

**From:** [Wm Smith](#)  
**To:** [City Council Public Comments](#)  
**Subject:** [EXTERNAL] Agenda 13  
**Date:** Monday, January 25, 2021 7:29:03 AM

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Dear Councilmembers,

I'm concerned about possible health issues and lack of long term studies of 5G cell phone towers. And it's not as efficient as fiber optics.

Please consider the ordinances in other California cities that contain important control elements such as those in Calabassas, Los Altos, Sonoma, Mill Valley, San Ramon, Fairfax, and Petaluma.

And please consider supporting FIBER TO THE PREMISES, Fiber broadband is the fastest method of delivering high-speed Internet to residences and businesses and is the safest form of connection! Other cities in the US are already doing this.

Yours,  
Paul Roberts

  
Santa Rosa CA 95403

**From:** [Ana Stevens](#)  
**To:** [City Council Public Comments](#)  
**Subject:** [EXTERNAL] Agenda 13  
**Date:** Sunday, January 24, 2021 11:58:54 AM

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Dear Council Members,

Apparently the issue of small cell towers will be coming before you to review soon.

We do not want a small cell tower in our neighborhood.

I know that you're aware of all the reasons why, as we've already bombarded you over and over with them.

They have extremely negative impacts on our health, the environment as well as our property value which means less property taxes.

Being that we run our business (will run our business again, I should say) from our home, we would have no break from the negative effects of this tower.

Please do not adopt these towers.

I appreciate your consideration,

Ana Stevens  
College Ave.

Sent via the Samsung Galaxy Note20 Ultra 5G, an AT&T 5G smartphone

**From:** [Andy Bauer](#)  
**To:** [City Council Public Comments](#)  
**Subject:** [EXTERNAL] Police Staffing Study  
**Date:** Monday, January 25, 2021 4:15:12 PM

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As a Santa Rosa resident of over 30 years, I am very disheartened by the lack of support our city leaders seem to have for our police department. This summer, as they, and other officers and deputies throughout the county who responded to SRPD's call for help, were attacked with bottles, rocks, fireworks, insults, and epitaphs for nights on end, I don't recall reading one comment from the city council in support of what YOUR officers were enduring. Even after the department had, rightfully, shown support for peaceful protests in response to the death of George Floyd, the calls for defunding the police department rang out. Again, instead of showing support for YOUR officers, the city council responded by supporting cuts to the police budget and stripping police officer positions from a department already understaffed. This was surprising and upsetting, especially given the two former police officers on the council at the time, who should have known better. As the city continues to grow, the number of sworn police officers continues to dwindle, putting extra burden on the officers who remain, stretched thin by longer and more hours, lack of investigative support, and lack of support from the city that employs them. These were the same officers who for the past three years, including a mere couple months after the riots, that have risked their safety to evacuate neighborhoods turned to raging infernos by our recent wildfires. There are always going to be those hypercritical of law enforcement no matter what and within any organization there is always room for improvement and new ideas to implement. But when the lack of support comes from the very city that employs you, it is devastatingly disheartening. Word of that gets around. If this type of attitude continues, Santa Rosa will not be able to recruit quality people, or any people, to work as police officers in our city. Service to the community will suffer, more officers will be hurt, physically and mentally, from being overworked, and crimes in our lovely town will rise and go unsolved.

So I ask you, heed the staffing studies which call for more sworn officers to be hired, refund the budget, show your officers they are supported, which in turn will show the community they are supported.

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Andy Bauer

**From:** [Aurora=Danai](#)  
**To:** [City Council Public Comments](#)  
**Subject:** [EXTERNAL] © Agenda 13 ©  
**Date:** Monday, January 25, 2021 2:49:16 AM

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## ***Esteemed Councilmembers,***

I am an advocate of a strong **Small Cell ordinance** that will give the most protection for the citizens of Santa Rosa from the onslaught of the 4G and 5G buildout.

Please consider the ordinances in other California cities that contain important control elements such as those in Calabassas, Los Altos, Sonoma, Mill Valley, San Ramon, Fairfax, and Petaluma.

For more information, you can visit:  
<https://mdsafetech.org/cell-tower-and-city-ordinances/>

More info can also be obtained at: Environmental Health Trust ([ehtrust.org](http://ehtrust.org)).

Our local website is: [safetech4santarosa.org](http://safetech4santarosa.org)

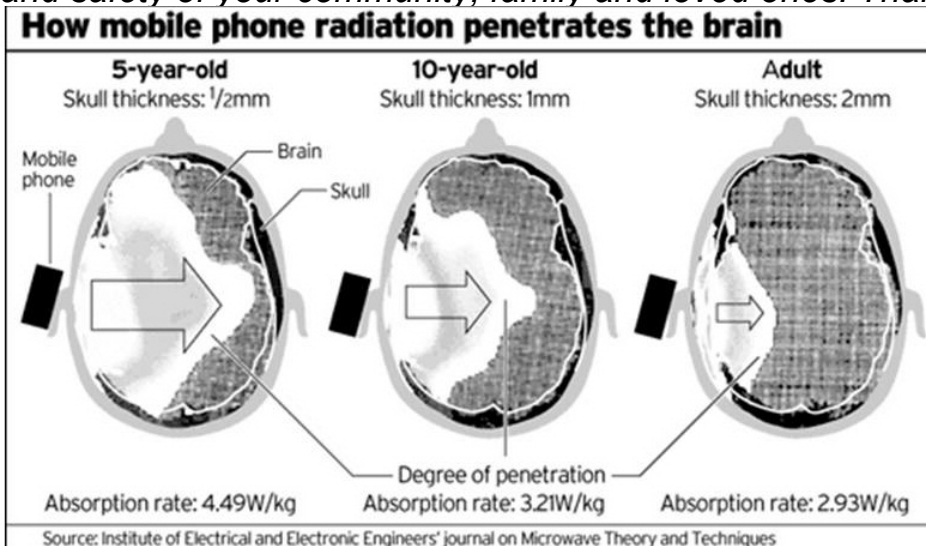
Even firefighters have rejected 5G!

Be on the right side of history!

Thank you,

Aurora Danai

*Just because you can't see it doesn't mean it isn't effecting you as evidenced in cell phone radiation.... please look at the science for the health and safety of your community, family and loved ones. Thanks!!*



**From:** [Bill Gaffney](#)  
**To:** [City Council Public Comments](#)  
**Subject:** [EXTERNAL] Agenda 13  
**Date:** Sunday, January 24, 2021 7:30:12 PM

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Dear Councilmembers, I am an advocate of a strong Small Cell ordinance that will give the most protection for the citizens of Santa Rosa from the onslaught of the 4G and 5G buildout. Please consider the ordinances in other California cities that contain important control elements such as those in Calabassas, Los Altos, Sonoma, Mill Valley, San Ramon, Fairfax, and Petaluma. For more information, you can visit: <https://mdsafetech.org/cell-tower-and-city-ordinances/> More info can also be obtained at: Environmental Health Trust ([ehtrust.org](http://ehtrust.org)). Our local website is: [safetech4santarosa.org](http://safetech4santarosa.org)

*Thank you!*

Bill Gaffney

Sent from my iPhone

**From:** [Blake Ussery](#)  
**To:** [City Council Public Comments](#)  
**Subject:** [EXTERNAL] Type "Agenda 13"  
**Date:** Saturday, January 23, 2021 3:10:04 PM

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STOP 5G ,  
Rev. Blake M. Ussery  
[REDACTED]  
Santa Rosa CA 95404

**From:** [catherine dodd](#)  
**To:** [City Council Public Comments](#)  
**Cc:** [Rogers, Chris](#); [Rogers, Natalie](#)  
**Subject:** [EXTERNAL] item 13 Comment anticipated 4&5G Antenna Ordinance & wired fiber optic to the premises  
**Date:** Monday, January 25, 2021 5:52:32 AM

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Dear Mayor Rogers, Vice Mayor Rogers and members of the City Council

I am writing on behalf of myself and the Alliance of Nurses for Healthy Environments. I have written and testified previously on the need for a strict ordinance regarding "small cell" antennas aka wireless telecommunications facilities. I urge the new members of the Council to familiarize themselves with this issue by listening to the last study session on the issue where several national experts left recorded testimony. July 21, 2020 item 3.2

You are responsible for protecting the residents and visitors to Santa Rosa now and into the future. (not for satisfying the requests of the telecom industry).

The ordinance you approve will have an impact for generations on the aesthetics of our charming city, on the safety of our internet communication networks, on the reliability of our internet service, on the energy usage of our internet services, and on our health.

Local governments across the nation are being lobbied by the well financed telecom industry, they are the "new tobacco" industry. They assure us that wireless radio frequency-electromagnetic radiation is safe, yet the research shows the contrary.

Below are a few key components (taken from existing local ordinances around the country) that should be in our Santa Rosa ordinance.

- 1) Require proof of significant gap in coverage, that has to be proven in a specific way. This is part of the Telecommunications Act of 1996
- 2) Require 1500 to 500 foot Setbacks (greater where children & pregnant women are exposed)
- 3) In addition to setbacks, maintain requirements for least intrusive methods.
- 4) Specify Location (prohibited, disfavored, or favored).
- 5) Require notification of property owners *and residents* within 500 feet (or more) of a proposed installation, notification must be done with a certified letter sent by the city of Santa Rosa- not by the Telecom industry.
- 6) Require regular *unannounced* radiofrequency testing and monitoring by independent experts with permit revocation if there are multiple violations.
- 7) Include Aesthetic requirements preserve the charm of our City as a destination (the CA Supreme Court upheld this as a reason for denial of antenna permitting.)
- 8) Prohibit multi-year agreements beyond 5 years – (Tech is progressing quickly and regulations may change at the federal level, so flexibility is needed.)
- 9) Require insurance coverage (in order to protect the city from liability) *without a pollution exclusion*.

As important, the City Council should prepare for a stimulus funding application by designing a plan to WIRE the internet into every building in the City - starting with schools and low-income neighborhoods. Wired internet is: safer and dependable (in fires and weather events) and does not emit RF-EMR, more reliable (not interfered by foliage or weather), uses 1/3 the electricity (important for climate change goals), does not require ugly towers every 500 feet, is FASTER, and can be run as a municipal utility thus ensuring that low-income residents are not subject to ever increasing internet fees.

Laying fiber optic internet cable is a "shovel ready" project that will put people to work and will improve our city for generations to come. It's the kind of project that the Federal

government looked for after the 2008 recession. Other cities have done this throughout the country.

Sincerely,

Catherine Dodd PhD, RN FAAN 707-595-3769

[www.linkedin.com/in/catherinedoddphd](http://www.linkedin.com/in/catherinedoddphd)



**From:** [Chris & Lorri](#)  
**To:** [City Council Public Comments](#)  
**Subject:** [EXTERNAL] Police Staffing Study Session  
**Date:** Monday, January 25, 2021 4:13:06 PM

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To The Santa Rosa's City Council,

I have lived in Santa Rosa for the past thirty one years. I have appreciated the professionalism of our police department all those years. I'm so grateful for the sacrifice and service of each member as they protect and serve our community.

