weapons such as handguns would be used instead.

Trend 2: Level of Training (+4). The panel felt that although the event was negative, such an event would cause law enforcement to increase its levels of training to avoid any further litigation, thus a positive outcome.

Event 5: POST Mandates Extensive Training for Less Lethal – versus the trends was as expected very positive.

Trend 1: Level of Deadly Force Use (+6). The panel overwhelmingly agreed that should this event occur, law enforcement would increase its training regarding less than lethal weapons, especially surrounding specialized units such as SWAT. Policy, procedures and other guidelines would be improved which would be a positive impact on law enforcement as a whole.

Trend 6: Influence of Current Events (+7). With the current events surrounding terrorism and public mistrust with some law enforcement agencies, additional training

will reflect in a positive light to the public. The rationale is that the public wants to see specialized units resolve situations without injury and expects law enforcement to be highly trained in the use of this technology.

Event 6: Death of a Hostage Due to Non-Availability of Less Lethal Weapons – versus the trends was quite interesting. There was significant discussion in this area.

Trend 1: Level of Deadly Force Use (-6). The panel felt that should there be a death as the result of not being able to obtain less than lethal technology, it would be negative. Some panel members felt this would have been positive as it would show the need for such technology and having specially trained officers to use it.

Trend 7: Level of Public Perception (-7). This was found to be unanimously negative. The public expects the police department to have less than lethal weapons to deal with certain dangerous situations and specialized units to deploy them.

Event 7: Courts Rule Deadly Force Unconstitutional – versus the trends was one of the most controversial areas.

Trend 1: Level of Deadly Force Use (+9). Without a doubt, this was found to be positive. Should the courts rule deadly force unconstitutional, the level of force would go down, possibly to zero. The argument here was that if law enforcement could not use deadly force, how could officers protect themselves against those who could. All dangerous situations would have to be handled by SWAT.

Trend 4: Level of Patrol Dependency (-7). This was viewed as negative. The rationale was that if the court ruled against the use of deadly force, then how would the patrol officers protect themselves?

Trend 6: Influence of Current Events (-9). Possibly the most overwhelming negative. The panel believes that in light of recent events, this would be very negative.

Trend 7: Level of Public Expectation (-9). This was viewed as extremely negative. The public understands the need for police to defend themselves however, if they cannot use deadly force, what should they do?

### Future Scenarios

After an examination of the trends, events, and cross impact analysis, potential futures can be postulated utilizing the information and data obtained. These future scenarios can paint a picture of possible impacts that advancements in less than lethal technology could have on the role of special weapons and tactics teams by the year 2007. Scenarios can provide a vision of potential futures, a vision that can be shared with stakeholders who can influence the trends and events toward a desired outcome.

### Optimistic Scenario

Commander Starskey and Commander Hutch leaned back in their ergonomically correct high-back chairs and studied the status reports of their latest mission on their three dimensional computer screen in the SWAT room. It's the year 2010, and now that the State of California had mandated that all law enforcement officers use less than lethal force prior to lethal force, all SWAT operations had to be digitally recorded.

The Town of Peaceville's Special Weapons and Tactics Team (SWAT) consisted of two teams of ten officers. Each team was equipped with the latest technology to include a heat seeking radar that could track occupants inside a residence, a laser door

opener, and a brainwave gun that could immediately immobilize a person with no lasting injury. This type of technology was now the standard and not only prevented injuries but also increased efficiency and effectiveness of all operations. As a matter of fact, the dependency for patrol officers handling more serious situations has dramatically increased.

Commander Starskey watched on the computer screen as his teams served a high-risk homicide warrant at a residence within the city. The suspect in this case was a serial killer wanted for the murders of ten females. With the aid of advanced communications and real time video, all SWAT operations could easily be run from the command post and all movements viewed and recorded by the commanders.

The tactical teams easily made entry into the residence by using a laser door-opening device. This device is the size of a handgun, is completely silent, and causes no visible damage to the door. Immediately confronted by the suspect, the point officer fired one blast from his brainwave gun immobilizing the suspect.

Commander Hutch smiled as he watched the teams exit the residence. There were several more search warrants to be served this day and the teams were also on call for other high-risk situations. As he sent a message via e-mail to the team leaders in the field, he turned to Commander Starsky and said, " If we can finish these fifty warrants by noon, we'll still have time for lunch."

