

Cell Towers and Wireless Antenna Facilities at and Near Schools Health and Safety Issues For Students and Staff

Theodora Scarato MSW, Environmental Health Policy LLC

Children deserve safe and healthy school environments. Yet cell tower companies are requesting their commercial for-profit industrial cell tower equipment be erected on school properties nationwide. School boards are unaware of the numerous health and safety issues and oftentimes parents, teachers, staff and neighbors are not informed until the very last minute, cutting the most impacted community members out of the decision making process.

As a result, cell towers are being erected on school playgrounds and sports fields in every state with little restrictions. School boards are signing 30 year leases taking the choice away from future leadership and parents. Some districts are even signing master leasing agreements wherein all the district schools are marketed as cell tower sites to the carriers.

In order to mitigate the risk, many school districts are passing policies to restrict cell towers and cellular base station wireless facilities on their property. This is in alignment with the recommendation of numerous scientists and experts who [recommend](#) placing cell towers at least 500 meters away from schools and homes to minimize the future liability issues from RF radiation health damages.¹

[Palo Alto CA Unified School District](#): Resolution No. 2018-19.19 supports the City 1,500 setback and opposes cell tower “on or in close proximity to schools to ensure individuals, especially children, are protected from the potential negative effects associated with radiation exposure”

The New Hampshire State Commission on 5G Health and Environment investigated the issue of RF radiation for a year and issued [a final report](#) recommending reducing children’s RF exposure and that the state enact a 1640 feet cell tower setback for homes and schools.

¹ A review paper by [Pearce 2020](#) titled “[Limiting liability with positioning to minimize negative health effects of cellular phone towers](#)” reviewed the “large and growing body of evidence that human exposure to RFR from cellular phone base stations causes negative health effects.” The authors recommend restricting antennas near homes and within 500 meters of schools and hospitals to protect companies from future liability; [Siting Cell Towers Needs Careful Planning | Michigan Tech News](#) states, “Placing cell towers 500 meters away from schools and hospitals could save companies trouble down the road.”; Levitt, B., & Lai, H. (2010). Environmental Research, 181, 108845; Roda, C., & Perry, S. (2014). [Mobile phone infrastructure regulation in Europe: Scientific challenges and human rights protection](#). Environmental Science & Policy, 37, 204–214; See also [Rodrigues et al. \(2021\)](#), [Dode et al. \(2011\)](#) and [Khurana et al., \(2010\)](#)

As [Verizon states in its annual report to shareholders](#)

“Our wireless business also faces personal injury and wrongful death lawsuits relating to alleged health effects of wireless phones or radio frequency transmitters. We may incur significant expenses in defending these lawsuits. In addition, we may be required to pay significant awards or settlements.”

Read more [cell tower company statements regarding liability and risk here](#).

Cell towers on school property bring numerous health, safety, liability and financial risks.

- **Fire Risk:** Cell equipment has [caught fire](#) igniting vegetation on the ground and even [causing the closure](#) of school sports fields.²
- **Hazardous Materials:** Cell tower compounds contain hazardous chemicals. The back up power systems can include lead acid batteries and diesel fuel tanks which [can leak](#)³. County fire departments [register cell tower sites](#) as HAZMAT sites.⁴
- **Fall Zone:** Students and staff will be in the fall zone⁵ of the tower and this includes the pole, segments of the pole as well as [ice or pieces of equipment](#) that could break and fall down.⁶
- **Increased RF Radiation:** Studies show close proximity to cell towers/antennas increases exposure to radio-frequency (RF) radiation, which has been [classified](#) by the World Health Organization International Agency for Research on Cancer as a Class 2 B

² [Cell phone tower near Heritage High School catches fire, Rocky River High School stadium light catches fire Cell phone tower catches fire in Grandview](#) states, “The pole held lights for the football field as well as cell phone equipment.” Homes within a one-block radius of the school were evacuated. Officials on the scene said all activities outside of the school were canceled for the day.” See also [Sacramento cellphone tower catches fire, video shows, Stadium light catches fire at South Bay high school | FOX 5 San Diego](#) and [Cell phone tower catches fire in Andover, collapse possible](#); Webinar on cell towers and fires at <https://vimeo.com/948563536> featuring Mitchell Tsai, environmental lawyer Mark Davis, Co-Founder, Davis Levin Livingston (Honolulu), senior attorney handling Maui wildfire cases; and Ryan DiGuilio, Fire Marshal/Battalion Chief, City of Santa Barbara

³ See [450 gallons of diesel spill above Detroit Lake](#) “The spill came from a generator for an AT&T communications tower “; [Gallery: Cell tower remediation project](#) “A&D recently traveled to Mint Hill, NC to investigate a diesel leak from a generator powering a cell tower.”

