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Ref No: RP/ FY 17 – 18/ 087/ 091

Dated: August 10, 2017

**To,**  
**Advisor (Broadband & Policy Analysis),**  
Telecom Regulatory Authority of India,  
Mahanagar Door Sanchar Bhawan,  
Jawahar Lal Nehru Marg, Old Minto Road,  
New Delhi – 110002.

**Kind Attention: Shri. Arvind Kumar**

**Subject: Consultation Paper on “Data Speed Under Wireless Broadband Plans”.**

**Reference: TRAI Consultation Paper dated 1<sup>st</sup> June 2017.**

Dear Sir,

This is with reference to your above mentioned consultation paper. In this regard, please find enclosed our response for your kind consideration.

Thanking You,

Yours' Sincerely

For **Bharti Airtel Limited**

A handwritten signature in blue ink, appearing to read 'Ravi P. Gandhi', is written over a horizontal line.

**Ravi P. Gandhi**  
**Chief Regulatory Officer**

## Consultation paper - "Data Speed under Wireless Broadband Plans"

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We are grateful to the Authority for providing us with the opportunity to give our comments on the consultation paper "Data Speed under Wireless Broadband Plans".

In our view, several consultations have been held with industry players on this issue and eventually, considering the fact in respect to technical constraints in wireless network, the Authority has not mandated to provide information about minimum or average wireless data speed to the customers. In October 2016, TRAI published a revised direction for publication of after quota speed under wireless broadband plans which were duly complied by the Industry. This was preceded by the launch of TRAI's 'MySpeed' application in July 2016. Further, MySpeed app has recently been revamped with incorporation of an automated toll-free speed test. While there are technical glitches in the MySpeed App, which have been highlighted through separate communication, we trust that Authority is in the process of removing those glitches.

In course to improvise the MySpeed App functionality for customers, TRAI's has launched following analytics portals for customer awareness on different Quality of Service parameters;

- I. **TRAI MySpeed Portal:** To measure the customer's data speed experience and other network coverage information along with location of the test.
- II. **TRAI Drive Test Portal:** To explore the results of independent drive tests conducted by TRAI.
- III. **TRAI QoS Analysis Portal:** To explore the call drop rate in any specific location (Service Area/ District/ City/ BTS) in India for various TSPs.
- IV. **TRAI MyCall portal:** To provide map based view for data visualization of the ratings collected from customers on voice call quality.

We believe that the above portals are serving the overall interest of consumers in a transparent manner.

The Authority would appreciate the fact that any mobile network in the world, due to its inherent design constraints and being shared access, works on the best-effort basis. The throughput of the wireless network differs on the basis of several factors such as;

- a. bearer technology i.e. 2G/3G/4G,
- b. distance from cell site,
- c. activity of other users in the cells
- d. customer device capability any many more.

Further, the customers are provided with a fallback on lower technology. In such scenarios, it would be misleading to mention minimum or average speed. While minimum speed in any shared access network would always be "Zero", the average speed would vary on the

basis of geographical area (Lat-Long), time of the day, day of the month, traffic in that particular cell etc. Therefore, the industry has represented in past that it will not be technically feasible to publicize the minimum or average download speed and the fact has been well considered by the Authority while coming up with directions/ regulations in this regard.

In present hypercompetitive market with full MNP in place, TSPs anyway have to provide the best 'Quality of Services' to their customers. Further, the customer has ample options to check the data speed via open data speed apps available openly, that too at their chosen time and geography. Therefore, any such mandate for publication of minimum or average data speed would only cause a regulatory compliance burden instead of any tangible benefit to the consumers.

**We strongly recommend that it is not technically possible to declare the average speed for geography, for a set of customers, location or time and day. Any effort to make such declaration would be non-standard and misleading for customers. Therefore, introducing any such performance labels will only create confusion in the minds of the user. The technical jargon such as latency, packet loss, downlink and uplink speed, in absence of exact geographical position, time and day will not be the appropriate criteria for customers to make informed decision.**

In the backdrop of the above submissions, our detailed issue-wise response is as follows:

**Q1. Is the information on wireless broadband speeds currently being made available to consumers is transparent enough for making informed choices?**

**Bharti Airtel's Response:**

Yes, we strongly believe that in a shared access mobile network, the information on wireless broadband speed is transparently communicated through our website/ App, USSD based self-care mode, tariff posters and SMS, which is sufficient to the consumers for making an informed choice. Presently, the customers are informed about the technology such as 2G, 3G and 4G and also, the associated typical/peak download speed. Further, the customers are transparently informed about the speed which would be available to them post exhaustion of their allocated data quota i.e. the speed consequent to application of 'Fair Usage Policy'.

