SUMMARY DOCUMENT OF SOME OF THE PROBLEMS WITH "SMALL CELLS"

(Intended for use at the local, state or federal levels as well as for raising public awareness)

The public has no understanding of what so-called "small cells" and 5G are, and that these antennas are going to beam high levels of microwave radiation directly into homes 24/7. The public is largely unaware of the many bills at the Federal and state levels poised to remove our rights to weigh in on the placement of these Wireless Telecommunications Facilities (WTFs). While installing more wireless infrastructure throughout neighborhoods may be a goal of the telecom industry, it is by no means a necessary public service, and more and more people are opposed to it.
.

What are "small cells" for?
"Small cells" in neighborhoods are not about bringing broadband to underserved communities or "filling in gaps in coverage". They are intended to serve as the "backbone" infrastructure for the Internet of Things, "smart cities," driverless cars, and whatever other applications the private sector can dream up – most of which will not improve our quality of life, but may in fact, wreak havoc on it.

Telecom wants to remove regulations for cell tower siting
To deploy 4G/5G "small cells" Telecom is aggressively seeking to rid itself of all regulations. Telecom wants the benefits of a regulated utility, but none of the responsibilities. For more on this please see.
http://scientists4wiredtech.com/regulation/kushnick-primer/

Are antennas next to homes even necessary for 5G?
Verizon's CEO stated clearly that these small cells transmit well over half a mile. So "small cells" can, and should be situated on macro towers far from where people live, sleep and heal. Verizon's statement can be heard here.
https://youtu.be/FwAsr1pC13Q

Why communities should decide for themselves
If a community wants to protect its residents and prefers fiber to all homes, it should be able to make that choice. The balance and regulation of both wired and wireless broadband must be determined by local communities - not by Telecom, regulatory bodies, or by state or federal governments.

Furthermore, no two communities are the same. The arid, flat, topography of California, which is currently struggling with droughts and wildfires, is completely different from New England states, which are cold, mountainous and moist regions. One deployment plan cannot possibly be right for all regions.

We cannot afford to walk into the future with an agenda dictated by corporate greed. The stakes are too high.

Our homes. Our streets. Our communities. Our choice!!!

FIBER

"Fiber is safer, faster, more reliable, and far more cyber secure and energy efficient than wireless." Ronald M. Powell (Ph.D.)

Internet and Telecommunications data can be transmitted either through wires or through the air "wirelessly". Wired transmissions are faster, safer, more reliable, and far more cyber secure and energy efficient than wireless transmissions. So in the best of all worlds, we would rely on wired transmissions for the vast majority of our Internet and Telecommunications needs, and reserve wireless for short communications when out-and-about. Unfortunately, that is not the infrastructure Telecom is designing for us.

The question before us is:

Should the fiber stop at the poles, as Telecom is planning, and be sprayed wirelessly through the air the remainder of the way to homes and businesses? Or,

Should the data be sent through fiber optic cables **all the way to homes and businesses?**

Telecom wants the former while increasingly more of the public prefer the latter – especially when informed that 5g would "require" cell antennas next to our homes,

violate our privacy, increase the likelihood of hacking and cyber attacks, adversely impact our health, harm wildlife, consume far more energy etc.

So why does Telecom want to stop the fiber at the poles?
They will make more money if the last bit is wireless. Here's why. The parent companies of both Verizon and AT&T consist of both a regulated state utility that handles copper and fiber, and another company, unregulated, which handles wireless infrastructure and communications. Over 20 years ago, the parent companies committed to upgrading copper to fiber and our rates went up to pay for this. But realizing that it would be far more profitable to move these $400-600 billion of collected fees over to the wireless companies, Telecom changed course and built out wireless instead.

As a regulated utility, they would have to serve everyone and provide service at a reasonable cost to customers. As a wireless company, they can cherry pick, serving whomever they want (whoever's most profitable), and setting rates to maximize Telecom profits.
For more on this please see,
https://medium.com/@kushnickbruce/5g-wireless-is-the-new-fiber-optic-bait-and-switch-scandal- 646246b8f34d

What all cities and communities **should have** (i.e. would best serve consumers) is fiber optic municipal broadband. Then the private sector could compete by delivering video or other services through the municipally owned fiber. With the development of a saner "tech-culture" that relies on fully wired connections for the bulk of all Internet and Telecommunications transmissions and wireless for short communications when on the go, fiber-to-the-home would serve us all…not just telecom.

The bottom line is that 5G will impact the people of the United States so profoundly (and in our opinion, adversely) that we must allow communities to decide for themselves what kind of future they want.

