

Integrating Advanced Technologies in Community Policing

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Abstract

Technology has continued to move law enforcement forward, making it more effective and delivering better services to meet the needs of communities. These advancements have come a long way from law enforcement trading in their horses for cars. Today's law enforcement is utilizing technology and artificial intelligence to be able to quickly act and even determine where crimes are likely to occur. These technologies promise a more efficient, data-driven approach to law enforcement, potentially transforming the dynamics of police work and community interactions. However, the incorporation of these technologies is not without challenges. Key among them are civil liberties and public trust. Privacy concerns and concerns about misuse of these technologies can challenge law enforcement organizations to ensure the use of these technologies is not impacting relationships with the community. As tenured police command officers, our combined experience and insight with real-world case studies and expert opinions will provide analysis into this matter, providing a valuable resource for police officers, leaders

The Challenges and Benefits of Facial Recognition Technology in Law Enforcement

The integration of Facial Recognition Technology (FRT) into law enforcement, a sophisticated digital tool for identifying individuals by analyzing and comparing facial features, although beneficial, is not without some controversy. In the context of law enforcement, FRT refers to the automated process of matching captured images of individuals' faces against a database of known faces, typically used for identifying suspects or persons of interest. While this technology holds immense promise for enhancing public safety and streamlining investigative processes, it concurrently poses significant challenges related to civil liberties and fair application across diverse communities. This essay explores the multifaceted aspects of FRT within the law enforcement profession, focusing on its practical uses, the ethical dilemmas it presents, and the comprehensive policy frameworks required to regulate its responsible administration.

Furthermore, FRT's use raises accuracy, reliability, and ethical issues, including biases against certain racial or ethnic groups, privacy violations, and risks of mass surveillance. To address these challenges, law enforcement must implement stringent policy and regulatory frameworks. These should include clear usage guidelines, transparency requirements, and regular audits to ensure FRT's accurate and unbiased application, along with strict measures to protect individual rights and prevent misuse.

The Transformative Impact and Challenges of FRT in Modern Law Enforcement

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The adoption of Facial Recognition Technology (FRT) in community policing represents a significant evolution in crime prevention and investigation methods. This technology provides law enforcement agencies with enhanced capabilities for rapid and accurate suspect identification, blending technological efficiency with human investigative skills. FRT not only enhances investigative capabilities, but also facilitates cooperation across jurisdictions and promotes transparency and community engagement in law enforcement.

However, its widespread use brings notable privacy concerns and the risk of biases leading to potential misidentification. Navigating this ethical complexity necessitates a careful balance between enhancing public safety and protecting civil liberties. Achieving this balance calls for transparent use policies, regular audits, active community involvement, and thorough training for law enforcement on the ethical application of FRT.

During my (Thomas Ferraro) tenure as an Investigator Sergeant with the Illinois Secretary of State Police, specifically as the commander of the Identity Crimes Unit (ICU) from 2010 to 2016, I gained firsthand experience with the practical applications and limitations of Facial Recognition Technology (FRT). The ICU played a pivotal role in administering FRT for local and county law enforcement agencies, primarily for identification purposes and criminal investigations. My role also involved active participation in the Federal Document & Benefit Fraud Task Force through the Department of Homeland Security (DHS). In this capacity, I facilitated the use of FRT in federal law enforcement, aiding in the investigation of substantial financial crimes and counter-terrorism efforts.

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One of the key applications of FRT under my command was in the realm of identity theft investigations. We utilized the technology extensively to identify offenders, primarily by converting surveillance footage into still photos for comparison with the Illinois Driver's License photo database. This approach proved to be effective in several instances, providing a critical tool in our investigative arsenal. However, it was not without its challenges. The technology, while a significant aid, was not infallible. There were instances of inaccuracies, which highlighted the limitations of FRT and underscored the need for cautious implementation.

