



Importance of Wireless coverage to Homeowners and Buyers

June 2017

Today, just over half—50.8 percent—of American households only have a mobile voice connection. For Millennials (those born between 1982 and 2004), the number increases to over two-thirds who live in mobile-only households. That number is another significant jump up from 10.5% in 2006 and 31.6% in 2011. (2017 CTIA Wireless Snapshot, May 2017 & FCC, Annual Report and Analysis of Competitive Market Conditions with Respect to Mobile Wireless, Nineteenth Report, DA 16-1061 (Sep. 23, 2016))

90% of US households use wireless service. With this increase in demand from users at home and those who work from home comes the need for more facilities to meet the customer needs. Citizens need access to 911 and reverse 911 and wireless may be their only connection. (CTIA, June 2015)

Across income levels, a significant majority of Americans now have smartphones. 93 percent of people earning more than \$75,000 a year own smartphones. And 64 percent of people making less than \$30,000 a year are smartphone owners – which marks a 42 percent growth in ownership at this income level since 2011. (2017 CTIA Wireless Snapshot, May 2017 & Pew Research Center, "Mobile Fact Sheet" (Jan. 12, 2017), available at <http://www.pewinternet.org/fact-sheet/mobile/>)

A 2015 survey found that cellular service is of major importance to homebuyers. It was more important than schools when looking for a home (cellular service ranked 76% versus 60% for schools). Cellular coverage trailed only crime rates (96%), local taxes (90%), and amenities like parks and shops (84%). Among Millennials, 83% said cell service was the most important fact in purchasing a home. (RootMetrics & Money, June 2, 2015)

"..the fastest type of high speed Internet available, can add \$5,437 to the price of a \$175,000 home—about as much as a fireplace, or half the value of a bathroom." (WSJ, "How Fast Internet Affects Home Prices", June 30, 2015")



Wireless Trends

June 2017

In 2016, wireless data traffic reached yet another record high. In all, traffic totaled 13.72 trillion MBs—the equivalent of 1.58 million years of streaming HD video - an increase of 4.07 trillion megabytes over 2015. Over the past two years, data use has increased 238 percent. (2017 CTIA Wireless Snapshot, May 2017 & Based on estimates from the U.S. Cellular Monthly Data Usage Estimate tool, available at <https://www.uscellular.com/data/data-estimator.html>)

2016 mobile data use is 35 times the volume of traffic in 2010. (2017 CTIA Wireless Snapshot, May 2017)

There are now more wireless devices than Americans, with about 1.2 devices for every person in the country. That makes the wireless platform nearly ubiquitous: 95 percent of U.S. adults own a cellphone. Compare that to the 78 percent of Americans who own a computer. (2017 CTIA Wireless Snapshot, May 2017 & Pew Research Center, "Mobile Fact Sheet" (Jan. 12, 2017), available at <http://www.pewinternet.org/fact-sheet/mobile/>)

Wireless-powered smart city solutions could produce \$160 billion in benefits and savings from lower energy use, reduced traffic congestion, and decreased fuel costs. (2017 CTIA Wireless Snapshot, May 2017 & Accenture, Smart Cities: How 5G Can Help Municipalities Become Vibrant Smart Cities (January 2017) available at <https://www.accenture.com/us-en/insight-smart-cities.>)

Connected devices could create \$305 billion in annual savings for the healthcare industry. (2017 CTIA Wireless Snapshot, May 2017 & David H. Roman and Kyle D. Conlee, The Digital Revolution Comes to US Healthcare: Technology, Incentives Align to Shake Up the Status Quo, Goldman Sachs Equity Report, Internet of Things Volume 5 (June 29, 2015) available at <http://massdigitalhealth.org/digital-revolution-comes-us-healthcare.>

Self-driving cars could save 21,700 lives and \$447 billion per year. (2017 CTIA Wireless Snapshot, May 2017 & Daniel J. Fagnant and Kara Kockelman, "Preparing a Nation for Autonomous Vehicles: Opportunities, Barriers and Policy Recommendations for Capitalizing on Self-Driven Vehicles," Eno Center for Transportation (2013), available at <https://www.enotrans.org/etl-material/preparing-a-nation-for-autonomous-vehicles-opportunities-barriers-and-policy-recommendations/>)

