

# Wireless Broadband Boosts Productivity, Safety, and Efficiency for City of Altoona, PA

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— Victor Curfman, IT Director, City of Altoona

## **Situation: Balancing public safety with fiscal responsibility**

The City of Altoona needed a way to increase the presence of its first responders. However, like cities across the nation struggling with shrinking budgets, Altoona's IT staff began looking for innovative tools that would enable their existing public safety personnel to do their jobs faster, safer and more effectively. Visiting communities within and outside the state to learn what others were doing, they found that wireless broadband had helped to boost the efficiency of neighboring police departments by at least 10 percent.

## **Solution: Motorola wireless broadband**

The city chose a Motorola wireless broadband network that provided uninterrupted coverage across the entire city. To meet the access needs of its public safety and public service users, each access point houses a 4.9 GHz licensed band radio for public safety applications and an additional 2.4 GHz radio (802.11 b/g) for public service applications. The Motorola solution creates a self-forming, self-healing wireless broadband network that blankets the city.

## **Result: Immediate access to critical data citywide**

Motorola's solution provides the bandwidth and capacity needed to support Altoona's current initiatives. At the same time, the solution offers the flexibility to introduce future applications and the dual configuration enables both public safety and mobile municipal workers to securely use the network. "It's an exciting time and a great step forward for the city," says Former Mayor Wayne Hippo. "This technology effectively puts more police into the public, allows for more efficient use of time in codes and inspections, and will increase the safety of our firemen. It is well worth the investment."

### **Altoona, PA**

- Located in the Allegheny Mountains
- Population nearly 50,000
- Approximately 10 square miles

### **Situation**

- Increase efficiency of police, fire, and city personnel
- Enhance safety of first responders and the public
- Ensure fiscal responsibility

### **Motorola Solution**

- Citywide wireless broadband
- MWAN 4300 Series access points
- Point-to-Multipoint 49400
- Two-radio configuration: 4.9 GHz licensed band for public safety and 2.4 GHz radio (802.11 b/g) for municipal workers

### **Results**

- Citywide broadband mobile access
- Police access to criminal justice network and other critical applications
- Fire access to building plans, Hazmat systems
- Public Service access to state reporting system, water/sewer line databases
- Video surveillance for citizen safety





“Wireless broadband makes bridge inspectors a lot more efficient because they can access the database and make their reports from the field rather than coming back to the office to complete and file the report.”

– Victor Curfman, IT Director, City of Altoona

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### Increasing public safety in spite of shrinking budgets

The City of Altoona was originally founded by the Pennsylvania railroad, which used it as a launching point to ship over the Allegheny Ridge and the Allegheny Mountains. Today, Altoona is home to approximately 50,000 residents and serves as a major commercial center for a radius of approximately 150 miles.

With the safety and security of the citizens they are sworn to protect on the minds of public officials, the City of Altoona was looking for a way to increase the presence of its first responders. However, like cities across the nation struggling with shrinking budgets, Altoona’s IT staff, began looking for innovative tools that would enable their existing public safety personnel to do their jobs faster, safer and more effectively. Altoona’s IT staff visited communities in and around Pennsylvania to learn what others were doing. What they found was that wireless broadband had helped to boost the efficiency of similar police departments by 10 percent at minimum.

“We crunched the numbers and saw that if a wireless system could increase the efficiency of our police department by 10 percent, that would be like putting seven new officers on the street and would give us a return on investment of five years at the most,” says Hippo. “Then if you factor in providing access to the fire department and the codes department, the ROI is achieved even faster.”

### Justifying the expenditure

Armed with hard data that confirmed the value of wireless broadband, the next hurdle was how to convince the city’s taxpayers. They also began to research funding options. Factoring in the potential

cost of the system, the decision was made to issue a bond referendum, which would allow them to lock into a low interest rate and spread the payment over a period of 20 years, without affecting the general fund.

“Repayment of bond issues are outside our general fund,” says Hippo. “The combination of enabling more effective use of existing manpower, no impact on the general fund, and being able to stretch those dollars further to give us more bang for the buck made our taxpayers very happy.”

