

September 8, 2022

**Re: Racial Equity and Social Justice (RESJ) Zoning Text Amendment Statement on ZTA 22-01:
Antenna on existing structure – use standards**

Dear Ms Tesfaye and Dr. Bonner-Tompkins,

cc: Chris Cihlar, Director, Office of Legislative Oversight (OLO)
Tiffany Ward, Director, Office of Racial Equity and Social Justice

Thank you for preparing the recent RESJ impact statement for the proposed Zoning Text Amendment 22-01, published March 14, 2022¹ (the “Statement”). As you note, predicting the impact of zoning text amendments on RESJ can be a challenging endeavor.

Appreciating just how challenging and yet how critical a task you have undertaken, I ask you to consider the additional information and related analysis provided below and, based on your evaluation of this content, to revise the Statement accordingly. Your openness to such revision would be a model for both the Council and the general public as to how the consideration of RESJ impacts is an ongoing process, responsive to new evidence and community engagement. It would also underscore the importance of the mission entrusted to you.

The information below indicates that 22-01 would have a negative net impact on RESJ in our County, will not improve the digital divide (and potentially worsen it), and will cause significant adverse social justice impacts. In light of OLO’s position as legislative staff charged with assessing a proposal by a Council Committee chair, my hope is that this letter will prove a helpful source of information.

A public hearing is scheduled on this ZTA for September 13, 2022, so there is time to withdraw and reissue this statement with a negative net impact prior to any Council worksession on this ZTA.

In its current form, the Statement considers two dimensions of impact: (a) the digital divide, which it says may be improved and (b) health inequities, which may be worsened. But, it says, because the magnitude of the effect on each dimension cannot be quantified, it is difficult to “distinguish” the net impact. If after reading the contents of this letter you determine that 22-01’s ability to improve the digital divide in the County is either neutral or negative, then the net impact of 22-01 would be negative. (A neutral impact on one dimension and a negative impact on the second dimension is net negative, regardless of magnitude).

This letter is organized in 4 sections:

- 1) Conclusions on the digital divide relied almost entirely on industry-funded information
- 2) Evidence indicates 22-01 will not improve the digital divide, and if anything is likely to worsen it
- 3) The Statement does not consider social justice impacts on protected classes that would be disproportionately affected by reduced setbacks and resulting proliferation of antenna

- 4) Fact checking certain statements in the health inequities section that were either factually inaccurate or misleading

- 1) **Conclusions on the digital divide rely almost entirely on industry-funded information**

The Statement's conclusions regarding the digital divide are based almost exclusively on what the Statement calls "Research from the Brookings Institution". However this publication by Brookings is industry-funded, not independent analysis.

- a. **Brookings report was funded by T-Mobile.**

The report itself reads "Support for this publication was *generously* provided by T-Mobile."² [Emphasis added]

- b. **Brookings author was chair of an industry-funded organization**

The Brookings article was published by author Dr. Nicol Turner-Lee in 2019 (not 2022 as published in the Statement). According to her CV³, she was a board member beginning in 2014 of TPRC. According to the TPRC website, Dr. Turner-Lee was chair of its board from 2019 to 2021.⁴ TPRC also lists on its website its top-tier funders during her time as chair, which included AT&T, T-Mobile, Verizon, and CTIA (Communications Technology Industry Association). According to its own website, CTIA is "the voice of America's wireless industry". It is often considered the most influential lobbyist on behalf of the wireless industry. In Montgomery County's lawsuit against the FCC and its Small Cell Order, CTIA filed a brief as an intervenor against the County⁵.

- c. **Brookings Institution has received significant industry funding**

Brookings donors include AT&T⁶, T-Mobile, Verizon, Google⁷ (which runs a 5G wireless service called Google Fi that serves approximately 500,000 subscribers⁸). Between July 1 and December 31, 2019, the government of Germany, which is the largest beneficial owner of T-Mobile USA⁹, donated over \$2 million to Brookings.

