



# Kodiak Broadband PTT for State and Local Government

An Application Brief

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## Overview of U.S. State/Local Government

State governments in the U.S. share the same structural model as the federal system, consisting of executive, legislative, and judicial branches. While each state government is free to organize its executive departments and agencies in its own way, there are some common functions that all state governments have, such as public education, transportation, public works, public safety, and parks and recreation. Local government entities are jurisdictions below the state level, generally consisting of two tiers: counties and municipalities/townships. Local governments includes numerous functional departments, such as transportation, public works, police, fire, courts, housing, emergency management/medical services, parks and recreation, school districts, etc.

Based on data from the US Census Bureau, key facts about US state and local governments include the following:

- State government employees: 3.75 million full-time and 1.59 million part-time
- Local government employees: 10.67 million full-time and 3.27 million part-time
- Local government units: 90,056 (including 3,031 counties, 19,519 municipalities, 16,360 towns or townships, 38,266 special districts, and 12,880 school districts)

## Key Challenges for State/Local Government

Citizens expect to access government services quickly and easily, but state and local governments continue to face near-term and long-term fiscal challenges. With limited resources and very diverse responsibilities that directly impact citizens' life and safety, state and local governments face numerous challenges every day.

| Overall Challenges   | Communication Challenges   |
|--|--|
| <ul style="list-style-type: none"><li>• Economic, social, and political environment</li><li>• Budget constraint</li><li>• Limited in-house resources</li><li>• Aging infrastructure</li><li>• Broad scope of responsibilities that impact citizen's life and safety</li><li>• Security threats</li></ul> | <ul style="list-style-type: none"><li>• Communication with remote and dispersed workers</li><li>• Mobile access to real-time information</li><li>• Mobile coverage within certain structures</li><li>• System interoperability across multiple organizations</li><li>• Communications cost control</li></ul> |

## Fragmented and Siloed Communications Systems

State and local governments have used multiple mobile voice/data communication devices and services, including the following:

- Regular cellular voice service

- Two-way radio (LMR) for instant group voice communications
- Legacy carrier PTT based on old technology
- Smartphones and tablets for mobile broadband data
- GPS devices for location tracking and remote mapping

In addition to diverse voice/data communication infrastructure, state/local governments also depend on various productivity applications, such as project management, work order management, etc. The combination of multi-network communication systems and the need for mobile access to a plurality of productivity applications makes it difficult to increase efficiency and reduce costs.

State and local governments are faced with fragmentation of devices and systems that lack application integration or system interoperability. Two-way radios and cell phones operate on separate networks. Some employees must carry two devices: a two-way radio for PTT and a smartphone for data and regular voice communication with those without a two-way radio. Fragmented and siloed communications systems lead to multiple consequences, including communication inefficiencies, productivity losses across government operations, high cost and inconvenience associated with carrying multiple devices, and the expense of managing disparate communication systems. Communications technology has been moving toward convergence for years; however, government entities are still struggling with legacy and disparate communication systems.

## Kodiak Broadband PTT for Government

To solve the problem outlined above, state and local governments need a new and cost-effective mobile communication solution that integrates PTT, regular voice, and mobile broadband data applications, all on a single device and with ubiquitous network coverage. In addition, this solution should provide interoperability between cellular PTT and two-way radios. Broadband PTT solution from Kodiak, a Motorola Solutions Company, represents the utmost standard of such a solution. Key features and capabilities of Kodiak Broadband PTT include the following:

- **Standards based.** The Kodiak PTT platform complies with the industry's OMA PoC standards, which represent the commercial-ready baseline of 3GPP's MCPTT standard. New features based on the MCPTT standard are being implemented.
- **Sub-second call set-up.** Kodiak-powered PTT enables truly instant voice communication with fast call-set-up, which is critical to handling of emergency situations.
- **Communication over the latest cellular networks and W-Fi.** Cellular networks supported include 4G LTE, 4G HSPA+, and 3G, providing ubiquitous wide area coverage. Support for Wi-Fi ensures effective in-building coverage and a fall-back wireless network where Wi-Fi is available.
- **Dynamic creation and update of contact list and group list.** Kodiak Broadband PTT

comes with a powerful Web-based corporate administrator tool that allows a PTT address book to be created or updated on the fly and synched to individual users' devices wirelessly, in real time.

