



IAMAI Response to TRAI Consultation Paper on Roadmap to Promote Broadband Connectivity and Enhanced Broadband Speed

The Internet and Mobile Association of India would like to express gratitude to the office of TRAI for initiating this consultation on boosting broadband connectivity and speed for the progress of the digital ecosystem in India.

As the representative of the digital service businesses, IAMAI has always engaged constructively with the office of TRAI and DoT on means to promote digital penetration in India. The role of digital services today have attained even greater importance and it has been rightly identified in this consultation paper where it reads '*in post pandemic era, like potable water and electricity, access to broadband would become a necessity*'. Indeed, the success of the grander Digital India vision can only be realized when the core broadband infrastructure is developed.

IAMAI and TRAI share the common objectives as enshrined under the National Digital Communication Policy and our submission to this consultation is to be read in the light of ensuring realization of the NDCP objectives.

IAMAI Submission

Q.1: Should the existing definition of broadband be reviewed? If yes, then what should be the alternate approach to define broadband? Should the definition of broadband be:

- a. Common or separate for fixed and mobile broadband?
- b. Dependent or independent of speed and/or technology?
- c. Based on download as well as upload threshold speed, or threshold download speed alone is sufficient?
- d. Based on actual speed delivered, or on capability of the underlying medium and technology to deliver the defined threshold speed, as is being done presently?

Please suggest the complete text for revised definition of the broadband along with the threshold download and upload speeds, if required for defining broadband. Kindly provide the reasons and justifications for the same.

And

Q.2: If you believe that the existing definition of broadband should not be reviewed, then also justify your comments.

IAMAI Submission:

The present nomenclature based on speed capacities to define broadband has helped the Indian telecommunication service evolve and has served the market well. This in turn has developed a market



where pricing of service packages or customer estimation of quality of value of services are all hinged on the common metric of speed or capacity. Given the evolution of the market, there is no underlying justification for any shortcoming of the definition of broadband.

Nonetheless, given that average connectivity speeds have increased manifold today since the last revisit of definition, the Authorities may consider raising the threshold level of speed or capacity from the present limits. Additionally, the Authority may also consider bringing in other core concepts like always-on, high-speed, etc. into the definition to reflect other qualities of services. However, the additional parameters should not be too restrictive for businesses to adopt, or drive customer prices for access to such services.

Q.3: Depending on the speed, is there a need to define different categories of broadband? If yes, then kindly suggest the categories along with the reasons and justifications for the same. If no, then also justify your comments.

IAMAI Submission

We understand that in wireless, the speed-wise differentiation is technically not possible without compromising the quality of service to other users using same eNodeB. The speed available to any customer at any given point in time depends on a variety of factors like network quality at that place and host of other parameters like number of concurrent active users on a particular cell of eNodeB at any given point of time, type of handset, the website or application that is being accessed, handset OS etc.

Differentiation based on type of technology (3G, 4G, 5G) already exists in the wireless market, which is well understood by both service providers and customers and even revenue differentiations are well established in these terms.

Furthermore, TRAI in its directives dated 31st October 2016 has mandated that for the Fixed Broadband services the TSPs should provide the speed of connection for data allocation under a plan and for Wireless services it should inform the technology used for data usage entitlements. Both these instructions are abided by service providers and it serves the overall objective of delivering Broadband services in a transparent manner by providing adequate information to broadband consumers. Therefore, we do not perceive the need for further modification by means of nomenclature change for wireline subscribers.

Q.4: Is there a need to introduce the speed measurement program in the country? If yes, please elaborate the methodology to be implemented for measuring the speed of a customer's broadband connection. Please reply with respect to fixed line and mobile broadband separately.

IAMAI Submission:

There already exists several services and apps in the market like NetVelocity, OpenSource and Speedtest by Ookla, not to mention TRAI's own mobile app, TRAI MySpeed. These services measure speed and various other metrics in fair and transparent manner. The TRAI service also provides users with well analyzed comparative results on QoS parameters, which in turn can be used by TRAI for monitoring quality of service in this sector.



Therefore, there is no need for additional measures for speed measurement by the Authority. Instead, TRAI may seek to improve upon its own MySpeed tool to cover all forms of broadband services via voluntary contribution from all service providers into the programme.

Q.5: Whether the Indian Telegraph Right of Way (RoW) Rules 2016 have enabled grant of RoW permissions in time at reasonable prices in a non-discriminatory manner? If not, then please suggest further changes required in the Rules to make them more effective.

