SPECIAL ISSUE:

Traffic Engineering & Crash Investigation

CONTENTS

The Roads of Tomorrow Are Here Today: Automated Driving Systems
by Roy Lucke

On January 23, 2018, news reports featured a Tesla Model S that ran into a stopped fire engine on I-405 in California. The engine was at a call scene and had its emergency lights operating; the Tesla reportedly struck at 65 mph. Remarkably, no injuries were reported. The Tesla owner stated that his vehicle was operating on "autopilot." (Lambert)

Vehicles that are being operated by someone other than an on-board driver or pilot are of great interest to early adapters of new technology, auto enthusiasts, and growing sectors of business and industrial professionals. The discussion might be about military drones half-way down the road or an automobile on the highway in front of you. Who really is operating these vehicles — and who is responsible when something goes wrong?

What does *autonomous* really mean?

Currently, the names and descriptive terms given to these vehicles — *drones, unmanned aerial vehicle, autonomous vehicle, autopilot* — are often poorly defined, both under the law and in casual conversation. The National Highway Transportation Safety Administration (NHTSA) is the federal agency specifically charged with rulemaking regarding passenger vehicles and has published a booklet that provides guidance, definitions, and initial rulemaking regarding *driverless* vehicles. (U.S.Department of Transportation) Rather than attempting to define these various terms, the NHTSA has adopted "Automated Driving Systems" (ADSs) as the descriptor of all these systems and has elected to describe ADS along a continuum that was initially developed by the Society of Automotive Engineers (SAE). [*See p. 4, Table 1*]

The ADS continuum is one of increasing automation. *Autopilot* as described in the Tesla–fire engine crash would fall in the SAE continuum levels 2 to 3, per SAE's level definitions. It is probably not a coincidence that Tesla refers its ADS as *autopilot*. This term comes from the aviation industry where the Federal Aviation Administration warns:

> *"While the autopilot relieves you from manually manipulating the flight controls, you must maintain vigilance over the system to ensure that it performs the intended functions and the aircraft remains within acceptable parameters of altitudes, airspeeds, and airspace limits." (Federal Aviation Administration)*

Tesla's Hardware 2 is included in all vehicles manufactured after October 2016. The company claims that Hardware 2 provides the necessary equipment to allow full self-driving capability at SAE Level 5. (Tesla) It plans to demonstrate full self-driving by

early 2018 and to enable this capability by the end of 2019.

Other vendors — from such technology-based companies as Google to the traditional vehicle manufacturers like Ford and General Motors — also are in various stages of developing ADSs up to and including SAE Level 5 capabilities. Almost all vehicle manufacturers worldwide offer standard equipment or options that fall at least in the SAE Level 2 area. This specifically includes features such as adaptive cruise control, automated lane keeping, and auto-parking features.

What you might see on a roadway near you depends greatly on where you live — and what is allowed on the road varies considerably from state to state. The below map, "Legal Status of ADS Laws in the U.S., mid-2017," shows the status of ADSs across the U.S. as of mid-2017. Use of ADSs almost certainly will continue to increase as more states first approve their

Collision of Tesla operating on autopilot with stopped fire engine. Culver City, CA. (Lambert)

use from today's requirements for a driver in the driver seat no matter the technology to tomorrow's allowance of true driverless vehicles.

Driverless taxicabs also are likely to be coming into the mix of vehicles on the road in the near future. Uber has signed a contract with Volvo for 24,000 (and that is not a typo) vehicles to be used as driverless cabs. Passengers can

already ride in a cab mostly operated at ADSs Level 5 in such cities as Pittsburgh, although a standby driver must always be present in the driver seat. (Holley)

How do ADSs impact law enforcement agencies and especially the officer on the road?

In October 2010, an attorney for the California Department of Motor Vehicles raised concerns that "[t]he technology is ahead of the law in many areas," citing state laws that "all presume to have a human being operating the vehicle." (Markoff) As seen, some states are working to revise their laws to reflect today's operating reality.

While Michigan's statutes seem to have gone the farthest in terms of allowing driverless vehicles, some basic questions are still unanswered, for instance "*What does the crash investigating officer enter in the* Driver *field of a crash report form?*" Michigan law limits fielding ADSs Level 4 or 5 automobiles to vehicle manufacturers (possibly leaving com-

Map:Legal Status of ADS Laws in the U.S., mid-2017. (Wikipedia Commons)
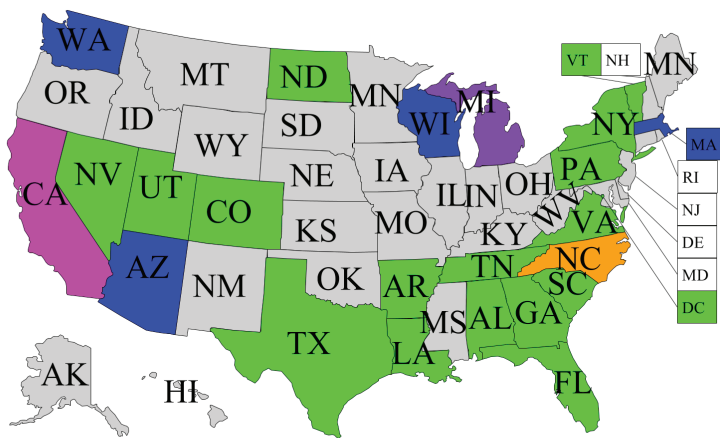
Legend
With Driver: Enacted | Executive Order | In Progress
Driverless: Enacted | Executive Order | In Progress
Driverless assuming already enacted with driver

SAE level	Name	Narrative Definition	Execution of Steering and Acceleration/ Deceleration	Monitoring of Driving Environment	Fallback Performance of *Dynamic Driving Task*	System Capability *(Driving Modes)*
Human driver monitors the driving environment						
0	No Automation	the full-time performance by the *human driver* of all aspects of the *dynamic driving task*, even when enhanced by warning or intervention systems	Human driver	Human driver	Human driver	n/a
1	Driver Assistance	the *driving mode*-specific execution by a driver assistance system of either steering or acceleration/deceleration using information about the driving environment and with the expectation that the *human driver* perform all remaining aspects of the *dynamic driving task*	Human driver and system	Human driver	Human driver	Some driving modes
2	Partial Automation	the *driving mode*-specific execution by one or more driver assistance systems of both steering and acceleration/ deceleration using information about the driving environment and with the expectation that the *human driver* perform all remaining aspects of the *dynamic driving task*	**System**	Human driver	Human driver	Some driving modes
Automated driving system ("system") monitors the driving environment						
3	Conditional Automation	the *driving mode*-specific performance by an *automated driving system* of all aspects of the dynamic driving task with the expectation that the *human driver* will respond appropriately to a *request to intervene*	System	**System**	Human driver	Some driving modes
4	High Automation	the *driving mode*-specific performance by an automated driving system of all aspects of the *dynamic driving task*, even if a *human driver* does not respond appropriately to a *request to intervene*	System	System	**System**	Some driving modes
5	Full Automation	the full-time performance by an *automated driving system* of all aspects of the *dynamic driving task* under all roadway and environmental conditions that can be managed by a *human driver*	System	System	System	**All driving modes**

Table 1: Levels of Vehicle Automation. Copyright © SAE International.Standard J3016. (SAE)

panies such as Google sidelined) and requires those manufacturers to take full liability for all crashes where the automated vehicle is found at fault. (Bhuiyan)

When ADS vehicles are involved in a crash, the investigating agency will find it increasing important to have staff trained in accessing, downloading, and interpreting vehicle Event Data Recorders (EDR) — the so-called automotive "black box." A careful examination of the EDR will likely be necessary to determine whether a vehicle was operating in an autonomous mode or if the human in the driver seat attempted to, or did, take over from the ADSs.

A well-trained and experienced crash reconstructionist can usually determine which vehicle did what in a crash sequence and where traffic laws might have been violated. Determination of both criminal and civil liability is a different matter, and the case law here is yet to be written.

The NHTSA's "Automated Driving Systems 2.0: A Vision For Safety" recommends:

"Initial considerations for State relegation of liability during an incident and insurance of the driver, entity, and/or ADS. These considerations may take

time and broad discussion of incident scenarios, understanding of technology, and knowledge of how the ADSs are being used (personal use, rental, ride share, corporate, etc.). Additionally, determination of the operator of an ADS, in a given circumstance, may not necessarily determine liability for crashes involving the ADS."

The implementation of ADS will likely result in the greatest change in public mobility since the advent of the motor vehicle itself.