These are challenging times for all our public servants. But, I believe it is time for you, our City Council, to show tangible support for Chief Ray Navarro and the men and women of the Santa Rosa Police Department.

Santa Rosa has grown to a city of approximately 179,000 people. Along with this growth comes greater challenges requiring MORE competent officers not less.

Chief Navarro and our police department need your support and encouragement to lift their morale. As leaders in our city PLEASE lead with an ear that is EQUALLY attentive to your fellow public servants as it is to some vocal citizens.

May God grant you the wisdom of Solomon to navigate these challenging waters.

Sincerely,  
Chris Bauer

**From:** [Michael Knott](#)  
**To:** [City Council Public Comments](#)  
**Subject:** [EXTERNAL] Agenda for Tuesday 1.26.21  
**Date:** Monday, January 25, 2021 4:10:51 PM

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January 25, 2021

City Council Members of Santa Rosa

Re: Agenda for January 26, 2021

Thin Blue Line Flag

The Thin Blue Line flag represents to law enforcement professionals their courage and sacrifice while protecting the people. It symbolizes the unbreakable component of memorial to the deaths of those who have perished in the line of duty and showing support for living officers. When they see that flag, they know there is someone there who knows what they are going through. They are part of a family, proud of what they do, and of the ones who have died defending the rights of strangers.

This is not a political statement, it is a morale booster which gives respect and recognition.

It is frustrating and upsetting to know that our city council members have chosen not to take the high road in this recent decision of allowing whether or not to show this particular flag in the hallways of our police department. Instead, you have catered only to the loudest voices of a small minority of people who lack the full understanding of this difficult job, nor for the significance this gifted flag has to the men and women officers of the department. If you keep responding to the whims of a select few over the greater good of the whole, then you too risk becoming part of the problem.

I question why the city council does not stand up and show a greater support for our police department... the group that values a gifted flag from their community which has shown their support. Instead, we are now witnessing the council commanding our Chief of Police to "apologize" and appease a small group of protesters. Where is the justice for all those who are now being adversely affected by this decision?

You have not only placed Chief Navarro in a compromising position, but have also delivered yet another crushing blow to the overall morale of those who serve us. Your non inclusive decision is making it difficult for people who want to 'back the Blue' for their bravery, care and trust. It is time stop trying to please only the loud minority when the majority of the people have so gratefully shown their appreciation for our law enforcement.

Those of us who want to express support for our police officers in the mission of law and order in this community should also have a voice.

This Thin Blue Line Flag needs to be held up in their honor to show our solidarity in representing these ideals.

Respectfully,

Deborah Francis  
Santa Rosa

**From:** [Raven Fleps](#)  
**To:** [City Council Public Comments](#)  
**Subject:** [EXTERNAL] Agenda 13  
**Date:** Sunday, January 24, 2021 9:51:39 PM

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Dear Councilmembers,

It is alarming that citizens cannot deny the placement of small cells in our community on the basis of health concerns (or health affects that many have already experienced). However, there are other ways to limit Telecom expansion of small cells and cell towers. Please support our city in creating the most local control of these dangerous radiofrequency radiation transmitters that emit RF pollution 24/7.

And please consider supporting FIBER TO THE PREMISES, Fiber broadband is the fastest method of delivering high-speed Internet to residences and businesses and is the safest form of connection! Other cities in the US are already doing this (for instance: Chatanooga, Tennessee and Longmont, Colorado, and it is big money maker for the municipalities. See how it works at: <https://broadbandnow.com/Fiber>

Thank you.

Denis Fleps  
Santa Rosa resident

**From:** [Devra Davis](#)  
**To:** [City Council Public Comments](#); [Lendri Purcell](#)  
**Subject:** [EXTERNAL] "Agenda 13"  
**Date:** Monday, January 25, 2021 11:31:27 AM  
**Attachments:** [Copy of Dr. Davis 5G Open .pdf](#)

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Please see the attachment below.



**[Devra L. Davis, PhD, MPH](#)**

**Fellow American College of Epidemiology**

*Visiting Prof., Sichuan University; Chengdu, China*

*Visiting Prof., Ondokuz Mayıs Univ. Medical School; Samsun, Turkey*

*Associate Editor, Frontiers in Radiation and Health*

**President, [Environmental Health Trust](#)**

P.O. Box 58

Teton Village, WY 83025

T: +1 (307) 213-9839

[ddavis@ehtrust.org](mailto:ddavis@ehtrust.org)

[Twitter](#) | [Facebook](#) | [Research Gate](#) | [TEDx Jackson Hole](#) | [Publications](#)

*For Express Mail*  
7100 N Rachel Way  
Unit 6 Eagles Rest  
Teton Village WY 83025



*For U.S. Mail*  
P.O. Box 58  
Teton Village WY 83025  
[www.ehtrust.org](http://www.ehtrust.org)

Dear Councilmembers,

We're Environmental Health Trust (EHT) and are writing today to support the protest of "**Agenda #13**". We advocate of a strong Small Cell ordinance that will give the most protection for the citizens of Santa Rosa from the onslaught of the 4G and 5G buildout. Please consider the ordinances in other California cities that contain important control elements such as those in Calabasas, Los Altos, Sonoma, Mill Valley, San Ramon, Fairfax, and Petaluma. For more information, you can visit: <https://mdsafetech.org/cell-tower-and-city-ordinances/> More info can also be obtained at: Environmental Health Trust ([ehtrust.org](http://ehtrust.org)). local website is: [safetech4santarosa.org](http://safetech4santarosa.org)

I write to bring to your attention critical scientific and technical information justifying a [call for a moratorium on 5G](#), signed by more than 400 experts in the field and supported by [thousands of medical doctors](#). Independent public health and medical experts worldwide request immediate reductions in both public exposure to microwave wireless radiation and a halt to the densification of wireless infrastructure.

Environmental Health Trust (EHT) is a nonprofit think tank and policy organization, founded in 2007, dedicated to identifying and reducing environmental health hazards. EHT provides independent scientific research and advice on controllable environmental hazards to local, state, and national governments. Today, we write to advise you of the published scientific grounds establishing why and how to avoid major health and environmental impacts from the installation of 5G wireless telecommunications facilities and associated 4G wireless infrastructure in neighborhoods, parks and wilderness.

The transmissions to and from 5G proposed microwave wireless installations are radiofrequency emissions that are an environmental pollutant found to cause cancer (in both experimental animals and humans), DNA damage, neurological damage and other adverse health and environmental effects (e.g., on birds, bees, and trees) according to internationally recognized authoritative research. The prestigious institutions that have conducted these studies include the U.S. National Toxicology Program, the nation's premier testing institute, and the Ramazzini Institute, a foremost testing center of Italy.

The current guidelines put forth by the self-appointed, self-monitored, minority viewpoint of the International Commission on Non-Ionizing Radiation Protection (ICNIRP), upon which some government limits are based are not protective to humans as they are not based on documentation of safety for long term exposure. Furthermore, none of the limits were developed to ensure safety to flora and fauna. As the [Natural Resources Defense Council](#) has argued in U.S Courts, an environmental impact assessment should be performed before building out these networks.

## ICNIRP and FCC Limits Do Not Protect People, Wildlife or the Environment

The exposure guidelines developed by the FCC and ICNIRP are based on the scientifically outdated and proven erroneous assumption that thermal effects are the only harm from radiofrequency radiation. They do not protect people or wildlife from the biological effects of chronic low level non thermal exposures.

Research on harmful impacts to the developing brain of children was not factored into the standard setting decisions of these groups, nor do these groups consider adverse impacts on male and female reproduction or DNA damage that has been found to occur in published research studies.

## Numerous Countries Have Much Stronger Limits than ICNIRP and the FCC

The following is a sampling of countries with cell tower network radiofrequency radiation (RF) limits (maximum permissible limits) far stringent than ICNIRP and FCC limits: Belarus, Bulgaria, China, Russia, Belgium, Chile, Greece, India, Israel, Italy, Liechtenstein and Switzerland<sup>12345</sup>.

In 2011 the Parliamentary Assembly of the Council of Europe issued [Resolution 1815: “The Potential Dangers of Electromagnetic Fields and Their Effect on the Environment.”](#)<sup>67</sup> A call to European governments to “take all reasonable measures” to reduce exposure to electromagnetic fields “particularly the exposure to children and young people who seem to be most at risk from head tumours.” Resolution 1815 specifically states that governments “reconsider the scientific basis for the present standards on exposure to electromagnetic fields set by the International Commission on Non-Ionising Radiation Protection, which have serious limitations, and apply ALARA [as low as reasonably achievable], covering both thermal effects and the athermic or biological effects of electromagnetic emissions or radiation.”

While many European countries have stronger limits based on their framework of precaution, countries such as India, China and Russia have much lower limits than ICNIRP and are considered “science based<sup>8</sup>.” Their limits are more stringent because their scientists completed research indicating adverse health effects at nonthermal levels of exposure. According to Russian radiation experts who have studied microwaves for decades, the following health hazards are likely to be faced in the near future by children

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<sup>1</sup> [https://apps.who.int/gho/data/node.main\\_EMFLIMITSPUBLICRADIOFREQUENCY?lang=en](https://apps.who.int/gho/data/node.main_EMFLIMITSPUBLICRADIOFREQUENCY?lang=en)

<sup>2</sup> Wu T, Rappaport TS, Collins CM. [Safe for Generations to Come](#). *IEEE Microw Mag*. 2015;16(2):65-84. doi:10.1109/MMM.2014.2377587

<sup>3</sup> China [Rationale for Setting EMF Exposure Standards\\*](#) Prof. Dr. Huai Chiang as referenced by Wu 2015

<sup>4</sup> [Comparison of international policies on electromagnetic fields \(power frequency and radiofrequency fields\)](#). Rianne Stam, National Institute for Public Health and the Environment

<sup>5</sup> Mary Redmayne (2016) [International policy and advisory response regarding children’s exposure to radio frequency electromagnetic fields \(RF-EMF\)](#) *Electromagnetic Biology and Medicine*, 35:2, 176-185, DOI: [10.3109/15368378.2015.1038832](https://doi.org/10.3109/15368378.2015.1038832)

<sup>6</sup> Committee on the Environment, Agriculture and Local and Regional Affairs, Resolution 1815: “The Potential Dangers of Electromagnetic Fields and Their Effect on the Environment,” Doc. 12608, May 6, 2011, <https://pace.coe.int/en/files/13137/html>.

<sup>7</sup> Parliamentary Assembly of the Council of Europe, Resolution 1815 Final Version, May 27, 2011, <http://assembly.coe.int/nw/xml/XRef/Xref-XML2HTML-en.asp?fileid=17994&>.

<sup>8</sup> Wu T, Rappaport TS, Collins CM. [Safe for Generations to Come](#). *IEEE Microw Mag*. 2015;16(2):65-84. doi:10.1109/MMM.2014.2377587

who regularly use mobile phones: disruption of memory, decline in attention, diminished learning and cognitive abilities, increased irritability, sleep problems, increase in sensitivity to stress, and increased epileptic readiness. For these reasons, special recommendations on child safety from mobile phones have been incorporated into the current Russian mobile phone standard.”<sup>9</sup> China’s cell tower limits are based on science showing effects which include behavioral, neurological, reproductive abnormalities, and DNA damage<sup>10</sup>.

