Before the
Federal Communications Commission
Washington DC 20554

In the Matter of:	)	
	)	
CTIA Petition for Rulemaking on the	)	RM 12003
Commission's Rules Part 1, Subpart 1,	)	
Implementing NEPA	)	

REPLY COMMENTS OF WIRED BROADBAND, INC.

ON BEHALF OF AMERICANS INJURED AND DISABLED

FROM ELECTROMAGNETIC RADIATION

(ELECTROMAGNETIC RADIATION SYNDROME – EMR-S)

May 15, 2025

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FILING PARTIES

The parties listed in Appendix A (attached hereto and incorporated herein by this reference) collectively constitute the "Filing Parties," have granted permission to submit these Comments on their behalf, and join together to submit these Comments.

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1) Executive Summary

Wired Broadband, Inc., on behalf of Americans injured or disabled by electromagnetic radiation, and the Filing Parties set forth in Appendix A, respectfully submit these comments. The Filing Parties and partner groups have a reach of about one-hundred fifty thousand people across the country. We advocate for the safe deployment of communications infrastructure.

The CTIA petition should be rejected. We agree with the following commenters in rejecting the CTIA petition: Public Employees for Environmental Responsibility (PEER),[1] Environmental Health Sciences,[2] Local Government Commenters,[3] the Kleibers,[4] National Association of Tribal Historic Preservation Officers,[5] New York State Historic Preservation Office,[6] Connecticut State Historic Preservation Office,[7] Miami Tribe of Oklahoma,[8] North Dakota State Historic Preservation Office, and generally with the American Cultural Resources Association (ACRA)[9] and Iowa Economic Development Authority.[10]

We disagree with CTIA, Foundation for American innovation (FAI),[11] Rural Wireless Association (RWA),[12] Verizon, Citizens Against Government Waste,[13] T-Mobile,[14] International Center for Law & Economics,[15] AT&T[16] and Competitive Enterprise Institute.[17]

While the CTIA and other commenters in support are inflating the benefits of next generation wireless and the demand for wireless, the message from a large swath of Americans,

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[1] https://www.fcc.gov/ecfs/document/104161936203889/1.
[2] https://www.fcc.gov/ecfs/document/10501189004404/1.
[3] https://www.fcc.gov/ecfs/document/10509170446236/1.
[4] https://www.fcc.gov/ecfs/document/1041259685598/1.
[5] https://www.fcc.gov/ecfs/document/104302333500052/1.
[6] Submission ID 10514009578167, https://www.fcc.gov/ecfs/search/search-filings/filing/10514009578167.
[7] https://www.fcc.gov/ecfs/document/10430767008923/1.
[8] https://www.fcc.gov/ecfs/document/1043010947272/1.
[9] https://www.fcc.gov/ecfs/document/104302642712440/1.
[10] https://www.fcc.gov/ecfs/document/104301630115307/1.
[11] https://www.fcc.gov/ecfs/document/105132653214547/1.
[12] https://www.fcc.gov/ecfs/document/10412487011840/1.
[13] https://www.fcc.gov/ecfs/document/104291513007043/1.
[14] https://www.fcc.gov/ecfs/document/104300910205190/1.
[15] https://www.fcc.gov/ecfs/document/10430750627717/1.
[16] https://www.fcc.gov/ecfs/document/10501233522439/1.
[17] https://www.fcc.gov/ecfs/document/1050110008458/1.

including those injured and disabled and those not yet injured or disabled, and those submitting comments in opposition to the CTIA petition cannot be clearer:

They do not want or need 5G Towers or "next-generation" wireless.

They do not want them near their homes, outside their children's bedroom,

on or near their children's schools, in or near playgrounds or

parks (including national parks).

They do not want them in or near historic districts or near historic landmarks.

Wireless radiation is dangerous because it produces adverse biological effects.

President Trump's MAHA Commission Executive Order has made it a national priority to include the study of the **effects of "electromagnetic radiation"** in connection with the **chronic disease epidemic in children**.[18]

We disagree with every aspect of the CTIA petition to The National Environmental Policy Act (NEPA) as it runs contrary to the letter and spirit of NEPA. NEPA's overarching goal is to protect the human environment,[19] and the FCC's role is to prevent the irresponsible deployment of communications infrastructure that would endanger the human environment in its statutory mandate "to protect life and property."[20] Contrary to what CTIA supporters assert,[21] there is no statutory mandate to promote wireless. There is no greater proof of the environmental impact of wireless facilities than those people who have been injured, repeatedly, and permanently disabled by exposure to electromagnetic radiation emitted from the wireless facilities that are the subject of the petition, whose symptoms are referred to as Electromagnetic Radiation Syndrome (EMR-Syndrome or EMR-S) and who have joined herein as Filing Parties.

Comments supporting the CTIA petition have lost sight of NEPA's purpose, i.e., to "stimulate the health and welfare of man," and regulate the safety of the human environment.[22] There is no statutory leeway for the FCC to diminish its NEPA enforcement. Among environmental effects that the FCC is obligated to consider under NEPA are exposure to radiofrequency (RF) radiation. There is no prosperity for Americans if they are getting sick from RF radiation.

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[18] See §4a https://www.federalregister.gov/documents/2025/02/19/2025-02871/establishing-the-presidents-make-america-healthy-again-commission

[19] 42 USC §4321.

[20] Communications Act of 1934, as amended by the Telecommunications Act of 1996, 47 USC §151 *et seq*.

[21] See, e.g., Verizon's comments, https://www.fcc.gov/ecfs/document/10411149156728/1.

