

CASE STUDY: CITY OF NEWARK POLICE DEPARTMENT

A Multi-Phase Initiative to Upgrade Communications, and Increase Security

SUMMARY

- A successful, 10-year+ public safety customer/systems integrator partnership.
- An iterative approach to developing and enhancing a private, citywide, wireless video-security network to deliver the latest in high-speed communications and digital video/data transmission.
- A multi-phase design to initially integrate IP data technologies to deliver greater speed and better reliability for mobile communications.
- As of 2015, the Newark Police Department (NPD) has 174 surveillance cameras monitoring 160 high-crime intersections and other strategic locations throughout the city.
- The wireless data network has considerably decreased the NPD incident-response time.

Challenge: Employing Technology to Better Protect and Serve

The City of Newark is home to 276,000 residents; when the daily rush of commuters makes its way into the bustling metropolis each day, the population rises to over one million.

The Newark Police Department (NPD) is responsible for protecting and serving its residents and constituents. The Patrol Division, comprised of five Police Bureau Commands, three Mini Precincts, and a Tactical Patrol Units, responds to calls from its citizens and works to identify, apprehend and convict criminals, prevent crime and maintain order within its many communities.

Like any organization that serves customers or constituents, the NPD utilizes technology to operate more efficiently; and like most organizations, there is a constant struggle to keep up with technology advances that support the NPD law enforcement efforts.

Background: Building the Network, One Stage at a Time

Within the last 10+ years, NPD has received grants and additional funding from other public and private sources to continually increase the level of security and surveillance systems throughout the city.

Rather than a series of one-off implementations, the NPD IT department's vision was to use this series of funding phases to build a scalable and cohesive network that could support the department's expanding needs and incorporate the latest technology advances.



Solution: An Experienced Integrator, Scalable Technologies and a Cohesive Vision

PHASE 1: Tactical Information Exchange (TIE)

Opportunity: In the 2003-2004 timeframe, the NPD was one of 30 nationwide municipalities to receive a grant from the Department of Justice to create interoperability for its communications network. The NPD Communications Division Commander Captain saw the opportunity to build a network that would support voice and data communications, allow the department to replace its cellular based in-car communications with a high-speed wireless solution, and scale to support future growth.

They turned to LTW, a NJ-based systems integrator, to design a private wireless network with the ability for officers to access to the same data and resources available on their desktop computers in their patrol cars. The network would also allow various agencies, those residing in and those visiting Newark, to access and share data/resources.



The LTW Solution:

- Installed a wireless solution on 54 rooftops within and around the city, encompassing roughly 24 square miles of complete wireless coverage, increasing data speeds by over twenty times of what the cellular-based, public-data network was offering at the time.
- Integrated a pilot phase for surveillance cameras at strategic locations on several of the taller buildings in the city adding the ability to transport video across the wireless network.

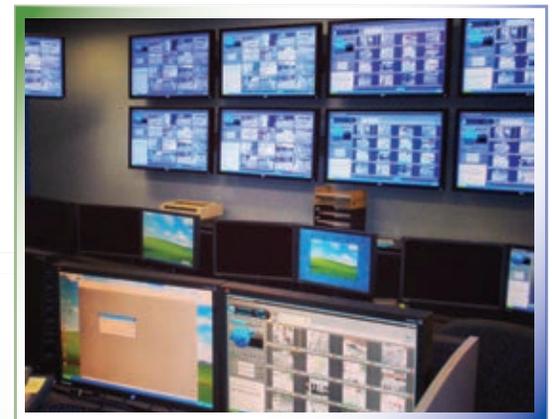
Results: The LTW implementation provided NPD patrol cars another modality to communicate at much greater speeds and with greater reliability than the cellular-based public network could provide at the time, at significantly decreased costs to the department.

PHASE 2: Additional Surveillance Cameras

Opportunity: In 2007, the NPD contracted LTW to install 50 digital video surveillance cameras in commercial areas throughout the city.

The LTW Solution:

- Designed and implemented a 50-camera video surveillance solution.



- Created a network operations center for the NPD, adding PCs and monitoring equipment to the wireless network infrastructure, enabling the department to actively monitor its citywide surveillance operations.

Results: With the increased surveillance operations up and running, business owners in the commercial areas reported increased consumer foot traffic, with owners and consumers alike noticing and welcoming the added security measures.

PHASE 3: Video Surveillance Expansion and Seven Square Miles of Gunshot Detection

Opportunity: In the summer of 2007, a high-profile incident provided NPD the opportunity to enhance and expand the video surveillance in the city's high-crime areas.

