

**Submitted to:** U.S. Department of Health and Human Services (HHS)

**Subject:** Request for Information on Electromagnetic Fields (EMFs), Radiofrequency (RF) Radiation, and Wireless Radiation Exposure

Please accept my submission as an individual consumer and a disability patient since 1989 — and a local and national advocate for the least intrusive placement of cell towers since January 2020.

***“I don't believe that we should have to die for it, from it, and with it.”*** That's my declaration of principle **about wireless. That's my choice. I don't consent. But there's no safe place to escape.**

## 11 “Sensitive” populations?

I offer the undeniable profundity of [Dr. Paul Héroux](#) and his May 2025 review titled “[The collision between wireless and biology](#),” In an interview, he stated, [“this article will be particularly useful in court \(because\) it uses arguments that industry cannot deny.”](#) Further, hear Dr. Héroux

- announce “[sextillions of antennas](#)” of electronic and protonic currents making the human body a conductor [sextillion exists with 21 zeros]. The study's Table I (right-hand column) indicates the following: Number of 150 nm Conductors (Cells × Mito × ATPS) in human body at 280 000 000 000 000 000 to 18 000 000 000 000 000 000
- explain [here](#) that ***“(we) have currents that are continuously circulating within (our bodies) that make (our) body an antenna, a receiver to this electromagnetic radiation from the outside that interacts with currents that (we) have to generate that make (us) vulnerable to EMR”***

**How** could we ***not*** be negatively affected by man-made radiofrequencies? An MRI, for example, is designed to trigger a **biological response** via manipulation of magnetic and radio frequencies for the clinical observations of how the body responds to the varying frequencies. This example makes it even easier to understand that long-term exposures can damage DNA and cells.

Given human vulnerability to EMR and my own history of disability issues complicated by my instantaneous reactions to cell towers and other people's cell phones and routers, let's not forget **human vulnerability to EMR**.

When I talk to folks about wireless emissions, I remind them that our brains are electric, our hearts are electric, our cells are electric. I affirm that it's irrelevant whether or not anybody “feels” the effects of electromagnetic radiation. I'm clinically aware of the harms — and a burning throat tells me to get out of a wirelessly polluted environment immediately.

### **Believing is about more than seeing and feeling!**

Our brains don't “feel” pain — and humans can't “feel” their DNA strands breaking or their VGCC gates vibrating open!

- Brain tissue lacks the pain-sensitive nerve endings called nociceptors. The brain processes pain signals from other structures, including the meninges and surrounding blood vessels. We therefore cannot rely on pain as a general-purpose detector of changes occurring inside brain tissue.
- DNA strand breaks are molecular changes, not sensations. A person cannot reliably determine by how they feel whether DNA damage has occurred. Detecting such damage requires laboratory methods.
- VGCCs (voltage-gated calcium channels) are microscopic proteins in cell membranes. Their opening is a cellular event, not a sensation. Opening a channel allows calcium ions to cross a membrane; the channel itself does not produce a feeling of pain, pressure, or vibration.

**The bottom line: The fact that humans cannot see or feel a biological change does not mean that the change is harmless.** This is reason that HHS must educate the public to stay tuned with ears perked and metaphorical popcorn at the ready

- to electromagnetic radiation and other environmental exposures,
- the limits of human sensory perception, and
- the importance of objective scientific assessment.

[EMR-Syndrome.org](http://EMR-Syndrome.org) is just one of many websites that offers an abundance of resources about the real, disabling, and life-altering effects from non-consensual exposures to non-ionizing radiation. Also see

- [Europaem EMF Guideline 2016 for the prevention, diagnosis and treatment of EMF-related health problems and illnesses](#)
- [Guidelines for EMS/EHS Related Disability Diagnosis, Prognosis, Prescription and Need for Accommodation](#)
- [Electrosensitive Society EMS survey/questionnaire](#)
- [New Hampshire Commission: Study of the Environmental and Health Effects of Evolving 5G Technology \(2020\); 15 Recommendations Include Reducing Public Exposure to Wireless, Radiation Measurements, Reducing Radiation from Cell Phones and Protection of Trees and Bees](#)
- [Electromagnetic Fields of Wireless Communications: Biological and Health Effects](#) — online resource – 2023 edited by Dr. Dimitris J. Panagopoulos
- [Disconnect: A scientist's solutions for safer technology](#) — Paperback – January 17, 2024 by [Devra Davis PHD](#)
- [Overpowered: The Dangers of Electromagnetic Radiation \(EMF\) and What You Can Do about It](#) — Paperback – Illustrated, September 29, 2015 by [Martin Blank PhD](#) (1933–2018); [tribute by his son](#)
- [EMF\\*D: 5G, Wi-Fi & Cell Phones: Hidden Harms and How to Protect Yourself](#) — Paperback – October 12, 2021 by [Dr. Joseph Mercola](#)

**5n Lower the RF exposure standards — and light up 30 million miles of U.S. fiber!**

**Thousands of physicians, scientists, and researchers from around the world would not risk their reputations** to challenge man-made radiofrequencies and their biological harms. These professionals have a legally-protected interest in the ability to engage in their chosen professions in accordance with ethical and other duties imposed by law or custom.

Groups of scientists have repeatedly challenged ICNIRP's thermal limits over the years. Here are appeals, resolutions, declarations and law that make the public aware of the need for the precautionary principle for the biological effects of emissions from RF electromagnetic fields:

- [Vienna EMF Resolution, Austria \(1998\)](#)
- [Salzburg Resolution, Austria \(2000\)](#)
- [Russian National Committee on Non-Ionizing Radiation Protection Resolution Russia \(2001\)](#) (also [here](#))
- [Freiburger Appeal \(2002\)](#)
- [Catania Resolution, Italy \(2002\)](#)
- [Irish Doctors' Environmental Association Statement, Ireland \(2005\)](#)
- [Helsinki Appeal, Finland \(2005\)](#)
- [Benevento Resolution \(2006\)](#)
- [European Environment Agency Statement \(2007\)](#)
- [Venice Resolution, Italy \(2008\)](#)
- [European Parliament Resolution of April \(2009\)](#)
- [Porto Alegre Resolution, Brazil \(2009\)](#)
- [Parliamentary Assembly of the Council of Europe Resolution \(2011\)](#)
- [The Bioinitiative Report \(2012\)](#)
- [International Doctors' Freiburg Appeal, Europe \(2012\)](#) (also [here](#))
- [American Academy of Environmental Medicine \(AAEM\) Warning \(2012\)](#)
- [American Academy of Environmental Medicine \(AAEM\) Call for Immediate Caution \(2012\)](#) (smart meters)
- [Germany Federal Ministry of Health Recommendation \(2014\)](#); open in Chrome for translation to English
- [Brussels International Scientific Declaration \(2015\)](#)
- [International EMF Scientist Appeal \(2015\)](#)
- [Report of the Standing Committee on Health, Canada \(2015\)](#)
- [French Republic legislation \(2015\)](#)
- [Belgium Federal Public Service \(FPS\) Health, Food Chain Safety and Environment \(2016\)](#)
- [Scientists' 5G Appeal \(2017\)](#) + [signatories](#)
- [The EMF Call \(2018\)](#) + [signatories of scientists/physicians](#) and [non-governmental orgs](#)
- [European Parliament Briefing \(2019\)](#)
- [The American Academy of Environmental Medicine \(AAEM\) Call for Precaution \(2020\)](#)
- [The American Academy of Environmental Medicine \(AAEM\) Recommendations \(2025\)](#)

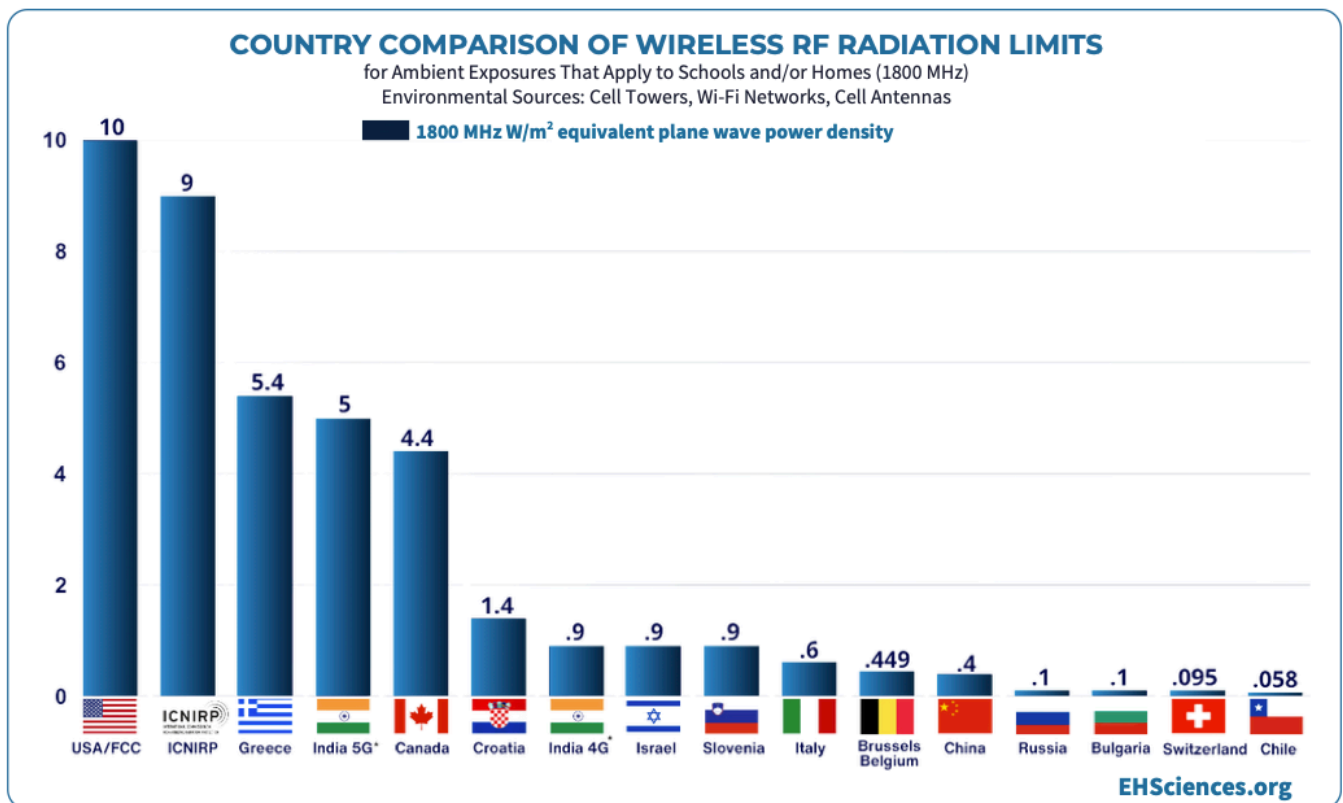
The [European Parliament Resolution of April \(2009\)](#) in the above list explicitly discusses countries adopting preventive exposure limits that include China, Switzerland, and Russia. Although the European resolution does not establish a relationship with fiber adoption, the corollaries I've been able to find are quite revealing:

- **China: ~92.9** — One of the highest rates globally (FTTH/B [source](#)). In fact, [Telegeography](#) reports that China's *"three main fixed broadband providers have all deployed extensive networks" with "widespread use of fiber for last-mile access."* ... *"As a result, there were an estimated 637 million FTTx subscriptions in China at the end of September 2024, or around 95% of the overall sector."*
- **Russia: 87.3%** — According to [HSE University's Digital Economy: 2026](#) report (Section 7.4, p. 105), FTTH/FTTB accounted for 87.3% of all fixed broadband subscriptions in

Russia at the end of 2022. Fixed broadband is dominated by fiber, with **FTTH/FTTB accounting for more than 90% of fixed lines in many regions** and more than 31 million fiber broadband subscribers by 2022. The % of fixed broadband subscriptions reported via [source](#) is ~**21–22%** of the population. That's **because fiber subscription as a % of population is lower than total Internet penetration with many households** still relying on DSL or other technologies in rural regions. Independent broadband analysts like [TechStock2](#) indicate Russia has many millions of FTTH subscribers as evidence that fiber is widely deployed domestically.