⁴[Cell Towers Listed as Hazmat Sites in Montgomery County Emails Between Montgomery County and Theodora Scarato](#)

⁵ Fall zone issues are not just about monopoles falling over. They are also what falls off them or what wind-flails off of them. Three definitions that are often used for fall zone: 1. The distance that is equal to the height of the structure, in total, including extensions for antennas; 2. 110% of the distance that is equal to the height of the structure, in total, including extensions for antennas; and 3. When the monopole is segmented, the distance that is equal to the height of the longest segment, including extensions for antennas. See [Tower ice falling](#)

⁶ [Tornado takes out an ATC 150-foot monopole as Ida winds its path of destruction through the northeast | Wireless Estimator](#)

“possible” carcinogen in 2011. Published research links exposure to [cancer](#) and [numerous other health effects](#).⁷

- **High Risk:** Insurers [rank](#) 5G and RF radiation as a “high” risk, [comparing the issue](#) to lead and asbestos.⁸ [Swiss Re Institute](#), a world leading provider of insurance, classifies 5G mobile networks as a “high”, “off-the-leash” risk.⁹
- **Liability:** Wireless companies [warn shareholders](#) about the risk but not the school administration, teachers, students or community.¹⁰ [Most insurance plans](#) exclude coverage for health damages from RF as the [market standard](#)¹¹ and RF exposure is defined as a type of pollution by insurers as well as cell tower companies.¹²
- **Aesthetic Impact:** Cell towers are ugly, unsightly and a visual blight on the landscape, negatively impacting the aesthetics of the neighborhood.
- **Drop in Home Values:** Realtors [repeatedly document](#)¹³ studies¹⁴ that [have found](#) cell towers can [reduce the property value](#) of nearby homes between 4 and 20%.¹⁵ This nearby

⁷ European Parliament requested a research report “[Health Impact of 5G](#)” which was released in July 2021 and concluded that commonly used RFR frequencies (450 to 6000 MHz) are probably carcinogenic for humans and clearly affect male fertility with possible adverse effects on the development of embryos, fetuses and newborns. A review entitled “[Evidence for a health risk by RF on humans living around mobile phone base stations: From radiofrequency sickness to cancer](#)” reviewed the existing scientific literature and found radiofrequency sickness, cancer and changes in biochemical parameters ([Balmori 2022](#)).

Surveys of people living near cell tower antennas in [France](#), [Spain](#), [Iraq](#), [India](#), [Germany](#), [Egypt](#), [Poland](#) have found significantly higher reports of health issues including sleep issues, fatigue and headaches (See [Santini et al. 2003](#), [López 2021](#), [Alazawi 2011](#), [Pachua and Pachua 2016](#), [Eger et al. 2004](#), [Abdel-Rassoul et al. 2007](#), [Bortkiewicz et al., 2004](#)). Anthony B. Miller, L. Lloyd Morgan, Iris Udasin, Devra Lee Davis, [Cancer epidemiology update, following the 2011 IARC evaluation of radiofrequency electromagnetic fields \(Monograph 102\)](#), Environmental Research, Volume 167, 2018, Pages 673-683, ISSN 0013-9351

⁸ [Reports and White Papers of Insurance Industry - Environmental Health Trust](#); [businessinsurance.com/White-paper-explores-risks-that-could-become-the-next-asbestos-](#)

⁹ [Swiss Re SONAR New emerging risk insights; Off the leash – 5G mobile networks | Swiss Re](#)

¹⁰ [Corporate Company Investor Warnings in Annual Reports 10k Filings Cell Phone Radiation Risks - Environmental Health Trust](#)

¹¹ [Electromagnetic Fields \(Utilities\) Liability Insurance](#)

¹² According to [pg. 10 of the Verizon Total Mobile Protection Plan](#), “Pollution” is defined as “The discharge, dispersal, seepage, migration or escape of pollutants. Pollutants means any solid, liquid, gaseous, or thermal irritant or contaminant including smoke, vapor, soot, fumes, acid, alkalis, chemicals, artificially produced electric fields, magnetic field, electromagnetic field, sound waves, microwaves, and all artificially produced ionizing or nonionizing radiation and/or waste.” Similar definitions that include non ionizing EMF as pollution are in the product protection plans for [AT&T](#), [Sprint](#), [Verizon](#), [T-Mobile](#) and [Asuria](#).

