

Public Service: Essential Tools for Essential Services – Motorola Two-Way Radios



"The real power of this solution is that it improves work crew safety. We have very steep terrain here and in a blizzard, trucks could slide off into a ravine and the tracks would be quickly covered up. With MOTOTRBO sending data through the GPS, we will see when that truck stops moving. We'll know where that guy went off the road and we can send someone to that exact location." – Erik Parker, Holmes County GIS Director

Serving the public with such critical services as mass transit, public works, streets and sanitation, and parks and recreation have become even more challenging for local governments today. As a critical enabler for increased efficiency, enhanced safety, and operating cost reduction, Motorola's two-way radios ensure constant contact within an agency's workforce, allowing local governments to deliver services more quickly and effectively to the citizens they serve.

The challenge of increasing effectiveness with shrinking resources

As local governments look for ways to increase staff efficiency and reduce operating costs in order to stay within shrinking budgets, the struggle to do more with less has become a daily challenge. Despite budget cuts, citizens and businesses still expect the same level of services from their local government.

Motorola two-way radios help address these difficult challenges with flexible, scalable communications that help streamline work processes. Keeping your entire staff in constant contact enables them to operate with the highest level of efficiency and reduce operating costs. Combining flexibility with the best in two-way radio functionality, Motorola radios meet a range of needs from enhanced coverage and increased capacity to extended battery life, crisp, clear audio, and unique voice and data applications designed specifically for local government operations.

How wireless two-way radios can help

Many public services are provided in the field. Whether they are maintaining infrastructure, reading water meters, repairing potholes, or responding to citizen requests, two-way radios increase efficiency, speed response, enhance worker safety, and reduce operating expense. Motorola two-way radios and accessories make it possible for supervisors and dispatchers to stay in touch with a mobile workforce.

Improve productivity and efficiency

Facilitating more effective processes relies on communications that can help your staff get the job done more quickly and effectively.

- Extended coverage:** Motorola radios with PassPort® analog trunking systems allow your workforce to operate throughout your city or county (up to 127 contiguous sites). In addition, the MOTOTRBO™ digital IP Site Connect solution enables you to link up to 15 repeaters to also create a wide area network that supports work crews that may operate in multiple cities within a county. At the same time, IP Site Connect users also experience the benefits of digital, including increased capacity, longer battery life that supports long shifts common in this industry, data applications and much more.
- Easy roaming:** Both PassPort trunking systems and MOTOTRBO IP Site Connect enable seamless communication without manual intervention, allowing workers operating city vehicles to roam from site to site without losing connection or having to manually switch channels. These workers can remain focused on the road and on the job at hand.



"MOTOTRBO™ has given us nearly 100% coverage and the audio quality on the fringe is crystal clear, even when the background is noisy." – David Brokamp, Vice President of Engineering, Sumter Electric Membership Corporation

The US Federal Government provides scores of funding opportunities that enable government agencies, such as public works, streets and sanitation, and parks and recreation departments to improve their operations. For more information, see www.motorola.com/govgrants.

- **Quick response:** Two-way radios allow workers to respond quickly to service requests, such as road repairs, facilities maintenance, and outages of traffic lights. MOTOTRBO radios equipped with GPS technology can also help supervisors monitor vehicles using location tracking software and dispatch the nearest work team to quickly address critical city issues and avoid delays. And with voice and text capability, supervisors can quickly contact a single individual or an entire fleet.
 - **Clear audio even in noisy environments:** Whether your workers are repairing a pothole in a busy street or working in a noisy sanitation facility, they must be able to hear the message. Digital two-way radios with noise-cancelling technology block background noise, sending only the voice transmission to deliver crisp, clear audio that prevents misunderstood messages. And IMPRES™ audio accessories for MOTOTRBO radios enable optimum audio as well as hands-free operation.
 - **Batteries that last:** Motorola batteries are subjected to rigorous tests that ensure they will survive even the most extreme weather conditions your workers may face. Furthermore, Motorola-exclusive IMPRES technology provides automated battery maintenance that optimizes battery cycle life and maximizes talk time, requiring fewer battery replacements and ultimately saving your city money in the long run.
 - **Emergency alert:** Emergency notification buttons allow workers to quickly notify dispatch of a situation with just the push of a button. Transmit interrupt capability enables multiple talkgroup conversations to be interrupted for the delivery of urgent messages during an emergency.
 - **Safe in unstable environments:** Your drivers and field workers operate in rain, snow, sleet and other harsh conditions. Motorola radios and accessories meet U.S. Military Standards and some Motorola radios meet IP57 for submersibility in water. Many of Motorola's portable radios are rated as intrinsically safe for locations where flammable gas, vapors, or combustible dust may be present.
- Reduce operational expense**
- Two-way radios offer several opportunities to contain and reduce costs, including the following:
- **No recurring appropriations:** Because there are no monthly service fees, two-way radios can save hundreds or even thousands of dollars over other portable communication equipment, such as cell phones.
 - **Double number of users on a single license:** Obtaining new frequencies to add users can be challenging and costly. MOTOTRBO operates on TDMA which divides your existing channels into two time slots enabling you to double the number of users on your system. A second call does not require a second repeater, saving thousands of dollars in appropriations, as you do not need to purchase, install and maintain additional infrastructure equipment.
 - **Reduce fuel expense:** Traffic congestion and situational changes can create delays as well as increase fuel costs. Dispatchers monitoring traffic conditions can communicate alternate routes to drivers/operators in the field; advise drivers of last-minute changes in schedules; and with location tracking applications, can identify vehicle locations and dispatch the closest field operator to respond to new requests.
- Increase safety**
- Maintaining the safety and security of staff and assets requires reliable two-way radios that provide communications at the time of need.
- **Worker safety:** Two-way radios provide a critical communications link to the main office or with co-workers if a field worker requires assistance, directions, or encounters an emergency situation.
 - **Facility security:** Building security can be enhanced with MOTOTRBO radios programmed to receive an alarm text message when an emergency door is opened or other indications are received.