Fiber-to-the-home gives people choice. People can choose to connect the devices in their home through wired or wireless technology. The choice belongs to the consumer. If they choose WiFi instead of a wired home network, their choice will impact their neighbors to a degree, but not nearly as much as with Wireless

Telecommunications Facilities (WTFs) in front of homes, which indiscriminately radiate everyone.

FIBER CONTINUED...Resources

Overview of why we need fiber and bibliography with further resources.
https://whatis5g.info/fiber-optics/

Closing The Digital Divide – Fiber vs. Wireless   Aug. 2018| Kate Kheel
https://whatis5g.info/fiber-vs-wireless/2018/08/closing-the-digital-divide-fiber-vs-wireless/

America Needs More Fiber   Feb. 2018 | Susan Crawford, Professor of Law at Harvard University | Wired.
"We should be driving forward upgrades to fiber optic networks running right to homes and businesses, by lowering the barriers to fund shared fiber networks everywhere. We could be facilitating increased use of bonds, local financing, and tax breaks, and reducing the risks of investments and the costs of capital by issuing government guarantees, all aimed at attracting private investment in the shared fiber optic lines needed for 5G to function."
https://www.wired.com/story/america-needs-more-fiber/

Re-Inventing Wires: The Future of Landlines and Networks   Jan. 2018 | Dr. Timothy Schoechle | National Institute of Law and Public Policy
This link gives an overview of the book we are delivering today.
"Hard-Wired Telecommunications Infrastructure to Support Economic Growth, Bridge the Digital Divide and Diminish Risks to Security, Privacy, Public Health and the Environment."
http://gettingsmarteraboutthesmartgrid.org/wires.

Connected Communities – Wired Networks for Crossing the Digital Divide   Why Community Owned Fiber is the Smart Choice,
http://connected-communities.ca

Dividing Lines   Why is Internet Access Still a luxury in America?   A Docu-Series put out by National Digital Inclusion Alliance (NDIA)
This website documents clearly how Telecom and our government have not only neglected to bring broadband to rural America, but have created the "digital divide" by enacting laws and regulations that have the effect of preventing the delivery of fast, reliable, and safe fiber to all homes, businesses, and farms.
https://www.dividinglines.org

Reinventing Wires: The Future of Landlines and Networks   Feb. 5th, 2018 | Podcast
Panel discussion on the enormous benefits of fiber-to-the-premises and the serious drawbacks of 4G/5G small cells being foisted on us by Telecom. Speakers: Timothy Schoechle, Ph.D. Senior Research Fellow, National Institute for Science, Law and Public Policy Martin Pall, Ph.D. Professor Emeritus of Biochemistry and Basic Medical Sciences, Washington State University Jim Turner, Esq. Partner, Swankin & Turner Duncan Campbell, Esq. Radio Host, "Living Dialogues
https://www.commonwealthclub.org/events/archive/podcast/reinventing-wires-future-landlines-and-networks

Bruce Kushnick Primer
Why do we still not have a fiber optics system if we paid for it in our rates?
Bruce Kushnick has spent decades following Telecom/FCC actions with regard to fiber. He has an in depth understanding of how consumers have paid out billions in rate increases for fiber optic networks that Telecom never delivered on. Furthermore, the FCC has been completely complicit and has turned a blind eye to Telecom's shoddy accounting and broken promises.
https://www.youtube.com/watch?v=g0zFErx514E

Opinion: FCC Set to Waste Billions on the Wrong Rural Broadband Providers   Mar. 20th, 2018 | Mathew Marcus | Institute for Local Self Reliance
Author Mathew Marcus explains why our captured government needs to stop throwing money at the "Big 4" – Verizon, AT&T, T-Mobile, and Sprint – to "bridge the digital divide". The private sector will just not deliver on fast, safe, reliable, cyber secure and energy efficient fiber to all homes.
http://www.dailyyonder.com/opinion-fcc-set-waste-billions-wrong-rural-broadband-providers/2018/03/20/24578/

For more on why these small wireless facilities outside our homes are not the best solution for high-speed broadband coverage, please see,
https://www.youtube.com/watch?v=JVO1VXH4nQA&feature=youtu.be&t=13m1s

HEALTH

"When we have substantial risk of multiple existential threats to every single technologically advanced country on earth, failure to act vigorously means there is a very high probability of complete destruction of these societies." Martin L. Pall, (Ph. D.) Professor Emeritus of Biochemistry and Basic Medical Sciences

Before us looms perhaps the biggest health crisis of our times, that of the proliferation of wireless technology. The current soup of radiation is effectively playing with the genetic makeup of all life. And yet we now stand at the threshold of unleashing 5th generation cellular technology, 5G, which according to former FCC Chair Wheeler "will make available more licensed spectrum for mobile than in the cumulative history of mobile spectrum allocation." It will take nothing short of a **massive public awareness campaign** to put the breaks on the aggressive and fast-moving wireless industry and our complicit government. But there is no choice. Many scientists are calling for caution now, and more recently, 180 scientists issued an appeal for a moratorium on 5g. We must heed the call.