### Pessimistic Scenario

Officers Ponch and John received the SWAT call out page at 0200 hours. As they arrived at the station and began to put on their SWAT gear, they wondered what

type of call they would be going on this time. It's the year 2005 and they were not shocked to hear that the call out was for a group of terrorists who had threatened to blow up the state capital. The terrorists had also threatened to use biological weapons as part of their onslaught on American law enforcement officers. The suspects were at a residence in the city and refused to be taken alive. With the recent arrests of several other terrorists, it was not unusual to have these types of situations develop.

The Federal Bureau of Investigation (FBI) had promised to get involved in these investigations when it received funding for a thousand new agents. These agents were to form a task force to identify all corrupt officers and to set guidelines for the police operations. The promise had gone unfulfilled, as the agency was unable to lure citizens with no criminal backgrounds or prior arrests to become agents. It seemed that federal law enforcement officers were paid just above the poverty line, and the majority of applicants were persons with no training or tactics of any kind.

As the SWAT team got into their bulletproof hover-van, they knew it was going to be a long night. Ponch punched the ignition button on the craft and the dashboard LCD lit up. A skull and crossbones appeared on the dashboard and the theme song from Apocalypse Now began to blare throughout the vehicle.

As they drove to the residence they all wondered what it would be like if there was no terrorism in the world. They remembered the academy days when everything was seemed normal to them. They wondered if perhaps the recent court decision ruling against lethal force would ever be overturned and they could once again take control of the streets. As they approached the residence, they thought of those huge civil judgments being handed down by the courts for the mis-use, or non-use of less than

lethal technology. They were afraid of another Tiesha Miller incident. They could not help but think of the officers' lives and how they would be impacted having to always use the less lethal options instead of using lethal force when apprehending suspects.

### Surprise Free Scenario

Prior to his shift, Officer Jones sat down at the computer terminal and began reading his e-mail. It's the year 2002, and as he reviewed the daily activity logs and other messages, he saw there was an opening on the department's special weapons and tactics team. He would have to submit his memorandum for this position to the chief's office no later than next week. Ever since the department received the California High-Technology Grant and the Citizen Options for Public Safety Grant, the SWAT team has received additional equipment to include new firearms, surveillance equipment, body armor and a tactical vehicle.

Next month, the department was to receive an additional grant. With this grant, the SWAT team will be able to purchase a video search-cam, video/audio crisis negotiator phone systems, and all new less than lethal weapons systems. This grant would also pay for training so that three officers from the department could be certified as instructors in all less than lethal weapons systems; taser, OC spray, chemical munitions, and bean-bags.

As department personnel began to be trained and became proficient in these systems, there was a noticeable decrease in injuries to suspects. Complaints began to decrease and officer injuries were down as well. With the full range of systems

available, it appeared that the department was moving in the right direction. They now had certified trainers for all less than lethal systems within the organization.

With the department moving in the right direction came the resurgence of the threat management team. This team was formulated to address any and all threat assessment and stalking cases. Continued training in this area is available to its members, which encompass patrol, investigative, and crime impact team personnel. As for Officer Jones, he is now a member of the SWAT team.

## Conclusion

Scenarios are a method of using trends and events as a means of looking at possible futures and seeing what might happen. It allows for the selection of recourses that can be put into place to prepare organizations to begin the process of change to obtain the desired result.

## CHAPTER THREE

### STRATEGIC PLANNING

With technology on the rise, law enforcement managers must continue to plan for change. Strategic planning will assist law enforcement agencies in obtaining the skills to develop a well-structured method for creating change. Clearly stated goals are critical to the success of change. The futures scenarios provided desirable and undesirable situations relating to the issue: “How will advancements in less than lethal technology affect the role of special weapons and tactics teams in mid-sized agencies by 2007?”

The first concept in strategic planning are the three C’s of the future: certainty, choice, and chance. There are some trends and events relating to the advancements in less than lethal technology that will occur no matter what. However, law enforcement can influence their outcome or prevent their occurrence, and there will always be the chance of the unknown. The responsibility of managers is to work to have the future occur in a predictable manner, handle non-planned events, and to continually consider if we are on the right path utilizing the most effective methods. Evaluation of the trends, events and cross impact analysis developed through the NGT process can assist in this process.

