

Date: September 13, 2022 – Montgomery County Council Public Hearing Testimony

Re: ZTA 22-01, Antenna on Existing Structure – Use Standards – **Opposition to reducing setback**

From: Roberta G (rg) Steinman, 9009 Fairview Road, Silver Spring, Maryland, 20910

Dear Council President and Councilmembers,

I am strongly opposed to reducing the setback for an antenna on existing structures from 60 feet to 30 feet. I support either keeping the 60 foot setback, or increasing it.

Please, do not approve ZTA 22-01 because the 5G rollout and its reduced setback:

- **Overrides individual rights,**
- **Will not help bridge the digital divide,**
- **Would have harmful effects on human health and biodiversity,**
- **Would increase greenhouse gas emissions and worsen climate impacts due to increased power demands,**
- **Would harm tree canopies, which are critical to mitigating global warming and drought, and**
- **Expand the cycle of consumption, contributing to our world's E-waste Emergency**

Overrides Individual Rights and Excludes Public Participation: This law would allow wireless companies to **put** thousands of cell towers and the large 5G equipment boxes **on almost every block of every street in our county**, as close as 30 feet from our homes, and within 10 feet in mixed commercial/residential areas,¹ and it would do so without public participation or public protection. The ZTA also eliminates public notices and hearings. **No notice. No hearing. No community input.** The rights of local residents and the ownership of private property would automatically be subservient to the telecom companies' profit-making interest. It is no longer a question of residents' rights, but corporate motives. Allowing companies unfettered access to build cell towers in neighborhoods in the name of 5G is a bad policy, and this alone has led to a **massive pushback from Montgomery County citizens.**

5G will not help bridge the digital divide and will disproportionately affect low-income communities Since 98.8% of Montgomery County already has broadband access, **the digital divide is about affordability, not accessibility.** Low-income communities are at a digital disadvantage because they cannot afford home broadband connections, or the costs of computer purchase, maintenance and service--none of which are addressed by this ZTA or previous ZTAs. Thus they have few options for getting online other than using their cell phones. "If the Council really wants to support equity in Montgomery County, councilmembers can address the issue directly by supporting affordable fiber broadband connections; affordable computers with free tech support and education; and funding a full analysis of the digital inequity in the county so that policy recommendations can be science-based and data-driven."² Coverage can be improved today with existing cellular technology. Montgomery County needs affordable broadband, not 5G cell towers, to bridge the digital divide.

But what ZTA 22-01 would do is allow multiple telecom companies to put thousands of cell towers and the large 5G equipment boxes as close as 30 feet from our homes. Property values are likely to go down for any residents who find that an intrusive, visually unpleasant telecom tower has invaded their front yard. The economic hit is likely to be especially hard on those with smaller properties, whose homes are close to the street. **The result would be a disproportionate impact on low-income communities and communities of color. ZTA 22-01 must be subject to a review for its impact on racial equity and social justice.**

¹ In 2018 the Montgomery County Council passed ZTA 18-02, which allows placement of small-cell towers within 10 feet from homes in mixed commercial/residential areas.

² https://www.thesentinel.com/communities/montgomery-county-needs-affordable-broadband-not-5g-cell-towers-to-bridge-the-digital-divide/article_c4cb0ec6-e1f3-11eb-9735-5bb51f9713d4.html

Peer-Reviewed Scientific Literature documents the harmful effects of wireless radiation on health

The FCC still has not updated its 1996 exposure limits for radio-frequency radiation from cell towers, cellphones, and other wireless devices with the latest science. Yet, over this 26-year period, there has been a vast amount of research by respected scientists and institutions – literally thousands of scientific articles in peer-reviewed journals – showing harmful effects of wireless radiofrequency radiation on human health, on the environment, and on the climate. International independent scientists are calling for biologically-based public exposure standards and reducing wireless radiation.

More than 240 scientists who have published peer-reviewed research on the biologic and health effects of nonionizing electromagnetic fields (EMF) signed [the International EMF Scientist Appeal](#), which calls for stronger exposure limits. The appeal makes the following assertions:³

“Numerous recent scientific publications have shown that EMF affects living organisms at levels well below most international and national guidelines. Effects include increased cancer risk, cellular stress, increase in harmful free radicals, genetic damages, structural and functional changes of the reproductive system, learning and memory deficits, neurological disorders, and negative impacts on general well-being in humans. Damage goes well beyond the human race, as there is growing evidence of harmful effects to both plant and animal life.”

Radiation from Wireless Infrastructures has also been shown to be Harmful to Biodiversity

In addition to the harmful effects on humans, radiofrequency/microwave (RF/MW) radiation from wireless infrastructures and devices has been shown to have harmful effects on animal, insect and plant life. And yet, there are NO US agency wireless radiation “safety” limits for trees, plants, birds and bees.