- **Switzerland: ~65.3%** — Fiber dominates fixed broadband at 65% (FTTH/B [source](#)).

In addition, there seems to be a corollary between [countries that have stricter radiation exposure limits](#) and those that rely more heavily on wireline fiber infrastructure rather than wireless alone. Reliable cross-national comparisons use FTTH/B “penetration” that is calculated as the percent of households or premises in a country that has access to fiber-optic broadband and are actively subscribing to it (not a % of total population). For example, fiber in China penetrates almost 95% of households with fiber access — and China’s RF limits are lower than the majority of countries. **Once again, note China, Russia, and Switzerland as examples BELOW.**



In [strong opposition](#) to the FCC’s overreach in [HR 2289](#) (American Broadband Deployment Act of 2025) to take away local zoning authority and control for placement of cell towers that the Telecommunications Act of 1996 preserves. **member jurisdictions covering >80% of the U.S. population** supported an April 16, 2026 [letter](#) to Speaker of the House, Mike Johnson, et al. Represented in the letter were the following:

- The United States Conference of Mayors,
- National League of Cities,
- National Association of Counties, and
- National Association of Telecommunications Officers and Advisors

The letter addresses *“the local permitting process is an essential tool for avoiding unnecessary repairs and cost overruns”* — but nowhere does the letter emphasize the need for fiber for BEAD-funded projects. **While it’s important not to get off-topic here, I want to simply point out that increasing the deployment of fiber, for which we already paid, would alleviate the biological harms of wireless.** This [3 3/4-min. video](#) effectively and succinctly illustrates and explains the Digital Divide brought about by the FCC’s deformed accounting rules allowing cross-subsidies from wired/wireline to wireless. We paid for fiber — and instead, we got 5G that can’t even financially sustain itself if it has to pay its own wireless way! And if we had the 30 million U.S. miles of fiber for which we already paid, fiber to and through the premises (FTTP) and to schools, in particular, would alleviate cell towers installed in front of our homes, children’s bedrooms and our schools.

**Here’s why the regulatory framework needs to change.** Using FCC’s last-reported [2006/2007 Statistics of Communications Common Carriers \(SOCC\)](#) data and converting kilometers to miles, national totals derived directly from FCC data show that a majority of fiber deployed in the United States is dark. State-by-state analysis confirms that **in many states, 70 percent or more of deployed fiber remains unlit.** This is a systemic national condition, not a regional anomaly. [A detailed state-by-state table derived from FCC data is included at the end of this document from my submission regarding FCC Proceeding: 25-276.](#)

**FCC policies have systematically rewarded short-term financial performance** while obscuring the long-term public value of fiber. **Dark fiber** is seemingly *not accidental*. It **reflects a rational response to regulatory and accounting incentives that prioritize fast-return services while allowing long-horizon infrastructure to remain unlit, unactivated, and unused.** Fiber was not abandoned because it lacked value; it was left dark because activating it did not maximize short-term returns **under the prevailing regulatory framework.** **That short-term focus needs to change in order to protect long-term health crises that no government and no citizen can afford.**

Further, wireless risks the distortion of congressional broadband goals because it locks communities into infrastructure that requires continual densification to keep pace when, in fact, broadband policy ***must*** look to the future. **That future must consider the non-consensual and cumulative jeopardy to all humans, all brains, all babies, all birds, all bees, all trees . . .**

## 5p, 13a, 16 Independent HHS investigation of RF waveforms and Brillouin Precursors

I request that HHS independently investigate the scientific questions concerning Brillouin precursors, their potential biological effects, and their relevance to contemporary wireless transmission systems, including phased-array transmissions.

In [Microwave News, March/April 2002](#), “*Introducing Brillouin Precursors: Microwave Radiation Runs Deep*” (pp. 1 and 10), Dr. Richard Albanese's work concerning Brillouin precursors and potential biological effects was discussed. Albanese, associated with Brooks Air Force Base, had raised questions about potential exposure associated with the [PAVE \(Phased Array Warning System\) PAWS](#) radar.

The article described Brillouin precursors as pulses associated with sufficiently rapid phase changes and discussed their potentially different propagation characteristics from conventional RF pulses. It also described four proposed mechanisms of biological interaction:

- changes in the conformation of molecules
- changes in the rates of chemical reactions
- effects on cell membranes, including possible changes in membrane electrostatic potential
- thermal damage

I request that HHS evaluate the underlying scientific literature and determine:

- the physical conditions under which Brillouin precursors may be generated
- their propagation characteristics and the circumstances under which they may transmit energy through biological tissue
- the applicability of these mechanisms to contemporary wireless transmission systems and phased-array waveforms
- whether existing RF exposure measurements and compliance-testing methods adequately characterize relevant waveform characteristics and exposure conditions
- what additional laboratory research, waveform characterization, measurement protocols, and exposure-testing procedures may be warranted.

The assessment should distinguish established findings from proposed mechanisms, unresolved questions, and research gaps. Its purpose should be to determine what the scientific evidence demonstrates, what remains uncertain, and what further investigation is necessary to characterize potential exposure and biological effects adequately.

**RF exposure compliance should not automatically be treated as conclusive proof that every potentially relevant waveform characteristic or biological mechanism has been adequately evaluated.** An assessment based on specified frequencies, power densities, or other exposure quantities should be examined to determine whether it adequately characterizes the signals and exposure conditions relevant to the scientific questions under investigation.

I therefore request an independent HHS scientific assessment of these issues, together with recommendations for research and any additional protective measures supported by the

evidence. This inquiry should proceed independently of the separate question of what information local jurisdictions should require in wireless facility applications.

## 6 Today's persistent "adverse health effects" were predicted decades ago

Today's health crises were neither "potential" or unpredictable 50 years ago. The Naval Medical Institute **predicted** a chronic disease epidemic **in 1971** in its report titled "[Bibliography of Reported Biological Phenomena \('Effects'\) and Clinical Manifestations Attributed to Microwave and Radio-Frequency Radiation](#)." A current report titled "[Safety of Wireless Technologies: The Scientific View](#)"; (2025) affirms that for decades, the report was ignored by U.S. regulators, including the FCC, EPA and FDA. By 2015, **undeniable incidences of 23 chronic diseases** (seen in charts on [pages 12–13](#)) may have added as much as **\$2 trillion in annual health care costs** to the U.S. economy.

Look where we're headed if we don't stop the insanity of wireless densification. In its "[2024 Annual Survey Highlights](#)," CTIA reports that as of 2023 there were 432,469 cell sites and 558,000,000 wireless connections in the United States. IoT Analytics "[State of IoT 2024](#)" gives insight to the expected global number of connected IoT devices that will grow to **more than 40 billion by 2030. Compare these estimates to approximately 24,800 cell towers** in the United States in 1996. According to the ([Cellular Telecommunications and Internet Association](#)) "[CTIA 2021 Annual Survey Highlights](#)" published by the end of 2020, that number skyrocketed to more than 417,000 cell sites.

## 9 Technical and exposure-related information should be disclosed to all members of Congress

Staffers tell advocates for safe technology and their lobbyists that they don't hear the stories of those constructively evicted from their homes by cell towers and have no idea that the FCC's RF limits are unsafe, thermal-only, and that the FCC has been **in defiance** of the 10/5/2021 [formal mandate](#) in *Environmental Health Trust, et al. v FCC, No. 20-1025 (D.C. Cir. 2021)* and five petitions since the ruling: [11/30/2021 EHT](#), [6/30/2022 EWG](#), [4/4/2023 CHD](#), [8/6/2025 EHT again](#), [11/25/2025 CHD again](#)). Five years in-the-making, the 5/18/2026 petition for writ of mandamus in *Children's Health Defense et al. v. FCC, No. 26-1121 (D.C. Cir. 2026)* compelled the D.C. Circuit Court to issue an 8/26/2026 [order](#) (within 100 days of the filing) that the FCC respond to the Court within 30 days. [Academic empirical literature](#) (2022) describes mandamus as an extraordinary remedy, and empirical work observes that federal appellate courts outside the [Federal Circuit](#) generally issue mandamus only very infrequently — typically once or twice a year at most.

In defiance yet again, the FCC issued its 9/17/2026 [Public Notice DA 26-997 / ET Docket No. 13-84](#) seeking to refresh the record on targeted issues to ***inconceivably delay*** and discharge the FCC's obligations in response to the Court's remand. After the 9/25/2026 [Opposition of the Federal Communications Commission to Petition for Writ of Mandamus](#) to the 8/26/2026 [order](#), the petitioners filed [this response](#) in support of mandamus on the required deadline of 10/9/2026. The D.C. Circuit Court will now decide if any more briefing and/or oral arguments are needed for the Court's decision.

The details matter — and yet, the general public doesn't even have a clue or cursory overview about the FCC's RF limits the highest in the world — as seen in [this chart](#) — all the while creating [preventable and ongoing harms](#). **And neither do our elected officials.**

Getting information about the biological harms from wireless emitters to all consumers, workers, schools, healthcare providers, and local, state, and federal government officials is crucial.

## **5n** Rethinking “well-being” in an always-connected world

We need a new definition of **well-being** — one that recognizes the value of being present, getting outdoors, connecting face-to-face, and having time away from devices — especially wireless ones.

Consider the expectations that have become normalized:

- being available 24/7 for employment — every message deserving an immediate response
- [43+ texts per day](#),
- [2.3–3.5 hours. every day scrolling, posting, and watching](#) social media

**When did being constantly “connected” become synonymous with being productive, entertained, or a part of society?** People are addicted to “convenience” — and in today's world, that “convenience” = wireless. The problem is that our society is becoming an evil version of George Jetson.

We've redefined well-being around constant availability and screen engagement. Consumer education should help people question not only [how much](#) they use wireless technology, but also [why constant connectivity](#) cannot remain the norm. **True well-being should leave room for life beyond the screen — and consumer education from HHS should help the general public reclaim it.**

And this brings us full circle to our children.

**A nationwide EMF education initiative: educate children to question wireless before their parents' habits become their own**

Studying electromagnetic fields (EMF), radiofrequency (RF) exposure, and the scientific evidence about their potential biological effects should be part of a nationwide school curriculum.

Let children learn how wireless technologies work, what researchers and scientists know about their biological effects, what remains uncertain, and how to make informed and safe tech choices. Teach them the precautionary principle, critical thinking, and the importance of asking questions and wanting to investigate their own environments — including their homes and schools.

**Then — let the children teach their parents.**

### Imagine a child asking:

- *“Mommy, Daddy, why do I get time on an iPad if I eat my peas and finish my homework? Can we do something fun together outside instead?”*
- *“Daddy, you had a stroke. Why do you still keep your phone in your shirt pocket? Doesn't it make you wonder if you should be more careful? Hasn't the doctor asked you about it?”*
- *“Mommy, why is your phone always with you? Can you put it away when we're playing so I can have all of you, not just part of you?”*
- *“If my brain and body are still growing, shouldn't we be extra careful about scientists warning about wireless?”*
- *“Why do we need a wireless collar to train our dog? Can't we teach him with treats, kind words, and hand signals?”*
- *“If we can't see something or feel it hurting us, how do we know it's safe?”*
- *“Mommy, Daddy, shouldn't we learn about wireless before we assume our WiFi router and doorbell cameras are okay?”*
- *“If we can use a wire instead of wireless, why don't we have more things in our house that use cables?”*
- *“Mommy, Daddy, can I ask Santa for an RF meter for Christmas so I can see how much wireless is in our house and in my school?”*

**These questions are not a substitute for scientific evidence. They are an invitation to seek it.**

Children should learn that the absence of pain or immediately noticeable symptoms does not, by itself, establish the absence of a biological effect. They should understand that scientific questions require objective investigation, not simply reassurance — or fear.

