Wireless Radiation in Hartford, CT

Last updated: September 22, 2023

Originally compiled for the Hartford City Council Commission on Operations, Management, Budget & Government Accountability on September 19, 2023 by Rachael D. Stephens (PhD Candidate, Anthropology and Education, UPenn) on behalf of Greater Hartford Coalition of Safe Technology (www.ghc4safetech.com).

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Peer-Reviewed Research on the Health Risks of Wireless Radiation

Human and animal studies show that **today's average levels of wireless radiation exposure pose serious health risks (Havas 2013, Pall 2018), *especially* for children (Moon 2020),** including increased risks of:

- cancer & DNA damage
    a. Dode et al 2011; Akdag et al 2018, Pall 2018; Avendaño et al. 2012; Atasoy et al. 2013; Akdag et al. 2016; Panagopoulos et al. 2021
- high blood pressure, & cardiovascular complications, diabetes
    a. Havas 2013; Suresh 2011; Meo et al. 2015; Saili et al. 2015, Bozok et al 2022;
- cognitive impairment, memory loss, neuropsychiatric or emotional & behavioral changes, Alzheimer's
    a. Azimzadeh et al. 2020; Pall 2022; Papageorgiou et al. 2011; Maganioti et al. 2010; Othman et al. 2017a, 2017b; Hassanshahi et al. 2017; Hu, Zuo, & Li 2021; Tang et al. 2015; Zhang et al 2015; Mahila 2021
- fetal/postnatal maldevelopment, decreased fertility, endocrine imbalances endocrine, decreased reproductive health
    a. Atasoy et al. 2013; Kesari et al. 2018; Othman et al. 2017a; Shokri et al. 2015; Dasdag et al. 2015; Avendaño et al. 2012; Yildiring et al. 2015; Özorak et al. 2013; Oni et al. 2011; Akdag et al. 2016; Bozok et al 2022

Two helpful meta-reviews from well-regarded researchers in highly-cited scholarly journals:

- Havas M. Radiation from wireless technology affects the blood, the heart, and the autonomic nervous system. *Review of Environmental Health*. 2013;28(2-3):75-84. doi: 10.1515/reveh-2013-0004. PMID: 24192494. https://www.researchgate.net/publication/258313941_Radiation_from_wireless_technology_affects_the_blood_the_heart_and_the_autonomic_nervous_system1
- Pall, Martin. (2018). Wi-Fi is an important threat to human health. *Environmental research*. 164. 405-416. 10.1016/j.envres.2018.01.035. https://www.researchgate.net/publication/323998588_Wi-Fi_is_an_important_threat_to_human_health

Finally, the Bio Initiative group conducts annual reviews of the recent studies being published pn the relationship between wireless radiation and human health. They differentiate between studies that show that wireless radiation has an effect ("E") and those that show no effect ("NE"). The 2022 results alone take into account over 1000 research studies, and **out of these 1000 most recent peer-reviewed scientific studies, between 68-91% showed a negative effect on biological health** (See https://bioinitiative.org/research-summaries/):

RFR Free Radical (Oxidative Damage) Studies (5/4/2022)
Of 288 total studies: **E= 263 (91%); NE= 25(9%)**

RFR Genetic Effects Studies (4/24/2022)
Of 423 studies: **Effect= 291 (68%); No Effect= 132 (32%)**

RFR Neurological Studies Effects (4/24/2022)
Of 391 total studies: **E= 291 (74%); NE= 100 (26%)**

To access thousands of peer-reviewed research studies on wireless radiation and health (including that which shows "no effect" and that which shows a substantive harm), you can use https://www.emf-portal.org/en.

How can FCC standards say current radiation levels/5G technologies are "safe"?

The Federal Communications Commission (FCC) states that wireless radiation is "safe" up to 10,000 milliwatts per sq. meter (at 1800 MHz). Their determination is based on *only about 40 minutes of exposure for an average-sized adult*. We are now exposed to high levels for 24 hours a day, and many of us – especially our youth—are not as large as an "average sized adult." The FCC standards also fail to account for recent research. In particular, they focus largely on thermal damage (SAR or "specific absorption rate") during short-term exposures, but recent studies show that this hyper-fixation fails to attend to many of the most damaging health impacts, most of which are non-thermal and chronic.

