

**INCORPORATING VIRTUAL REALITY TECHNOLOGY
IN ORDER TO COMPLY WITH RECURRING SCENARIO-BASED TRAINING
MANDATES**

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Problem:

In January 2021, the Illinois legislature passed the Illinois SAFE-T Act, mandating scenario-based training requirements for law enforcement officers. Twelve hours of training must be scenario-based, six hours of training must be use of force and de-escalation training, and six hours of training must consist of high-risk traffic stops. The focus of the training and hourly mandates must be met every three years (Annex A).

The Palos Heights (IL) Police Department (PHPD) utilizes two regional mobile training units to fulfill current training requirements and department needs. The lack of availability and capacity of current training methods utilized will make it impossible for the department to be in compliance with the new training mandates. The purpose of this staff study is to identify methods to ensure PHPD complies with the mandates of the SAFE-T Act.

Assumptions:

- Statute-mandated, scenario-based training requirements will not go away.
- Statute-mandated training requirements will increase from their current minimums.
- Due to the large number of agencies served by the regional training unit, there will not be enough availability of classes or capacity to meet training mandates.
- Staffing shortages will make it difficult to attend training.

Data and Facts:

- PHPD has 28-sworn officers required to meet the mandated training. (Annex I).
- The Illinois Law Enforcement Training and Standards Board (ILETSB) has a course approval process for in-service training (Annex B).
- ILETSB has approved in-service curriculum/courses that meet the mandated training requirements using simulator-based training (Annex C).
- A few Illinois police departments have begun using virtual reality/simulator-based training to meet mandated training requirements (Annex C).

- PHPD has instructors certified by ILETSB to instruct in-service, board-certified courses (Annex D).

Discussion:

The Illinois SAFE-T Act requires Illinois police officers to undergo recurring minimum training, which has put a strain on the traditional method of sending officers to regional training units. These units offer only a few classes per year that meet the requirements and have limited capacity, allowing departments to send a maximum of 2 officers per class. As a member of the North East Multi-Regional Training (NEMRT) unit, which serves Cook, DuPage, Kane, Kendall, Lake, and McHenry counties, the PHPD has limited opportunities to fulfill the mandate (Annex G). According to Cook County's Criminal Justice System (2019), Cook County has 141 police agencies, and if a class is offered four times a year, PHDP can only send a total of 8 officers per year. With 28 sworn officers on staff, in three years, only 24 of the 28 officers would receive the required training. This is assuming the maximum number of officers can be registered every time. This would be a repeating cycle for the department every three years.

The PHPD patrol division works 12-hour shifts, from 6AM – 6PM or 6PM – 6AM. Utilizing traditional methods, a night officer would have to be adjusted off from the night shift before the training class. This would lead to staffing shortages, which would increase overtime costs, or cause the officer not to get signed up for a training class in order to prevent the shortage.

Benefits:

Adding a Virtual Reality (VR) simulator to the department would provide a cost-effective and efficient way to train officers, regardless of the limited training opportunities available through traditional methods. With a VR simulator, officers can be trained on a wide range of scenarios that are difficult or impossible to replicate in real life due to safety concerns or logistical limitations.

VR training eliminates the need to adjust schedules. Officers can easily participate in the training during their regular working hours. This not only ensures the required training is provided, but also prevents any issues related to staffing shortages or overtime costs.

Adjusting an officer's shift to attend training during the day can disrupt their circadian rhythm.

According to Nelson et al. (2017), disrupting the circadian rhythm causes short-term and long-term health issues. This can lead to fatigue and decreased cognitive performance, as well as impacting job satisfaction, potentially leading to a decrease in the quality of service.

Alternative Solutions:

The first possible solution to this challenge would be to do nothing and continue with the current practice of sending officers to classes when offered by the regional mobile training units. However, this approach carries several potential consequences, such as non-compliance penalties, de-certification of officers, and increased liability risks. If officers do not receive the mandated training, they could be de-certified, which means they would not be authorized to work as law enforcement officers in Illinois, resulting in significant staffing shortages. In *City of Canton v. Harris*, the US Supreme Court held that a failure to train police officers adequately may result in a municipal liability under Section 1983 of the Civil Rights Act of 1871. (*City of Canton v. Harris*, 489 U.S. 378, 388 (1989))

A second possible solution to this challenge would be to invest in a VirTra Simulator. The VirTra V-300 is a high-tech virtual training simulator designed for law enforcement and military training. With its five screens the simulator creates a 300-degree immersive training experience for trainees. The provided training scenarios' curricula includes de-escalation, active threat/active killer, autism awareness, and high-risk vehicle stops – all specified training mandates.

The main disadvantage is the high cost of the V-300, which at minimum is \$230,000. Depending on the accessories and service plans selected, the cost could reach as high as \$350,000 (Annex H). Any available grants require partnering with outside agencies, which creates its own logistical challenges. Although a grant may drop the department's financial obligation, it doesn't outweigh the challenges created by housing the simulator at the department. Having numerous departments use the simulator creates scheduling hurdles, disruptions to the everyday operations of the department, and a greater wear and tear on the simulator and associated accessories leading to down time. (Brandenburger, personal communication, 2023)

Simulation technology used in law enforcement training has limitations, including the inability to replicate precise commands given by officers and a lack of interactivity and immersion, which can limit effectiveness. The use of pre-recorded scenarios that run for a fixed duration with actors whose behavior cannot be modified based on officer commands can further hinder training. Additionally, the simulator's five screens can create a confined space, restricting officers' movements and limiting their ability to practice relevant skills or maneuvers. Furthermore, the simulator requires a significant amount of space, with a rear projection system necessitating a minimum area of 30'x30', making PHPD's training room unsuitable due to its maximum area of only 20'x20' (Annex H). The simulator is installed permanently. As the PHPD training room is a multi-purpose room, it would be ruled out as a suitable location to install the simulator. A search for an alternative location within a city-owned building would be necessary.