- d. **T-Mobile stands to benefit financially from the passage of ZTA 22-01, and similar ordinances across the country for which it is advocating**

By expanding the number of poles available for antenna attachment, ZTA 22-01 would save T-Mobile and other wireless carriers a significant amount on site fees. Historically, wireless carriers would contact a landowner and negotiate payment to rent space for an antenna on the landowner's property. This was the case with larger "macro towers", as well as rooftop antenna (in which case the carrier pays the building owner a rental fee for space on the rooftop). While carriers have claimed that they need access to public rights-of-way in order to allow for densification, in practice we have not seen that to be the case in Montgomery County. Instead, many of the applications to attach wireless facilities to utility poles are directly in front of or adjacent to locations where carriers would have previously had to pay rental fees. Take for example 8000 Flower Ave in Takoma Park.¹⁰ This location is surrounded by R-40, R-30 and R-10 residential zoning¹¹. However in the 8000 block, there is a small shopping center, with a dry cleaners and a barber shop. In the past, T-Mobile would have had to pay rent rental fees to the shopping center's landlord to put an antenna on the rooftop. However, after the passage of prior small cell ZTAs 18-02 and 19-07, T-Mobile's contractor applied to attach

an antenna to a utility pole in front of the shopping center, just 62 feet from a home. FCC has preempted and prohibited local government from charging fees for this real estate; instead the County can only charge up to its actual out-of-pocket administrative costs for processing permits (although the County approved a fee schedule earlier this year with fees significantly below its costs, meaning taxpayers are now subsidizing these deployments¹²). These cost-based fees are below the fair market rates that T-Mobile and other carriers would pay to property owners.

OLO should not rely upon industry-funded materials for this or any other assessment. If OLO cannot find any independent, unbiased information, then its assessment could report that to the Council. In circumstances where OLO believes it is necessary and unavoidable to cite industry-funded information, OLO should clearly disclose the funding source behind the analysis and consider the influence of such conflicts of interest in its assessment.

2) Evidence indicates 22-01 will not improve the digital divide, and if anything is likely to worsen it

The digital divide can be looked at on two dimensions: a) access to connectivity, and b) the affordability of that connectivity. First consider (a), access.

Connectivity at home is quite different than mobile wireless access outside the home. 22-01 deals only with residential neighborhoods, and therefore only affects access in the home. As the Statement points out, the percentage of homes with wired broadband in Montgomery County across all cited ethnicities is quite high. To measure access, the important but missing data point is the percentage of homes passed with wired broadband, broken down by ethnicity (“passed” means that the service is available to that home). Homes that are not passed by wired broadband is an urgent problem that the County should be and is focused on to ensure broadband providers provide wired access to all locations, much as the rural telephone program did decades ago. Assuming that the number of homes subscribing to broadband (which is what the Statement cited) is less than the number passed, then the real problem for the digital divide in Montgomery County is affordability, not access.

If it were the case that there is a disparity by race or ethnicity among homes in the County not passed by wired broadband, what is the basis for concluding that carriers would prioritize these areas for small cell wireless deployments? Council staff acknowledged this issue in 2021 with respect to ZTA 19-07; 22-01 is no different.¹³ Telecom carriers would be expected to act rationally and prioritize installing antennas in locations likely to generate the highest return on capital, where customers can afford the most expensive new services.

Angela Siefer, executive director of the National Digital Inclusion Alliance (which represents over 850 affiliates in 48 states)¹⁴, testified to the U.S. Congress in 2020 on this topic. She noted that in previous telecom deployments, low-income areas are usually where the coverage gaps are and “there is no reason to think 5G will be any different.” She was incredibly clear in her

assessment: “The excitement around 5G has led to claims 5G will solve the digital divide. It will not.”¹⁵

Now consider (b), affordability. Wireless Internet is and has always been far more expensive than wired Internet. Wireless data in the US costs between \$3 and \$8 per gigabyte, depending on the information source¹⁶. Wired data costs less than \$0.09 per gigabyte, assuming an average wired data plan of \$50 per month¹⁷ and the average family of four using 536 GB per month¹⁸. Therefore mobile wireless is between 33 and 89 times more expensive than wired broadband.