The LTW Solution:

- Designed and implemented additional cameras into the video surveillance solution.
- Established the Community Eye Center, a high-speed, high-tech surveillance center staffed with NPD officers who monitor the cameras 24/7 and have direct contact with the department's dispatchers.
- Provided the communications infrastructure for a gunshot detection system throughout seven square miles of the city. When a weapon is discharged, the technology's sensors triangulate the location and automatically notify NPD dispatch with the incident's coordinates, often well ahead of any 911 calls.

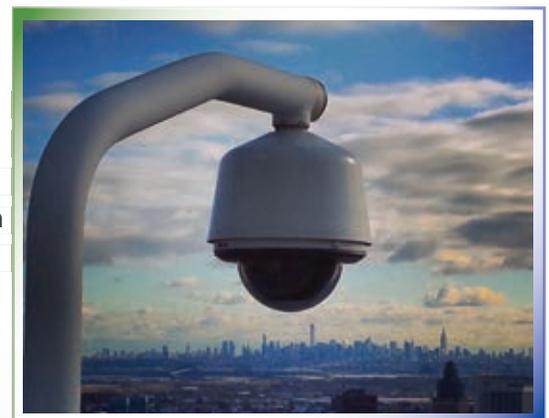
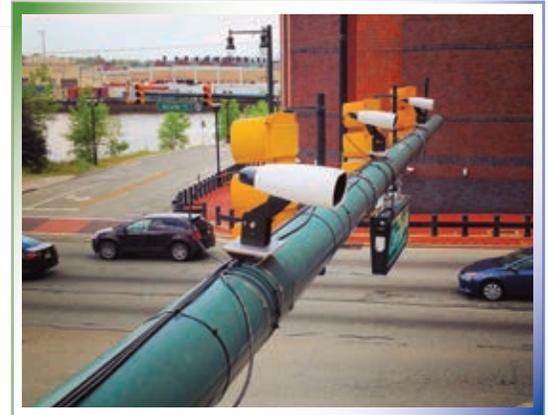
Results: The expansion of the surveillance network and additional cameras installed allow for increased detection and a quicker police response times, and more efficient utilization of NPD resources to incidents that require police intervention.

PHASE 4: Protecting the Prudential Center

Opportunity: LTW was tasked with providing an enhanced surveillance security solution for the neighborhood surrounding the Prudential Center Stadium.

The LTW Solution:

- **The Arena Perimeter:** Extended the existing wireless network to the perimeter of the stadium to provide enhanced video surveillance and license plate recognition to capture traffic around the stadium from all directions.



- **A Mobile Command Center:** A mobile command vehicle, parked next to the stadium, has a camera attached to the roof of a 40-foot extendable mast and wirelessly transmits high-speed video to the network operations center for continuous monitoring. Similarly, cameras were posted on 40-foot extendable masts atop three large military-grade surveillance platforms that could be parked in desired locations anywhere in the city.
- **A 3D Incident-Command Application:** A 3D digital model of the city created with mapping technology identifies the locations of every camera in a target zone. NPD officers can track and record movement of a person or event between camera location points within the model.

Beyond Phase 4, Smaller Phases have Followed:

- Continued expansion of the video surveillance system throughout the city.
- Technology refresh for the wireless security network and associated hardware.

Results: Wireless Connectivity Throughout the City

What do all these phases have in common? They are all part of an integrated security solution, to provide a wireless infrastructure for video surveillance and mobile communications.

The LTW Advantage: A Focus on Building Partnerships

The LTW partnership with the Newark Police Department, established more than 10 years ago, was built on the understanding of the NPD's vision to create a private, cost-efficient wireless network that would better enable the department to respond, protect and serve its residents and constituents.

As the needs of the department have changed over the years LTW continues to respond. At every stage, LTW delivers the breath of technology solutions, all implemented into the original, scalable wireless network infrastructure; each successfully providing the added security and communications the department, the city and the community required.

"From the very beginning we had a long-term vision of creating a wireless network that would give our officers the tools they need to respond quicker, solve crimes, and better serve the City of Newark. LTW understood our goal and with every new phase, every update, they've enhanced the capability of our police officers to keep the streets safer than before. Each new chapter of this project bring us closer to our goal and we expect LTW to be with us each step of the way."

-- Lorenzo Maldonado
Captain, Newark Police Department

"When we began working with the NPD in 2004, we saw the opportunity to create a then-groundbreaking wireless communications infrastructure. But what started as a Homeland Security initiative has evolved it into a carrier class high-speed, citywide, wireless infrastructure that supports voice, video and data applications. And with each new round of funding the NPD procures, we continue integrating new technologies that are making a noticeable difference in the lives of Newark residents and constituents."

-- Craig Lerman, President & CEO, LTW

