June 18, 2023

Honorable Senator Anna Caballero, Chair of the California Governance and Finance Committee
State Capitol
Sacramento, CA 95814

RE: Oppose AB 965 (Carrillo) Local government: broadband permit applications (Feb 2023)

Dear Senator Caballero:

We respectfully but strongly ask that you oppose AB965, a telecommunications industry bill, in favor of local governments, the environment, public safety and accountability.

AB 965 is another shortsighted telecom bill which will override local government control in the placement of cell towers by fast tracking batch permits of 25-50 or more cell towers, deeming them approved even if not approved by the local agency within the shot clock. This is an outrageous bill that will place further burdens on local governments, waste resources, accelerate climate change, lower property values, increase fire risk, create continuing liability and costs to the state. This bill will rapidly add large clusters of cell towers throughout cities with no consideration or respect for the complexities that local governments have to examine in permitting, nor considering more intelligent alternatives such as fiber optic. The CPUC has stated that with regards to broadband expansion “most funding should be reserved for superior technologies, such as projects using fiber optic cables, which reliably provide greater speed capabilities and are much more likely to meet a user’s technological needs in the long run.”

It also forces local and diverse municipalities to forego other critical local issues to focus on batch permit applications A suite of telecom bills which have passed in the last few years have created a difficult situation for local governments in many respects. The reasons given in support of this bill are for broadband expansion for “public safety, public health and economic resilience.” It seems however the authors of this bill have been shortsighted in their thinking. Good reasons to oppose this are the same- risks to public safety, public and environmental health, climate change, and economic burdens.

**AB965 downsides:**
*It is an overreach of local authority not intended in the Telecommunications Act of 1996
*Fiberoptic, not wireless connections, are faster, safer, more secure and cheaper in the long run to equitably bring necessary broadband directly to homes, schools and businesses.
*Fiberoptic is called “future proof”, allowing for the increased demands of broadband expansion
*Wireless broadband uses 3 times more energy, undesirable in the face of climate change
*Risks to privacy, personal security, cybersecurity
*Increased costs due to liability and lawsuits which are increasing throughout the country
*Increase in scientific certainty about health impacts of wireless technology
This bill will benefit the interests of the powerful and influential telecom industry not the public, communities or local governments.

Note-Feinstein (SB 2012) and Eshoo (HR 530) in 2018 showed their respect for and support of local government authority in these matters.

Why Wired Networks are Better
Networks that dedicate capacity to each customer, as most landline copper and fiber technologies do, have better quality and reliability than wireless networks that share capacity among many users. Wired networks are not affected by weather and are much less vulnerable to fire. 5G will not work for rural broadband. 4G communications that span long distances will still be needed. Wired networks simply work better in rural areas. A wired/cabled approach is more equitable and improves broadband for all sectors of society. A wired cable is hidden and does not mar the beautiful rural California landscape. We already have abundant fiberoptic up and down the state already placed. As Timothy Schoechle, PhD, stated in his excellent summary Reinventing Wires,

“The public needs publicly-owned and controlled wired infrastructure that is inherently more future-proof, more reliable, more sustainable, more energy efficient, safer, and more essential to many other services. Wireless networks and services, compared to wired access, are inherently more complex, more costly, more unstable (subject to frequent revision and “upgrades”), and more constrained in what they can deliver.”

Fire Risk
Electrical equipment and batteries are known to be a fire risk. The more cell towers the more accessory electrical and battery equipment and the higher the risk. The more small cells that are installed, the more macro towers are needed as backhaul, and the higher the fire risk. In electrical fires you have to turn the power off first before applying water to prevent electrocution. Firefighters have to wait. The Malibu Canyon fire in 2007 was due to 3 poles overloaded with telecom equipment. Susan Foster, a utility and fire safety consultant, notes in her letter to Assemblyman Santiago in 2021 that she has worked on policy to prevent placement of cell towers in the most fire prone areas of Encinitas. Susan Foster Letter AB 537 Cell Tower Fire Risks 4-26-21. California is drought prone and fire prone. Cell towers cause an increased risk for fire. Fiberoptic is safer and more protected.