These experiences have shaped my view on the utility of FRT in law enforcement. While I acknowledge the technology's substantial benefits in enhancing investigative capabilities and public safety, I also recognize its limitations and the potential risks it poses if not carefully regulated and applied. My endorsement of FRT comes with the caveat that its use must be governed by robust policies and frameworks, ensuring accuracy, protecting individual rights, and maintaining public trust. This balanced approach is essential in harnessing the potential of FRT while mitigating the risks associated with its application in law enforcement settings. Responsible integration of FRT is crucial, necessitating forward-looking strategies and thoughtful consideration to ensure public trust and civil liberties are maintained in this era of technological advancement.

Ethical Considerations and the Impact of FRT on Racial & Ethnic Minority Communities

Facial recognition technology (FRT) has undoubtedly become a vital tool in contemporary policing, offering unparalleled capabilities in identifying persons of interest and enhancing public safety. However, there are significant ethical and privacy concerns associated

with its use, particularly regarding Black and Latino communities. Turner Lee and Chin-Rothmann (2022) posit, that surveillance and data collection have disproportionately affected communities of color under both past and current circumstances and political regimes. This includes the use of facial recognition technology by law enforcement and all its attendant complexities.

FRT's rapid image comparison against large databases provides crucial assistance in urgent identification situations, such as finding missing persons or identifying suspects and victims. This efficiency often leads to quicker case resolutions. However, its extensive use carries responsibilities, including potential misuse and risks of reinforcing societal biases.

Historically, surveillance practices and patterns, including the use of FRT, have disproportionately impacted Black and Latino communities. Turner Lee and Chin-Rothmann (2022) state that facial recognition and other surveillance technologies also enable more precise discrimination, especially as law enforcement agencies continue to make misinformed, predictive decisions around arrest and detainment that disproportionately impact marginalized populations. This disproportionate focus not only undermines the trust between police and the communities they serve, but also raises moral questions about the equitable application of law enforcement tools.

The accuracy of FRT is another significant concern. Studies have shown that these systems often have higher misclassification rates for women and people with darker skin tones. Turner Lee and Chin-Rothmann (2022) indicate that in December 2019, the National Institute of Standards and Technology (NIST) published a study of 189 commercial facial recognition programs, finding that algorithms developed in the United States were significantly more likely

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to return false positives or negatives for Black, Asian, and Native American individuals compared to white individuals. This discrepancy raises concerns about wrongful identifications and the potential for exacerbating racial disparities in the criminal justice system.

Therefore, it is imperative for law enforcement agencies to employ FRT with clear guidelines and oversight. It is crucial to ensure that the use of FRT is governed by strict policies that safeguard against misuse and bias. This includes comprehensive training for officers in understanding the limitations of the technology, as well as ongoing evaluation of its effectiveness and fairness. Additionally, creating transparency with the public about how FRT is used can help build trust and accountability.

Furthermore, as Turner Lee and Chin-Rothmann (2022) suggest, existing laws do not adequately protect user privacy among the rising ubiquity of facial recognition and other emerging technologies. There is a need for stronger federal privacy protections with proscriptive guardrails for both the public and private sectors. This would include limitations on the procurement and use of FRT, ensuring that the technology is employed in a manner that respects individual privacy rights and mitigates the risks of bias and discrimination.

While FRT enhances law enforcement efficiency, its deployment must be mindful of privacy and ethical concerns. Balancing public safety with privacy and equity is complex and requires continuous dialogue and solid policy frameworks. Law enforcement must commit to transparency and accountability, ensuring FRT aligns with the mission to serve and protect all community members fairly.

As we navigate this evolving landscape, where FRT stands as a rapidly developing tool in law enforcement, its advantages in identifying individuals involved in criminal behavior are

undeniable. Yet, in my (Thomas Ferraro) current capacity as a municipal police commander overseeing all aspects of professional responsibility and internal affairs, I am committed to understanding the intricate and ethical challenges posed by this technology. These challenges are illuminated by recent research. Peterson et al. (2023) warn us that Facial Recognition (FR) use by law enforcement remains a frequent target of controversy and continues to be regarded by some as a high-risk application of FR. Peterson et al (2023) go on to say that among the issues raised by civil society groups and others are concerns about the effect of FR on people's willingness to exercise constitutional rights (e.g., because of fears of state surveillance and the abuse of power), the potential for FR systems' errors to lead to miscarriages of justice, and analyses that have suggested that biases embedded in such systems could perpetuate or worsen inequities in criminal justice actions. These concerns underscore the need for thoughtful regulation and mindful application of FRT in our practices.