HHS has an opportunity to make this kind of education a national priority: age-appropriate, evidence-based instruction that equips students to understand EMF exposure, evaluate scientific claims, recognize uncertainty, and make informed decisions about technology.

**Let the children ask the questions.**

**Let science help answer them.**

**Let knowledge come home.**

**Because protecting the next generation begins not with unquestioning acceptance, but with the freedom and the tools to ask *why*.**

## *10a, c, f, g* **Nationwide recognition, surveillance, and reporting of electromagnetic sensitivity**

I respectfully recommend that HHS urge states and territories to consider legislation modeled on (Massachusetts) [MA H.2158](#) — An Act recognizing EMS as a disease dangerous to the public health, requiring inclusion in [MAVEN](#), establishing the Massachusetts EMS registry and requiring biennial reporting as part of population health trends. The bill was reintroduced in the current 2025–2026 session as [H.2413](#), sponsored by Representative Tricia Farley-Bouvier — and accompanied by a study order, [H.5234](#), on March 16, 2026.

We must recognize/accept — and make mandatory — the registration/recordation, monitoring/tracking, and **reporting of the clusters of [Electromagnetic Hypersensitivity](#) (EMS) harms** as a “health” trend — or more correctly — **the lack of “health.”** The Massachusetts legislation provides a specific framework for addressing electromagnetic sensitivity (EMS) through public-health surveillance, clinical education, registry development, and population-health reporting.

HHS should encourage states to consider the following measures:

- **public-health classification:** Establish an appropriate state public-health classification and reporting framework for EMS and its reported symptoms, with transparent diagnostic criteria and ongoing scientific review
- **disease surveillance:** Incorporate appropriate EMS reporting into existing state disease-surveillance systems, modeled on Massachusetts' proposed inclusion in MAVEN, to facilitate identification and investigation of potential clusters and outbreaks
- **state EMS registries:** Establish registries designed to collect information necessary to assess the incidence and prevalence of EMS, with appropriate safeguards for privacy and confidentiality
- **clinical education:** Develop and distribute educational materials and clinical guidance for healthcare professionals and the public concerning reported symptoms, differential diagnosis, evaluation, and management
- **population-health reporting:** Require biennial reporting of available data and population-health trends, including geographic distribution, demographics, reported symptoms, healthcare access, and other relevant indicators
- **research and evaluation:** Use registry and surveillance data to identify research priorities, investigate potential environmental associations, and evaluate the effects of relevant exposures without presuming causation where it has not been established

HHS should encourage the development of consistent reporting definitions and data standards across states so that information can be compared nationally and used to identify patterns that might otherwise remain unrecognized.

The purpose of these measures is to improve recognition, documentation, clinical response, and epidemiological investigation of people reporting electromagnetic sensitivity. A systematic public health approach would make it possible to characterize the affected population more accurately, assess unmet healthcare needs, identify geographic patterns, and direct research toward unresolved questions.

I request that HHS evaluate the Massachusetts legislative model and recommend a nationwide approach to EMS surveillance and population-health reporting, with appropriate attention to scientific evidence, diagnostic criteria, patient privacy, and the need for continuing research.

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Of note is that the MA Supreme Judicial Court ruled in favor of the industry and the Verizon's Pittsfield, MA tower — citing the same [47 U.S. Code § 332\(c\)\(7\)\(b\)\(iv\)](#) on which the Children's Health Defense [704nomore.org](#) coalition and legal initiative are built. The [7/23/2026 decision](#)

has left petitioners *financially, emotionally, psychologically, and spiritually gutted, displaced, and disabled*. The Massachusetts Supreme Judicial Court interpreted federal preemption too broadly by treating the enforcement of an independent state health duty, a non-zoning authority, as an impermissible attempt to regulate wireless emissions instead of mitigating the health and safety **effects from** the wireless emissions..

The preservation of local zoning authority and the preemption of certain RF-based siting restrictions should not be conflated with the separate question of whether states retain independent public health duties to investigate documented injuries and enforce generally applicable health and nuisance laws. HHS should examine the implications of [Gilardi v. Board of Health of Pittsfield](#) for the practical ability of state and local health authorities to respond to documented health complaints associated with wireless facilities, and identify whether clarification of federal law is necessary to preserve meaningful public health protections.

## **11 Nationwide medical, legislative, and public recognition of wireless radiation**

Consider making an EMF questionnaire mandatory for medical providers to assess all patients via medical societies/organizations and state agencies and institutions. Recommendations can initially come from HHS and federal policymakers.

Unless the nationwide medical community understands the connections between RF exposure and symptom causation, it's doubtful that anything will change with patients.

**There's little evidence that the medical community is exhorting its critical role in the prevention and treatment of illness from wireless exposures.** Consider these scenarios:

- Would we as a society tolerate a hepatologist to evaluate/diagnose cirrhosis of the liver to also routinely offer an open bar to patients?
- Would we find it reasonable for an environmental doctor with a specialty in mycotoxin exposure/illness to have an office environment filled with mold or any other toxic IAQ/IEQ?
- Why is it that those (like me) seeking to avoid mammogram radiation, and instead, willing to pay out-of-pocket for safe, non-invasive, diagnostic thermography (infrared mapping of body temperature) are routinely subject to RF exposure in clinical settings (including from the thermographer's insistence on a cell phone in close proximity) as we struggle to afford prevention now to ultimately save paying for disease later?

Because the answers to the first two questions are obvious, they fuel a fire to change the outcome for the third question. Now, also reflect upon the fact that there are HAZARD signs for lead, asbestos, and high voltage — while WiFi has become a customer bonus for a restaurant while a cell tower has become a feature for a state park. Connectivity should not be predominantly promoted via a dangerous and non-wired connection (versus a safe, wired connection).

Because wireless is so predominantly relied upon for connectivity, the **dangers are unknown to the public majority and to practitioners**. Wireless proliferation assaults us from the exam room to the class room to the living room. Sad but true, [Electromagnetic Hypersensitivity](#) (EMS) **victims must self-educate** to reduce and mitigate everywhere possible — ***despite*** the lax attitudes of many practitioners — and then charge ourselves with educating healthcare providers. *Shouldn't that be the other way around?*

**What price are we willing to pay to make excuses for the use of wireless devices?**

**What price have we already paid?**

**1968 was fortuitous.**

The [Radiation Control for Health and Safety Act of 1968, Public Law 90-602](#), established a federal program to protect public health and safety from electronic product radiation. Its provisions, now codified in [21 U.S.C. §§ 360hh–360ss](#), include not only the development and administration of product performance standards but also research, exposure evaluation, and the development of techniques to minimize unnecessary exposure.

I respectfully request that HHS review

- how these statutory responsibilities have been implemented with respect to contemporary wireless technologies,
- identify outstanding research and assessment gaps, and
- recommend appropriate action within its authority.

**1971 was even more prescient.**

As explained prior, the Naval Medical Institute **predicted** a chronic disease epidemic in its 1971 report titled "[Bibliography of Reported Biological Phenomena \('Effects'\) and Clinical Manifestations Attributed to Microwave and Radio-Frequency Radiation.](#)"

**And yet, here's where we are:**

- a third of the U.S. population is symptomatic of Electromagnetic Sensitivity (EMS) ([2019 study](#))
- two-thirds of those suffering with Environmental Sensitivities (ES) are unemployed and forced out of workplaces ([2017 study](#))
- the former living on the margins ([2017 study](#)) or with unmet healthcare needs ([2015 study](#))

**We are out of time** waiting for clarion calls for prevention and precaution to be heard and for which appropriate, effective action should already have been taken. The numbers of victims from wireless exposure are already staggering — and growing. **Any doubts about the need for a precautionary principle should long have been squashed.** Here's an example why.

[Health impact of 5G: Current state of knowledge of 5G related carcinogenic and reproductive/developmental hazards as they emerge from epidemiological studies and in vivo experimental studies.](#) The 198-page review found [here](#) shows:

**1) 5G lower frequencies (700 and 3 600 MHz):**

- a) limited evidence of carcinogenicity in epidemiological studies;
- b) sufficient evidence of carcinogenicity in experimental bioassays;
- c) sufficient evidence of reproductive/developmental adverse effects in humans;
- d) sufficient evidence of reproductive/developmental adverse effects in experimental animals;

**2) 5G higher frequencies (24.25-27.5 GHz):**

the systematic review found **no adequate studies** either in humans or in experimental animals.

## 17 **Transfer responsibility for setting RF standards from FCC to NIST**

Consider requesting that NIST

- review the existing wealth of credible published papers on the health effects of RF emissions on humans, especially children
- report the biological impact on humans at different frequencies to the general public via coordination with HHS
- review and update the biological standards for smart phones, small cells, and household IoT devices, Wi-Fi, and Bluetooth devices — and review and update these standards every two years thereafter
- review the existing wealth of credible published papers on the biological effects of man-made EMF on **non-human species and the environment** (flora and fauna — including birds, bats, insects, pollinators, mammals, plants, trees, and aquatic organisms). There is nothing in the FCC RF radiation regulations that protects animals, insects, or plants or that a telecom company's environmental assessment has to evaluate the impact of RF radiation on non-human species. That's been clear, but the FCC has danced around it forever because the Commission doesn't want to have to determine if and/or how to set RF radiation limits that would protect non-human species and the environment. This grants an opening at getting the courts to address the matter.
  - Even though [EHT et al. v. FCC](#) 9 F.4th at 914 ordered the FCC to “*address the impacts of RF radiation on the environment*,” Montana's members of the nonprofit [Stewards of the Swan Valley](#) provide further reason in their [2/2/2026 filing](#) why **wildlife must be addressed**.
  - I also have a concrete example from an October 2026 international environmental/sanctuary certification organization whose CEO explicitly stated that telecommunications infrastructure — and therefore its associated environmental consequences — is outside its certification framework. This must change.

## 18 **Recommendation for a nationwide model wireless facility application checklist to promote public health, safety, transparency, and evidence-based, local decision-making**

In an effort to complement HHS's independent scientific evaluation of RF/EMF exposure and potential health effects, I respectfully request that HHS develop and recommend a nationwide model application checklist for local jurisdictions reviewing applications for new telecommunications towers, small-cell facilities, antenna installations, and co-locations on existing structures.

The proposed checklist would promote transparency and evidence-based decision-making by requiring verifiable documentation of demonstrated service needs, reasonable engineering alternatives, potential environmental impacts, and RF exposure compliance.

**See pages 15–19 regarding my “Recommendation for a Nationwide Model Wireless Facility Application Checklist to Promote Public Health, Safety, Transparency, and Evidence-Based Local Decision-Making — a separate, practical policy proposal that local officials can locate and consult independently”**

## **Preventing disability, devastation, constructive eviction, and death**

No matter what people's personal views are about wireless communications and the Telecommunications Act of 1996, the FCC, or telecom itself . . . we're not talking about preventing cell towers anymore when Pittsfield and many other plaintiffs nationwide show up in court multiple times in legal attempts to reclaim their pre-cell tower lives. **We're actually talking about preventing deaths.**

People should not have to experience a personal tragedy before they begin asking questions about infrastructure being placed in their communities. The Pittsfield case helps to establish why HHS must look beyond the technical question of whether an installation meets existing requirements. Decision-makers must consider the experiences of affected residents, the adequacy of the legal protections available to them, the quality of the scientific evidence, and whether the public has meaningful access to information.

## *HHS' call-to-action*

I respectfully urge HHS to consider these recommendations and take appropriate action within its authority, including identifying any statutory changes needed to support their implementation.

