

# On the 5G hype

*This is a roughly arrayed collection of educated, expert opinion and pointers to further resources on the 5G hype. This is not an article, nor a compilation in a sequence, but wrapped into a PDF as a convenient reference for further research. Almost all of the following resources are gathered from an informal conversation by email among the IGF Dynamic Coalition on Community Networks on the specific subject headline on 5G hype*

This engadget video explains the technology and the myth:

<https://www.youtube.com/watch?v=9EgXz1CEfQw>

Expert Opinion and further pointers:

"There are a lot of issues related to 5G....one thing that is key – **we need to connect in a tech neutral way**. By focusing just on 5G, we divert attention away from immediate complimentary solutions – from 3G to 4G to Community Networks and the need for more IXPs... the Capital /Operating Expenditure per kilometer based on population and average income related to 5G are details that need to be studied."

"5G might not be the appropriate solution and we need a ways and means to select the right technology solution given the local needs and financial constraints"

"5G is like the new magic technology, right ? It is a floor wax, and it is also a dessert topping. It will wash your clothes and make your dinner. A lot of the time, when you hear those kinds of claims about any given technology, for the internet, or really for anything else, you' re going to be disappointed."

"Metaphorically and simplifying, if we are talking about thirst and lack of water, 5g is mainly a new type of drink cocktail, a new flavor to attract sophisticated consumers, as long as you live in profitable places for the service and you can pay for it. Renewal of communications equipment and devices is a business opportunity for manufacturers mainly, but not just the best "water" to the unconnected, rural, ... (non premium clients), even a problem as investment from operators gets first pushed by the trend towards satisfying high paying urban customers and not to spread connectivity to low pay social/universal inclusion customers, and definitely not network co-owners as in Community Networks."

<https://people.ac.upc.edu/leandro/pubs/5G.pdf>

"We need to separate the 5G hype from reality, impartial analysis and a real cost analysis . I see this typical with TVWS as the best solution ... but none of this is written in plain english"

<http://giglibraries.net/page-1712339>

a video on WIFI during closed Libraries by Giganet

<https://drive.google.com/file/d/1yojoGjalgmukFfeAE0d0ZRjJSg21nq0y/view>

Strange rumours as reported by the BBC:

[https://www.bbc.com/news/newsbeat-52395771?utm\\_source=sendgrid&utm\\_medium=email&utm\\_campaign=Newsletters](https://www.bbc.com/news/newsbeat-52395771?utm_source=sendgrid&utm_medium=email&utm_campaign=Newsletters)

On 5G and the underlying open source software and standards...

<https://training.linuxfoundation.org/training/open-source-and-the-5g-transition-lfs111/>

## EFF said **“Enough of the 5G Hype”**

The article is paraphrased with comments (mostly questions to the better educated) in Italics:

- 5G is a distraction [ *"engineered" by* ] the Telecom Companies' willful failure to invest in a proven ultrafast option: fiber to the home, or FTTH
- 5G will do “network slicing,” [ *eventually to isolate ?* ] one network from another. Slicing allows for tailored wireless services for IoT, autonomous vehicles, broadband, and other services that have different needs. [ *This form of isolation may have unforeseen consequences, such as a situation where a service offered by one network is not considered profitable by another, with a result of trapping, for e.g, autonomous vehicles under one or two networks optimized for that sector, with the possibility of trapping that segment within that one (or two) network(s) ?* ]
- 5G services work in basically two ways. Moderate speeds with wide area coverage or high-speeds with very limited range (around 1000 feet from the tower). The 5G services most often touted by industry are the limited range high-speed type, which will exist where fiber wireline infrastructure is present. [ *Are we to expect that Telecom Companies will build base fiber wireline infrastructure together with 5G towers in every cell of 300 meter radius everywhere on planet Earth?*  ] Selects spots in select metros [ *where they already have a fiber wireline infrastructure* ] may have true 5G, with the rest left out for wide area, moderate speed coverage.
- 5G will not revolutionize Internet access or speeds for rural customers. So anytime the industry is asserting that 5G will revolutionize rural broadband access, they are more than just hyping it, they are just plainly misleading people.

- cable networks had already deployed gigabit download networks, moving towards 10 Gigabit broadband, that is comically called 10G, so it is not true that 5G is faster than fiber.
- Fiber to the home is cheap to upgrade to even higher speeds once it is laid. [ *If Telecoms move from 5G to 6G, they may probably have to dismantle their infrastructure, which they will not do.* ]
- policymakers and regulators are distracted and even willfully promote 5G hype... The end result is we will be stuck with slower, more expensive, and not universally accessible high-speed broadband.

Resources on Spectrum:

<https://fliphtml5.com/bookcase/ikuuv>

Caution on Spectrum:

"Spectrum isn't a thing. It's a property we can measure. The reason we have spectrum management goes back to the 1920's when we basically used electronic tuning forks and created virtual wires because we had to have a smart network because we had dumb endpoints. There was then the mistranslation of Claude Shannon's models that accepted the idea of spectrum bands as being physically necessary and they had to reserved. In reality the radio waves pass through each other and we get confusion when we look at only a single frequency. By calling that interference it sounds like physics. But as we know humans don't communicate that way – they use rich information and interpretation in their intelligent endpoints (brains). So the fundamental idea of spectrum allocation creates scarcity in the same way modems holding up phone line create scarcity in the 1990's until we converted it all to packets and we have super abundant capacity one we remove the regulator model of the 1920's. As to 5G. It is 5G that is the end of innovation because it drags intelligence into the network and prevents permissionless innovation."

"The 5G radio is incidental to the business goal of replacing the Internet with a 1970's vintage one [closed networks like Compuserve / AOL]... you can get similar technology with Wi-Fi 6 and without giving total control cellular networks... T-Mobile doesn't even bother with the new radios because for them, and the telcos, 5G is really about ... [building more 'intelligence' into the network that is meant to be 'dumb'; 'intelligence' in the Network serves the commercial purpose of] clawing value back from the apps and making sure every device is tethered and generating billable events. It is the face of anti-neutrality in which the telcos are selling priority by claiming some bits are special and require that they take capacity away from the commons and sell it to the highest bidder... all the use cases they are stories written by marketers... What we do need is telemedicine which works fine with Skype, (sorry, Zoom) and needs more Wi-Fi and less paywalls... 5G is not in adding value to the users – just the opposite. And it doesn't do anything we can't do now better by innovating."

Interview on the topic of From Broadband to Infrastructure:

<http://broadbandbreakfast.com/2017/12/bob-frankston-its-time-to-move-from-broadband-to-infrastructure/>

a write up: From Broadband to Infrastructure:

<https://rmf.vc/IEEEBBtoInfrastructure>

APC organized a webinar on 5G:

<https://share2.apc.org/index.php/s/kseFPLsPHoJHX4r>