[22] 42 USC §4321

2) The CTIA petition fails as a procedural matter

We agree with the comments made by PEER and the Local Government Commenters:

> **PEER:** "the CTIA's petition is deficient because it fails to contain the text of the rules CTIA wants and is not verified. See 47 C.F.R. §§1.52, 1.401(b), (c). The Commission should therefore dismiss the petition. See In re Opening a Gen. FM Translator Window, DA-23-901, 2023 FCC LEXIS 4055, *1-2 (2023)."
> **Local Government Commenters** state that "this docket does not meet the requirements of the Administrative Procedure Act (APA)."[23]

3) Public interest

We disagree with the CTIA and other commenters in support of the CTIA petition because the petition minimizes or ignores the impact of wireless facilities to people and the environment, especially to children. Those commenters would place the FCC in direct conflict with President Trump's MAHA Commission Executive Order (MAHA EO), where he has made it a national priority to include the study of the **effects of "electromagnetic radiation"** in connection with the **chronic disease epidemic in children**.[24] Those commenters, in citing President Trump's Executive Orders, fail to cite the MAHA EO.[25]

Comments from the public show the importance of maintaining the main goal of the FCC – to work in the public interest, e.g.:

> "The NEPA process keeps government agencies accountable for how public resources—like air, water, and land—are used. Streamlining may sound efficient, but it often just means cutting corners. As a taxpayer, I expect careful, science-based reviews—not deregulation that favors private profits over public interest."[26]

The FCC should prevent the irresponsible deployment of communications infrastructure that would endanger the human environment in its statutory mandate "to protect life and

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[23] https://www.fcc.gov/ecfs/document/10509170446236/1.
[24] See §4a https://www.federalregister.gov/documents/2025/02/19/2025-02871/establishing-the-presidents-make-america-healthy-again-commission
[25] See, e.g., comments of the Rural Wireless Association, https://www.fcc.gov/ecfs/document/10412487011840/1.
[26] Comments of Bryan Looney at https://www.fcc.gov/ecfs/search/search-filings/filing/1042918676012 and Sara Walz at https://www.fcc.gov/ecfs/search/search-filings/filing/104250845500721.

property."[27] As to communities who do not want or need cell towers, the FCC needs to ensure that its federal preemption powers are not abused to bulldoze through those communities and jettison their final determinations on the well-being of their communities.[28]

Wired Broadband, Inc. is located in New York City and community boards representing more than 25% of NYC are opposed to the 5G Towers being installed, that's about 2 million residents. Sixteen community boards have issued disapprovals or formal requests for moratoria. That includes NYC's Financial District's opposition to 5G Towers, the heart of the United States' bustling economy. The reasons are numerous, including that the 5G Towers are an eyesore, invite graffiti and other nuisances, lack of cybersecurity and adverse biological effects from radio frequency (RF) radiation.

Opposition is growing in NYC. "Equity districts" which are designated to get the most 5G Towers to "bridge the digital divide" are bristling against 5G Towers.[29] A rally of parents was held in Queens in April 2025 to oppose a 5G Tower being installed in front of an elementary school. Parents do not want their children to be exposed to RF radiation and suffer adverse biological consequences.

4) There are no exemptions under NEPA for major federal actions

Many comments bemoan the legal requirements under NEPA (including the NHPA), but none of the comments that we reviewed provided sources justifying their assertion that the requirements were burdensome. In fact, WISPA concedes that the FCC "does not subject many types of wireless facilities to environmental and historic preservation compliance procedures."[30] That statement alone obviates the need for the CTIA petition.

We disagree with comments of the Rural Wireless Association (RWA)[31] and WISPA.[32] An antenna structure, whether or not it requires registration, may yet have an environmental impact and deeming it, outside of a "major federal action" (MFA) would not lessen the environmental impact. CTIA concedes that the FCC has oversight and enforces RF radiation emissions of facilities that are subject to geographic licenses (Petition, fn 63), thereby

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[27] Communications Act

[28] See, e.g., https://ehtrust.org/cell-towers-near-schools-and-homes-that-have-been-removed-halted-and-rejected/.

[29] See, e.g., disapproval and moratorium of Queens Community Board 12, quoting in relevant part, "BE IT FURTHER RESOLVED, that Queens Community Board 12 disapproves of its designation as a district under the "Equitable Deployment Mandate;" https://www.dropbox.com/s/87o4vuw85h9l8sm/QCB12%20Disapproval%20%26%20Moratorium%20Letter%20to%20Electeds%20on%20Resolution%20Link5G%206-21-23.pdf?dl=0.

[30] https://www.fcc.gov/ecfs/document/104301330223425/1.

[31] https://www.fcc.gov/ecfs/document/10412487011840/1.

[32] https://www.fcc.gov/ecfs/document/104301330223425/1.

undercutting CTIA's argument. We therefore agree with Public Employees for Environmental Responsibility (PEER)[33] – authorizing spectrum use in any given location is already deemed a major federal action, even if the exact location may not yet be known at the time of authorization.[34] The FCC should strengthen (not weaken) its NEPA procedures and treat any spectrum authorization, auction, or licensure as a major federal action subject to NEPA review.

We disagree with CTIA petition supporters who are using the Fiscal Responsibility Act of 2023 (FRA) to argue that it undercuts FCC's obligations under NEPA.[35] Rather, FRA underscores that any major federal action be subject to environmental review. While CTIA supporters seek to redefine a major federal action, Title III, Permitting Reform, Section 321, "defines a major federal action to be an action that an agency determines is subject to substantial federal control and responsibility," and "a nonfederal action" one "with minimal federal funding or involvement."[36] The FCC licenses wireless spectrum and has a statutory obligation to regulate it under the Communications Act of 1934 and the Telecommunications Act of 1996. Therefore, any cell antennas, cell towers or any cellular network that uses FCC licensed spectrum necessitates substantial federal actions without which there would be no such deployment of wireless spectrum. That the FCC is required to regulate wireless spectrum is not an option – it is a statutory obligation.

Moreover, while the FRA "limits the scope of an EIS review to reasonably foreseeable environmental effects of the proposed agency action," it underscores that:

> Under NEPA, agencies must conduct an environmental assessment (EA) to determine if a proposed federal action will have significant environmental impacts. If the EA determines that such impacts will be significant, then the agency must submit an Environmental Impact Statement (EIS). The EIS must include a range of alternatives to the proposed action.[37]

To that end, the environmental effects are not only reasonably foreseeable, the FCC has actual knowledge of the adverse biological effects. Environmental effects of the wireless spectrum that the FCC licenses have been the subject of a D.C. Circuit Court of Appeals

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[33] https://www.fcc.gov/ecfs/document/104161936203889/1.