Cybersecurity and 5G
It appears California is investing in 5G technology with massive deployment of 5G cell towers and the internet of things, with promises of limitless interconnectivity by the telecom industry. 5G however is not as efficient, reliable, cheap or fast as industry claims it to be. Landlines, cable and fiberoptic networks are far superior and have the added advantage of cybersecurity. That is why most health systems wire protected patient information.

Experts (Brookings 2019) have noted the increased vulnerabilities of 5G to cyberattacks. There are 5 ways 5G networks are more vulnerable.

1) The network has moved away from centralized hardware-based systems with hardware choke points where cyber hygiene can be practiced.
2) 5G uses primarily software functions i.e. standardized Internet Protocol, which are more vulnerable
3) The network is managed by software which again is more vulnerable
4) The expansion of bandwidth and multiple small cells which wirelessly transmit makes 5G more vulnerable
5) Multiple small IoT devices (mini computers) are each uniquely vulnerable

**Ever Growing Energy Use with Wireless**

Our increasingly immersive digital lifestyle has benefits, however, also has some major hidden environmental impacts that must be addressed, especially with wireless infrastructures effects on **carbon, water and land footprints.** (Orbinger 2021). As noted in the Shift Project, **“The current trend for digital overconsumption in the world is not sustainable with respect to the supply of energy and materials it requires.”**

The increased densification of cell towers and devices that connect to them, combined with an approaching “tsunami of data”, will dramatically increase energy consumption. Our Nation’s power supply is being guzzled by the demands of our modern digital technology. In 2007 information technology (IT) accounted for about 1% of electricity use. In 2019 this accounted for about 4%. Considering expected increases in video streaming and device interconnection researchers estimate the consumption of IT energy will increase to 20% of all electricity used by 2025 and 5.5% of carbon emissions.(Andrea) As we approach the critical 10-year mark climate scientists warn is the timeline to drastically reduce energy consumption to avert a climate disaster, we are advised it is imperative to reduce energy consumption in every sector.

“The widespread adoption of unlimited data subscriptions for 5G users and the facilitation of advanced and data-intensive mobile services such as VR and more sophisticated mobile gaming could encourage energy-intensive user practices, contribute to ever-growing levels of data traffic, and counteract the energy-saving potential of 5G efficiency improvements.” Sussex Business School Review. (Williams 2022).

“The whole aim of the new 5G network is to allow for more devices to be used by the consumer at faster rates than ever before, because of this goal there will certainly be an increase in energy usage globally.” (Curran 2020)

“As 5G usurps LTE, energy consumption is expected to increase 61x between 2020 to 2030 due to the energy demands of powerful network elements like massive MIMO…” The massive projected increase in power needs of the world’s mobile technology – a more than doubling by 2030…reaching the expected equivalent of all the energy consumption of Sweden.” Data Center Forum (2021)

**Wireless Technology Uses 3 to 10 More Times More Energy Than Fiberoptic.**

**Fiberoptic transmissions are inherently energy efficient and faster** than Fixed Wireless Access (FAW). Reports show that wireless access networks use 3 times more energy than fiberoptic and the fiberoptic systems last longer. Experts call fiberoptic a “Future Proof “ communication. A 2022 Eurocable Report states, “**FTTH P2P [fiber to the premises] can offer the highest (up and down) data rates and can, therefore, transmit the greatest amount of data with the least power consumption.”**

“A 5G base station is generally expected to consume roughly three times as much power as a 4G base station. And more 5G base stations are needed to cover the same area.” IEEE Spectrum. *5G’s Waveform Is a Battery Vampire*

The German Environmental Agency notes that, “Fibre optic video transmission is nearly 50 times more efficient than UMTS.”
Wireless is Energy Consuming: In 2022, the Finnish Transport and Communications Agency Traficom published a pilot study on the energy consumption of communications networks in the country finding most energy is consumed by mobile networks (60%) compared to fixed networks (20%) and other network parts (20%).

Carbon Footprint Limits for 5G: The 2020 French Study by the Haut Conseil pour le Climat (HCC) issued five recommendations including “clarifying climate issues before deploying new technologies, such as 5G, imposing carbon footprint limits on phone operators deploying 5G and better informing the public about waste or disproportionate use of energy associated with digital services.”

