Policy Suggestions in response to TRAI's Supplementary Consultation Paper titled "Roadmap to Promote Broadband Connectivity and Enhanced Broadband Speed"

S.No	Question	Response
1.	What should be the approach for incentivizing the proliferation of fixed-line broadband networks? Should it be indirect incentives in the form of exemption of license fee on revenues earned from fixed-line broadband services, or direct incentives based on an indisputable metric?	Operator incentive should be in the form of license fees exemption based on: (a) direct revenues generated from high-speed (<20 Mbps) fixed broadband connections (b) usage of indigenous equipment for offering such services Recommendation (a) above will ensure faster proliferation of high-speed broadband network. Recommendation (b) will ensure that indigenous equipment, which already exists in the country is used by operators, and we don't import instead. This will support "Atmanirbhar Telecom" equipment mission of the Government.
2.	If indirect incentives in the form of exemption of license fee on revenues earned from fixed-line broadband services are to be considered then should this license fee exemption be limited to broadband revenue alone or it should be on complete revenue earned from services delivered through fixed-line networks?	It should only be for high-speed broadband services through fixed-line networks, since the mobile broadband cannot give the Quality of service and true (>20 Mbps) broadband speeds.
3.	In case of converged wireless and fixed-line products or converged services delivered using the fixed-line networks, how to unambiguously arrive at the revenue on which license fee exemption could be claimed by the licensees?	Any services that are of >20 Mbps for residential or >100 Mbps for SME/Enterprises, can be covered under this.
4.	What should be the time period for license fee exemption? Whether this exemption may be gradually reduced or tapered off with each passing year?	This can be made available for next 5 years, with a gradual tapering off after 3 years. This will ensure faster proliferation of fixed-line broadband.

5.	Is there a likelihood of misuse by the licensees through misappropriation of revenues due to the proposed exemption of the License Fee on the revenues earned from fixed-line broadband services? If yes, then how to prevent such misuse? From the revenue assurance perspective, what could be the other areas of concern?	No Comments
6.	How the system to ascertain revenue from fixed-line broadband services needs to be designed to ensure proper verification of operator's revenue from this stream and secure an effective check on the assessment, collection, and proper allocation and accounting of revenue. Further, what measures are required to be put in place to ensure that revenue earned from the other services is not mixed up with revenues earned from fixed-line broadband services in order to claim higher amount of incentive/exemption.	No Comments
7.	Is there any indisputable metric possible to provide direct incentive for proliferation of fixed-line broadband networks? What would be that indisputable metric? How to ensure that such direct incentives will not be misused by the licensees?	To avoid misuse: 1) The number of fixed-line high-speed broadband can be reported separately by operators 2) For the amount of indigenous equipment that is procured for offering such services, a self-declaration by the operator, duly confirmed by the Indian vendor can be considered.
8.	What are key issues and challenges in getting access to public places and street furniture for installation of small cells? Kindly provide the State/ City wise details.	No Comments
9.	How to permit use of public places and street furniture for the effective rollout of 5G networks? Kindly suggest a uniform, simple, and efficient process which can be used by States/ Local-Bodies for granting access to public places and street	State Electricity Boards (SEBs) should be made the nodal authority for street furniture. SEBs shall be provided ROW in the entire state to roll out aerial or underground Optical Fiber Cable which can be shared by all the operators on an open access basis. The SEBs shall also be allowed to share the electricity towers with operators for 5G small cell

	furniture for installing small cells. Kindly justify your comments.	and FTTX cabinet. The SEBs once trained also have capability to splice the OFCs and monitor the outdoor cabinet from tampering. The power can be provided by the SEBs.
10.	Which all type of channels of communication should be standardized to establish uniform, transparent, and customer friendly mechanisms for publicizing provisioning of service and registration of demand by Licensees?	No Comments
11.	Whether proliferation of fixed-line broadband services can be better promoted by providing Direct Benefit Transfer (DBT) to subscribers of fixed-line broadband services? If no, elucidate the reasons.	No Comments
12.	If answer to Q11 is affirmative, then: i. Should DBT scheme be made applicable to all or a particular segment of fixed-line broadband subscribers? Kindly justify your comments. ii. If you recommend supporting a particular segment of fixed-line broadband subscribers, how to identify such segment of the subscribers? iii. How to administer this scheme? iv. What should be the amount of DBT for each connection? v. What should be the period of offer within which individuals need to register their demand with the service providers? vi. What should be the maximum duration of subsidy for each eligible fixed-line broadband connection?	No Comments