¹³ [Cell Towers Drop Property Values Oakland Township Realtor Letters 2024](#); See also [My house value dropped by £30k after an 82ft-phone mast was erected yards from my garden... it's a nightmare | Daily Mail Online](#)

¹⁴ Koech Cheruiyot, Nosipho Mavundla, Mncedisi Siteleki and Ezekiel Lengam, (2024) [Impact of proximity to cell phone tower base stations on residential property prices in the City of Johannesburg, South Africa](#), International Journal of Housing Markets and Analysis, May; [Reply Comments of Smart Communities Siting Coalition](#) states “many deployments of small cells could affect property values, with significant potential effect...”; Burgoyne Appraisal Company prepared a 2017 report “[Impact of Communication Towers and Equipment on Nearby Property Values](#)” on how a close proximity small cell can decrease property values.

¹⁵ [Your new neighbor, a cell tower, may impact the value of your home.](#); [Cell Phone Towers Lower Property Values: Documentation And Research on Cellular Base Stations Near Homes - Environmental Health Trust](#)

tower can also create a loss in tax revenue for the county which in turn will impact school funding.

- **Financial Cost:** Considering the large profits of the corporations involved and minimal financial benefit, is the agreement providing the best deal for schools and worth the community-dividing controversy?¹⁶ The full cost of a cell tower should consider the salaries of staff managing the leasing agreement and ensuring compliance as well as the time spent by administration and Board members addressing parent/community concerns. What if the school is later sued?
- **Lack of Federal, State and Local Oversight for Compliance:** The federal government has no program ensuring oversight for cell tower RF compliance. RF levels in the school and playgrounds and sports fields should be regularly compliance measured and posted online, yet most states and localities do not have such compliance requirements and robust pre and post RF monitoring is rarely done.
- **Lack of Transparency and Community Participation in the Decision Making Process:** Parents of the students and the local community are often the last to hear about proposed cell towers, leaving them little time to get informed or involved. Leasing agreements are often being made for entire districts without informing the entire school community and neighbors. Many agreements have ended due to transparency and procedural issues.¹⁷
- **Procedural Issues:** The leasing of school property for cell towers is often plagued by a lack of clear process and inadequate compliance with regulatory/permitting procedures and notification.¹⁸
- **Today's Decision Makers Lock Future School Boards into 30+ Year Leases:** School Boards wanting to limit cell towers on school property are locked into 30 plus year leases or leasing agreements that they never voted for.¹⁹ Even if the entire community is opposed to them, the only recourse they have is to break the contract and pay the legal fees.²⁰
- **Creates Problems for School Remodeling and Construction Projects:** Once a tower is built with its long lease, school rehab and renovation projects must work around the

¹⁶ [Detroit-area school chief quits over cell tower controversy | AP News](#) states, “The superintendent of a Detroit-area school district has resigned amid protests over 5G wireless phone antennas near a school playground.”

¹⁷ [Prince George's County Maryland School Board Superintendent Maxwell Letter on ending leasing agreement with Milestone Communications](#); [PGCPS School Board Member Lupi Grady Letter in opposition to Milestone Communications Cell Tower](#); [Superintendent resigns over cell phone tower controversy on top of Wyandotte elementary school](#); [Denver Public Schools faces backlash from parents about placement of cell towers on schools](#) <https://newjersey.news12.com/point-pleasant-beach-officials-at-odds-with-company-over-5g-cell-towers?> Point Pleasant Beach Mayor Doug Vitale says that borough attorneys have notified Munisite – the company installing the towners – to take them down because they don’t fit the aesthetic previously agreed to. Munisite helps towns manage installation projects by creating the infrastructure to blend towers in with the surroundings.”