[34] See Guidelines for Evaluating the Environmental Effects of Radiofrequency Radiation, 11 FCC Rcd 15123 (1996) ("First Order"); Procedures for Reviewing Requests for Relief from State and Local Regulations Pursuant to Section 332(c)(7)(B)(v) of the Communications Act of 1934, 12 FCC Rcd 13494 (1997) ("Second Order")."

[35] See, e.g., Foundation for American Innovation comments at

[36] https://www.congress.gov/bill/118th-congress/house-bill/3746.

[37] Ibid.

remand order to the FCC since 2021 to review the 11,000 pages of scientific studies in the FCC's docket[38] showing adverse biological effects and the almost two hundred accounts of personal injury from RF radiation. The FCC is on legal notice to review those studies and examine RF radiation effects on children, the environment and long-term exposure.[39]

This is further explained in Environmental Health Sciences' comments, with extensive sources on the consistent adverse biological effects that have been documented for decades.[40]

In our initial comments submitted on April 30, 2025, Appendix A, is a summary of the adverse biological effects of RF radiation of which the FCC and other federal agencies have actual knowledge. Moreover, a recent April 2025 World Health Organization review concludes that:

> [T]here is evidence that **RF EMF exposure increases the incidence of cancer** in experimental animals with the [certainty of evidence] being strongest for malignant heart schwannomas and gliomas" (brain tumors).[41]

While CTIA supporters refer to the new CEQ rules,[42] FCC remains obligated to follow its statutory regulations under NEPA. In fact, the interim final rule issued by CEQ stated:

> NEPA requires Federal agencies to consider the environmental effects of proposed actions as part of agencies' decision-making processes.[43]

Any FCC actions regulating the use of wireless spectrum can no longer be considered for any categorical exclusion. The FRA defines a "categorical exclusion" as "a category of actions that a Federal agency has determined normally does not significantly affect the quality of the human environment" (42 U.S.C. § 4336e(1)); however, the D.C. Circuit Court of Appeals in 2021 reprimanded the FCC's decision not to update its RF radiation limits for human exposure as "arbitrary" and "capricious." The court remanded the case to the FCC to review the effects on the quality of the human environment. Therefore, the categorical exclusion argued by, for example, FAI, would be in direct opposition with the court remand order. In FAI asserting an "empirical, data-driven approach," to determine what should be categorically excluded from NEPA, one need look no further than the FCC docket containing the 11,000 pages of scientific studies and the nearly 200 accounts of personal injury from RF radiation, since at least 2019. Indeed, many of the joint filers in Appendix A to these comments have been injured or disabled directly from exposure to RF radiation. We have cited chronic disease clusters near

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[38] ET Docket No. 13-84; ET Docket No. 03-137.
[39] Environmental Health Trust, et al v FCC, D.C. Court of Appeals, 2021.
[40] https://www.fcc.gov/ecfs/document/10501189004404/1.
[41] https://www.sciencedirect.com/science/article/pii/S0160412025002338.
[42] https://www.federalregister.gov/documents/2025/02/25/2025-03014/removal-of-national-environmental-policy-act-implementing-regulations
[43] Ibid I.A.

cell towers in our initial comments: illnesses near cell towers, e.g., nausea, rashes, stroke, atrial fibrillation and a variety of cancers. Cluster locations: near Duluth, MN (51 strokes),[44] Pittsfield, MA (17 residents fell ill and many evacuated, one resident who remained died),[45] [46] Rippon, CA (4 children and 4 teachers developed cancer; one child died last year)[47] [48] [49] and Eagle, ID (atrial fibrillations from 5G cell towers).[50]

We agree with the Kleibers' submission[51] that "[r]egulatory negligence has already caused irreparable harm," and that NEPA rules should be more rigorously enforced.

Therefore, the "empirical, data-driven approach" shows adverse widespread biological effects. Moreover, the D.C. Circuit Court of Appeals in 2019 struck down the FCC's attempt to categorically exclude 5G deployment from NEPA.[52] Therefore, the FCC's track record shows that the deployment of cell networks using wireless spectrum cannot be categorically excluded from NEPA.

5) **Wired and wireless are not "tech neutral" because they are not equivalent technologies**

A commenter claims that the U.S. has had a tech neutral policy, but, in fact, the NTIA has taken a fiber first policy up until recently. To reiterate from our initial comments:

A brief word on what has been bandied about as "technology neutral" that deems wireless and wired as equivalent technologies. They are not. Former FCC Chair Tom Wheeler (former CEO of CTIA) testified that fiber is future proof with **wireless only as a last resort**.[53] Wireless is inferior in every way compared to wired, e.g., 5G will never be as fast, reliable, secure or

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[44] https://childrenshealthdefense.org/defender/marcia-haller-cell-tower-rf-radiation-sickness/.
[45] https://ehtrust.org/cease-and-desist-order-against-verizon-cell-tower-by-board-of-health-pittsfield-ma/, see below the fold for link to the Order, p.12.
[46] https://ehtrust.org/family-injured-by-cell-tower-radiation-in-pittsfield-massachusetts/.
[47] See beginning of video at https://www.youtube.com/watch?v=-9TMTexPb_0&t=128s .
[48] See the lists of treatments and surgeries that this child endured before he died, https://www.gofundme.com/f/support-the-ferrulli-family-in-memory-of-mason.
[49] See beginning of video at https://www.youtube.com/watch?v=-9TMTexPb_0&t=128s .
[50] https://childrenshealthdefense.org/press-release/chd-files-in-series-of-lawsuits-seeking-disability-accommodation-for-people-injured-by-rf-radiation-from-cell-towers/ and https://childrenshealthdefense.org/defender/henry-hank-allen-chd-verizon-lawsuit-radiofrequency-radiation-cell-towers/.
[51] https://www.fcc.gov/ecfs/document/1041259685598/1.
[52] *Keetoowah Band of Cherokee Indians v FCC,* 933 F.3d 728, 740-45 (D.C. Cir. 2019).
[53] Tom Wheeler's Testimony to Congress, https://energycommerce.house.gov/sites/democrats.energycommerce.house.gov/files/documents/Witness%20Testimony_Wheeler_FC_2021.03.22.pdf.