In 2012, India’s National Ministry of the Environment and Forest issued a [report](#) on the potential impacts of communication towers on wildlife with a focus on birds and bees, citing hundreds of research studies that found adverse effects. Recommendations from the Ministry include, “Introduce a law for protection of urban flora and fauna from emerging threats like ERM/EMF as conservation issues in urban areas are different from forested or wildlife habitats.”<sup>11</sup> This [research](#) was published in the journal *Biology and Medicine* concluding “that out of the 919 research papers collected on birds, bees, plants, other animals, and humans, 593 showed impacts, 180 showed no impacts, and 196 were inconclusive studies.” As a result of this research, the government tightened their allowable levels of radiofrequency radiation to 1/10 th of ICNIRP limits<sup>12</sup>.

We note that these more stringent limits of some countries still do not assure safety as harm has been found at levels even lower than 1/1000th of FCC/ ICNIRP limits<sup>13</sup>. Until adequate exposure limits are developed based on biological effects, the recommended course of action is to decrease environmental exposure as much as possible and support wired technology in order to decrease the need for additional wireless infrastructure.

ICNIRP and FCC exposure limits were not designed to protect wildlife, plants or trees. As part of this letter, we are also submitting to you the July 8, 2020 letter to EHT Director Theodora Scarato from the Environmental Protection Agency’s Director of the Radiation Protection Division and Office of Radiation and Indoor Air, Lee Ann B. Veal, that confirms that the EPA has never reviewed the impact of microwave radiation on birds, bees, or trees. Nor has any U.S. federal health agency ever set safety limits for trees, birds, or bees or the physical environment. No agency in the United States nor internationally has a funded mandate to ensure flora and fauna are safe from cell tower radiation. In other words, it is a gaping hole in federal accountability worldwide.

The [U.S. Department of the Interior sent a letter](#) in 2014<sup>14</sup> reviewing several research studies showing harm to birds and concluding that “The electromagnetic radiation standards used by the Federal

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<sup>9</sup> [Scientific basis for the Soviet and Russian radiofrequency standards for the general public](#)

<sup>10</sup> Prof. Dr. Huai Chiang. [Rationale for Setting EMF Exposure Standards](#). Accessed July 8, 2020.

<sup>11</sup> Expert Committee, Ministry of Environment and Forest, Government of India, [Report on Possible Impacts of Communication Towers on Wildlife Including Birds and Bees](#), Constituted on 30th August, 2010.

<sup>12</sup> S. Sivani and D. Sudarsanam, “[Impacts of Radio-Frequency Electromagnetic Field \(RF-EMF\) from Cell Phone Towers and Wireless Devices on Biosystem and Ecosystem – A Review.](#)” *Biology and Medicine* 4, no.4 (January 2013), [https://www.biomedonline.com/Articles/Vol4\\_4\\_2012/Vol4\\_4\\_202-216\\_BM-8.pdf](https://www.biomedonline.com/Articles/Vol4_4_2012/Vol4_4_202-216_BM-8.pdf).

<sup>13</sup> [Reported Biological Effects from Radiofrequency Radiation at Low-Intensity Exposure \(Cell Tower, Wi-Fi, Wireless Laptop and 'Smart' Meter RF Intensities\)](#) The Bioinitiative Report <https://bioinitiative.org/rf-color-charts/>

<sup>14</sup> Washington DC, Veenendaal ME. [Department of Interior Letter](#). *United States Department of the Interior OFFICE OF THE SECRETARY*.

Communications Commission (FCC) continue to be based on thermal heating, a criterion now nearly 30 years out of date and inapplicable today.”

A now-retired U.S. Fish and Wildlife Service wildlife biologist, the former lead on telecommunications impacts, Dr. Albert Manville, has [written to the FCC](#) on impacts to birds and on [higher frequencies to be used in 5G](#). Dr. Manville authored numerous [publications](#) detailing research showing harm to birds.<sup>15,16,17</sup> “The race to implement 5G and the push by FCC to approve the related 5G license frequencies to industry are very troubling and downright dangerous.”

Scientists have not developed a safety standard that stipulates a “safe level.”

### **A Sampling of Documented Impacts to Wildlife and the Environment**

- “[A review of the ecological effects of RF-EMF](#)” reviewed 113 studies finding RF-EMF had a significant effect on birds, insects, other vertebrates, other organisms, and plants in 70% of the studies ([Cucurachi 2013](#)). Development and reproduction in birds and insects were the most strongly affected. As an example of the several studies on wildlife impacts, a study focusing on RF from antennas found increased sperm abnormalities in mice exposed to RF from GSM antennas ([Otitoloju 2010](#)).
- “[Exposure of Insects to Radio-Frequency Electromagnetic Fields from 2 to 120 GHz](#)” published in Scientific Reports is the first study to investigate how insects (including the Western honeybee) absorb the higher frequencies (2 GHz to 120 GHz) to be used in the 4G/5G rollout. The scientific simulations showed increases in absorbed power between 3% to 370% when the insects were exposed to the frequencies. Researchers concluded, “This could lead to changes in insect behaviour, physiology, and morphology over time....”
- Studies on bees have found behavioral effects ([Kumar 2011](#), [Favre 2011](#)), disrupted navigation ([Goldsworthy 2009](#), [Sainudeen 2011](#), [Kimmel et al. 2007](#)), decreasing egg laying rate ([Sharma and Kumar, 2010](#)), and reduced colony strength ([Sharma and Kumar, 2010](#), [Harst et al. 2006](#)).
- Research has also found a high level of damage to trees from cell antenna radiation. For example, a field monitoring study spanning 9 years involving over 100 trees ([Waldmann-Selsam 2016](#)) found trees sustained more damage on the side of the tree facing the antenna.
- A study on Aspen trees near Lyons, Colorado entitled “[Adverse Influence of Radio Frequency Background on Trembling Aspen Seedlings](#)” published in the *International Journal of Forestry* found adverse effects on growth rate and fall anthocyanin production, concluding that “results of this preliminary experiment indicate that the RF background may be adversely affecting leaf and shoot growth and inhibiting fall production of anthocyanins associated with leaf senescence in Trembling Aspen seedlings. These effects suggest that exposure to the RF background may be an

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<sup>15</sup> ECFS Filing Detail. <https://www.fcc.gov/ecfs/filing/1060315601199>. Accessed July 8, 2020.

<sup>16</sup> Albert M. Manville Ph.D. Former U.S. Fish and Wildlife Service Senior Biologist. [Memorandum on the Bird and Wildlife Impacts of Non-ionizing Radiation](#). Environmental Health Trust. Accessed July 8, 2020.

<sup>17</sup> Manville AM. *Collisions, Electrocutions, and Next Steps-Manville BIRD STRIKES AND ELECTROCUTIONS AT POWER LINES, COMMUNICATION TOWERS, AND WIND TURBINES: STATE OF THE ART AND STATE OF THE SCIENCE B NEXT STEPS TOWARD MITIGATION I.*; 2002.



underlying factor in the recent rapid decline of Aspen populations. Further studies are underway to test this hypothesis in a more rigorous way.”<sup>18</sup>

- An analysis of 45 peer-reviewed scientific publications (1996–2016) on changes in plants due to the non-thermal RF-EMF effects from mobile phone radiation entitled “[Weak radiofrequency radiation exposure from mobile phone radiation on plants](#)” concludes, “Our analysis demonstrates that the data from a substantial amount of the studies on RF-EMFs from mobile phones show physiological and/or morphological effects (89.9%,  $p < 0.001$ ). Additionally, our analysis of the results from these reported studies demonstrates that the maize, roselle, pea, fenugreek, duckweeds, tomato, onions and mungbean plants seem to be very sensitive to RF-EMFs. Our findings also suggest that plants seem to be more responsive to certain frequencies....”<sup>19</sup>

## **Electromagnetic Fields Alter Animal and Insect Orientation**

[The European Scientific Committee on Health, Environmental and Emerging Risks](#) states “The lack of clear evidence to inform the development of exposure guidelines to 5G technology leaves open the possibility of unintended biological consequences.”

*Science of the Total Environment* published environmental scientist Alforso Balmori’s “[Anthropogenic radiofrequency electromagnetic fields as an emerging threat to wildlife orientation](#),” which states, “Current evidence indicates that exposure at levels that are found in the environment (in urban areas and near base stations) may particularly alter the receptor organs to orient in the magnetic field of the earth. These results could have important implications for migratory birds and insects, especially in urban areas, but could also apply to birds and insects in natural and protected areas where there are powerful base station emitters of radio frequencies. Therefore, more research on the effects of electromagnetic radiation in nature is needed to investigate this emerging threat.”<sup>20</sup>

Multiple research studies have documented how animals’ magnetoreception can be disrupted by external electromagnetic fields, from [mice](#)<sup>21</sup> to [cows](#) to [dogs](#) to [birds](#).<sup>22</sup> Electromagnetic exposure is especially disruptive to migratory birds.<sup>23</sup> Electromagnetic fields have been shown to disrupt the magnetic compass

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<sup>18</sup> Katie Haggerty, “[Adverse Influence of Radio Frequency Background on Trembling Aspen Seedlings: Preliminary Observations](#),” *International Journal of Forestry Research*, vol. 2010, Article ID 836278, 7 pages, 2010. doi.org/10.1155/2010/836278.

<sup>19</sup> Malka N. Halgamuge (2017) [Review: Weak radiofrequency radiation exposure from mobile phone radiation on plants](#), *Electromagnetic Biology and Medicine*, 36:2, 213-235, DOI: 10.1080/15368378.2016.1220389.

<sup>20</sup> Alfonso Balmori, [Anthropogenic radiofrequency electromagnetic fields as an emerging threat to wildlife orientation](#), *Science of The Total Environment*, Volumes 518–519, 2015, Pages 58-60, ISSN 0048-9697, doi.org/10.1016/j.scitotenv.2015.02.077.

<sup>21</sup> Malkemper, E.P., et al. “[Magnetoreception in the wood mouse \(\*Apodemus sylvaticus\*\): influence of weak frequency-modulated radio frequency fields.](#)” *Scientific Reports*, vol. 4, no. 9917, 2015.

<sup>22</sup> Wiltshcko Roswitha, Thalau Peter, Gehring Dennis, Nießner Christine, Ritz Thorsten, Wiltshcko Wolfgang. [Magnetoreception in birds: the effect of radio-frequency fields](#). 12. *Journal of The Royal Society Interface*.

<sup>23</sup> Engels, Svenja, et al. “[Anthropogenic electromagnetic noise disrupts magnetic compass orientation in a migratory bird.](#)” *Nature* 509.7500 (2014): 353-356.

orientation used by birds to navigate.<sup>24,25</sup> Researchers have suggested this disruption of magnetoreception is due to cryptochrome photoreceptors that allow birds to use built-in receptors as a biological compass.