¹⁹ Examples include Petaluma City Councils request to remove the Casa Grande High School Tower as well as Prince George's County Maryland's master leasing agreements and cell tower leases. When leadership shifted opinion, they were limited in authority to legal contracts signed years ago.

²⁰ WJLA [Parents, activists fight construction of cell phone towers at Prince George's County schools](#) (2014) on “towers were approved in 2009; the contract calls for more than 70 towers.”

tower, rather than be designed according to what is best for the school design. Numerous examples highlight how a school cell tower has hindered its school construction/expansion/renovation projects resulting in costly measures and disruptions²¹ or the tower located in an unsightly location with respect to the school or sports field due to the lack of financially acceptable options for the school.²²

The USA should be leading on school safety. Cell towers are commercial enterprises best placed off school playgrounds and property.

Cell tower placement is an environmental justice issue.

Cell towers increase RF radiation in the areas close to the antennas and are often disproportionately placed on schools that have higher numbers of minorities and students needing free and reduced meals. [In Montgomery County](#), for example, cell towers are overwhelmingly placed in schools with higher numbers of students who are minorities and receive free and reduced lunch.²³

²¹ Green Bay West High School, Wisconsin's renovations for the Del Marcelle Stadium are stalled due to cell phone tower "in the way of finishing the grandstand" as featured in a report by WLUK-TV <https://www.youtube.com/watch?v=jwweJGwYet8>; Inside Towers [Green Bay Football Stadium Blocked by Cell Tower](#) states "relocating the cell tower could cost up to \$1 million once building costs and lost revenue are tallied up. He noted that the city is reluctant to make a decision that would end up costing the taxpayers any more money. If the cell tower stays put, the grandstand plans would need to be altered to accommodate the existing structure, which could reduce seating capacity, but would likely be the less expensive option." ; [Green Bay officials hopeful to resolve the cell tower issue impacting West High stadium](#) states "As FOX 11 first told you last month, the cost of moving the cellphone tower would be at least \$1 million, according to the Green Bay Area Public School District. Who could potentially take on that cost is still being negotiated, according to Green Bay Parks Director Dan Ditscheit." and "The city is currently receiving \$53,709 a year in rent from Crown Castle...The agreement includes a 25% increase every five years...Ditscheit says it's likely both the city and school district will take a financial hit in relocating the tower, as the city could see revenue loss from the renegotiated lease." The City ultimately voted on a compromise [Compromise approved involving West High School bleachers, cell tower](#) where in the cell tower was not moved but the school district will pay \$130,000 to relocate the tower's ground gear underneath the bleachers."To allow that relocation, the company that owns the tower renegotiated its lease at a cost officials say is an additional \$155,000 over 13 years. The Green Bay School District has agreed to pay \$100,000 upfront to help offset the lost revenue."

²² [Wheaton Maryland Cell Tower used to be on the football field, but with the new design the cell tower was now smack up against the school building and next to a student courtyard.](#) <https://parentscoalitionmc.blogspot.com/2014/08/wheaton-hs-will-have-cell-tower-within.html>; See also [Parents' Coalition of Montgomery County, Maryland: "FAULTY and UNSAFE" Cell Tower Application for Wheaton High School. But Board of Education will Ignore. Board of Ed will Let Application Proceed Because Children's Safety is Never on Their List.](#)

²³ WJLA News Report "[MCPS places controversial cellular towers at predominantly high-poverty schools](#)". According to MCPS' own data, 81 percent of its cell phone towers are at schools where at least one-third of students are eligible for the free and reduced price meals (FARMs).

Furthermore, cell towers are ugly, unsightly, often left in disrepair in less affluent areas²⁴ and further decrease property value in lower income areas.

Many school districts have banned new cell towers.

- Los Angeles Unified, California which has three [Resolutions](#) prohibiting and opposing cell towers on near school property and the district developed a “[cautionary level](#)” for radiofrequency radiation 10,000 times lower than FCC limits.
- [Palo Alto CA Unified School District](#) passed Resolution No. 2018-19.19 prohibiting cell antennas on school grounds and opposing cell antennas “on or in close proximity to schools to ensure individuals, especially children, are protected from the potential negative effects associated with radiation exposure.” The resolution supports the City 1,500 setback for cell towers from schools.
- [West Linn-Wilsonville Oregon School Board prohibits cell towers on school property.](#)
- [Temecula Valley Unified School District](#) passed a [ban on new cell towers](#) or renewing existing tower leases for towers on school property.
- Loudoun County, Virginia, the wealthiest county in the U.S. has [banned new cell towers](#) on school grounds.