It is important to take a note of fact that we are taking industry level best initiatives in order to provide network related information transparently to all customers. Airtel, for the first time in the history of Indian Telecommunication sector has launched the "Open Network" portal and app, a platform that shares our tower, weak spots, strong signal zones, high-speed internet and information about network experience at any given place.

Further, there are multiple neutral third party apps e.g. Ookla Speedtest, OpenSignal (which are internationally acclaimed) and TRAI's MySpeed that are available to the consumers for measuring the speed and performance of the network.

**In view of above mentioned facts, we believe that the operators are providing necessary information on wireless broadband speeds and additional voluntary disclosure on Network quality which are sufficient for making informed choices by customers.**

**Q2. If it is difficult to commit a minimum download speed, then could average speed be specified by the service providers? What should be the parameters for calculating average speed?**

**Bharti Airtel's Response:**

We believe that the Authority has rightly acknowledged the fact that it is not possible to commit the minimum download speed to customers. There are similar constraints in informing average speed as in committing minimum download speed. Mobile networks are shared wireless access network and unlike wired broadband services, the performance of mobile network at any geographical point and/or at any point of time and day, are affected by many variables. Some of these variables are given below:

- Location of user in the cell;
- Coverage point - indoor/outdoor;
- Day and time of observation/requirement;
- Simultaneous users in the cell; and
- Application being used by the end user (full buffer vs. chatty).

Apart from the abovementioned network-related factors, the customer's device capabilities also impact the throughput. The device-related factors that impact the throughput are listed below:

- Technology support - 3G or 4G, TDD or FDD;
- Spectrum bands supported;
- Amount of spectrum being used;
- Carrier aggregation supported or not;
- Category of device;
- Characteristics of receiver; and
- Device's RAM/CPU.

There is no dispute that for any shared wireless access network the minimum speed would be mathematically zero and therefore, there is no point in publishing the minimum speed. As far as the average speed is concerned, it cannot be published for the reason enumerated above. Any way-around by Authority to publish the average speed will only confuse the customer more and increase their dissatisfaction. Mathematically, around 50% of the customer would lie above and remaining 50% of the customer would experience the speed below the average speed published by the TSP. The level of dissatisfaction would be enormous with the customers experiencing the speed lower than the average speed declared by the operator. Dissatisfaction among such a large number of customers i.e. 50% of the total subscriber base will create an utter confusion in the industry and therefore, is not at all recommended.

In fact, in recent past, the Authority in its direction dated 31.10.2016 has recommended to specify the primary data technology (4G/ 3G/ 2G) for providing wireless data services and has not recommended the minimum or average download speed. In view of above mentioned technical constraints which are beyond TSP's control, it is recommended that committing average download speed is not possible.

**Q4. Is there a need to include/delete any of the QoS parameters and/or revise any of the benchmarks currently stipulated in the Regulations?**

**Bharti Airtel's Response:**

TRAI has floated a separate consultation paper on 'review of network related Quality of Service standards for Cellular Mobile Telephone Service' dated 05.08.2016 and we have provided our views against the issues raised in the consultation paper. We have made our representation and comments during the Open house Discussion dated 21.12.2016 at Chennai. We hope that Authority would take due cognizance to our submissions on the subject.

**Q3. What changes can be brought about to the existing framework on wireless broadband tariff plans to encourage better transparency and comparison between plans offered by different service providers?**

**&**

**Q5. Should disclosure of average network performance over a period of time or at peak times including through broadband facts/labels be made mandatory?**

**Bharti Airtel's Response:**

We believe that the current framework of wireless tariff plans is transparent and simple to understand for end users, helping them to get the best value for their money. The current framework of wireless tariff plans has been made available in a transparent manner to the customer through different platforms such as (a) TSP's website, (b) TSP's app(s), (c) points of sale (PoS), (d) public advertisements, (e) third party apps. Therefore, the details of tariff plans are readily available to customers and they can easily compare the plans offered by different service providers.

Moreover, it would not be correct to compare 3G wireless data plans with 4G data plans, as these technologies have different inherent spectral efficiencies. The service providers are offering fall-back on lower technologies for seamless data experience. Therefore, 4G data offers are positioned differently from 3G offers and it would be not correct to compare 3G data products vis-à-vis 4G data products. Further, the customer always has an option to rely on measurement reports published by internationally acclaimed speed/performance measurement apps, including MySpeed app of TRAI, which are widely used across the globe and have been accepted by regulators across the world.