A [2017 report to UNESCO](#)<sup>26</sup> by botanist Mark Broomhall details the association between increasing amounts of electromagnetic radiation from cellular antennas on the Mt. Nardi tower complex and species disappearance and exodus from the Mt. Nardi area of the Nightcap National Park World Heritage Area during a 15-year period (2000–2015). He estimates “in both volume and species that from 70 to 90% of the wildlife has become rare or has disappeared from the Nightcap National Park within a radius of the Mt. Nardi tower complex. This statement can be summarised with concrete data: 3 bat species once common have become rare or gone, 11 threatened and endangered bird species are gone, 11 migratory bird species are gone, 86 bird species are demonstrating unnatural behaviours, 66 once common bird species are now rare or gone.” The Report concludes, “With these short explanations of events we can appreciate that the effects of this technology and its application on Mt. Nardi over the last fifteen years, affect not only the top of the life chain species but they are devastating the fabric of the continuity of the World Heritage, causing genetic deterioration in an insidious, massive and ever escalating scale. To truly understand what these studies reveal is to stare into the abyss.”

It is very important that in considering antenna placement, there be a full environmental assessment on migratory animal patterns (from the smallest to the largest) and not simply on birds and mammals like the pronghorn but also on impacts to amphibians and insects.

### **Wireless Radiation is a Public Health Issue**

Human health effects include impaired reproduction, increased incidence of brain cancer, DNA breaks, oxidative stress, immune dysfunction, altered brain development, sleep changes, hyperactivity, and memory and cognitive problems.<sup>27</sup> Since the WHO/IARC [classified EMF as a Group 2B Possible Carcinogen](#) in 2011, the peer-reviewed research connecting wireless exposure to cancer has significantly strengthened and several scientists have published documentation that the weight of current peer-reviewed evidence supports the conclusion that radiofrequency radiation should be regarded as a human carcinogen.<sup>28,29,30</sup>

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<sup>24</sup> Wiltschko, Roswitha, et al. "[Magnetoreception in birds: the effect of radio-frequency fields.](#)" *Journal of The Royal Society Interface* 12.103 (2015): 20141103.

<sup>25</sup> Schwarze, S., et al. "[Weak Broadband Electromagnetic Fields are More Disruptive to Magnetic Compass Orientation in a Night-Migratory Songbird \(Erithacus rubecula\) than Strong Narrow-Band Fields.](#)" *Front Behav Neurosci.* 10.55 (2016).

<sup>26</sup> Broomhall, Mark. "[Report detailing the exodus of species from the Mt. Nardi area of the Nightcap National Park World Heritage Area during a 15-year period \(2000-2015\).](#)" United Nations Scientific and Cultural Organization (2017).

<sup>27</sup> For more information on acute health symptoms, see, e.g., Martin Pall, Microwave Frequency Electromagnetic Fields (EMFs) Produce Widespread Neuropsychiatric Effects Including Depression, 75 *J. Chemical Neuroanatomy* 43-51 (Sept. 2016); [Response of residents living in the vicinity of a cellular phone base station in France](#) ; [Electromagnetic Fields: A Hazard to Your Health?](#), Healthy Children.

<sup>28</sup> Adams, Jessica A., et al. "[Effect of mobile telephones on sperm quality: a systematic review and meta-analysis.](#)" *Environment International*, 70, 2014, pp. 106-112.

<sup>29</sup> Deshmukh, P.S., et al. "[Cognitive impairment and neurogenotoxic effects in rats exposed to low-intensity microwave radiation.](#)" *International Journal of Toxicology*, vol. 34, no. 3, 2015, pp. 284-90.

<sup>30</sup> Aldad, T.S., et al. "[Fetal Radiofrequency Radiation Exposure From 800-1900 MHz-Rated Cellular Telephones Affects Neurodevelopment and Behavior in Mice.](#)" *Scientific Reports*, vol. 2, no. 312, 2012.

- The 10-year \$30 million National Institute of Environmental Health Sciences National Toxicology Program's (NTP) "[Studies of the Toxicology and Carcinogenicity of Cell Phone Radiation](#)"<sup>31,32</sup> found that RFR was associated with "clear evidence" of cancer due to the increased malignant schwannomas found in RFR-exposed male rats. The brain (glioma) cancers and tumors in the adrenal glands were also considered evidence of an association with cancer. In addition, exposed animals had significantly more [DNA damage](#), heart damage, and low birth weight.
- The Ramazzini Institute published its [findings](#)<sup>33</sup> that animals exposed to very low-level RFR developed the same types of cancers as reported by the NTP.
- Long-term [research](#) on humans who have used cell phones has found increased tumors—schwannomas and glioblastomas—the same cell type as found in the NTP and Ramazzini Institute studies. Persons who started using cell phones under age 20 had the highest risk.<sup>34</sup>
- A 2015 Jacobs University [study](#) (replicating a [2010 study](#)) found that weak cell phone signals significantly promote the growth of tumors in mice and that combining a toxic chemical exposure with RF more than doubled the tumor response.<sup>35,36</sup>
- A [study published in Electromagnetic Biology and Medicine](#), "Impact of radiofrequency radiation on DNA damage and antioxidants in peripheral blood lymphocytes of humans residing in the vicinity of mobile phone base station," compared people living close and far from cell antennas and found that people living closer to cell antennas had higher radiation levels in the homes and several significant changes in their blood predictive of cancer development."<sup>37</sup>
- A 2019 [study](#) of students in schools near cell towers found their higher RF exposure was associated with impacts on motor skills, memory, and attention ([Meo 2019](#)).<sup>38</sup> Examples of other effects linked to cell towers in research studies include [neuropsychiatric problems](#),<sup>39</sup> [elevated](#)

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<sup>31</sup> National Toxicology Program, [Cell Phone Radio Frequency Radiation](#)

<sup>32</sup> [High exposure to radio frequency radiation associated with cancer in male rats](#)

<sup>33</sup> L. Falcioni, L. Bua, E. Tibaldi, M. Lauriola, L. De Angelis, F. Gnudi, D. Mandrioli, M. Manservigi, F. Manservigi, I. Manzoli, I. Menghetti, R. Montella, S. Panzacchi, D. Sgargi, V. Stollo, A. Vornoli, F. Belpoggi, [Report of final results regarding brain and heart tumors in Sprague-Dawley rats exposed from prenatal life until natural death to mobile phone radiofrequency field representative of a 1.8 GHz GSM base station environmental emission](#), *Environmental Research*, Volume 165, 2018, Pages 496-503, ISSN 0013-9351, doi.org/10.1016/j.envres.2018.01.037.

<sup>34</sup> [https://www.pathophysiologyjournal.com/article/S0928-4680\(14\)00064-9/fulltext](https://www.pathophysiologyjournal.com/article/S0928-4680(14)00064-9/fulltext)

<sup>35</sup> Lerchl, Alexander, et al. "[Tumor promotion by exposure to radiofrequency electromagnetic fields below exposure limits for humans](#)." *Biochemical and Biophysical Research Communications*, vol. 459, no. 4, 2015, pp. 585-90.

<sup>36</sup> Tillmann, Thomas, et al. "[Indication of cocarcinogenic potential of chronic UMTS-modulated radiofrequency exposure in an ethylnitrosourea mouse model](#)." *International Journal of Radiation Biology*, vol. 86, no. 7, 2010, pp. 529-41.

<sup>37</sup> Zothansiam & Zosangzuali, Mary & Lalramdinpuii, Miriam & Jagetia, Ganesh & Siam, Zothan. (2017). [Impact of radiofrequency radiation on DNA damage and antioxidants in peripheral blood lymphocytes of humans residing in the vicinity of mobile phone base stations](#). *Electromagnetic Biology and Medicine*. 36. 1-11. 10.1080/15368378.2017.1350584.

<sup>38</sup> Meo, S. A., Almahmoud, M., Alsultan, Q., Alotaibi, N., Alnajashi, I., & Hajjar, W. M. (2019). [Mobile Phone Base Station Tower Settings Adjacent to School Buildings: Impact on Students' Cognitive Health](#). *American Journal of Men's Health*. doi.org/10.1177/1557988318816914.

<sup>39</sup> G. Abdel-Rassoul, O. Abou El-Fateh, M. Abou Salem, A. Michael, F. Farahat, M. El-Batanouny, E. Salem, [Neurobehavioral effects among inhabitants around mobile phone base stations](#), *NeuroToxicology*, Volume 28, Issue 2, 2007, Pages 434-440, ISSN 0161-813X, doi.org/10.1016/j.neuro.2006.07.012.

[diabetes](#),<sup>40</sup> [headaches](#),<sup>41</sup> [sleep problems](#),<sup>42</sup> and [genetic damage](#).<sup>43</sup> Such research continues to accumulate after the 2010 landmark [review study](#) on 56 studies that reported biological effects found at very low intensities of wireless radiation, including impacts on reproduction, permeability of the blood-brain barrier, behavior, cellular changes, and metabolic changes, and increases in cancer risk ([Lai and Levitt 2010](#)).<sup>44</sup>

- Published research has found impacts from wireless radiation exposure to [reproduction](#) and [brain development](#) in addition to a myriad of other adverse effects.<sup>45,46,47,48</sup> Although renowned institutions, such as the Cleveland Clinic, advise men to keep phones and wireless devices away from their reproductive organs, the public remains largely unaware.

As more and more wireless antenna sites are built, they will be upgraded over time with new antennas and soon 5G technology. 5G would use today's wireless frequencies while adding new, higher frequencies to transmit data at faster speeds. These higher frequency sub-millimeter waves are absorbed to a higher degree by the eyes and skin,<sup>49,20,21,22</sup> and have been shown to accelerate bacterial growth.<sup>50</sup> Currently accepted standards are not sophisticated enough to quantify the risks of cumulative exposure.<sup>51,52</sup> Any future applications of these technologies must consider the biological effect of cumulative exposures to these frequencies.

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<sup>40</sup> SA, Meo & Alsubaie, Yazeed & Almubarak, Zaid & Almutawa, Hisham & AlQasem, Yazeed & Hasanato, Rana. (2015). [Association of Exposure to Radio-Frequency Electromagnetic Field Radiation \(RF-EMFR\) Generated by Mobile Phone Base Stations with Glycated Hemoglobin \(HbA1c\) and Risk of Type 2 Diabetes Mellitus](#). International Journal of Environmental Research and Public Health. 12. 14519-14528;. 10.3390/ijerph121114519.

<sup>41</sup> Hutter, H. P., Moshammer, H., Wallner, P., & Kundi, M. (2006). [Subjective symptoms, sleeping problems, and cognitive performance in subjects living near mobile phone base stations](#). *Occupational and environmental medicine*, 63(5), 307–313. doi:10.1136/oem.2005.020784.

<sup>42</sup> R. Santini, P. Santini, J.M. Danze, P. Le Ruz, M. Seigne, [Enquête sur la santé de riverains de stations relais de téléphonie mobile: I/Incidences de la distance et du sexe](#), Pathologie Biologie, Volume 50, Issue 6, 2002, Pages 369-373, ISSN 0369-8114, doi.org/10.1016/S0369-8114(02)00311-5.