13. Other Related Issues

Ubiquitous availability of broadband has emerged as a basic necessity in modern life as it serves as a vehicle to deliver a variety of social and economic benefits to citizens, businesses and communities. While the country has made impressive strides in expanding access to

mobile broadband services, the penetration of fixed-line broadband is still minuscule and mostly limited to a few large cities. In the present consultation paper, TRAI has described both supply-side and demand-side constraints that are hindering the growth of this market segment and has invited stakeholder suggestions to quickly address these challenges.

In the following section we list a few supply-side and demand-side interventions that can potentially accelerate fixed-line broadband adoption in the country.

Supply-side Interventions:

Broadband Capex Grants for Small ISPs: It is estimated that India has 50,000+ small ISPs and local cable operators (LCOs) with strong presence in small towns and sub-urban areas and each serving up to a few thousand subscribers. In order to quickly ramp up fixed broadband coverage in the country, Government of India (GoI) can incentivize these smaller operators to upgrade their existing networks to offer fiber-based high-speed broadband services by offering them matching capex grants (1:1) to procure the required fiber broadband equipment and associated network elements, provided they buy Indian products for such networks. This subsidy can be given from the USO fund. The beneficiary can only utilize the grant money to purchase domestically designed and manufactured products from Indian companies. A similar scheme, which used a combination of grants and loans, has been successfully employed by USDA (United States Department of Agriculture) to build and expand broadband networks in rural parts of USA.

Rural FWA Spectrum: In order to promote fixed wireless deployments, GoI should create a dedicated spectrum for Rural FWA (> 2.1GHz band but less than 6GHz) which can be used through a simple registration process at the local post office with coverage limited to a few Gram Panchayats (GPs). This can be operated by ISP holders (with jurisdiction with a district as specified in Annexure III of https://dot.gov.in/sites/default/files/First%20Link%202016_03_28%20ULG%20AS-I.pdf or even granular at GP level) and will have to follow all ISP related regulations. The spectrum shall be exclusively for broadband data services in rural areas and may be provided on a fixed revenue share basis or given free for meeting the "Broadband for All" as envisaged in NDCP 2018. The spectrum may initially be restricted to the 100 aspirational districts which have least broadband coverage in India. The spectrum has to be technology neutral and initially deployment may happen with 4G and then migrate to 5G from an end-user device affordability perspective. The outdoor CPE shall be allowed to operate at a higher power as well to have a better uplink throughput.

Accelerate Fiberization of Cell Towers: Government of India's National Telecom Policy (2018) had set an aggressive target of 60% for cell tower fiberization in 4-5 years. Availability of a high-speed backhaul is critical not only to meet the growing demands of 4G and upcoming 5G mobile broadband services but also to deliver and transport fixed broadband traffic over optical fiber (FTTX). However, as per TAIPA, only 30% of the cell towers in India were fiberized

(as of Sep 2020) and there is significant potential to accelerate fixed broadband coverage in the country by expediting Right of Way (RoW) approvals through online government portals which are currently operational only in a few states.

RoW should be considered as an essential necessity and states/local bodies should only collect the minimum fees required to repair the damages caused to the roads/infrastructure and not as a means of revenue generation.

Demand-side Interventions:

Broadband Demonstration Centers: In order to expand demand for broadband services in rural areas a "Digital Technology Demonstration Center" may be established in every rural block of India. The objective of these centers will be to demonstrate relevant and novel use cases in the area of healthcare, education, agriculture, commerce and financial services and communicate their benefits to rural populations. The centers, which will be networked using a high-speed broadband infrastructure (e.g., BharatNet), will make extensive use of emerging technologies such as 5G/6G, IoT, VR/AR, AI/ML etc., and promote wider adoption of indigenous innovations in these areas. Also in order to enable digital innovation at grassroots, digital innovation labs (similar to Atal Tinkering Labs) can be set up in all panchayats which will train VLEs (Village Level Entrepreneurs) in basic coding through digital means and help them develop locally relevant apps in regional languages thereby promoting wider usage of broadband services and job creation in rural India.