Preamble:

Airtel thanks the Authority for giving it the opportunity to comment on this critical Consultation Paper (**"CP"**) titled, *The Proliferation of Public Wi-Fi Networks in India*.

Airtel fully shares the Authority's objective of deepening broadband access and enabling inclusive participation in India's fast-growing digital economy, which already contributes around 11.7% of GDP. We agree with the Authority's assessment that high-quality connectivity is foundational for social inclusion, economic competitiveness and effective digital public service delivery.

India's mobile-first digital ecosystem:

India is an **overwhelmingly mobile-first market, with over a billion internet subscribers, very high per-capita data usage and one of the lowest per-GB mobile tariffs in the world**, underpinned by extensive 4G and rapidly expanding 5G coverage. Mobile networks are the primary access point to the digital economy for individuals and households across income segments. Airtel recognises that the CP undertakes a comprehensive review of international experience, India's current Public Wi-Fi landscape, and the broader policy options before the country. At the same time, it is important to note that **India's broadband story is structurally distinct from many of the international examples** surveyed in the CP.

As observed by the Authority itself in the instant CP, although fixed broadband and Wi-Fi offer lower effective per-GB costs, mobile data "*continues to meet a large share of user needs*" and that the demand for Public Wi-Fi in India is relatively lower than in markets where mobile data is significantly more expensive. **In India's current strongly mobile-first context, the sustainable business case for a separate large-scale Public Wi-Fi layer is naturally limited.**

Demand-side realities and limits of Public Wi-Fi business models:

The Authority's own demand-side analysis frankly acknowledges that, notwithstanding lower per-GB costs, Public Wi-Fi in India has struggled with weak utilisation, limited commercial viability for PDOs, and a persistent trust deficit around security and privacy. At the same time, India's ultra-affordable mobile tariffs, generous data allowances and smartphone-led usage mean that users face limited incremental benefit in seeking out Public Wi-Fi.

Airtel respectfully submits that these outcomes are **not "failures" to be corrected via regulation, but the natural result of rational user preferences and market economics in a country where licensed mobile networks already deliver convenient, personal and always-on connectivity at very low prices**. Attempting to artificially drive traffic from mobile to Public Wi-Fi – through hotspot targets, mandated deployments or access-specific subsidies – would not change these fundamentals and could undermine incentives to continue investing in the networks that actually carry the overwhelming majority of India's data traffic.

Policy approach for Digital India:

It is important for the Government to clarify its end objective i.e. **ubiquitous, affordable and high-quality broadband connectivity.** In this context, mobile networks are already near ubiquitous, covering over 95% of the population. It is also well-established that mobile data tariffs in India are one of the lowest in the world. Moreover, mobile operators are continually investing in spectrum resources and network expansion, including the recent 5G rollout, in order to provide the best-in-class services to the Indian customers.

Further, the personal, always-on connectivity offered by mobile services has enabled digital IDs, payments, health and education on the move. Strengthening mobile coverage and capacity remains the fastest way to deepen digital inclusion. In line with the Government's vision of Digital India, **our broadband strategy should prioritize ubiquitous coverage through wireless and wireline technologies.**

Technology evolution driven by sustainable market demand:

Over the past two decades, India's telecom sector has repeatedly demonstrated that the **choice and evolution of access technologies and business models are most sustainably determined by markets and users**, rather than by regulatory preference for any particular standard. In the early years, GSM and CDMA technologies co-existed; over time, GSM-family technologies emerged as the dominant path as device ecosystems, roaming requirements and operator strategies converged, leading to the progressive shutdown and refarming of CDMA networks by multiple operators. Third-generation (3G) mobile networks were deployed widely, but as 4G technologies proved more spectrally efficient and better aligned with global ecosystems, Indian operators refarmed 3G spectrum to 4G and, in several cases, shut down 3G layers altogether. Similarly, WiMAX deployments – including pilots and partial roll-outs by BSNL and others – did not achieve meaningful scale and were ultimately overtaken by LTE-based broadband solutions.

These experiences underline a consistent lesson: **when users and operators see superior value in a particular technology – on grounds of performance, cost, device availability and ecosystem support – that technology gains natural traction, while others recede, irrespective of earlier expectations or policy interest.** Airtel respectfully submits that the same principle should inform the present consultation. The scale and relevance of Public Wi-Fi – just like that of any other access mode – should ultimately be shaped by market demand and sustainable business models, and not by regulatory mandates.

Primacy of structural reforms:

Across multiple consultations, Airtel has consistently supported transparent competition and investment sustainability as the primary drivers of sectoral outcomes. In the instant CP as well, Public Wi-Fi has been recognized as one of several access options – alongside FTTH, cable broadband, mobile broadband and satellite – that together must support India's connectivity goals. Policy and regulation should therefore focus on **removing structural constraints** – spectrum pricing and availability for backhaul, Right-of-Way ("RoW") implementation, sectoral levies – so that mobile, Public Wi-Fi, private Wi-Fi, fiber and other solutions can compete and complement each other based on local demand, device ecosystems and cost-efficiency.