<sup>43</sup> Gursatej Gandhi, Gurpreet Kaur & Uzma Nisar (2015) [A cross-sectional case control study on genetic damage in individuals residing in the vicinity of a mobile phone base station](#), Electromagnetic Biology and Medicine, 34:4,344-354, DOI: 10.3109/15368378.2014.933349.

<sup>44</sup> B. Blake Levitt and Henry Lai, [Biological effects from exposure to electromagnetic radiation emitted by cell tower base stations and other antenna arrays](#), Environ. Rev. Downloaded from www.nrcresearchpress.com by 172.58.41.200 on 04/10/19

<sup>45</sup> Adams, Jessica A., et al. ["Effect of mobile telephones on sperm quality: a systematic review and meta-analysis."](#) *Environment International*, 70, 2014, pp. 106-112.

<sup>46</sup> Deshmukh, P.S., et al. ["Cognitive impairment and neurogenotoxic effects in rats exposed to low-intensity microwave radiation."](#) *International Journal of Toxicology*, vol. 34, no. 3, 2015, pp. 284-90.

<sup>47</sup> Aldad, T.S., et al. ["Fetal Radiofrequency Radiation Exposure From 800-1900 MHz-Rated Cellular Telephones Affects Neurodevelopment and Behavior in Mice."](#) *Scientific Reports*, vol. 2, no. 312, 2012.

<sup>48</sup> Sonmez, O.F., et al. ["Purkinje cell number decreases in the adult female rat cerebellum following exposure to 900 MHz electromagnetic field."](#) *Brain Research*, vol. 1356, 2010, pp. 95-101.

<sup>49</sup> A [lecture](#) by Paul Ben-Ishai, PhD at the Israel Institute for Advanced Studies on this finding can be found on the [2017 IIAS Conference website](#). Feldman, Yuri and Paul Ben-Ishai. ["Potential Risks to Human Health Originating from Future Sub-MM Communication Systems."](#) *Conference on Wireless and Health*, 2017.

<sup>50</sup> Cindy L. Russell, [5G Wireless Telecommunications Expansion: Public Health and Environmental Implications](#), 165 *Env'tl Res.* 484 (2018).

<sup>51</sup> A [lecture](#) by Paul Ben-Ishai, PhD at the Israel Institute for Advanced Studies on this finding can be found on the [2017 IIAS Conference website](#). Feldman, Yuri and Paul Ben-Ishai. ["Potential Risks to Human Health Originating from Future Sub-MM Communication Systems."](#) *Conference on Wireless and Health*, 2017.

<sup>52</sup> Hayut, Itai, Paul Ben Ishai, Aharon J. Agranat and Yuri Feldman. ["Circular polarization induced by the three-dimensional chiral structure of human sweat ducts."](#) *Physical Review E*, vol. 89, no. 042715, 2014.

“[5G wireless telecommunications expansion: Public health and environmental implications](#),” is a research review published in *Environmental Research*, which documents the range of adverse effects reported in the published literature, from cancer to bacteria growth changes to DNA damage, concludes that “a moratorium on the deployment of 5G is warranted” and “the addition of this added high-frequency 5G radiation to an already complex mix of lower frequencies, will contribute to a negative public health outcome both from both physical and mental health perspectives.”<sup>53</sup>

“[Adverse Health Effects of 5G Mobile Networking Technology Under Real Life Conditions](#)” published in *Toxicology Letters* concludes that 5 G mobile networking technology will affect not only the skin and eyes, but will have adverse systemic effects as well. The researchers conclude that in aggregate, for the high frequency (radiofrequency-RF) part of the spectrum, currently published reviews show that RF radiation below the FCC guidelines can result in: carcinogenicity (brain tumors/glioma, breast cancer, acoustic neuromas, leukemia, parotid gland tumors), genotoxicity (DNA damage, DNA repair inhibition, chromatin structure), mutagenicity, teratogenicity, neurodegenerative diseases (Alzheimer’s Disease, Amyotrophic Lateral Sclerosis), neurobehavioral problems, autism, reproductive problems, pregnancy outcomes, excessive reactive oxygen species/oxidative stress, inflammation, apoptosis, blood-brain barrier disruption, pineal gland/melatonin production, sleep disturbance, headache, irritability, fatigue, concentration difficulties, depression, dizziness, tinnitus, burning and flushed skin, digestive disturbance, tremor, cardiac irregularities, adverse impacts on the neural, circulatory, immune, endocrine, and skeletal systems” and “from this perspective, RF is a highly pervasive cause of disease.”

**Radiofrequency radiation exposure is increasing at a rapid pace due to the proliferation of base stations.**

A [2018 article](#) published in *The Lancet Planetary Health* points to unprecedented increasing RF exposures, and the abstract concludes, “due to the exponential increase in the use of wireless personal communication devices (eg, mobile or cordless phones and WiFi or Bluetooth-enabled devices) and the infrastructure facilitating them, levels of exposure to radiofrequency electromagnetic radiation around the 1 GHz frequency band, which is mostly used for modern wireless communications, have increased from extremely low natural levels by about 1018 times...”([Bandara and Carpenter, 2018](#)).<sup>54</sup>

Another key finding from [Zothansjama 2017](#) was that homes closer to antennas had measurably higher radiation levels—adding to the documentation that antennas increase RF levels. An [Australian study](#) also found that children in kindergartens with nearby antenna installations had nearly three-and-a-half times higher RF exposures than children with installations further away (more than 300 meters) ([Bhatt 2016](#)).<sup>55</sup>

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<sup>53</sup> <https://doi.org/10.1016/j.envres.2018.01.016>

<sup>54</sup> Priyanka Bandara, David O Carpenter, [Planetary electromagnetic pollution: it is time to assess its impact](#), *The Lancet Planetary Health*, Volume 2, Issue 12, 2018, Pages e512-e514, ISSN 2542-5196, doi.org/10.1016/S2542-5196(18)30221-3.

<sup>55</sup> Bhatt, C. R., Redmayne, M., Billah, B., Abramson, M. J., & Benke, G. (2016). [Radiofrequency-electromagnetic field exposures in kindergarten children](#). *Journal Of Exposure Science And Environmental Epidemiology*, 27, 497. Retrieved from <https://doi.org/10.1038/jes.2016.55>.

A 2018 multi-country [study](#) that measured RF in several countries found that cell phone tower radiation is the dominant contributor to RF exposure in most outdoor areas exposure in urban areas was higher and that exposure has drastically increased. As an example, the measurements the researchers [took](#) in Los Angeles, USA was 70 times higher than the US EPA estimate 40 years ago.<sup>56</sup>

### **5G and 4G Densification Will increase Radiofrequency Radiation**

A 2020 paper "[Radiation Analysis in a Gradual 5G Network Deployment Strategy.](#)" documents how engineers found significant increases in levels of radio frequency radiation that would result if a mmWave-based 5G network was fully deployed. The researchers first mapped the pre-existing LTE antennas and then laid out the real world design for the densification of cell towers and signal repeaters which would be needed in the City in order to fully build out a mmWave-based 5G network. The engineers found the fully deployed 5G mmWave network would result in significant increases in outdoor RF levels and concludes, "This suggests that 5G mobile networks can not yet be classified as safe for the public, and demands serious considerations before using mmWave communications for 5G networks, given the potential harms it could afflict on the public."

A [2018 study](#) published in Annals of Telecommunications found increased RF-EMF exposure from small cell LTE networks in two urban cities in France and the Netherlands. Researchers measured the RF-EMF from LTE (Long-Term Evolution), MC (macro cells meaning large cell towers), and SC networks (low-powered small cell base stations) and found that the small cell networks increased the radio emissions from base stations (called downlink) by a factor of 7–46 while decreasing the radio emissions from user equipment exposure (called uplink) by a factor of 5–17. So while the devices themselves could emit less radiation, the cell antennas will increase the ambient environmental levels ([Mazloum et al., 2019](#)).

### **Telecommunications Companies Warn Their Shareholders but Not Consumers or People Living Near Their Antennas**

A number of corporations already advise their shareholders that they could face serious financial risks from the health damages due to RF. For instance, Crown Castle's [2019 10-K ANNUAL REPORT](#) states that,

If radio frequency emissions from wireless handsets or equipment on our communications infrastructure are demonstrated to cause negative health effects, potential future claims could adversely affect our operations, costs or revenues.

The potential connection between radio frequency emissions and certain negative health effects, including some forms of cancer, has been the subject of substantial study by the scientific community in recent years. We cannot guarantee that claims relating to radio frequency emissions

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<sup>56</sup> Sanjay Sagar, Seid M. Adem, Benjamin Struchen, Sarah P. Loughran, Michael E. Brunjes, Lisa Arangua, Mohamed Aqiel Dalvie, Rodney J. Croft, Michael Jerrett, Joel M. Moskowitz, Tony Kuo, Martin Rösli, [Comparison of radiofrequency electromagnetic field exposure levels in different everyday microenvironments in an international context](#), Environment International, Volume 114, 2018, Pages 297-306, ISSN 0160-4120, doi.org/10.1016/j.envint.2018.02.036.

will not arise in the future or that the results of such studies will not be adverse to us. If a connection between radio frequency emissions and possible negative health effects were established, our operations, costs, or revenues may be materially and adversely affected. We currently do not maintain any significant insurance with respect to these matters.

Most wireless companies, from AT&T to Nokia to T Mobile to Verizon Wireless, have issued [similar warnings](#) to their shareholders. Why are shareholders being warned but not the people living near the equipment? These disclosures show that even corporations cannot assure safety.

### **Insurance Companies Classify 5G as High Risk**

For years, the insurance industry has ranked<sup>57</sup> the risk of non ionizing radiation as “High” and has excluded coverage for damage as the industry standard in commercial policies<sup>58</sup>. In the United States insurance companies do not cover cell phone manufacturers and wireless infrastructure providers.

In 2019, the insurance authority Swiss Re released a [white paper](#) classifying 5G as a “high” emerging risk. “To allow for a functional network coverage and increased capacity overall, more antennas will be needed, including acceptance of higher levels of electromagnetic radiation.” The report cautions that “potential claims for health impairments may come with a long latency.”

Due to these evaluations and the published scientific evidence, cell phone manufacturers cannot insure against health damages from the radiofrequency radiation emitted by their products and networks. In fact, most insurance plans do not cover electromagnetic fields (EMF) and have very clear “electromagnetic field exclusions.”

### **Wireless Companies Define Non-ionizing Radiation as a Pollution**

Both [AT&T Mobile Insurance \(pg. 4\)](#) and [Verizon Total Mobile Protection \(page 10\)](#) state that their coverage is excluded for pollutants.

“Pollutants” are defined as “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 non-ionizing radiation and waste.”

If insurance companies will not insure EMF, and if even telecommunications companies consider EMF as a “pollutant,” how can governments allow such an environmental pollutant without also warning their citizens as companies do?

