

Washington City Plots Course to 5G

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(TNS) — Spokane Valley is laying the groundwork for fifth generation wireless communication technology, and with it, a new stage in telecommunications.

City officials are planning to enter agreements with Verizon, Mobilitie and MCI Telecom to install small cell antennas – the foundation for 5G technology – on utility poles and street lamps.

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Small cells use a millimeter wave spectrum that provides higher capacity rates – or the rate at which information can be sent – while transmitting signals over a shorter distance.

“Whenever you use 4G, you might need a couple of big stations for the area,” said Deuk Heo, Frank Brands Analog Distinguished Professor at WSU’s School of Electrical Engineering and Computer Science. “But in the case of 5G, you might need maybe 10 of them.”

Verizon is seeking a franchise agreement with Spokane Valley for an initial deployment of about 50 4G LTE small cells, said Heidi Flato, spokeswoman for Verizon.

“At this point, we do not have active 5G projects in progress in Spokane Valley, but the code update that the city is undertaking will provide the necessary rights and code to allow for future 5G deployments,” she said.

The race for telecommunication companies to provide 5G is burgeoning as more consumers stream video and adopt smart home technology.

U.S. telecom companies since 2010 have invested \$200 billion in 4G networks, and are anticipated to invest another \$275 billion over the next seven years to build next-generation 5G networks, according to wireless organization CTIA.

The city of Spokane likewise signed an agreement with Mobilitie last July to install small cell antennas on its utility poles.

Wireless networks of the future will require more than 300,000 small cells within the next four years to support the evolution of 5G and complement existing larger cell towers, according to CTIA.

Experts estimate 5G will be 100 times faster than 4G, with speeds high enough to meet consumer demand for data. That, in turn, will support smart cities, smart home technology and connected cars – a network of interlinked, communicating devices sometimes referred to as the Internet of Things.

Most carriers plan to roll out 5G-capable devices in early 2019, and are aiming for nationwide 5G service by 2020.

Companies such as Intel, Qualcomm and Samsung have put a lot of effort into implementing the kind of small cell technology needed to meet data requirements, said Heo.

“Everybody will move toward this direction,” said Heo. “Not only Spokane, but nationwide and worldwide. Especially in highly populated areas.”

Verizon estimates 30 million homes could use 5G as an alternative to fiber internet. T-Mobile plans to add 28,000 small cells to its network and implement 5G in more than 30 cities this year including New York, Las Vegas and Los Angeles.

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Spokane Valley is aiming to streamline the process for all three carriers.

“We (also) have a very customer friendly attitude at the city and part of that is permit processing, so we wanted to ensure that this is something that could be done easily and facilitate the needs of the providers while balancing the needs of our citizens,” said Erik Lamb, deputy city attorney for Spokane Valley.

Although the city can't prohibit placement of small cells and do not plan on charging carriers for installation, they will require a franchise agreement with a separate permit per batch of 30 small cell antennas that are limited to three cubic feet each.

The city will require enclosures to be installed on utility poles 250 feet apart and will not be allowed on a street or sidewalk, or in public parks.

City council will vote on the first of three contracts on April 10.

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