

# Mind the 4G gap at train stations

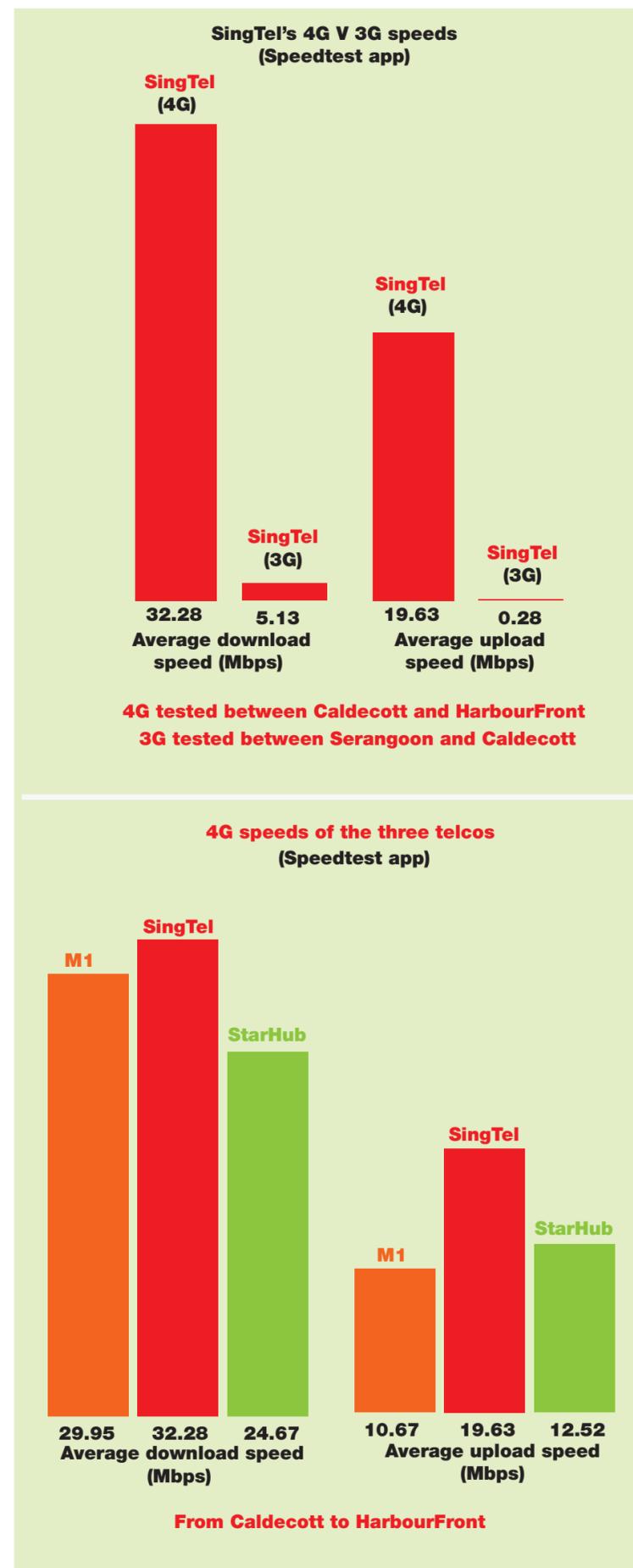
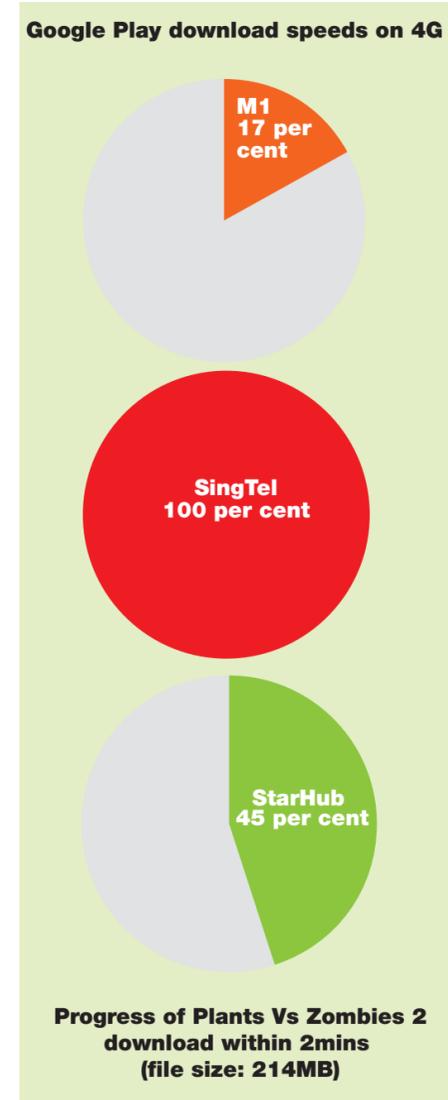


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A few MRT stations have been upgraded to provide 4G service, but Digital Life's road-test reveals that coverage can still be spotty in places



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It has happened to all of us – that tiny spinning circle which tells you that your browser is attempting to load a webpage with little success. Usually, it is when your train is underground.

