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Transforming Connectivity

# Private Wireless Networks for Cities and Municipalities

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Whether it's connecting residents to online services, or building an infrastructure that supports smart technologies which will improve efficiency and safety, municipalities across the US are defining network strategies to accommodate these enhancements. This guide describes what a Private Wireless Network is and the benefits of deploying in a city environment, along with valuable information to consider when choosing a networking partner.

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## How to Lay the Foundation for a Connected City

Cities across the country are looking for ways to prepare their communities to take advantage of advancements like Smart City Technology, while struggling to provide residents with essential services like access to high-speed internet. With the emergence of 5G technology and the opening of CBRS spectrum for commercial use, connectivity solution providers are now able to design and deploy cost-effective, secure, high-speed internet across a defined geographic area. It's called a Private Wireless Network and it's owned and managed by the municipality.

### Examples of Private Wireless Network Use Cases:

- Provide high-speed internet to underserved neighborhoods
- Use data from roadway sensors to warn drivers about traffic backups
- Monitor municipal water and sewer systems for quality issues
- Increase cellular capacity and performance around municipal stadiums
- Support of high-definition surveillance systems

## What is a Private Wireless Network?

**A private wireless network is a communication network that is privately owned**, as opposed to a public network that is typically owned and operated by a telecommunications service provider. Private networks are designed for specific communities or groups, providing secure and reliable, high-speed internet access for users over a defined area. These networks are often used by municipalities, businesses, and educational institutions to meet their specific needs and requirements. They can be deployed as a standalone network or integrated into existing infrastructure.

## Benefits of Implementing a Private Network

- Cellular coverage extended to areas outside of public networks
- Improved reliability and performance through high quality connections, resulting in faster speeds and reduced downtime
- Increased control since the network owner determines who can access the network and what data is transmitted
- Carrier-grade security standards such as SIM authorization, encryption, CIPA-compliant filtering, and APN (Access Point Name) configuration
- Seamless mobility between the private network and public networks
- Ability to reduce or eliminate monthly carrier bills and the risk of future rate hikes



## Is Your Community a Viable Candidate?

To help determine if your community is a good candidate for a private wireless network, ask these questions:

1. Do you have underserved communities that don't have access to high-speed internet?
2. Do you plan to implement Smart City technologies that require a highly reliable and secure broadband network that can scale to meet future enhancements?
3. Is it important to control who has access to your network, with the ability to authenticate users and monitor usage?
4. Do you require carrier-grade security standards such as SIM authorization, encryption, and APN configuration to integrate into your existing functionality?
5. Are there areas in your city that need enhanced cellular coverage?





## Potential Pitfalls

**Designing and deploying a private wireless network can be a complex and challenging process.** Here are some things to consider before building one in-house.

1. Designing and deploying a network requires an elevated level of technical ability, including knowledge of networking protocols, security best practices, and radio frequency (RF) design.
2. Building a private network requires a significant investment of time and resources, including the development of network architecture, installation of components, and configuration of devices.
3. It is important to design a scalable network that not only meets current requirements, but can also accommodate future growth.
4. Incorporate appropriate security protocols to address vulnerabilities such as unauthorized access, and data breaches that can impact the integrity of sensitive information.

Working with an experienced vendor can ensure your network meets performance expectations, can support future growth, and save money by eliminating rework.



## How to Choose a Vendor

**Choosing the right private wireless vendor can impact the performance, reliability, security and cost of your network.** When choosing a vendor, it is important to consider the following factors:

- **Prior Experience with Municipal Projects:** Municipal projects vary widely in terms of goals and budgetary constraints, so it's important to choose a partner who has worked with many government agencies.
- **Technical Expertise & Innovation:** Deep technical expertise in broadband infrastructure deployment allows the vendor to design and build a future-proof solution customized for your community's needs.
- **Project Ownership:** A reliable partner will take complete ownership of the project from initial environmental studies to post deployment testing, ensuring all aspects are managed efficiently.
- **Flexibility:** A capable vendor will possess the agility and innovation to meet your requirements and overcome obstacles.
- **Strong Communication & Collaboration:** Ensure the vendor listens to your unique needs, engages in open dialogue, and provides transparent progress updates throughout the project lifecycle.





## Kajeet for Private Wireless Networks

**As a leading provider of wireless solutions for 20 years,** Kajeet has extensive experience in designing, building, and managing private wireless networks. Kajeet has a team of experts who can work with you to assess your specific needs and develop a customized solution to meet your goals. Additionally, its relationship with equipment manufacturers can help scale any size project, ensuring you have access to the best technology and resources to support your network.

**To learn more, visit: [Kajeet Private Networks](#)**

## About Kajeet

Kajeet provides optimized IoT connectivity, software and hardware products that deliver safe, reliable, and controlled internet connectivity to nearly 3,000 businesses, schools and districts, state and local governments, and IoT solution providers. Kajeet's Private Network solutions simplify private wireless to allow customers to design, install and manage their own private wireless networks. Kajeet is the only managed IoT connectivity services provider in the industry to offer Sentinel®, a scalable IoT management platform that includes visibility into real-time data usage, policy control management, custom content filters for added security and multi-network flexibility. Kajeet is available for hybrid and multi-network access across all major North American wireless networks, globally with coverage in 173 countries, and on multiple licensed and unlicensed networks. Kajeet holds 43 U.S. patents in mobile technologies. To learn more, visit [kajeet.com](http://kajeet.com) and follow us on X at @Kajeet.

## Acknowledgments

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