The number of IoT devices worldwide will conservatively surpass 20 billion by the year 2020, (2) and this increase in connectivity stands to add roughly \$2.7 trillion to U.S. GDP by 2030. (2017 CTIA Wireless Snapshot, May 2017 & Dr. Michael Mandel, Progressive Policy Institute, Long Term U.S. Productivity Growth and Mobile Broadband: The Road Ahead (March 2016) available at http://www.progressivepolicy.org/wp-content/uploads/2016/03/2016.03-Mandel_Long-term-US-Productivity-Growth-and-Mobile-Broadband_The-Road-Ahead.pdf)

In 2021, video will account for around 70% of mobile data traffic. (Ericsson Mobility Report, June 2016)

Across income levels, a significant majority of Americans now have smartphones, with 64 percent of people making less than \$30,000 a year and 93 percent of people earning more than \$75,000 a year owning smartphones.⁹ And since 2011, the number of individuals making under \$30,000 per year who own a smartphone has grown by 42 percent. (2017 CTIA Wireless Snapshot, May 2017 & Pew Research Center, "Mobile Fact Sheet" (Jan. 12, 2017), available at <http://www.pewinternet.org/fact-sheet/mobile/>)

Today, just over half—50.8 percent—of American households only have a mobile voice connection.¹³ For Millennials, the number increases to over two-thirds who live in mobile-only households. That number is up from 10.5% in 2006 and 31.6% in 2011. (2017 CTIA Wireless Snapshot, May 2017 & FCC, Annual Report and Analysis of Competitive Market Conditions with Respect to Mobile Wireless, Nineteenth Report, DA 16-1061 (Sep. 23, 2016))

Millennials lead smartphone adoption, with 92 percent of 18-29 year olds having a smartphone, followed by 88 percent of 30-49 year olds, and 74 percent of 50-64 year olds. With respect to race, smartphone ownership cuts across the board, with approximately 72 percent of African-Americans, 75 percent of Hispanics, and 77 percent of whites in the U.S. having smartphones. (2017 CTIA Wireless Snapshot, May 2017 & Pew Research Center, "Mobile Fact Sheet" (Jan. 12, 2017), available at <http://www.pewinternet.org/fact-sheet/mobile/>)

Teens have increased smartphone TV/video viewing 85% in 4 years. (Ericsson Mobility Report, June 2016)

Teen usage of cellular data for smartphone video has grown 127% in 15 months. (Ericsson Mobility Report, June 2016)

76% of 911 calls originate from a cell phone
(National Highway Traffic Administration, February, 2016)

More than 75% of prospective home buyers prefer strong cellular connections
(RootMetrics, June 2015)

35% of Americans reach for their smartphone first in the morning
(CTIA, July 2015)

Machine-to-machine connections are projected to rise from 36 million in 2013 to 263 million in 2018.
(Cisco, VNI Mobile Forecast Highlights 2013-2018, at "United States – 2018 Forecast Highlights and 2013 Year in Review)

By 2020, more than 34 billion internet-connected devices will be installed globally — that's more than 4 devices for every human on earth. (Business Insider, May 20, 2016)



Health and Safety

June 2017

Wireless technology has been in widespread use since the 1940's. The technology is constantly reviewed by organizations world-wide. The technology typically operates at a fraction of the power guidelines set by the Federal Communications Commission for safe operation.

FCC

Measurements made near typical cellular and PCS (personal communication service) cell sites have shown that ground-level power densities are well below the exposure limits recommended by RF/microwave safety standards used by the FCC. (FCC Consumer Facts)

FCC guidelines are based on federal health and safety agencies including the Environmental Protection Agency (EPA), the Food and Drug Administration (FDA), the National Institute for Occupational Safety and Health (NIOSH) and the Occupational Safety and Health Administration (OSHA) and non-governmental organizations such as the Institute of Electrical and Electronics Engineers (IEEE) and the National Council on Radiation Protection and Measurements (NCRP).

WHO

Recent surveys indicate that RF exposures from base stations and wireless devices in publicly accessible areas (including schools and hospitals) are normally thousands of times below international standards." Considering the very low exposure levels and research results collected to date, there is no convincing scientific evidence that the weak RF signals from base stations and wireless networks cause adverse health effects. (World Health Organization Fact Sheet)