***"I don't believe that we should have to die for it, from it, and with it."*** Now, here's my demand **that this principle actually mean something.**

Thank you for your consideration.

Respectfully submitted,

/s/ Irene Polansky  
Montgomery County,MD

## A T T A C H M E N T

### **Recommendation for a Nationwide Model Wireless Facility Application Checklist to Promote Public Health, Safety, Transparency, and Evidence-Based Local Decision-Making** — *a separate, practical policy proposal that local officials can locate and consult independently*

#### **I. Nationwide Model Checklist and Federal Recommendations**

I respectfully request that the U.S. Department of Health and Human Services develop and recommend a comprehensive, nationwide model application checklist for local jurisdictions reviewing applications for new telecommunications towers, small-cell facilities, antenna installations, and co-locations on existing structures.

The purpose is to promote public health, safety, transparency, and evidence-based decision-making by requiring applicants to document the actual need for a proposed wireless facility, substantiate claimed service deficiencies, evaluate reasonable engineering alternatives and alternative locations, disclose potential visual and environmental impacts, and provide verifiable technical and RF exposure documentation.

I request that HHS:

- Develop and publish a nationwide model wireless facility application checklist incorporating the requirements proposed in this submission.
- Provide standardized documentation requirements and technical guidance to improve the consistency, transparency, and reviewability of wireless facility applications across local jurisdictions.
- Independently evaluate the scientific questions concerning RF exposure assessment, including the adequacy of existing measurement methods and the relevance of waveform characteristics to exposure characterization.
- Identify which proposed safeguards could be implemented through model local procedures or existing authority and which would require additional congressional authorization or legislation.
- Recommend appropriate legislative changes to Congress if existing federal law prevents local jurisdictions from requiring reasonable documentation necessary to evaluate actual service deficiencies, feasible alternatives, environmental effects, and applicable safety requirements.
- Encourage transparent, accessible records so residents and local decision-makers can meaningfully evaluate the evidence supporting a proposed installation.

The proposed checklist is intended to establish a consistent evidentiary framework for local decision-making. It should not presume that a new installation is necessary merely because an applicant proposes it, nor should anticipated future capacity be treated as equivalent to a demonstrated existing service deficiency.

#### **II. Proof of an Actual and Documented Coverage Deficiency**

Require applicants to provide verifiable evidence of an existing, material deficiency in adequate or reliable wireless service within the area the proposed facility is intended to serve.

The application should include:

- **Carrier coverage maps:** Current online coverage maps for the relevant carriers, identifying the affected area and the dates of the maps.
- **FCC coverage maps:** Applicable FCC coverage data for the same area, including the dates and methodology of the underlying data.
- **Dropped-call records:** Relevant call-performance logs demonstrating actual service failures or dropped calls. The evidence should distinguish outdoor network deficiencies from in-building reception problems, device-specific issues, and individual customer complaints. Customer complaints alone should not establish a network coverage gap.
- **Emergency-call records:** Where inadequate emergency communications are alleged, relevant records of failed or dropped emergency calls, subject to appropriate privacy protections and verification of the technical cause.
- **On-the-ground testing:** Mobile and stationary drive-test data documenting locations, dates, times, equipment, testing conditions, methodology, and results.
- **Propagation modeling:** Site-specific RF propagation modeling for the proposed facility, including assumptions, antenna characteristics, terrain, obstructions, predicted coverage, and the relationship between the proposed installation and the documented deficiency.

Applicants should distinguish a demonstrated existing coverage deficiency from anticipated future capacity, projected subscriber growth, or generalized network-improvement objectives. Future capacity should not be presented as proof of an existing service gap.

### **III. Visual Impact, Environmental Consequences, and Property Impacts**

Require meaningful documentation of the proposed facility's visual and environmental effects before a siting decision is made.

The application should include:

- Balloon tests, where appropriate, to demonstrate the proposed structure's actual height, scale, and visibility from relevant public viewpoints and nearby residences.
- Photographic simulations showing the proposed installation in its actual surroundings, including close-proximity views and representative views from affected properties and public spaces.
- Identification of potentially affected vegetation, scenic resources, historic resources, and other relevant environmental or community features.
- An assessment of potential aesthetic impacts and any claimed diminution in neighboring property values, supported by appropriate evidence rather than unsupported assumptions.

Photographic simulations should supplement, not automatically replace, an effective demonstration of the proposed structure's actual height, scale, and visibility.

### **IV. Comprehensive Evaluation of Alternative Engineering Solutions and Locations**

Require a comprehensive, professionally prepared evaluation of reasonable and technically viable alternatives before approving a proposed facility or location.

The applicant should evaluate, as applicable:

- Adjustments to existing directional antennas, antenna orientation, tilt, configuration, or other technically appropriate network parameters.
- Co-location on existing telecommunications towers or other suitable structures.
- Use of existing buildings, utility structures, or other suitable infrastructure.
- Signal boosters, distributed antenna systems, or other technically appropriate engineering solutions.
- Alternative sites and configurations that could address the documented deficiency while reducing adverse effects.

The checklist should not presume that additional small cells are the preferred solution. Each alternative should be assessed on its actual technical feasibility, effectiveness, and potential impacts on nearby residences and the surrounding environment.

For every alternative actually evaluated, require the following documentation.

#### **A. Detailed testing reports and technical findings**

Provide detailed testing reports, technical findings, and supporting data for each alternative engineering solution and alternative location evaluated.

#### **B. Testing methodology and analysis**

Identify the testing methodologies, equipment, data, performance criteria, assumptions, and analytical methods used to assess each alternative's feasibility, coverage performance, and ability to address the documented deficiency.

#### **C. Comparative evaluation and justification**

Provide a comparative analysis of the alternatives considered, including the technical basis for accepting or rejecting each option and the specific reasons the proposed facility and location are necessary.

A conclusory statement that alternatives are unsuitable should not substitute for supporting technical evidence.

#### **D. Independent technical assessment**

Require an independent, professionally prepared technical assessment synthesizing the findings and suitable for review by the Transmission Facilities Coordination Group (TFCG), the Department of Permitting Services (DPS), legal counsel, and the decision-maker in any administrative proceeding, as applicable.

#### **E. Alternative property owners and site access**

Where an applicant claims that an alternative location is unavailable because a property owner declined to lease or provide access, require appropriate supporting documentation, including signed affidavits where applicable. Such documentation should identify the

alternative site, the relevant request, and the basis for the claimed unavailability, subject to appropriate protections for confidential information.

## **V. RF Exposure Compliance Documentation**

Require applicants to provide complete, site-specific documentation demonstrating compliance with applicable FCC RF exposure requirements and other applicable siting requirements.

Documentation should include:

- Proposed antenna configurations, locations, heights, orientations, operating frequencies, and relevant transmitting characteristics.
- RF exposure analyses addressing the proposed installation and applicable exposure limits.
- The assumptions, calculations, modeling methods, and supporting technical information used to demonstrate compliance.
- Consideration of relevant existing and proposed RF sources where necessary for an adequate assessment of aggregate exposure.
- Identification of areas where access restrictions, mitigation, signage, or other controls may be necessary to maintain compliance.
- Any supporting information required for meaningful independent technical review.

HHS should independently examine the adequacy of exposure assessment and compliance documentation rather than treating existing regulatory compliance as the endpoint of scientific inquiry.

In [\*Environmental Health Trust, et al. v FCC, No. 20-1025 \(D.C. Cir. 2021\)\*](#), the D.C. Circuit remanded the FCC's decision for a reasoned explanation of its determination concerning the adequacy of existing RF exposure guidelines and related issues. The court expressly took no position on the underlying scientific debate.

I request that HHS conduct its own independent public-health and scientific review of RF exposure questions without making consultation with the FCC a prerequisite to that evaluation.

## **VI. Fall-Zone and Physical-Safety Requirements**

Require site-specific documentation demonstrating compliance with applicable fall-zone, structural-safety, and related siting requirements.

The applicant should identify the facility's potential fall zone and provide a documented safety analysis addressing potential risks or physical-safety burdens on nearby residences, buildings, public spaces, and the general public.

Where technically and legally appropriate, the checklist should evaluate a clearance margin of 10–20% beyond the calculated fall-zone distance, without intrusion into or unreasonable burden on neighboring residences, other buildings, or public areas within that distance.

The precise clearance requirement should be determined through applicable engineering standards, site-specific analysis, and lawful local requirements.

## **VII. Insurance and Continuing RF Verification**

Require applicants to submit proof of appropriate general liability insurance covering relevant risks associated with the facility's construction, operation, maintenance, and related activities.

HHS should evaluate recommending insurance requirements that do not contain a pollution exclusion that would defeat coverage for relevant environmental or pollution-related claims, where such coverage is applicable and legally available. Applicants should disclose relevant exclusions, limitations, and coverage terms.

I also request a framework for post-installation and continuing RF measurements to verify that actual operating conditions remain consistent with the approved technical analysis and applicable requirements.

The framework should consider:

- Qualified, independent RF measurements following installation and commencement of operation.
- Additional testing following material changes to antenna configurations or relevant operating parameters.
- Periodic testing where warranted by site characteristics, compliance history, or applicable requirements.
- Random, unannounced testing by an appropriately qualified, independent tester, funded by the applicant where authorized by law.
- Public availability of testing methods, results, identified exceedances, and corrective actions, subject to legitimate privacy and security protections.
- Procedures for investigating complaints, correcting noncompliance, and conducting follow-up testing.

Applicants should acknowledge applicable verification and testing obligations as a condition of approval where the jurisdiction has lawful authority to impose them.

## **VIII. Certification Under Oath or Penalty of Perjury**

Require that all material information submitted in support of an application be certified as true, accurate, and complete by an authorized representative of the applicant, under oath or an appropriate declaration subject to the penalties of perjury, as permitted by applicable law.

The certification should cover the completeness and accuracy of coverage evidence, call-performance records, testing reports, propagation models, alternative-site evaluations, RF exposure documentation, insurance disclosures, and other required materials.

The process should provide appropriate procedures for correcting errors, investigating materially false or misleading submissions, and imposing consequences where legally authorized.

[noreply@fcc.gov](mailto:noreply@fcc.gov)

Confirmation Number: 2026010188750415

Proceeding(s): 25-276

Date Submitted: 01/15/2026

***attached  
in this combined .pdf***

**Re:** Notice of Proposed Rulemaking WC Docket No. 25-276, Build America: Eliminating Barriers to Wireless Deployment

Dear Secretary Marlene Dortch,

## **The Broadband Game Is Rigged**

### **The FCC's Failure to Disclose Fiber Infrastructure Jeopardizes BEAD Compliance**

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NTIA's [BEAD Five-Year Action Plan – Digital Equity Plan Alignment Guide](#) directs states in developing comprehensive Five-Year Action Plans that address existing broadband conditions, unmet needs, deployment priorities, and accountability mechanisms. The guide specifically **recommends developing surveys and conducting asset mapping together** so that the inventory **includes current resources, programs, and strategies that promote digital inclusion** — whether publicly or privately funded — across all covered populations and levels of government. (p5)

States cannot meet these federal obligations without access to accurate, complete information regarding existing communications infrastructure. Although published since 1939, see that the **FCC's last Statistics of Communications Common Carriers (SOCC)** was [last published for 2006/2007](#) as the “[only permanent record of common carrier activity](#)” (piii) — “[includ\[ing\] a wealth of data on telecommunications costs, revenues, prices, and usage](#).” For nearly two decades, the FCC has failed to maintain, update, or disclose comprehensive fiber infrastructure data — particularly data regarding installed but unlit (“dark”) fiber seen in “**Table 2.2 Outside Plant Statistics of Reporting Incumbent Local Exchange Carriers as of December 31, 2007.**” ([p107](#))

As a result, states are being asked to certify BEAD plans based on federal datasets that omit substantial, already-deployed infrastructure. States cannot identify unmet needs or prioritize deployment when the federal agency charged with communications oversight withholds known infrastructure information. This failure directly undermines BEAD compliance and jeopardizes Congress's intent to target subsidies for infrastructure that is actually lacking.

