

ZEITGEIST



Does Westchester Need 5G?

Proponents of the lightning-fast cell technology say it's necessary for the continued advancement of the area economy, while naysayers point to potential health risks and infrastructure concerns. It remains unclear who will win out. **By Gale Ritterhoff**

Does Westchester need 5G? Talk about a loaded question. The answer depends on whom you ask (and we've asked a lot of people). Some will tell you that 5G wireless is the way of the future, a technology that will unleash levels of life-changing connectivity seen only in science fiction until now. Others will tell you it's an unnecessary and dangerous money grab from the telecom industry. Despite all of this hyper-awareness, there are many who aren't really sure

what 5G is, although they have undoubtedly heard of it.

If you consume media at all, you've surely seen ads from Verizon, AT&T, and T-Mobile promoting the new cellular system. Many consumers will admit to not paying close attention, adopting the "5G? Sure, sounds great," attitude. Who doesn't want faster, more reliable internet? There is a level of acceptance around it as simply being the next wave of technology sure to become part of daily life.

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Let's start with the basics: What exactly is 5G? The "G" stands for generation, so 5G is simply the fifth generation of cellular technology. We've been using 4G for about a decade. What's different is that 5G can use new FCC licensed airwaves, enabling the faster transmission of much more data.

"What that means in practical terms is data speeds that will be up to 100 times faster than what we have today," explains Michael Romita, president and CEO of the Westchester County Association. "Latency [or lag] periods are being halved now, and in the future will be even faster, with connection density vastly increased, meaning more devices that can function in a given geography. These technological advances enable new opportunities economically and socially."

These improvements in technology have become vital in light of the strain the coronavirus has put on our economy, as well as our internet pathways, adds Business Council of Westchester executive VP/COO John Ravitz. The BCW has joined a statewide coalition known as New Yorkers for 5G, who believe that "a robust and high-speed wireless network is paramount to helping New York's economic recovery, while supporting and improving health, education, public safety, and so much more," according to the coalition's mission statement.

Citing recent (pre-COVID) studies, Ravitz says that 5G investment in New York State would generate almost 200,000 wireless jobs and boost the GDP by more than \$28 billion. "We needed 5G before the pandemic," Ravitz says, "but [the pandemic] has exposed so many deficiencies in the network for people who have to work at home, kids who have had to attend school online — it's been a real challenge, in some places a disaster. Now more than ever, we need to focus on this."

"The world has been moving into a much more remote and mobile workforce," explains Robert Cioffi, COO and cofounder of Progressive Computing in Yonkers, adding that "COVID was an accelerant that took it out of second gear and slammed it into fourth, and I don't even think that we've hit full speed yet." He points out that many of us are "using services such as Zoom or Teams more frequently, putting files up in the cloud or collaborating with people remotely. The demand we are putting on our infrastructure is creating a lot of congestion. One way to relieve that is with faster internet; that's why 5G is really important."

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Romita adds that "the higher demand for remote learning, telecommuting, and telemedicine is just the beginning of the conversation." 5G's potential to almost instantaneously transmit large amounts of data will redefine what is possible for people and for business. "Think about healthcare, which is an incredibly important regional industry sector in Westchester," says Romita. "It's not just about a video chat with a doctor or nurse; think actual augmented reality applications," such as remote robotic surgery.

5G is also vital to building out the Internet of Things (IoT), he adds, which is the connectivity of physical devices to the internet — like, for example, the technology that allows smartphones to adjust your thermostats. Wireless IoT will lead to huge innovations, such as "smart buildings and smart cities, and enhancements in public safety," says Romita. While these applications of 5G are not all imminent, Romita believes a "more granular, sector by sector" discussion of the technology's potential is key to justifying investment and its establishment.

"We need to encourage private-sector innovation, which 5G can enable. Promoting smart fiscal and tax-incentive policies at the state and local levels are key, along with strong intellectual property protections," Romita says. Attracting investment in 5G in Westchester also requires "a receptive regulatory environment, as well as shifting the conversation and understanding at the local level," Romita adds, noting, "these factors are already shaping which communities in the county are enhancing digital technology the fastest, gaining real first-to-market advantages by aggressively courting companies to initiate capital infrastructure investment needed for 5G."