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NHTSA Report Reveals Trend toward Decreasing Officer Fatalities in Vehicle Crashes during 2010-15

In its January 2018 issue of *Traffic Safety,* the National Highway & Transportation Safety Administration (NHTSA) released a summary of statistical findings on law enforcement traffic crash fatalities. According to the report, the first half of this decade shows that law enforcement fatalities in passenger vehicles — and fatalities of officers struck by a vehicle — are trending down toward 1990-99 levels from higher levels seen in the 2000-09 period; however, officer motorcycle fatalities remain at higher 2000-09 levels. [*See* Table 1]

In 51.9% of the reported fatal crashes from 1980-2015, law enforcement passenger vehicles collided with another moving vehicle, while another 36.9%

Table 1: Law Enforcement Officers Killed by Auto Crash, Motorcycle Crash, or Struck by Vehicle

	1980-89	1990-99	2000-09	2010-15
Auto Crash	264	319	415	178
Motorcycle Crash	47	41	67	31
Struck by Vehicle	125	86	121	48
Total Fatalities	436	446	603	257
(Annual Average)	(43.6)	(44.6)	(60.3)	(42.83)

hit a fixed object. Motorcycle police fatalities, though, overwhelmingly (82.0%) involved a collision with a moving motor vehicle. Since 1980, when a fatality occurred in a law enforcement passenger vehicle that collided with another moving vehicle, 55.8% of those deaths were due to angle collisions, while head-on collisions caused 26.2% of fatalities. Angle collisions have also been deadliest for motorcycle police (62.6% of fatal crashes), while head-on motorcycle crashes accounted for 13.25% of officer deaths.

Many of those fatalities may have been prevented by the use of restraint systems (belts or helmets). From 1980-2015, a total of 378 officers who were not wearing seat belts were involved in fatal law enforcement passenger vehicle crashes (42.6% of crashes). While many of these fatalities occurred in the 1980s, NHTSA statistics reveal a significant number of fatal crashes involving lack of restraint-system use even into the 2010-15 period. [See Table 2]

Table 2: Officer Use of Restraint Systems in Fatal Crashes
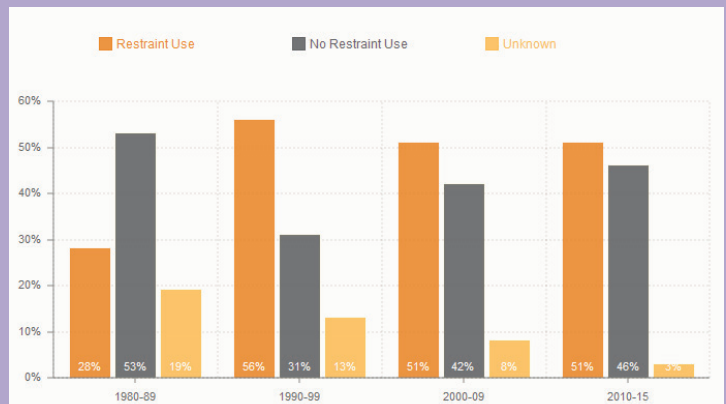
Source: U.S. Department of Transportation. "Occupant Fatalities in Law Enforcement Vehicles Involved in Motor Vehicle Traffic Crashes." *Traffic Safety Facts: Research Note,* Jan. 2018.

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Drone Usage Reduces At-Scene Investigation Time

by Adam Hyde

Historically, crash investigations have been taxing to police agencies, and different methods to reduce long at-scene time have been developed over the past decade. Some of the new technology has included the use of Total Station survey tools instead of tape measures and even using photographs to develop diagrams using photogrammetry. Even when using those methods, at-scene crash investigation time remains upwards of four hours.

During the past few years the applicability of small Unmanned Aerial Systems (sUAS), or *drones*, in the crash investigation arena has become a reality. Drone technology has become readily accessible at a decreasing cost. The deployment of drones at crash scenes is becoming more common. Proper deployment offers amazing scene photography results: the final product produced from drone photographs is a realistic crash scene diagram that captures all roadway evidence. The images also can be used to develop fly-thru videos of the crash scene, all of which are tremendous demonstrative evidence in courtroom presentations.

In Lake County, Illinois, the Major Crash Assistance Team has worked with drone technology for the past two years, researching and developing a drone program from the ground up. Because the process was rolled out over time, the team had the benefit of developing a "best practice" approach. Proper drone deployment flight plans were developed, as was evaluating drone usage under abnormal outside conditions, such as cold and other weather events. The team has been successful with all deployments and now utilizes drones at every crash scene.

Because of its transition to drones for documenting scenes, the Lake County crash team has realized a reduction in at-scene investigation times of approximately two hours. While some on-scene duties still need to be completed (e.g., vehicle examinations, ground photographs, etc.), the time-taxing at-scene measuring has been replaced by the drone's aerial images. The team has realized that the

NUCPS Instructor Stan Taylor pilots a drone used in sUAS courses. | Photo credit: Steve Lundy, *Daily Herald*.

decrease in road closure time directly correlates to a reduction in manpower, thereby increasing safety to the motoring public.

The work conducted in conjunction with the Major Crash Assistance Team was utilized to develop new courses at NUCPS, which now offers multiple drone classes for crash investigation. The courses were designed to address every step of the process and begin with basic federal regulation training so students can successfully obtain their FAA Part 107 license. Additional courses include Flight School, where students learn how to fly to properly capture evidence. The final course in the series includes Photogrammetry training. In the final course students learn the skills to properly utilize aerial photographs and develop 3-dimensional models and crash scene diagrams.

Drone and its control are ready for action. | Photo credit: Adam Hyde.

NUCPS instructor and article author Adam Hyde provided these photos of drone activity in Lake County, IL. | Photo credits: Adam Hyde.

1. Drone surveys and photographs a crash scene.

2. Drone surveys and photographs a crash scene.
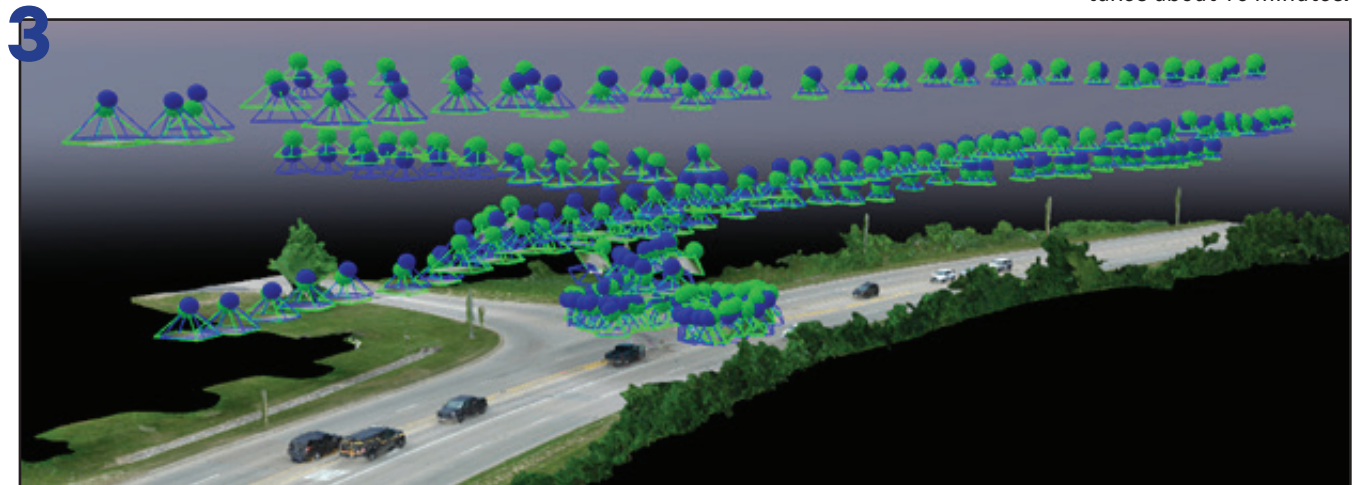
3. The blue and green bubbles in the sky are the locations of actual photos taken at different heights to capture the crash scene (100' to 25' high). The capture process takes about 10 minutes.

4. The "Virtual Survey" of the crash scene is depicted. Instead of using a Total Station or tape measure, the green dots are points to create a diagram. The point list is the excel file at right (5).

Intelligent Technology-Based Traffic Engineering:
ITS offers increased safety through advanced traffic engineering

by Robert K. Seyfried, PE, PTOE

Intelligent Transportation Systems (ITS) utilize information, technology, and systems engineering principles to provide tools that increase the efficiency and safety of today's traffic, including the operations of streets and highways, transit systems, trucking movements, and bicycle and pedestrians facilities. According to a 2016 report by Grand View Research, Inc., the international ITS market is expected to grow to $66.5 billion as soon as 2024, driven by the need to increase traffic safety around the globe.

Current ITS technologies provide safety improvements by managing transportation systems during congestion, incidents, emergencies, and natural disasters, as well as offering a wide range of benefits for personal and public transportation, such as simplifying trip scheduling and mode selection.

ITS Examples

Managed lanes include highway or street lanes and roadways where the flow of traffic is managed by restricting vehicle eligibility, limiting facility access, or collecting variably priced tolls. These include special-use lanes such as high-occupancy vehicle (HOV) lanes, high-occupancy toll (HOT) lanes, express toll lanes (ETL), truck-only toll (TOT) lanes, bus-only lanes, and other special use lanes.