Following are some resources on the adverse health effects of wireless radiation in general, and more specifically, of 5g and millimeter wave frequencies.

Grassroots Environmental Education has put together a very useful PDF compilation of studies showing adverse health effects from wireless radiation. The list of studies is organized by bio effects:

I. Effects On Fetal And Newborn Development
II. Effects On Young Children
III. Brain Tumors
IV. Parotid Gland Tumors
V. Other Malignancies
VI. Effects On DNA

VII. Neurological/Cognitive Effects
VIII. Effects On Male Fertility
IX. Electromagnetic Sensitivity
X. Effects On Implanted Medical Devices
XI. Miscellaneous Articles
http://www.grassrootsinfo.org/emergingscience.php

5G: Great risk for EU, U.S. and International Health! Compelling Evidence for Eight Distinct Types of Great Harm Caused by Electromagnetic Field (EMF) Exposures and the Mechanism that Causes Them May 17th, 2018 | Martin L. Pall Martin L. Pall Ph.D. Professor Emeritus of Biochemistry and Basic Medical Sciences: "We know that there is a massive literature, providing a high level of scientific certainty, for each of eight pathophysiological effects caused by non-thermal microwave frequency EMF exposures."
https://ehtrust.org/wp-content/uploads/5g-emf-hazards-dr-martin-l.-pall-eu-emf2018-6-11us3.pdf

5G Wireless Technology: Millimeter Wave Health Effects Aug. 7th, 2018 | Joel Moskowitz Ph.D.
Dr. Joel Moskowitz, Ph.D. Director Center for Family and Community Health School of Public Health University of California, Berkeley

"With the deployment of fifth generation wireless infrastructure (aka 5G), much of the nation will be exposed to mmWaves for the first time on a continuous basis....the health consequences of 5G exposure will be limited to non-thermal effects produced by prolonged exposure to mmWaves in conjunction with exposure to low- and mid-band radiofrequency radiation. Unfortunately, few studies have examined prolonged exposure to low-intensity mmWaves, and no research that I am aware of, has focused on exposure to mmWaves *combined* with other radiofrequency radiation."
https://www.saferemr.com/2017/08/5g-wireless-technology-millimeter-wave.html

Scientific Research on Wireless Health Effects Environmental Health Trust
https://ehtrust.org/science/research-on-wireless-health-effects/

Studies on millimeter wave (mmW) frequencies to be used in 5g
https://ehtrust.org/science/research-on-wireless-health-effects/

Physicians for Safe Technology (website)
https://mdsafetech.org

WILDLIFE

Growing electromagnetic radiation from our digital world – though imperceptible to humans – is wreaking havoc on the natural world as well. We do not yet know to what degree and in what ways this deluge of frequencies and modulations – carrying mega amounts of data through our atmosphere – is affecting each being on the planet. But what is increasingly clear is that wireless expansion is not sustainable. If we then add 5G mmWave frequencies and the massive densification of wireless infrastructure to the current stew of modulated frequencies, the future for wildlife looks bleak.

Resources on Wildlife:

A 2014 letter to the CTIA, from the US Department of Interior states that the FCC standards for cell phone radiation are outmoded and do not adequately protect wildlife. The FCC standards were set in 1996, and though a docket was opened in 2013 to consider the decades of new science, the FCC has yet to review the standards. http://www.saferemr.com/2014/03/dept-of-interior-attacks-fcc-regarding.html

Environmental and Wildlife Effects   Sept. 4th, 2018 | Physicians for Safe Technology (PST)
https://mdsafetech.org/environmental-and-wildlife-effects/

Wireless Silent Spring   Oct. 2018 | Dr. Cindy Russell MD | VP Community Health SCCMA
"IN THE WAR ON INSECTS: NATURE BECOMES SILENT
"Our ill-fated desire to control nature as well as our tendency to ignore our own complicity in its destruction for profit was the focus of a seminal 1962 book, 'Silent Spring.' This publication is widely credited with ushering in the modern environmental movement. (1) Rachel Carson, a marine biologist, and author of "Silent Spring," was first a lover of nature and a poet. Through her astute observations of nature, careful documentation and gifted writing, she was able to bring attention to the devastating

and long lasting effects of pesticides which continue to impact all wildlife and species, including humans.