**If other countries are protecting the public (especially children) from the harms of wireless radiation, why aren't we?

Countries like Italy, Turkey, Israel, France, and Greece, have placed moratoriums on 5G technology and have restricted wireless technologies (of all "generations") from public schools, hospitals, and residential areas (https://www.rivm.nl/sites/default/files/2018-11/Comparison%20of%20international%20policies%20on%20electromagnetic%20fields%202018.pdf). And hundreds of researchers and medical practitioners across the globe are calling for new standards (see below).

In the United States, however, the FCC sets "safety" standards that protect telecommunications companies' profits over public health (Alster 2015). A recent study published via Harvard's Center for Ethics argues that the FCC is a "captured agency," meaning it is "dominated by the industries it presumably regulates" (Alster 2015): https://ethics.harvard.edu/files/center-for-ethics/files/capturedagency_alster.pdf.

**What has happened in 48 other municipalities that have engaged in similar agreements? (Loss of local control, increased financial burden, property damage, legal problems, and threats to "digital equity")

In April 2021, the National Association of Telecommunications Officers and Advisors (NATOA), with assistance from Communication Workers of America (CWA), released a report highlighting the "widespread harms of small cell preemption to cities, local governments and millions of low-income Americans nationwide." The report, "Stretched Thin and Feeling the

Squeeze: The Harmful Effects of Small Cell Preemption on Local Governments," (https://assets.noviams.com/novi-file-uploads/natoa/20210317_NATOA_CWAReport.pdf) draws on a survey of 48 local governments and reports that small cell preemption is:

- **having a negative impact on cities' finances**
  - **56%** of all large localities report that preemption has resulted in **a loss in revenue**
  - **83%** of mid-size localities and **63%** of large localities report **increased staffing expenses**
- **threaten local control and fail to provide sufficient oversight and accountability for broadband and small cell companies**
  - **44%** report that broadband and small cell companies **have installed equipment without a permit**
  - **50%** of large localities have dealt with **contractors lacking the proper licenses**
- **lead to property damage, create challenges for public safety and accessibility, and open the municipality up to costly legal complications**
  - **52%** percent report that companies have damaged public property at least once
  - **57%** report that providers have failed to restore roads, sidewalks, or other infrastructure to its original condition following installation at least once, including **38%** that report it has happened multiple times
  - **40%** report that installations have created accessibility issues at least once, and **33%** report that they have had installations that endanger the public
  - **71%** of localities have received complaints from residents about radio frequency (RF) emissions
- **hampering efforts to close the digital divide**
  - **56%** of large localities report that if it weren't for preemption, they would be pursuing digital divide initiatives that they currently are not.

The report concludes by recommending that the FCC abandon the approach of the 2018 Small Cell Order; restore the authority of local governments to protect community health and safety; abandon ill-conceived fee caps; and shift the burden of proof back to the provider in disputes.

**Telecommunications companies are using the 2018 FCC Declaratory Ruling and rhetoric of "Digital Equity" to justify bulldozing over municipal and state rights

Mayor Bronin's cover letter frames the proposed Resolution in light of the FCC's September 2018 Declaratory Ruling, wherein the FCC moved to preempt all state and municipal action that would impede or delay the roll-out of 5G technology, particularly as it pertained to state and municipal rights of way (ROW). As the Mayor also notes, this ruling "was challenged by a number of states and municipalities, but several federal district courts and ultimately the 9th Circuit Court of Appeals upheld the FCC Rule making authority in this area." Mayor Bronin then goes on to emphasize how "In December 2021, AT&T filed a lawsuit in federal district court against the City for its failure to act in a timely way (and in accordance with the FCC Declaratory Ruling)."

In isolation, these decisions certainly create a *perception* that the City of Hartford needs to quickly "fall in line" with the mounting pressure from the telecommunications companies. Importantly, however, this is not the full story, and a number of recent court decisions and declarations suggest that the Telecommunications companies do NOT have as much power as they often suggest. Across the country, telecommunications companies continue to wield the FCC's 2018 Declaratory Ruling as a weapon, filling lawsuits against municipalities who have not immediately started rolling out their novel technologies and suggesting that any resistance is a violation of the FCC's Declaratory 2018 Ruling. The telecommunications companies use the 2018 FCC Declaratory Ruling as their justification for bulldozing over municipal and state rights.