The main component of the 5G network that will affect the earth’s ecosystems is the millimeter waves, which have never been used at such scale before. In numerous studies, the millimeter waves have been linked to disturbances in birds, bees, amphibians, and plants. Birds exposed to RF/MW radiation from infrastructures express abnormalities in fertility, nesting patterns, navigation and reduced populations.⁴ When affected by radiation, honeybees, our key agricultural pollinators, don’t return to the hive; the strength of colonies and productivity of queens are reduced; and eggs don’t transform into larvae.⁵ Amphibians are harmed, with tadpoles suffering deformities and a 90% mortality rate from cellular towers only 140 meters away.⁶ Plants are affected on a cellular, molecular and whole plant scale.⁷ Cellular towers’ radiation cause harm to trees: discoloration and thinning of leaves, distorted growth of

³ <https://blogs.scientificamerican.com/observations/we-have-no-reason-to-believe-5g-is-safe/>

⁴ Balmori, A. (2009). Electromagnetic pollution from phone masts. Effects on wildlife. *Pathophysiology*, 16(2-3), 191-199. doi: 10.1016/j.pathophys.2009.01.007. Retrieved from

https://www.researchgate.net/publication/24180316_Electromagnetic_pollution_from_phone_masts_Effects_on_wildlife. And, Sivani, S. & Sudarsanam, D. *Impacts of radio-frequency electromagnetic field (RF-EMF) from cell phone towers and wireless devices on biosystem and ecosystem- a review*. Biology and Medicine. Volume 4, Issue 4. January 6, 2013. P.207.

⁵ Halabi, N., Achkar, R., & Haidar, G. (2013). The effect of cell phone radiations on the life cycle of honeybees. *Eurocon 2013*, page 5. doi: 10.1109/eurocon.2013.6625032. Retrieved from

https://www.researchgate.net/publication/246044829_The_Effect_of_Cell_Phone_Radiations_on_the_Life_Cycle_of_Honeybees. And, Warnke, Ulrich. *Birds, Bees and Humankind: Destroying Nature by 'Electrosmog'*. Competence Initiative for the Protection of Humanity, Environment and Democracy. March 2009.

⁶ Balmori, A. (2010). Mobile Phone Mast Effects on Common Frog (*Rana temporaria*) Tadpoles: The City Turned into a Laboratory. *Electromagnetic Biology And Medicine*, 29(1-12), 31-35. doi:10.3109/15368371003685363. Retrieved from <https://www.ncbi.nlm.nih.gov/pubmed/20560769>

⁷ Vian, A., Davies, E., Gendraud, M., & Bonnet, P. (2016). Plant Responses to High Frequency Electromagnetic Fields. *Biomed Research International*, 2016, 1-13. doi: 10.1155/2016/1830262. Retrieved from https://www.researchgate.net/publication/294576990_Plant_Responses_to_High_Frequency_Electromagnetic_Fields

trunks as well as dead leaves and branches.⁸ Because all ecosystems of the earth are interconnected, if one component of an ecosystem is disrupted the whole system will be affected.

Do No Harm – Apply the Precautionary Principle and Follow the Science

The latest cellular technology, 5G, will employ millimeter waves for the first time in addition to microwaves that have been in use for older cellular technologies, 2G through 4G. Furthermore, 5G will not replace 4G; it will accompany 4G for the near future and possibly over the long term. If there are synergistic effects from simultaneous exposures to multiple types of Radio Frequency Radiation (RFR), our overall risk of harm from RFR may increase substantially. Cancer is not the only risk as there is considerable evidence that RFR causes neurological disorders and reproductive harm, likely due to oxidative stress.⁹

Wireless technology has changed considerably over the past 25 years, and **new radiation standards need to be adopted to reflect current scientific data and present-day concerns.**

5G is an Energy Hog, and this translates into higher greenhouse gas emissions

5G would facilitate a massive shift from wired and fiber-optic communication, to wireless communication. It is much more efficient to send data through copper wires or fibers than through air. An exhaustive study published in the professional journal of the Institute of Electronic and Electronics Engineers (IEEE) said: “wireless technologies will continue to consume at least ten times more power than wired technologies, when providing comparable access rates and traffic volumes.”¹⁰ Furthermore, the ability for more devices to be used on the same network creates more incentive for consumers to buy electronics and use them more often, thus multiplying the harmful impact on the environment through increased energy use. And higher energy consumption inevitably means higher greenhouse gas emissions. Based on the County’s recently passed Climate Assessments Bill ([Bill 3-22](#)), **ZTA 22-01 would be subject to a climate assessment review for the potential impacts of its proposed policies.**

5G would Harm Tree Canopies, which are critical to mitigating global warming and drought

A rollout of 5G would also result in a major loss of tree canopy, due to “line of sight” requirements for the higher-spectrum millimeter wavelengths. The proposed dense network of ‘small-cell’ towers on poles in front of our homes would mean the severe pruning (if more than 25% of a tree is pruned, it is likely to die) and removal of untold number of trees, and a reduction in shade tree planting sites. Yet we are at a critical ecological moment in time when trees are more important than ever.