safe as fiber, short life span of wireless of up to 5 yrs, constant maintenance. Wheeler states that "[t]he nature of 5G networks exacerbates the cybersecurity threat,"[54] and has coined the term "the 5G CyberParadox."[55]

Wired and wireless technologies are not equivalent technologies and the costs of wireless deployment outweigh the benefits. Deeming wired and wireless to be "technology neutral" does not rectify this infirmity. Wireless is not a substitute for wired broadband.

a. Wireless infrastructure's lifespan is only five years, making it a poor use of taxpayer subsidies whereas fiber lasts 25-50 years.[56] As between wireless and fiber, fiber has been found to be "the most fiscally prudent expenditure of public funds in most circumstances because of its longevity and technical advantages."[57]
b. Billions of dollars in subsidies to wireless have not provided the promised ubiquitous service, according to former CTIA CEO and former FCC Chair, Tom Wheeler.[58]
c. Wireless suffers from line-of-sight obstructions, slower speed, inclement weather, lack of scalability, lack of cybersecurity, thereby making it unreliable in emergencies.
d. "[F]ixed-wireless networks have inherent capacity limitations that sharply limit the number of users on a network using a given amount of spectrum."[59]
e. Upfront capital costs for fiber may be higher, but after 30 years, they are comparable to wireless.[60]

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[54] https://www.wita.org/nextgentrade/why-5g-requires-new-approaches-to-cybersecurity/.
[55] "Why 5G Requires New Approaches to Cybersecurity," Tom Wheeler and David Simpson, Brookings Institute, Sept 3, 2019, https://www.wita.org/nextgentrade/why-5g-requires-new-approaches-to-cybersecurity/.
[56] Tom Wheeler, former FCC chair and former CEO of CTIA, testified in 2021 that fiber is future proof with **wireless only as a last resort,** https://democrats-energycommerce.house.gov/sites/evo-subsites/democrats-energycommerce.house.gov/files/documents/Witness%20Testimony_Wheeler_FC_2021.03.22.pdf
Fixed Wireless Technologies and Their Suitability for Broadband Delivery, June 2022 https://www.benton.org/publications/FixedWireless.
[57] https://www.benton.org/publications/FixedWireless.
[58] In testimony to the House Energy and Commerce Committee, March 2021, former FCC Chair and former CTIA CEO Tom Wheeler spoke disappointingly that despite approximately $40 billion of government subsidies "over the last decade," those subsidies "have failed to deliver the goal of universal access to high-speed broadband … because it failed to insist on futureproof technology, … and focused more on the companies being subsidized than the technology being used or the people who were supposed to be served."
[59] https://www.benton.org/blog/how-fixed-wireless-technologies-compare-fiber.
[60] https://www.benton.org/publications/FixedWireless.

f. Wired infrastructure is cheaper over the life of the infrastructure.[61] Fixed wireless costs are higher than fiber because of the ongoing need to regularly replace wireless equipment, with 40% to 80% of its capital investment needing to be replaced every five years. In contrast, only 1% to 10% of capital investment in a fiber network needs to be replaced every 10 years (fiber's life span is 50-70 years). Fixed wireless network providers must re-invest every five years to maintain the network. That is not sustainable in the long-run.

The FCC should allow the free market economy to determine what is wanted and needed, rather than imposing burdensome regulations on local governments and communities that would otherwise cause market distortion and market failure. When the Affordable Connectivity Program (ACP) ended, wireline services retained 90% of subscribers while wireless services lost 80% and satellite services also had losses.[62] Over 90% of Americans won't buy or rent a home near a cell tower.[63]

Without competition, there are no free market incentives, such as product liability, to encourage the best products and services to succeed with for-profit corporations competing on safety. True advancement in technology occurs when there is accountability and where technology benefits society, and not only industry at the expense of society.

6) **Wired technology provides an economic boon and fosters competition**

Although CTIA petition supporters claim that deployment of wireless facilities would create jobs and foster competition, there were no sources to support those claims.

On the other hand, fiber deployment to the premises has offered an economic boon to the economy. Take the example of the city of Chattanooga and Hamilton County in Tennessee.[64] It is a veritable rags to riches story of a geographic area historically marred by pollution and poverty that used fiber optics to spring into a clean energy economy and create a vibrant

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[61] https://www.benton.org/blog/how-fixed-wireless-technologies-compare-fiber.
[62] https://broadbandbreakfast.com/acp-fallout-wireline-retains-most-wireless-and-satellite-face-major-losses/.
[63] https://www.emfanalysis.com/property-values-declining-cell-towers/?iframe=1&iframe=1&iframe=1.
[64] "Ten Years of Fiber Optic and Smart Grid Infrastructure in Hamilton County, Tennessee," Bento J. Lobo, Ph.D., CFA First Tennessee Bank Distinguished Professor of Finance, The University of Tennessee at Chattanooga, August 31, 2020, https://www.researchgate.net/publication/352221978_Ten_Years_of_Fiber_Optic_and_Smart_Grid_Infrastructure_in_Hamilton_County_Tennessee.

workforce, earning it the accolade of "Gig City."[65] Because of its fiber optics network, it has the fastest broadband network in the U.S. Chattanooga has offered 1 Gigabyte symmetrical download and upload speeds but are now exploring even faster quantum speeds made possible by their fiber network.[66]

A study calculated the realized economic value of fiber optic infrastructure in Hamilton County and the city of Chattanooga, over about a 10-year period from 2011 to March 2020.[67] The economic value exceeded $2.69 billion and 9,516 jobs over the study period, with the value exceeding the costs of the fiber optic project by over $2.20 billion, and about 40 percent of all jobs created. It found that about 52% of the value of the fiber infrastructure was reflected in local economic development – "over $1.4 billion in new investments, startup funding, real estate development and payments-in-lieu of taxes."[68] "Each county resident is estimated to have benefited by about $646 per year due to the incremental value generated by the fiber optic infrastructure."[69] And these assessments do not even include the burden of chronic disease morbidity and mortality that may be caused by unfettered, irresponsible wireless deployments.