IAMAI Submission:

The RoW rules are presently one of the biggest roadblocks for fibre cable penetration in the country. As is well recognised, the Right of Way rules of 2016 (RoW Rules) have multiplicity of jurisdictions leading to its limited effectiveness. The State Governments have not imbibed the same in their infrastructure policy and there is a lack of cohesive of approach in actually implementing the RoW Rules. There is an immediate need to synchronise implementation of the RoW rules by all states and a central enforcement mechanism to monitor its implementation. While State Governments have already waived off RoW charges for the Bharat Net, the same should be offered for all fibre being laid by the TSPs in a non-discriminatory manner.

The present RoW rules also need to be relooked to address the following issues raised consistently by ISPs:

- a. Uniform restoration charges.
- b. Digging methodology & Aerial Cabling.
- c. Detailed Rules for Towers and other associated telecom facilities.
- d. Priority Power Connections from Electricity Board
- e. Common duct policies
- f. Charges / rentals levied by City / Local authorities / Other Central Ministries.
- g. Unfettered access to RWAs/Commercial Buildings/Malls etc.
- h. Regularization of existing Telecom Infrastructure

To ensure seamless inter-state fibre connectivity, certain administrative level changes too are required such as:

- Adoption of the RoW Rules by all Central Ministries & State Governments in totality.
- Telecom and Telecom Infrastructure to be considered under Essential Services Act through a Parliamentary enactment.
- Establishment of Single window online clearance portal.
- Guidelines for establishment of Underground Telegraph Infrastructure.
- Permit Use of Government property by the licensee.
- Permission for Structured aerial cabling should be granted whenever laying of underground OFC is not possible.
- Regularization of existing TSP towers.
- Ease of electrical power connection.
- Ease of access and movement of portable towers.



Q.6: Is there any alternate way to address the issues relating to RoW? If yes, kindly elucidate.

IAMAI Submission:

The only way to ensure better cabling in the country is to streamline the RoW rules for a more industry friendly framework and ensure stringent implementation of the same across all States and UTs.

Q.7: Whether all the appropriate authorities, as defined under the Rules, have reviewed their own procedures and align them with the Rules? If no, then kindly provide the details of such appropriate authorities.

IAMAI Submission:

It is our understanding that presently only 16 states have adopted the rules with their own modifications, while the others have not moved on the Rules. There is no state that has adopted the rules in its entirety.

Central Ministries like MORTH/NHAI, Ministry of Petroleum & Natural gas, MOEF & Railways, Ministry of Defense, Ministry of Civil Aviation have not yet adopted these Rules and RoW charges and regulations are the main bottleneck with such authorities.

Q.9: What could be the most appropriate collaborative institutional mechanism between Centre, States, and Local Bodies for common Rights of Way, standardisation of costs and timelines, and removal of barriers to approvals? Justify your comments with reasoning.

IAMAI Submission:

Refer to suggestions made under response to question No 5 for a better synchronization of the Rules for seamless Inter-state connectivity.

Q.10: Should this be a standing coordination-committee at Licensed Service Area (LSA) level to address the common issues relating to RoW permissions? If yes, then what should be the composition and terms of reference of this committee? Justify your comments with reasons.

IAMAI Submission:

We understand that State level Co-ordination Committees already exist where the TSPs & ISPs deliberate common issues being faced at local level. Such institutions can be further strengthened by institutionalizing them and bringing into them State Nodal Officer, DDG-LSA, Dispute Committee members etc. along with a Nodal Officer chairing the Committee.

Q.11: Is there a need to develop common ducts along the roads and streets for laying OFC? If yes, then justify your comments.

And

Q.12: How the development of common ducts infrastructure by private sector entities for laying OFC can be encouraged? Justify your comments with reasoning.

IAMAI Submission:

A common duct has been the industry ask for some time as it helps save on time, effort, resource and thereby expenses, along with hassles of RoW and its associated complications.



However, any vision for a common duct must also take into consideration the interests of existing service providers who have already incurred considerable expenses to lay their infrastructure. ISPs need to be incentivized to join common ducts, with proper compensation for extant to shift.

We further submit that for success of this policy and for proliferation of Broadband, the commercial terms for using the Common Duct should be reasonable and a standard ceiling rate may be prescribed by the Authority.

Q.13: Is there a need to specify particular model for development of common ducts infrastructure or it should be left to the land-owning agencies? Should exclusive rights for the construction of common ducts be considered? Justify your comments with reasoning.

And

Q.14: How to ensure that while compensating the land-owning agencies optimally for RoW permissions, the duct implementing agency does not take advantage of the exclusivity? Justify your comments with reasoning.