http://www.sccma-mcms.org/Portals/19/SilentSpringAticle_color_pr2.pdf?fbclid=IwAR0Of9cmpdDC19EDz5-u7wY0cZ-pB1kv-JZVheV5ipJ5cJVuPa2Tg_nPXtw

Bees, Butterflies And Wildlife: Research On Electromagnetic Fields And The Environment

https://ehtrust.org/science/bees-butterflies-wildlife-research-electromagnetic-fields-environment/

Human Generated Radiation is Harming Wildlife

https://whatis5g.info/environmental-impacts/

DO "SMALL CELLS" CONSTITUTE A VIOLATION OF ADA RIGHTS?

Putting wireless "small cell" facilities that emit radiofrequency/microwave radiation in front of the homes of people that already have Electromagnetic Sensitivity (EMS) violates their rights under the American Disabilities Act (ADA). ADA requires that people who suffer from a disability be protected and accommodated, and it is illegal to create an access barrier, especially in their own home! Forcing these new levels of microwave radiation into their homes is like putting sugar in the drinking water of people with diabetes. Furthermore, these towers prevent many people from frequenting stores or holding a job thus creating an access barrier to normal participation in society. For more on this please see this Comment to the FCC by Merry Callahan: https://www.fcc.gov/ecfs/search/filings?proceedings_name=17-84&q=filers.name:(*Merry%20Callahan*)&sort=date_disseminated,DESC

WILL SMALL CELLS ENABLE MASSIVE DATA HARVESTING? YOU BET!!

5G will be the backbone infrastructure of the Internet of Things, Smart Cities and driverless cars, all of which will enable and be dependent on massive, 24/7 data collection.

Should the choice to enable this kind of data mining belong to government or to the people?

O.K., Google: How Much Money Have I Made for You Today? Jan. 16th, 2019 | Jennifer Szalai
https://www.nytimes.com/2019/01/16/books/review-age-of-surveillance-capitalism-shoshana-zuboff.html?fbclid=IwAR34f-YSkt9vPedQyiwkWKL3FvrAg8kux-B0WfQReKCUygRQSBF1y4eq5yA

Silicon Valley siphons our data like oil. But the deepest drilling has just begun Aug. 23rd, 2018 | Ben Tarnoff | The Guardian
"Personal data is to the tech world what oil is to the fossil fuel industry. That's why companies like Amazon and Facebook plan to dig deeper than we ever imagined."
"Our laptops, tablets, smartphones, and wearables see a lot of our lives – but not quite everything. For Silicon Valley, however, anything less than total knowledge of its users represents lost revenue. Any unmonitored moment is a missed opportunity."
https://www.theguardian.com/world/2017/aug/23/silicon-valley-big-data-extraction-amazon-whole-foods-facebook

Report: Without safeguards, Internet and IoT may create surveillance states in near future Bradley Barth | SC Media
"A catastrophic worldwide cyberattack, the emergence of an IoT-enabled surveillance state, and the weakening of encryption were among the chief security and privacy fears expressed by experts who were polled for a sweeping new report about the internet and its future impact on mankind."
https://www.scmagazine.com/report-without-safeguards-internet-and-iot-may-create-surveillance- states-in-near-future/article/689534/

Predicting the Top 2018 Security Threats and Privacy Wars Sue Smith | Newsfactor Network

"Forcepoint foresees that 'privacy wars' are about to erupt, and with good reason. As businesses and government entities collect and mine more and more of our personal data, tensions are brewing between individual rights and security for all." This article gives four predictions:
1. We will see "a broad and polarizing privacy debate, not just within governments, but between ordinary people.
2. A data aggregator will be breached in 2018 using a known attack method.
3. Attackers will target vulnerabilities in systems, which implement blockchain technology.
4. In 2018, the Internet of Things (IoT) will become a target for mass disruption.
https://www.newsfactor.com/story.xhtml?story_id=110003SMTOE0&full_skip=1

5G - DEATH KNELL FOR CYBER SECURITY

"The cybersecurity threat now poses an existential threat to the future of the Nation."
President's National Security Telecommunications Advisory Committee (November 2018)

Cyber security has been ranked by the World Global Research Report as the third greatest global risk in 2018 topped only by natural disasters and extreme weather events. With the arrival of the IoT and billions of new Internet-connected machines, appliances, sensors, "things," robots, and devices, etc., all enabled and supported by 5G, cyber attacks have become virtually inevitable.

