



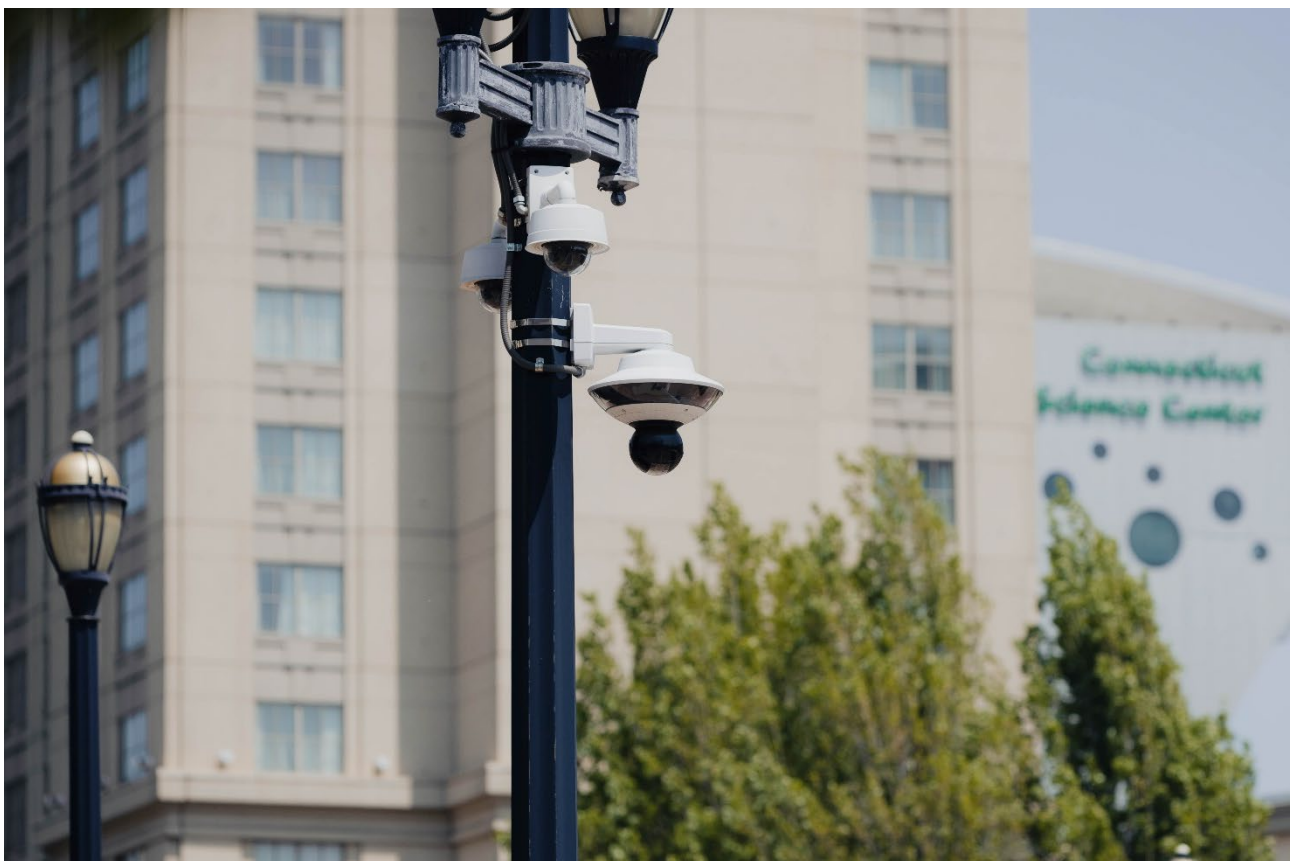
Hartford – Smart Cities Case Story

## Data-driven policing transforms the City of Hartford's fight against crime

May 2025

The Hartford Police Department's (HPD) Capital City Command Center (C4) is on the cutting edge of leveraging the innovative use of technology and data-driven processes. By integrating advanced video management software (VMS), analytics, and a citywide camera network, C4 has achieved a staggering 442% increase in case solvability for firearm assault incidents with video evidence.

This finding comes from a comprehensive study analyzing 243 homicides and nonfatal shootings in Hartford over a two-year period from January 1, 2022, to December 31, 2023. C4's comprehensive approach of combining new technology with skilled personnel and efficient workflows has significantly improved investigative outcomes and the apprehension of violent offenders.