In an IEEE published study Baliga et al revealed much higher energy consumption in wireless networks due to the waste of energy, noting, “Wireless technologies will continue to consume at least 10 times more power than wired technologies when providing comparable access rates and traffic volumes. PON [passive optical networks] will continue to be the most energy-efficient access technology…Passive optical networks and point-to-point optical networks are the most energy-efficient access solutions at high access rates.”

Digital Sobriety: The Ecologist highlights industry influence in reviewing The Shift Project report (2020) Lean ICT, Toward Digital Sobriety. “The report recommends a shift from “intemperance to sobriety in our relationship with digital technologies” - basically the idea that individuals and companies could self-limit their purchase and usage of equipment. But this clearly runs counter to the financial imperatives of the big tech companies and their marketing strategies.” (Barton 2020)

Subsidizing fiberoptic/cabled broadband for underserved communities and giving local governments control will help them economically in the long run as well as provide safe broadband to insure the health and well-being of their communities, citizens and the environment. Please step away from the rapid and reckless deployment of cell towers.

Health Issues
There is growing and valid concern about health issues. Insurance companies agree. Wireless technology for broadband uses electromagnetic radiation to transmit data through the air that we cannot see feel or hear, unless we develop electromagnetic injury. Pulsed radiofrequency radiation emitted continuously from cell towers, Wi-Fi routers, cell phones or any other wireless device is biologically active, and can have adverse effects on all living organisms, depending on distance, time, peak pulsation, wavelength, frequency, and health of the organism. The mechanism is similar to other chemical toxic exposures – oxidation of fragile cellular structures including DNA, lipids and proteins. Peer reviewed scientific studies link cell phone and Wi-Fi radiation to cardiac injury, sperm damage, ovarian damage, embryo damage, neurotoxicity, opening of the blood brain barrier, clumping of red blood cells in the bloodstream, and immune system effects. There are no studies showing 5G is safe for humans or the environment. (Moskowitz 2019) The New Hampshire Commission to Study 5G would agree.

Insurance Companies Have Acknowledged Harm for Years
Insurance companies typically exclude coverage for illness from exposure to EMR. They cite wireless electromagnetic radiation as similar to asbestos in risk and cost. Special pollution insurance is required to cover RFR harm. Swiss Re is the second largest reinsurance company in the world.
In 2013, their Swiss Re Emerging Risk profile listed electromagnetic fields in the highest casualty risk due to “unforeseen consequences” beyond 10 years, along with endocrine disruptors and nanotechnology due to their long latency period for harm.

In a 2019 updated Insurance Industry report, New Emerging Risk Insights by Swiss Re Insurance Company, 5G is listed as an emerging concern in the high risk category within 3 years. Included in the high risk trends, are artificial intelligence and the existential threats of climate change. “The top five emerging risks in our SONAR 2019 report are digital technology’s clash with legacy hardware, potential threats from the spread of 5G mobile networks, increasingly limited fiscal and monetary flexibility by central banks, genetic testing’s implications on life insurers, and the impact of climate change on the life and health sector.” https://www.swissre.com/institute/research/sonar/sonar2019.html

An article in Business Insurance state, “Insurers are treating the risk [of electromagnetic radiation] as cautiously as a downed power line after a storm.” Why do we continue to push wireless systems?

California Has Codified that Cell Tower Radiation Is Dangerous to Firefighters in AB 57 and AB 537

Firefighters developed neurologic effects when cell towers were placed on their fire stations. After passing a 2004 IAFF Resolution, firefighters lobbied California legislators and received health exemptions to prevent cell towers on fire stations in AB 57 (Quirk 2015 passed). AB 537 (Quirk 2021) also gives a similar exemption for firefighters, in order to prevent cell towers on their fire stations for health reasons. Quirk’s new bill, AB 537 (Quirk 2021) which also passed reads, “Due to the unique duties and infrastructure requirements for the swift and effective deployment of firefighters, this section does not apply to a collocation or siting application for a wireless telecommunications facility where the project is proposed for placement on fire department facilities.”

