Results from MyConnection SG Pilot (October 2014 – March 2015)

IDA launched the MyConnection SG mobile application in October 2014 to complement the IDA Quality of Service ("QoS") framework to allow IDA to have a better understanding of wireless broadband performance and consumers' service or usage experience. The application utilises voluntary crowdsourcing to gather the quality of experience anonymously from mobile users, such as broadband speed, latency and coverage on 3G and 4G cellular mobile networks, as well as usage experience on Wi-Fi networks.

IDA is publishing the MyConnection SG results from the 6-month pilot, from October 2014 to March 2015, to increase information transparency to help consumers make informed choices on their mobile broadband plans and encourage operators to improve the usage experience for consumers.

Profile of Participants in Pilot

For the first 6-month pilot period, MyConnection SG attracted close to 4,000 participants, capturing more than 50 million data points island-wide across the cellular mobile networks and Wi-Fi networks such as Wireless@SG. Data points on users' usage experience such as mobile coverage, wireless broadband speed and latency were collected.

The profile of the 4,000 participants is depicted in Chart 1.

Chart 1: Profile of MyConnection SG Participants

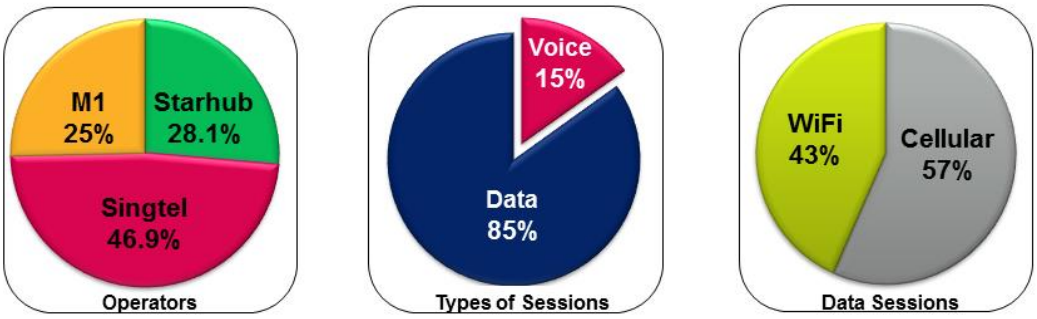
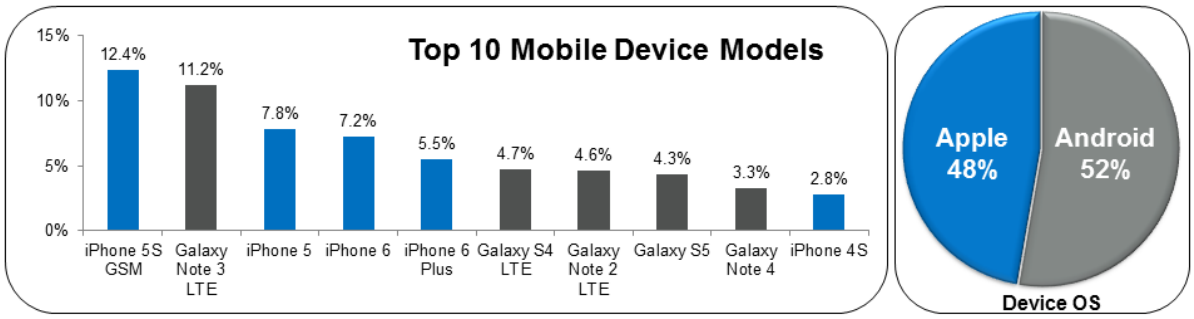