But much has happened since 2018 that makes the FCC's 2018 Declaratory Ruling far less ominous than it seems. On August 13, 2021, the U.S. Court of Appeals determined that the FCC was in violation of the Administrative Procedure Act. This ruling came out of the *Environmental Health Trust et al. v. the Federal Communications Commission (FCC)* case and was a response to the FCC's 2019 decision not to update its 1996 exposure limits(despite increasing concern regarding the health risks of wireless radiation). The Court ruled that the FCC had "failed to provide a reasoned explanation for its determination that its guidelines adequately protect against the harmful effects of exposure to radiofrequency radiation…" (p. 3). According to the Court, the FCC had failed to address the:

- impacts of long term wireless exposure,
- unique impacts to children,
- the testimony of people injured by wireless radiation,
- impacts to wildlife and the environment, and
- impacts to the developing brain and reproduction.

Notably, the text of the proposed Resolution itself makes no mention of these more recent rulings, it only references the "Telecommunications Act of 1966" (page 3 in Resolution Packet; Presumably, this is a typo and is intended to be a reference to the Telecommunications Act of *1996*), the 2018 Federal Communication Commission's Declaratory Ruling, and the April 2022 FCC Equity Action Plan.

In the FCC's 2022 Equity Action Plan, the FCC strategically frames the installation of wireless technology in terms of its commitment to social "equity" and as an alleged solution to the "digital divide" in access to technology. This framing falsely implies that *wireless* internet technologies are the only way to bring internet connectivity. Moreover, by proposing more small cell installation in the urban, disproportionately marginalized City of Hartford**, the FCC's efforts to promote "equity" will likely exacerbate the significant inequities in the existing distribution of wireless radiation**. Due to population concentration and zoning policies (especially percentage of commercially zoned areas as well as the ratio of multi-family to single-family), many urban areas – especially those which have historically been racially minoritized and economically impoverished—are bearing the brunt of the country's wireless radiation exposure. But telecommunications companies have crafted such an enticing narrative that state and local officials have become convinced that "doing right" by their constituents means greenlighting the roll-out of new, untested technologies that pose significant risks to our health.

**Even if large base towers are dangerous, what is the harm of "small cell devices"?

More recent wireless infrastructures rely on networks of so-called "small cell" antennas/towers. Despite their small size, however, these devices transmit enormously powerful and concentrated (directional) signals. While leading scientists (including long-time veterans of the NIH and WHO) warn that comprehensive health studies have *not* yet been conducted on the specific harms of these devices, there is substantive data illustrating that even small exposures, over time, can have the same deleterious impacts on biological life forms (ICNIRP-EMF 2022; Levitt and Lai 2010).

Appeals and resolutions from international groups of scientists and medical doctors.

Thousands of doctors and researchers have called on government officials to step in:

