Inputs from embedUR on the Consultation Paper:

Roadmap to Promote Broadband Connectivity and Enhanced Broadband Speed

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?
[embedUR] As they are based on different technologies, it can be renamed as fixed-broadband and mobile-broadband instead of using a generic term as broadband.

b. Dependent or independent of speed and/or technology?
[embedUR] Also it would be better, if speeds are classified based on the technology and the speed.

Example: BASIC-MOBILE-BROADBAND, HIGH-SPEED-MOBILE-BROADBAND, VERY-HIGH-SPEED-BROADBAND and ULTRA-HIGH-SPEED-BROADBAND based on the range of speeds. Similar classification can be done for the fixed-broadband.

c. Based on download as well as upload threshold speed, or threshold download speed alone is sufficient?
[embedUR] This can be an advanced option where based on the need upload threshold can also be included.

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?
[embedUR] Yes. The capability of the underlying medium and the technology should be included for the actual speed to be met. There can be terminology to clearly capture this. Ex. FTTH and Coaxial cable based should have different criteria.

2) If you believe that the existing definition of broadband should not be reviewed, then also justify your comments.
[embedUR] NA

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.
[embedUR] Yes categories can be introduced for different speeds of broadband.

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.
[embedUR] Based on the classification of broadband services(speed, technology etc), service provider should publish the minimum guaranteed speeds. End users can use the tools recommended by TRAI to validate the end user experience.

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

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

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.

8) Whether the RoW disputes under the Rules are getting resolved objectively and in a time-bound manner? If not, then kindly suggest further changes required in the Rules to make them more effective

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

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.

11) Is there a need to develop common ducts along the roads and streets for laying OFC? If yes, then justify your comments.
[embedUR] Yes it is better to have common ducts of different sizes based on the connection density which can be used by service providers at government specified rates/charges. Duct usage and maintenance guidelines can be published to all stake holders.

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

13) Is there a need to specify particular model for development of common ducts infrastructure or it should be left to the landowning agencies? Should exclusive rights for the construction of common ducts be considered? Justify your comments with reasoning
[embedUR] Respective government bodies (corporation/municipal/panchayat) can decide on the same.

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.

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

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.

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?
[embedUR] Yes, it is advisable but there should be policies.

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

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

20) For efficient market operations, is there a need of emarketplace 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.

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.
[embedUR] There should be different approaches taken. For rural there can be subsided subscription plans for mobile broadband to encourage them to use. Speed and Coverage in rural must be improved.

22) Even though fixed broadband services are more reliable and capable of delivering higher speeds, why its subscription rate is so poor in India?
[embedUR] Ease of use/convenience and installation overheads are the main reasons for not using fixed broadband. Subscription plan should be made lucrative compared to mobile broadband.

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.
[embedUR] Cost might be the major contributor.

24) What is holding back Local Cable Operators (LCOs) from providing broadband services? Please suggest the policy and regulatory measures that could facilitate use of existing HFC networks for delivery of fixed broadband services.
[embedUR] As DTH has taken over LCOs in majority of the places we shall think of technologies to provide broadband internet connectivity through DTH. Government can fund this initiative for POC.

25) When many developing countries are using FWA technology for provisioning of fixed broadband, why this technology has not become popular in India? Please suggest the policy and regulatory measures that could facilitate the use of FWA technology for delivery of fixed broadband services in India.
[embedUR] 4G penetration happening we can expect India to move towards FWA for fixed broadband. To expedite this we should have good 4G coverage and speed and availability across all regions of India.
We should also encourage the equipment manufacturers of FWA to market this well. Cost of FWA devices should be brought down to the cost of fixed broadband connection.

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

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

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.
[embedUR] Yes it can be published. Also in monthly bill it should be presented to end user in a easier way with color codes(Green, Yellow ,Red).

29) What could be the probable reasons for slower mobile broadband speeds in India, especially when the underlying technology and equipment being used for mobile networks are similar across the world? Is it due to the RAN design and capacity? Please provide the complete details
[embedUR] It might be due to RAN design for limited capacity anticipating the usage. However with the growing needs we might need to change the RAN design.

30)Is there a need of any policy or regulatory intervention by way of mandating certain checks relating to RAN user plane congestion? What should be such checks? If yes, then suggest the details, including the parameters and their values. If no,then specify the reasons and other ways to increase
performance of RANs

31)Should it be mandated to TSPs to declare actual congestion, average across the LSA, recorded during the previous monthover 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.
[embedUR] – Yes it can be published. Also in monthly bill it should be presented to end user in a easier way with color codes (Green, Yellow, Red etc.,).

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.
[embedUR] No. Consumer devices now a days are smart phones which are capable of High speeds.

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 or consumers? Please justify your comments.
[embedUR] No. Consumer devices now a days are smart phones which are capable of High speeds.