As law enforcement evolves, FRT is becoming an integral tool, especially in urban areas where the need for rapid identification is paramount. Its role in predictive and proactive policing, though controversial, could signify a significant shift in law enforcement-investigative tactics. In smaller agencies, the integration of FRT may be limited by resources, while larger departments could use it more extensively. This disparity raises questions about equitable law enforcement practices across different regions and agency sizes.

Navigating the Future of FRT in Law Enforcement with Responsibility and Balance

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In today's technologically advanced era, law enforcement leaders must be proactive agents of change, advocating for ethical FRT use. This involves pushing for comprehensive regulatory frameworks to govern FRT, promoting a culture of accountability in police departments, and engaging with technology companies to enhance FRT's accuracy and fairness, ensuring it aligns with public interests without infringing on rights or perpetuating biases.

The servant leadership model in law enforcement extends beyond community service to include the well-being of subordinate officers and resonates strongly with the implementation of Facial Recognition Technology (FRT) in law enforcement. This approach captures a command officer's dual responsibility: safeguarding community interests while nurturing the professional growth of their team. In the realm of FRT usage, servant leadership prioritizes citizen well-being and rights, commits to the ethical application of FRT for public safety and civil liberties, and empowers officers with the necessary training and support for effective and ethical FRT use.

This leadership style is crucial in balancing the twin responsibilities of enhancing community safety and upholding democratic values, creating a police culture rooted in integrity and ethical responsibility. It entails developing policies that reflect these values and involving officers in FRT-related decisions. Applying servant leadership to FRT deployment establishes a balanced, ethical framework, making FRT a tool for justice and community welfare, and cultivating a supportive environment for officers. Oxendine (2020) tells us that servant leadership is an art that can only be perfected over time... [It] is more about making [officers] a better version of who they already are. This underscores the importance of servant leadership in not only guiding the use of technology like FRT but also in enhancing the overall efficacy and ethical grounding of law enforcement practices.

Emotional Intelligence and Organizational Change in FRT Implementation

The introduction of Facial Recognition Technology (FRT) represents a paradigm shift in policing methods, necessitating a high degree of emotional intelligence in law enforcement leadership. This transition calls for leaders who can understand and empathize with both community and officer concerns about FRT. Goleman (2019) tells us that of all the dimensions of emotional intelligence, empathy is the most easily recognized. Leaders must be adept at recognizing the emotional undercurrents that such a significant change can evoke and be skilled in addressing fears and resistance.

Emotional intelligence in this context involves actively listening to community members, acknowledging their concerns about privacy and potential biases, and communicating clearly how FRT will be used responsibly. Similarly, within law enforcement agencies, command officers must be sensitive to their subordinates' apprehensions about adapting to new technologies. Adequate support and training are mandatory. By creating an environment of trust, transparency, and open communication, leaders can facilitate a smoother acceptance and integration of FRT, ensuring its use fully aligns with ethical standards and public expectations.

Aligning FRT with Professional Integrity and Justice

The integration of FRT in law enforcement must be seamless with the profession's foundational values of integrity and justice. Leadership subsystems such as authenticity, service, and deep change are vital in guiding the ethical deployment and use of FRT. Authenticity involves being true to the principles of fair and just law enforcement, ensuring FRT is used in a way that does not compromise these values. Service-oriented leadership focuses on the greater

good of the community, ensuring that the benefits of FRT are utilized to enhance public safety while respecting individual rights. The concept of deep change challenges leaders to transform traditional policing methods in response to technological advancements, ensuring these changes positively impact both community safety and trust.

By adhering to these principles, law enforcement can ensure that FRT not only augments investigative capabilities, but also upholds ethical conduct, fairness, and justice. This alignment reinforces public confidence in law enforcement and strengthens the commitment to protecting civil liberties.