Many school districts have stopped renewing contracts or considering proposals for new cell towers.

- [Montgomery County Maryland Schools no longer allows cell towers on elementary schools.](#)
- Prince George’s County Maryland Board of Education [decided not to renew a cell tower master leasing agreement](#) that had allowed over 60 schools to be marketed as cell tower sites and they were joined in opposition by local governments such as the [Greenbelt City Council](#).
- [Portland Oregon Schools](#) ended new leases for cell towers.
- The [Sutherland Elementary School Local School Council in Illinois](#) unanimously voted against renewing two contracts for cellular equipment that is installed on a smokestack at the school.
- The [San Jose Diocese halted](#) new contracts with telecommunications companies for schools and churches.

²⁴ [Pet cemetery \[with cell tower near low income neighborhood\] in Kent has fallen into turmoil, disrepair](#) by Elise Takahama, The Seattle Times, detailing the numerous issues with the tower: See Daley elementary school tower site overrun with weeds at <https://parentscoalitionmc.blogspot.com/2017/11/moco-planning-board-puts-cell-tower-on.html>. Minority enrollment is 94% of the student body (majority Hispanic), which is higher than the Maryland state average of 67% (majority Black and Hispanic).

Cell towers have been removed from school grounds

- The Newport School Committee, Rhode Island [voted to remove the cell tower](#) at Rogers High School after long standing community concerns.
- Two towers adjoining Valentine Elementary and Huntington Middle schools, and at San Marino High School [were relocated](#).
- In Montgomery County Maryland, a longtime cell tower at Woodward High School cell tower ended up being entirely removed during renovations amidst strong community opposition which prompted the Board to decline from authorizing any type of relocation of the tower.

Cell towers and 5G poles have been removed and rejected in communities nationwide. Here are some examples.

- In 2022 Sutherland Elementary School in South Chicago unanimously voted no [to renewing the leases for Cingular/AT&T and Verizon antennas on their school](#).
- A cell tower was removed in [Tarrytown New York](#) after residents protested placement near a public housing complex and playground.
- 5G poles erected in Point Pleasant Beach are [coming down](#) after they did not match the agreement.
- In [Dewey Beach, Delaware](#) Verizon agreed to relocate beachfront cell towers after residents filed [a lawsuit](#) and founded the [Save Dewey Beach Foundation](#).
- A proposal to install a 75-foot telecommunications tower on the campus of St. John's College [was rejected](#).
- [The School Board committee rejected a cell tower at Claude Thompson Elementary](#).
- A [cell tower was removed](#) from a Ripon, California elementary school after four students and three teachers were diagnosed with different forms of cancer.
- In Long Beach California, a couple [halted a 5G site](#) in front of their home after numerous appeals.
- The Village of Flower Hill, New York denied the installation of 18 “small cell” 4G wireless antennas in public rights-of-way and then [won a federal lawsuit](#) after the company sued the village.
- Numerous 5G towers have been [paused in New York City](#)²⁵ due to issues surrounding proper federal reviews and [16 community boards](#) have issued opposition and moratoriums.
- Lawton City Council, Oklahoma approved [a motion to revoke a permit for a U.S. Cellular cell tower](#) after the deployment of wireless facilities sparked multiple complaints from the community

²⁵ [5G Towers Paused | New York Landmarks Conservancy](#); [Nearly All UES 5G Towers Canceled After Historic Preservation Review | Upper East Side, NY Patch](#); [5G Update: Construction Halted in West Village](#)

- The Lakeway City Council [withdrew its application](#) to build a cellular tower on city property near an elementary school after several residents expressed concerns.
- Folsom City California officials [agreed to move](#)²⁶ the location of a cell tower which was initially proposed near homes after “a mobilized army of neighborhood opposition.”
- In December of 2019, Roanoke County School Board terminated²⁷ a master leasing agreement they had signed with Milestone Communications in 2016 to allow their schools to be marketed as cell tower sites. They [reversed their decision](#) to move forward with 100 foot cell towers at a high school and middle school that they previously [unanimously voted to pursue](#) just a few months earlier.²⁸

Many local governments restrict cell towers near schools with cell tower/school setbacks.