Globally, the regulatory bodies have appreciated the issues involved in publication of speed for a shared wireless network and reached to a conclusion against it. Given below are a few examples:

#### **Australia:**

- The terms & conditions of Vodafone's mobile broadband services states that '*actual speeds vary due to things like device capability, location & network congestion*'<sup>1</sup>, highlighting several constraints being faced by TSP.
- Telstra's mobile broadband plans disclosure mentions that '*typical download speeds vary for reasons like location, distance from base stations, terrain, user numbers, hardware/software configuration, download source and upload destination*'<sup>2</sup>.
- Optus 4G plus mobile network uses multiple frequencies (LTE 700/1800/2100/2300/2600 MHz) states on its website that *speed and coverage will vary depending on the device, location and other factors*<sup>3</sup>.

#### **USA:**

- The service provider, AT&T in its 'Wireless Data Services Agreement' clearly mentions that '*actual download speeds depend upon device characteristics, network capacity, network availability and coverage levels, tasks, file characteristics, applications and other factors. Performance may be impacted by transmission limitations, terrain, in-building/in-vehicle use and capacity constraints*'<sup>4</sup>.
- Sprint in its website, over the details of 4G/LTE plans clearly states that '*expected speeds based on testing of deployed areas prior to network launch. Peak speeds may not apply to all markets. Actual speeds may vary*'<sup>5</sup>.
- Verizon mentions in its 'Customer Agreement' that '*wireless devices use radio transmissions, so unfortunately you can't get Service if your device isn't in range of a transmission signal. Many things can affect the availability and quality of your Service, including network capacity, your device, terrain, buildings, foliage and weather*'<sup>6</sup>.

#### **United Kingdom:**

- Vodafone UK clearly mentions in its coverage checker that '*as with all radio-based systems, service may be affected by a number of local factors, such as building*

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<sup>1</sup> <http://www.vodafone.com.au/mobile-broadband/plans/state/sim/month-to-month/filter>

<sup>2</sup> <https://www.telstra.com.au/broadband/mobile-broadband/plans>

<sup>3</sup> <http://www.optus.com.au/shop/mobile/network/4g-plus>

<sup>4</sup> <https://www.att.com/legal/terms.sessionBasedWirelessDataServicesAgreement.html#whatAreGenTerms>

<sup>5</sup> [http://shop.sprint.com/modals/4g\\_lte\\_plan\\_details.html](http://shop.sprint.com/modals/4g_lte_plan_details.html)

<sup>6</sup> <https://www.verizonwireless.com/legal/notices/customer-agreement/>

*materials, tree cover and even weather conditions. Data reception or speed may not be as good indoors or in a car*<sup>7</sup>.

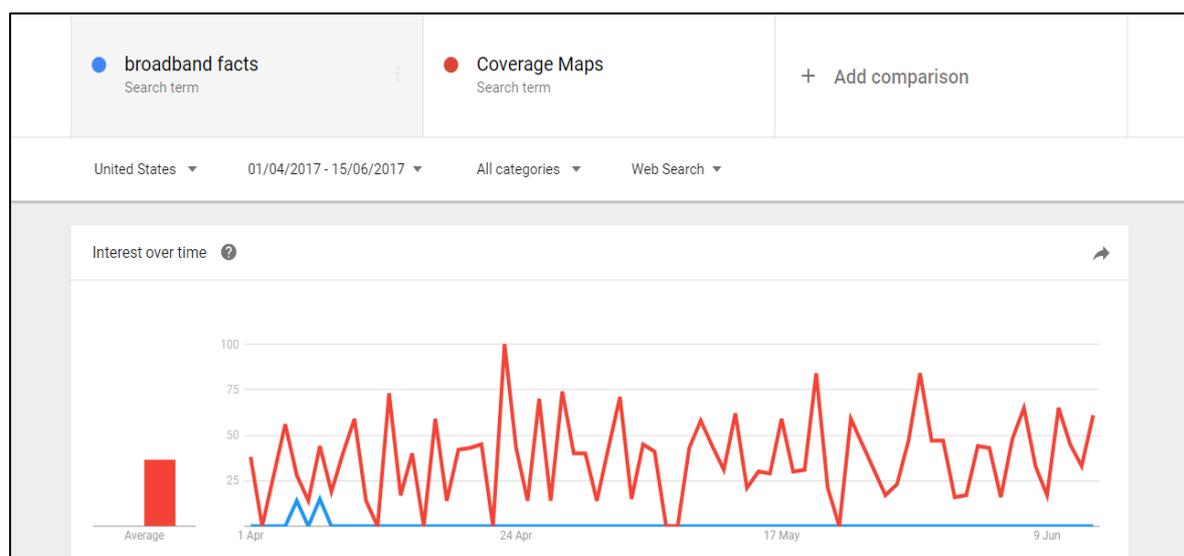
- The service provider O<sub>2</sub> highlighted that *'4G speeds will still vary depending on location and the number of people using the service'*<sup>8</sup>.