The telcos may claim that 4G coverage is nationwide, but coverage excludes underground MRT stations and tunnels. In fact, Singapore is still a long way from achieving this.

SingTel announced last month that its network now supports 4G surfing at 12 of the 29 stations on the Circle Line, namely the ones from HarbourFront to Caldecott. The 3G infrastructure also got a boost, with SingTel promising that its users will enjoy faster 3G speeds of up to 42Mbps at these stations.

The telco also said that all of the North-East Line has 4G coverage.

Both M1 and StarHub have also been upgrading their networks with 4G systems at some stations on these two lines, though these, too, remain works in progress.

M1 said its 4G network now covers the Dhoby Ghaut, Esplanade, Paya Lebar, Bartley, Serangoon, Lorong Chuan, Bishan, Marymount, Caldecott, Botanic Gardens, Farrer Road, Holland Village, Buona Vista, Haw Par Villa, Pasir Panjang and Little India stations. Most of these stations are on the Circle Line.

StarHub would say only that its 4G network is available at major Circle Line stations and Dhoby Ghaut, HarbourFront, Hougang and Little India stations on the North-East Line.

No telco offers underground 4G coverage on the older East-West and North-South lines.

## The 4G coverage test

Armed with three Samsung Galaxy S4 smartphones, each equipped with a 4G SIM card from each telco, I set out to assess the newly upgraded 4G networks on the Circle and North-East lines.

Starting at Serangoon, I took the Circle Line to Caldecott to test coverage at the four stations before I reached the stations where SingTel said it had upgraded 4G coverage (Caldecott to HarbourFront).

I then switched to the North-East Line and travelled to Serangoon, where SingTel claimed 4G coverage was complete.

Testing was conducted between 5pm and 7pm on a weekday. Several

of the Circle Line carriages were not crowded, especially between Buona Vista and HarbourFront. But the North-East Line train was packed.

The Speedtest app was used to find out the download and upload speeds of the 4G connection.

I also downloaded Plants Vs Zombies 2 (214MBs) from the Google Play store and recorded the download progress (in percentage).

Here are the takeaways:

### ■ Before and after upgrade of SingTel mobile network

The upgraded 4G section of SingTel's mobile network on the Circle Line from Caldecott to HarbourFront is much faster than the section between Serangoon and Caldecott, where it remains at 3G.

It took me just two minutes to finish downloading Plants Vs

Zombies 2 from the Google Play store on SingTel's 4G network. Speedtest showed an average download speed of about 32Mbps.

But between Serangoon and Caldecott, where it is still 3G only, the download speed averaged 5Mbps and the connection to the Google Play Store timed out.

SingTel's 4G network on the North-East Line was also robust. Downloads averaged 27Mbps and uploads 8Mbps from HarbourFront to Serangoon. This was impressive in a crowded train carriage.

The other telcos have mostly 3G coverage on the North-East Line, even at major interchanges such as Serangoon.

### ■ Download speeds on 4G

When you do get 4G coverage on the Circle Line, the download speeds

vary. While SingTel was slightly faster than its rivals in the Speedtest, it was a lot better in the Google Play store download test.

I managed to get between 24.67Mbps and 32.28Mbps from Caldecott to HarbourFront for all the telcos, according to the Speedtest app (see charts on right).

### ■ Same station, different coverage

Even in the same station, coverage may vary depending on where you are. This was seen at larger interchanges, including Serangoon, which straddles both Circle and North-East lines.

SingTel users at Serangoon MRT can enjoy 4G speeds in the boarding area for the North-East line, but the signal degrades to 3G at the waiting area for the Circle line.

In fact, SingTel's 3G coverage at the Circle Line section of Serangoon was so bad that I was unable to connect to the Speedtest server or the Google Play store.

Said StarHub's Mr Lim Eng Huat, head of mobile network engineering: "One of the challenges we face is the limited access given by train operators for us to carry out works in MRT tunnels and stations."

SingTel said it gets just 2 1/2 hours each session to upgrade the network infrastructure. It needs four sessions to upgrade a single station to 4G.

According to SingTel, it is SMRT that sets the schedule and this has to be managed together with routine rail-line maintenance and repairs.

M1 said it expects to have complete 4G coverage on both Circle and North-East lines in the next few months, while SingTel and StarHub

said their 4G infrastructure will be ready by the second half of the year.

In fact, all three telcos have until June 30, 2018, to provide 4G coverage in all underground train stations and on all MRT lines.

This requirement was included in the 4G spectrum auction held by the Infocomm Development Authority of Singapore (IDA) last September, which saw all three telcos win their desired spectrum lots. IDA said it may allow extensions to the deadline on a case-by-case basis.

Another consideration is 4G service quality. IDA noted that while it is too early to impose service standards on 4G networks, it may adopt them in the future.

In the meantime, be prepared to continue seeing that spinning circle on your next train ride.

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