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<sup>57</sup> <https://ehtrust.org/key-issues/reports-white-papers-insurance-industry/>

<sup>58</sup> <https://ehtrust.org/key-issues/electromagnetic-field-insurance-policy-exclusions/>

## **5G Will Increase RF Exposures to the Environment and 5G Antenna Beamforming Exposures Cannot Be Accurately Measured**

A 2019 European Parliament Report “[5G Deployment: State of Play in Europe, USA, and Asia](#)”<sup>59</sup> confirms increased exposure from the 5G/4G Densification, stating, “increased exposure may result not only from the use of much higher frequencies in 5G but also from the potential for the aggregation of different signals, their dynamic nature, and the complex interference effects that may result, especially in dense urban areas.” The report points out that it currently “is not possible to accurately simulate or measure 5G emissions in the real world,” stating,

[T]he 5G radio emission fields are quite different to those of previous generations because of their complex beamformed transmissions in both directions – from base station to handset and for the return. Although fields are highly focused by beams, they vary rapidly with time and movement and so are unpredictable, as the signal levels and patterns interact as a closed loop system. This has yet to be mapped reliably for real situations, outside the laboratory.

## **Worldwide Action to Halt 5G**

Over [600 cities in Italy](#) have passed resolutions to halt 5G, as have numerous cities throughout Europe, such as [Trafford, United Kingdom](#), [Lille, France](#), [Ormidia, Cyprus](#), [Balchik, Bulgaria](#). The Pancyprian Medical Association and Cyprus National Committee on the Environment and Child Health sent Parliament their position paper “[The Risks to Public Health from the Use of the 5G Network](#).” Bermuda has halted 5G pending an investigation into health and safety and we recently testified to the regulatory authority along with several other experts<sup>60</sup>.

Switzerland’s report on 5G health effects resulted in the [Parliament’s refusal](#) to loosen their radiation limits despite heavy industry lobbying efforts. The Netherlands issued a [5G report](#) that recommended measuring radiation levels and also recommended against using the 26 GHz frequency band for 5G “for as long as the potential health risks have not been investigated.”

In the United States, the [New Hampshire Commission to Study the Environmental and Health Effects of Evolving 5G Technology](#) has released its [final report](#) with 15 recommendations to reduce public exposure to radio frequency radiation, ensure setbacks so that cell antennas are at a distance from homes and schools, protect children by reducing, create wireless free areas and create federal regulations for exposure that protect wildlife and the environment.

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<sup>59</sup> BLACKMAN, C. and FORGE, S. (2019). *5G Deployment State of Play in Europe, USA and Asia*. [PDF] European Parliament's Committee on Industry, Research and Energy. Available at: [https://www.europarl.europa.eu/RegData/etudes/IDAN/2019/631060/IPOL\\_IDA\(2019\)631060\\_EN.pdf](https://www.europarl.europa.eu/RegData/etudes/IDAN/2019/631060/IPOL_IDA(2019)631060_EN.pdf) [Accessed 24 Feb. 2020].

<sup>60</sup> [5G Health Effects Testimony to Bermuda Regulatory Authority](#)



In the United States, resolutions to halt 5G have been passed by [Hawaii County](#), [Farragut Tennessee](#), [Coconut Creek Florida](#), and [Easton Connecticut](#). US cities such as [Los Altos](#), [Petaluma](#), [Mill Valley](#), and [San Diego County](#) California have adopted policies to restrict 5G small cells near homes. Oregon passed a [Bill](#) to study Wi-Fi health effects with a final report due in 2021.

The increased exposures of 5G would be involuntary. We can turn our phones off, but we cannot turn off the antennas in the neighborhood. The birds, bees, and trees have no choice.

Thank you for your consideration of this issue. We would like to set up a phone call to discuss this issue further.

Sincerely,



Devra Davis, PhD, MPH  
Fellow, American College of Epidemiology  
Visiting Prof. Hebrew Univ. Hadassah Medical Center & Ondokuz Mayis Univ. Medical School  
Associate Editor, *Frontiers in Radiation and Health*  
President, Environmental Health Trust

Theodora Scarato  
Executive Director, Environmental Health Trust

### **Research Studies on Impacts to Wildlife and Trees**

Waldmann-Selsam, C., et al. [“Radiofrequency radiation injures trees around mobile phone base stations.”](#) *Science of the Total Environment* 572 (2016): 554-69.

Breunig, Helmut. [“Tree Damage Caused By Mobile Phone Base Stations An Observation Guide.”](#) (2017).

You can also download the Tree Observation Guide at: [Competence Initiative for the Protection of Humanity, the Environment and Democracy](#)

S Sivani, D Sudarsanam, [Impacts of radio-frequency electromagnetic field \(RF-EMF\) from cell phone towers and wireless devices on biosystem and ecosystem ? A review.](#) Volume 4, Issue 4, Pages 202–216, 2012

Haggerty, Katie. [“Adverse Influence of Radio Frequency Background on Trembling Aspen Seedlings.”](#) *International Journal of Forestry Research* 2010.836278 (2010).

Halgamuge, M.N. [“Weak radiofrequency radiation exposure from mobile phone radiation on plants.”](#) *Electromagnetic Biology and Medicine*, vol. 36, no. 2, 2017, pp. 213-235.

Martin Pall. [“Electromagnetic Fields Act Similarly in Plants as in Animals: Probable Activation of Calcium Channels via Their Voltage Sensor”](#) Current Chemical Biology, Volume 10 , Issue 1 , 2016

Shikha Chandel, et al. [“Exposure to 2100 MHz electromagnetic field radiations induces reactive oxygen species generation in Allium cepa roots.”](#) Journal of Microscopy and Ultrastructure 5.4 (2017): 225-229.

Halgamuge MN, Skafidas E, Davis D. [A meta-analysis of in vitro exposures to weak radiofrequency radiation exposure from mobile phones \(1990–2015\)](#). Environ Res. 2020;184:109227. doi:10.1016/J.ENVRES.2020.109227

Halgamuge MN, Davis D. [Lessons learned from the application of machine learning to studies on plant response to radio-frequency](#). Environ Res. 2019. doi:10.1016/j.envres.2019.108634

Gustavino, B., et al. [“Exposure to 915 MHz radiation induces micronuclei in Vicia faba root tips.”](#) Mutagenesis 31.2 (2016): 187-92.

Halgamuge, Malka N., See Kye Yak and Jacob L. Eberhardt. [“Reduced growth of soybean seedlings after exposure to weak microwave radiation from GSM 900 mobile phone and base station.”](#) Bioelectromagnetics 36.2 (2015): 87-95.

[“Tree Damage from Chronic High Frequency Exposure Mobile Telecommunications, Wi-Fi, Radar, Radio Relay Systems, Terrestrial Radio, TV etc.”](#) by Dr. Volker Schorpp [Lecture](#) (about 31 MB)

Shepherd et al., [Increased aggression and reduced aversive learning in honey bees exposed to extremely low frequency electromagnetic fields](#). PLoS One. 2019 Oct 10

Balmori, Alfonso. [“Anthropogenic radiofrequency electromagnetic fields as an emerging threat to wildlife orientation.”](#) Science of The Total Environment 518–519 (2015): 58–60.

Balmori, A. [“Electrosmog and species conservation.”](#) Science of the Total Environment, vol. 496, 2014, pp. 314-6.

Cucurachi, C., et al. [“A review of the ecological effects of radiofrequency electromagnetic fields \(RF-EMF\).”](#) Environment International, vol. 51, 2013, pp. 116–40.

Kumar, Neelima R., Sonika Sangwan, and Pooja Badotra. [“Exposure to cell phone radiations produces biochemical changes in worker honey bees.”](#) Toxicol Int., 18, no. 1, 2011, pp. 70–2.

Favre, Daniel. [“Mobile phone induced honeybee worker piping.”](#) Apidologie, vol. 42, 2011, pp. 270-9.

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## **Letter from the EPA**

----- Forwarded message -----

From: **Veal, Lee**<Veal.Lee@epa.gov>

Date: Wed, Jul 8, 2020 at 11:32 AM

Subject: RE: Letter with specific Questions Related to the FDA review and to the EPA, CDC, NIOSH and FDA Jurisdiction on EMFs

To: Theodora Scarato <Theodora.Scarato@ehtrust.org>

Dear Director Scarato;

Thank you for sending us your questions and references regarding radiofrequency (RF) radiation. Up through the mid-1990s, EPA did study non-ionizing radiation. The Telecommunications Act of 1996 directs the Federal Communications Commission (FCC) to establish rules regarding RF exposure, while the U.S. Food and Drug Administration (FDA) sets standards for electronic devices that emit non-ionizing or ionizing radiation. EPA does not have a funded mandate for radiofrequency matters, nor do we have a dedicated subject matter expert in radiofrequency exposure. The EPA defers to other agencies possessing a defined role regarding RF. Although your questions are outside our current area of responsibilities, we have provided a response to each one as you requested.

1. *What is your response to these scientists' statements regarding the FDA report and the call to retract it?*

EPA Response: The EPA does not have a funded mandate for radiofrequency matters, has not conducted a review of the FDA report you cited or the scientists' statements, and therefore has no response to it.



2. *To the FDA- What consultants were hired for the FDA review and report on cell phone radiation?*

EPA Response: This is not an EPA matter. Please refer this question to the FDA.

3. *What US agency has reviewed the research on cell phone radiation and brain damage? I ask this because the FDA only has looked at selected studies on cancer. If your agency has not, please simply state you have not.*

EPA Response: EPA's last review was in the 1984 document [Biological Effects of Radiofrequency Radiation \(EPA 600/8-83-026F\)](#). The EPA does not currently have a funded mandate for radiofrequency matters.

4. *What US agency has reviewed the research on damage to memory by cell phone radiation? If so, when and send a link to the review.*

EPA Response: EPA's last review was in the 1984 document [Biological Effects of Radiofrequency Radiation \(EPA 600/8-83-026F\)](#). The EPA does not currently have a funded mandate for radiofrequency matters.

5. *What US agency has reviewed the research on damage to trees from cell phone radiation? If so, when was it issued and send a link to the review. [Note this study showing damage from long term exposure to cell antennas.](#)*

EPA Response: The EPA does not have a funded mandate for radiofrequency matters, and we are not aware of any EPA reviews that have been conducted on this topic. We do not know if any other US agencies have reviewed it.

6. *What US agency has reviewed the research on impacts to birds and bees? If so, when and send a link to the review. I will note the latest research showing [possible impacts to bees](#) from higher frequencies to be used in 5G.*

EPA Response: The EPA does not have a funded mandate for radiofrequency matters, and we are

not aware of any EPA reviews that have been conducted on this topic. We do not know if any other US agencies have reviewed it.

