




# How Wi-Fi 7 Can Facilitate State and Local Government Operations

The latest wireless technology standard provides opportunities for enhanced data use and communication.



by **Erin Brereton**

Erin Brereton has written about technology, business and other topics for more than 50 magazines, newspapers and online publications.

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Using the 6-gigahertz spectrum that the Federal Communications Commission has opened up for unlicensed use, Wi-Fi 7, the next generation of wireless technology, is primed to offer a nimble, consistent experience across networks and devices.

While Wi-Fi 7 can operate on the previously accessible 2.4- and 5-GHz bands, it also works with the 6-GHz band, which wasn't available until after Wi-Fi 6's 2018 introduction.

However, [Wi-Fi 6E, the standard released in January 2020](#), offered access, says Kevin Robinson, CEO of the Wi-Fi Alliance.

"There are not a lot of other technologies that operate in 6 GHz, from an unlicensed perspective," Robinson says. "With the 2.4-GHz band, you have everything from your microwave oven to billions of Wi-Fi devices; the 6-GHz band only has the latest generations in it. That gives you higher performance."

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## Streamlining Operations with Wi-Fi 7

With networks that need to transmit significant amounts of data and support a sizable number of devices and applications, state and local government agencies may particularly benefit from [adoption of Wi-Fi 7](#).

The most recent generation of Wi-Fi allows multiple bands to be used simultaneously — for example, transmitting information over both a 160-megahertz channel in the 5-GHz band and a 320-MHz channel in the 6-GHz band.

"It combines those together; it's like operating on a 480-MHz channel," Robinson says. "Your performance goes way up in terms of throughput. The device puts a piece of data out over the first band available. It can significantly reduce latency."

# 40Gbps

The throughput rate for Wi-Fi 7, four times the throughput of Wi-Fi 6

Source: ruckusnetworks.com, "What is Wi-Fi 7? How Do I Upgrade?" Nov. 15, 2024

The 6-GHz band can enable applications that rely on speedy, seamless data transmission, he says, and help free up the other bands — which collectively could help governments support [smart city and other Internet of Things-centric initiatives](#), remote work and other needs.

Wi-Fi 7 also can assist first responders, who are increasingly using standard mobile devices for communications.

"Many of the service providers have arrangements in which when a device goes indoors, it can move onto the Wi-Fi network to ensure a better experience," Robinson says. "If there is an [emergency event](#), first responder devices can tell the network they're in this mode. If a network becomes overloaded because everybody in the area is trying to call their family and friends and say they're safe, the first responder devices will get priority access to the Wi-Fi network."

## Upgrading for the New Wi-Fi 7 Standard

State and local governments that are hoping to use Wi-Fi 7 will need compatible routers and other equipment in tandem with 6-GHz access, and fiber resources can help, Robinson says.

"It does you no good to have a 10-gigabit fixed [broadband connection](#) if you can only get hundreds of megabits over the spectrum," he says. "Things like the 6-GHz band are so incredibly important to delivering Wi-Fi performance and to realizing the full benefits of the broadband infrastructure investments that are taking place around the country."

Earlier this year, the Wi-Fi Alliance released Wi-Fi CERTIFIED 7, a Wi-Fi 7 interoperability program designed to make sure, via testing and certification, that devices will work well together.

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A number of cellphone models and other products have already begun sporting Wi-Fi 7 capabilities. Although some organizations may have transitioned to [Wi-Fi 6E recently](#), Robinson says, agencies that are planning a device or application upgrade may want to seek out Wi-Fi 7-friendly versions.

"The industry is already making the transition to Wi-Fi 7," he says. "By 2025 or 2026, we'll be at the tipping point. By the time you get to requests for proposals and procuring the equipment, Wi-Fi 7 is absolutely going to be what they're deploying."

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