

# What You Need To Know About 5G Wireless and “Small” Cells

*“We recommend a moratorium on the roll-out of the fifth generation, 5G, for telecommunication until potential hazards for human health and the environment have been fully investigated by scientists independent from industry...RF-EMF has been proven to be harmful for humans and the environment.”*

— 2017 5G Scientific Appeal (signed by more than 200 scientists and doctors from 35 countries)

Nationwide, communities are being told by wireless companies that it is necessary to build “small cell” wireless facilities in neighborhoods on streetlight and utility poles in order to offer 5G, a new technology that will connect the Internet of Things (IoT). At the local, state, and federal level, new legislation and new zoning aim to streamline the installation of these 5G “small cell” antennas in public rights-of-way.

**The radiation from small cells is not small:** Wireless antennas emit microwaves — non-ionizing radiofrequency radiation — and essentially function as cell towers. Radiation emitted from small cells is expected to typically travel from 10 feet up to several hundred feet.

**Millions of small cells to be built in front yards:** The Federal Communications Commission estimates that millions of these wireless transmitters will be built in our rights-of-way, directly in front of our homes.

**5G will add to — not replace — our current wireless technology:** 5G will not only utilize current 3G and 4G wireless frequencies already in use but also add higher frequency — submillimeter and millimeter waves — in order to transmit data at superfast speeds.

**Community authority is overruled:** Communities are being stripped of their right to make decisions about this new technology. “Streamlining” means almost automatic approval. Public notice and public hearings are being eliminated. Even if every homeowner on the block opposes the antennas on their street, the opposition will be disregarded.

**Scientists worldwide are calling for a halt to the 5G Roll-out:** Over 200 scientists and doctors issued a declaration calling for a moratorium on the increase of 5G cell antennas citing human health effects and impacts to wildlife.

[Read the 2017 Scientific Appeal on 5G To the European Commission](#)

[Read the 2015 EMF Scientist Appeal to the United Nations](#)

[Read Letters From Dozens of Scientists on Health Risks of 5G](#)

**Cumulative daily radiation exposure poses serious public health risks:** Peer reviewed, published science indicates that exposures to wireless radiation can increase cancer risk, alter brain development and damage sperm. Most people are unaware that wireless technology was never tested for long-term safety, that children are more vulnerable and that the accumulated scientific evidence shows harm.

**Decreased property values:** Studies show property values drop up to 20% on homes near cell towers. Would you buy a home with a mini cell tower in the yard? [Read research showing decreased property value from cell towers near homes.](#)

**Microwave antennas in front yards present several worker and public safety issues:** Unions have already filed comments that workers were injured, unaware they were working near transmitting antennas. How will HVAC workers, window washers, and tree cutters be protected? The heavy large equipment cabinets mounted on poles along our sidewalks also present new hazards. Cars run into utility poles, often, what then? [US Dept of Labor letters on cell tower safety](#)

**Fiber is the safe alternative:** Worldwide, many regions are investing in wired fiberoptic connections which are safer, faster, more reliable, provide greater capacity, and are more cyber-secure. Read [“Re-Inventing Wires: The Future of Landlines and Networks,”](#) by the National Institute for Science, Law & Public Policy

[www.ehtrust.org](http://www.ehtrust.org)

All text in this document in blue is hyperlinked to resources for more information.

Please also see <https://ehtrust.org/factsheet-need-know-5g-small-cells-science-policy-public-health/> for additional resources.

## KEY RESEARCH AND REPORTS

### 5G Frequencies Are Absorbed Into the Skin

Physicists found that the higher millimeter frequencies intended for 5G use are preferentially absorbed into the sweat duct at much higher rates than other organ tissues. Read two published studies "[The Modeling of the Absorbance of the Sub-THz Radiation by Human Skin](#)." [The human skin as a sub-THz receiver – Does 5G pose a danger to it or not?](#) Paul Ben-Ishai, PhD Lecture.

### 5G Frequencies Are Used As Weapons

Millimeter frequencies have the capacity to cause a severe burning sensation in the skin and are used by the U.S. Department of Defense in [crowd control guns](#) called [Active Denial Systems](#).