### Wireless integrator chooses Motorola wireless broadband

The city called on BIG Wireless, a local wireless integration, security, applications development, and virtual communications technology firm based in York, PA, to help them move forward with the process. For BIG Wireless, the Motorola 4300 4.9/2.4 GHz wireless broadband system was the right choice. The bandwidth provided by Motorola wireless broadband could easily cover the entire city, enabling mobility and surveillance cameras with enough bandwidth for future applications, at a cost the city could justify.

### Unique two-radio configuration enables access for public safety and public service

The wireless broadband network consists of Motorola MWAN 4300 series intelligent access points. To meet the needs of the city’s public safety and public service users, each access point houses a 4.9 GHz licensed band radio for public safety applications and an additional 2.4 GHz radio (802.11 b/g) for public service applications. The Motorola solution creates a self-forming, self-healing wireless broadband network that blankets the city. The

intelligent access points work in conjunction with Motorola's PMP 49400 series wireless broadband access network solution to provide backhaul and ensure reliable and secure transport of data traffic between the city's neighborhoods and the core of the network.

"An excellent relationship developed between our staff, BIG Wireless, and Motorola," says Joseph Weakland, Altoona city manager. "Our IT people spent many months with BIG Wireless and with Motorola and everything went very, very smoothly because of those relationships."

#### **Bandwidth to support current needs and accommodate future applications**

Today, the City of Altoona has a secure, high-speed wireless network that provides its first responders and mobile employees with immediate access to critical data, enabling greater efficiency and enhanced safety.

Motorola's solution provides the bandwidth and capacity needed to support Altoona's current initiatives while also offering the flexibility to introduce future applications and the dual configuration enables both public safety and mobile municipal workers to securely use the city's network.

"The end result is increased productivity and reduction in crime," says Officer Troy Wright, Altoona Police Department. "That's because when I'm out here pounding the pavement, my eyes are behind the wheel, not inside an office building looking at a computer."

#### **Immediate access to critical data**

Altoona's police department can remotely connect to the Pennsylvania Justice Network (JNET), Informant reporting software, field reporting and mapping applications. The fire department can remotely access reporting software, building plans, property and mapping systems, as well as Hazmat systems.

"The new system has really streamlined our response," says Tim Hileman, deputy fire chief. "The

technology enables us to gather information en route to the scene that we normally wouldn't have gotten until we arrived."

Public service officials will have mobile access to city permitting, property and mapping systems, while bridge inspectors will have access to the statewide reporting system anywhere in the city. And the Altoona Water Authority personnel will also have access to internal mapping and water/sewer line databases when out in the field.