In addition, wired connections typically do not have data caps or throttling, a practice by which wireless carriers advertise unlimited data but “throttle”, or reduce, users to a lower speed after reaching a data cap. (In 2019, AT&T paid a \$60 million FTC fine for not disclosing its throttling policy¹⁹.) As data usage over a wired connection increases, the average cost per gigabyte continues to decrease. This has been especially important since covid-19 began. Nationally, as users rely increasingly on connectivity at home for all of the uses pointed out by OLO – such as social services, healthcare, education and employment – household data usage since the pre-pandemic level has increased by 56%, and by 264% in the previous four years.²⁰

In other words, a telecom strategy for the County that forces lower-income users to rely on mobile wireless at home would actually worsen the digital divide. Whereas a household with wired broadband can continue to increase its daily usage without any incremental cost out of pocket (zero marginal cost), a user reliant on a smartphone or mobile wireless hotspot for Internet access will face constant marginal cost, and therefore linearly increasing total cost.

OLO has staff who perform economic impact statements who could include an analysis of the negative economic impact on low income populations of the foregoing pricing dynamics. The higher cost of wireless data may be even further exacerbated by the fact that lower-income smartphone users are more likely to have “prepaid” plans, which often have a higher cost per gigabyte than “postpaid” or contract plans. Higher-income users who may have higher credit scores can obtain lower, postpaid pricing.²¹ Consider the financial analogy of bank lending: those with the best credit scores can borrow at lower rates, and those with no credit may have no choice but payday lending at high interest rates.

In summary, expecting expensive new small cell deployments to solve the digital divide is a bit like saying that “Lexus lanes” for only \$90 round-trip daily²² will provide a quick way of commuting to work for low-income commuters. Expensive new telecom services may be welcomed by those who can afford them, but the Statement does not provide data to support the idea that 22-01 would improve the digital divide.

3) The Statement does not consider social justice impacts on protected classes that would be disproportionately affected by reduced setbacks and resulting proliferation of antenna

Footnote 1 of the Statement cites a definition of “racial equity and social justice”. However the glossary cited does not contain a definition of social justice; the term “social justice” does not appear on this webpage.²³

The Council adopted a definition of social justice when it passed bill 27-19²⁴, which established the requirement for RESJ impact statements. The definition in the County code section 2-81C includes other areas of RESJ not yet addressed by the Statement²⁵:

Social justice means that everyone deserves to benefit from the same economic, political and social rights and opportunities, **free from health disparities**, regardless of **race, socioeconomic status, age, sex** – including on the basis of gender identity or orientation, religion, **disability, or other characteristics**. [Emphasis added]

Several protected classes would be severely and disproportionately impacted by ZTA 22-01, as described below. Note that 22-01 not only reduces proximity, but is intended to increase proliferation of antennae, and in turn dramatically increase radiofrequency density in residential neighborhoods. The PHED Committee legislative attorney estimated approximately 32,435 poles are located 30 to 60 feet from homes, which would almost double the 33,368 poles located 60 feet or more from homes²⁶

- a. **Socioeconomic status and other characteristics.** Those living on smaller plots of land or in homes in closer proximity to public rights-of-way would be more adversely affected than those living on larger plots of land with greater setbacks from the public rights-of-way. “Other characteristics” can be construed in this context to include environmental justice. Should residents living on smaller plots of land or in multi-family dwellings with shorter setbacks from public rights-of-way be subjected to different environmental or health disparities? In a study by Santini, those living 10 meters or less (approximately 33 feet, which is similar to the setback proposed under 22-01) suffered higher rates of fatigue, headache, depression, difficulties concentrating, skin problems, and dizziness, compared to those living more than 10 meters away.²⁷
- b. **Age.** Children suffer particular effects of radiofrequency emissions²⁸. The American Academy of Pediatrics acknowledges that children are “disproportionately” vulnerable to cell phone radiation, the same kind of radiofrequency emissions emitted by cell towers.²⁹ Researchers at the Environmental Working Group, a respected nonprofit, have called for child exposure levels 200-400 times lower than the current FCC limits.³⁰ The bones of children's skulls are not as fully developed as adults, leaving their developing brains more vulnerable.³¹ The US Court of Appeals for the DC Circuit, in its *EHT et al. v. FCC* remand last year, ordered FCC to consider the effects of radiofrequency emissions on children³² – something the FCC has not yet done and no federal agency has ever done.
- c. **Sex.** Women have been reported to suffer disproportionate effects of cell tower emissions. In the Santini study, women living near cell towers were much more likely to report adverse health outcomes than men. Women living closer to cell towers were 3 times more likely than men to suffer headaches, 2.7 times more likely to experience depression, and 83% more likely to suffer visual disturbances. In addition, women living 10 meters or less (approximately 33 feet, which is similar to the setback proposed under 22-01) from a cell tower experienced statistically significant higher rates of adverse