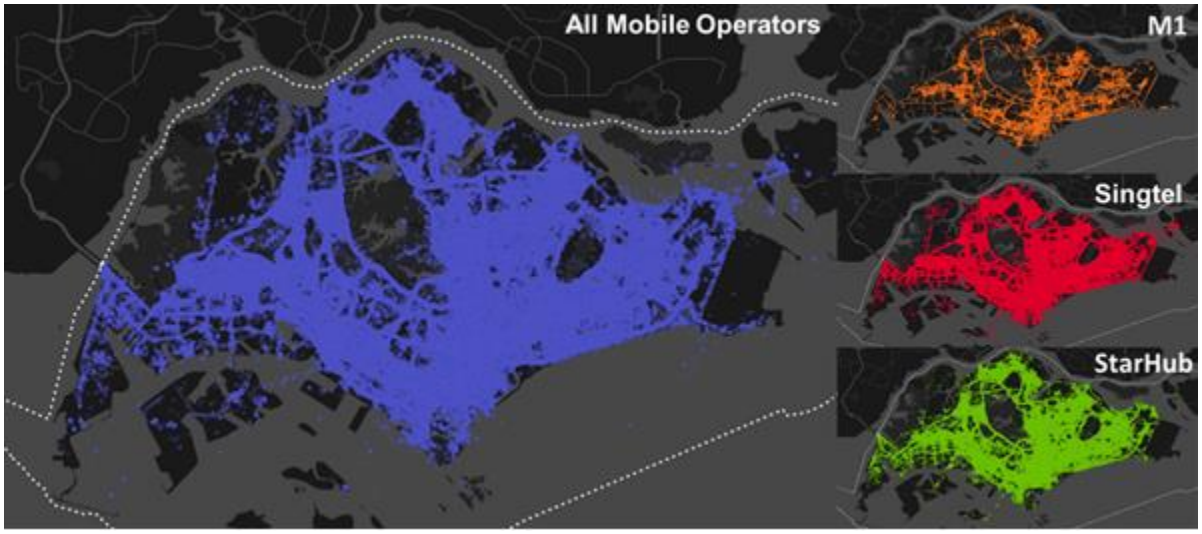
Chart 2 shows the distribution of the Operating Systems ("OS") and models of devices used by participants. As the pilot was opened to iOS and Android OS devices only, the user device profile in Chart 2 does not represent the proportion of devices sold in Singapore.

Chart 2: Profile of User Devices of Participants



The 50 million data points collected were well distributed across Singapore. Diagram 3 shows the distribution.

Diagram 3: Distribution of User Data Points



*Coloured spots represent locations where anonymised user experiences were collected.

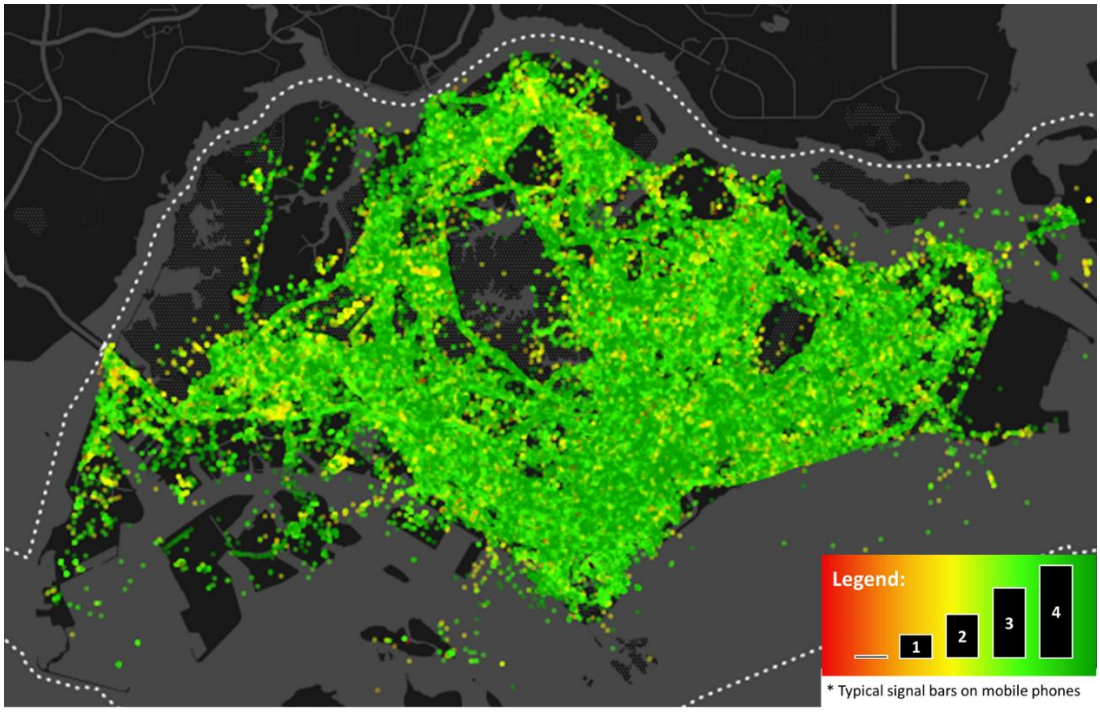
Mobile Data Usage Experience

The assessment of the quality of experience on 3G and 4G cellular mobile networks was made on Android OS only as Android OS provides the capability to differentiate between 3G and 4G networks. Nonetheless, the results are still representative of typical mobile users' experience in Singapore.