These successes were achieved because the city realized the economic advantages of fiber optics over wireless infrastructure and owning its broadband, referred to as municipal broadband.[70] The successes of Chattoonaga's fiber optics deployment were reported as far back as 2014.[71]

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[65] "How Blazing Internet Speeds Helped Chattanooga Shed its Smokestack Past," Cnet.com, August 20, 2015, https://www.cnet.com/tech/services-and-software/how-blazing-internet-speeds-helped-chattanooga-shed-its-smokestack-past/.

[66] See "Gig City Goes Quantum" at https://thenationalcall.org/resources/.

[67] Ten Years of Fiber Optic and Grind Infrastructure in Hamilton County, Tennessee, Bento Lobo, Univ of TN at Chattanooga, Aug. 2020, https://www.researchgate.net/publication/352221978_Ten_Years_of_Fiber_Optic_and_Smart_Grid_Infrastructure_in_Hamilton_County_Tennessee.

[68] Id.

[69] Id.

[70] "Chattanooga Mayor Pushes Back on 5G as Smart Cities Cure All", MeriTalk, February 13, 2019, https://www.meritalkslg.com/articles/chattanooga-mayor-pushes-back-on-5g-as-smart-cities-cure-all/.

[71] "Fast Internet is Chattanooga's New Locomotive," New York Times, February 3, 2014, https://www.nytimes.com/2014/02/04/technology/fast-internet-service-speeds-business-development-in-chattanooga.html#:~:text=Steve%20Clark%2C%20a%20senior%20vice,at%20one%20gigabit%20per%20second.

Another example of substantial long term cost savings using fiber broadband is Chanute, KS which "operates a 10 Gbps fiber-optic broadband ring."[72] This fiber network "connects schools and other community anchor institutions with gigabit networks … The network generates $600,000 per year for Chanute's Electric Utility … This … has demonstrated that communities can meet their own telecommunications needs with smart public investments — they did not wait for national corporations to solve their problems."[73] City Manager J.D. Lester refers to municipal broadband as 'the great equalizer for Rural America'…'"[74]

An example of a rural area which achieved access, digital equity and digital inclusion is rural eastern Kentucky. Peoples Rural Telephone Cooperative (PRTC) completed a 100% all fiber-to-the-premises buildout in 2014, a Gigabit-capable internet available to every home and business in the counties of Jackson and Owsley, Kentucky.[75]

Utopia Fiber which works with communities on developing municipal owned fiber networks offers residences up to 10 Gbps speeds, offers businesses up to 100 Gbps speeds, and provides open access so that multiple service providers deliver services, promoting competition to keep prices competitive.[76] Utopia Fiber offers **fiber dedicated to the subscriber,** i.e., not shared with anyone, so that **"you don't have to worry about pesky lagging or buffering during peak hours ever again!"**

Wireless is not dedicated, but shared, prone to congestion during peak or emergencies, and data caps by industry. Wireless should be used for mobility. Fixed wireless is not necessary with fiber buildout; after all, fixed wireless cannot work without fiber – just extend the fiber to the home (the "last mile" which can also mean just feet or yards away). Therefore, with a fiber first priority, the otherwise alarmist demand for more and more wireless spectrum can be easily quelled.

7) **FCC's increased preemption over NEPA would introduce a "Parade of Horribles"**

a. **Subvert the free market** by imposing federal government mandates that override the free market and force experimental technology on Americans[77]

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[72] In Kansas, Rural Chanute Built Its Own Gigabit Fiber and Wireless Network," Christopher Mitchell 10-2-21, https://ilsr.org/chanute-rural-gigabit/.
[73] Id.
[74] Id.
[75] https://www.soar-ky.org/prtc/.
[76] https://www.utopiafiber.com/.
[77] If wireless were so safe and desirable, why does the federal government need to trample on local governments to force deployment? As an example of federal preemption mandating deployments, section 6409 of the 2012 Middle Class Tax Relief and Jobs Act (47 USC §1455),

b. **Shield industry from liability for personal injury from RF radiation** rather than encouraging industry to compete on safety
c. **Trample states' rights and local government on cell tower zoning and placement** -- federal preemption is a regulatory and physical taking of private property and public property in rights-of-way, and drops property values without compensation[78,79]
    a. Commerce clause overreach: while one can choose to abstain from a regulated activity,[80] federal policy essentially commands that all Americans suffer involuntary exposure and property devaluation.
d. Increase fire and wildfire risks from cell towers, which are electrical installations and have already caused disasters, including damage of $6 billion in one fire[81]
e. **Increase cybersecurity risks** as they are far greater with wireless networks, 5G being the least secure, as former FCC Chairman Tom Wheeler refers to "The 5G Cyber Paradox."[82]

8) There are no exemptions under NHPA for federal undertakings

We agree with the numerous tribal and state historical preservation agencies which are urging the FCC to reject the CTIA's petition.

For instance, New York State Historic Preservation office (NYSHPO) commented that:

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under which the majority of wireless facilities are deployed today, mandates that: "a State or local government may not deny, and shall approve, any eligible facilities request."

[78] Cell towers inflict wireless pollution on private property, reducing the habitability of that property, without just compensation. See memorandum on constitutional considerations, section 1.c, for a discussion of Fifth Amendment case law https://docs.google.com/document/d/1DBTtngzDuZ9Ibmze58gBXsJs1jXzU5dQZx0ycFQumUk/edit#heading=h.6cyqdt7korzl

Cell towers decrease property values: Wireless Towers and Home Values: An Alternative Valuation Approach Using a Spatial Econometric Analysis, 2017, https://link.springer.com/article/10.1007/s11146-017-9600-9.

[79] https://www.emfanalysis.com/property-values-declining-cell-towers/?iframe=1&iframe=1&iframe=1

[80] *Nat'l Fed'n of Indep. Bus. v. Sebelius*, 567 U.S. 519, 553-54, 573-74 (2012).