**Customer**

City of Hartford Police Dept.



**Milestone products**

[XProtect® Corporate](#) VMS  
[XProtect® Smart Wall](#)  
[BriefCam](#) analytics



**Integrations**

License Plate Reader – LPR  
[SoundThinking](#) gunshot detection  
(formerly Shotspotter)  
[Slack](#) collaborations



**Location**

Hartford, Connecticut



**Camera count**

1,400 [AXIS](#) video cameras



**Partner**

[Vulcan Security Technologies](#)

## CHALLENGE:

### Rising crime and limited resources

The City of Hartford, Connecticut, faced increasing levels of gun violence, making it critical for the police to find more effective ways to solve crimes. While surveillance cameras were already deployed throughout the city, there was no clear data on how much these cameras contributed to crime resolution. In addition, the Hartford Police Department (HPD) needed to ensure that any future investments in surveillance infrastructure would provide measurable, long-term results.

Sergeant Chris Mastroianni, supervisor of the Capital City Command Center (C4) real-time crime center, recognized the potential of technology to transform policing. He aimed to improve the solvability of cases, particularly homicides and gun violence, as well as quantifying the results to increase support and funding for C4 programs.

## SOLUTION:

### An integrated approach to real-time crime fighting

The HPD established C4 in 2016 with the goal of building a comprehensive system that could support both real-time operations and follow-up investigations. At the core of this system is open platform video technology from Milestone Systems, which integrates seamlessly with other key technologies.

Throughout the city, C4 utilizes an extensive video surveillance network of approximately 1,400 cameras integrated with automatic license plate reader (LPR) technology. In addition, gunshot detection technology monitors two-thirds of the city, including residential areas.

Milestone XProtect video management software (VMS) serves as the backbone of C4, allowing for efficient management and retrieval of video data. Milestone's open architecture enables smooth integration of AXIS network video cameras for high-resolution monitoring, BriefCam's video analytics for accelerated investigations and enhanced real-time decision making, and SoundThinking's ShotSpotter for gunshot detection. A custom Slack implementation facilitates rapid information sharing among officers and analysts, addressing the critical need for secure and efficient communication in law enforcement operations.

This combination enables HPD to gather and analyze vast amounts of video data efficiently, leading to quicker case resolutions. The Milestone platform also provides scalability, allowing Hartford to expand its camera network as needed and integrate additional technologies such as drones and more analytics on the edge.

“We have seen a 442% increase in the solvability of shooting cases if there was a video component to it. For a little city that has high levels of gun violence, that’s an awesome return on investment. But it’s not just about the numbers - it’s about the impact on our community. Each solved case means closure for victims, increased trust in law enforcement, and a safer city overall. The video evidence doesn’t just help us solve crimes, it often prevents retaliatory violence by quickly identifying and apprehending suspects.”

– Chris Mastroianni, Sergeant, supervisor of C4 real-time crime center, City of Hartford



## OUTCOMES: from virtual patrol to case closure

C4's success is not just about the technology — it's about the processes and people behind it. Hartford's C4 now serves as a model for data-driven crime-fighting initiatives. Through the integrated use of Milestone's VMS and the various third-party technologies, the city achieved a 442% increase in the solvability of shooting cases with video evidence.

Additionally, the presence of integrated, real-time surveillance has likely contributed to a significant reduction in gun violence, with Hartford experiencing its lowest number of shooting incidents in nearly 20 years. The C4's process of documenting and tracking every action taken within the real-time crime center has provided undeniable proof of the value of the technology investments, ensuring continued support and funding from city leadership.



## Dramatic Improvements in Solvability

This technology-driven approach has dramatically improved case solvability and clearance rates, transforming HPD's ability to serve and protect Hartford residents.

To quantify the impact of C4, Mastroianni partnered with a researcher from the University of Pennsylvania to conduct a rigorous study of cases from January 2022 to December 2023. The results were striking and demonstrated the significant value of video evidence in criminal investigations:

- Cases with associated video evidence were 442% more likely to be solved compared to cases without video evidence.
- Even when video did not directly capture the incident but provided contextual information, the likelihood of solving the case increased by 345%.

In addition to these findings, in 2024, the City of Hartford experienced its lowest levels of gun violence in 20 years.

## A comprehensive data-driven approach

While video evidence plays a crucial role, C4's success is the result of a holistic approach to investigations. The center integrates multiple data sources, combining video with LPR input, gunshot detection alerts, and other intelligence to create a comprehensive picture of each incident.