- [Shelburne, Massachusetts](#): 3,000 feet for schools and 1,500 feet for homes.
- [Williamson County Tennessee](#): 1,500 foot setback for schools.
- [Copake, New York](#): 1,500 feet from homes, schools, churches and public buildings.
- [Sallisaw, Oklahoma](#): 1,500 feet from homes or structures.
- [Stockbridge, Massachusetts](#): 1,000 feet for schools, playgrounds and athletic fields. 600 feet for residential.
- [Walnut City, California](#): 1,500 feet setbacks for schools, parks and residential zones.
- [Calabasas, California](#): 1,000 feet for homes and schools.
- [Davis, California](#) - 500 feet of residential zones and schools.
- [Bar Harbor, Maine](#): 1500 feet setback for schools.
- [Bedford, New Hampshire](#): 750 feet from nearest residentially-zoned property.
- [San Diego County](#): 300 feet for small cell wireless for schools, childcare centers, hospitals, religious facilities, fire and police stations.
- [Fairfax, California](#): 300 ft. from schools and parks.

The USA allows more RF radiation emissions compared to many other countries.

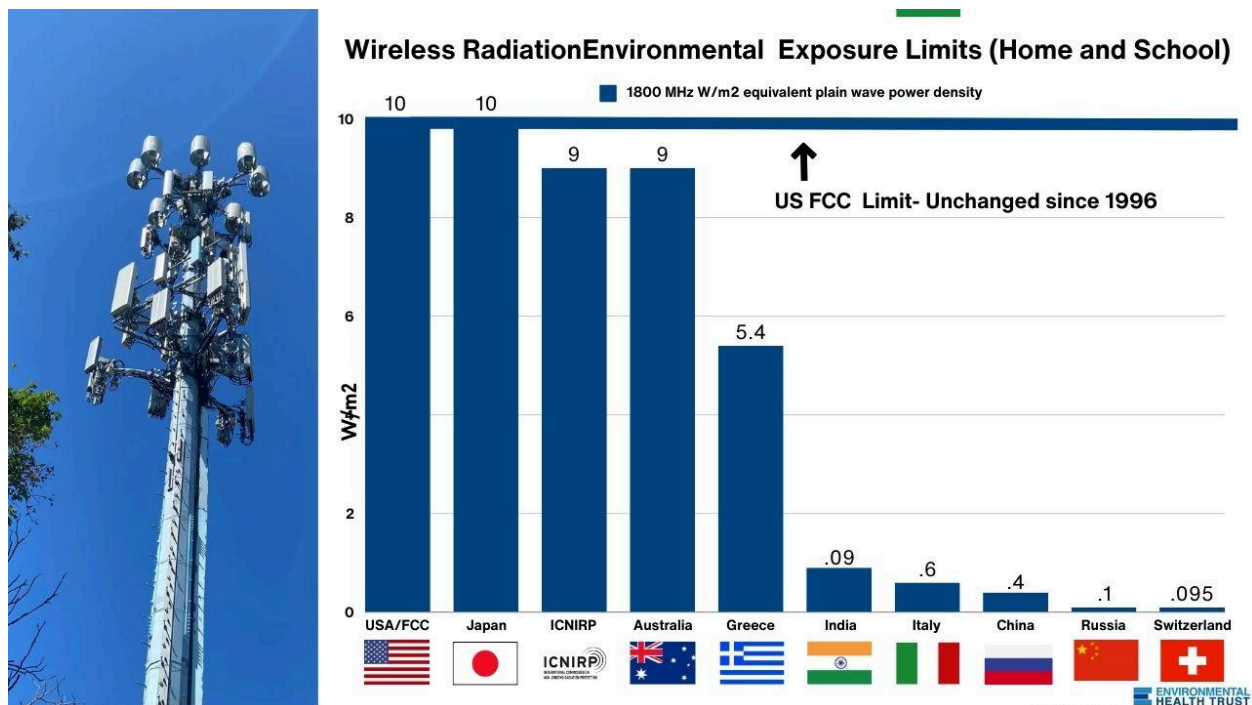
The US has among the most lenient limits for RF cell tower networks emissions in the world allowing radiation exposures 10 to 100 times more than numerous [countries](#)²⁹ including Italy,

