

**From:** [REDACTED]  
**To:** [Committee, Communications \(REPS\)](#)  
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To the committee,

regarding investment in multi-carrier regional mobile infrastructure, it would be nice to see more competition but demand is not very high. Certainly it should be considered when allocating taxpayer funds instead of simply donating all the money directly into a single private company's coffers. Telecommunications are no longer simply the telephone but are carried on unified infrastructure with other data streams. This inquiry probably intends to only consider a small subsection of **cellular** mobile infrastructure but that is not what the terms of reference indicate so I shall proceed. The precise way in which radios connect to cables and each other is largely meaningless to the end user.

A notable example of the monopoly in Australia is that there is an entire state that effectively has a single reliable carrier. In Tasmania, the basslink regularly gets overloaded. The power transmission cables are bundled with fibre optic communications cables. Telstra controls the backup communications cables(Bass Strait-1&2). The downstream effect is that Telstra customers and Telstra business customers get priority traffic while other telco customers get something else with plenty of unused spare transmission capacity. Tax payers paid for the trunk lines but then the federal government just gave away the infrastructure and use and supply is artificially constricted.

Multiple carriers are branching out from their allocated spectrum into the unlicensed spectrum allocations for the commercial provision of wireless communication. Because many businesses and persons rely on this shared small scale wireless infrastructure to access their NBN connections and so forth, the commercial saturation of the 2.4Ghz spectrum is concerning. Legislation and regulation should specify restrictions on either or a combination of transmission time or allowable link speed. A commercial operator can for example use the 2.4Ghz spectrum and saturate it at 1mbps 802.11b speeds. This ordinarily might create interference between neighbours but now adds poorly configured WISP providers to the mix. It is extremely annoying to have a few malfunctioning WISP AP nodes nearby. I strongly recommend making 802.1X authentication at the wifi handshake authentication stage mandatory for all WISPs. A nearby Telstra Air Hotspot is flood-multicasting Google Chromecast announce packets. The thing about multicast packets is that they are always transmitted at the slowest allowed rate. The shared nature of this very tiny sliver of the spectrum means that nearby wiphy networks must also work at the slowest rate. It's even more annoying that nobody is even using them most of the time.

Making it easier for farmers and very remote communities to collaborate on peered WISP projects could produce community controlled solutions. Landholders could be incentivized to install and maintain backbone self-healing mesh network infrastructure. Cellular networks are nice if you're trapped in a concrete cage. They were designed for complex environments. In remote areas, this is not really what is required. multi-hop Terrestrial links can supplement fiber installations and their latency is far superior to satellite communications.

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