Furthermore a wireless system is far more vulnerable to cyber attacks. According to Bill Bathgate, Certified Information Security Manager and Certified Information and Security Auditor, *"Any wireless communications system can be easily intercepted and subject to a Denial of Service Attack. This would also include all cellular communications systems such as 4g/5g small cells and smart meters."*

Cyber security expert, Bruce Schneier, writes:

"With the advent of the Internet of Things and cyber-physical systems in general, we've given the Internet hands and feet: the ability to directly affect the physical world. What used to be attacks against data and information have become attacks against flesh, steel, and concrete."

"Give the Internet hands and feet, and it will have the ability to punch and kick."

Cyber-attacks are a top three risk to society, alongside natural disaster and extreme weather | Danny Palmer
"Nations' reliance on the internet and connected services means the potential damage from cyber- attacks is one of the biggest risks facing the world today, according to a report from the World Economic Forum (WEF)."
https://www.cbronline.com/news/cyberattacks-third-greatest-global-risk

Report: Without safeguards, Internet and IoT may create surveillance states in near future
"A catastrophic worldwide cyber attack, the emergence of an IoT-enabled surveillance state, and the weakening of encryption were among the chief security and privacy fears expressed by experts who were polled for a sweeping new report about the Internet and its future impact on mankind." Bradley Barth
https://www.scmagazine.com/report-without-safeguards-internet-and-iot-may-create-surveillance- states-in-near-future/article/689534/

ENERGY DRAIN

Armed with an astronomical amount of data generated from the 5G-enabled IoT, Smart Cities, and driverless cars, our government and industry expect we will be better equipped to save energy. But what they fail to include in their analyses is the mega energy footprint of the IoT itself. **It is not at all clear that the IoT will ever succeed in offsetting its own fast growing and unbounded energy consumption**.

Estimates are that there will be approximately 50 billion IoT "things" by 2020 – an order of magnitude higher than what we have today. Not considered are:

1) The energy consumed by these devices, including the energy needed to mine and manufacture them (embodied energy).
2) The energy to power the networks and data centers to which they are connected

3) Far more energy is needed to move data wirelessly than through fiber or cable. Please see https://whatis5g.info/fiber-optics/

When all these things are taken into consideration, it's evident that energy consumption will skyrocket with 5G and the IoT.
https://www.networkworld.com/article/3187891/internet-of-things/4-reasons-ciscos-iot-forecast-is- right-and-2-why-its-wrong.html

Please also see, http://whatis5g.info/energy-consumption/

US EMBASSY IN MOSCOW RADIATED WITH LEVELS LOWER THAN 5G (1953-1978)

From 1953 to 1978 microwave radiation was beamed at the US embassy in Moscow. This radiation was linked to Deaths and Illnesses of US diplomats and their families living and working in the embassy. The levels of radiation that people were exposed to were lower than what is planned with Wireless "small cells" next to homes. We don't want to "wait and see" how these will impact our health, especially in light of the data we already have.

DECLINING PROPERTY VALUES NEAR CELL TOWERS

Many people do not want to live next to a cell tower, or a Wireless Telecommunications facility (WTF) with good reason. The following articles, videos, and studies deal with declining property values around cell tower installations.
https://www.emfanalysis.com/property-values-declining-cell-towers/

LIABILITY – WHO WILL BE HELD ACCOUNTABLE?

Who will be held liable in the event of harm from a wireless "small cell" facility? Who will assume financial liability for future injury, fire, loss of health, property devaluation etc. due to the close proximity of cell antennas to homes, workplaces, and schools? By melding private property (these WTFs) onto city-owned poles, liability is then transferred to the city. For more, please see,
https://ehtrust.org/?s=liability

FIRES, HURRICANES AND DISASTER RELIEF – WILL CELL TOWERS SERVE US?

Cell towers don't hold up under disaster conditions. They failed in the fires in California as well as in the hurricanes in Puerto Rico and Texas.

77 Cell Towers Failed in the First Hours of The October 2017 Fires in northern California. In this video, a Crown Castle/Verizon representative explains that residents with copper, legacy landline phones received the reverse-911 warnings to evacuate. The Wireless alerts failed to get through.
https://www.youtube.com/watch?v=6bh0SvkBcTo&feature=em-upload_owner

The following article was published about 10 days after Hurricane Maria, and still 86% of cell sites were not functional.