effects than those 300 meters or more.³³ In addition, research has examined adverse effects of electromagnetic fields on pregnant women and their unborn children.³⁴

d. Disability. EMS disabled persons would be disproportionately adversely affected, which would constitute a violation of the ADA.

22-01 creates two violations:

- (i) 22-01 would cause medical harm to tens of thousands of residents; and
- (ii) 22-01 does not contain any provision for advance notice of a deployment so that affected residents can arrange for reasonable accommodation under the ADA. Note that in a similar situation of deploying smart meters on residential properties, Maryland law requires utilities to provide a means for ratepayers to opt out of smart meters as a mechanism for reasonable accommodation for the EMS disabled.

Electromagnetic sensitivity (EMS) has long been recognized as a medical condition and afforded ADA protections.³⁵ The Access Board, a US federal agency that promotes equality for persons with disabilities³⁶, expressly recognized EMS as a disability in a 2002 report. They wrote:

*“The Board recognizes that multiple chemical sensitivities **and electromagnetic sensitivities** may be considered disabilities under the ADA if they so severely impair the neurological, respiratory or other functions of an individual that it substantially limits one or more of the individual’s major life activities. The Board plans to closely examine the needs of this population, and undertake activities that address accessibility issues for these individuals.”*

For more information, see a filing by advocates for the EMS disabled in response to an FCC notice of inquiry *Implementing the Infrastructure Investment and Jobs Act: Prevention and Elimination of Digital Discrimination*.³⁷ It documents, among other aspects, recognition for EMS disability in the United States, Canada, the European Parliament, Australia, France, Spain, and the United Kingdom.

A peer-reviewed study estimated the prevalence of EMS among the general population to be as high as 30% for mild symptoms, with 0.65% of the population suffering symptoms severe enough to restrict their access to work locations due to electromagnetic radiation.³⁸ These data suggest cell towers closer to homes, enabled by 22-01, could result in adverse health outcomes in up to 30% of the population, and cause a constructive eviction in 0.65% of the population – this is approximately 7,000 people in Montgomery County alone being forced to flee their homes. The reality of constructive eviction is not hypothetical – a group of Pittsfield, Massachusetts residents are currently litigating their constructive evictions after a cell tower was erected in their neighborhood.³⁹ The vulnerable population of the EMS disabled is typically already restricted from work environments, public spaces, and in some cases access to medical care, due to high radiofrequency emissions levels. Placing a cell tower 30 feet from the home of an EMS disabled person, which is often their only remaining refuge from public spaces increasingly flooded with high density radiofrequency, is inhumane and a violation of the ADA. I encourage OLO to read the recent administrative filings with FCC on behalf of the EMS disabled.⁴⁰

- e. **Race.** Negative health effects from radiofrequency radiation could worsen health disparities by race and ethnicity in our County. In addition to some of the reasons mentioned in the Statement, here are a few additional to note. Communities of color may have a higher proportion of residents who: (i) are more likely to live in closer proximity to public rights-of-way (see section 3a above), and in turn could experience disproportionate health impacts resulting from radiofrequency radiation; (ii) have less readily available housing alternatives or financial resources than other groups to move to a home in a less urban environment (for example for an EMS disabled person to move to a different home, or parents to move to protect their child); and (iii) experience a worsening of existing health disparities (for example, the Statement cites existing disparities by race in the County in heart disease and breast cancer mortality rates; research continues to emerge studying the effects of radiofrequency radiation as a factor in these conditions⁴¹).