Results from the pilot showed that mobile users experienced good 3G service coverage island-wide, while coverage experience for 4G service is improving. For 3G services, most participants had experienced more than 3 to 4 signal bars on their mobile devices across Singapore.

Diagram 4 below depicts the 3G mobile signal strength experienced by participants.

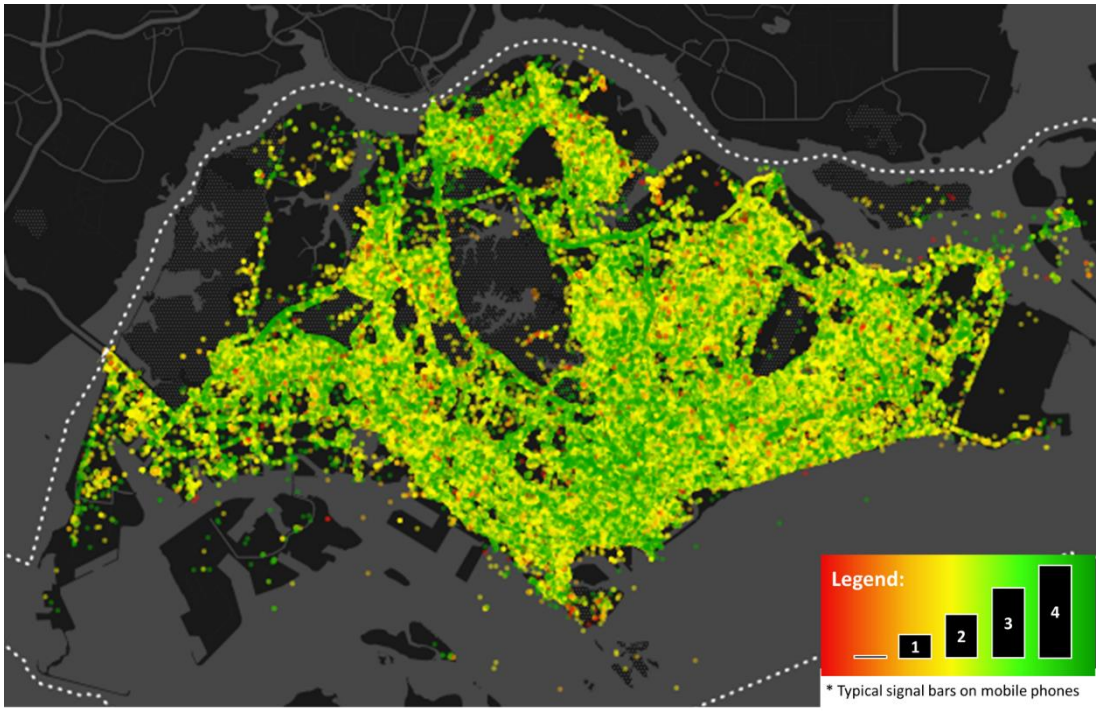
Diagram 4: 3G Service Coverage Experience of Participants



[+]Signal bars may vary between make and model of mobile phones.

Mobile operators are still enhancing 4G service coverage and improving network capacity across Singapore. Most participants had experienced a mobile coverage signal strength of about 3 signal bars across Singapore while some experienced 4 bars, as shown in Diagram 5.