- **Broad device choices, including the latest smartphones, feature phones, tablets, and specialty devices.** Smartphone/tablet operating systems supported by Kodiak Broadband PTT include Android and iOS. Ruggedized specialty handsets with a dedicated PTT button and Intrinsically Safe feature are available. In addition, Kodiak Broadband PTT comes with numerous accessories, including car kits for drivers.
- **Multiple application modes.** Kodiak Broadband PTT offers two application modes: PTT radio mode, which provides a single and easy-to-use screen that emulates experience with traditional radio, and a standard mode, which offers full client functionality interactions.
- **Multiple PTT calling types, with call override.** Users can make 1:1 private calls, pre-defined group calls, ad hoc group calls, and broadcast calls. The supervisory override feature allows a supervisor or any other designated person to take over the voice channel at any time, which is essential during emergency situations.
- **Voice and signaling encryption.** Kodiak-powered PTT provides security through voice and signaling encryption, using the Advanced Encryption Standard (AES) 256 standard to protect PTT users from unauthorized call interception and monitoring.
- **Secure multimedia messaging and location tracking features.** Kodiak Broadband PTT supports secure multimedia messaging (with text, picture, video, file, and recorded voice), location mapping on device, and geo-fencing, all of which enhance effectiveness of mobile communications. Users now can access different means of mobile communication through a single application.
- **Interoperability between two-way radio and cellular networks.** The interoperability capability allows continued use of an existing two-way radio system and expansion of coverage or capacity cost-effectively, with seamless interoperability between PTT devices operating on different networks.
- **Integrated dispatch.** Kodiak offers an integrated dispatch application, which can be PC-based or Web-based. The application supports PTT communications, location tracking, group monitoring, voice recording, etc.
- **Significant cost savings.** Kodiak Broadband PTT, through its carrier partners, provides two pricing options: a low-cost PTT-only plan or a small nominal fee on top of an existing cellular voice/data plan, giving end customers significant cost savings.

Kodiak Broadband PTT delivers numerous benefits, including:

- Minimizing the need to manage multiple communication services
- Increasing employee productivity through application integration
- Eliminating the need for employees to carry multiple devices

- Enabling extension of LMR coverage, expansion of LMR capacity, and cross-agency PTT communications
- Reducing communication costs, allowing government agencies to do more with less
- Optimizing network coverage, both outdoor and indoor
- Ensuring real-time communications with fall-back networks
- Secure PTT communications

## Key Use Cases for Kodiak Broadband PTT

Kodiak Broadband PTT provides not only the traditional core capabilities of LMR but also integration of PTT with mobile broadband data, delivered through the most advanced and diverse wireless networks to the broadest choice of devices. With Kodiak Broadband PTT, government employees can reach the right group or person at any time and have real-time access to mobile data relevant to their role or functions, all on a single device. Below are use case examples.

- **PTT system capacity expansion:** Government agencies can leverage LMR-interoperable Kodiak Broadband PTT to expand the capacity of an existing LMR system.
- **Single device for mission-support PTT and mobile broadband data:** Kodiak Broadband PTT eliminates the need for non-mission-critical personnel to carry a radio for PTT voice and a smartphone or tablet for mobile broadband data.
- **PTT communication outside LMR coverage area:** When traveling outside LMR coverage area, government employees can still maintain PTT communications by using Kodiak Broadband PTT.
- **PTT communication when not carrying a radio:** Most government employees are not issued a radio while on duty. Kodiak Broadband PTT allows these personnel to have cost-effective PTT communications without using a radio.
- **Collaboration across multiple agencies:** When two or more agencies belonging to different jurisdictions need to communicate, they may experience LMR system interoperability issues. Kodiak Broadband PTT is interoperable with LMR and supports both PTT and regular voice.
- **Coverage inside buildings with heavily reinforced walls:** Various government buildings have heavily reinforced walls that impact radio signal strength, therefore creating in-door coverage issues. Kodiak Broadband PTT leverages Wi-Fi as an alternative to using on-site amplifiers, LMR antennas, or small cell systems for signal transmission.