Managed lanes are continuously adjusted depending on traffic speeds or density. For instance, HOT lanes operate as toll lanes using electronic toll collection (ETC) for single-occupant vehicles. Carpools of two- or three-plus occupants generally may use the HOT lanes for free, thus encouraging drivers to shift to HOVs, while single-occupant vehicles are charged a variable toll that is dependent on the time of day, level of congestion in the general-use lanes, and occupancy of the HOT lanes. Enforcement is an important element of a managed lane implementation and should be considered early in the project development. Without proper enforcement, high violation rates are sometimes observed.

Adaptive traffic signal control technologies have been increasingly used for critical arterial streets and corridors. An adaptive signal system continuously adjusts, in real time, signal timing based on current traffic conditions. Transit signal priority is an operational strategy that aims at providing priority to such transit vehicles as buses at signalized intersections that extend the green light or shorten a red light to reduce the vehicles' travel time, increase total movement of people, and improve the reliability and attractiveness of transit services while minimizing impact on normal traffic operations.

Variable speed limits (VSL) can be used to improve

safety during adverse weather and reduced-visibility conditions, near roadway incidents, or in work zones. When employed upstream of traffic bottlenecks, VSLs can limit the continued progression of a congestion shockwave. In effective implementations, VSLs have decreased traffic speeds in adverse conditions and have improved safety by reducing the frequency and severity of weather-related crashes. Again, enforcement has been found to be an important component of successful application.

Queue warnings of slow or stopped traffic on freeways and other high-speed roads are used to warn motorists of downstream congestion and to direct through traffic to allow vehicles to merge from closing lanes. The goal is that motorists take appropriate actions, such as slowing down or changing lanes. Queue warnings can be supported by the use of VSL to emphasize the need to reduce speed.

Traveler information systems provide real-time travel information for both motor vehicle and transit users. ITS applications that provide traveler information can assist travelers prior to starting their trip or during the trip so users can make more informed decisions about departure time, route choice, and mode of travel. Pre-trip information consists of traffic, weather, transit schedule, roadway incidents, and work zone information posted on internet websites, cell phone apps, television, radio, or kiosks. En-route

Variable speed limits can decrease traffic speeds in adverse conditions. | Photo credit: USDOT

information available via roadside or transit terminal message signs, in-vehicle devices, wireless devices, and telephone services helps users to make informed decisions regarding alternate routes and expected arrival times.

Public field devices, such as changeable message signs (CMS) and highway advisory radio (HAR), provide information to drivers on expected travel times for certain destinations and offer alerts on incidents, inclement weather, and other events. CMS are usually installed on freeways - typically near major interchanges that offer opportunities for selecting alternate routes. However, CMS with poorly designed messages, complex messages, or messages that are too long for motorists to read at prevailing highway speeds can lead to motorist confusion and can adversely affect traffic flow. Broadcast over an AM or FM radio channel, HAR provides audio reports to travelers that include traffic conditions in their vicinity. This format is desirable where messages must contain more detailed information than can be effectively displayed on CMSs.

Such cell phone apps as Waze and Google Maps as well as built-in vehicle navigation systems are rapidly becoming the preferred source of traffic and travel information for drivers and passengers of private vehicles. An important consideration, though, is the potential for driver distraction. As more complex controls, displays, communications devices, and entertainment systems appear in cars, the level of driver distraction is expected to increase. Real-time information provided en-route in the form of text messages or in-vehicle navigation systems further increases this danger.

Road weather management technologies detect conditions that may be hazardous - such as snow or ice, limited visibility, and flooding — and provide timely and accurate warnings to motorists. Wind-speed sensors on some roadways and on bridges indicate when travel advisories for trucks and other large vehicles should be communicated. When winds are particularly high or visibility is low, these sensors may indicate the need to close highways or bridges to all traffic.

Progressive Processing in Latent Fingerprint Development

by Don Ostermeyer

Fingerprints are unquestionably the true means of identification in most criminal events. This requires the Crime Scene Analyst/Technician be well trained in the chemical properties and development techniques of latent prints. Fingerprint reagents and developing techniques should be approached in a sequential or combination of ways to allow for their complete development and documentation. The analyst or technician must be capable of laying out a Progressive Processing Track in order to obtain the most sensitive or specific means of development process. Science has provided for the development of new and innovative techniques in fingerprint enhancement.

Since the creation of black dusting powders, the mainstay was to visualize latent fingerprints on the crime scene by contrasting the latent print to the surface or substrate. Most of these earlier techniques involved the use of lamp black- or carbon-based powders. While many of these are still in use, new innovative techniques have resulted in finer, more sensitive versions of dusting powders. These afford more sensitivity and better enhancement and contrast than the previous conventional powders. The improvements in powder dusting of latent fingerprints require continued educational updating of technicians and analysts.

With the possibility of thousands of times more sensitivity in the development of latent fingerprints, the knowledge gained in these techniques or procedures are critical. Progressive Processing and some simple application of rules of thumb can increase results dynamically. Unfortunately many agencies fall back into written protocols or standards. This can often interfere or negate the possibility of applying many of these progressive procedures.

Rules of thumb allow further development of multiple types of evidence and surfaces or substrates. This requires a systematic approach to the evidence:

- **Preliminary visualization of the evidence**, inclusive of ambient light, ALS, or lasers using available wavelengths of light energy;
- **Blood First** requiring the location of even trace blood contamination or stains and their subsequent detection, identification and enhancement;
- **To C/A or not to C/A?** (Cyanoacrylate) Determination if super glue fumes can aid in the visualization and/or further development of latent print;
- Understanding of the **type of latent residue** suspected — and the substrate it is deposited upon — will determine the techniques available to develop these various residues or substrates;
- **Progressive Processing** will determine the techniques possible, which are more sensitive, and in what order these techniques should be applied for further possibilities in the development process;
- **Documentation of Latent Development / Enhancement at each stage of Progressive Processing is essential;**
- Environmental conditions that could interfere during the depositing or development of latent prints;
- Wet development techniques should be considered on wet surfaces.
- At what **stage of processing** might a point of no return be reached?
- Should any subsequent latent examinations be considered?

Consider each of these steps and possible additional steps required in individual departmental procedures.

The analyst should determine the approach based on the initial visualization. This visualization should include available bright ambient light and varying wavelengths to enhance multiple forms of evidence that may be present. Examination for Blood First should include a screening of the surfaces with a light source producing from 418nm through 520nm, which should absorb into blood residue. This could produce visibility of even trace specimens of blood residue. If detected, these residues of trace blood should be presumptively tested and collected for possible DNA. Dependent upon the trace residue visualized, further enhancement may be attempted.

The question of **"Super Glue Processing (Cyanoacrylate)"** must be determined by the analyst in whether or not this process will aid in the further development of latent print residues. Could this process help in the preservation of evidence for further development? [Super-glued prints may be easily visualized following processing by applying a visible wavelength in the 530nm though 550nm region.]

Understanding the type of latent print residue and the substrate it is deposited on will assist in the establishment of a Progressive Processing procedure and the order in which these techniques should be applied. The consideration of the substrate surface — whether it's porous or non-porous, absorptive, or other flaws or obstructions — must be tak-

en into consideration. The regret is that **this procedure frequently falls into an agency's protocol and becomes a technique of "Super Glue, Powder and Dye," with few or no exceptions.** This often leads to the loss or damage of evidence.

Training provides crime scene technicians or analysts the capability of pre-determining a progressive track of development. Through the initial visualization, the analyst will determine which processes might be used — and in which order — to gain the ultimate in sensitivity and specificity **to obtain all of the recoverable evidence**. Documentation at each of these progressive steps will allow for a complete forensic record of recovered latent prints.

Documentation by the forensic analyst or technician is critical at each step of processing. This eliminates the possibility of loss or damaged evidence. It also requires that the analyst be well trained in digital photography and its enhancement capabilities. Digital photography is a critical element in the development and identification of latent print evidence.

Environmental issues may often interfere with latent print development or enhancement. Humidity may hamper or assist in the development process. The analyst should observe the possibility of interference and determine the progression of process accordingly. Many times this involves using a wet technique. **It is entirely possible to process for latent prints in a rain storm or even underwater** if the analyst has the knowledge and equipment available.

At what point has the 'Point of No Return' been reached? This

question arises when there are additional techniques or possibilities which may be tried. Could the substrate provide additional possibilities? This question often arises in the discussion of latent prints on human skin or clothing, both of which have been demonstrated and published. Vehicles are a constant question in the de-

NUCPS Forensic Science students at work on project in a Las Vegas class.

velopment of latent fingerprints on steering wheels, vinyl dashboards and leather seats. Development of these possibilities often requires the application of specialty powders developed for these specific applications.

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Police Motorcycle Officers:
Managing the risks to reap the rewards through training

by Victor Beecher

Motorcycle Officer Jason Gregory Harris was killed when he struck a turning truck in South Carolina. Sergeant John Lee Steel was hit by a driver who fell asleep at the wheel in California. Officer Amir Abdul-Khaliq was struck by a car while escorting a funeral procession in Texas. While the circumstances surrounding the death of any officer is unique, these three share one attribute: they occurred on the back of police motorcycles.