Presently, Over 86% of Cell Sites in Puerto Rico Are Still Not Operating in Aftermath of Hurricane Maria
http://www.prnewswire.com/news-releases/presently-over-86-of-cell-sites-in-puerto-rico-are-still-not- operating-in-aftermath-of-hurricane-maria-300530074.html

Texas suffered as well:

"Wireless networks along the Texas coast suffered outages as a result of Hurricane Harvey, federal regulators said, leaving customers in some counties with limited or no cellphone service."

PUBLIC SAFETY SHOULD BE NUMBER 1

Traffic safety should be a top priority. We know that poles are susceptible to falling and causing damage and power outages during windstorms.
This photo was taken after the 2018 windstorm in Baltimore, which took down numerous poles in the city. Imagine if this were a pole outfitted with a "small cell" atop, and all the accessory equipment, which includes a refrigerator-sized power supply with a cadmium nickel battery, radio units, fans, wires and a smart meter.

Please also see, *Wall of Shame – Photo Gallery of "Small Cells"* for more about what lives on these poles alongside these "pizza-sized" antennas.
https://whatis5g.info/photo-gallery-of-small-cells/

SO HOW *ARE* COMMUNITIES GRAPPLING WITH 5G?

Cities and counties around the country are grappling with how to protect residents, while not being out of compliance with what may be unconstitutional federal or state regulations. Local governments do still have *some* workarounds available to them, but it takes a expert lawyer and lots of money and research to create a protective Ordinance. The following resources may prove useful to your community.

USA City Ordinances To Limit And Control Wireless Facilities Small Cells In Rights Of Ways
https://ehtrust.org/usa-city-ordinances-to-limit-and-control-wireless-facilities-small-cells-in-rights-of-ways/

MODEL WIRELESS TELECOMMUNICATIONS ORDINANCE for Siting of "Small Cell" Telecommunication Infrastructure in Public Rights-Of-Way
https://www.telecompowergrab.org/uploads/3/8/5/9/38599771/sample_5g_code_v1.1.pdf

FCC'S OUTDATED RADIOFREQUENCY/MICROWAVE RADIATION GUIDELINES

"Fact: There Are No Safety Standards. Currently there are no national or international 'standards' for safe levels of the radiation emitted by wireless or microwave devices. Instead, the US government adopted 'guidelines' developed by industry based on decades old research. Guidelines have a much lower certainty than a 'standard' as proper long term safety testing was not done to ensure the public was protected from all possible harm." Environmental Health Trust

For more in depth coverage of the FCC RF guidelines, please see.
https://ehtrust.org/policy/fcc-safety-standards/

MILLIMETER WAVE FREQUENCIES AND PHASED ARRAYS

5G will make use of millimeter Wave (mmW) frequencies never before used for public Internet and Telecommunications technology. 5G will also use Phased Arrays which are hundreds of tiny cell antennas working together to make the mmW frequencies better able to penetrate building materials and other obstacles.

"MmWaves can transmit large amounts of data over short distances. The transmissions can be directed into narrow beams that travel by line-of-sight and can move data at high rates…. Although antennas can be as small as a few millimeters, 'small cell' antenna arrays[phased arrays] may consist of dozens or even hundreds of antenna elements." Joel Moskowitz Ph.D.
 http://www.saferemr.com/2017/08/5g-wireless-technology-millimeter-wave.html

Studies on millimeter wave (mmW) frequencies to be used in 5g
https://ehtrust.org/scientific-research-on-5g-and-health/

"Since little research has been conducted on the health consequences from long-term exposure to mmWaves, widespread deployment of 5G or 5th generation wireless infrastructure constitutes a massive experiment that may have adverse impacts on the public's health." Joel Moskowitz Ph.D.

OUR KIDS ARE PAYING FOR 5G WITH THEIR LIVES!!

Show me one parent that thinks their child needs more screen time and technology?

Research on our current technology is showing profound effects on our brains and humanity. Suicide, loneliness, and depression are reaching epidemic proportions. Professor Jean Twenge from San Diego State University says "young people are on the brink of the worst mental health crisis in decades." Kids are growing up with increasing difficulty navigating social interactions and tech-addiction is on the rise. Our kids need more time with nature and each other and less with technology and screens. 5g will only worsen the problem of dependence on and addiction to technology.