Addressing Human Factors and Organizational Subsystems in FRT Adoption

Successfully implementing FRT requires an understanding of human factors, including potential resistance to new technologies among law enforcement personnel and the community. Addressing these concerns involves effective communication strategies, comprehensive training programs, and the development of inclusive, participatory policy-making processes. Effective communication is key to demystifying FRT and its applications, dispelling myths, and addressing misconceptions. Training should be comprehensive, covering not only the technical aspects of FRT but also its ethical implications, legal boundaries, and potential biases. Involving officers in policy development can also promote a sense of ownership and responsibility towards the ethical use of FRT. Force Science (2021) posits that understanding the potential influence of human factors is essential in explaining why police do what they do, and this understanding should be integrated into the adoption of technologies like FRT.

Organizational subsystems such as crisis intervention, adaptive strategies, and progressive law enforcement models are crucial for the successful integration of FRT. These subsystems provide a framework for responding to challenges and crises that may arise from FRT usage, allowing for adaptive and flexible responses. Emphasizing progressive law enforcement models can also ensure that FRT is used in a way that aligns with modern policing practices and community expectations. Haskins and Chapman (2018) suggest that technology choices in police departments are often driven by a complex set of factors and that aligning these choices with the department's overall policing strategy is crucial for success and efficiency. Incorporating these elements into the implementation of FRT can prepare law enforcement agencies for the complexities of its use while ensuring adherence to legal, ethical, and professional standards.

Striking the Balance - Ethical Integration of FRT in Law Enforcement

The integration of FRT in law enforcement must be seamless with the profession's foundational values of integrity and justice. Leadership subsystems such as authenticity, service, and deep change are vital in guiding the ethical deployment and use of FRT. Authenticity involves being true to the principles of fair and just law enforcement, ensuring FRT is used in a way that does not compromise these values. Service-oriented leadership focuses on the greater good of the community, ensuring that the benefits of FRT are utilized to enhance public safety while respecting individual rights. The concept of deep change challenges leaders to transform traditional policing methods in response to technological advancements, ensuring these changes positively impact both community safety and trust. Widener (2020) tells us that transformational change is typically driven by internal and/or external conditions that trigger an urgent need for a

radical change with breakthrough results, requiring both a change in culture and mindset. This sentiment underscores the necessity for law enforcement leaders to embrace deep change in their approach to integrating new technologies like FRT.

The integration of Facial Recognition Technology (FRT) presents both significant challenges and opportunities, necessitating leadership that is not only emotionally intelligent but also deeply rooted in the principles of servant leadership. Emotional intelligence in this context is vital for understanding and compassionately responding to the diverse reactions and concerns that FRT may evoke within the community. Leaders must possess the ability to navigate complex emotional landscapes, effectively communicate the implications of FRT, and address any apprehensions with sensitivity and clarity. Dozier (2010) quotes Daniel Goleman, expert on emotional intelligence, saying if your emotional abilities aren't in hand, if you don't have self-awareness, if you are not able to manage your distressing emotions, if you can't have empathy and have effective relationships, then no matter how smart you are, you are not going to get very far. This highlights the importance of emotional intelligence in leadership, particularly in the context of implementing sensitive technologies like FRT.

Servant leadership, a crucial aspect of this transition, involves putting the needs and well-being of both the community and law enforcement personnel at the forefront. This leadership style emphasizes serving rather than commanding, focusing on the development and welfare of the team and the community. In the context of FRT, servant leaders are tasked with ensuring that the technology is used ethically and responsibly, enhancing public safety while upholding civil liberties and creating an environment of trust, respect, and collaboration. Greenleaf (1998) maintained that the servant-leader is servant first; it begins with the natural

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feeling that one wants to serve, to serve first - then conscious choice brings one to aspire to lead. This perspective is essential for the successful implementation of FRT in law enforcement, as it balances technological advancements with the ethical considerations they entail.

License Plate Reading Technology

Agencies have seen the success that Artificial intelligence through license plate reading technology has brought to law enforcement. This technology provides law enforcement with another tool to be proactive in the deterrence of crime and solving crimes. License plate reading technology has been around for a number of years but recently began to expand with the abilities of artificial intelligence (AI). By command level leadership, embracing this technology and working to implement it within the department leads to the success of the agency. Two types of license plate reading technology that will be addressed are Automated License Plate Recognition Systems (ALPRS) and Flock cameras.