|                              | <b>What PTT Voice Is Used For</b>   | <b>Typical Device</b>  | <b>Non-PTT Voice Application</b>  |
|------------------------------|---|--|---|
| Department Heads             | <ul style="list-style-type: none"> <li>• Emergency situations</li> <li>• Discrete communications</li> </ul>                                     | <ul style="list-style-type: none"> <li>• Smartphone</li> </ul>   | <ul style="list-style-type: none"> <li>• Messaging/data</li> <li>• Productivity apps</li> </ul> |
| Field Crew Supervisors       | <ul style="list-style-type: none"> <li>• Assigning task</li> <li>• Status updates &amp; reporting</li> <li>• Discrete communications</li> </ul> | <ul style="list-style-type: none"> <li>• Smartphone</li> </ul>   | <ul style="list-style-type: none"> <li>• Messaging/data</li> <li>• Productivity apps</li> </ul> |
| Field Crew                   | <ul style="list-style-type: none"> <li>• Receiving assignments</li> <li>• Status updates &amp; reporting</li> </ul>                             | <ul style="list-style-type: none"> <li>• Smartphone</li> </ul>   | <ul style="list-style-type: none"> <li>• Messaging/data</li> <li>• Productivity apps</li> </ul> |
| Maintenance Crew             | <ul style="list-style-type: none"> <li>• Task assignments</li> <li>• Receiving assignments</li> <li>• Status updates &amp; reporting</li> </ul> | <ul style="list-style-type: none"> <li>• Smart phone</li> <li>• Feature phone</li> </ul>                   | <ul style="list-style-type: none"> <li>• Messaging/data</li> </ul>                              |
| Emergency Response           | <ul style="list-style-type: none"> <li>• Emergency notifications</li> <li>• Coordination</li> <li>• Status updates &amp; reporting</li> </ul>   | <ul style="list-style-type: none"> <li>• Smartphone</li> <li>• Feature phone</li> <li>• Tablet</li> </ul>  | <ul style="list-style-type: none"> <li>• Messaging/data</li> </ul>                              |
| Medical/Healthcare Personnel | <ul style="list-style-type: none"> <li>• Receiving assignments</li> <li>• Status updates &amp; reporting</li> </ul>                             | <ul style="list-style-type: none"> <li>• Feature phone</li> <li>• Tablet</li> </ul>                        | <ul style="list-style-type: none"> <li>• Messaging/data</li> <li>• Productivity apps</li> </ul> |
| Facilities Management        | <ul style="list-style-type: none"> <li>• Order pick-up</li> <li>• Status updates &amp; reporting</li> </ul>                                     | <ul style="list-style-type: none"> <li>• Smart phone</li> <li>• Feature phone</li> </ul>                   | <ul style="list-style-type: none"> <li>• Messaging/data</li> <li>• Productivity apps</li> </ul> |
| Parks/Recreation Management  | <ul style="list-style-type: none"> <li>• Task assignments</li> <li>• Receiving assignments</li> <li>• Emergency management</li> </ul>           | <ul style="list-style-type: none"> <li>• Smart phone</li> <li>• Feature phone</li> </ul>                   | <ul style="list-style-type: none"> <li>• Messaging/data</li> <li>• Productivity apps</li> </ul> |
| Dispatchers                  | <ul style="list-style-type: none"> <li>• Dispatching</li> <li>• Updates to/from mobile workers</li> </ul>                                       | <ul style="list-style-type: none"> <li>• PC</li> </ul>   | <ul style="list-style-type: none"> <li>• Messaging/data</li> </ul>                              |
| Drivers                      | <ul style="list-style-type: none"> <li>• Receiving assignments</li> <li>• Status updates &amp; reporting</li> </ul>                             | <ul style="list-style-type: none"> <li>• Smart phone</li> <li>• Feature phone</li> </ul>                   | <ul style="list-style-type: none"> <li>• Messaging/data</li> </ul>                              |
| Office Employees             | <ul style="list-style-type: none"> <li>• Communications with field</li> <li>• Discrete communications</li> </ul>                                | <ul style="list-style-type: none"> <li>• Smart phone</li> <li>• Feature phone</li> <li>• Tablet</li> </ul> | <ul style="list-style-type: none"> <li>• Messaging</li> <li>• Productivity apps</li> </ul>      |

## Summary

Kodiak Broadband PTT is an ideal carrier-integrated mobile communication solution. It allows users to access instant voice and mobile broadband data services on a single device, with ubiquitous network coverage. For more information, visit [Kodiakptt.com](http://Kodiakptt.com).