All motorcycle riders trade common stories of near collisions, inattentive drivers, and impaired drivers, but motorcycle police officers live life—and experience risk—at another level. While injury or death in the line of duty is a known risk to anyone who straps on a gun and badge, motorcycle officers have a much more intimate relationship with on-duty risk. Since 1923, the California Highway Patrol has experienced the tragic loss of 233 officers while on duty. More than one-third of those on-duty deaths occurred in motorcycle crashes. Two officers died in 2017 alone. (Officer Down Memorial Page).

Given the risks, why do officers choose to become motorcycle officers? Most will tell you that it is simply what they want to do — a passion or a calling.

. . . .

Early Years of Motorcycle Training

The wisest motorcycle officers make an effort to minimize risk - and that requires training. In 1964, NUCPS — then operating at Northwestern as the Traffic Institute — was at the forefront of police training in the U.S., as it continues to be. Even then, the Traffic Institute provided a one-of-a-kind course for police motorcycle officers, simply entitled "Motorcycle Operation." The 1964 cover of the Traffic Institute's *Motorcycle Operation: A Manual for Riders* depicts an artist's rendering of a motorcycle officer on his Harley Davidson motorcycle responding to a crash on a very narrow shoulder of a packed roadway. The police officer's uniform appears identical to the uniform many motorcycle officers still wear today: a leather jacket customized to accommodate a police holster and equipment, white helmet, high leather boots, and gloves. The motorcycle depicted has come a long way over the last 54 years, but the resemblance is unmistakable.

Despite this, the 1964 edition of *Motorcycle Operation* is a shadow of its current edition. The latest edition includes learning objectives and skills that have evolved over time, and the manual now provides a focused and challenging course of instruction that was not possible in 1964. Long gone are references to skills required to compensate for brake systems that pre-date anti-lock capabilities and other antiquated equipment.

As police motorcycle units evolved, so too did society. Such terms as *policemen* reflect the old male-dominated police culture and were revised to inclusive terms in modern editions.

The 1964 edition of *Motorcycle Operation*'s forward, written by then-director James M. Slavin, foreshadows the long-term historic partnership between NUCPS and Harley Davidson, as well as their mutual commitment to the safety of police motorcycle officers through the ensuing 53 years. Citing cooperation with the Harley-Davidson Motor Company, Slavin wrote:

"Satisfaction and effectiveness in riding a motorcycle is only attained by developing proper skills and habits in riding. Most of these skills require training and practice."

(continues)
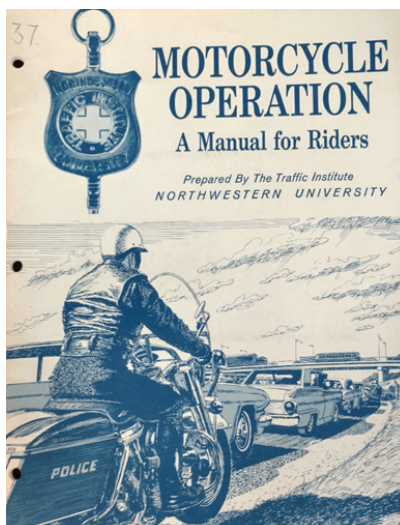
Gold-Standard Training Reduces Risk

In the years following the 1964 manual, NUCPS' two-week training course, Police Motorcycle Operator, has become the gold standard for Police Motorcycle training.

Together with NUCPS' three-week instructor's course, our motorcycle programming has provided valuable training to thousands of officers in the U.S. and around the world. Often imitated but never equaled, the NUCPS program stands alone in the world of motorcycle training in two distinct ways:

- Tested and true improvement of police motorcycle officer safety; and,
- The reduction of the risk police agencies manage in the service of the community.

Risk management is no small matter; however, many police agencies still fail to understand the basic steps needed to reduce liability and improve safety. Agencies that rely solely on untrained but experienced police motorcycle officers to train new officers have no idea of the quantity or quality of training their officers are providing. They are out on a proverbial limb if, during training, an officer is seriously hurt or killed. A training-related on-duty death is going to reveal everything the training officer did wrong and expose the instructor's lack of qualification. If motorcycle instructors never receive formal instructor training, or their training certification has expired, at best, the results of an inquiry will be embarrassing — to the instructor and the agency.

Agencies can self-certify and roll the dice. But when safety is involved, why would agencies want to take the risk? And why would they want to use a trainer who has never received instructor training or failed to maintain an instructor certification?

The NUCPS police motorcycle training programs offer students gold-standard training, using standard-setting Harley-Davidson police motorcycles as a part of our one-of-a-kind program. Officers who successfully complete the training are awarded a certificate from Northwestern University and become a member of a family of the nation's best- trained police motorcycle officers. No other university-manufacturer partnership exists to provide this critical training — and better training doesn't exist.

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An edited version of this article was published in the August 2017 issue of The Motor Officer *magazine.*

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- **Police Motorcycle Instructor Training:**
  4/9 - 4/27 - Las Vegas Motor Speedway, Las Vegas
  5/7 - 5/25 - Woodbridge Center Mall, Woodbridge, NJ
  6/4 - 6/22 - GM Component Holdng Facility, Kokomo,
  7/9 - 7/27 - TBD, Chicago, IL

- **Police Motorcycle Operator Training:**
  4/16 - 4/27 - Las Vegas Motor Speedway, Las Vegas
  5/14 - 5/25 - Woodbridge Center Mall, Woodbridge, NJ
  6/11 - 6/22 - GM Component Holdng Facility, Kokomo,
  7/16 - 7/27 - TBD, Chicago, IL

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FEATURED STAFF STUDY:
Implementation of a Tactical Medical Training Program to Enhance the Survivability of Officers in the Farmington (NM) Police Department

by Tamara Smith, Farmington (NM) Police Department
Submitted Oct. 13, 2017, SPSC Class #420, Albuquerque, NM

Problem

The City of Farmington Police Department (FPD) currently has 138 sworn officers and 50 civilian personnel (Annex A). According to the United States Census Bureau, the City of Farmington has a population of approximately of 41,269 people, but that population grows drastically to about 150,000 residents during the weekends because the city is the commercial hub for the four-corners area, to include: New Mexico, Colorado, Utah, and Arizona (Annex B, Annex C). It also experiences a significant population influx based on the surrounding Navajo Indian Reservation (Annex B).

Across the nation, active threat situations, including active shooter, active stabber, bombing incidents, and other intentional acts directed to inflict mass casualties have been increasing (Blair). The City of Farmington has experienced a general increase in violent crimes as well as an increase in violent crimes against Farmington Police Officers (Annex D). Officers operate in volatile situations where violence is prevalent. Since emergency medical services cannot respond to render aid in a situation until it is secured, officers must be equipped and trained to administer urgent, potentially life-saving tactical medical treatment to themselves, other officers, and even citizens in possibly hostile environments (Brewer, 2014a).

With the exception of the Special Weapons and Tactics (SWAT) team, most FPD officers have not received medical training beyond basic first aid. The International Association of Police Chiefs (IACP) conducted a study and issued a recommendation that all officers be trained in tactical medical techniques to help preserve officer lives (Annex G). Based on the dangerous environment, propensity for injury of law enforcement officers, and the IACP recommendation, the Farmington Police Department should implement a tactical medical training program to increase survivability of its officers.

Assumptions

- Officers will continue to respond to dangerous, life-threatening situations.
- These incidents will continue to increase in the Farmington area and across the nation.
- Officers at the Farmington Police Department have insufficient tactical medical training.
- Officers do not know how to utilize items included in the medical kit.

Facts

- The Farmington Police Department is comprised of 138 sworn officers and 50 civilian personnel (Annex A).
- The Farmington Police Department issues individual first aid kits (IFAK) to all patrol officers (Annex H).
- Violent crimes increased in Farmington from 3,003 in 2014 to 3,336 in 2016 (Annex D).
- Violent crimes against Farmington Police Officers have increased over the past three years (Annex D).

Discussion

Background

The City of Farmington has experienced an increase in violent crimes, as well as an increase of crimes against police officers since 2014 (Annex D). The Federal Bureau of Investigation has noted that active shooter incidents are increasing at an exponential rate within the United States with an average of 16.4 incidents per year between 2007 and 2013, a significant increase over the average of 6.4 incidents per year between 2000 and 2006 (Blair). According to the FBI, there were 50,212 officers assaulted nation-

wide in 2015, and 14,281 of those officers were injured (Annex E). As the number of violent crimes increase, especially those crimes committed against police, the potential for officer injury also increases.

After action reports from the Aurora Century 16 Theater shooting, the San Bernardino Inland Regional Center shooting, the Boston Marathon Bombing, initial reports from the Orlando night club shooting, and other incidents have emphasized the need for officers to be trained in hemorrhage control and other basic tactical medical treatment techniques to assist in the reduction of officer and citizen deaths. IACP has issued a recommendation that all officers be trained in tactical medical techniques and federal agencies, such as the Department of Homeland Security, have mandated that all of their officers be trained in tactical medical techniques, to include basic concepts of triage and mass casualty management (Annex G; Brewer, 2014a; The Interagency Board).