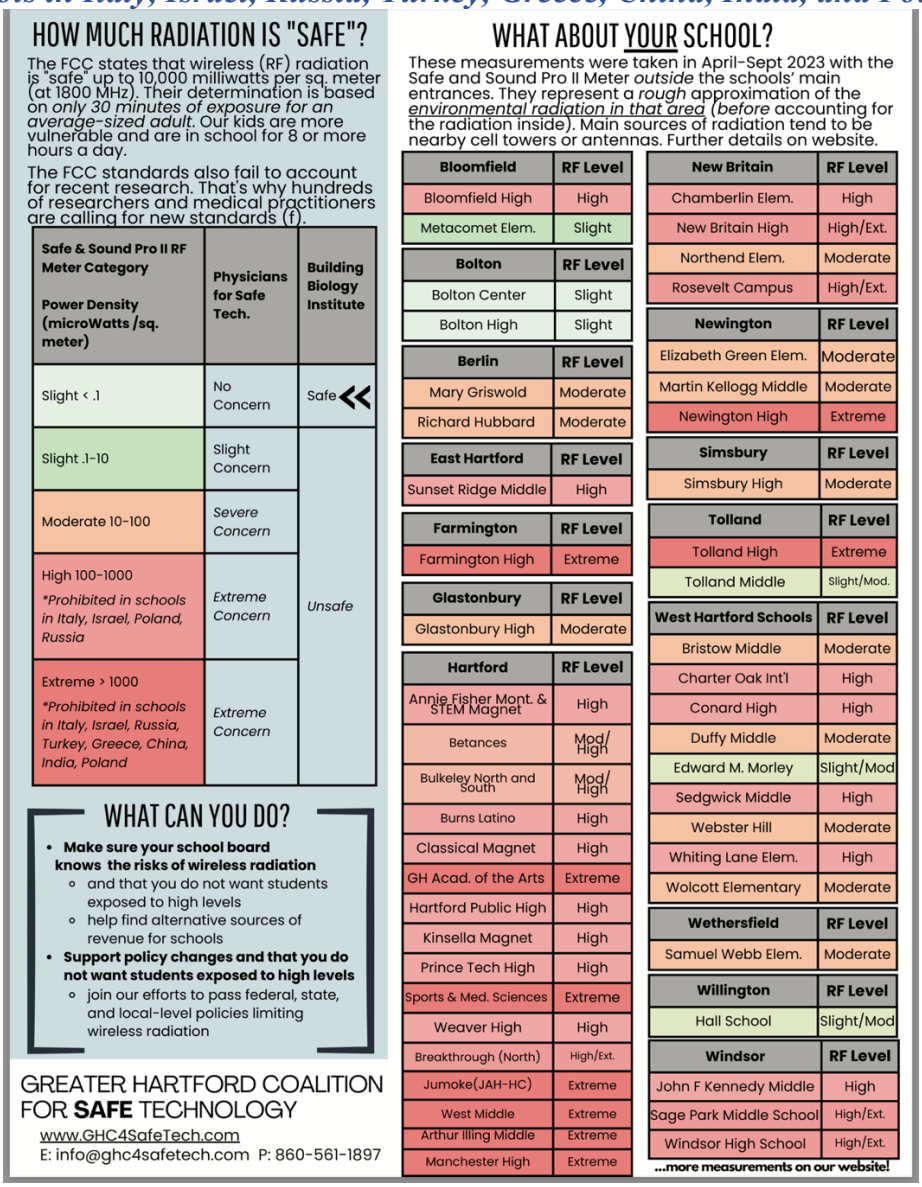
- 2020 Consensus Statement of UK and International Medical and Scientific Experts and Practitioners on Health Effects of Non-Ionizing Radiation (NIR)
    - https://phiremedical.org/2020-nir-consensus-statement-signatories/
    - Signed by over **250 individual medical practitioners and scientific researchers** as well as by organizations of medical practitioners and scientists representing over **4,000 members** (e.g., American Academy of Environmental Medicine, British Society for Ecological Medicine, European Academy for Environmental Medicine, International EMF Alliance, International Guidelines on Non-Ionizing Radiation)
- International EMF Scientist Appeal Launched 2015, Revised 2023
    - https://emfscientist.org/
    - Scientists call on UN and WHO for Protection from Non-ionizing Electromagnetic Field Exposure
    - As of July 14, 2023: **259 EMF scientists** from 44 nations
- American Academy of Pediatrics
    - AAP Letter to the FCC Chairman calling for the FCC to open up a review of RF guidelines (7/12/2012) https://ehtrust.org/wp-content/uploads/American-Academy-of-Pediatrics-letter-to-the-FCC-July-12-2012.pdf
    - Time Magazine (2012): Pediatricians Say Cell Phone Radiation Standards Need Another Look http://healthland.time.com/2012/07/20/pediatricians-call-on-the-fcc-to-reconsider-cell-phone-radiation-standards/
- 5G Appeal, Launched September 13, 2017
    - https://www.5gappeal.eu/the-5g-appeal/
    - By August 26 2023 there are **433 signatories (all doctors and scientists)**
- BioInitiative Report 2007, 2012
    - www.bioinitiative.org
    - The BioInitiative 2012 Report was prepared by 29 authors from ten countries, ten holding medical degrees (MDs), 21 PhDs, and three MsC, MA or MPHs.
- International Doctors Appeal Launched 2012
    - http://www.icems.eu/resolution.htm

Levels of Wireless Radiation in Hartford in relation to other CT municipalities

Out of the 50+ public schools in Greater Hartford where we have measured wireless radiation levels, over 96% had radiation levels that the international organizations, The Building Biology Institute and Physicians for Safe Technology, consider "unsafe"

Of the 13 Hartford schools where we have measured wireless radiation, 100% had levels that organizations like The Building Biology Institute and Physicians for Safe Technology consider "severely/extremely concerning" and "unsafe."

