

5G CONNECTIVITY & HEALTHCARE

--One-Page Summary--

WHAT ARE 5G (“FIFTH GENERATION”) NETWORKS?

- Cellular networks with 10+Gbps speeds and very low latency
- Require a high density of radio/antenna location servicing sites.

WHY IS IT IMPORTANT TO ARKANSAS?

- Digital health care services can grow exponentially with 5G and thus improve health outcomes.
- Rural areas will benefit from low- and mid-band 5G tower and base station deployments to 4G cell sites, aiding workers at home, farmers in crop and livestock management, and patients at home through digital medical imaging and remote patient monitoring.
- State legislature can make strategic investments to address the digital divide and create an interconnected environment for all Arkansans to improve their health and work.

5G IN HEALTHCARE

- Low power 5G can connect to many data collection devices in ways never before done, resulting in novel IOT intercommunications.
- There will be a 1-million terabyte increase of data, analytics, machine-aided interpretation, and data transport across healthcare providers.
- Every patient medical device can intercommunicate to supply a data web of measurements to carry out medical orders and maximize patient safety and effectiveness of care.
- Healthcare digital services include imaging, diagnostics, data analytics, wearables, remote sensors that monitor and electronically transmit vital signs, physical activity, personal safety, medication adherence, telemedicine diagnosis and treatment services, and high-resolution video conferencing.

CONSIDERATIONS

1. Current fiber capacity in the state is not fully leveraged.
2. Traditional carriers have little financial incentive to deliver full 5G capabilities to rural areas.
3. 5G still requires fiber for a backbone and has limited 1,000 – 1,200 feet broadcast area.
4. 5G requires “clusters of poles” that averages \$45,000-\$50,000 per pole.
5. WFH Telemedicine healthcare workers are completely dependent upon local ISP carrier reliability and bandwidth provisioning with no options for redundancy.
6. Technologies such as LEO satellite service could better address these needs when at market.
7. Interconnected devices and data trust challenges represent significant cybersecurity threats.

5G OPPORTUNITIES

- FCC offers the next large broadband opportunity for Arkansas.
- Arkansas has 29,000 Census Group Block geographies deemed “unserved” or “underserved” that Internet Service Providers will bid to deliver broadband connectivity Oct. 2020.
- Another upcoming opportunity will follow similar “unserved or underserved” communities.
- Deploying connectivity in and around schools will eliminate K-12 digital homework divides, promote telemedicine, allow for hubs to provide coverage to Work-from-Home families.