²⁶ [Controversial cell tower plan moved to Folsom Ranch park | Gold Country Media](#)

²⁷ See Roanoke School Board Agenda December 12, 2019 <https://go.boarddocs.com/vsba/roecnty/Board.nsf/Public#>. See also details at [Radio-frequency radiation: The invisible threat | Opinions | collegiatetimes.com](#)

²⁸ The Roanoke School Board had also signed a master leasing agreement with Milestone in 2019
²⁹References for all countries are at <https://ehtrust.org/u-s-government-regulations-on-cell-tower-radiation/>: See also Rianne Stam, National Institute for Public Health and the Environment, the Netherlands [Comparison of international policies on electromagnetic fields \(power frequency and radiofrequency fields\)](#), 2018

Israel, Russia, China and India. Many of the *cell antennas now installed on school property in the US* would be illegal in these countries.



Many countries prohibit cell towers on or near school property.

Countries such as New Zealand, Russia, Greece, Israel, Lithuania, Chile, Bangladesh and Nigeria have clear policies that prohibit cell tower base stations on school property. Within countries, many states/regions have prohibitions such as the New South Wales Dept. of Education and Mumbai, Zilla Parishad and Karnataka, India.³⁰ Many countries de facto prohibit towers on school property because the country has strict limits for RF environmental exposures in “sensitive areas” meaning areas where more vulnerable populations live and school.

The City of Toronto has adopted a [prudent avoidance policy](#) and its Medical Officer of Health recommends the Prudent Avoidance Policy approach for RF “that would keep levels in areas where people normally spend time at least 100 times lower than Health Canada’s Safety Code 6 limits when siting new telecommunication towers and antennas in the City of Toronto.”

Outdated FCC RF limits do not ensure safety.

³⁰ References and details can be found at [U.S. Government Regulations on Cell Tower Radiation](#) -Environmental Health Trust

FCC limits have remained unchanged since 1996. FCC limits [were not set](#) to protect against long term health effects. [Hundreds of independent scientists](#) who have researched the issue of RF health effects state that FCC limits for human exposure are thousands of times *too high* to protect children's health.

The [majority of studies](#) show harm, even at levels well below FCC limits. A review on cell tower radiation and human health entitled "[Evidence for a health risk by RF on humans living around mobile phone base stations: From radiofrequency sickness to cancer](#)" published in the journal *Environmental Research* concluded that 73.6% of studies showed effects: radiofrequency sickness, cancer and changes in biochemical parameters.

A published [analysis](#) of the U.S. National Toxicology Program study animal cancer³¹ findings concluded that FCC limits should be strengthened by 200 to 400 times to protect children.

The European Parliament report "[Health Impact of 5G](#)" concluded that commonly used wireless frequencies (450 to 6000 MHz) are probably carcinogenic for humans and clearly affect male fertility with possible adverse effects on the development of embryos, fetuses and newborns.

Air Force research has found [epigenetic effects](#)³² 114 genes that were "significantly differentially methylated," in human skin cells after exposure to levels FCC limits assume to be safe.

A [2022 review](#) found radiofrequency sickness, cancer and changes in biochemical parameters in people living close to cell towers.

[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"

Numerous experts recommend reducing RF radiation to well below FCC limits to protect children.

The 2023 [Santa Clara Medical Association](#) Best Practices for Technology in Schools³³ recommends reducing Wi-Fi exposure and restricting cell towers near schools.

³¹ Uche, U. I., & Naidenko, O. V. (2021). [Development of health-based exposure limits for radiofrequency radiation from wireless devices using a benchmark dose approach](#). *Environmental Health*, 20(1), 84.

³² Cantu, J. C., Butterworth, J. W., Peralta, X. G., Payne, J. A., & Echchgadda, I. (2023). [Analysis of global DNA methylation changes in human keratinocytes immediately following exposure to a 900 MHz radiofrequency field](#). *Bioelectromagnetics*, 44(3–4), 77–89.

³³ [Santa Clara County Medical Association Best Practices for Safe Technology in Schools](#)

The [New Hampshire State Commission on 5G Health and Environment Final Report](#) recommends children's RF exposure be reduced to as low as possible and that the state enact a 1640 foot cell tower setback for homes and schools.