Automated License Plate Recognition Systems (ALPRS)

ALPRS systems are computer-controlled camera systems that are normally mounted on street poles, streetlights, etc. ALPRS can also be installed directly on the top of squad cars and parking enforcement vehicles. The camera automatically captures all license plate numbers that it can view along with the date and time. This includes taking a photograph of the vehicle. Officers also have the ability to upload a license plate that will cause an alert if the license plate is run. Some drawbacks are that it needs a vehicle to have a license plate and cannot search based

on color or type of vehicle. Unlike some systems the information is uploaded to a storage system where it is maintained as long as the agency maintains it.

Flock Cameras

In 2017, Garrett Langley teamed up with some college friends and created a camera that was able to read license plates as well as vehicles. One of his first customers was Cobb County Police Chief Stuart VanHoozer, who publicly credited Flock for assisting in locating an active shooter (Polycn, 2023, para. 4). Flock cameras capture one billion licenses through 17,000 cameras each month across 42 states. Flock cameras do not measure speed or use facial recognition. The camera reads license plates and compares it to stolen, wanted, or missing vehicles. Anytime a “hot list” vehicle passes a Flock camera; law enforcement is sent an alert. Flock cameras are also able to track vehicle attributes, whether they are ladder racks, no license plates, or damage to the vehicle. This allows vehicles to be tracked even if the license plates are removed. The data transmitted from a Flock camera is sent by cellular networks to Flock’s cloud-based servers, where it is stored, allowing officers to search from their squad computer. Departments lease the cameras for \$2500 to \$3000 per camera, per year (Polycn, 2023, para. 6). In January, of 2022, Flock reported 67,000 wanted vehicles (Stanley, 2022, para. 7).

Flock Raven system allows for audio to be used for gunshot audio detection and paired with the camera system, allows for critical evidence to be obtained by law enforcement. Future growth of the Flock Raven system includes detecting screeching tires, glass breaking, and metal sawing (catalytic converter thefts) (LaPedis, 2021).

Citizen Concerns

According to Jay Stanley (2022), “Flock safety is building a mass surveillance unlike any seen before in American life.” Flock allows even the smallest departments with small budgets to access their camera system, allowing for large scale surveillance operations (p. 1). In February 2022, a federal lawsuit was filed against Marco Island by the New Civil Liberties Alliance on behalf of three city residents challenging the storage of the license plate information was a violation of their Fourth Amendment of the U.S. Constitution which prohibits unreasonable searches and seizures. The cameras are positioned on a bridge that is the only way of moving onto the island besides boats. The plaintiffs stated, “The defendants have now recorded and stored a vast quantity of information about the daily life of plaintiffs and their fellow citizens.” Attorney Richard Samp, who is representing the plaintiffs for New Civil Liberties Alliance said, “It’s not unreasonable to have cameras. What is unreasonable is taking a picture of someone’s life” (Mayberg, 2022, p.2).

In California, Tiburon Police stockpile about 7.7-million license plate scans annually, and yet only .01% or 1 in 10,000 of those records were related to a crime or other public safety interest when they were collected (Maass, 2021, para. 6). Agencies need to be aware of these public concerns and understand how to properly address them with their staff and public.

Concerns also exist that law enforcement will be able to track the individual movement of citizens, which creates enormous risks of privacy violations and other abuses. Flock does not have a check and balance for the use of their database (Stanley, 2022, para. 9). In October 2022 in Kechki, Kansas, a Police Lieutenant, Victor Heiar, was arrested after he was using his access of the Flock cameras to monitor and locate his estranged wife. He was fired from the department

and arrested for stalking and one count of unlawful acts concerning computers. He was sentenced to 6 months in jail and 18 months of probation (Tucker, 2022, p. 1).