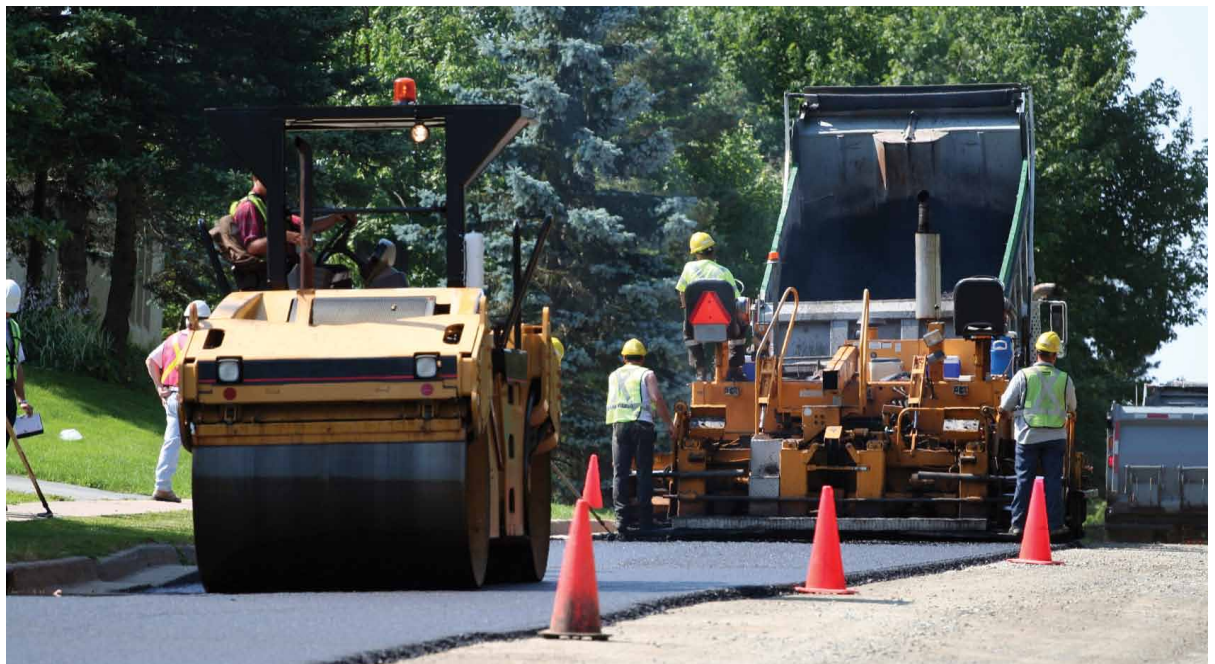
"Our bridge inspectors examine about 50 bridges in the city on a bi-annual basis," says Victor Curfman, IT director, City of Altoona. "Wireless broadband makes them a lot more efficient because they can access the database and make their reports from the field rather than taking notes, then coming back to the office to complete and file the report."

City electricians also benefit greatly from remote access. For example, Pennsylvania has instituted a "One Call System" that requires residents to contact the city prior to digging, to prevent damage to underground facilities. Once the call has been made, city electricians go out to the site and remotely access the main database to access maps, property data, and photography to confirm the location.

#### **Meeting all goals while maintaining fiscal responsibility**

When city officials first met in 2006 to begin their five-year projection and needs assessment, increasing the safety and security of the citizens of Altoona, PA was first and foremost on the list. Yet how to do that within a budget that was becoming increasingly tight was the primary challenge. Today, the city has not only provided first responders with the tools they need to meet the public demand for increased safety through virtual force expansion, they've also expanded the scope to offer access to public works—all while maintaining minimal impact to the budget.





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Primary benefits experienced by the City of Altoona include:

- **Increased efficiency:** Wireless broadband helps keep first responders on the street, rather than back at the station searching for data or filling out paperwork.
- **Enhanced security:** With rapid access to information, it takes just seconds for officers to pull up a suspect's record to identify prior offenses, outstanding warrants, and ensure the driver's license is valid, allowing officers to increase situational awareness.
- **Fiscal responsibility:** "It's a matter of balancing the need to be fiscally responsible and address the financial problems with the need to fight crime," says Hippo. "With this system, we're increasing efficiency and with a single payment, increasing our police force effectively by 10% at very minimum."
- **Uninterrupted access:** "The biggest point that we focused on was coverage," says Carl Wenzel, City of Altoona police department. "The network had to cover the entire city because we needed to have total coverage. Now we have it."

- **Support:** Cities looking to invest in technology need assurance that when the system is deployed, the vendor will be there to provide support. "We wanted the best technology available but the last thing we wanted was someone who disappeared after the system was installed," says Hippo. "We're extremely comfortable with Motorola on both of those fronts. They not only provided the technology and expertise up front, we know they will be around to support it in the long run. "

"We carefully evaluated all of the technologies available and determined that Motorola's product met all of our needs for security, mobility and most importantly future growth," said Curfman. "Today, we have a network that provides our first responders and mobile employees with immediate access to critical data as well as greater efficiency. I am confident we made the right decision in working with Motorola and BIG Wireless."

#### About Motorola's Partner

BIG Wireless, LLC, is a leading wireless integration, security, applications development, and virtual communications technology firm based in York, PA. Founded in 1992, BIG specializes in the design, deployment, maintenance, and real-time monitoring of carrier class, end-to-end, wireless infrastructure.



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