### **FCC Statistics Confirm That Nearly Two-Thirds of U.S. Fiber Is Dark**

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Using FCC's last-reported [2006/2007 Statistics of Communications Common Carriers \(SOCC\)](#) data and converting kilometers to miles, national totals derived directly from FCC data show that a majority of fiber deployed in the United States is dark.

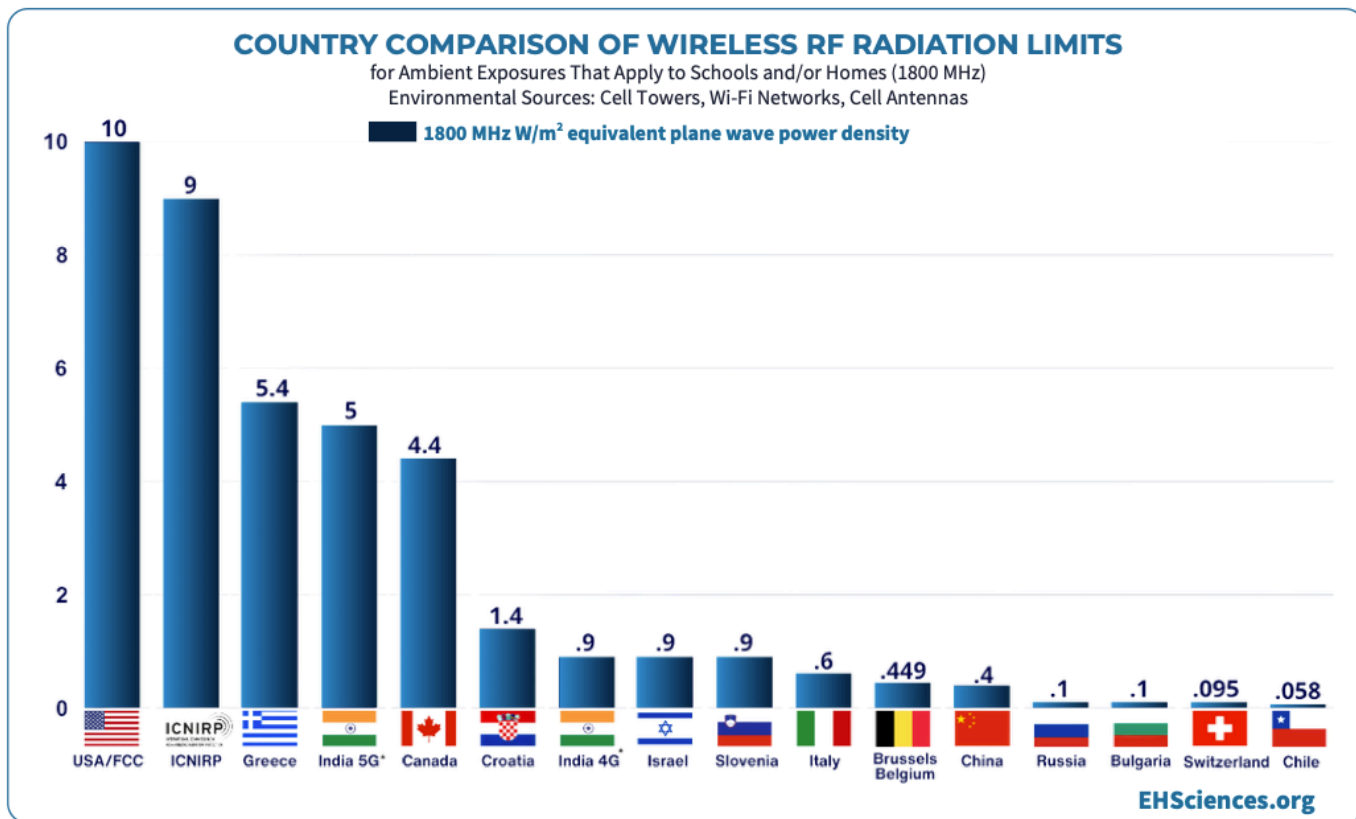
- total fiber deployed (lit + dark): 45,641,802.50 miles
- fiber equipped (lit): 15,641,227.11 miles
- dark fiber: 30,000,575.39 miles
- **percentage of dark fiber: 65.73%**

**These figures are not third-party estimates. They are derived entirely from FCC-reported data.**

State-by-state analysis confirms that **in many states, 70 percent or more of deployed fiber remains unlit**. This is a systemic national condition, not a regional anomaly. [A detailed state table derived from FCC data is included toward the end of this document.](#)

The FCC has seemingly never reconciled its massive fiber inventory with actual broadband availability — nor demanded that carriers explain why ratepayer-funded fiber has sat dark for decades. Yet its current 25-276 rulemaking pushes wireless deployment while systematically undermining local zoning authority, all as more than 30 million miles of two-decade-old fiber remain unlit, inactive, and unused.

There seems to be a corollary between [countries that have stricter radiation exposure limits](#) and those that **rely more heavily on wireline fiber infrastructure rather than wireless alone**. Reliable cross-national comparisons use FTTH/B “penetration” that is calculated as the percent of households or premises in a country that has access to fiber-optic broadband and are actively subscribing to it (not a % of total population). For example, fiber in China penetrates 95% of households with fiber access — and China’s RF limits are lower than the majority of countries.



- **China: ~92.9** — one of the highest rates globally (FTTH/B [source](#)). In fact, [Telegeography](#) reports that China’s “three main fixed broadband providers have all deployed extensive networks” with “widespread use of fiber for last-mile access.” ... “As a result, there were an estimated 637 million FTTx subscriptions in China at the end of September 2024, or around 95% of the overall sector.”
- **Switzerland: ~65.3%** — fiber dominates fixed broadband at 65% (FTTH/B [source](#))
- **Bulgaria: ~53.6%** — greater than many EU peers (FTTH/B [source](#))
- **Italy: ~48.8%** — high fiber adoption among EU nations; ~50–55% in urban areas

- **Belgium: ~43.2%** — fiber mainly concentrated in urban areas
- **Chile: ~47.9%** — a strengthened fiber “take-up” the last few years (defined as the rate at which households or premises that could subscribe to fiber actually do subscribe); 69% of all fixed broadband subscriptions in Latin America were via fiber, a much quicker growth rate than in any other region (FTTH/B [source](#); [source](#))
- **United States: 25.3%** — roughly one in four U.S. households with an active fiber broadband subscription according to that dataset (FTTH/B [source](#))

Without strong public awareness and effective marketing of fiber connectivity, many U.S. consumers remain in the dark — and the subscriber numbers reflect it. Combined, these two providers account for just 16.435 million fiber subscribers in a country of approximately [348.28 million people](#) — a stark illustration of how limited fiber adoption remains. This should not be interpreted as a lack of consumer interest in fiber broadband. Rather, it reflects a more fundamental constraint: customers cannot subscribe to fiber that is not lit, activated, or even publicly disclosed. In this context, today’s fiber subscription figures are less an indictment of consumer demand than a reflection of limited activation, transparency, and market signaling.

**Simply put, widespread fiber adoption cannot occur where infrastructure remains unactivated, undisclosed, or inaccessible.**

- **Russia: ~21–22%** of the population ([source](#)) **because fiber subscription as % of population is lower than total Internet penetration with many households still relying on DSL or other technologies in rural regions.** Independent broadband analysts like [TechStock2](#) indicate Russia has many millions of FTTH subscribers as evidence that fiber is widely deployed domestically. Fixed broadband is dominated by fiber, with **FTTH/FTTB accounting for more than 90% of fixed lines in many regions** and more than 31 million fiber broadband subscribers by 2022.

With the current administration and legislators increasingly focused on an AI race, **fiber infrastructure should be front and center.** The reason is straightforward: **the heaviest AI workloads depend on fiber—not wireless networks.**

- In a [Ciena Global Survey](#) (commissioned by Ciena and conducted in partnership with Censurwide), *“To meet surging AI demands, 43% of new data center facilities are expected to be dedicated to AI workloads. With AI model training and inference requiring unprecedented data movement, data center experts predict a massive leap in bandwidth needs. In addition, when asked about the **needed performance of fiber optic capacity for DCI, 87% of participants believe they will need 800 Gb/s or higher per wavelength.**” . . . “**...the majority (67%) of respondents expect to use Managed Optical Fiber Networks (MOFN), which utilize carrier-operated high-capacity networks for long-haul data center connectivity.**”*
- [Data Center Frontier reported on 9/15/2025](#), *“t[h]e need to rapidly deploy and upgrade high-speed networks — often with **five to eight times more fiber cabling per AI server than in traditional environments.**”*
- Fiber Broadband Association (FBA) [announced a groundbreaking report on 3/19/2025](#) titled **“Accelerating AI with Fiber: Systems and Strategies”** showcasing **“fiber networks are the backbone of AI”** and that **“AI is driving unprecedented demand for fiber, from data centers and middle-mile networks to AI-powered homes and enterprises.”**
- [RSI, Inc. reported](#) that **“fiber broadband is the key to AI innovation.”** ... **“A single strand of fiber can transmit tens of terabits per second using dense wavelength division multiplexing (DWDM). Copper and wireless options simply don't get close.”** . . . **“The global race doesn't wait. Fiber broadband is America's leverage point. Build the network, and innovation will follow.”**

## Dark Fiber by Design: Local Zoning Zapped, Fiber Left Forgotten

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Given that the FCC's [Statistics of Communications Common Carriers \(SOCC\)](#) publication has become obsolete, does the FCC consider fiber optic infrastructure as obsolete? Fiber is future-proof, long-lived capital infrastructure with a useful life measured in decades. However, fiber typically does not produce short-term returns; its return on investment often accrues over five to ten years or longer, particularly when deployed to meet regulated or universal-service obligations.

Even former FCC Chairman, Tom Wheeler, has publicly discussed policy views related to the economics and value of fiber broadband. According to [Multi-Channel News \(4/1/2021\)](#),

*"Wheeler suggested that the \$40 billion the FCC has spent in subsidies for broadband in high-cost areas over the past decade was invested in "building for yesterday's needs rather than tomorrow's realities," something he said frustrated him while he was at the agency. He said those subsidy programs, thus far, have failed. Instead, he said, a one-time \$80 billion should be spent to fiber the country."*

In [testimony before Congress \(on the LIFT Act on 3/22/2021\)](#), Wheeler said broadband subsidies should prioritize a pathway to symmetrical gigabit service for all Americans and that fiber should be preferred because wireless alone can't deliver that level of performance. This reflects a **"fiber first" policy** emphasis on long-term network value and capacity, which ties to economic returns in terms of **future utility and competitiveness**.

**Nevertheless, FCC policies have systematically rewarded short-term financial performance** while obscuring the long-term public value of fiber. Under this incentive structure, carriers have faced strong financial pressure to defer lighting and activating already-installed fiber for regulated wireline service — even though the infrastructure itself remains highly valuable.

**Dark fiber** is seemingly not accidental. It **reflects a rational response to regulatory and accounting incentives that prioritize fast-return services while allowing long-horizon infrastructure to remain unlit, unactivated, and unused**. Fiber was not abandoned because it lacked value; it was left dark because activating it did not maximize short-term returns **under the prevailing regulatory framework**.

Given the latter, however, fiber is the backhaul to every cell tower and further, **telecom knows where all of their fiber is located** — for purposes of

- **network management** (including fiber routes, cable maps, splice points, and connection points — all essential for maintaining and troubleshooting networks, planning upgrades, and managing capacity),
- **operational needs** (like maintenance, monitoring, and occasional testing), and for
- **regulatory and business purposes** (like accounting, regulatory filings, and valuation).