Comprehensive analysis has shown that injuries sustained in law enforcement are similar to wounds sustained in combat military zones. Lessons learned from law enforcement and military casualties have cited excessive, uncontrolled blood loss as the leading cause of death from traumatic injuries, followed by penetrating chest wounds, and suffocation by tongue or fluids (Brewer, 2014a). Research has demonstrated that 25 percent of victims suffering from those three conditions will die within five minutes — with uncontrolled bleeding causing death
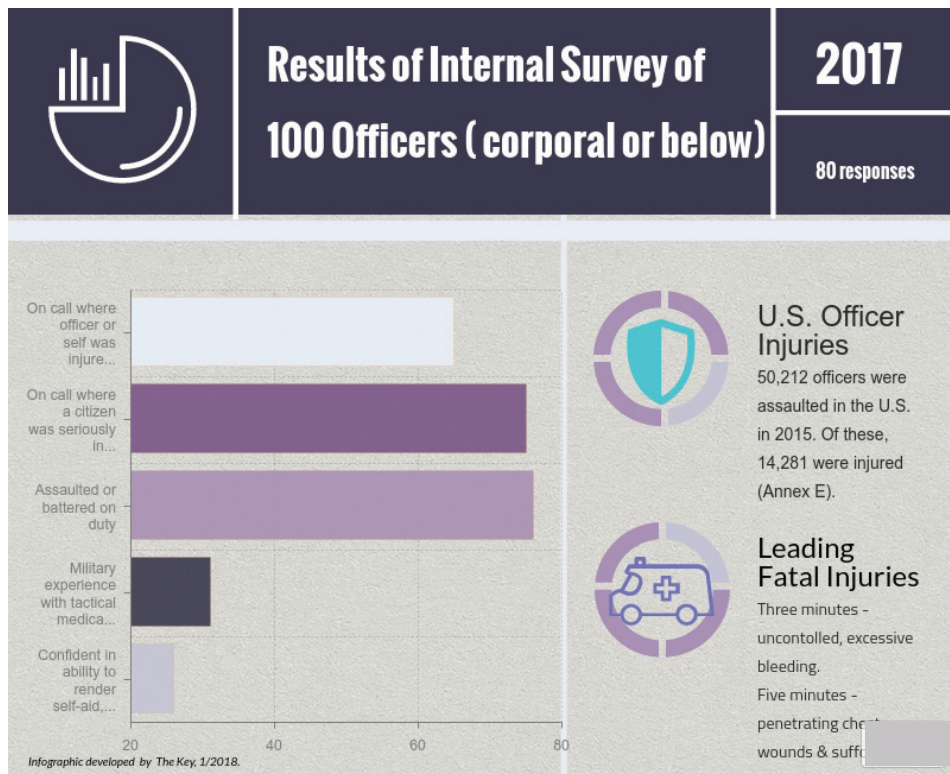
An interactive version of this infographic is available at bit.ly/nucpsTheKey.

within three minutes (Pearce).
Internal Survey

A 10-question survey was created and distributed to 100 officers at the rank of Corporal or below. The questions covered:

- Years of police service;
- Specialty positions held, prior military service, and prior medical careers;
- Whether the officer had been on a call where an officer, including oneself, was injured;
- Whether they had been on a call where a citizen had been badly injured;
- Whether the officer had been assaulted or battered in the line of duty;
- Whether the officer carried a tourniquet or other medical supplies on their person at

work;
- Whether the officer had been trained in the application of a tourniquet, hemostatic gauze, or chest seals; and,
- Whether the officer felt confident in their ability to render self-aid, buddy-aid, or citizen aid in a critical injury situation (Annex F).

A total of 80 officers responded, and 65 percent had been on a call where an officer (including self) had been injured; 75 percent had been on a call where a citizen had been badly injured; 76 percent had been assaulted and/or battered on duty. Of the 80 officers that responded, 25 had military experience and received tactical medical training in the military. Without counting the 25 officers that had training in the military,

38 out of the remaining 55 officers had received some form of training in the application of tourniquets, gauze, and other medical components. Only 21 of those 55 officers (38 percent; 26 percent of overall total) felt confident in their abilities to render self-aid, buddy-aid, or citizen aid in a critical injury situation.

Benefits

There are several benefits to providing tactical medical training to officers. A research study of officers that were critically injured in the line of duty showed that many of the officers did not render self-aid because they had not been trained (Brewer, 2014b). By training officers, they are more likely to carry medical supplies on their person, revert to their training when injured, and render potentially life-saving self-aid in a critical injury situation. Rendering self-aid also allows other officers to focus on neutralizing any threats instead of treating an injured officer. If necessary, officers with tactical medical training can render buddy-aid to another injured officer until medics arrive. Similarly, officers can render aid to badly injured citizens in extreme situations, to include shootings, explosions, other mass casualty events, or even car crashes.

Officers are often the first responders on scene of a mass casualty event and will likely be the only responders in any active, unsecured scene. Officers must be prepared provide life-saving immediate aid during these events. Any delay in medical treatment can prove fatal in rapid bleeding or airway obstruction situations (Russo). The Farmington Police Department would benefit from this forward-thinking training and should follow the recommendations issued by IACP and federal agencies (Annex G).

Solutions

1. **Alternative I**
The department could decide to maintain the status quo. FPD could choose not to provide tactical medical training to officers and officers would rely on their current skillset in a critical injury situation.
   Pros:
   • No disruption of shift for training.
   • No additional cost to the department.
   Cons:
   • Officers will not improve their ability to render self-aid, buddy-aid, or citizen aid.
   • IFAK kits will be useless in vehicles due to a lack of knowledge to utilize compnents.
   • Department is subject to potential liability in a litigious society for failure to provide tactical medical training to officers.
   Cost: None.

2. **Alternative II**
FPD could utilize a third party to train tactical medical instructors who will then train the rest of the department. Using Trilogy, FPD could host a three day on-site instructor class to train several instructors for the department. The training could also be extended to other agencies in the region, but the cost to FPD would still be a minimum of $3,600 (Annex I).
   Pros:
   • Professionally developed class for quality training.
   • Three day course to train instructors.
   • Instructors can train the rest of the department on overlap training days.
   Cons:
   • Class size must be between 24 – 30 students.
   • Disruption to shifts for three days while students attend the instructor class.
   • Must be scheduled three months in advance.
   Cost:
   • $450 per seat, with two free seats for hosting agency.
   • No additional cost to train the rest of the department if using Wednesday overlap training days.

3. **Alternative III**
FPD could send 8 to 10 officers to the Federal Law Enforcement Training Center (FLETC) in Artesia, NM, to complete the Basic Tactical Medical Instructor program for law enforcement officers. This is a three day course that teaches officers to mitigate the loss of life in active threat situations and provides instruction on hemorrhage control, tourniquet application, airway control, and other tactical life-saving techniques. There is no cost for this course (Skinner).
   Pros:
   • No cost to the department. FLETC covers the tuition, supplies, room, and food.
   • Newly trained instructors can train the rest of the

department.
- Current department members have credibility in department.
- Newly trained instructors can ensure that training is provided within department policies.
- Training can be performed on Wednesday overlap training days.

Cons:
- Officers attending the instructor class will be gone for five days: two days of travel; and, three days of instruction.
- Training may need to be scheduled across several training days to ensure training of the entire department.

Cost:
- Man hours of the officers selected to attend the instructor program.
- Man hours of instructors to train the rest of the department.

Conclusion

According to FBI statistics, violent crimes, as well as crimes against police officers, are on the rise nationwide (Annex E). Similarly, violent crimes have increased in the City of Farmington, as well as crimes against Farmington Police Departments, since 2014 (Annex D). Research performed by the FBI has also shown the active threat situations are exponentially on the rise (Blair). As violent crimes and crimes against police officers increase, so does the propensity for critical injury to officers.

After action reports from the Aurora Century 16 shooting, the San Bernardino Inland Regional Center terrorist attack, the Boston Marathon bombing, the initial reports of the Orlando Night Club shooting, and other mass casualty incidents, have identified the need for officers to be trained in tactical medical techniques. Emergency medical services were delayed entry in all of these situations. Similarly, EMS is often delayed entry into situations where officers have been shot or injured because the scene has not been secured. Additional research noted that the wounds sustained by officers and citizens in violent situations, or mass casualty incidents were similar to military combat situations and noted that officers would benefit from similar training (The Interagency Board). In 2013, IACP issued a formal recommendation that all officers be trained in tactical medical capabilities (Annex G).

A survey of 80 FPD officers showed that 93.8 percent of officers had been on a call involving a badly injured citizen and 95 percent of officers had been assaulted or battered in the line of duty. The survey results also indicated that only 38 percent of officers without military experience were confident in their ability to render life-saving self-aid, buddy-aid, or citizen aid in a critical injury situation.

Alternative I is not recommended because officers will not have the opportunity to enhance their skills and survivability in life-threatening injury situations. Additionally, this option also leaves the department open to potential liability. Alternative II is also not recommended due to the manpower demands on the department to host the training and the high cost associated with it. Alternative III is the best option because it provides high quality training at no cost to the department, other than man hours; it affords officers the opportunity to improve their skills and chances of survivability in a life-threatening situation; and, increases the potential to render lifesaving treatment to citizens.