Strategic planning is defined as a structured approach, sometimes rational and other times not, of bringing together anticipations of the future to bear on today’s decision making. This planning most often does not, and frequently cannot, include all details and issues to be involved during the initial process. Strategic organizations use

a road map and compass. Organizations will not always have a detailed road map or specific destination; sometimes the best they can do is to know what direction they want to go.

When a medium sized law enforcement agency sets out to manage the impact on how advancements in less than lethal technology will affect the role of special weapons and tactics teams, a vision, goals and objectives must be identified.

### Vision

The notion of having the most up-to-date technological advancements in less than lethal weapons which could nearly eliminate the use of lethal force, or at least lessen its chance of occurring, would certainly be popular among the vast majority of law enforcement professionals. However, the likelihood of these weapons being readily available within the next year is not great. With this in mind, law enforcement managers must focus their attention on the future of technology. With the rapid advancements in technology and the current advancements in less than lethal weapons, they cannot sit idly by. Managers must become involved in the search for those systems or ideas that will increase efficiency and effectiveness, decrease liability, reduce the potential for injuries to officers and citizens and increase the potential for a positive outcome.

## Goals and Objectives

The goals and objectives that agencies would hope to achieve would include the following:

Measurement – an organization must be able to determine how to measure the progress and results of their plan. In evaluating the bottom line impact, both traditional and emerging measurements should be used. Traditional measurements would involve quantitative, internal measurements such as the number of less than lethal weapons on the market, the number of injuries sustained by the use of such weapons, and the number of companies that are involved in less than lethal technology research.

Emerging measurements involve quantitative, external measurements such as what are the levels of available technology, how well have the advancements been performing, how can these technological advancements be integrated into the law enforcement realm, and feasibility or functionality of these weapons.

Training – consistent training for all employees on the use, impact, liability and deployment would have a positive impact when considering the implementation of less than lethal weapons. Given the difficulties most law enforcement agencies are currently experiencing with use of force options, coupled with the ever-changing laws, increasing violence among offenders, and available funding for training, law enforcement has no choice but to focus on this area.

Research – continuous testing and research on available less than lethal systems in order to remain up-to-date. Private business has historically had a better focus than the public sector when it comes to research and development of less than lethal weapons and technology. This is likely due to the ability, willingness, and market

driving necessity of private business to change. The prevalent business definition is that it is currently an employee's market and the labor market will continue to tighten. Business must adapt not only to meet the needs of future employees but also adapt to meet the needs of the customers. More and more law enforcement sees the private sector moving into things associated with law enforcement, everything from advanced communications and computers to the development of less than lethal weapons and munitions.

Stakeholders – law enforcement is responsible to a complex assortment of stakeholders, not the least of which are the community, politicians, judicial personnel and law enforcement personnel themselves. What the community expects and want from law enforcement continually changes over time, just as technology changes. The community focus seems to be shifting from severe crime issues to quality of life issues. The police officer the community wants, and needs, is no longer the crime-fighting, arrest-conscious, mirrored glasses wearing officer. And when it comes to special weapons and tactics teams, the community understands the need for such a team, as long as they are not violating their peace.

Law enforcement, should it follow these goals and objectives, would experience a positive outcome. This focus will provide law enforcement with a sense of futurity and will facilitate the investment of resources related to this issue.

### Organizational Analysis

A medium sized law enforcement agency would equate to having a sworn staffing level of between 100 and 200 officers. This agency would provide public safety

services to a population of 80,000 to 200, 000 citizens. The agency would have a special weapons and tactics team with personnel assigned to other collateral duties. The average team size would be between 15 and 25 officers.

### Strengths

The strengths associated with mid sized law enforcement organizations would be their flexibility. These departments usually have special weapons teams comprised of officers that have other collateral duties. They also have the option of combining their efforts and resources if necessary.

### Weaknesses

Funding continues to be one of the most critical issues surrounding special weapons and tactics teams. Budgetary constraints and other related monetary issues continue to impact these teams. Funding for personnel, training, equipment will have an impact on the overall effectiveness of these units. The inability to purchase the available technology and train employees will have a direct impact on the issue statement.