Streets and Sanitation drivers can often be in their vehicles from sunrise to sundown, making the ability to instantly and reliably communicate a critical need. Mobile radios allow dispatch to call drivers and receive immediate response, rather than waiting until the drivers return to the office or catching them as they drive through a cell phone coverage area.

The MOTOTRBO platform was designed with an Application Developer Program to allow user-focused applications to be produced. This enables each system to be customized to the needs of the user. Applications available include advanced location tracking applications; advanced signaling, such as a tilt switch for "man down"; telemetry control capabilities that remotely turn switches and devices on and off; data transmission applications that can transmit work orders, schedules and specifications; and computer based dispatch and system monitoring applications.

Workplace applications designed for local government

A significant advantage of Motorola's MOTOTRBO digital radio portfolio is the ability to design applications that add even greater value to two-way radios, including:

- **Location tracking:** When used with GPS-enabled radios, location software application allows you to monitor your employee's location in real time to more easily manage your field workforce and optimize operations.
- **Dispatch capability:** Provides the ability to monitor and manage all radio users from a central location.
- **Safety:** Dispatchers can immediately view the location of emergency situations using the mapping application when the driver presses the emergency button on the radio.
- **System monitoring:** Monitor, manage and report on the usage of your system to help minimize downtime and ensure optimal performance.

Accessories for enhanced convenience and productivity

Motorola has designed a variety of accessories that add even greater flexibility, efficiency and worker safety:

- **IMPRES visor microphone** for the MOTOTRBO mobile radio clips onto the visor and allows hands-free operation which enhances safety. IMPRES capability also helps block out much of the vehicle noise, improving audio so transmissions get through clearly.
- **IMPRES keypad microphone** enables MOTOTRBO mobile radio users to send quick text messages back to dispatch updating status of pickups and delivery, traffic congestion, etc.

- **Desktop microphones and tray with speaker** enables Dispatch to set up a mobile radio for use as a control station and quickly, easily and clearly communicate with drivers.
- **Heavy duty headset** for portable radios provides improved audio as well as hearing protection in extremely noisy environments.

MOTOTRBO meets FCC mandate for 12.5 KHz

To increase spectrum efficiency and accommodate more users, the FCC is mandating 25 kHz licensees to operate using 12.5 kHz efficiency by January 1, 2013. MOTOTRBO digital radios offer a seamless path to 12.5 kHz, allowing customers to transition at their own pace.

Scalable communications that fit your needs now and in the future

With a long history providing communications solutions that enable mobility and provide access to seamless communications, Motorola understands that not every agency is alike and not every agency uses the same technology. That's why Motorola developed a portfolio that allows you to choose the system that provides the exact coverage, capacity and features you need for your operation to service your constituents at peak efficiency now and lay the foundation for migration to new technology when the time is right.





MOTOTRBO is built to the globally recognized Digital Mobile Radio (DMR) standard; DMR is widely backed by major manufacturers of digital professional two-way communications equipment. So with MOTOTRBO, you can be assured that you are getting a robust and future-ready digital radio solution.



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