In accordance with IACP and federal recommendations, the Farmington Police Department should implement a tactical medical training program (Annex G). By implementing Alternative III, the department could utilize FLETC to train approximately 10 officers as tactical medical instructors that, in-turn, would train the remainder of the department on overlap training days (Skinner). This would mitigate the loss of life, increase the survivability opportunities for officers of the Farmington Police Department, and benefit the citizens of the community as well.

Recommendation

In order to follow IACP and federal agency recommendations, and for the FPD to increase survivability opportunities for officers, the department should implement Alternative III. It is the most robust solution, allowing FPD to get approximately 10 officers, or more if necessary, trained as Basic Tactical Medical Instructors through FLETC at no cost. These instructors would then train the

rest of the department utilizing overlap training days to minimize departmental disruption, and ultimately improve officer skills in emergency situations requiring life-saving medical care. An implementation guide has been included (Annex J).

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(To view all annexes cited in this study, please visit bit.ly/nucpsTheKey).

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— Chief Edward Tjaden, York (NE) PD

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Are Body-Worn Cameras the Right Fit for All Agencies?

by William P. McCarty, John Furcon & Rahul Kalsi

Headlines regarding violence in America and the deterioration of the relationship between law enforcement and the community resulted in the Illinois General Assembly's enactment of Public Act 099-0352, Police and Community Relations Improvement Act. This Public Act, signed by Illinois Governor Bruce Rauner in August 2015, addressed comprehensive police reform at the state level, including the use of body-worn cameras (BWCs), expanded procedural justice, training, and independent reviews of police-involved death. The Act laid out recommendations for comprehensive police reform in the State of Illinois. The issues addressed in the Act include:

- Reporting officer-involved deaths
- BWCs
- Reporting deaths, weapons discharge
- The Commission on Police Professionalism
- Officer conduct database
- Pedestrian detention reporting
- Tactics: (a) chokeholds; (b) detention and frisks
- Enhanced training
- Equipment

The Veritatis Institute convened a group made up of (5) Elected & Appointed Municipal Leaders, (4) Law Enforcement Executives, (4) Members of Research & Academia in December 2015, to explore the scope of this new law, its effect on our communities across the State of Illinois, and policy alternatives and enhancements for today and for the future. The invitation-only participants reviewed and discussed the realities and perceptions of public safety in our Illinois communities, implementation and costs of this new law, and provided recommendations to make this law even more effective.

The outcome of the one-day forum prompted the creation of a survey to representatives of law enforcement agencies throughout Illinois in order to understand whether they currently use BWCs, if they plan on using BWCs, and what sorts of barriers exist to utilizing BWCs.

Given its focus on evidence-based research, members of The Veritatis Institute developed and distributed a 12-item survey that was fielded online from December 16, 2015, until January 19, 2016. A link to the survey was made available to over 1,000 members of the Illinois Association of Police Chiefs (ILACP) and the Illinois Law Enforcement Alarm System (ILEAS). Potential respondents were asked that only one representative per agency reply to the survey. These methods resulted in a total of 501 individuals who responded to this survey.

In early 2017, a second survey was developed and distributed to <u>agencies that were identified as already using BWCs</u> in an effort to understand their perceptions of the technology, including cost, positive experiences and negative experiences. Agencies were identified as using BWCs, and thus eligible for inclusion, through conversations with law enforcement officials in Illinois and BWC manufacturers. Per those conversations, a 20-item survey was sent to 60 agencies in Illinois in February, 2017. While only a small number of respondents completed the survey (n=7),these responses and subsequent impressions can aid other agencies who are contemplating BWCs by giving them a sense of how the new technology can affect budgets, officers, and relations with community members.

The summaries of the results of these surveys are presented and discussed below. The complete surveys and findings can be found at http://veritatis-institute.org/.

2015-2016 Survey Results

The survey began by asking respondents if their department/agency was currently, as of the distribution of the survey, using officer BWCs. As the figure immediately below indicates, the use of BWCs does not currently appear to be widespread in the state of Illinois, with approximately 88% of the 501 respondents stating that their department/agency **does not** **currently use** the technology and approximately 12% stating that their department/agency **does** **currently use** the technology.

Figure: BWC Usage in Illinois
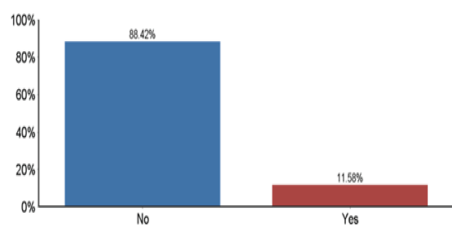
A follow-up question was posed to those respondents whose agencies did not use BWCs, with them being asked about whether they plan on using them. Of those 443 respondents whose agencies did not use BWCs, roughly 52% reported they had no plans on using them in 2016, or the year in which the survey was fielded.

Further, approximately 37% reported being unsure about using them in 2016. The remaining 11% stated that their agency/department planned on using BWCs in 2016.

Put succinctly, the results suggest that few agencies in Illinois use BWCs and few have definitive plans on using them.
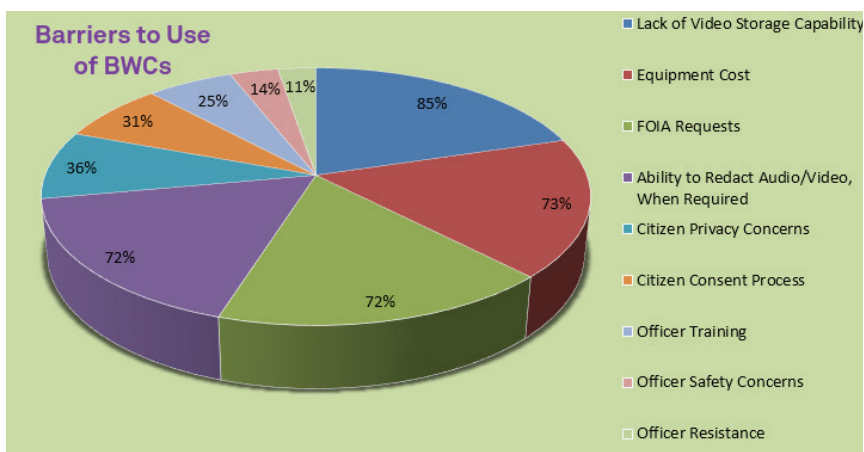
Which of the following are barriers to your department agency using officer BWCs? (420 total respondents)

Respondents representing departments/agencies that were not using BWCs were also asked about barriers that existed to utilizing the new technology through a question that listed nine possible impediments and asked respondents to check all that applied. For those 420 respondents who replied, the top four barriers were a lack of video storage capabilities (selected by 85% of respondents), cost of equipment (selected by 73% of respondents), receiving and responding to Freedom of Information Act (FOIA) requests (selected by 72% of respondents), and being able to redact video and audio, when required (selected by 72% of respondents). Other responses included: citizen privacy concerns (36%), citizen consent process (31%), sufficient officer training (25%), officer safety concerns (14%), and officer resistance (11%).

Respondents were also given an open-ended question, where

they had the opportunity to describe the main reason(s) why their department/agency had no plans for using BWCs. Of those respondents who stated that their agency/department did not currently use BWCs, a total of 214 took the time to explain their rationale.

Unequivocally, the top two reasons cited for not using BWCs were cost and the issues with the Illinois law. For example, in terms of cost, one respondent stated:

"We are a small department and the costs associated with the use and retention of video footage, coupled with the tracking and reporting requirements makes the use of these cameras a burden on the department and city."

As another example, in terms of the Illinois law:

"The Illinois legislature made the body camera law so restrictive that it will cost too much to implement the program. I really would like to have body cameras but under the law, it is not practical. I would have thought that the

legislature would have drafted the law so agencies would use them, not stay away from them."

Questions then shifted to the Illinois Law Enforcement Body-Worn Camera and Management Act, with 80% of the 427 respondents whose agencies were not using BWCs responding that they were somewhat familiar, moderately familiar, or extremely familiar with what is contained in the new legislation. Awareness of the Illinois Law Enforcement Body-Worn Camera and Management Act was high among this group of respondents whose agencies were using BWCs, with 92% of the 54 respondents being somewhat familiar, moderately familiar, or extremely familiar with what is contained in the legislation.

Several additional observations could be made based on the responses of those in agencies currently using BWCs. For one, as the figure Satisfaction with BWCs indicates, those respondents expressed overwhelming satisfaction with BWCs, as close to 93% of the 54 respondents were satisfied or very satisfied with using the technology.