4) Fact checking certain statements in the health inequities that were either factually inaccurate or misleading

Note: excerpts below from the Statement shown in italics with comments in plain text.

- a) *“But, if the reduced setback requirements for small cell towers authorized under ZTA 22-01 results in negative health outcomes, this in turn could widen health disparities by race and ethnicity.”* [Emphasis added]

The word “if” is inaccurate and misleading in this context, and should be replaced with the word “because”. A more accurate sentence would be:

But because the reduced setback requirements for small cell towers authorized under ZTA 22-01 will result in negative health outcomes for a significant proportion of those living in close proximity to towers, this in turn could widen health disparities by race, ethnicity, age, sex, socioeconomic status, and other characteristics.

See social justice section above and further explanation in section 4b below.

- b) *“There is no consensus among researchers regarding the health and environmental impacts of expanding 5G technology by reducing setbacks.”*

The Statement is asserting a threshold test: in order to estimate impact, there must be a “consensus among researchers”. While this might seem reasonable at first, it’s actually quite a high bar to achieve, particularly in the context of a massive information campaign funded by an industry seeking to avoid regulation. No US government agency has ever determined that cell towers are safe, much less near homes.⁴² An FDA attorney wrote earlier this year that “the Food and Drug Administration (FDA) does not regulate cell towers or cell tower radiation. Therefore, FDA has no studies or information on cell towers.”⁴³ Groups of Montgomery County residents have pointed out issues with the Council’s reliance on inaccurate characterizations of FDA positions.⁴⁴

Industry executives often become political appointees who run agencies such as FCC, HHS, and FDA.⁴⁵ At the same time, these agencies have never conducted the kind of systematic review of

the evidence that could lead to a government consensus statement at the federal level. A systematic review 15 years ago found that 82% of radiofrequency studies that were independently funded or funded by governments found health effects from mobile phones. However only 33% of studies funded by industry found such effects.⁴⁶ Funding poor quality studies to muddy the waters is a well-worn playbook from the tobacco industry – OLO can read further about it in the 2010 book *Merchants of Doubt*.⁴⁷

While the US federal bureaucracy has remained paralyzed and mired in conflicts of interest, the World Health Organization’s International Agency for Research on Cancer (IARC) classified radiofrequency emissions as a group 2B carcinogen⁴⁸ (along with DDT and lead⁴⁹), in 2011, over 10 years ago. As was argued in *EHT et al. v. FCC*, if IARC were to conduct its review today, taking into account the evidence of the past 10 years, the currently available evidence meets the criteria to be upgraded to a group 2A carcinogen. In fact, scientists who participated in the IARC 2011 review have since published in the peer-reviewed literature that radiofrequency emissions should be upgraded to a class 1 carcinogen⁵⁰ (the highest possible rating⁵¹). In this context, a number of medical associations, state governments, other countries, and transnational authorities have issued consensus statements recognizing health effects.⁵²

- c) *“The potential health effects of reducing setbacks to expand 5G technology and its probable impact on health inequities remains unknown.”*

See Santini study, endnote 27, finding that health effects increase with proximity, as well as a number of additional references below.⁵³ A more accurate sentence would be:

“The magnitude of impact on health inequities resulting from health effects of reduced setbacks, which would increase the number of small cells and radiofrequency emissions density in residential neighborhoods, remains hard to quantify.”

- d) *“Various research studies link radiation emitting from cell phone towers to a number of health **concerns** that include miscarriages, suppressed immune function, and childhood leukemia.”*[Emphasis added]

The word “concerns” in this context is misleading, potentially discriminatory, and often used by industry to gaslight persons who are suffering these health effects (as documented by licensed doctors), in an attempt to avoid liability and regulation. “Concerns” should be deleted and replaced with the word “effects”.