[81] E.g., Woolsey Fire in CA 2018 caused $6 billion in damages, destroyed 100,000 acres, 295,000 people evacuated, [three deaths] https://ehtrust.org/wp-content/uploads/wildfire-cell-tower-fact-sheet-EHT-2-11-24.pdf

[82] 5G, as a software based system, is easily hacked. https://www.cyber.forum.yale.edu/blog/2021/7/20/cybersecurity-risk-in-5g?iframe=1

Tom Wheeler noted that the structure of 5G networks to provide for additional capability "also introduce[s] new security vulnerabilities." https://www.brookings.edu/articles/the-digital-future-requires-making-5g-secure/.

> "the proposed Rulemaking would contradict and undermine the intent of the National Historic Preservation Act ("NHPA")[83], putting our nation's historic and cultural heritage at risk." [84] They further clarify that "the installation of telecommunications infrastructure licensed under FCC triggers review of potential effects of historic and cultural resources" under the NHPA's definition of "undertaking" which means "a project, activity, or program funded in whole or in part under the direct or indirect jurisdiction of a federal agency, including … those requiring a Federal permit, license, or approval …"[85]

See also comments by the National Conference of State Historic Preservation Officers that underscores this point.[86] Courts have held that wireless facilities being constructed under a federal license are undertakings under the NHPA.[87]

We agree with ACRA that CTIA's petition:

> "seeks to undermine more than two decades of collaborative work by the federal government, industry, states, Tribes and others to ensure a sensible balance between improvements to our telecommunications infrastructure and compliance with federal law."[88]

Therefore, we disagree with commenters' attempts to resurrect the FCC's 5G "small cell" rule as a "public interest finding" having minimal environmental impact. [89] The D.C. Circuit Court of Appeals decision in *Keetoowah Band of Cherokee Indians v FCC*[90] struck down that "public interest finding" because it was not in the public interest to categorically exempt 5G "small cells" from NEPA and NHPA review. The Court ruled that the FCC's attempted deregulation was "arbitrary and capricious." The Court found that the FCC had failed to address the cumulative impact that may result from "densification," i.e. crowding of multiple cell towers in a limited area or the co-location of multiple wireless facilities on a single pole.

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[83] 54 U.S.C. § 300320.
[84] Submission ID 10514009578167, https://www.fcc.gov/ecfs/search/search-filings/filing/10514009578167.
[85] Ibid.
[86] https://www.fcc.gov/ecfs/document/1043078545547/1.
[87] See, e.g., *CTIA-Wireless*, 466 F.3d at 112-5; *United Keetoowah Band of Cherokee in Okla. v. Fed. Commc'ns Comm'n,* 933 F.3d 728 (D.C. Cir. 2019).
[88] https://www.fcc.gov/ecfs/document/104302642712440/1.
[89] See, e.g., Rural Wireless Association (RWA) at https://www.fcc.gov/ecfs/document/10412487011840/1.
[90] 933 F.3d 728, 740-45 (D.C. Cir. 2019).

Moreover, as the Miami Tribe of Oklahoma states: "the [CTIA] Petition fails to offer a factual or legal basis to abrogate "the United States' trust responsibility to consult with the Tribe on projects affecting its aboriginal homelands."[91] The National Association of Tribal Historic Preservation Officers, in citing the *Keetoowah* decision states that the CTIA petition concerning NEPA "is an affront to Tribal sovereignty and a fundamental violation of the Federal trust responsibility to Tribal Nations."[92] "The FCC does not have the authority to redefine the term undertaking to exclude federally licensed projects and activities … the NHPA delegated to the ACHP exclusive Section 106 rulemaking authority … "[93] We agree.

Although RWA wants to eliminate NEPA review for additional wireless facilities on existing wireless facilities, RWA fails to consider the cumulative impact of additional radiation on people and the environment that even under the FCC's current exorbitant limits may yet exceed even those limits. The FCC should align itself within its statutory guardrails of "protecting life and property" in the public interest.

9) 5G's Inherent Architectural Cybersecurity Vulnerabilities

While CTIA's comments are touting how its agenda of "next-generation connectivity" will serve national security[94] in fact 5G's architecture is inherently insecure and open to hackers making it a national security risk. These vulnerabilities have not been addressed by CTIA or other comments supporting the CTIA petition, and remain unresolved. The FCC should address the security risk that 5G architecture poses and should put the brakes on any further deployment.

As to 5G's hackability, former FCC Chairman and former CTIA CEO, Tom Wheeler has coined the term, the "5G Cyber Paradox," that the increased efficiency of 5G architecture renders it more insecure. "5G networks are much more vulnerable to cyberattacks than their predecessors."[95] Whereas the 4G network is a centralized, hardware-based switching network with hardware choke points to quarantine any security breach events, 5G is a distributed, software-based network of digital routers with thousands of nodes and access points that a hacker can exploit; there is no choke point control.[96] If a hacker gains control of

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[91] https://www.fcc.gov/ecfs/document/1043010947272/1.
[92] https://www.fcc.gov/ecfs/document/104302333500052/1.
[93] Ibid.
[94] CTIA's Ex Parte Presentation reported in its letter of May 14, 2025, Submission ID 105140490909636, https://www.fcc.gov/ecfs/document/105140490909636/1.
[95] Why 5G Requires New Approaches to Cybersecurity, Tom Wheeler and David Simpson, Brookings Institute, Sept 3, 2019, https://www.wita.org/nextgentrade/why-5g-requires-new-approaches-to-cybersecurity/.
[96] *Why 5G Requires New Approaches to Cybersecurity*, Tom Wheeler and David Simpson, Brookings Institute, Sept 3, 2019, https://www.wita.org/nextgentrade/why-5g-requires-new-

the 5G software managing the networks, the hacker can also control the 5G network.[97] In fact, in 2018 a hacker gained access to a Nevada casino's network through its internet connected "smart" thermostat system located in a fish tank at the casino, and was able to extract information out through the thermostat and load it into the cloud.[98] This shows that the architecture of 5G that is supposed to facilitate the Internet of Things (IoT) poses a serious risk of security breaches.