**The ultimate question:** *How many* schools, libraries, businesses, homes, and data centers have fiber optic wires in their front yards that were never lit — but should have been? ***How many in those 30 million miles ? Repeat: 30 million miles !!!***

[Frontier](#), in partnership with the [Fiber Broadband Association \(FBA\)](#), published an 11/20/2024 study titled **"Economic Benefits of Fiber Deployment"** that finds deploying fiber in the U.S. could generate an estimated **\$3.24 trillion in economic impact by increasing housing values, lifting average household income and creating jobs**. Here's the breakdown from this first-of-its-kind economic

study highlighting the benefits of increased investment in fiber deployment: \$1.64 trillion in increased housing values (NPV), \$1.6 trillion in increased household income (NPV), potential for at least 380,000 new jobs created nationwide. The [press release stated](#) *“Why it matters: **The U.S. currently lags behind most developed countries in fiber deployment**, with approximately 62 million broadband serviceable locations — including 56 million households — lacking fiber access.”*

This [fiber study website](#) calls out a **14–16% increase in home values**, a decrease in the education homework gap, a 96% reduction in the carbon footprint (compared to cable), improved healthcare outcomes, and an increase in the adoption of emerging technologies.

[Gary Bolton](#), [Fiber Broadband Association \(FBA\)](#) President and CEO, stated *“With over \$100 billion being committed to broadband expansion through initiatives like ARPA and BEAD, focusing on fiber deployment will really **drive economic growth, enhance community well-being and set us up for long-term success.**”*

Just recently on 12/9/2025, [Dr. Revati Prasad](#), Executive Director of the Benton Institute for Broadband & Society, [stated to the FBA](#), *“Under Secretary Lutnick, NTIA has mandated that the BEAD program be **“tech neutral,”** which, in practice, has meant that hundreds of thousands of locations that were receiving broadband service only via fixed wireless technologies are no longer eligible for the funding. NTIA also wants states to choose the **cheapest technology**, not the most durable, scalable, or appropriate one. In practice, **stacking the deck against fiber.** . . . Infrastructure matters only if people can access it, reach it, afford it, trust it, navigate it, and use it to improve their lives. . . . So let’s go back to Secretary Lutnick’s favorite phrase: “the benefit of the bargain.” But let us also be clear about **whose benefit? What bargain? And who gets to define both?**”*

## How Far Does the Telecom Industry Go to Backup False Promises about Fixed Wireless?

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An online “Stop the Cap” [article reported on 11/23/2021](#) that *“the wireless industry’s top lobbying group is promoting the idea that 5G Fixed Wireless broadband is as future-proof as fiber to the home service.”* *“**CTIA, the lobbying arm of the wireless industry, bought and paid for a report produced by Accenture that’ designed to convince lawmakers and regulators that fixed wireless internet access is just as good or even better than fiber, suggesting the technology could potentially provide up to 43% of rural homes with high speed gigabit symmetrical service similar to what many fiber to the home providers offer.**”* The report is titled [“5G Wireless Broadband – helping close the digital divide in rural America.”](#) CTIA’s docket comments are [here](#).

The “Stop the Cap” [article](#) continues as follows:

*“Yet the same **wireless industry** trying to sell that idea successfully **fought to water down standards in Biden’s infrastructure bill** that originally required would-be funding recipients to provide customers with minimum speeds of 100/100 Mbps. Now providers can qualify by offering speeds as low as 100/20 Mbps. The CTIA report does not want to talk about that, **preferring to claim providers could supply 1,000/1,000 Mbps service over traditional macro cell towers already in use today to subscribers as much as four miles away.***

*In other words, if the required cell towers fail the same kinds of Return On Investment (ROI) formulas that have always left many rural communities behind, these **5G services will never happen either without huge concessions, subsidies, and policy changes** that will further*

*strip local control over cell tower placement and oversight. That is simply more the **same failed reliance on providers to deliver service in places they never have and never will.***

According to the Accenture [report](#) (p6), **T-Mobile**, “sees rural expansion as one of its most promising growth opportunities” and “plans to hire 2,500 experts serving small towns over the next two years.” **Truth be told in the [article](#):** “providers have always struggled with in mountainous states. To successfully reach most of West Virginia, T-Mobile would need an expensive network of traditional cell towers for which they have never believed there has been much of a business case to provide. Even then, it is inevitable that some would-be subscribers would still be without service, blocked by the terrain.”

While [T-Mobile’s comments](#) argue for “speeding deployments on existing structure” and “reforms to macro facilities.” “[Stop the Cap](#)” and other sources ([here](#) and [here](#)) illustrate T-Mobile’s **capacity constraints and active traffic management strategies for its fixed wireless service** as online coverage maps indicate an [overall nationwide saturation of its 4G LTE and 5G services](#):

- **network loading limits:** T-Mobile is not signing up unlimited FWA customers in every area; rather, it’s choosing where capacity exists and limiting uptake where it doesn’t
- **cautious expansion:** analysts explicitly note that T-Mobile’s FWA rollout is strategic to avoid over-saturating network cells
- **data prioritization:** soft caps and speed deprioritization during congestion show that excess usage can trigger slower service to manage finite wireless spectrum resources.

**Given the evidence in the chart below, more spectrum for more towers — anyone?**

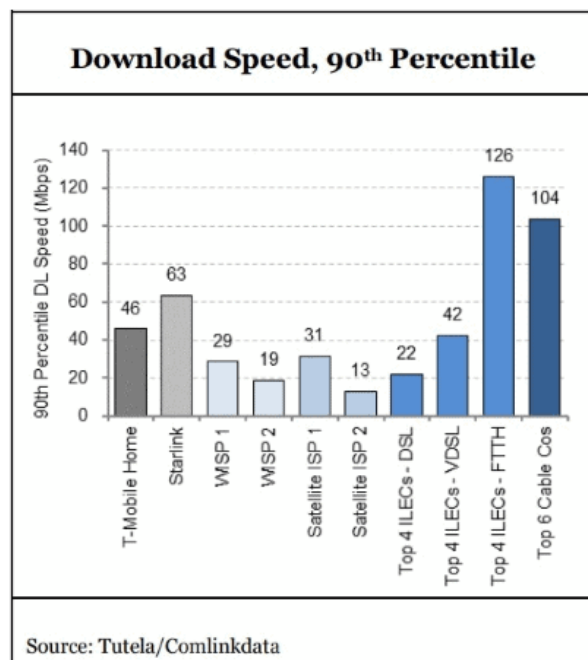


Chart also courtesy of Broadband World News.

It is no coincidence that **future-proof infrastructure was sidelined yet again** in the [June 6, 2025 Broadband Equity Access and Deployment \(BEAD\) Program: BEAD Restructuring Policy Notice](#), which **eliminated the preference for end-to-end fiber** in favor of a so-called “technology-neutral” approach. That shift did not occur in a vacuum. The wireless **industry** did not [spend tens of millions of dollars lobbying to weaken broadband performance standards](#) because it believed fixed wireless could genuinely match fiber’s capabilities. Quite the opposite: the industry understands that the 5G

networks it envisions for rural America **cannot reliably deliver** gigabit-class speeds once meaningful numbers of customers begin using the network — or once serving those areas no longer meets profitability thresholds.

[Captured](#) is as [captured](#) does. **Current FCC policies and rulemakings increasingly treat wireless densification as a substitute for fiber deployment rather than a complement to it.** The industry wants it this way — and will pay to keep it this way. However, this rhetoric — and the lobbying that goes with it — risk distorting congressional intent behind federal broadband investment. False promises also **lock communities into [wireless infrastructure that must be continually densified](#), re-engineered, and constrained simply to keep up** — rather than infrastructure that is built once and upgraded for decades.

The result is not long-term connectivity equity, but **a perpetual game of catch-up that leaves rural and high-cost communities structurally behind as FCC proposed rulemaking like 25-276 dismantles local zoning authority and control.**

## **Outdated Accounting Rules Broke the Connections Between Fiber Investment and Fiber Service**

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The [Uniform System of Accounts \(USOA\)](#) was designed to ensure transparency, prevent cross-subsidization, and allow regulators to verify that ratepayer-funded infrastructure serves the public interest.

That system was compromised by the FCC's [2001 Separations Freeze](#) ("Report and Order, 16 FCC Rcd 11382 (2001)"), which locked in cost allocation factors based on calendar-year 2000 data. The FCC repeatedly extended this freeze in [2006](#), [2009](#), [2010](#), [2011](#), [2012](#), [2014](#), [2017](#), and [2018](#). The last extension was challenged in [Irregulators v. FCC, No. 19-1085 \(D.C. Cir. Mar. 13, 2020\)](#). The Separations Freeze was codified as [47 C.F.R. § 36.3](#)(a) and (b) in 2024 and extended through December 31, 2030, continuing a framework that has remained largely unchanged for more than two decades despite fundamental changes in network technology and services.

**The freeze** did not make fiber obsolete. It **made fiber activation economically unattractive under short-term accounting incentives.** By freezing allocations and severing prices from actual costs, the FCC removed the regulatory mechanisms needed to verify whether fiber paid for by ratepayers was being put into service.

In short, the Separations Freeze did not merely fail to keep pace with network modernization — it institutionalized outdated accounting, broke the feedback loop between investment and service, and **made the long-term non-activation of fiber economically advantageous and largely invisible.**

While **wireless is *made to look* profitable**, the performance of fiber for which we [already paid](#) — and is already laid — will not be matched by fixed-wireless technologies. As published by the [Benton Institute for Broadband & Society](#) in "[Fixed Wireless Technologies and Their Suitability for Broadband Delivery](#)" and [stated](#) by Andrew Afflerbach, Ph.D., P.E. (CEO and Chief Technology Officer of [CTC Technology and Energy](#)), "*fiber offers the greater long-term value as compared to fixed-wireless technologies because of fiber's long life, capabilities, scalability, and flexibility.*"

Further, Afflerbach [stated](#), "*Ongoing operational costs for fixed wireless are higher than for fiber — due largely to the need to regularly replace fixed wireless equipment.*"

- For a **fixed wireless** network, **40 to 80 percent** of the capital investment needs to be **replaced every five years.**"
- For "a **fiber** network," "**only 1 to 10 percent** of the capital cost is **replaced every 10 years.** (Assuming a 50-year lifetime of fiber plant.)"

"Financial sustainability of a fiber network is thus driven mostly by the network's upfront capital costs; in contrast, financial sustainability of a fixed wireless network that keeps up with the broadband needs of the households depends on the operator's ability to re-invest every five years."

**Tangential** — In footnote 26 of the [FCC's Notice of Public Rulemaking In the Matter of Reducing Barriers to Network and Service Changes Improvements \(WC Docket No. 25-209\) and Accelerating Network Modernization \(WC Docket No. 25-208\)](#), the following is stated: "On April 21 2025 the Irregularators filed an application for a review of action taken pursuant to delegated authority under [47 CFR § 1.115](#). See Application of Irregularators for a Full Review by the Full Commission & Other Actions Requested WC Docket No. 17-84 (filed Apr. 21, 2025). This application **remains under review.**"

## The FCC's Forbearance in Theory (Non-Enforcement in Practice) Risks Cross-Subsidization

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[Section 254\(k\) of the Communications Act](#) prohibits telecommunications carriers from using revenues from non-competitive services to subsidize competitive services. The statute titled "Subsidy of competitive services prohibited" reads as follows:

*"A [telecommunications carrier](#) may not use services that are not competitive to subsidize services that are subject to competition. The [Commission](#), with respect to interstate services, and the [States](#), with respect to intrastate services, shall establish any necessary cost allocation rules, accounting safeguards, and guidelines to ensure that services included in the definition of universal service bear no more than a reasonable share of the joint and common costs of facilities used to provide those services."*

In practical terms, carriers may not extract revenue from captive customers of legacy services to support competitive ventures such as wireless or broadband. In its 2024 forbearance order ([FCC-24-52](#)), the Commission reaffirmed the continuing applicability of § 254(k) in ¶ 371 by stating:

*"Section 254(k) prohibits the use of revenues from a non-competitive service to subsidize a service that is subject to competition." The Commission then stated that it was "not persuaded that applying these provisions is necessary for purposes of Section 10(a)(1) and (a)(2) particularly given the availability of the core BIAS requirements" — and "conclude[d] that forbearance from enforcing section 254(g) and (k) is in the public interest under section 10(a)(3)."*

The Commission further confirmed in ¶ 371 that forbearance from [§ 254](#) [(just one item among others (e.g., [§ 224](#), [§ 225](#), [§ 255](#))] is partial and conditional by stating that forbearance is granted "insofar as provisions would be newly triggered by the reclassification of (broadband Internet access service) BIAS" (i.e., not a categorical removal of all § 254 obligations).