### Landmark US National Toxicology Program (NTP) Study Finds "Clear Evidence of Cancer" and DNA Damage

The NTP [studies found](#) male rats exposed for two years to cell phone radiation developed significantly increased gliomas (brain cancer) and schwann cell tumors, the very same types of tumors increased in long-term human cell phone users. NIH/NTP [presentation on DNA](#) results states "exposure to RFR has the potential to induce measurable DNA damage under certain exposure conditions." [Press Coverage](#), [Peer Review Report](#)

### Cell Tower Radiation is Linked To Damage in Human Blood

A published study compared people living close and far from cell antennas and found people living closer to cellular antennas had changes in blood that predicts cancer development. Read [Zothansiana et al, 2017](#). Read a [Compilation of Research on Cell Tower Radiation](#)

### Published Scientific Review on 5G Finds Adverse Effects

Scientific literature documents evidence of nonthermal cellular damage from wireless radiation used in telecommunications to DNA integrity, cellular membranes, gene expression, protein synthesis, neuronal function, the blood brain barrier, melatonin production, sperm damage and immune dysfunction. [Russell 2018](#)

### Cellular Radiation Negatively Impacts Birds and Bees

Published research finds the frequencies alter bird navigation and disturb honeybee colonies. [Research on EMF and Bees](#). [Research on Wildlife](#)

## RESOURCES

[Research on 5G and Cell Tower Radiation](#)

[A 5G Wireless Future: Will it give us a smart nation or contribute to an unhealthy one?](#) Santa Clara Medical Association Bulletin, Cindy Russell MD, 2017

[Letters by Scientists in Opposition To 5G Research on Cell Tower Radiation, 2017](#)

[Biological Effects from Exposure to Electromagnetic Radiation Emitted by Cell Tower Base Stations and Other Antenna Arrays, Levitt and Lai, 2010](#)

[Radiofrequency radiation injures trees around mobile phone base stations, Waldmann-Selsam et al, 2016](#)

[Department of Interior Letter on the Impact of Cell Towers on Migratory Birds, Willie R. Taylor Director, Office of Environmental Policy and Compliance, 2014](#)

[Anthropogenic radiofrequency electromagnetic fields as an emerging threat to wildlife orientation, Balmori, 2015](#)

[Briefing Memorandum On The Impacts from Thermal and Non-thermal Non-ionizing Radiation to Birds and Other Wildlife, Manville, 2016](#)

[Database of Worldwide International Policy To Reduce EMF](#)

[Youtube Scientific Videos on 5G](#)

## TAKE ACTION

**Contact** local, state and federal elected officials in person.

**Share** this information with your friends, family and community.

**Ask** for government policy that reduces RFR exposure to the public.

**Citizens in all states must organize and take action to halt legislation that increases cell antennas in neighborhoods.**

## LEARN MORE

[Federal Legislation To Know](#)

[US States With Streamlining Bills](#)

## 5G Small Cell Antennas To Be Placed On:

- Street lights
- Trashcans
- Utility poles
- Bus stops
- Sides of buildings

## 5 Reasons Why Small Cells Are Not Small

- Increased radiation near homes
- Refrigerator-sized equipment cabinet
- Drop in property values
- Taller poles
- Fixtures weigh hundreds of pounds

## Crown Castle's 2016 10-K Annual Report says:

"If radio frequency emissions from wireless handsets or equipment on our wireless infrastructure are demonstrated to cause negative health effects, potential future claims could adversely affect our operations, costs or revenues... We currently do not maintain any significant insurance with respect to these matters."

[Read warnings](#) from Crown Castle, Verizon and other wireless companies.

## The American Academy of Pediatrics says:

"An Egyptian study confirmed concerns that living nearby mobile phone base stations increased the risk for developing:

- Headaches
- Memory problems
- Dizziness
- Depression
- Sleep problems"

[AAP on Cell Towers](#)

## Letter from oncologist Lennart Hardell MD & Colleagues:

"There is a substantial body of evidence that this technology is harmful to humans and the environment. The 5G millimeter wave is known to heat the eyes, skin and testes... Of particular concern are the most vulnerable among us — the unborn, children, the infirm, the elderly and the disabled. It is also expected that populations of bees and birds will drastically decline."

[2017 Scientific Letter](#)

## Peer Reviewed Research Studies on Radiofrequency Radiation Have Found:

- Headaches
- Sperm damage
- Altered brain development
- Depression
- Neurological symptoms
- Hormone changes
- Memory problems
- Sleep problems
- Cancer

## Science:

[BioInitiative 2012 Report by Independent Scientists](#)  
[Dr. Moskowitz, University of California at Berkeley](#)  
[Dr. Lennart Hardell Örebro University Sweden](#)  
[The Baby Safe Project](#)  
[WhatIs5g.info](#)  
[Physicians for Safe Technology](#)  
[Environmental Health Trust 5G Resources](#)

[www.ehtrust.org](#)

 ENVIRONMENTAL  
HEALTH TRUST