"When interaction becomes a strange and unfamiliar thing, then we will have changed who and what we are as a species." David Byrne | MIT Review

https://www.technologyreview.com/s/608580/eliminating-the-human/?utm_campaign=add_this&utm_source=facebook&utm_medium=post

Rates of affected people will likely increase as every object takes up residence in the Cloud and we are corralled into a tech-infested world.
https://whatis5g.info/brains-and-humanity/

5G – BURIED DEEP IN E-WASTE

What will happen when the Internet of Things produces orders of magnitude more e-waste than what we already generate? According to a report from *Electronics Take Back Coalition*, in 2010, we disposed of 142,000 computers and over 416,000 mobile devices in the US every day. With 5G/IoT, every "thing" will join the ranks of e-waste. Everyday items such as clothing, pacifiers, diapers etc. produce garbage both in their manufacturing and in their end-life. But in an IoT world these same "things" will include toxic chips rendering the production and disposal of IoT "things" far more toxic than their non-chipped counterpart.

E-waste from discarded products is only part of the problem. ***A far more significant contributor to e-waste is the release of toxins from the mining and manufacturing of electronics.*** In an article in The Conversation, author Josh Lepawsky explains, *"No amount of post-consumer recycling can recoup the waste generated before consumers purchase their devices."*

And the demise of all these things will be hastened by cyber vulnerabilities not able to be patched creating an ongoing "need" for new products – leaving us mired in yet more manufacturing and end-life e-waste.

Where will all this e-waste go, and can our earth "digest" this amount of toxic waste? For more on e-waste, please see,
http://whatis5g.info/e-waste/

TELECOM POWER GRAB – WHAT'S GOING ON IN OTHER BRANCHES OF GOVERNMENT?

The wireless Telecom industry is doing everything possible to remove "barriers" and speed the deployment of 5G and other wireless technologies at all levels of our government simultaneously.

In September 2018, the FCC passed Accelerating Wireless and Wireline Broadband Deployment by Removing Barriers to Infrastructure Investment (83 Fed. Reg. 51867), which largely preempts local zoning rights.

Ajit Pai slams cities and towns as FCC erases $2 billion in local fees   FCC orders cities and towns to slash permit fees for 5G equipment. Sept. 26th, 2019 | Jon Brodkin | Ars Technica
https://arstechnica.com/tech-policy/2018/09/ajit-pai-slams-cities-and-towns-as-fcc-erases-2-billion-in-local-fees/

Cities joined together to sue the FCC for its overreach order.

Cities will sue FCC to stop $2 billion giveaway to wireless carriers
After FCC vote, cities try to restore local control over 5G fees and equipment. Oct. 3rd, 2019 | Jon Brodkin | Ars Technica
https://arstechnica.com/tech-policy/2018/10/cities-will-sue-fcc-to-stop-2-billion-giveaway-to-wireless-carriers/

A new federal bill HR 530 was recently drafted stating that the FCC Order,

Accelerating Wireless and Wireline Broadband Deployment by Removing Barriers to Infrastructure Investment shall have "no force or effect."
https://www.theregister.co.uk/2019/01/16/5g_rules_legislation/?fbclid=IwAR24Q5Emmednm2DreGJkJxyNAixqIXkgGKMx-S77ZANEKsggm69ENI66eXM

For more on other Federal Bills, please see:

https://www.telecompowergrab.org/legislation.html

https://whatis5g.info/wp-content/uploads/2018/11/Federal-Bills-on-5g-and-wireless.pdf

About 22 states have been saddled with Telecom "small cell" bills.

http://www.ncsl.org/research/telecommunications-and-information-technology/mobile-5g-and-small-cell-legislation.aspx

The following is a statement written by Mayor Liccardo of San Jose, who served on the FCCs Broadband Deployment Advisory Council (BDAC), until he quit due to its industry-weighted representation and leanings.

"...the [Telecom] industry is waging a war for those poles, at all levels. Big Telecom and its allies in the White House have quietly carried out a campaign to secure rapid and cheap access to those poles, at taxpayer expense. Here in California, state legislators recently advanced a bill...that would allow wireless service providers to install their equipment on public street poles at below-market rates — and to do so nearly wherever and whenever they choose — all in the name of "streamlining" local permit approvals... At the federal level, Trump administration appointees to the Federal Communications Commission have publicly cheered these proposals, while releasing their own draft regulations to carry out additional industry-friendly rules nationally." San Jose Mayor Sam Liccardo |OpEd, New York Times
https://www.nytimes.com/2017/10/03/opinion/wireless-verizon-telephone-poles.html?smid=fb-share

Also see,

Interestingly, San Jose Mayor Sam Liccardo recently quit the FCC Broadband Advisory Board (BDAC) saying, "The group [BDAC] seems to be working for the interests of the telecom industry and not the public." Ya think??
https://www.eastbaytimes.com/2018/01/25/san-jose-mayor-sam-liccardo-quits-fcc-broadband- advisory-board/

5G and the FCC: 10 Reasons Why You Should Care   Feb. 13th, 2019 | Sharon Buccino |
NRDC
https://www.nrdc.org/experts/sharon-buccino/5g-and-fcc-10-reasons-why-you-should-care

NO BUSINESS CASE

Though Telecom expects to put billions into the economy and to profit handsomely
from 5g, many experts question whether this will indeed be the case.

