Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20555

In the Matter of	)	
	)	
Streamlining Deployment of Small Cell Infrastructure by Improving Wireless Facilities Siting Policies	)	WT Docket No. 16-421
	)	
Reassessment of Federal Communications Commission Radiofrequency Exposure Limits and Policies	)	ET Docket No. 13-84

COMMENTS OF THE WIRELESS COMMUNICATIONS INITIATIVE (JOINT VENTURE SILICON VALLEY)

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COMMENTS OF THE WIRELESS COMMUNICATIONS INITIATIVE
(A WORKING GROUP OF JOINT VENTURE SILICON VALLEY)

Wireless Communications Initiative, a working group of Joint Venture Silicon Valley, applauds the Federal Communications Commission's efforts to engage with stakeholders as the wireless telecommunications industry begins making the transition from centralized "macro" architectures to densified networks. Joint Venture's Wireless Communications Initiative is a coalition between the wireless industry, local governments, business, academia, and residents working together to improve the wireless network infrastructure in Silicon Valley. The coalition builds on existing relationships with technology companies and local government leaders to drive a coordinated public-private sector effort and mounts a highly strategic campaign to transform Silicon Valley's wireless network infrastructure into a world-class showcase of speed, efficiency, and cost-effectiveness.

The Challenge: Satisfying User Demand for Mobile Data

By any measure, the demand for mobile data is enormous and not likely to slow down. Ericsson's 2016 Mobility Report estimates the consumption of data on mobile devices (smartphones, tablets, and mobile-enabled PCs) in North America was 1.3 Exabytes (1 Exabyte equals 1 billion Gigabytes) per month in 2015, and forecasts this will increase to 9.1 EB per month by 2021. Smartphones will drive the

majority of that usage, increasing by 7x today's consumption. In 2015, the average smartphone in North America consumed 3.7 GB of data per month, and this will increase to 22 GB per month by 2021.[1] These usage rates are driven heavily by the Mobile Economy – a fundamental shift in user behavior in communication and commerce from PCs connected by wired internet to smartphones and tablets connected by mobile networks. In 2014 the Mobile Economy ecosystem contributed 3.5% of the economy in North America, at a value of $670 billion. This is projected to increase to $750 billion by 2020.[2]

The economics of broadband are such that wireless is often the best, and sometimes only, solution for deployment. Consider the case of Google Fiber and their efforts to bring reduced cost broadband to cities around the country. In the end, the connection of fiber optic lines directly to homes was deemed too expensive even for Google, a highly-capitalized company with deep technical expertise and a corporate culture of disruptive innovation. It's widely believed that Google's revised approach to broadband deployment will be via wireless technologies.

Increased Demand for Wireless Telephony

Twice a year the U.S. Department of Health and Human Services publishes the Wireless Substitution Report via the Centers for Disease Control, based on data from the National Health Interview Survey. These reports have consistently shown an increase in the rate at which people are giving up wired phones for wireless. Estimated results from the January – June 2016 survey show that nearly one-half of all households nationally (49.3%) do not have a landline phone but do have at least one wireless phone. Looking nationwide approximately 49.0% of all adults live in households with only wireless phones, and 59.4% of all children live in households with only wireless phones. The results from other demographics are striking. Almost 3 in 4 adults (72.1%) age 29 and under do not have wired phones. 69.7% of renters

[1] https://www.ericsson.com/res/docs/2016/ericsson-mobility-report-2016.pdf
[2] https://www.gsmaintelligence.com/research/?file=10bf6e45b6a9705c44b78b7d566f76e6&download

are wireless only, as are 79.1% of adults living with roommates. 63.7% of Hispanic families and 63.1% of families below the Federal poverty limit do not have wired phones.[3] This trend towards wireless-only connectivity has been consistent during each release of the Wireless Substitution Report, and is likely to continue for many years to come.

Increased Demand for Wireless Broadband

Giulia McHenry, Chief Economist, Office of Policy Analysis and Development for the U.S. Department of Commerce, published a blog article which showed that American households are rapidly shifting their broadband connectivity from wired (cable, DSL, etc.) to wireless.[4] The article's source data comes from the U.S. Census Bureau's "Computer and Internet Use Supplement" to the Current Population Survey (CPS), which includes data collected for the NTIA in July 2015 from nearly 53,000 U.S. households. The results of this survey are again striking – Households with annual incomes below $25,000 are 29% likely to be accessing the internet via only mobile broadband, and households between $25,000 and $49,999 annual income are 24% likely to be mobile-only.