Even NYC's Chief Technology Officer and Chief Information Security Officer spotlighted 5G's security vulnerabilities in a letter to the National Telecommunications and Information Administration (NTIA) in 2020 (emphasis added):

> Such complex systems [5G] present ***more opportunities for security and privacy breaches***. By moving away from firmware-based technology of 4G telecommunication components to ***software-based 5G telecommunication components that will need to be updated, the opportunity for manipulation exists*** within the supply chain. Furthermore, movement away from centralized network systems to decentralized network systems ***increases the attack surface of a network***. That increased attack surface is ***amplified*** by the anticipated introduction of the increasing number and variety of connected devices (IoT) and big data industries. (top of p.3)
>
> The problem of IoT vulnerabilities will only become ***exacerbated by the increased speeds of 5G*** and other future wireless broadband technologies. (middle of p.3)
>
> IoT protection is historically poor and ***malware distribution is easily scalable***, which suggests that the creation of IoT botnets ("robot

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approaches-to-cybersecurity/; see also, *Why 5G Networks Are Disrupting The Cybersecurity Industry*, Oct 29, 2021, https://www.forbes.com/sites/forbestechcouncil/2021/10/29/why-5g-networks-are-disrupting-the-cybersecurity-industry/?sh=5186fc041fe9.

[97] *Why 5G Requires New Approaches to Cybersecurity*, Tom Wheeler and David Simpson, Brookings Institute, Sept 3, 2019, https://www.wita.org/nextgentrade/why-5g-requires-new-approaches-to-cybersecurity/.

[98] https://www.casino.org/news/hackers-stole-las-vegas-casino-high-roller-database-via-its-fish-tank/; https://www.forbes.com/sites/leemathews/2017/07/27/criminals-hacked-a-fish-tank-to-steal-data-from-a-casino/; https://www.washingtonpost.com/news/innovations/wp/2017/07/21/how-a-fish-tank-helped-hack-a-casino/.

networks") for malicious purposes, including ***large-scale distributed denial of service (DdoS) attacks***, is ***likely to increase*** as well. This poses a ***significant threat*** to vital digital infrastructure and resident services at all levels of government, as well as private sector enterprise. (penultimate paragraph on p.3)[99]

To further amplify the last point, it has been reported that:

> "***Botnet and denial of service (DdoS) type attacks can bring down whole portions of the network simply by overloading a single [5G] node.***"[100]

10) More spectrum is not necessary; Americans want wired connectivity

CTIA's assertions of a high demand for wireless and risk of congestion on wireless networks appear to be their justification for more spectrum.[101] However, what Americans want is wired connectivity. Two-thirds of Americans prefer fiber to the premises.[102] When the Affordable Connectivity Program (ACP) ended, wireline services retained 90% of subscribers while wireless services lost 80% and satellite services also had losses.[103] Incidentally, over 90% of Americans won't buy or rent a home near a cell tower.[104]

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[99] Letter from Chief Information Security Officer, Geoff Brown, and Chief Technology Officer, John Paul Farmer, to National Telecommunications Information Administration of the U.S. Chamber of Commerce, June 2, 2020, https://www.dropbox.com/scl/fi/0cxjktjxstmb825gqih25/NYC-Comments-5G-to-NTIA-6-25-20.pdf?rlkey=dgmc3m04dxd57qfz7z1g12ckh&dl=0.

[100] Why 5G Networks Are Disrupting The Cybersecurity Industry, Oct 29, 2021, Forbes, https://www.forbes.com/sites/forbestechcouncil/2021/10/29/why-5g-networks-are-disrupting-the-cybersecurity-industry/?sh=5186fc041fe9.

[101] CTIA letter of May 14, 2025 on the ex parte presentation to FCC Commissioner Gomez, https://www.fcc.gov/ecfs/document/105140490909636/1.

[102] https://www.fibre-systems.com/article/fiber-connect-2023-two-thirds-us-consumers-prefer-fibre?iframe=1; see also, "The Market Has Spoken," Fiber Broadband Association, https://5217051.fs1.hubspotusercontent-na1.net/hubfs/5217051/Events/IQGeo%20Meetup%202022%20-%20Denver/Meetup%20Day%201%20presentations/2_FBA%20Keynote_The_market_has_spoken_IQGeo_Meetup_2022.pdf?hsCtaTracking=72374350-4b3e-455a-b8ed-031e09618cd7%7Ced1704fb-9b86-4c4b-a0a6-7f7d6b47b5de.

[103] https://broadbandbreakfast.com/acp-fallout-wireline-retains-most-wireless-and-satellite-face-major-losses/.

[104] https://www.emfanalysis.com/property-values-declining-cell-towers/?iframe=1&iframe=1&iframe=1.

It's important to note that:

(1) wireless networks have dramatically less capacity to carry data than wired networks, and have data caps, restricting the amount of data that a user can download from the Internet; and
(2) many wireless providers "throttle" or slow down a user's Internet connection during times of peak usage or if they exceed their data cap.[105]

In effect, wireless providers restrict users' ability to access the Internet because wireless networks cannot handle the load. Wired networks on the other hand, especially fiber, do not have these limitations – which is one of the reasons wired networks are superior.

For reference, a typical household in Q4 2024 used nearly 700 GB per month of data. This is up from 344 GB just five years earlier.[106] By comparison, some satellite plans have a data cap as low as 50 GB.

While CTIA and other comments from the wireless industry argue for more spectrum, there is a pro-wireless industry federal bill that would allow the industry to set data caps and mandate that states ignore data caps when reviewing competing proposals between wired and wireless.[107] Industry wants not only increased spectrum but also the ability to set data caps and mandate that states ignore those data caps when considering competing proposals of wired or wireless, even though wired has no data caps and is superior in data capacity. If states are then forced to go with the lesser capacity of wireless, it would create scarcity as that would create an artificially greater demand for areas relegated to wireless-only. This would preempt and restrict states' decision-making flexibility, forcing them to accept wireless as equal to competing proposals, even when the wireless proposals are not equal and include data caps. This favors wireless and discriminates against wired. What is being asked of the FCC is to create this preemption parallel to this legislation.