Further, and most importantly among this group of respondents who report their agency/department uses BWCs, 65% of the 50 respondents do not plan to discontinue using the technology in light of the requirements in the new Illinois law. An additional 23% of respondents don't know if they plan to discontinue the use of BWCs. Finally, 12% plan to discontinue the use of BWCs in light of the requirements in the new law. While it is a net positive that
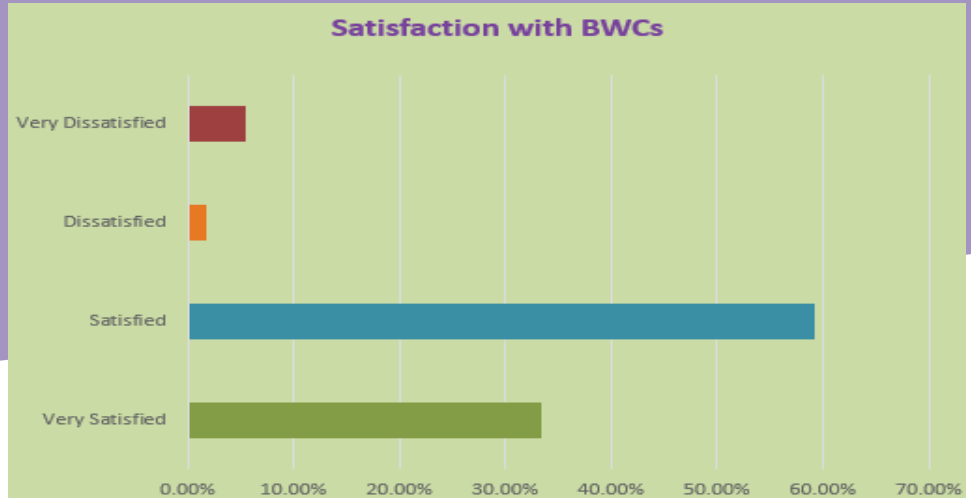
65% plan to continue using BWCs, the percentage of respondents who plan to discontinue or don't know is at least somewhat troubling given the overall broad satisfaction expressed with BWCs (i.e. 93% satisfied or very satisfied).

Conclusions from the 2015-2016 Survey

The results of the 2015-2016 survey coalesce into several themes. First, the vast majority of departments/agencies in Illinois are not currently using BWCs, nor do many have definitive plans on using them in the near future. Second, barriers to using BWCs are many, and some of the strongest are a lack of video storage capabilities, cost of equipment, receiving and responding to FOIA requests, and being able to redact video and audio when required. Open-ended responses also suggest the two main reasons for not adopting the technology are cost and concerns about complying with Illinois Law Enforcement Body-Worn Camera and Management Act. Finally, a small, but growing, percentage of departments/agencies are currently using, or have plans to use

BWCs. The agencies already using BWCs express overwhelming satisfaction with the technology, and cite the benefits as far as evidence, officer safety, and transparency.

2017 Follow-Up Survey Results

Agencies were identified as using BWCs, and thus eligible for inclusion, through conversations with law enforcement officials in Illinois and BWC manufacturers. Per those conversations, In February 2017, The Veritatis Institute conducted a follow-up 20-[question] survey sent to 60 Illinois law enforcement agencies currently using BWCs.

Responses were received from 7 agencies with an average size of 18 sworn officers and an average number of 13 officers using BWCs. The modal, or most common response, was that officers in those agencies received 1-2 hours of training on BWCs and on average respondents reported having used BWCs in their agencies for 2 years. All respondents reported that their agencies have a written policy on the use of BWCs.

While only a small number of

respondents completed the survey (n=7), these responses and subsequent impressions can aid other agencies who are contemplating BWCs by giving them a sense of how the new technology can affect budgets, officers, and relations with community members.

Just over 70% of respondents were very satisfied or satisfied with using BWCs. It is interesting to note that the remaining two respondents expressed being very dissatisfied with BWCs.

Describe your overall level of satisfaction with using officer body worn cameras?

Respondents also were asked about cost(s) of per camera purchases, other equipment costs, costs of services to support the equipment (storage, maintenance, etc.), and other non-equipment costs. The modal response to those questions on cost were that they were about what the agency expected, as opposed to being more than expected or less than expected. Familiarity with the Illinois Law Enforcement Officer-Worn Body Camera and Management Act remained high, with 71% of the seven respondents were extremely, moderately, or somewhat familiar with the legislation. It should also be noted that the remaining two respondents were only slightly familiar with the law, the parameters of which they required to follow as agencies using BWCs.

In response to a question about whether they plan to discontinue (i.e. stop using) officer BWCs due to the requirements contained in the Illinois Law Enforcement Officer-Worn Body Camera and Management Act, 57% of the seven respondents planned to continue using BWCs, 29% were unsure, and 14% planned to discontinue use. The results, then, were very similar to those found in the 2015-16 survey.

Finally, in terms of the close-ended survey questions, the respondents were asked, based on their experiences to date, if they would recommend the use of BWCs to other police agencies in the state of Illinois. Five of the respondents said yes; one respondent, no; and, one respondent did not [answer].

Respondents were also given open-ended questions, where they had the opportunity to describe the positive and negative reasons for using BWCs. The positive comments included discussion of decreasing complaints, evidentiary benefits, and officer buy-in. The negative comments included data storage, video and voice redaction, and equipment issues. Examples of positive comments included:

"[BWCs] support our officers and once persons know they are being recorded they aren't as abusive when dealing with officers. Since we had them we haven't gotten any complaints about officers being aggressive. I believe it tempers officers as well as those persons they are dealing with."

"Shortly after [starting] the program, a couple of our officers handled an incident that resulted in an arrest of a combative individual. Several months later, the individu-

al filed a lawsuit against the officers and the department. Being able to review the video from both officers' cameras really helped us understand the dynamics of what transpired during the incident and it clearly showed that our officers acted lawfully and appropriately given the behavior of the individual."

"When we first started looking at using body-worn cameras (2011-12) there was some reluctance on the part of some of our officers, and the police union had concerns about the proposed policy. We ended up postponing the implementation of the program while we worked with area legislators to create legislation specific to BWCs.

After the Ferguson, Missouri, incident, the law finally passed, albeit, quite different from the language that was first drafted. By then, some of the police perception from the public had changed from when we first started developing our program. Police misconduct allegations were on the news daily. So, as a result, our officers embraced the BWCs as they saw that the use of BWCs were aiding officers all over the country with defending their actions. So, where there were concerns by some when we first started discussing cameras, with the passage of time and changes in attitudes towards policing, any perceived problems went away and the cameras were a welcomed tool."

Examples of negative comments included:

"Cameras sometime go to 'sleep' and officer(s) may not

realize and push to activate only to find out the camera was awakened but not recording until second push of button."

Conclusions from 2017 Follow-Up Survey

Results of the 2017 follow-up survey suggest several themes. First, similar to the responses from the 2015-16 survey, the number of agencies using BWCs in Illinois appears to be very low, but overall sentiment of users was positive. Second, while most the respondents were positive about their experiences and would recommend BWCs to other agencies in the state, concerns still existed, mostly surrounding issues related to data storage, redaction, and equipment issues.

Overall Conclusions

Synthesizing the results from the two surveys, the Illinois Police and Community Relations Improvement Act, outlining the use of BWCs, has not proven to be a catalyst for law enforcement agencies to drop the use of BWCs nor has the Act made it less likely for them to recommend the technology to other agencies. The Act, though, still appears to be viewed as burdensome by some agencies and may actually restrict them from implementing a BWC program or lead them to consider discontinuing one in the future.

Next Steps in Illinois

The Veritatis Institute convened two forums in September and October of 2017, Oak Brook, IL and Springfield, IL, to review the results of the two surveys and discuss ways that will improve the Illinois Police and Community Relations Improvement Act for law enforcement and the citizens they serve. Issues discussed included redaction requests and changes, flagged vs. unflagged video, footage loss, cost of labor, expectation on the use of video footage (i.e. traffic accident reports), liability issues, and CSI effect. There was consensus that law enforcement leaders need to find a way to reduce the burden of FOIA requests and redactions for law enforcement administration and give insight on the best use of BWCs to legislators.

The next step is for law enforcement advocates to meet with Illinois legislators to discuss improvements in the current legislation so that more agencies statewide will feel confident adopting BWCs in their departments/agencies.

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COMMUNITY POLICING:
A revolution without change

by Victor Beecher

The ushering-in of Community-Oriented Policing in the late 1970s was promised to be the start of a revolutionary improvement in policing in America (Kelling 1988). Indeed, community policing has become the flag, flown for the past four decades by law enforcement agencies across America, which signaled a commitment to their communities and police-community partnerships.

The community policing strategy was created as a means to strengthen community trust and reduce crime by involving citizens in the design, implementation, and evaluation of law-enforcement programs. (US DOJ) But after 40 years of good intentions, impassioned rhetoric, and $150 billion of federally-funded community-policing initiatives, even those who purported to implement community policing strategy have little to show for the effort.

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Has the community policing revolution failed or is it yet to begin?

As we look back, it is certainly clear that whatever law enforcement has been doing for the last 40 years to improve police legitimacy and reduce crime hasn't worked. A 2014 systematic review of community policing studies revealed that many purported "community policing initiatives" rarely adhered to the community-oriented policing definition of community partnerships, organizational transformation, and problem solving. (Gains 2015) More troubling, researchers found that the community policing ini-

tiatives studied had no statistically significant effect on crime or the fear of crime. (Gill 2014)

Has it failed us, or have we failed it?