### Stakeholder Analysis

A stakeholder is defined as an individual or group of individuals who are affected by the issue or have an impact on the issue. Stakeholders may also include “snail darters”: those stakeholders who can radically alter or interfere with your strategy. The

stakeholders are identified by examining the trends and events detailed in the futures portion of the paper.

The stakeholders relevant to this issue are:

Law Enforcement.

Community Members.

City Council Members.

Business Community.

Executive Management.

Less than Lethal Manufacturers.

Special Interest Groups.

Agency.

#### Assumption of Stakeholders

Every stakeholder brings to the table certain positions or assumptions relative to the issue. The following outlines the critical expectations these stakeholders have relating to the issue statement, "How will the developments in less than lethal technology affect the role of special weapons and tactics teams in mid-sized law enforcement agencies by 2007?"

1. Law enforcement
  - A. Law enforcement must remain open to changing technology.
  - B. Law enforcement should eliminate SWAT teams.
2. Community Members

- A. Law enforcement must be supportive of community involvement.
  - B. Demand a reduction in crime.
- 3. City Council Members
  - A. Supportive of special weapons teams and technology based weapons systems.
  - B. Critical of all technology based weapons.
- 4. Executive Management
  - A. Must support tactical teams and less than than lethal weapons.
  - B. Patrol officers to handle more dangerous situations.
- 5. Business Community
  - A. Supportive of law enforcement.
  - B. Critical of law enforcement.
- 6. Less Lethal Manufacturers
  - A. Develop partnership with law enforcement.
  - B. Distance themselves due to development costs.
- 6. Special Interest Groups
  - A. Committed to understanding of department operations.
  - B. Critical to all forms of less than lethal options.
- 7. Agency
  - A. Supportive of advanced training.
  - B. Budget cuts reduce training and equipment opportunities.

## Preferred Strategy

The following outlines one strategy for the implementation of less than lethal technology on to special weapons and tactics teams.

Develop a clearly defined mission statement.

Establish budget to ensure funding is allocated properly.

Establish training program to ensure proper training internally and externally.

Establish in-house certified instructors.

Research and Identification of weapons and ammunition types for reliability, consistency, accuracy, range, and shortcomings.

Development of policy and procedures.

Testing of weapons and munitions.

Develop tracking systems for effectiveness.

## Cost Analysis

The cost associated with the implementation of less than lethal weapons into a special weapons program would be minimal at best. Initial costs for training and equipment would be the bulk of the expenses, however there would be additional or continuing costs for training and testing of new technology. One very important point to consider when evaluation the costs associated with less then lethal technology would be which would cost more, the cost of the training and equipment or the cost of a deadly force encounter or lawsuit?

## Implementation Plan

There are no significant barriers to the implementation of less than lethal technology. Most law enforcement executives or managers would support such technology and there are some that are aggressively looking for it. Organizations that would implement such technology would need full support from their staff for training, equipment and funding.

While there is an emphasis on the relationship between the community and law enforcement, the success or failure of any organization falls directly upon its leader. It is critical to establish goals and objectives, and policy and procedures to ensure greater accountability for the implementation of such technology.

## CHAPTER FOUR

### TRANSITION MANAGEMENT

There is no single model or strategy that fits all problems or organizational change situations. Transition managers must be adept at diagnosing change situations, skilled at choosing different models, and have the ability to use the tools best suited to the moment. For example, some law enforcement plans may prompt resistance from the external shareholders, the public, and support by the internal shareholders, the officers. However, when addressing less than lethal technology, the organization must address the resistance offered by the officers, while there may still be full support by the public. Each change plan must be individually crafted for its unique situation.

Change is extremely hard. Resistance to change is natural; it is a behavior learned early in life. It is probably the most important cause of failure in the implementation of sound strategy. Change is accepted, however, if and when an organization can strike a delicate balance among the key players in the process.

Three basic groups must be identified and coordinated. The change strategists lay the foundation, craft the vision, and manage the boundaries. The change implementers develop and enact the steps, manage the coordination, and make things happen. The change recipients adopt or fail to adopt the change plan and may appear as sources of resistance.