Another concern is the safety of the information being stored in a cloud-based database. The company, Verkada, was hacked and found to be secretly tapping into customers' cameras. (Stanley, 2022, p. 5) Concerns about misreading of license plates also exist. According to Jay Stanley (2022), "Given that state misidentification errors have led to innocent people being terrorized by the police as presumed dangerous criminals, that is a real problem" (p. 5). Flock cameras download a fresh hit list from NCIC every 12 hours. This can lead to an out-of-date alert if the vehicle was already recovered.

Steps Agencies Can Take

As artificial intelligence continues to advance in license plate reading technology, law enforcement agencies need to be open to the idea. Leaders need to empower their people to continue to bring information they find on technology forward. Law enforcement agencies can take steps to prevent the misuse of this technology. This can be accomplished through training and well-written policies. Younger generations that are more experienced with technology will quickly adapt to the use of this technology, improving the effectiveness of the agency. Agencies need to be prepared to handle possible public misconceptions and concerns to avoid issues. This can be accomplished through a leader being able to address any questions or concerns by communicating what the agency is doing and how they plan to have policies and standards in place for the use of license plate reading technology. This leader needs to be able to sell the culture and mission of the agency when addressing the concerns to the public.

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The agency will need to establish a policy that covers all aspects of the use, storage, and who has access to the system. Along with these steps, the policy should include how often training is completed and address that it is not supposed to be used for anything non-law enforcement related. For an effectively developed policy a team of multiple ranks should be involved. This ensures all aspects of the policy are considered. This is needed as, often, a command level leader might not think of something that a patrol level officer might think of. When the team is writing the policy, it needs to address the following factors: is it moral, is it ethical, is it legally right? By ensuring the department has the best interests of the public and covering all bases to try and prevent misuse, the department will be successful in being proactive in deterring crime.

Drone Technology

Unmanned Aircraft Systems (UAS), which can be referred to as “drones”, are used for both commercial and recreational purposes along with law enforcement activities. The use of this technology has been increasing throughout the years holistically. Drones are one of many technologies that law enforcement agencies are beginning to employ for a variety of purposes to include information gathering and evidence collection to providing for remote communication and operational support. Many of these drones that are being utilized are directly in line with commercial off the shelf (COTS) accessible drones that you would find in many retail stores. As a general rule, these drones are unarmed and are primarily using full motion video to support the desired functions previously mentioned. While it is possible for these drones to deliver certain

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uses of force like capabilities, such as oleoresin capsicum (OC) spray, it is not currently the norm for U.S. based law enforcement entities. Kristin Finklea (2023).

To date, many drone usages in law enforcement are less an intelligence collection function and more of a response to a call for service. Many of these calls for service surround the desire to maintain a visual span of control over a situation. Some popular use cases can be an active shooter, vehicle pursuit, or lost person in an area that is less inviting to a physical presence of people. However, the utilization of drones in similar manners for similar calls for service are vast.

Concerns

Civil liberty activists are currently skeptical of drone capabilities for law enforcement. Many of the concerns are that of pervasive and mass surveillance usage. Alongside these concerns are those of law enforcement drones could potentially infringe on other constitutionally protected activities. The “big brother” mentality can be seen echoing here through the concerns that naturally come with unmanned views of citizens activities. There are many tradeoffs to consider when deciding to employ drones in a law enforcement capacity. American civil liberties union (2024).

Perhaps one of the main concerns surrounding the use of drones is surrounding how they will be used. The use of enhanced collection devices such as thermal imaging or telescopes have already been ruled as requiring a higher level of scrutiny. The potential for violating a persons’ fourth amendment rights is a concern for all parties involved. Law enforcement always has a daunting task of balancing capability enhancements with citizens’ rights all the while utilizing those advancements in technologies to enforce laws, protect citizens, and preserve life.

Drone Use Cases

Keeping those concerns in mind, law enforcement must operate in the environment that they have always operated in while enabling these advancements in technology. In doing so, specific use cases can arguably be employed immediately and without potential for litigation. These use cases are directly in line with public safety, occur in areas that will not be considered protected or where there are no reasonable expectations of privacy, nor could be constituted as a search under the fourth amendment. These use cases explored here are those of vehicle pursuits, active shooters, and lost persons.