Despite these acknowledgments, there **seems to be no public indication that the FCC has required carriers to disclose whether fiber and wireline assets have been diverted to support competitive services.** This gap may indicate a de facto lack of enforcement of § 254(k) — especially in the minds of the general public.

Furthermore, the [6/17/2025 Irregulators' Summary Analysis](#) of the 2024 Verizon New York Annual Report (5/27/2025) suggests heightened scrutiny is justified. Here are some highlights of what the Irregulators found. The Irregulators emphasized that **these “financials are almost identical to all of the other Verizon, AT&T and Lumen state utilities as they were all using this USOA accounting in 2007, the last year the FCC required that the state utilities give the FCC their annual reports with other business information.”**

- **no accounting of copper networks built with ratepayer funds**
- **\$797,617,741 15(f) “corporate operations” at 29.34% of \$ 2,718,777,696 18(f) total operating expenses**
- **\$944,192,598 total construction network charged to local service** — not to non-regulated
- **\$944,192,598 total construction network charged to local service at 209% more than \$451,454,578 to backhaul/Business Data Services (BDS)**

**Annual Report of VERIZON NEW YORK INC. For the period ending DECEMBER 31, 2024**

| <b>Schedule 9</b> |                             |                   | <b>FIOS/ VOIP</b> | <b>New York</b>   | <b>Special Access</b> |
|-------------------|-----------------------------|-------------------|-------------------|-------------------|-----------------------|
| Line              | Item                        | Total             | Nonregulated      | Local Service     | Backhaul, BDS         |
| No.               | (a)                         | (b)               | (c)               | (f)               | (g)                   |
| 9                 | Total Operating Revenues    | \$ 3,405,203,261  | \$ 1,702,992,291  | \$550,720,943     | \$ 1,151,490,027      |
| 10                | Total Construction Network  | \$ 2,326,002,059  | \$930,354,883     | \$944,192,598     | \$451,454,578         |
| 12                | Marketing                   | \$232,477,985     | \$71,681,955      | \$125,427,412     | \$35,368,618          |
| 13                | Customer Op. Services       | \$121,184,915     | \$8,819,046       | \$81,199,796      | \$31,166,073          |
| 15                | Corporate Operations        | \$ 1,314,089,474  | \$133,560,112     | \$797,617,741     | \$382,911,621         |
| 17                | Depreciation & Amortization | \$ 1,142,037,541  | \$49,714,600      | \$712,150,198     | \$380,172,743         |
| 18                | Total Operating Expenses    | \$ 5,257,055,397  | \$1,194,130,596   | \$ 2,718,777,696  | \$ 1,344,147,105      |
| 19                | Net Operating Revenues      | \$(1,851,852,136) | \$508,861,695     | \$(2,168,056,753) | \$ (192,657,078)      |

This financial chart directly relates to the aforementioned history starting with the FCC’s 2000 “freeze” of accounting formulas extended through 2030. Whether cross-subsidization remains a regulatory concern for the FCC in this context of the Part 36/jurisdictional separations freeze is unclear — particularly as reflected in the FCC’s later freeze extensions and the [Irregulators v. FCC, No. 19-1085 \(D.C. Cir. Mar. 13, 2020\)](#) court briefing discussing that theme. Without correct allocation of costs between intrastate and interstate jurisdictions, carriers could potentially shift costs and revenues to benefit competitive or unregulated services.

While the [2018](#) separations freeze orders themselves don’t quote a definition of cross-subsidization in the appellate briefing, the issue comes up in the context of why separations accounting mattered and how outdated separations could distort cost allocations.

The [DC Circuit Court’s decision](#) acknowledges the Petitioners’ “unregulated activities by charging inflated prices for intrastate regulated services” . . . “to distort the telecommunications marketplace generally” — “price-cap carriers’ rates” (specifically) while ultimately pointing to “the states’ independent decisions to apply the Part 36 rules.”

The evidence points to the possibility that if costs and revenues are not properly apportioned, a carrier could/would recover costs from one jurisdiction for services used in another. Isn’t this the very heart of effectively subsidizing one set of (wireless) services at the expense of another (fiber) service?

### **In sum, improper cost allocation means that:**

- regulated services could be priced with costs that should be borne elsewhere
- carriers could end up bearing or shifting costs in a way that undermines just and reasonable rates for ratepayers
- regulatory separation between regulated and competitive services can get blurred.

Left unexamined, these dynamics risk perpetuating distortion in the communications marketplace.

## **WT Docket 25-276 Substitutes Wireless Expansion for Accountability**

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**More than four years later**, the FCC has remained silent and ultimately **never complied** with the **D.C. Circuit 8/13/2021 [decision](#)** and the **10/5/2021 [formal mandate](#)** in [Environmental Health Trust, et al. v FCC, No. 20-1025 \(D.C. Cir. 2021\)](#), and **five subsequent petitions filed to-date**: [11/30/2021 EHT](#), [6/30/2022 EWG](#), [4/4/2023 CHD](#), [8/6/2025 EHT again](#), [11/25/2025 CHD again](#).

The DC Circuit Court ruled that the FCC must review the [11,000 pages of evidence of biological harms from wireless emitters](#) within the FCC limits submitted into the Commission's dockets — exclusive of >5,500 filings that have poured into FCC Dockets [13-84](#), [03-137](#), and [19-226](#) (prior to a wealth of additions to this Docket 25-276).

Worthy of the FCC's attention is [Executive Order 14212](#) that was published in the Federal Register on 2/19/2025 for MAHA to address "*American life expectancy [that] significantly lags behind other developed countries.*" Sec. 4.(a) specifically calls out "**electromagnetic radiation, and corporate influence or cronyism**" as a "**potential contributing cause**" to "**the childhood chronic disease crisis.**" My attached mini-poster titled, "[The FCC, in a few words](#)," has a similar theme.

Strengthening opposition to 25-276 are comments by [NACo](#) alongside the United States Conference of Mayors (USCM), the National League of Cities (NLC), and the National Association of Telecommunications Officers and Advisors (NATOA). These comments join [Alliance of Nurses for Healthy Environments](#), the [National Call for Safe Technology, Environmental Health Sciences](#) — just to name a few. Notable are submissions by the two lead petitioners in [Environmental Health Trust, et al. v FCC, No. 20-1025 \(D.C. Cir. 2021\)](#) — [Environmental Health Trust](#) and [Children's Health Defense](#) and independent comments by the [attorney who filed the initial EHT petition](#).

**To an observer newly encountering this highly technical and deeply interwoven regulatory framework, the FCC's conduct could reasonably appear to warrant serious federal scrutiny.**

- outdated accounting rules that remain in place freeze after freeze
- vast amounts of fiber infrastructure that remains dark across two-thirds of the country
- a failure to take new agency action following the D.C. Circuit's 2021 remand — despite multiple subsequent petitions
- operation under an explicitly deregulatory posture — raising questions about the Commission's independence and fidelity to the Communications Act of 1934 (47 U.S.C. § 151 et seq.), including [as acknowledged by the Chairman](#)

What remains largely unexamined is the cumulative effect of these conditions on local governance, zoning authority, and infrastructure deployment decisions. **Against this backdrop, initiatives such as Docket 25-276 risk being perceived not as reform — but as strategic deflection.**

**With authority comes accountability** for disclosure, auditing, or enforcement sufficient to give effect to that authority. Under [5 U.S.C. § 706 \(2\)\(A\)](#), agency action must be “set aside” when it is “arbitrary, capricious, an abuse of discretion, or short of statutory right.” The Commission cannot continue to lawfully ignore its own fiber data, acknowledge yet forbear § 254(k) while risking ongoing cross-subsidization, undermine BEAD compliance by withholding infrastructure information, or replace congressional mandates with regulatory abuse of discretion.

## **The Case for Immediate Legislative and State Actions**

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Dark fiber is evidence of regulatory failure and industry greed. It cannot be over-emphasized that consumers paid for fiber infrastructure through regulated rates for decades. That infrastructure could have improved service nationwide, particularly in rural and low-income communities. Instead, the majority of it remains dark.

The consequences are persistent broadband gaps from distorted rate-making rules and inflated pricing for unregulated cost-shifting or cross-subsidies resulting in **middle-mile scarcity that prevents last-mile deployment** even where fiber physically exists nearby. Dark fiber exists because policies exist that allow investment without accountability and utilization for public benefit.

**Congress and the states must act to restore transparency and accountability** by:

- requiring modern, auditable, and corporate data from independent analysis versus from the FCC and associations that represent the industry — as well as rigorous audits from local jurisdictions
- enforcing § 254(k) cost-allocation protections — not just prevention of the recovery of the same costs from both the interstate and intrastate jurisdictions
- getting public utility commissions to devise state specific cost accounting, affiliate transactions, and separations rules
- requiring local jurisdictions to require the telecom company to fully disclose all of the dark, grey, and lit fiber in the area and to activate it before subsidizing **any** new builds — to support service to the home or small business — not just as backhaul to wireless towers.
- requiring supplementation of fiber when new fiber gets installed to yet again support service to the home or small business — not just as backhaul to wireless towers
- generally empowering states and utilities to intervene where incumbents fail

**Fiber is the future.** The failure to fully deploy it lies not in the technology — but in the **regulatory framework that allowed it to remain unused.**

**The broadband game has been rigged — exponentially more so via the intentions of FCC’s current 25-276 rulemaking — but it can be (partially) unrigged when the rulemaking is withdrawn.**

Respectfully submitted,

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Montgomery County, MD

Using **FCC's last-reported 2006/2007 Statistics of Communications Common Carriers (SOCC)** data and converting kilometers to miles, national totals derived directly from FCC data show that a majority of fiber deployed in the United States is dark.

