2021 Annual Survey
HIGHLIGHTS
Since 1985, and as each generation of wireless became an integral part of our lives and the country’s economy, CTIA has surveyed U.S. wireless providers to tell the ongoing story of this dynamic industry. The 2021 CTIA Annual Survey reveals a remarkable run of private investment that ensured wireless networks were more than up to the challenges posed by COVID-19. We look back on a year that saw 5G networks lit up across the country, bringing these next-gen networks into the hands and homes of millions—and keeping us connected when we needed it most.
Wireless providers continued to demonstrate their commitment to our customers and the future of wireless, investing $30 billion in 2020—a five-year high and the third straight year of increasing capital expenditures to power America's world-leading wireless networks.

Since 2016, wireless providers have invested nearly $140 billion, and over the life of the wireless industry, capital investment now totals over $601 billion.
The U.S. wireless industry’s investment in 2020 represents, once again, 18% of the world’s total mobile capex—even though the U.S. has just 4.3% of the world’s population and 5.9% of the world’s mobile connections. That means that for two years in a row, the U.S. accounted for nearly one-fifth of global wireless capex.
America’s cell sites provide the physical platform that enables technological innovation in the U.S. 5G Economy, driving broader coverage and capacity to meet increasing consumer demand. By the end of 2020, over 417,000 cell sites were built and operational, an increase of 35% since 2016—and in just the two years since the implementation of historic federal siting reforms, more cell sites have been built than the previous seven years combined.
America’s wireless networks depend on licensed spectrum, which enables providers to deliver faster speeds and higher capacity to consumers. The wireless industry invested ~$85 billion in the two auctions the FCC launched in 2020—airwaves that will be the foundation for the U.S. 5G Economy for years to come, creating millions of jobs and sparking hundreds of billions of dollars in economic growth.

The $82 billion C-band auction revenue represents the largest investment in a spectrum auction to date and brings the total to more than $200 billion in payments to the government for the spectrum needed to power wireless networks and carry the increasing volumes of services used by consumers across the country.
Since 5G was launched in 2019, three nationwide networks—and regional provider networks across the U.S.—already cover 300 million Americans, up from 200 million last year and amounting to over 90% of the entire country. 5G networks are also being built out and expanding faster than 4G. The first 5G network achieved nationwide coverage 2x as fast as 4G, and all three major providers built nationwide networks 42% faster than 4G.

Large national operators and small local start-ups are also bringing 5G for home broadband (also known as 5G fixed wireless) services to millions of homes across the country, including in unserved and underserved communities.

Source: Ookla
Mobile wireless data traffic had another record year, topping 42 trillion MBs—a ~207% increase since 2016. Over the past decade, Americans have driven a 108x increase in mobile data traffic.
American consumers have continued to use wireless networks to stay connected, especially while social distancing—we exchanged over 119 billion more messages last year, for a total of 2.2 trillion SMS and MMS messages, driven by a 28% increase in GIFs, memes, videos, and other MMS messages. Voice traffic saw 2.9 trillion minutes of use.
5G is driving our nation’s transition to the Internet of Things, where medical sensors, smartwatches, hotspots, and other IoT devices usher us into the “connected-everything” era. Data-only devices rose to 190.4 million in 2020, now representing 41.3 percent of all estimated devices. Data-only devices have grown 272 percent since 2013. Overall wireless connections grew to 468.9 million.