- e) *“A recent appeals court decision, however finds that the Federal Communications Commission’s (FCC) claims about the health and environmental impacts of 5G technology are **insufficient**.”* [Emphasis added]

The word “insufficient” in this context is inaccurate and misleading. This word should be replaced with the word “illegal”. The court wrote “we merely conclude that the [FCC]’s cursory analysis of material record evidence was insufficient as a matter of law.” In other words, the analysis that the FCC undertook was insufficient to meet the standard required, under the Administrative Procedures Act, in order to draw a conclusion, or a claim. As a result, it is inaccurate to say the “claim” was insufficient; rather, the court ruled that the claim was illegal

because it was based on insufficient analysis, and there was no “reasoned explanation” for FCC's conclusions.

- f) *“If ZTA 22-01 helps to narrow the digital divide in Internet access as noted above, it could expand access to telehealth medicine that in turn could help narrow health disparities by race and ethnicity”.*

I urge you to delete this sentence from the report because, as documented in section 1 above, it is based on industry marketing assertions, and as noted in section 2 above, there is no evidence to suggest the 22-01 will help narrow the digital divide. While the sentence may technically be true, it’s akin to saying “if bags of gold were to rain down upon low-income residents, it would expand their access to telehealth medicine.” The premise of the sentence is so unlikely as to make the suggestion of positive impact that follows out of place in an assessment of legislative impact. Hypothetically, even if the predicate were true in certain, limited circumstances, there is no assessment of the relative effect sizes: on the one hand, increased access to telehealth and on the other hand, negative effects from radiofrequency emissions. It’s also worth noting that telehealth is readily available over wired broadband connections, which are faster, more stable, more secure, have a lower carbon footprint, and are far more resilient during inclement weather, than wireless.

According to HHS, even during heightened covid restrictions, only about one quarter of medical visits were done via telehealth.⁵⁴ It seems unreasonable to conclude that the benefits of perhaps several telehealth visits per year outweigh the negative impacts of 24/7, involuntary irradiation. By analogy, in considering net impact, no one would argue that in the case of residents living immediately adjacent to the Beltway who inhale higher levels of air pollution 24/7, the net impact of air pollution on these residents is positive because when they develop asthma, COPD, or lung cancer at higher rates, they are able to access the Beltway and drive to the hospital more easily. Instead we require pollution mitigation measures, such as setbacks from the interstate and vehicle emissions limits. That kind of common sense is sorely needed when it comes to the regulation of wireless facilities.

As the scope and impact of OLO’s work continues to expand, so too does the scrutiny of such work. No doubt this scrutiny will continue to increase with the coming introduction of climate impact statements. I hope that, in the face of outside pressure, OLO will strive to maintain its independence, as congressional agencies at the federal level, such as CBO and GAO, have done in maintaining their reputations for reliable, nonpartisan, unbiased analysis.

Thank you for your consideration of revisions to the Statement. If you would like additional information or to talk with people with expertise on the topics raised in this letter, please contact me.