The [International Association of Firefighters Resolution](#) officially opposes cell towers on their stations "until a study with the highest scientific merit and integrity on health effects of exposure to low-intensity RF/MW radiation is conducted and it is proven that such sitings are not hazardous to the health of our members."

In California, firefighter unions repeatedly and [successfully](#) lobbied state lawmakers to remove fire stations from a list of locations that legislation would fast-track 5G "small cells" on. *Firefighters Local 1014* launched a campaign with [30 second hard hitting ads](#) and a website that stated, "It's a no-brainer that LA County should at least have done a proper study before putting 200-foot high-power microwave antennas on top of our heads."

The [EPA School Siting Guidelines](#) lists exposure to electromagnetic fields and the fall distance as "potential hazards" from cell towers. The EPA guidelines [recommend schools "identify and evaluate cell towers within ~200 feet of prospective school locations."](#)

The [EPA has stated](#) that U.S. FCC RF radiation limits (unchanged since 1996) do not address possible risk from long-term, nonthermal exposures.

The [Los Angeles California School District Office of Health and Safety](#) developed a "cautionary level" for radiofrequency radiation 10,000 times lower than FCC regulations because, "it is believed that a more conservative level is necessary to protect children, who represent a potentially vulnerable and sensitive population."

Even as far back as 2000, the [Ecolog Institute Report](#) *commissioned by T-Mobile* recommended an exposure limit 1,000 times lower than the FCC's current power density limit.

Numerous research publications recommend a 1,500 setback for cell towers

The Pearce 2024 review of cell tower placement and liability issues "[Limiting liability with positioning to minimize negative health effects of cellular phone towers](#)" published in Environmental Research concludes, "that deployment of base stations should be kept as efficient as possible to minimize exposure of the public to RFR and should not be located less than 500m from the population..."

The Rodrigues et al. (2021) study “[The Effect of Continuous Low-Intensity Exposure to Electromagnetic Fields from Radio Base Stations to Cancer Mortality in Brazil](#)” published in the International Journal of Environmental Research and Public Health concludes, “avoid hazards to human health, the safest solution would be to switch off the RBS (radiobase station) in an area within a 500 m radius from residences, workplaces, hospital areas, kindergartens, and buildings.”

The study “[Mortality by neoplasia and cellular telephone base stations in the Belo Horizonte municipality, Minas Gerais state, Brazil](#)” by Dode et al. (2011) published in the Science of the Total Environment found higher deaths from tumors within 500 meters from cellular base stations.

The cell tower base station review “[Biological effects from exposure to electromagnetic radiation emitted by cell tower base stations and other antenna arrays](#)” by Levitt & Lai (2010). Published in Environmental Reviews documents the “many biological effects have been documented at very low intensities” and “as a general guideline, cell base stations should not be located less than 1500 ft (*500 m) from the population, and at a height of about 150 ft (*50 m).”

The review of 10 epidemiological studies that assessed for health effects of mobile phone base stations entitled “[Epidemiological evidence for a health risk from mobile phone base stations](#)” by Khurana et al., (2010) published in the International Journal of Occupational Environmental Health found that eight of the 10 studies reported increased prevalence of adverse neurobehavioral symptoms or cancer in populations living at distances <500 m from base stations.

A human rights issue

A review focused on the human rights aspects by [Roda and Perry 2024](#) “Mobile phone infrastructure regulation in Europe: Scientific challenges and human rights protection” published in *Environment Science and Policy* documented the accumulating science indicating safety is not assured, and considered the issue within a human rights framework to protect vulnerable populations from environmental pollution. “We conclude that, because scientific knowledge is incomplete, a precautionary approach is better suited to State obligations under international human rights law.”

Scientific Research

Balmori, A. (2022). [Evidence for a health risk by RF on humans living around mobile phone base stations: From radiofrequency sickness to cancer.](#) Environmental Research, 214, 113851.

Directorate-General for Parliamentary Research Services (European Parliament), & Belpoggi, F. (2021). [Health impact of 5G: Current state of knowledge of 5G related carcinogenic and reproductive/developmental hazards as they emerge from epidemiological studies and in vivo experimental studies.](#) Publications Office of the European Union.

Dode et al. (2011). [Mortality by neoplasia and cellular telephone base stations in the Belo Horizonte municipality, Minas Gerais state, Brazil.](#) The Science of the Total Environment, 409(19), 3649–3665.

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