Societal Value of Wireless

Reviewing the CDC and NTIA analyses, it becomes clear that there's a societal value especially to at-risk elements of our society who not only want wireless networks, but need them for voice and data and rely on them as their only method to communicate. Wireless networks are not a convenience or luxury – they're critical components of daily life in the 21st century. This includes families, young adults trying to build their careers, students, the elderly, people with physical disabilities, and people in transitional situations including the homeless. Fail to build these networks, and millions of people in vulnerable populations will be impacted.

[3] https://www.cdc.gov/nchs/data/nhis/earlyrelease/wireless201612.pdf
[4] https://www.ntia.doc.gov/blog/2016/evolving-technologies-change-nature-internet-use

Concerns over Health Effects

Citizen concerns over health effects from cellular networks are often based on self-referential sources that circulate around the internet. Most of these make some type reference to "increased brain cancer rates". In reality the NIH / National Cancer Institute data on brain and nervous system cancers from 1992 to 2013 actually shows new cases declining during that period.[5] And the NIH findings are aligned with peer-reviewed work from SCENIHR, ICNIRP, IEEE, and others.

Wireless technologies for cordless phones, data networks, cellular, and broadband have been increasingly adopted by consumers for over 20 years. If there was both correlation and causality between RF and brain cancers, we'd be seeing that trend in cancer incidence rates by now. Yet despite a massive increase over the past two decades in use of cell phones and other wireless systems, the trend of both incidence and mortality is downward. The National Cancer Institute (NIH) has clearly stated "Brain cancer incidence and mortality (death) rates have changed little in the past decade."[6]

Unfortunately, these moderated scientific perspectives are often hard to find. An online search related to health effects of RF or cellular signals will bring up pages and pages of pseudoscience and urban legends masquerading as evidence, but very few results from respected sources in academia and government. Citizen groups opposed to wireless often point to this lack of guidance as a reason to be concerned, and elected officials – especially those in cities and towns – will often take the lack of authoritative studies as reasons to vote or move against proposals and permits. Criticisms are also made that the FCC's guidance on RF safety is "old", based on studies from the late 90's. Studies and reports from SCENIHR, ICNIRP, IEEE, and others show this to be false, but the Commission's lack of closure on ET Docket 13-84 is not helping. For this reason we urge the Commission to complete the work in ET Docket 13-84, to remove this as a point of contention and justification for suspicion during municipal deliberations.

[5] https://seer.cancer.gov/statfacts/html/brain.html
[6] https://www.cancer.gov/about-cancer/causes-prevention/risk/radiation/cell-phones-fact-sheet

Time, Place, Manner, and Aesthetics

The wireless industry has hurt itself in some cases by rushing projects forward with poor consideration for aesthetics and community impact. These negative examples are photographed, widely published online, and held up as evidence of the imagined horrors which will befall communities that let wireless projects move forward. If local governments are going to lose discretionary control over permitting, the Commission needs to ensure that the industry will make aesthetic considerations a priority, within the bounds of proper engineering and design principles. The wireless industry needs to communicate more directly with the public about the public safety and economic development value of cellular broadband networks.

Conclusion

Change is never easy, but we must change to progress and grow as a society. In 1879 Edison filed his light bulb patent, and commercial electricity service began at nearly the same time. Yet by 1920 only 20% of households in the U.S. had electricity, primarily because people feared electricity – despite the ever-present risk of fire from gas and oil lamps used for lighting. At the time, doctors and various "experts" insisted that electric light would cause blindness and electric fields would cause adverse health effects – and people with susceptible minds regularly manifested psychosomatic symptoms to these imagined hazards.[7] 100 years later, we're working through a similar transition. And it's critical that we partner to manage the roll-out of densified LTE networks correctly, because the legal and regulatory framework on which we build densified LTE networks is the foundation on which we'll build even higher density 5G networks – a critical technology for autonomous transportation networks and other innovations. We believe that with due diligence and cooperative consideration, the industry's transition into densified architectures can be done in a way that meets society's needs without excessive impact to residents, and we welcome the opportunity to be a partner in making this happen.

[7] "Dark Light", Prof. Linda Simon, http://amzn.to/2mfW6Ft

Respectfully submitted,

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