Milestone's video management software (VMS) serves as the backbone of Hartford's surveillance system. With its open platform, Milestone's VMS allows integrations of various technologies, providing the flexibility and functionality needed to meet the city's growing safety requirements.

Axis Communications provides the network cameras that capture high-quality video footage throughout the city. These cameras, including pan/tilt/zoom (PTZ) models and panoramic devices giving 360-degree views, provide extensive coverage of Hartford's most critical areas, such as intersections, public parks, and city streets. Many of the newer AXIS cameras come with edge analytics capabilities, allowing for smarter data processing directly at the camera level.

BriefCam provides a robust portfolio of critical video analytics capabilities, making C4's video searchable, actionable, and quantifiable. Their patented VIDEO SYNOPSIS® solution enables C4 analysts to review hours of video footage in minutes, or even seconds, by simultaneously displaying events that occurred at different times. Advanced search, alerting, and visualization capabilities help pinpoint events and persons of interest with speed and accuracy.

C4 also serves as the department's digital forensics lab, handling phone extractions, hard drive analysis, and vehicle infotainment system investigations. Another innovative aspect is the management of the department's drone program, with live feeds integrated directly into the Milestone VMS for real-time situational awareness.

“The open platform approach has been crucial to our success. It allows us to integrate new technologies seamlessly and adapt to evolving challenges. With Milestone's VMS as our backbone, we can leverage a wide range of tools and data sources to create a comprehensive picture of each incident. This flexibility, combined with our focus on rapid information sharing and analysis, has been the key to dramatically improving our solvability rates and making Hartford safer.”

- Chris Mastroianni, Sergeant,  
supervisor of C4 real-time crime  
center, City of Hartford

Implementing and maintaining a system of this complexity comes with challenges. Data storage is an ongoing concern, with a 30-day retention policy for general video and up to 10 years for certain incidents. C4 uses a combination of solid-state storage for immediate needs and an archive server for long-term retention.

Maintenance, upgrades, and training require constant attention. The C4 team conducts weekly audits of the entire system and works closely with vendors to ensure timely upgrades and replacements. As technologies evolve, keeping staff proficient requires a dedicated commitment to continuous learning.

Funding for C4 comes from a mix of city budget allocations and grant funding. Mastroianni has developed a strategic approach, often using grant funding for initial purchases, then demonstrating value to secure ongoing city funding.

## Lessons for Other Agencies

The success of C4 has not gone unnoticed, and the program continues to expand. Plans are underway for 36 new camera deployments, funded by a \$1.9 million grant. These new installations will feature advanced cameras from Axis Communications with edge analytic processing capabilities, further enhancing the system's effectiveness.

Mastroianni and his team are also exploring new technologies, including expanded use of drones, and implementation of artificial intelligence for more efficient video analysis. The success of Hartford's C4 offers valuable insights for other law enforcement agencies considering similar initiatives. Key takeaways include:

- Invest in open, scalable systems that allow integration of new technologies.
- Focus on processes and trained personnel, not just technology.
- Prioritize real-time information sharing to improve outcomes.
- Measure and demonstrate value through rigorous data collection and analysis.
- Foster a culture of innovation to stay ahead of emerging trends.

As cities across the U.S. grapple with public safety challenges, Hartford's Capital City Command Center stands as a powerful example of how strategic use of technology, combined with well-trained personnel and efficient processes, can dramatically improve law enforcement outcomes and enhance community safety.

The complete peer-reviewed study, titled *Creating Solvability in Real-Time Crime Centers: Impacts on Homicide and Shooting Investigations*, has been published in *Police Quarterly* and can be accessed here: <https://journals.sagepub.com/doi/10.1177/10986111241290143>



## Recognize the challenges?

Do you also need to see what is happening throughout your city, so you can respond in time?

Get in touch with us at [milestonesys.com/book-a-demo/](https://milestonesys.com/book-a-demo/) and let's talk about what type of solution is right for you.

### About Milestone Systems

Milestone Systems is a leading provider of data-driven video technology software in and beyond security that helps the world see how to ensure safety, protect assets, and increase business efficiency. Milestone enables an open platform community that drives collaboration and innovation in the development and use of network video technology, with reliable and scalable solutions that are proven in more than 500,000 customer sites worldwide. Founded in 1998, Milestone is a stand-alone company in the Canon Group.

[www.milestonesys.com](https://www.milestonesys.com)