Tree canopies are the critical renewable technology needed to combat increased warming and drought due to climate change. Trees absorb carbon dioxide — the greenhouse gas emitted by our cars and power plants. The “line of sight” cutting would eliminate the carbon sequestration of thousands of trees. Trees also cool neighborhoods, reducing energy needs. And trees increase rainwater absorption, mitigating the effects of drought. 5G would undermine these important biological services that trees provide. This ZTA fails in every way to protect our vital tree canopy. Further, the 5G permitting process would also eliminate the forest conservation review and other standards currently required for cell

⁸ Waldmann-Selsam, C., Balmori-de la Puente, A., Breunig, H., & Balmori, A. (2016). Radiofrequency radiation injures trees around mobile phone base stations. *Science Of The Total Environment*, 572, 554-569. doi:10.1016/j.scitotenv.2016.08.045. Retrieved from https://www.researchgate.net/publication/306435017_Radiofrequency_radiation_injures_trees_around_mobile_phone_base_stations

⁹ Joel M. Moskowitz, PhD, is director of the Center for Family and Community Health in the School of Public Health at the University of California, Berkeley, <https://blogs.scientificamerican.com/observations/we-have-no-reason-to-believe-5g-is-safe/>

¹⁰ “Energy consumption in wired and wireless access networks” Jayant Baliga ; Robert Ayre ; Kerry Hinton ; Rodney S. Tucker, *IEEE Communications Magazine* (Volume: 49, Issue: 6, June 2011), https://web.archive.org/web/20171114021923if_/http://ieeexplore.ieee.org/abstract/document/5783987/ (paid)

towers. Even worse, a considerable amount of independent research indicates that the trees left behind that are close to antennas would also be harmed from constant exposure to radio-frequency radiation.¹¹ **This potential loss of trees and tree canopies must be part of the Climate Impact Assessment.**

5G devices contribute to our world’s E-waste Emergency and increased demands for energy

5G will speed the obsolescence of existing technology and encourage people to swap out their existing devices for new 5G devices, contributing to our world’s ever growing e-waste emergency. E-waste contains a laundry list of chemicals that are harmful to people and the environment including mercury, lead, beryllium, brominated flame retardants, and cadmium, and more. As consumers gain access to more technologies, the cycle of consumption expands: new devices are developed; older devices are thrown out, even if they are still functional. Metals used in the manufacturing of the smart devices used today often cannot be recycled in the same way many household items can be recycled. Because these technologies cannot be recycled, they create tons of waste when they are created, and tons of waste when they are thrown away. E-waste is projected to reach nearly 75 million metric tons of e-waste worldwide each year by 2030.¹² Furthermore, the ever-expanding cycle of consumption leads to evermore demand for energy to power the multitude of new connected devices exacerbating the greenhouse gas emissions.

Let Science, coupled with Public Participation, guide our actions

Remember the wonders of lead, asbestos, tobacco, CFCs, and fossil fuels? Those chickens did come home to roost. So let’s **critically evaluate *this new technology before we dive in*** — and not be sorry later. Let us pause our headlong rush to speed the deployment of 5G. Rather than lining our residential streets with cell towers to accommodate the telecom industry’s profit-based technology policies, we need to pause and study the extensive Science-based research, and couple that with transparency and robust public participation, to guide our decisions about the design and use of these powerful technologies.¹³

*******THESE ARE STRUCTURES ZTA 22-01 IS TALKING ABOUT*******

Under section 3.5.14.C. of the Zoning Ordinance, an “Antenna on Existing Structure” is defined as “one or more antennas attached to an existing support structure, including a building, a transmission tower, a monopole, a light pole, a utility pole, a water tank, a silo, a barn, a sign, or an overhead transmission line support structure. Antenna on Existing Structure includes related equipment.” Currently, the setback for an Antenna on Existing Structure is 60 feet. ZTA 22-01 will reduce that setback to 30 feet, so that these antennas are treated similarly to telecommunications towers. (from Feb 10, 2022, Legislative Attorney, Livhu Ndou, Memorandum to County Council, https://www.montgomerycountymd.gov/council/Resources/Files/agenda/col/2022/20220215/20220215_3C.pdf)

Thank you for considering my comments,
~ Ms. Roberta G (rg) Steinman

¹¹ For a sample of research articles on impact of wireless radiation’s adverse impact on trees, see <https://techwisemocomd.org/tag/take-action-montgomery-county/>
¹² The Global E-waste Monitor 2020, p.13. https://www.itu.int/en/ITU-D/Environment/Documents/Toolbox/GEM_2020_def.pdf
¹³ <https://techwisemocomd.org/2020/01/04/community-vision-for-takoma-zta19-07-testimony/>