If two technologies or services are not equivalent, forcing states to treat them as equivalent is actually **discriminatory** to the superior service. In effect, by viewing wireless without its vast

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[105] https://www.starlink.com/legal/documents/DOC-1469-65206-75
"If bandwidth patterns consistently exceed what is allocated to a typical residential user, Starlink may take network management measures, such as temporarily reducing a customer's speeds, to prevent or mitigate congestion of the Services. Bandwidth intensive applications, such as streaming videos, gaming, or downloading large files are most likely to be impacted by such actions."
[106] Q4'2024 Open Vault report https://openvault.com/resources/ovbi/
[107] HR 1870: Streamlining Program Efficiency and Expanding Deployment (SPEED) for BEAD Act.

shortcomings to wired is forcing states to ignore the inferiority of wireless and treat it as equal. The losers of this calculus will be rural residents – as their state broadband offices will not have the flexibility to ensure they have the best available broadband.

11) C-Block Rule and Unlocking Rule should remain

As open access serves the subscribers and promotes competition, we disagree with Verizon's request to end the C-Block Rule and the Unlocking Rule.[108] The Rules allow subscribers to switch to their preferred service providers rather than being locked into a service provider that they do not want. While Verizon cites CTIA's Consumer Code as competitive industry self-regulation, the Code allows for a one year locking period which does not allow for consumers to switch to a lower-cost provider during that period. We fail to see how that promotes competition either in terms of services or prices.

12) Copper lines should be maintained

Copper wired landlines are essential to ensure connectivity when the cellular network or electricity goes down, and therefore disagree with Verizon's comments to retire copper wired landlines.[109] When the cellular network or electricity goes down there would be no way for the disabled or the general public to access medical services or 911 without copper wired landlines, which function independently from cellular equipment or electricity. In February 2024, 70,000 residents in CA were stranded without the ability to make a 911 call because their copper lines have been cut off. What would happen if there was a cyberattack with even more extensive cellular failures? Landlines are the most essential and resilient for access to emergency services by the disabled. Wired connections will also prevent the exclusion of those with Electromagnetic Radiation Syndrome (EMR Syndrome) who otherwise cannot be near RF radiation from mobile devices and wireless facilities. Copper wired landlines afford more reliable access to medical and other services for the elderly and disabled during emergencies or severe weather when wireless service is more likely to be interrupted.

13) Conclusion

The CTIA petition is unavailing for the reasons set forth in this submission. The FCC should expand its activities under NEPA, not curtail them.

[108] https://www.fcc.gov/ecfs/document/10411149156728/1.
[109] https://www.fcc.gov/ecfs/document/10411149156728/1.

On behalf of Americans Injured and Disabled
from Electromagnetic Radiation and the Filing Parties

Respectfully Submitted,

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APPENDIX A

The parties listed here collectively constitute the "Filing Parties," have granted permission to submit these Comments on their behalf, and join together to submit these Comments:

The National Call for Safe Technology, Odette Wilkens, Chair & General Counsel; Charles Frohman, M.Ed, HIA, lobbyist, National Health Federation; Fred P. Sinclair, Jr., Alfred, NY; New Yorkers 4 Wired Tech, New York, NY; New York City Alliance for Safe Technology, New York, NY; 5G Free Rhode Island, Sheila Resseger, M.A., Co-Founder, Cranston, RI; Susan Molloy, M.A., Snowflake, AZ; Coloradoans for Safe Technology, Andrea Mercier (Mother of a severely disabled child who is adversely impacted various forms of non-ionizing radiation), Colorado Springs, CO; Coloradans for Safe Technology, Nancy VanDover, DVM, OMD, Dipl Acup, disabled by EMR; Deborah Shisler, with EMR-S, CO; La Plata for Safe Technology, Ingrid Iverson, with EMR-S, CO; Virginians for Safe Technology, Jenny DeMarco, Communications Director, and Mary Bauer, retired RF engineer, Fredericksburg, VA; NY4Whales & NY4Wildlife Taffee Wiliams, President, Tuckahoe, NY; Safe Tech International, Sara Aminoff, Union City, CA; Safe Tech International, Kate Kheel, Taneytown, MD; Safe Tech International, Patricia Burke, Millis, MA; Safe Tech Westchester, Ruth F. Moss, Westchester, NY; The Soft Lights Foundation, Mark Baker, President, Beaverton, OR; Amy Harlib, Concerned Citizen, New York, NY; Floris R. Freshman, Scottsdale, AZ, with EMR-S; Virginia Farver, Fort Collins, CO; Gabriela Munoz, disabled with EMR-S, Carmel, NY; EMF Safety Network, Sidnee Cox, Co-director, Windsor, CA; Rosemarie Russell, member of The Women's State Legislative Council of Utah, Hurricane, UT; Erin McDowell, RN, Rocky River, OH, SWORT (Southwestern Ohio for Responsible Technology), with EMR-S; Craig McDowell, veteran, Rocky River, OH; Southern EMF Radiation Solutions, Shari Champagne, with EMR-S, Houme, LA; Southwest Pennsylvania for Safe Technology, Mount Pleasant, PA, Susan Jennings, MPA, BA, Founder (son has EMR-S); Pennsylvania for Safe Techology, Mount Pleasant, PA; Jen Goddard, Board Certified Doctor of Natural Health, Thriving Proof Holistic Health Practice, and 2025 United States of America Mrs. Maine Pageant, Brewer, ME; Loraine Uebele, FACHE, Kansas City, MO; Sean Polacik, Automation Control Systems Technician, OH; Linda M. Cifelli, retired RN, Williamsburg, VA; Safer Cell Phone and Wi-Fi Project, Marne Glaser, Chicago, IL; Amy Harlib, concerned citizen, New York, NY; Katherine Katzin, Takoma Park, MD; Jan Kiefer, Scottdale, PA; Fiber First LA, Charlene Hopey, Topanga, CA; Gene Wagenbreth, Topanga, CA; Alison McDonough, Canton, MA, with EMR-S; Longmont for Safe Technology, Doe Kelly, Co-Founder, with EMR-S, Longmont, CO; Sharon Behn, Arden, NC; Brenda Shafer, CA with EMR-S; and Margaret Holt Baird, Esq, San Diego, CA with EMR-S.

Abbreviations:

EMR means electromagnetic radiation. **EMR-S** means Electromagnetic Radiation Syndrome.