- total fiber deployed (lit + dark): 45,641,802.50 miles
- fiber equipped (lit): 15,641,227.11 miles
- dark fiber: 30,000,575.39 miles
- **percentage of dark fiber: 65.73%**

**Table 2.2 Outside Plant Statistics of Reporting Incumbent Local Exchange Carriers  
as of December 31, 2007**

| <b>State &amp;<br/>square miles<br/>(land area)</b> | <b><u>Kms of Fiber<br/>Equipped<br/>(Lit)</u></b> | <b>Miles of<br/>Fiber<br/>Equipped<br/>(Lit)</b> | <b><u>Kms of Total<br/>Fiber Deployed<br/>(Lit &amp; Dark)</u></b> | <b>Miles of Total<br/>Fiber Deployed<br/>(Lit &amp; Dark)</b> | <b>% and Miles<br/>of Dark Fiber</b> |
|-----------------------------------------------------|---------------------------------------------------|--------------------------------------------------|--------------------------------------------------------------------|---------------------------------------------------------------|--------------------------------------|
| <b>Alabama<br/>50,750</b>                           | 189,185                                           | <b>117,554.11</b>                                | 986,459                                                            | <b>612,957.20</b>                                             | 495,403.09 mi.<br>at 80.82%          |
| <b>Alaska<br/>570,641</b>                           | no FCC data                                       |                                                  | no FCC data                                                        |                                                               |                                      |
| <b>Arizona<br/>113,642</b>                          | 238,705                                           | <b>148,324.41</b>                                | 1,034,657                                                          | <b>642,906.05</b>                                             | 494,581.64 mi.<br>at 76.93%          |
| <b>Arkansas<br/>52,075</b>                          | 146,300                                           | <b>90,906.61</b>                                 | 571,240                                                            | <b>354,952.08</b>                                             | 264,045.47 mi.<br>74.39%             |
| <b>California<br/>155,973</b>                       | 2,292,982                                         | <b>1,424,792.96</b>                              | 7,489,366                                                          | <b>4,653,676.28</b>                                           | 3,228,883.30 mi.<br>at 69.4%         |
| <b>Colorado<br/>103,730</b>                         | 277,283                                           | <b>159,097.74</b>                                | 1,273,133                                                          | <b>730,841.26</b>                                             | 571,743.52 mi.<br>at 78.23%          |
| <b>Connecticut<br/>4,845</b>                        | 146,053                                           | <b>90,753.13</b>                                 | 1,121,903                                                          | <b>697,118.20</b>                                             | 606,365.07 mi.<br>at 86.98%          |
| <b>Delaware<br/>1,955</b>                           | 116,006                                           | <b>72,082.79</b>                                 | 412,069                                                            | <b>256,047.81</b>                                             | 183,965.02 mi.<br>at 71.85%          |
| <b>District of<br/>Columbia<br/>68</b>              | 100,715                                           | <b>62,581.40</b>                                 | 182,686                                                            | <b>113,515.82</b>                                             | 50,934.42 mi.<br>at 44.87%           |
| <b>Florida<br/>53,997</b>                           | 2,649,344                                         | <b>1,646,226.04</b>                              | 6,678,931                                                          | <b>4,150,095.32</b>                                           | 2,503,869.28 mi.<br>at 60.33%        |
| <b>Georgia<br/>57,919</b>                           | 1,075,093                                         | <b>668,031.82</b>                                | 2,632,265                                                          | <b>1,635,613.64</b>                                           | 967,581.82 mi.<br>at 59.16%          |
| <b>Hawaii<br/>6,423</b>                             | 87,986                                            | <b>54,671.97</b>                                 | 101,899                                                            | <b>63,317.10</b>                                              | 8,645.13 mi.<br>at 13.65%            |
| <b>Idaho<br/>82,751</b>                             | 73,557                                            | <b>45,706.20</b>                                 | 199,734                                                            | <b>124,108.95</b>                                             | 78,402.75 mi.<br>at 63.17%           |
| <b>Illinois<br/>55,593</b>                          | 479,081                                           | <b>297,687.13</b>                                | 2,114,809                                                          | <b>1,314,081.39</b>                                           | 1,016,394.26 mi.<br>at 77.35%        |

|                                  |           |                     |           |                     |                               |
|----------------------------------|-----------|---------------------|-----------|---------------------|-------------------------------|
| <b>Indiana<br/>35,870</b>        | 540,545   | <b>335,879.09</b>   | 1,443,274 | <b>896,808.89</b>   | 560,929.80 mi.<br>at 62.55%   |
| <b>Iowa<br/>55,875</b>           | 133,270   | <b>82,810.14</b>    | 370,994   | <b>230,524.98</b>   | 147,714.84 mi.<br>at 64.08%   |
| <b>Kansas<br/>81,823</b>         | 158,966   | <b>98,776.89</b>    | 708,619   | <b>440,315.43</b>   | 341,538.54 mi.<br>at 77.57%   |
| <b>Kentucky<br/>39,732</b>       | 230,651   | <b>143,319.89</b>   | 843,991   | <b>524,431.69</b>   | 381,111.80 mi.<br>at 72.67%   |
| <b>Louisiana<br/>43,566</b>      | 177,986   | <b>110,595.37</b>   | 944,078   | <b>586,622.87</b>   | 476,027.50 mi.<br>at 81.15%   |
| <b>Maine<br/>30,865</b>          | 116,789   | <b>72,569.32</b>    | 273,861   | <b>170,169.34</b>   | 97,600.02 mi.<br>at 57.35%    |
| <b>Maryland<br/>9,775</b>        | 763,388   | <b>474,347.31</b>   | 1,719,807 | <b>1,068,638.53</b> | 594,291.22 mi.<br>at 55.61%   |
| <b>Massachusetts<br/>7,838</b>   | 830,046   | <b>515,766.6726</b> | 2,280,597 | <b>1,417,097.28</b> | 901,330.61 mi.<br>at 63.6%    |
| <b>Michigan<br/>56,539</b>       | 489,463   | <b>304,138.21</b>   | 2,350,384 | <b>1,460,460.91</b> | 1,156,322.70 mi.<br>at 79.18% |
| <b>Minnesota<br/>79,617</b>      | 182,945   | <b>113,676.75</b>   | 576,902   | <b>358,470.28</b>   | 244,793.53 mi.<br>at 68.29%   |
| <b>Mississippi<br/>46,914</b>    | 160,757   | <b>99,889.77</b>    | 888,330   | <b>551,982.67</b>   | 452,092.90 mi.<br>at 81.9%    |
| <b>Missouri<br/>68,898</b>       | 403,581   | <b>250,773.61</b>   | 1,367,140 | <b>849,501.41</b>   | 598,727.80 mi.<br>at 70.48%   |
| <b>Montana<br/>145,556</b>       | 28,355    | <b>17,618.98</b>    | 93,077    | <b>57,835.37</b>    | 40,216.39 mi.<br>at 69.54%    |
| <b>Nebraska<br/>76,878</b>       | 88,959    | <b>55,276.56</b>    | 312,947   | <b>194,456.25</b>   | 139,179.69 mi.<br>at 71.57%   |
| <b>Nevada<br/>109,806</b>        | 141,906   | <b>88,176.30</b>    | 461,185   | <b>286,567.07</b>   | 198,390.77 mi.<br>at 69.23%   |
| <b>New Hampshire<br/>8,969</b>   | 263,339   | <b>163,631.27</b>   | 657,558   | <b>408,587.60</b>   | 244,956.33 mi.<br>at 59.95%   |
| <b>New Jersey<br/>7,419</b>      | 2,274,048 | <b>1,413,027.92</b> | 4,117,943 | <b>2,558,771.15</b> | 1,145,743.23 mi.<br>at 44.78% |
| <b>New Mexico<br/>121,365</b>    | 84,698    | <b>52,628.90</b>    | 235,197   | <b>146,144.64</b>   | 93,515.74 mi.<br>at 63.99%    |
| <b>New York<br/>47,224</b>       | 1,836,588 | <b>1,141,202.88</b> | 4,080,161 | <b>2,535,294.51</b> | 1,394,091.63 mi.<br>at 54.99% |
| <b>North Carolina<br/>48,718</b> | 864,576   | <b>537,222.62</b>   | 1,924,732 | <b>1,195,973.02</b> | 658,750.40 mi.<br>at 55.08%   |

|                                          |                   |                      |                   |                      |                                              |
|------------------------------------------|-------------------|----------------------|-------------------|----------------------|----------------------------------------------|
| <b>North Dakota</b><br>68,994            | 21,704            | <b>13,486.24</b>     | 53,321            | <b>33,132.13</b>     | 19,645.89 mi.<br>at 59.3%                    |
| <b>Ohio</b><br>40,953                    | 513,574           | <b>319,120.09</b>    | 2,004,250         | <b>1,245,383.21</b>  | 926,263.12 mi.<br>at 74.38%                  |
| <b>Oklahoma</b><br>68,679                | 166,033           | <b>103,168.12</b>    | 771,980           | <b>479,686.13</b>    | 376,518.01 mi.<br>at 78.49%                  |
| <b>Oregon</b><br>96,003                  | 372,257           | <b>231,309.78</b>    | 802,418           | <b>498,599.43</b>    | 267,289.65 mi.<br>at 53.61%                  |
| <b>Pennsylvania</b><br>44,820            | 1,196,370         | <b>743,389.85</b>    | 3,320,210         | <b>2,063,082.85</b>  | 1,319,693.00 mi.<br>at 63.97%                |
| <b>Rhode Island</b><br>1,034             | 114,494           | <b>71,143.27</b>     | 391,568           | <b>243,309.08</b>    | 172,165.81 mi.<br>at 70.76%                  |
| <b>South Carolina</b><br>30,111          | 212,005           | <b>131,733.80</b>    | 750,128           | <b>466,107.93</b>    | 334,374.13 mi.<br>at 71.74%                  |
| <b>South Dakota</b><br>75,898            | 32,756            | <b>20,353.63</b>     | 68,122            | <b>42,329.05</b>     | 21,975.42 mi.<br>at 51.92%                   |
| <b>Tennessee</b><br>41,220               | 421,675           | <b>262,016.70</b>    | 1,317,863         | <b>818,882.10</b>    | 556,865.40 mi.<br>at 68%                     |
| <b>Texas</b><br>261,914                  | 2,040,640         | <b>1,267,994.91</b>  | 7,506,945         | <b>4,664,599.36</b>  | 3,396,604.45 mi.<br>at 72.82%                |
| <b>Utah</b><br>82,168                    | 114,856           | <b>71,368.21</b>     | 390,152           | <b>242,429.21</b>    | 171,061.00 mi.<br>at 70.56%                  |
| <b>Vermont</b><br>9,249                  | 70,376            | <b>43,729.62</b>     | 159,329           | <b>99,002.45</b>     | 55,272.83 mi.<br>at 55.83%                   |
| <b>Virginia</b><br>39,598                | 1,408,159         | <b>874,989.44</b>    | 3,083,831         | <b>1,916,203.75</b>  | 1,041,214.31 mi.<br>at 54.34%                |
| <b>Washington</b><br>66,582              | 378,587           | <b>235,243.06</b>    | 935,132           | <b>581,064.09</b>    | 345,821.03 mi.<br>at 59.52%                  |
| <b>West Virginia</b><br>24,087           | 159,793           | <b>99,290.77</b>     | 443,130           | <b>275,348.22</b>    | 176,057.45 mi.<br>at 63.94%                  |
| <b>Wisconsin</b><br>54,314               | 268,686           | <b>166,953.74</b>    | 886,115           | <b>550,606.33</b>    | 383,652.59 mi.<br>at 69.68%                  |
| <b>Wyoming</b><br>97,105                 | 37,004            | <b>22,993.22</b>     | 118,939           | <b>73,905.27</b>     | 50,912.05 mi.<br>at 68.89%                   |
| <b>United States</b><br><b>3,531,905</b> | <b>25,172,115</b> | <b>15,641,227.11</b> | <b>73,453,361</b> | <b>45,641,802.50</b> | <b>30,000,575.39 mi.</b><br><b>at 65.73%</b> |

# ***The FCC: in a few words***

## ***When Policy in the Name of Progress Becomes Pathology***

- the FCC, a federal agency [captured by the industry it presumably regulates](#), and still ignoring a [federal appellate court order](#) since 2021 brought about by the FCC “[resolving](#)” its [2013-initiated inquiry](#) in 2019 after indefensibly disregarding [docket comments](#) containing 11,000 pages of [overwhelming evidence](#) of biological harms regarding its [outdated 1996 RF exposure limits](#)  
— ***sick***
- U.S. RF limits ***still*** the highest in the world despite >30 million miles of **dark** U.S. fiber (FCC 2007 data) and [electromagnetic radiation](#) classified in 2011 as an IARC Group 2B carcinogen  
— ***sickening***
- a third of the U.S. population symptomatic of Electromagnetic Sensitivity (EMS) ([2019 study](#)); two-thirds of those suffering with Environmental Sensitivities (ES) unemployed and forced out of workplaces ([2017 study](#))  
— ***sickened & sicker***



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