IAMAI Submission:

A Standardised design is required for common ducts to ensure a uniform and standardized implementation. The common duct design can be agreed upon post taking inputs from all stakeholders including land owning agencies, and needs to be synched with the RoW informalization process.

Going forward, such common ducts should be hard-coded in every Smart City and other Civic guidelines for all States.

Q.15: What could be the cross-sector infrastructure development and sharing possibilities in India? Justify your comments with examples.

IAMAI Submission:

The most obvious candidate for cross-sector infrastructure development is the power sector, with co-ordination between ISPs and State Electricity Boards and DISCOMS to share their existing infrastructure for aerial cabling for creation of Telecom Infrastructure in Type2/Type3 cities.

Guidelines may also be developed for facilitating reciprocal infrastructure sharing between TSPs/ISPs to streamline the present market driven initiatives.

Q.16: Whether voluntary joint trenching or coordinated trenching is feasible in India? If yes, is any policy or regulatory support required for reaping the benefits of voluntary joint trenching and coordinated trenching? Please provide the complete details.

IAMAI Submission:

Joint co-ordinated trenching under present circumstances faces certain challenges, most particularly because network planning and design of different TSPs & ISPs in telecom sector may not match and the same will definitely not match with other sectors.

Such issues of co-ordination can be best addressed under uniformization of the common duct initiative and co-ordinated trenching maybe explored as an option under the guidelines set for common ducts.



Q.17: Is it advisable to lay ducts for OFC networks from coordination, commercial agreement, and maintenance point of view along with any other utility networks being constructed?

IAMAI Submission:

It makes sense to lay ducts for OFC networks from coordination, commercial agreement, and maintenance point of view along with any other utility networks being constructed. However, it is imperative that the cost of utilization fees of ducts constructed by state / private agencies along the road should be kept at minimum to ensure commercial value for money.

Q.18: What kind of policy or regulatory support is required to facilitate cross-sector infrastructure sharing? If yes, kindly provide the necessary details.

And

Q.19: In what other ways the existing assets of the broadcasting and power sector could be leveraged to improve connectivity, affordability, and sustainability.

IAMAI Suggestion:

There is presently no restriction on leveraging existing assets of other sectors to improve connectivity, affordability, and sustainability, and that the entire exercise perhaps needs to be fostered with proper policy level push.

The major prerequisite for cross sector infrastructure sharing is a clear-cut policy guideline for sharing at a standardized minimal cost that would suit all stakeholders. Commercial parameters (including licensing conditions) must be clearly defined at par with prevailing market scenario and provisions for update when the situation changes. Care must be taken to ensure that market dynamics are not distorted by rigid regulations that may create artificial revenue barriers for those sharing their present infrastructures to help avoid free-rider problems.

Q.20: For efficient market operations, is there a need of e-marketplace supported by GIS platform for sharing, leasing, and trading of Duct space, Dark Fibre, and Mobile Towers? If yes, then who should establish, operate, and maintain the same? Also, provide the details of suitable business model for establishment, operations, and maintenance of the same. If no, then provide the alternate solution for making passive infrastructure market efficient.

IAMAI Submission:

There are only a limited number of businesses operating at this space and market dynamics can well handle any co-operative activity required between these services. The suggestions on RoW, Common Duct or co-ordination as suggested in the previous responses can well address the requirements without need to an artificially mandated market.



Q.21: Even though mobile broadband services are easily available and accessible, what could be the probable reasons that approximately 40% of total mobile subscribers do not access data services? Kindly suggest the policy and regulatory measures, which could facilitate increase in mobile broadband penetration.

IAMAI Suggestion:

Contrary to the claim, the real problem of limited mobile broadband subscriber is the limitation of roll out of 4G nodes by numerous TSPs in certain pockets. Extant service providers prefer to keep customers in certain pockets locked up in existing 2G infrastructure because (a) to avoid investment in rolling out 4G in those areas (b) provisions like IUC subsidy act as a negative incentive in this regard.

There is an immediate need to promote roll-out of 4G-5G technology. However, to help do that, we suggest the following incentives:

- a. Reduction in USO levy from 5% to 2% of AGR
- b. License Fee reduction from 3% to 1% of AGR
- c. Spectrum Usage Charge of < 1% for all future auctions.
- d. Wireline revenue to be exempted from License fee
- e. Exemption of GST on Government Payments such as Spectrum Auction payment, LF, SUC payment;
- f. Refund of accumulated input GST credit.
- g. Waiver of custom duty for all CPEs and network elements involved in provisioning of the broadband
- h. Further 0.5% reduction in SUC rate for next two years to operators having 4G/5G BTSs at more than 90% of their total BTS.