Vehicle pursuits are of constant concern for law enforcement. The dangers to the public must continuously be weight against the severity of the crime and likelihood of identifying the suspect(s) without the need to pursue. Drones aid in this effort to ensure all equities are met. The current construct of an authorized vehicle pursuit often times require great risk to everyone involved. Utilizing drones from a distance allow for departments to follow suspects from a distance, identify suspects, and enhance apprehensions in a safer environment.

Active shooters are another example of a dynamic situation where in there is great danger for everyone. Often times finding the active shooter can be problematic especially when there is a lack or sporadic stimulus. Employing a search team to locate suspects can also become a drain on resources despite the abundance of officers that an agency has on scene. In this use case we can again see how utilizing a drone, either in door or outside a structure, can again reduce a large amount of the risk and enhance the likelihood of locating suspects. Furthermore, the diversionary nature of drones could also help in reducing further casualties prior to the arrival of lethal force options.

Lost persons in physically prohibitive areas are an area of concern that while not an enforcement function per-say, is continuously an event that is called upon for law enforcement. Often times search areas are vast or a search is started with little to no indications towards a start point. Latency surrounding reporting of last known locations are also problematic. While the use of K-9's is extremely helpful, there still necessitates a person to accompany that asset, which in austere environments presents another challenge. Here again, the use of a drone to quickly deploy to the scene and locate a lost person is greatly enhanced. This also limits the need for large groups of responders and can narrow the search orbit drastically quicker. Krista Finlea (2023).

Concerns (continued)

While the future use of drones will eventually be litigated, the use of drones on specific cases can and should be employed in today's operating environment. The use cases, as specified above, are easily applicable and negate the desire for litigation due to the circumstances that are being present. All of these use cases protect constitutional concerns, aid in preserving life, and enhance the ability for law enforcement to come to safe enforcement outcomes.

Conclusion: Navigating the Future of Technology in Law Enforcement with Responsibility and Balance

The significant potential of implementing these technologies in enhancing law enforcement efficiency is clear. It advances beyond traditional identification methods like fingerprinting and DNA analysis by remotely identifying individuals from sources such as surveillance footage. However, this remote operation raises crucial concerns about privacy,

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accuracy, and the risk of biases leading to misidentification. These concerns highlight the need to address varying accuracy rates across different demographic groups, emphasizing the importance of mitigating biases within the criminal justice system. Peterson et al. (2023) also note that it is well established that Facial Recognition algorithms are less accurate for darker faces and female faces. Ensuring that these technological systems are unbiased and accurate is paramount in their application in law enforcement, as errors can lead to severe consequences, including wrongful arrests and eroding public trust.

The ethical use of these various technologies in law enforcement raises critical concerns. Its capacity for mass surveillance and tracking without consent challenges fundamental privacy rights and civil liberties, potentially increasing government surveillance powers. Balancing public safety with individual privacy rights is essential. Law enforcement must regulate this usage ethically, ensuring transparency and accountability by establishing clear guidelines and policies that respect individual rights and serve the public interest.

Peterson et al. (2023) also emphasizes the importance of public trust and acceptance in the use of FRT by law enforcement, positing that misuse or perceptions of misuse can undermine public trust, and willingness to cooperate with police could substantially offset the benefits of Facial Recognition for investigative purposes. Public trust in technology is shaped by police credibility and concerns over bias and wrongful arrests. Law enforcement leaders need to openly discuss these various technological uses with the community, addressing concerns to build trust, especially in surveillance-impacted communities.

The adoption of new technology in law enforcement marks a pivotal shift in justice and public safety. Technology offers improved investigative efficiency and aids complex cases, but

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its use must be ethically balanced with privacy and accuracy considerations. Addressing potential biases, notably against ethnic and cultural minority communities, and ensuring accuracy are vital. Law enforcement requires strong policies and guidelines, restricting certain platforms uses to investigating serious crimes with proper oversight. Transparency and community engagement are crucial for trust-building. Moving forward, this integration must be a collaborative effort, aligning technology with justice, fairness, and equity to create a future where it supports and enhances ethical policing.

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