**From:** [Erin Axelrod](#)  
**To:** [City Council Public Comments](#)  
**Subject:** [EXTERNAL] Agenda 13  
**Date:** Sunday, January 24, 2021 9:05:04 PM

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Dear Councilmembers,

I understand you may soon be voting on the adoption of a Small Cell Policy to control the placement of Wireless Transmission Facilities in Santa Rosa. I ask that you keep the following requirements in mind that characterize the best policies. For the most comprehensive list, please go to:

<https://midsafetech.org/cell-tower-and-city-ordinances/>

- a) 1500 to 500 foot Setbacks.
- b) Maintain requirements for least intrusive methods.
- c) Specify Location (prohibited, disfavored, or favored).
- d) Require proof of significant gap in coverage, that has to be proven in a specific way
- e) Require notification of property owners within 500 feet (or more) of a proposed installation, notification must be done with certified letter sent by the city of Santa Rosa- not by the Telecom industry.
- f) Require insurance coverage (in order to protect the city from liability) without a pollution exclusion.
- g) Require regular radiofrequency testing and monitoring by independent experts.
- h) Include Aesthetic requirements.
- i) Allow no multi-year agreements beyond 5 years – (Tech is progressing quickly and regulations may change at the federal level, so flexibility is needed.)

It is alarming that citizens cannot deny the placement of small cells in our community on the basis of health concerns (or health affects that many have already experienced). However, there are other ways to limit Telecom expansion of small cells and cell towers. Please support our city in creating the most local control of these dangerous radiofrequency radiation transmitters that emit RF pollution 24/7.

And please consider supporting FIBER TO THE PREMISES, Fiber broadband is the fastest method of delivering high-speed Internet to residences and businesses and is the safest form of connection! Other cities in the US are already doing this (for instance: Chatanooga, Tennessee and Longmont, Colorado, and it is big money maker for the municipalities. See how it works at: <https://broadbandnow.com/Fiber>

Erin Axelrod  
Partner/Worker-Owner, [LIFT Economy](#)  
[erin@lifteconomy.com](mailto:erin@lifteconomy.com)  
(707) 931-1293



I acknowledge that my home office sits within the 'Huichin' land today that is the unceded traditional ancestral homelands of the Huichin, an Ohlone people.

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**From:** [Hannah Rashyde](#)  
**To:** [City Council Public Comments](#)  
**Subject:** [EXTERNAL] Agenda 13 -On behalf of Michael Green - CEO, Center for Environmental Health  
**Date:** Monday, January 25, 2021 4:43:58 PM

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REF. Agenda 13 - On behalf of Michael Green – Founder and CEO, Center for Environmental Health

Dear Councilmembers,

I am an advocate of a strong Small Cell ordinance that will give the most protection for the citizens of Santa Rosa from the onslaught of the 4G and 5G buildout. Please consider the ordinances in other California cities that contain important control elements such as those in Calabasas, Los Altos, Sonoma, Mill Valley, San Ramon, Fairfax, and Petaluma. I understand you may soon be voting on the adoption of a Small Cell Policy to control the placement of Wireless Transmission Facilities in Santa Rosa. I ask that you keep the following requirements in mind that characterize the best policies. For the most comprehensive list, I highly recommend you visit <https://mdsafetech.org/cell-tower-and-city-ordinances/>.

- Additional information can also be obtained via [Environmental Health Trust](#) and on your local [Safetech4santarosa website](#).

Thank you for your consideration and taking action in this important matter.

Best Regards,

**Michael Green**

Michael Green | Founder & Chief Executive Officer

[2201 Broadway, Suite 508 Oakland, CA 94612](#) T: 510.594.9864



**From:** [Kathryn Kary](#)  
**To:** [City Council Public Comments](#)  
**Subject:** [EXTERNAL] Police Staffing Study Session  
**Date:** Monday, January 25, 2021 4:20:08 PM

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PLEASE FULLY SUPPORT THE SANTA ROSA POLICE DEPARTMENT!!!

We NEED them and APPRECIATE ALL that they do!

Do NOT listen to the minority who want to defund. It's a very small bunch of loud people who are getting their way. It is not how the majority feels about SRPD!

Thank you,  
Kathryn

**From:** [Kim Hahn](#)  
**To:** [City Council Public Comments](#)  
**Subject:** [EXTERNAL] Small Cell Ordinance  
**Date:** Sunday, January 24, 2021 10:43:57 AM

---

Dear Councilmembers,

I am writing to you because I am very concerned about the potential of a buildout of 4G and 5G small cells in Santa Rosa. I believe the ONLY tool available at this time to ensure the safety of the citizens of Santa Rosa in the wake of increased radio frequency radiation is a strong ordinance that spells out clearly the essential limitation of these installations that will protect the residents of our lovely city. This would include setbacks from areas where residents, especially our children, live and sleep and study. It would require insurance to protect any residents who may become ill, regular testing by a third party, and legal support to protect the city in the event of a dispute with a telecom company that does not adhere to the ordinance restrictions.

Please study the ordinances in other California cities that contain important control elements such as those in Calabassas, Los Altos, Sonoma, Mill Valley, San Ramon, Fairfax, and Petaluma.

For more information, you can visit: <https://mdsafetech.org/cell-tower-and-city-ordinances/> More info can also be obtained at: Environmental Health Trust ([ehtrust.org](http://ehtrust.org)).

Thank you!

Kim Hahn

Resident of San Rafael who has relatives living in Santa Rosa

Sent from my hard-wired computer (with Ethernet cable and DSL modem), and airport card disabled.

**From:** [leisler@sonic.net](mailto:leisler@sonic.net)  
**To:** [City Council Public Comments](#)  
**Subject:** [EXTERNAL] Agenda #13  
**Date:** Saturday, January 23, 2021 3:08:52 PM

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SUbject: Agenda 13; Laurie Eisler, Cotati CA


Dear Councilmembers, I understand you may soon be voting on the adoption of a Small Cell Policy to control the placement of Wireless Transmission Facilities in Santa Rosa. I ask that you keep the following requirements in mind that characterize the best policies. For the most comprehensive list, please go to:

<https://mdsafetech.org/cell-tower-and-city-ordinances/>

- a) 1500 to 500 foot Setbacks.
- b) Maintain requirements for least intrusive methods.
- c) Specify Location (prohibited, disfavored, or favored).
- d) Require proof of significant gap in coverage, that has to be proven in a specific way
- e) Require notification of property owners within 500 feet (or more) of a proposed installation, notification must be done with certified letter sent by the city of Santa Rosa- not by the Telecom industry.
- f) Require insurance coverage (in order to protect the city from liability) without a pollution exclusion.
- g) Require regular radiofrequency testing and monitoring by independent experts.
- h) Include Aesthetic requirements.
- i) Allow no multi-year agreements beyond 5 years – (Tech is progressing quickly and regulations may change at the federal level, so flexibility is needed.)

In conclusion, my opinion is that 5G is extremely unsafe and must be controlled. I personally have a heart condition with arrhythmias already, and don't wish to endanger my health with this PROVEN unsafe tehnology. A recent lawsuit has 11,000 (!) pages of evidence proving this. Please take this very seriously, for the protection of yuor citizens and ALSO wildlife & ecosystem.

THank you,  
Laurie Eisler

  
Cotati 94931



**From:** [lendri\\_purcell](#)  
**To:** [City Council Public Comments](#); [Rogers, Chris](#); [Rogers, Natalie](#); [Nichole Warwick](#)  
**Subject:** [EXTERNAL] Item 13 Comment anticipated 4&5G Antenna Ordinance & wired fiber optic to the premises  
**Date:** Monday, January 25, 2021 2:08:05 PM

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Dear Mayor Rogers, Vice Mayor Rogers and members of the City Council,

My name is Lendri Purcell and I am a local resident, a national environmental health funder and the president of FACTS (Families Advocating for Chemical and Toxics Safety). I was made aware of the hazards of wireless radiation 5 years ago through a scientist at Environmental Working Group. You would be amazed how much credible (non-industry funded science exists that shows significant harm to living things- children, pollinators and even trees from non-thermal RF radiation. Sadly, there is currently a void in regulatory systems to tackle this rapid proliferation of RF exposures in modern life since, at this time, regulatory agencies primarily look at chemicals, not low level radiation which has serious cumulative health effects. Also, the telecom industry is harder to regulate than big tobacco has been (see Harvard Ethics Review "Captured Agency: How the Federal Communications Commission Is Dominated by the Industries It Presumably Regulates)." Luckily, at this point, until the policy kinks and industry pressure hindering safety efforts takes off in a major way, citizens can do simple things to significantly reduce our exposure such as turning off our routers at night and keeping cell phones away from our bodies. If you allow the proliferation of 4 and 5G towers throughout Santa Rosa, we will be unable to reduce our exposures and these constant, low-level exposures have been shown to damage the skin. We now know from a 25M NTP Federal study that 2G causes certain cancers, and we have NO data yet on 4 and 5G so rolling it out may be legal, but is certainly unethical. Just like Petaluma and so many cities around the country are waking up to the fact that citizens don't want or need this roll out, I implore you to consider a strict ordinance regarding "small cell" antennas aka wireless telecommunications facilities. I urge the new members of the Council to listen to the last study session on the issue where several national experts left recorded testimony. July 21, 2020 item 3.2

You are responsible for protecting the people who live and work in Santa Rosa, not for satisfying demands from the telecom industry who want to make money on 4 and 5G so people can livestream cable (this requires towers everywhere). Local governments across the nation are being lobbied by the telecom industry who assure us that wireless radio is safe, yet there is a bevy of non-industry funded research showing the contrary -(See Environmental Health Trust, Physicians for Safe Technology, Americans for Responsible Technology, etc.). My fund is currently funding a scientist at Environmental Working Group who is working on EMF science who would be happy to speak with you if you have questions about health impacts. Santa Rosa residents and workers do not deserve to be guinea pigs. Please consider adding the key components below to your Santa Rosa ordinance. Also, please invest staff time in researching the option of laying fiber optic cable to homes in Santa Rosa. This was Obama's plan for much of the nation. It is faster, saves a ton of energy and is incredibly lucrative for cities. Thank you for your time and careful consideration of this important matter that will impact our children and all residents.

Sincerely, Lendri Purcell

President, FACTS

Vice President, Jonas Philanthropies

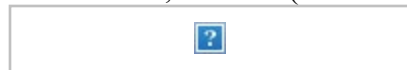
- 
- 
- 1) Require proof of significant gap in coverage, that has to be proven in a specific way. This is part of the Telecommunications Act of 1996
  - 2) Require 1500 to 500 foot Setbacks (greater where children & pregnant women are exposed)
  - 3) In addition to setbacks, maintain requirements for least intrusive methods.
  - 4) Specify Location (prohibited, disfavored, or favored).
  - 5) Require notification of property owners *and residents* within 500 feet (or more) of a proposed installation, notification must be done with a certified letter sent by the city of Santa Rosa- not by the Telecom industry.
  - 6) Require regular *unannounced* radiofrequency testing and monitoring by independent experts with permit revocation if there are multiple violations.
  - 7) Include Aesthetic requirements preserve the charm of our City as a destination (the CA Supreme Court upheld this as a reason for denial of antenna permitting.)
  - 8) Prohibit multi-year agreements beyond 5 years – (Tech is progressing quickly and regulations may change at the federal level, so flexibility is needed.)
  - 9) Require insurance coverage (in order to protect the city from liability) *without a pollution exclusion.*

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**Lendri Purcell (pronouns: she/her)**

Vice President, Jonas Philanthropies

Co-Founder, FACTS (Families Advocating for Chemical and Toxics Safety)



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

[lendrip@gmail.com](mailto:lendrip@gmail.com)

Democracy isn't a spectator sport. USE IT OR LOSE IT.