Q.22: Even though fixed broadband services are more reliable and capable of delivering higher speeds, why its subscription rate is so poor in India?

And

Q.23: What could be the factors attributable to the slower growth of FTTH subscribers in India? What policy measures should be taken to improve availability and affordability of fixed broadband services? Justify your comments.

IAMAI Submission:

We agree with the Authority when it suggests '*provisioning of wireline broadband services is capital- and manpower-intensive, and a time-consuming activity, and its maintenance is also challenging.*' And believe it only adds to the limitation of spread and offtake of fixed line broadband.

Incidentally, the introduction of internet connectivity in India started via fixed line dial-up connections which should have automatically evolved to fixed line broadband connections. However, a major restricting factor in this regard has been institutional roadblocks in the form of delay and denial of RoW permissions, exorbitant charges have prevented the laying of Fiber/copper cables in major parts of the country.



The Authority has rightly identified another major bottleneck in Fixed broadband proliferation is the access into the buildings, which prevents offtake of FTTH services. Mandatory access without charge to each building including households for fibre/copper needs to be ensured, bringing it at par with electrical connection norms.

Regulatory restrictions too are partially to be blamed. Given voice is an intrinsic bundled service of a wireline connection, the existing SDCA based POI structure of BSNL is a daunting task for any new service providers. The delay in dismantling the SDCA based structure completely, reforms like Integrated numbering scheme and Fixed-Fixed and Fixed-Mobile portability, Impede the potential of a FTTX revolution in the country.

Q.26: What could be the probable reasons for slower fixed broadband speeds, which largely depend upon the core networks only? Is it due to the core network design and capacity? Please provide the complete details.

And

Q.27: Is there a need of any policy or regulatory intervention by way of mandating certain checks relating to contention ratio, latency, and bandwidth utilisation in the core network? If yes, please suggest the details. If no, then specify the reasons and other ways to increase the performance of the core networks.

IAMAI Submission:

The main reason for slower fixed broadband speeds in the country is dependance on legacy networks with last mile still primarily dependent on copper cables. A shift to optical fibre has changed the scenario in limited pockets and therefore it is imperative that the national optical fibre mission is boosted to replace legacy networks. Lack of maintenance of legacy infrastructure is another major contributing factor.

The only long run solution to this problem is incentivizing the legacy networks to migrate to new Fixed Broadband technologies and for that the Authorities need to remove the legacy protecting frameworks.

Q.28: Should it be mandated for TSPs and ISPs to declare, actual contention ratio, latency, and bandwidth utilisation achieved in their core networks during the previous month, while to their customers while communicating with them or offering tariff plans? If no, state the reasons.

And

Q.31: Should it be mandated to TSPs to declare actual congestion, average across the LSA, recorded during the previous month over the air interface (e.g., LTE Uu), in the radio nodes (e.g., eNB) and/or over the backhaul interfaces between RAN and CN (e.g., S1-u), while reaching out to or enrolling a new customer? If so, then suggest some parameters which can objectively determine such congestions. If no, then specify the reasons and other ways to increase performance of the RAN.

IAMAI Submission:

Presently the customer is provided with the necessary information that helps them make an informed choice of a tariff plan that include speed (or technology in mobile services), data quota allocation at



that speed with applicable charges. The objective for ensuring better broadband is not merely reporting certain metrics, but to actually improve on them.

However, the Authority reserves the right to seek such details from ISPs as part of their QoS monitoring. Systematic monitoring and overall public reporting of performance by TRAI can emerge as the single metric of choice for customers in the country.

Q.32: Is there a need of any policy or regulatory intervention by way of mandating certain checks relating to consumer devices? If yes, then please suggest such checks. If no, then please state the reasons.

And

Q.33: To improve the consumer experience, should minimum standards for consumer devices available in the open market be specified? Will any such policy or regulatory intervention have potential of affecting affordability or accessibility or both for consumers? Please justify your comments.

IAMAI Comments:

We would like to remind that the entire digital experience stands on 3 pillars: digital device, digital connectivity and digital services. Lower prices and availability of super low-cost devices has played a major role in increasing mobile penetration and this in turn drives the business of both ISPs as well as digital service providers.

The issue of better broadband connectivity lies in better regulating the digital pipes, improving quality and quantum of access technologies available for commercial use, adopting newer technologies like public wi-fi, FTTP, etc.

The device market, which is a subset of electronics manufacturing, can react on its own to match market dynamics based on customer demands for better quality devices as it has done over the last 2 decades and needs no further intervention from the Authority.