

# Fibre or 5G - which is better?



By [Shane Chorley](#)

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Mobile operators in South Africa are already positioning 5G as the panacea of internet connectivity even though coverage is limited. This has re-awakened the age-old debate on which is better - fibre or wireless? The answer depends as much on your budget as it does on your internet requirements.



Image Supplied | Shane Chorley, head of sales and marketing at Frogfoot Networks

For their part, operators are punting 5G at speeds of anything from 50mbps to 500mbps in their marketing material. But until it becomes pervasive throughout the country, it is difficult to make a fair comparison with fixed-line access.

What is certain is that 5G requires an extensive amount of fibre to connect. It needs a base station every 150 metres to run optimally. Just imagine what suburbs will look like if this were to happen because of its limited range. And even if the operators get enough spectrum to overcome this limitation, can they afford to do so at scale and will they pass those costs on to the end-user?

## User experience

Whether it is 5G, 4G, or even 3G, the biggest concern with wireless is the lack of consistency of service. Sure, the performance is wonderful when there are only a handful of people on the network. This is where the contention ratio comes into the equation. This simply refers to how many users are sharing the data capacity of the connection.

The higher the rate, the more people are accessing the service. Now imagine every person in every household in your suburb starting to use a 5G service. The base station would simply be overrun with requests and the available bandwidth that is shared will be minimum.

Fibre uses a mechanism for allocating bandwidth according to the service a user is on. It means the package you buy will be what determines your maximum throughput and not whether your neighbour is downloading the internet.

Without getting into too much technical detail, fibre optics works on the principle of splitting light. In theory, this could be split infinitely to cater for demand with users not suffering the same degradation of performance they would on a mobile network.

## **Price discussion**

To counteract the argument that mobile data in the country is expensive, operators have begun introducing better-priced packages with larger data bundles. While the official line for this is more innovative technology becoming available to deliver mobile data more cost-effectively, the truth is that operators only want to avoid having people from leaving their networks and adopt fibre.

Fixed-line connectivity is far cheaper provided you use a certain volume of data. Wireless is a usage-based service, so the operators can negate a connection fee. For fibre, this can average R600. While prepaid and postpaid data rates between operators vary, the average 4G price per gigabyte data is R2. For fibre, it works out to 20c per gigabyte.

Although you can use a lot of data before hitting the R600 mark, it can quickly add up if you are a household with multiple devices, and if this consists of teens playing online games - roughly 60 to 100mb per hour - and downloading games plus their patches - upwards of 60gb per game, parents watching high definition video streaming - roughly 3gb per hour. Even 300 gigabytes will not last you long.

This is where fibre comes into its own and becomes exponentially cheaper than anything the mobile operators can provide. It comes down to if your household budget for internet access is less than R600, then wireless will be cheaper.

## **Power argument**

Moving beyond costs, another popular argument in favour of wireless is that of load shedding. Even though fibre points in the house and routers use a minimal amount of electricity, they still require power. It, therefore, stands to reason that mobile will win this round.

The truth is that mobile operators are battling to deal with frequent instances of battery theft. This results in base stations going down when load shedding occurs. The ones that do have extra battery capacity then need to deal with an influx of users resulting in a sub-par experience.

Another example of this is when there is a sporting event at a stadium. The base stations in the vicinity need to deal with not only its existing traffic but the increasing number of people watching the event. Just as with load shedding, the network speeds deteriorate significantly resulting in dropped calls, failed social media uploads, and just general difficulties in connecting.

Ultimately, your connectivity option will depend on your needs and your budget, but if you are already spending more than R600 a month on data and have a household with multiple devices connecting to the internet, then fibre is the service for you.

## **ABOUT SHANE CHORLEY**

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