The change strategists and implementers must develop successful methods to achieve their goals. Vital to the success of any plan is to develop methods appealing to the change recipients, who have significant power to influence the success or failure of the change plan. While the community can be viewed as the principle change recipient,

the law enforcement community will likely have a greater effect on the successful evaluation and implementation of any less than lethal technology.

It is clear that if those who are affected by the change have more of a stake in the success of the plan, then the greater the opportunity for success to occur. If those who are identified as potentially most resistant to specific portions of the plan, or to the change in general can be involved as stakeholders, then the resistance can be minimized. The stakeholders do not necessarily have to agree with all the means used to accomplish the specific goals, but their input can be identified with the overall success of the plan as viewed by the principle stakeholders, the community.

#### Critical Mass

Several groups will have major impact on the issue. From the larger groups a critical mass has been identified as individuals who can directly affect the implementation of the desired change.

Chief of Police.

Executive Management.

City Council.

Special Interest Groups.

SWAT Personnel.

#### Commitment Planning

##### Chief of Police

This is the single most important person in the process. He or she is the leader who desires the change. The chief as a visionary leader, understands the community,

and the desires the middle managers of the organization to become the best they can be. For this reason, the chief supports advancements in technology, the necessity for special weapons and tactics teams. The final decisions rest here.

### Executive Management

Ideally, the executive management team would support the proposal if accepted by the chief. This team would show support for the change, not only in word, but also by example. Effort should be made to get behind the change in practice, not only in theory. This support must be seen by the line officers.

### City Council

The mission of the majority of law enforcement organizations are in line with that of their City Council's; therefore there would be no opposition to the implementation of change. They would not see a potential impact on the community except in a positive light. There would be some financial impact with training and equipment, but since this would be minimal, they would be open to the proposal.

### Community Members

A bridge to the community should be built in order to establish community relations. The community that supports the organization will be more open and understanding to changes in policy, procedure, or operational methods.

## Special Interest Groups

Just as a bridge to the community must be built, communication must also be established with special interest groups.

## Implementation

Implementation agents, or change agents, must realize that planning and implementation phases are not sequential or linear. They overlap in a continuous process. As such, implementers must respond flexibly, even opportunistically, to how the change process is faring with the organization and make appropriate adjustments. They should ensure a constant dialogue with the shareholders. Guidelines for successful change execution are:

- Analyze the organization and its need for change.

- Create a shared vision and common direction.

- Separate from the past.

- Create a sense of urgency.

- Support a strong leader role.

- Line up political sponsorship.

- Craft an implementation plan.

- Develop enabling structures.

- Communicate, involve people, be honest.

- Enforce and institutionalize the change.

Action plans can be used to focus attention on decisions, actions and responsible parties. Implementers should link new strategic initiatives with ongoing operations by involving recipients directly and should work quickly to avoid unnecessary or undesirable competition from new priorities. When operating in shared-power situations, a powerful coalition must be developed and maintained.

When implementing a strategic plan, organizations should avoid:

- Pursuing too many objectives.

- Excessive planning and paperwork.

- Trying to plan strategically without good data.

- Imposing a structured approach on those who prefer not to have it.

- Too much responsibility delegated by the executive leadership.

Transition managers are charged with removing obstacles and roadblocks during the implementation phase. Careful preparation and pre-planning can avoid delays, setbacks and unsuccessful results. It is much more expedient and efficient to remove, or at least minimize roadblocks before they are reached. Although resistance from internal stakeholders should not be a major consideration when planning and implementing changes to address the impact that less than lethal technology will have on special weapons and tactics teams. Law enforcement officers should embrace the new advancements in technology providing they receive the proper training and instruction.

The trends and futures study lends itself to the future of technology as it relates to special weapons and tactics teams. The first step in the implementation of less than

lethal technology would be to develop a team of stakeholders to assess the steps and timetable for implementation. The team should include a member of the executive management team, city council, middle management, line supervisor, and line officer. Also, the SWAT Commander, Assistant SWAT Commander and Grenadier would be involved. They would examine the issues and propose a date for implementation, financial impacts, as well as issues that may arise. Guidelines would be established and policy and procedures would be developed.

Effective leadership will allow the strategic plan to flow smoothly and communications is critical during the process. All the individuals involved must understand the one vision shared by all.

## Evaluation

In order to effectively evaluate a less than lethal weapons system, a method of tracking and charting all less than lethal deployments should be implemented. Statistics to be tracked should include.