5G is being escorted in with much hype and fanfare, but where's the business case?
According to Bloomberg Technology, 5G "may not be worth it".
https://www.bloomberg.com/news/articles/2017-12-18/upgrade-to-5g-costs-200-billion-a-year-and-may-not-be-worth-it

According to a Deloitte study, in order to build 5G, there will need to be a $130-$150
billion dollar investment in fiber to the poles over the next 5-7 years. How and if this
will be financed is not yet clear.
https://medium.com/@kushnickbruce/5g-wireless-is-the-new-fiber-optic-bait-and-switch-scandal- 646246b8f34d

"Carriers are plotting their strategies and densifying their networks as they prepare
for the highly anticipated arrival of 5G. But how they'll actually make money from
next-generation technologies and services is about as clear as the air in New Delhi."
https://www.fiercewireless.com/wireless/editor-s-corner-if-they-build-5g-money-will-come-right

"A BROKEN BACKBONE? 5G is intended to be the 'backbone infrastructure' for the
IoT. This article explores whether 5G is even feasible."
http://host.madison.com/business/investment/markets-and-stocks/is-this-a-setback-for-the-internet-of- things/article_99adb1db-2fbb-5c70-9d5c-b91111cf3267.html

WILL SMALL CELL FACILITIES HELP "BRIDGE THE DIGITAL DIVIDE"?

Nope. In order for wireless "small cell" facilities to function, they need fiber to the pole. Although all areas by now should have fiber since it was paid for years ago in rate increases (which are still being assessed), much of rural America is still without fiber. So in order to "bridge the digital divide", Telecom would have to lay out billions for fiber, an expenditure they are not likely to do in the foreseeable future. And if they do, well then that fiber should go all the way to the home and not just stop at utility poles!

JOB LOSS

We are told 5G will bring jobs and boost the economy, but many studies are coming down on the other side of this debate. Building all these so-called "small cells" may temporarily add jobs, but once up, those jobs will disappear. Moreover, with 5g and the Internet of things, robots will increasingly replace humans in the workforce. Admittedly, jobs in cyber security will increase enormously!

"While industrial robots have already displaced hundreds of thousands of jobs in the US since 1990, they are about to take over millions more from human hands in the next decade, said a renowned US economist."
https://www.business-standard.com/article/technology/industrial-robots-set-to-displace-millions-of-us-jobs-study-117071100212_1.html

Study: Robots set to displace millions of U.S. workers by 2025 Christopher Matthews | AXIOS.
"Acemoglu and Restrepo say that if automation proceeds at predicted rates, millions of jobs could be lost while wage growth is reduced by up to 2.6% between 2015 and 2025." https://www.axios.com/study-robots-set-to-displace-millions-of-us-workers-by-2025-1513301203-8b7f4002-3876-4a19-80de-39834a472dbd.html

Please also see the following:

Robots will destroy our jobs – and we're not ready for it Dan Shewan | The Guardian
"Two-thirds of Americans believe robots will soon perform most of the work done by humans but 80% also believe their jobs will be unaffected. Time to think again."
https://www.theguardian.com/technology/2017/jan/11/robots-jobs-employees-artificial-intelligence

ENOUGH'S ENOUGH

Sometimes there is too much rain for the earth to absorb resulting in pools of stagnant water and flooding.

Sometimes after a huge feast we are so stuffed we literally cannot take one more bite.

To make foie gras, farmers (cruelly) ram rods down the throats of ducks and geese to force feed them till they can barely stand up.

This is where much of humanity is right now with technology. We are saturated with 24/7 "connectivity" in the name of "progress", "convenience", or "public safety". We cannot take even one more bite…even to benefit telecom and "stimulate the economy."

Please do what you can to keep us standing and to spare us all (and our data) from becoming "foie gras" for Telecom et al.

MESSAGE FOR ACTIVISTS WORKING FOR THE GOOD OF ALL

"We have allowed governments to run our lives, believing ourselves to be incapable of transforming our circumstances. Let's not dwell in that delusion any longer. We are so much more powerful than that."   Olga Sheean https://olgasheean.com/2020-vision/