Efforts to measure the impact of community policing are stymied by the lack of agencies who have fully adopted the strategy, and research is relegated to the study of mostly short-term, disparate initiatives and small units performing mostly public relations functions. Despite becoming dogma within the professional law enforcement universe, community policing has been revised and redefined to the point where some argue it has no specific meaning at all.

Even the Department of Justice defines community policing as a philosophy, solidifying a move away from the definition of a single, objective-based strategy, with specific requirements. In 2014, the DOJ defines community policing as a:

> *"...philosophy that* promotes *organizational strategies that* support *the systematic use of partnerships and problem solving techniques to proactively* address *immediate* conditions *that give rise to public safety issues..." (US DOJ 2014) (emphasis added)*

Rather than an actionable strategy as it was originally intended, it has become a vague philosophy

that promotes strategies. The purpose of the strategies is no longer to define actions, but instead to support actions — and those actions are not intended to directly impact crime, fear, or disorder, but rather address conditions which give rise to public safety issues. The DOJ's adopted "philosophy" can "promote" a multitude of strategies rather than just one and fulfills no specific purpose — or all purposes depending on how

> *We need to look no further than the policing environment to come to the conclusion that we need to apply a more traditional — actionable — definition to community policing if we intend to meet expectations and achieve our common objectives.*

you define "*conditions* **giving rise** *to public safety issues*." This explains everything.

The hard truth is, most agencies who say they support or practice community policing, don't. If we choose to define community policing as a philosophy, it becomes possible to apply the 'community policing' label to almost any supported event where the police and community occupy the same space voluntarily. Consequently, it becomes difficult, if not impossible, to quantify or measure its effect on police legitimacy or crime. As the old police saying goes, "Random patrols have random results."

Today, community policing initiatives often lack critical functions (components) and are rarely implemented using valid and reliable systems of analysis. Operationalization of community policing has devolved into a compilation

of public relations programs, often conducted by a small number of specialty officers in specialized community service units. Disappointingly, these officers' duties typically focus on gaining public support and maintaining relationships rather than focusing on developing crime reduction tactics — and thereby achieving the same public relations outcome. Public relations efforts to improve police-community relations are

very important and valuable, but even the best public relations program will not stand muster to the effects of increasing or chronic crime as well as decreasing trust due to tragic incidents, poorly designed crime-reduction initiatives, or police operations viewed as out-of-touch with the community.

Clearly, U.S. policing has changed little — or the changes have resulted in almost imperceptible outcomes. Either way, the community policing strategy cannot have failed if it was not implemented. Again, we need to look no further than the policing environment to come to the conclusion that we need to apply a more traditional — actionable — definition to community policing if we intend to meet expectations and achieve our common objectives.

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Is an actionable community policing strategy recommended?

Community policing as it was originally envisioned, requires every component in the organization to become a part of the effort. Agency leaders, supervisors, and staff must evaluate how their function can better serve the community and seek input from the community whenever possible. Not every function will need adjustment, but any law enforcement function involving community contact is likely to need assessment for improvement.

In this effort, communities must be systematically involved in problem solving to reduce crime, fear, and disorder, and solutions need to be tracked and made public in an effort to ensure full transparency and understanding. To be successful, this effort requires an agency to adopt a policy of procedural fairness (*procedural justice*) within the organization, and then in the community during every police contact. Efforts designed to demonstrate the agency's commitment to fairness and community involvement must become integrated to the highest extent possible. This effort takes time, resources, and leadership, and communication is key. Leaders must make clear that needed changes are about creating trust, building community support, and simultaneously achieving organizational objectives involving crime, fear and disorder.

Keeping in mind that community policing is no panacea, implementing a community policing strategy is recommended wherever its tactical and strategic advantages have value and where exists

sufficient capacity necessary for its implementation. It would be easy to suggest that the founding principles of community policing are essential for every law enforcement agency, but this is simply not true.

Agencies in communities who enjoy strong community support and experience very little crime are ill-advised to give priority to a strategy requiring organizational change to facilitate improved community trust and crime-fighting strategies. They simply don't need it. Their priorities may be better aligned with their communities if they instead focus on improving and maintaining good public relations, adopting procedural justice principles, and making every effort to be operationally transparent. Naturally, as communities change, so too must agency objectives and priorities.

In larger communities where crime, fear, and disorder are issues of greater concern, law enforcement priorities must be different, and other variables need to be considered. Traditional crime response and prevention models are less effective and efficient when agencies do not know the nature of the problems or the issues involved in the neighborhoods they occur. Conversely, strategies designed to customize operations to specific, localized conditions are widely accepted to be more effective and efficient— while garnering more support (or less resistance) from the community. Therein is the tactical advantage of community policing. But there is more. It is also in those communities—where crime, fear, and disorder are a concern—that community support is most reti-

cent and fragile. Because police legitimacy and trust is often related to law enforcement tactics (both good and bad) that are used to achieve objectives, the operations that require community involvement in problem-solving allow the agency to make clear its operational capabilities, limitations, and official responsibilities. With understanding, comes increased trust and support. That is the strategic advantage of community policing.

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When is community policing most difficult?

Not every police agency experiencing increasing, chronic crime or faltering community support is prepared to implement community policing. The proverbial elephant in the room is that implementation of community policing requires significant resources — resources that many agencies lack as they struggle to keep up with calls for service while maintaining preventative patrols. Further, many agencies lack sufficient qualified staff to lead or oversee implementation of community policing and do not have sufficient policing capability to meet current operational demands.

Communities must be expected to invest in law enforcement agencies, not just to ensure police respond when citizens call, but also to ensure they can actively engage in community policing activities. It wasn't long ago when the federal government promised funding for 100,000 new police officers to implement community policing across the nation. This commitment was a reflection of

the amount of work community policing strategy requires to implement and maintain. When there are not enough officers available to respond to calls for service, meetings are canceled with community partners, development of custom operational tactics are delayed, and analysis of current operations are not possible. When specialty officers or staff are assigned to go to those meetings, any commitment to implement a solution using patrol officers must be tempered with the knowledge that there may not be any available to join the effort. In these cases, it is likely the only community policing strategy that will result in positive outcomes is one focused not on its implementation, but rather on efforts to obtain the resources from local governments needed to meet current operational demands in addition to those needed to implement and maintain an effective community policing strategy.

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NUCPS Awards Initial 2018 Scholarships

On January 23, 2018, NUCPS awarded its first partial scholarships for fiscal year 2017-18. Ten applicants were awarded partial scholarships for upcoming courses in Evanston, online, and at off-campus hosting agencies. Altogether, approximately $22,000 was granted to the first ten qualifying applications received, beginning Jan. 3, 2018.

NUCPS posted its 2017-18 Scholarship Program application on its website at the beginning of November and began accepting applications for the 2017-18 year on Jan. 3. All applications received after Jan. 23 will be considered — on a first-come, first-served basis — in the third quarter of the 2017-18 fiscal year, if funding is available.

To learn more about the NUCPS Scholarship Program, visit http://bit.ly/NUCPSScholar.

The availability and expansion of the scholarship program is dependent on contributions from the NUCPS community. To learn more about helping fellow officers benefit from NUCPS courses, visit http://bit.ly/NUCPSGiving. In addition to scholarships, contributions, no matter the amount, also support this publication and other NUCPS services.

Contact nucps-alumni@northwestern.edu with NUCPS Scholarship Program questions.

NUCPS Crash Investigation 1 for U.S. Army MPs, Schofield Barracks in Hawaii, Fall 2017

SAVE THE DATE:
NUCPS Annual Reception, Oct. 7, 2018

Following the success of the 2017 reception in Philadelphia, NUCPS faculty and staff look forward to greeting alumni, students, donors, program hosts, and friends at the 2018 NUCPS Annual Reception in Orlando, Florida.

Save the Date for Sunday, October 7, 2018 at Maggiano's Little Italy, Orlando. Visit with colleagues from NUCPS programs and network with new acquaintances from 5:30pm to 7:30pm.

RSVP information is forthcoming and will be announced both in *The Key* and on NUCPS website. Follow NUCPS on Facebook (facebook.com/nucps) and Twitter (@nucps) for up-to-the-minute information on the recepton as well as other NUCPS news and updates.

Contributors to this issue

Victor Beecher, Associate Director, NUCPS Programs & Events. SPSC Class #255. A 26-year veteran of the Milwaukee Police Department, Beecher rose through patrol and investigative ranks and retired in 2016 as a captain. In addition to his responsibilities for all police operations at District Four, Beecher implemented data-driven, community-engaged, proactive strategies to reduce crime, fear, and disorder.

John Furcon, Director, NUCPS Research & Consulting. Furcon designs and implements organizational management programs for law enforcement institutions. He is the 2009 Illinois Association of Chiefs of Police President's Award Recipient and has had numerous articles published in law enforcement industry magazines. Furcon offers more than 40 years of experience consulting with law enforcement and private sector organizations on change management, organizational effectiveness, and executive development. He earned graduate degrees in management and psychology from the University of Chicago and DePaul University.

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Thank you to this issue's contributors. If you would like to contribute an article to *The Key* — or wish to see an article on a specific topic — please contact Caroline Paulison Andrew at nucps-alumni@northwestern.edu.

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