Type of Weapon.

Type of Ammunition.

Distance of Target.

Number of Shots.

Effect of Each Shot.

Suspect Clothing.

Suspect Characteristics.

Under Influence.

Suspect Weapons.

## Conclusion

It is apparent that technology is on the rise and each year advancements in less than lethal technology continue to increase. Still, there are questions that remain. With this rise in technology, will a greater burden be placed on the line patrol officer? Will special weapons teams become a thing of the past?

## CHAPTER FIVE

### RECOMMENDATIONS AND CONCLUSIONS

Traditionally law enforcement has resisted internal change in favor of focusing on external factors. However, when it comes to the issues surrounding less than lethal weapons and the advancements in weapon technology, law enforcement seems to be very receptive, and willing to change. Some of the problems associated with, or to be encountered by SWAT units in the near future include increased encounters with juveniles, increased incidents of suicide by SWAT, and SWAT involvement with weapons of mass destruction. And let's not forget the media, public expectations, perception and current events.

#### Projections of Future Tactical Equipment and Technology

Like all other aspects of modern society, police operations in general and especially tactical operations in particular will be greatly affected by advancements in technology. Equally important, changes in society, fluctuations in the economy, variations in political demands, and continuous modifications of the law will also have an impact.

Police administrators must stay cognizant of the continuous developments in technology in all fields. Except for the invention of the automobile, law enforcement technology remained relatively unchanged over the previous century until the mid 1960s. Since the evolution of the space exploration program, many products that were developed for one field have been applied to many others, including law enforcement. It

can be reasonably assumed that these developments will continue and there will be some legal issues to be addressed (Mijares, McCarthy, and Perkins, 2000).

Based on the past history and current state of technological development in tactical operations, a variety of conclusions can be made. First, it must be accepted that, even with the current state technology being in a fledging condition, devices such as less than lethal weapons and surveillance equipment do possess a large measure of efficiency. However, there is a potential for misuse, abuse and associated injuries. Consequently, at least until necessary safety and legal features are developed, these devices cannot be considered part of the personal arsenal of every police or SWAT officer. Nonetheless, they can be employed by law enforcement personnel who have been specifically trained by certified police instructors.

Second, every attempt must be made to develop standards for the industry. The standards of the industry and standards of care expected by law enforcement SWAT teams will always change as technology provides improved equipment that can enhance positive resolution to violent events. Thus far, the information on sensory enhancing weapons, to include lasers or heat and brain-wave guns, has not been sufficiently accurate and reliable. At best, the information has only provided an approximation of the facts. Because of the potential for misuse of any kind of these weapons, either through misfeasance or malfeasance, specific guidelines for proper use must be developed.

Finally, the police equipment industry must be encouraged to develop useable and close to foolproof innovations that will help accomplish an agency's mission without undue exposure to danger for police personnel, bystanders, hostages, and even the

criminals. Currently, the largest inhibitor to the development of new and sophisticated equipment is the fact that law enforcement is a limited market place compared to the military or general population. The phaser weapons of the Star Trek television show may be only science fiction. However, experiments with non-intrusive weaponry such as sound pulses and focused microwaves are being conducted (Mijares, Perkins, 1995).

### The Future of SWAT

There are several answers to these issues however, it is the author's opinion that creating and maintaining new standards for the profession, modifications in approaches to training, and conducting continuous research regarding technology and less than lethal weapons are at the forefront. To many, the word research may conjure images of scientists in white lab coats and ties who may be geniuses in their respective fields but who often lack common sense and certainly lack the real world experience.

In reality, scientific research is an organized search for the truth involving problem identification, parameter definition, data collection and analysis, and the realization of a research decision. In a field such as criminal justice, the tactical operations in particular, applied research could address issues such as techniques, technology, and legal issues. While there might not be a legal requirement specifically mandating any form of research, the ability to display and document a continuous effort to find solutions for improving SWAT responses is certainly a helpful approach in promoting the image of any tactical unit and its management.