"And the people stayed home. And read books, and listened, and rested, and exercised, and made art, and played games, and learned new ways of being, and were still. And listened more deeply. Some meditated, some prayed, some danced. Some met their shadows. And the people began to think differently. And the people healed. And, in the absence of people living in ignorant, dangerous, mindless, and heartless ways, the earth began to heal. And when the danger passed, and the people joined together again, they grieved their losses, and made new choices, and dreamed new images, and created new ways to live and heal the

earth fully, as they had been healed." by Kitty O'Meara

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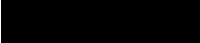
**From:** [Lisa Longnecker](#)  
**To:** [City Council Public Comments](#)  
**Subject:** [EXTERNAL] Agenda 13  
**Date:** Sunday, January 24, 2021 5:21:44 PM

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Dear Councilmembers, I am an advocate of a strong Small Cell ordinance that will give the most protection for the citizens of Santa Rosa from the onslaught of the 4G and 5G buildout. Please consider the ordinances in other California cities that contain important control elements such as those in Calabassas, Los Altos, Sonoma, Mill Valley, San Ramon, Fairfax, and Petaluma. For more information, you can visit: <https://mdsafetech.org/cell-tower-and-city-ordinances/> More info can also be obtained at: Environmental Health Trust ([ehtrust.org](http://ehtrust.org)). Our local website is: [safetech4santarosa.org](http://safetech4santarosa.org)

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Lisa Longnecker



**From:** [Melanie Moran](#)  
**To:** [City Council Public Comments](#)  
**Subject:** [EXTERNAL] Agenda 13  
**Date:** Monday, January 25, 2021 9:26:39 AM

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Dear Councilmembers, I am an advocate of a strong Small Cell ordinance that will give the most protection for the citizens of Santa Rosa from the onslaught of the 4G and 5G buildout. Please consider the ordinances in other California cities that contain important control elements such as those in Los Altos, Sonoma, Mill Valley, San Ramon, Fairfax, and Petaluma. For more information, you can visit: <https://mdsafetech.org/cell-tower-and-city-ordinances/> More info can also be obtained at: Environmental Health Trust ([ehtrust.org](http://ehtrust.org)). Our local website is: [safetech4santarosa.org](http://safetech4santarosa.org)

Thank you for your consideration,  
Melanie Moran

**From:** [prowag1@gmail.com](mailto:prowag1@gmail.com)  
**To:** [City Council Public Comments](#)  
**Subject:** [EXTERNAL] Agenda 13  
**Date:** Monday, January 25, 2021 7:03:41 AM

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Dear Council members,

After my family's home on Sawgrass Place in Fountain Grove was burned to the ground I became acutely aware of how local governance powerfully affects our living environment. Council members again are facing difficult choices, however, we all must side with safety and protect everyone with a strong small cell ordinance. The 5G buildout is a real threat. Other cities are successfully grappling with this threat by reigning in this buildout. Please do the same.

Pat Tobin

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**From:** [Patricia Whittemore](#)  
**To:** [City Council Public Comments](#)  
**Subject:** [EXTERNAL] Agenda 13  
**Date:** Saturday, January 23, 2021 9:05:05 PM

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Dear Councilmembers,

I understand you may soon be voting on the adoption of a Small Cell Policy to control the placement of Wireless Transmission Facilities in Santa Rosa. I ask that you keep the following requirements in mind that characterize the best policies. For the most comprehensive list, please go to:

<https://mdsafetech.org/cell-tower-and-city-ordinances/>

- a) 1500 to 500 foot Setbacks.
- b) Maintain requirements for least intrusive methods.
- c) Specify Location (prohibited, disfavored, or favored).
- d) Require proof of significant gap in coverage, that has to be proven in a specific way
- e) Require notification of property owners within 500 feet (or more) of a proposed installation, notification must be done with certified letter sent by the city of Santa Rosa- not by the Telecom industry.
- f) Require insurance coverage (in order to protect the city from liability) without a pollution exclusion.
- g) Require regular radiofrequency testing and monitoring by independent experts.
- h) Include Aesthetic requirements.
- i) Allow no multi-year agreements beyond 5 years – (Tech is progressing quickly and regulations may change at the federal level, so flexibility is needed.)

Patricia K. Whittemore

**From:** [Raven Fleps](#)  
**To:** [City Council Public Comments](#)  
**Subject:** [EXTERNAL] Agenda 13  
**Date:** Sunday, January 24, 2021 9:48:57 PM

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Dear Councilmembers,

I am an advocate of a strong Small Cell ordinance that will give the most protection for the citizens of Santa Rosa from the onslaught of the 4G and 5G buildout. Please consider the ordinances in other California cities that contain important control elements such as those in Calabassas, Los Altos, Sonoma, Mill Valley, San Ramon, Fairfax, and Petaluma. For more information, you can visit: <https://mdsafetech.org/cell-tower-and-city-ordinances/> which contains key elements for a strong ordinance. I feel it is especially important to keep Small Cells and Cell Towers away from homes and schools.

More info can also be obtained at: Environmental Health Trust ([ehtrust.org](http://ehtrust.org)). Our local website is: [safetech4santarosa.org](http://safetech4santarosa.org)

Thank you.

Raven Fleps  
Santa Rosa resident



**From:** [Roberta Godbe-Tipp](#)  
**To:** [City Council Public Comments](#)  
**Subject:** [EXTERNAL] Agenda 13  
**Date:** Saturday, January 23, 2021 6:18:28 PM

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Dear Councilmembers,

I understand you may soon be voting on the adoption of a Small Cell Policy to control the placement of Wireless Transmission Facilities in Santa Rosa. My husband and I, and a larger group of individuals are concerned about this issue. I ask that you keep the following requirements in mind that characterize the best policies. For the most comprehensive list, please go to:

<https://mdsafetech.org/cell-tower-and-city-ordinances/>

- a) 1500 to 500 foot Setbacks.
- b) Maintain requirements for least intrusive methods.
- c) Specify Location (prohibited, disfavored, or favored).
- d) Require proof of significant gap in coverage, that has to be proven in a specific way
- e) Require notification of property owners within 500 feet (or more) of a proposed installation, notification must be done with certified letter sent by the city of Santa Rosa- not by the Telecom industry.
- f) Require insurance coverage (in order to protect the city from liability) without a pollution exclusion.
- g) Require regular radiofrequency testing and monitoring by independent experts.
- h) Include Aesthetic requirements.
- i) Allow no multi-year agreements beyond 5 years – (Tech is progressing quickly and regulations may change at the federal level, so flexibility is needed.)

Thanking you for caring for our community  
Roberta Godbe-Tipp, Ph.D.

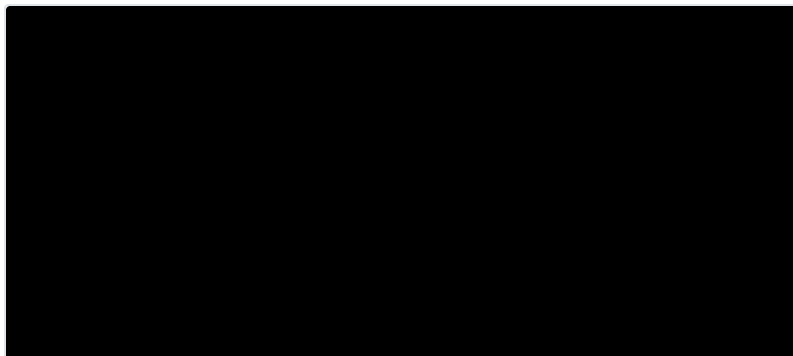
Roberta Godbe-Tipp, Ph.D.  
Office in Sebastopol and Virtually  
415-485-5607  
[www.clearmindcounseling.com](http://www.clearmindcounseling.com)

**From:** [Terrie Burns](#)  
**To:** [City Council Public Comments](#)  
**Subject:** [EXTERNAL] Agenda 13  
**Date:** Sunday, January 24, 2021 10:35:55 AM

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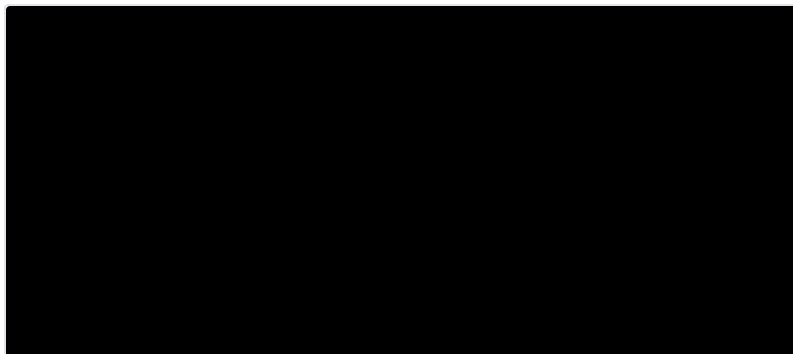
Dear Councilmembers,

I am an advocate of a strong Small Cell ordinance that will give the most protection for the citizens of Santa Rosa from the onslaught of the 4G and 5G buildout. Please consider the ordinances in other California cities that contain important control elements such as those in Calabassas, Los Altos, Sonoma, Mill Valley, San Ramon, Fairfax, and Petaluma. For more information, you can visit: [Physicians for Safe Technology | Cell Towers and City Ordinances](#) More info can also be obtained at: Environmental Health Trust ([ehtrust.org](#)). Our local website is: [safetech4santarosa.org](#)



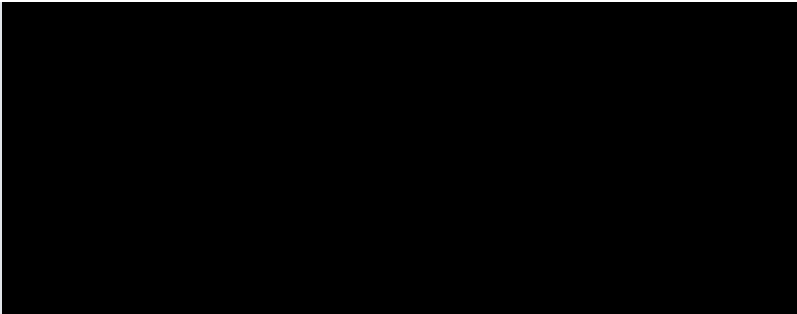
**Physicians for Safe Technology | Cell Towers and City Ordinances**

Cities fight cell tower antennas to protect public health, property values with model 5G and small cell emergen...



**Information on 5G - Environmental Health Trust**





safetech4santarosa – Raising awareness about  
the hazards of radiofrequen...

***Thank you!***

Terrie Burns

*Whatever the problem, LOVE is the only solution. Love is the answer today...and everyday.*