Over 1/3 of these Hartford schools had levels of radiation that would be prohibited in schools in Italy, Israel, Russia, Turkey, Greece, China, India, and Poland.



HOW MUCH RADIATION IS "SAFE"?

The FCC states that wireless (RF) radiation is "safe" up to 10,000 milliwatts per sq. meter (at 1800 MHz). Their determination is based on *only 30 minutes of exposure for an average-sized adult.* Our kids are more vulnerable and are in school for 8 or more hours a day.

The FCC standards also fail to account for recent research. That's why hundreds of researchers and medical practitioners are calling for new standards (†).

Safe & Sound Pro II RF Meter Category Power Density (microWatts /sq. meter)	Physicians for Safe Tech.	Building Biology Institute
Slight < .1	No Concern	Safe <<
Slight .1-10	Slight Concern	Unsafe
Moderate 10-100	*Severe Concern*	
High 100-1000 **Prohibited in schools in Italy, Israel, Poland, Russia*	*Extreme Concern*	
Extreme > 1000 **Prohibited in schools in Italy, Israel, Russia, Turkey, Greece, China, India, Poland*	*Extreme Concern*	

WHAT CAN YOU DO?

- **Make sure your school board knows the risks of wireless radiation**
  - and that you do not want students exposed to high levels
  - help find alternative sources of revenue for schools
- **Support policy changes and that you do not want students exposed to high levels**
  - join our efforts to pass federal, state, and local-level policies limiting wireless radiation

GREATER HARTFORD COALITION FOR **SAFE** TECHNOLOGY

www.GHC4SafeTech.com

E: info@ghc4safetech.com P: 860-561-1897

WHAT ABOUT YOUR SCHOOL?

These measurements were taken in April-Sept 2023 with the Safe and Sound Pro II Meter *outside* the schools' main entrances. They represent a *rough* approximation of the *environmental radiation in that area* (*before* accounting for the radiation inside). Main sources of radiation tend to be nearby cell towers or antennas. Further details on website.

Bloomfield	RF Level
Bloomfield High	High
Metacomet Elem.	Slight

Bolton	RF Level
Bolton Center	Slight
Bolton High	Slight

Berlin	RF Level
Mary Griswold	Moderate
Richard Hubbard	Moderate

East Hartford	RF Level
Sunset Ridge Middle	High

Farmington	RF Level
Farmington High	Extreme

Glastonbury	RF Level
Glastonbury High	Moderate

Hartford	RF Level
Annie Fisher Mont. & STEM Magnet	High
Betances	Mod/ High
Bulkeley North and South	Mod/ High
Burns Latino	High
Classical Magnet	High
GH Acad. of the Arts	Extreme
Hartford Public High	High
Kinsella Magnet	High
Prince Tech High	High
Sports & Med. Sciences	Extreme
Weaver High	High
Breakthrough (North)	High/Ext.
Jumoke(JAH-HC)	Extreme
West Middle	Extreme
Arthur Illing Middle	Extreme
Manchester High	Extreme

New Britain	RF Level
Chamberlin Elem.	High
New Britain High	High/Ext.
Northend Elem.	Moderate
Rosevelt Campus	High/Ext.

Newington	RF Level
Elizabeth Green Elem.	Moderate
Martin Kellogg Middle	Moderate
Newington High	Extreme

Simsbury	RF Level
Simsbury High	Moderate

Tolland	RF Level
Tolland High	Extreme
Tolland Middle	Slight/Mod.