Although we continue to see many developments in less than lethal technology and know of several more weapons or systems currently being tested, the fact remains

until these devices become available, law enforcement SWAT teams must still perform their functions. Even when we reach the pinnacle of technology and some of these devices are readily available, factors to include training, policy and procedure, legal mandates, judicial review, cost, and misuse must and will be addressed. In short, even with advancements in technology, there will still be the need for oversight, training and all of the other factors we experience today. After all is said and done, there will still be a need for those specially trained units whose advanced training and expertise is needed to overcome an objective through a means other than a traditional police response. There is still a need for assessment, planning, and decision making when it comes to high-risk incidents, and oversight of such incidents is critical.

As for how the advancements in less than lethal technology affect leadership, a true leader personifies the organization and the responsibility for the success of the organization rests with the leadership within. Depending on one's perspective, the blessing, or curse of the leadership role is the increase of options available for problem resolution and the discretion to choose and use the appropriate action.

Organizational leaders have assumed a greater importance than ever before because of influential factors outside the immediate environment of the organization. Because of rapid development in technology and the formal recognition of social diversity, today's society and its component organizations and institutions are characterized by continuous change.

With this in mind leaders must not only be open to change, but be willing to research and explore technology as it relates to less than lethal weapons. They must

be visionaries who forecast for future events and trends, and not just be satisfied with the status quo.

So how will the advancements in less than lethal technology affect the role of special weapons and tactics teams in mid-sized agencies? One thing is clear, the move toward a technology that is capable of aiding tactical units in the fulfillment of their mission is an endeavor certainly worth pursuing.

Past and current trends can provide a reasonable projection of likely scenarios and conditions under which tactical operations will be conducted in the future. Like all other aspects of modern society, police organizations and tactical operations in particular, will be greatly effected by advancements in technology. Equally important, changes in society, fluctuations in the economy, variations in political demands, and continuous modifications of law will also make an impact on police conduct.

## Appendix A

### Nominal Group (NGT) Panel Members

Sid Heal, Captain, Los Angeles County Sheriff's Department SWAT/Less than Lethal Expert

Michael Keith, President/CEO of MK Ballistics Incorporated

Steve Tibbits, Professor of Criminal Justice at California State University of San Bernardino

Gregory Boles, Director, Global Threat Management Kroll Incorporated

Michael Stedman, Captain, Baldwin Park Police Department, Threat Management Specialist

Robert Kellum, Sergeant, Rialto Police Department, Crisis Negotiations Supervisor

Carl Little, Lieutenant, Rialto Police Department, SWAT Commander

Robert Owen, City Attorney, Owen and Bradley

Terry Phelbo, Pastor,

Larry Clark, Captain, Fontana Police Department, Administrative Division

Robert Alcaraz, Sergeant, Los Angeles County Sheriff's Department Technology Unit

Keith Bushey, Deputy Chief of Police, San Bernardino County Sheriff's Department

## Appendix B

Trends:

Level of full time SWAT teams

Level of deadly force use (7)

Changes in deployment policy (4)

Saturation of the market (1)

Changes in technology (4)

Level of training (7)

Level of agency liability (5)

Use of mental health (1)

Level of political involvement

Number of legal mandates (8)

Availability of federal funding

Union issues

Level of dependency on patrol (9)

Changes in city demographics

Levels of budgeting (1)

People killed by less than lethal (3)

Level of staffing

Public relations (2)

Defense technology

Evolution of standards (3)

Level of public expectations (6)

Dependence on new technology

Accreditation

Special interest groups (3)

Demographics of those shot

Developmental funding (2)

Influence of current events (8)

Media response (2)

Legislation

Case decisions (2)

## Appendix C

Events:

POST mandates extensive less lethal training (10)

Erosion of hiring standards (2)

Authorization of the brainwave gun (12)

Televised death of innocent person

Huge civil judgment due to less than lethal deployment (9)

Billion dollar state budget shortfall (3)

Takeover of a school

Law enforcement fatality during less lethal encounter (1)

Televised death of mentally ill person

Televised death of handicapped person (1)

State mandates use of less lethal prior to lethal (10)

Reporter gets shot

Death of hostage due to unavailability of less lethal (9)

Civilian availability of less lethal (3)

Conspicuous failure of less lethal (4)

Declared moratorium on less lethal pending investigation

Repeat of Tiesha Miller Case (9)

Windfall of developmental funding

City eliminates less lethal (3)

Courts rule deadly force unconstitutional (10)

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