Sincerely,

Robert Janku
Montgomery County resident

References

- ¹ <https://www.montgomerycountymd.gov/OLO/Resources/Files/resjis/ZTA/2022/ZTA22-01.pdf>
- ² <https://www.brookings.edu/research/enabling-opportunities-5g-the-internet-of-things-and-communities-of-color/>
- ³ https://www.brookings.edu/wp-content/uploads/2016/11/turner_lee_cv_december-2016.pdf
- ⁴ <http://www.tprcweb.com/past-board-members>
- ⁵ <https://cdn.ca9.uscourts.gov/datastore/opinions/2020/08/12/18-72689.pdf>
- ⁶ https://www.brookings.edu/wp-content/uploads/2022/02/brookings_contributorslist_fy2022.pdf
- ⁷ <https://www.brookings.edu/wp-content/uploads/2020/04/The-Brookings-Institutions-Contributors-List-Fiscal-Year-2020.pdf>
- ⁸ <https://www.fiercewireless.com/operators/google-fi-runs-tv-ads-6-local-markets>
- ⁹ The government of Germany owns approximately 32% of Deutsche Telekom, which in turn owns approximately 65% of T-Mobile USA, which translates to Germany having a beneficial ownership of approximately 21%.
https://en.wikipedia.org/wiki/Deutsche_Telekom
https://en.wikipedia.org/wiki/T-Mobile_US
https://www.brookings.edu/wp-content/uploads/2022/02/brookings_contributorslist_fy2022.pdf
<https://finance.yahoo.com/quote/TMUS/holders?p=TMUS>
- ¹⁰ <https://montgomerycountytfcg.s3.amazonaws.com/Applications/MC2021101591+Application+and+Report.pdf>
- ¹¹ <https://mcatlas.org/zoning/>
- ¹² <https://montgomerycountymd.gov/COUNCIL/Resources/Files/agenda/col/2022/20220118/testimony/item5-SuePresent.pdf>
- ¹³ The Council legislative Attorney wrote: "ZTA 19-07 does not, however, guarantee equitable access. As with all zoning provisions, ZTA 19-07 does not mandate where small cell antennas must be provided."
https://www.montgomerycountymd.gov/council/Resources/Files/agenda/col/2021/20210727/20210727_4D.pdf
- ¹⁴ <https://www.digitalinclusion.org/affiliates/>
- ¹⁵ <https://docs.house.gov/meetings/IF/IF16/20200129/110416/HHRG-116-IF16-Wstate-SieferA-20200129.pdf>
- ¹⁶ <https://thetechtitan.com/cost-of-1gb-of-data-around-the-world/>
<https://www.statista.com/statistics/994913/average-cellular-data-price-per-gigabyte-in-the-us/>
- ¹⁷ <https://www.reviews.org/internet-service/how-much-do-internet-and-wi-fi-cost/>
- ¹⁸ https://openvault.com/wp-content/uploads/2022/03/OVBI_4Q21_Report_FINAL-1.pdf
- ¹⁹ <https://www.fiercewireless.com/regulatory/at-t-settles-ftc-unlimited-data-throttling-lawsuit-for-60m>
- ²⁰ See figure 9
https://openvault.com/wp-content/uploads/2022/03/OVBI_4Q21_Report_FINAL-1.pdf
- ²¹ This article notes " If the recession continues to affect more people, there could be some migration from postpaid to prepaid, out of financial necessity."
<https://www.fiercewireless.com/wireless/lowenstein-what-s-roadmap-for-prepaid-united-states>
- ²² <https://www.washingtonpost.com/transportation/2021/11/18/maryland-beltway-270-toll-rates/>
- ²³ <https://www.racialequitytools.org/glossary>
- ²⁴ <https://www.montgomerycountymd.gov/COUNCIL/Resources/Files/RacialEquity/Bill27-19.pdf>
- ²⁵ https://codelibrary.amlegal.com/codes/montgomerycounty/latest/montgomeryco_md/0-0-0-118171
- ²⁶ See page 3, "setback"
https://www.montgomerycountymd.gov/council/Resources/Files/agenda/cm/2021/20210310/20210310_PHEd2.pdf
- ²⁷ See Table 1
<https://www.tandfonline.com/doi/abs/10.1081/jbc-120020353>
- ²⁸ <https://ehtrust.org/research-on-childrens-vulnerability-to-cell-phone-radio-frequency-radiation/>
- ²⁹ <https://ehtrust.org/wp-content/uploads/American-Academy-of-Pediatrics-Letters-to-FCC-and-Congress-.pdf>
- ³⁰ <https://ehjournal.biomedcentral.com/articles/10.1186/s12940-021-00768-1>
- ³¹ <https://www.marylandmatters.org/2021/07/23/opinion-children-deserve-safety-assurances-when-it-comes-to-cellphone-radiation/>

³² [https://www.cadc.uscourts.gov/internet/opinions.nsf/FB976465BF00F8BD85258730004EFDF7/\\$file/20-1025-1910111.pdf](https://www.cadc.uscourts.gov/internet/opinions.nsf/FB976465BF00F8BD85258730004EFDF7/$file/20-1025-1910111.pdf)