What makes firefighters different than schoolchildren or pregnant women or the elderly or those with a medical condition, let alone any other individual as healthy and strong as a firefighter? Should they not all get equal protection from harm from 24/7/365 radiation from underregulated cell towers adjacent their homes, schools, hospitals and businesses? Pearce’s (2019) article on proximity of cell towers to humans, the New Hampshire 5G Commission Report on humans and environmental effects, and the ICBE-EMF would concur, yet there is no monitoring or regulation of cell tower radiation based on biologic effects, only heat.

Too much Technology Harms Children

Adults and Children have become so psychologically and socially dependent on cell phones and other wireless devices, that it is harming their health and well-being. Too much technology is also having a negative impact on our society, culture and education. Electronic addiction shrinks children’s grey matter. The science is clear. The advantages of our youth streaming videos anytime with constant electronic connection is now academically challenged. Problems identified are language delay, depression, suicide, eye damage, obesity, impacts on learning and reduction in social interactions. COVID has underscored these effects that are obvious to teachers and parents alike. Distanced learning has not been effective. Children are in what has been deemed, “The largest epidemiologic experiment ever.” with technology. Why should we be further deploying cell towers near schools and homes, underserved or not, with known health risks as well?
San Francisco Board of Supervisors Weighs In
The San Francisco Board of Supervisors in 2015 wrote a resolution 210-15 in response to Quirk’s AB 57, an industry friendly bill to “streamline” fast tracking of cell towers in California municipalities by deeming cell towers approved if not within the shot clock. Their resolution highlights similar problems which apply to both AB 965 and sister bill AB 1065 in 2023. The Board wrote:

“WHEREAS, AB 57 does not appear to recognize the complex nature of land use, environmental review (e.g. archaeological, geotechnical, sensitive habitat, historic preservation), and noise effect consideration, that may be associated with local approval of an application to construction a WTS facility, especially when that facility is poorly sited or designed; and

WHEREAS, AB 57 creates timing constraints that could incentivize wireless carriers to pursue litigation or re-application even though a viable neighborhood appropriate design is in sight; and”

SFBOS Recommended Instead:

“Create a broadband connectivity group [to] encourage model building and development codes that require multiple points of wired connectivity into residential dwellings and commercial suites so as to reduce cost and competition barriers for municipal, commercial, or non-profit internet service providers.”

We believe you need to rethink the best strategy for broadband connection in all communities that is fairly distributed, safe, cybersecure, energy wise and economically viable. Fiberoptic to the premises (FTTP) is the superior solution.

Subsidizing fiberoptic/cabled broadband for underserved communities and giving local governments control will help them economically in the long run as well as provide safe broadband to insure the health and well-being of their communities, citizens and the environment. Fiberoptic is the smart vision. Please step away from the rapid and reckless deployment of cell towers.

“Once communities at all levels... assume local responsibility for creating safe and economical high-speed Internet access for all of their citizens, this renaissance will unfold. A sturdy, wired communication infrastructure, using wireless only as an adjunctive technology, has vast potential to become the electronic commons essential to commerce, education, jobs, the economy, social cohesion, communications and international competitiveness.” Frank Clegg, Past President Microsoft Canada

Please Vote NO on AB 965 as well as AB 1065.
Thank you considering carefully the long-term consequences of your decision.

Cindy Russell, MD
Executive Director
Physicians for Safe Technology
WWW.MDSafeTech.org

References


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Health Effects of Wireless Radiofrequency Radiation


Cell Tower Health Effects


Wildlife Effects

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Letters and Information Other

ASSEMBLY COMMITTEE ON LOCAL GOVERNMENT  
Brian Maienschein, Chair  
AB 57 (Quirk) – As Amended April 6, 2015  
https://alcl.assembly.ca.gov/sites/alcl.assembly.ca.gov/files/AB%2057%20analysis.pdf

San Francisco Resolution 210 - 15 Opposing California State Assembly Bill 57, authored by Assembly Member Quirk, which would significantly limit San Francisco's ability to regulate wireless telecommunication facilities. 6/9/ 2015. https://sfbos.org/ftp/uploadedfiles/bdsupvrs/resolutions15/r0210-15.pdf