Diagram 5: 4G Service Coverage Experience of Participants

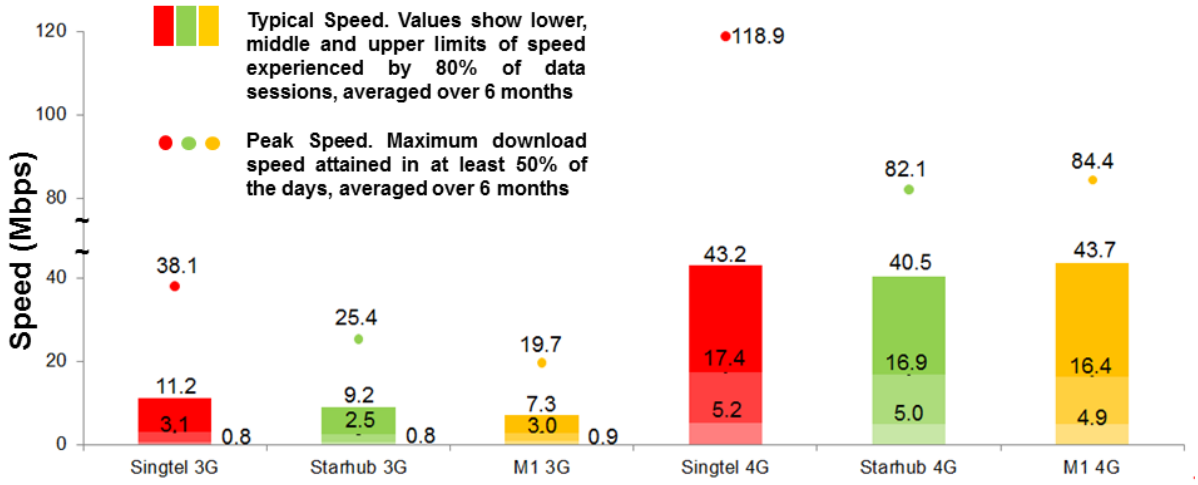


[+] Signal bars may vary between make and model of mobile phones.

On average, over the 6-month pilot period, typical data download speed experienced by 80% of 4G participants was between 5.1Mbps and 42.4 Mbps, with a peak speed of 87.7 Mbps. These download speeds were about 5 times faster than the 3G network, which registered a typical data download speed of between 0.8Mbps and 9.2Mbps, with a peak speed of 31.3Mbps. At these speeds, users can expect good experience when accessing content rich social networking sites, video streaming and online gaming.

The 3G and 4G data download speed performance of the mobile operators is depicted in Chart 6.

Chart 6: Data Download Speeds of 3G and 4G

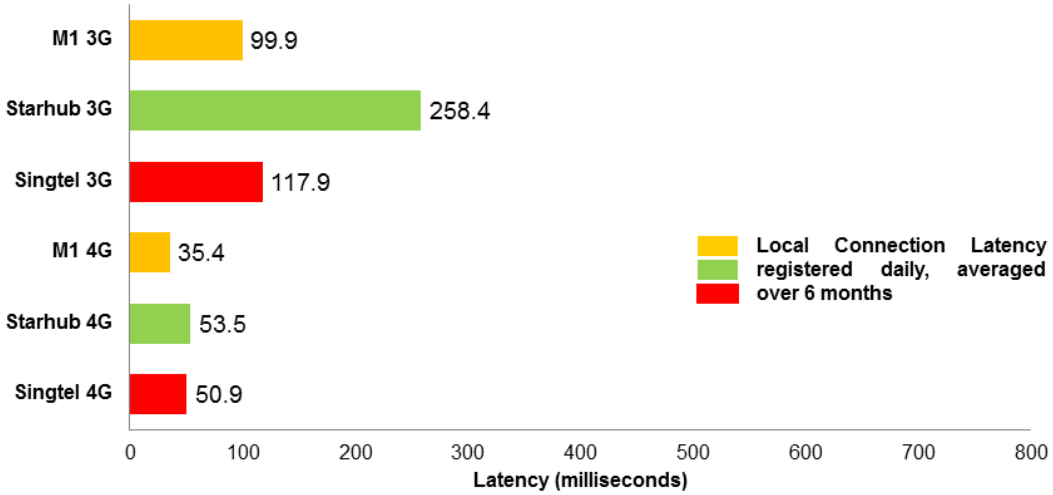


Speed or throughput measures the rate at which a certain file size is successfully transferred. It is measured in megabits per second (Mbps).

4G services also registered much shorter latency (about 4 times shorter) when establishing a local connection when compared with 3G. On average, over the 6-month pilot period, the local connection latency experienced by participants was 158.8 milliseconds for 3G network and 46.6 milliseconds for 4G network.

The 3G and 4G local connection latency performance of mobile operators is shown in Chart 7.

Chart 7: Response Time to Establish a Local Connection



Latency: Responsiveness of the network from the end user to the destination server hosted locally.

Wireless@SG Experience

On average over the 6-month period, data download speed on Wireless@SG services was higher than the 2Mbps of bandwidth provided at public areas, achieving a typical speed of between 0.8Mbps and 5.5Mbps and a peak speed of 8.5Mbps. The daily average latency was also faster than 3G service at 75.4 milliseconds. WiFi uses a technology platform different from the mobile cellular network. Users on Wireless@SG are usually stationary instead of being on the move.

Conclusion

MyConnection SG has also helped to identify areas with high usage as well as potential blind spots. The results have been shared with the mobile operators to further improve users' service experience.

IDA aims to launch the official release of the app by end 2015 and intends to publish the MyConnection SG results every six months thereafter.

IDA encourages consumers to join us in our crowd sourcing effort and download the MyConnection SG app to share their mobile experience so that IDA and the mobile operators can take measures to improve their experience.

MyConnection SG is available on both the Apple App Store for iPhone users, and the Google Play Store for Android users. The pilot will end on 30 June 2015.