West Hartford Schools	RF Level
Bristow Middle	Moderate
Charter Oak Int'l	High
Conard High	High
Duffy Middle	Moderate
Edward M. Morley	Slight/Mod
Sedgwick Middle	High
Webster Hill	Moderate
Whiting Lane Elem.	High
Wolcott Elementary	Moderate

Wethersfield	RF Level
Samuel Webb Elem.	Moderate

Willington	RF Level
Hall School	Slight/Mod

Windsor	RF Level
John F Kennedy Middle	High
Sage Park Middle School	High/Ext.
Windsor High School	High/Ext.

...more measurements on our website!

Municipal Policy to Protect Public Health

Examples of Municipal Moratoriums/Bans on 5G Rollout

- ***Easton, CT*** —May 5 2022, the Board of Selectmen voted to extend moratorium on 5G installation/rollout until Dec. 31 2023
    - Revised Resolution
    - News article detailing ongoing debate

- ***NYC, NY Community Board 8 Manhattan*** **—**December 2022, moratorium placed on construction and planning of Link5G poles and device
    - Resolution
    - Dec 7, 2022 Transportation Meeting Agenda
    - Dec 11, 2022 Minutes

- ***Farragut City, TN*** — May 14, 2020, City Council approved Resolution R-2020-05, Resolution Concerning 5G Wireless Facilities, which called on state and federal governments to halt 5G until health risks are evaluated by "sound science"
    - Resolution
    - News article

- ***County of Hawaii, HI*** — July 22, 2020, County Council Passed Resolution 678-20 Calling onto cease the buildout of "5G wireless infrastructure until such technologies have been proven through independent research…"'
    - Resolution/Minutes/Testimony

- Additional examples of moratoriums:
    - Keene, NH
    - Santa Barbara, CA
    - Lewis County, TN

Examples of Municipalities' Installation Setback Restrictions

- ***Los Altos, California*** **--** Prohibits installation of small cells on public utility easements in residential neighborhoods *and* establishes **500 foot** setbacks from schools and from multi-family residences in commercial districts
- ***Shelburne, MA*** – no new wireless antennas in residential zones and no wireless antennas within **3,000 feet** of schools and within **1,500 feet** of homes
- ***Copake, NY*** – no wireless facility may be within **1,500 feet** from homes, schools, churches, or other buildings containing dwelling units.
- ***Stockbridge, MA*** no towers built less than **1000 feet** from a school, park or athletic field and **600 feet** from any residence.
- ***Sallisaw, OK*** – no commercial wireless telecommunications towers within **1,500 feet** of homes.
- ***Calabasas, CA*** – no "Tier 2" wireless telecommunications facilities within **1,000 feet** of homes and schools.
- ***Bedford, NH –*** No wireless antennas within **750 feet** from nearest residentially-zoned property.
- ***Scarsdale, NY*** – No wireless facilities within **500 feet** from homes, schools, parks, and houses of worship.
- ***Davis, CA*** – no freestanding wireless facilities within **500 feet** of residential zone and schools.
- ***Westlake Village, CA*** – no facilities within **500 feet** of homes.

- ***Randolph, MA*** – no wireless antennas within **500 feet** of homes and businesses.
- ***Petaluma, CA*** – no "small cell" antennas within **500 feet** of homes.
- ***Suisin City, CA*** – no "small cell" antennas within **500 feet** of homes.
- ***Contra Costa County, CA*** – no new high-visibility facilities or towers within **300 feet** of residential zones.
- ***Ithaca, NY*** – any small cell wireless facility shall be **250 feet or more** from any residence, school, or day care facility

Additional approaches

- Municipal requests for State intervention
  - Carmel City, IN
  - Hallandale Beach FL

- Comparisons of International Policies
  - https://www.rivm.nl/sites/default/files/2018-11/Comparison%20of%20international%20policies%20on%20electromagnetic%20fields%202018.pdf

CT officials on the federal, state, and local level have all stepped out against the premature deployment of wireless infrastructure

- US (CT) Senator R. Blumenthal https://youtu.be/ekNC0J3xx1w
- CT House Representative David Michel and Anne Hughes
- Easton, CT Board of Selectman Dave Bindelglass, M.D.

Works Referenced

In addition to the hyperlinks included in-text, please see a compressive list of works cited on our website ghc4safetech.com and below.

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