But it's exactly this infrastructure that the anti-5G groups are objecting to. And therein lies the rub with this new technology: 5G gains its additional bandwidth by transmitting data over higher frequencies than 4G. The waves in this underutilized part of the spectrum are excellent at transmitting data, but they don't travel as far as 4G signals. So, 5G transmission requires the installation of many small cells or antennas throughout a coverage area to keep the signal moving. These small cells are placed on streetlights, rooftops, and other structures "in the public way," according to Crown Castle, a company that builds wireless infrastructure in our county and throughout the U.S. (Note: The Town of Rye, led by

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"The telecommunication business is a trillion-dollar industry. The industry line of safety is BS. People are getting sick. This is about money, huge amounts of money."

—Ruth Moss, Director, 5GAlert Westchester

Mayor Josh Cohn, has been involved in a years-long legal battle with Crown Castle in efforts to keep the company from installing 5G cells.)

So, unlike the large cell towers we see on hilltops that facilitate 4G transmission, 5G antennas will be in our midst, sometimes freestanding near private property, emitting the microwave radiation that makes them work. (5G cells will also transmit 4G signals, to help smooth transition and as a backup.)

If you're wondering if radio-frequency wireless radiation poses a potential health risk, Ellen Weinger, director of educational outreach for science-based nonprofit Grassroots Environmental Education, says indeed it does. "We review the independent, non-industry, peer-reviewed studies, which demonstrate that exposure to radio-frequency microwave-radiation exposure increases the risk of cancer, neurological damage, and reproductive harm," Weinger says.

For example, a recent, federally funded, \$30 million study by the National Toxicity Program, which is part of the National Institutes of Health, concluded that there is "clear evidence of carcinogenicity" associated with wireless radiation. (The study was conducted on male rats.) Grassroots has compiled an index of medical and scientific studies that examine such issues as increased incidence of head and neck tumors, effects on male fertility and fetal growth, behavioral changes, miscarriages, and much more.

Thus far, much of the research on such dangers has been questioned, if not dismissed, in publications like *Scientific American* and *The New York Times*. In addition, The American Cancer Society's website says that there is no conclusive evidence linking wireless radiation to health issues. But, as Ruth Moss, director of 5GAlert Westchester matter-of-factly points out: "The telecommunication business is a trillion-dollar industry. The industry line of safety is BS. People are getting sick. This is about money, huge amounts of money. In order to make 5G work, powerful cell antennas must be installed up and down neighborhood streets, sometimes right on front lawns. The FCC standards for emis-

sion are outdated and put residents at risk."

Moss, like many 5G opponents, insists that she is not anti-technology — she just wants it to be implemented safely. Weinger agrees it should be used in a safer manner, adding that existing cell signal service is adequate, and she says, "access to internet service can be achieved without wireless technology by completing the installation of fiber-optic cable to and through the premises to every home, office, and school already paid for by consumers and promised by the telecom industry. Fiber-optic cable is faster, more secure, more reliable, and less expensive than wireless."

She continues, "We don't need the deployment of 4G/5G wireless cell antennas, effectively mini cell towers, installed up and down our neighborhood blocks next to our homes and schools that involuntarily expose residents to radio-frequency radiation 24/7." In addition to health risks, this wireless infrastructure installed in residential neighborhoods threatens property values, she adds.

5GAlert Westchester is working to ensure that local towns establish more strict ordinances to legally limit what telecommunications companies can do. Grassroots "encouraged municipalities to establish codes that are as protective as possible regarding cell antenna installations," says Weinger. Moss, who is active in White Plains and all of Westchester, insists that pre-notification is just one example of many protective provisions that should be included in a town's ordinance: The town code includes language forcing the telecom companies to notify residents as to where they plan to install infrastructure.

While proponents of 5G believe in its limitless potential, naysayers insist it's a just a risky and expensive way to download movies faster and enhance computer games. Those who would like to dig deeper could simply try this: Plug "Do we need 5G?" into your search engine. Expect to get thousands of hits — just don't expect a definitive answer. ●

Gale Ritterhoff is a frequent contributor to Westchester Magazine and 914INC.