³³ See Table 2
<https://www.tandfonline.com/doi/abs/10.1081/jbc-120020353>

³⁴ Impacts of smartphone radiation on pregnancy: A systematic review
[https://www.cell.com/heliyon/fulltext/S2405-8440\(22\)00203-1#secsectitle0050](https://www.cell.com/heliyon/fulltext/S2405-8440(22)00203-1#secsectitle0050)

³⁵ The ADA definition of a disability is an "impairment that substantially limits one or more major life activities of such individual".
<https://www.law.cornell.edu/uscode/text/42/12102>

³⁶ <https://www.access-board.gov/about/>

³⁷ See PDF page 19 <https://www.fcc.gov/ecfs/search/search-filings/filing/1051759759289>

³⁸ <https://www.omegaonline.org/article-details/The-Prevalence-of-People-With-Restricted-Access-to-Work-in-Man-Made-Electromagnetic-Environments/2402>

³⁹ <https://mdsafetech.org/wp-content/uploads/2022/07/Pittsfield-Civil-Action-Complaint-72822-w-Cover-Sheet-7-28-22.pdf>

⁴⁰ See entire filing for a description of this issue. Beginning on page 26, written testimony of individuals harmed by cell towers being constructed in close proximity to their homes:
<https://www.fcc.gov/ecfs/search/search-filings/filing/1051759759289>
Additional comments of the EMS disabled:
<https://www.fcc.gov/ecfs/search/search-filings/filing/10701619226145>

⁴¹ Cardiovascular disease: Time to identify emerging environmental risk factors
<https://journals.sagepub.com/doi/full/10.1177/2047487317734898>
The Association Between Smartphone Use and Breast Cancer Risk Among Taiwanese Women: A Case-Control Study
<https://pubmed.ncbi.nlm.nih.gov/33149685/>
US National Toxicology Program (NTP, an interagency research program by FDA, CDC, and NIH, located in Montgomery County) found "clear evidence", the highest rating on their 4-point scale, for malignant cancer of the heart in male rats:
<https://ntp.niehs.nih.gov/whatwestudy/topics/cellphones/index.html#studies>

⁴² See summary on page 3:
<https://ehtrust.org/wp-content/uploads/5G-and-Cell-Tower-Radiation-Briefing-1.pdf>

⁴³ https://ehtrust.org/wp-content/uploads/FCC_FDA-Communications-FCC-Lawyer-and-Mother-on-Cell-Tower-Radiation-.pdf

⁴⁴ <https://www.regulations.gov/comment/FDA-2021-P-1347-0732>

⁴⁵ <https://gizmodo.com/fcc-incest-meet-the-cable-cronies-who-control-net-neut-1579963216>
<https://arstechnica.com/tech-policy/2018/02/there-are-ajit-pai-verizon-puppet-jokes-that-the-fcc-doesnt-want-you-to-read/>

⁴⁶ <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1797826/>

⁴⁷ https://en.wikipedia.org/wiki/Merchants_of_Doubt

⁴⁸ https://www.iarc.who.int/wp-content/uploads/2018/07/pr208_E.pdf

⁴⁹ https://en.wikipedia.org/wiki/IARC_group_2B

⁵⁰ <https://ehtrust.org/world-health-organization-scientists-recommend-wireless-be-upgraded-for-cancer-causing-effects/>

⁵¹ https://wiki.cancer.org.au/policy/IARC_classifications

⁵² <https://ehtrust.org/science/medical-doctors-consensus-statements-recommendations-cell-phoneswireless/>

⁵³ European Parliament:
<https://ehtrust.org/the-european-parliament-panel-health-impact-of-5g/>
New Hampshire commission report:
<http://www.gencourt.state.nh.us/statstudcomm/committees/1474/reports/5G%20final%20report.pdf>
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⁵⁴ <https://aspe.hhs.gov/sites/default/files/documents/4e1853c0b4885112b2994680a58af9ed/telehealth-hps-ib.pdf>