#### Japan:

- NTT DoCoMo's website states that *'high-speed data communications at a maximum data rate of 14 Mbps when receiving and 5.7 Mbps when sending'*<sup>9</sup>.
- Softbank's data product catalogue clearly identifies the limitations in providing a certain fixed wireless data speed by stating *'depending on the coverage area, the maximum download speed will be 75 Mbps, 37.5 Mbps or lower. As a best-effort delivery method is used, you may experience slower data speeds or lose your connection depending on network conditions (for example, if traffic volume is extremely high)'*<sup>10</sup>.

The above operators clearly highlight the difficulty in providing minimum or average wireless data download speed.

A study conducted using 'Google Trends' shows that people are more inclined towards looking for coverage maps and not the broadband facts/labels. The results from 'Google Trends' which is given below shows a comparative analysis between "Coverage Maps" and "Broadband Facts". It is evident that people are more inclined towards looking for coverage maps and therefore, it is clearly a better option for raising awareness.



**It is clearly evident from above facts that customers are more inclined towards information that is transparent and easy to understand. We are offering best possible**

<sup>7</sup> <https://www.vodafone.co.uk/explore/network/uk-coverage-map/index.htm>

<sup>8</sup> <http://www.o2.co.uk/4g#coverage-checker>

<sup>9</sup> [https://www.nttdocomo.co.jp/english/charge/bill\\_plan/](https://www.nttdocomo.co.jp/english/charge/bill_plan/)

<sup>10</sup> <https://www.softbank.jp/en/mobile/set/data/support/download-catalog/English.pdf>

information to customers and therefore, there is no requirement for change in existing framework on wireless broadband tariff plans.

**Q6. Should standard application/websites be identified for mandating comparable disclosures about network speeds?**

**Bharti Airtel's Response:**

We understand that at present there are multiple applications available in the open market such as Ookla speedtest, Opensignal, TRAI Myspeedtest (via app stores) which enables user to measure their data experience at any geographical points, day and time. Some of these applications have a large number of users and have a high amount of user acceptability, while other applications have some shortcomings which impact the end results. But overall these apps serve the interest of customer for comparing the performance and coverage of various networks/TSPs.

Further, apart from download and upload speed, the user experience is also dependent on the type of applications being used. For instance, data download experience may be different for video streaming (rich media content), as opposed to audio streaming. Hence, identifying such applications without addressing their limitations for making comparable disclosures mandatory is not the correct course of action.

**Q7. What are the products/technologies that can be used to measure actual end-user experience on mobile broadband networks? At what level should the measurements take place (e.g., on the device, network node)?**

**Bharti Airtel's Response:**

We submit that there is no need to make any specific products/technologies mandatory for the measurement of actual end-user experience on mobile broadband networks. Nevertheless, there are many applications available for customers to opt for measuring actual end-user experience on mobile broadband networks. Currently, many applications are used for network measurement at the device level by generating traffic on the network. In our view, such applications should focus on considering the following factors:

- Network technology being used;
- Device capabilities;
- Network mode settings used by the end users;
- Mobility conditions of users considered for generating sample data; and
- Releasing scores with appropriate weightage given to each aspect.

These applications should also ensure proper handling of measurement results on DSDS (Dual SIM Dual Standby) devices, allocating the results to the applicable service provider only and not be limited to the visibility of the network operator as per API from the OS of the smartphone.

In addition, device OEMs should ensure that there is no degradation of user experience, especially when DSDS devices are used with a “4G-only operator” on 3G/2G only SIM slot. Such incidences have been reported recently which are acknowledged by chipset and device manufactures.

**In view of above-mentioned fact that there is no dearth of applications measuring customer’s experience on mobile broadband networks, we recommend that TRAI should not mandate any specific products/technologies that can be used to measure actual end-user experience on mobile broadband networks.**

- Q8. Are there any legal, security, privacy or data sensitivity issues with collecting device level data?**  
**a) If so, how can these issues be addressed?**  
**b) Do these issues create a challenge for the adoption of any measurement tools?**

**Bharti Airtel’s Response:**

Yes, there are several legal, security, privacy and data sensitivity issues associated with collecting device-level data. We believe these concerns can be resolved if explicit consent is obtained from the customer in advance. Also, device-level data should not be shared for further use.

- Q9. What measures can be taken to increase awareness among consumers about wireless broadband speeds, availability of various technological tools to monitor them and any potential concerns that may arise in the process?**

**Bharti Airtel’s Response:**

TRAI should increase consumer awareness about the availability of tools for measuring data speeds through its ‘Customer Outreach Programs’. While promoting such apps, it may be made mandatory that all data-points should be used at the metadata level and individual users based analysis should be avoided.

- Q10. Any other issue related to the matter of Consultation.**

**Bharti Airtel’s Response:**

No comments

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