The third possible solution would be to purchase a VR simulator from InVeris. VR provides a higher degree of immersion and interactivity due to its advanced technology and ability to create a fully immersive and interactive environment. Officers can interact with virtual objects and characters in real-time and respond to different scenarios that involve de-escalation, use of force, shoot/don't shoot, crisis intervention, or high risk traffic stops. According to *Police1* (2022), "Virtual reality can be used to help officers learn communication and de-escalation skills, beyond the binary decision of shoot or don't shoot."

The InVeris VR is a portable system whose footprint is scalable from 10'x10' to 35'x35', making it usable in many areas of the department (Annex F). InVeris VR offers over 30 realistic environments that range from schools, emergency rooms, office buildings, parking lots, single-family homes, and traffic stops. The environments and scenarios are fully customizable, including the weather and time of day and depending on the training goals (Annex E). In just 30 minutes, an officer can be trained in multiple scenarios in different environments from the safety and comfort of the department training room. In order to recreate these scenarios in a real-life setting, it would require significant resources, including adequate physical space, a sufficient number of instructors and role players, and a substantial amount of

time. In fact, it could take an entire day to train on just one scenario in a specific environment. Aiello (2021) states:

“surgical trainees who underwent VR training performed better than their counterparts who received no VR training; not only did they perform surgery faster and with less error, there was also an improvement in their psychomotor skills. As another example, the US Army found that pilots who trained in VR for the initial stages of flight school performed at the same level as pilots who went through traditional training, saving both time and money in the training process.”

The system incorporates the same equipment officers currently carry in their assignments. VR versions of the department duty handgun, rifle, OC spray, flashlight, and Taser are available. During the training exercises, officers would remove their duty equipment from the holsters and vest carriers and replace them with VR versions. Every tool an officer has available on the street is available throughout the scenario.

The quote for a single-person InVeris VR is \$38,000. The cost includes all of the necessary computer software and hardware components, along with the duty accessories, which consist of a VR handgun, VR rifle, VR Taser, VR OC spray, VR flashlight, haptic vest, and bio-feedback heart rate monitor. An in-person installation and training session are also included. An annual extended service agreement includes unlimited software updates and is \$950.00 annually (Annex F).

Conclusion:

As the department strives to meet the recurring minimum training requirements of the Illinois SAFE-T Act, traditional methods of training have become increasingly challenging due to limited capacity and high demand. The consequences of failing to comply with state mandates can be significant and costly, making it crucial to explore alternative training solutions.

The three options explored were:

1. Continue to send officers to regional mobile training units.

2. Implement the VirTra V-300 simulator.
3. Implement the InVeris Virtual Reality training simulator.

Incorporating VR training (Option #3) provides a valuable opportunity to enhance the training experience for officers with a more immersive and interactive approach. Moreover, VR training can be customized to meet the unique needs of the department and its officers, while also offering cost-effective and convenient options that overcome logistical challenges associated with traditional training methods and the alternative solutions explored.

Recommendation:

InVeris VR is the ideal training solution for the Palos Heights Police Department. Its high degree of immersion, interactivity, flexibility, and cost-effectiveness make it the perfect fit for the department's training needs (Annex F). Furthermore, by incorporating this technology into its training program, the department can minimize logistical and practicality issues associated with traditional training methods. InVeris VR provides a realistic and customizable training experience that can be tailored to meet the specific needs of the department while preparing its officers to handle a variety of real-world scenarios. Within 5 months of approval, our department would be meeting training mandates (Annex J).

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Deputy Chief Michael Yott

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Annexes:

- Annex A - Illinois Statutes
- Annex B - ILETSB Procedures for Course Certification
- Annex C - ILETSB Approved In-Service Simulator Based Training
- Annex D - PHPD Certified Instructor Letters
- Annex E - PHPD Policies
- Annex F - InVeris quote & materials
- Annex G - MTU 3
- Annex H - VirTra quote & materials
- Annex I - PHPD Organizational Chart
- Annex J - Implementation Plan

Executive Summary

Incorporating Virtual Reality Technology in Order to Comply with Recurring Scenario-Based Training Mandates

Problem:

The Illinois SAFE-T Act was passed in January 2021, requiring scenario-based training for law enforcement officers. The training mandates include twelve hours of scenario-based training, six hours of use-of-force and de-escalation training, and six hours of high-risk traffic stops to be met every three years. The Palos Heights Police Department currently uses regional mobile training units, but they are insufficient to meet the new mandates, making compliance impossible. This staff study is underway to find ways for the department to comply with the SAFE-T Act.

Alternative Solutions:

1. Continue to send officers to regional mobile training units.
2. Implement the VirTra V-300 simulator.
3. Implement the InVeris Virtual Reality training simulator.

Recommendation:

The Palos Heights Police Department must incorporate a solution into its training program to meet the mandates of the Illinois SAFE-T Act. Traditional training methods are no longer viable, and InVeris VR offers a cost-effective and efficient alternative. The technology's high degree of immersion, interactivity, flexibility, and customizability make it the perfect fit for the department's training needs. InVeris VR can provide officers with realistic training experiences that simulate real-world scenarios, preparing them to handle a variety of situations while minimizing logistical and practicality issues associated with traditional training methods. Within five months of approval, our department would be meeting training mandates (Annex J).

Chief William Czajkowski

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