Robust, affordable and scalable backhaul – particularly fiber and rationally-priced backhaul spectrum – is the critical enabler for *all* broadband networks, including Public Wi-Fi. Non-uniform and often onerous RoW practices by States and local bodies, and restricted, high-cost backhaul spectrum, are cross-cutting constraints limiting the economics of mobile, fixed and Wi-Fi roll-outs simultaneously. Airtel's central submission is that addressing these structural constraints will do far more to advance India's broadband and inclusion objectives than any Public-Wi-Fi-specific targets, mandates or incentives.

Further, public funding instruments, including Universal Service Obligation Fund (USOF)/Digital Bharat Nidhi (DBN), should be focused on bridging genuine coverage gaps, which would bring more positive results for the larger population of the country.

Airtel's Recommendations:

In summary, Airtel submits that **the most effective path to India's digital ambitions lies in strengthening the overall broadband investment climate and allowing markets and users to determine the appropriate role and scale of each access technology over time.**

Against this backdrop, Airtel's detailed responses to the questions are grounded in the following principles:

1. **Recognise the limited incremental business case for Public Wi-Fi in a mobile-first, ultra-low-tariff market:** Given India's extremely low mobile data prices, high smartphone adoption and ongoing 4G/5G roll-out, the sustainable revenue opportunity for Public Wi-Fi is naturally limited outside specific niches (e.g., certain public institutions, campuses or community locations). Policy should therefore avoid attempting to artificially create demand for Public Wi-Fi through mandates or cross-subsidies and should instead allow its uptake to be determined by genuine use-cases and viable business models.

2. **Acknowledge ubiquitous, affordable and high-quality broadband connectivity as the end policy objective:** In line with the Government's vision of Digital India, our broadband strategy should prioritize ubiquitous coverage through wireless and wireline technologies.

3. **Focus reforms on structural constraints:** Policy and regulatory efforts should prioritise cross-cutting bottlenecks – rationalisation of sectoral levies and licence fees, rational backhaul spectrum pricing and availability, effective RoW implementation – that will strengthen broadband connectivity in general.

In summary:

- ✓ *Supply-side constraints like RoW challenges and steep backhaul spectrum pricing affect broadband infrastructure deployment across all access technologies, and should thus be addressed in a horizontal manner.*
- ✓ *The major demand-side constraints limiting the uptake of Public Wi-Fi in India are due to a combination of the current practical limitations typically observed in Public Wi-Fi deployments and availability of a more convenient, secure and affordable alternative in the form of mobile broadband.*
  The need of the hour is horizontal reforms envisaged for the broadband ecosystem, instead of Public Wi-Fi-specific policy or regulatory measures to address these demand-side constraints.
- ✓ *Policy should prioritize horizontal structural reforms, instead of any separate Public Wi-Fi-specific strategies or hotspot density targets.*
- ✓ *The focus should be on strengthening the broader broadband ecosystem, instead of further changes in the PM-WANI framework*
- ✓ *The Government should focus on ensuring availability of robust backhaul infrastructure in a horizontal manner for telecom networks.*
- ✓ *Any funding schemes should aim to bridge genuine coverage gaps.*
- ✓ *TSPs/ISPs should be encouraged to participate in the larger broadband ecosystem, by strengthening the overall investment climate in the industry.*

Airtel now provides its replies to the specific questions asked in the sections that follow.

Q1. What are the key supply-side constraints affecting Public Wi-Fi proliferation in India? What targeted policy or regulatory measures may be required to address these supply-side constraints? Please provide your response in detail with justification.

Airtel Response:

The key supply-side constraints affecting Public Wi-Fi proliferation in India are, in substance, the same structural bottlenecks that affect broadband infrastructure deployment across all access technologies, rather than issues unique to Public Wi-Fi. Any targeted policy or regulatory measures to address these supply-side constraints should be applied in a horizontal manner.

RoW and access to passive infrastructure:

The Authority has noted that municipalities and local bodies control critical public infrastructure such as electric poles, bus stops, traffic signals, public buildings and street furniture, which are essential for deploying both Wi-Fi access points and small cells, and that RoW charges, processes and timelines are often non-uniform and onerous.

Moreover, telecom network deployment is significantly constrained by access challenges in high-footfall areas such as transport hubs (airports, railway stations), commercial centres (malls and markets), tourist locations, educational institutions, and enterprise campuses. A large proportion of such locations are operated by private concessionaires or facility managers who do not consider themselves as "public entities" under the extant RoW framework. Instead, they treat telecom infrastructure deployment as a commercial opportunity and seek to monetize access through high entry fees and revenue-sharing arrangements. This results in inflated deployment costs, limits the number of operators who are able to deploy infrastructure, and leads to sub-optimal provisioning of network capacity, thereby constraining service quality and competition. These challenges are further compounded by the fact that such facilities are typically located in prime areas where RoW charges, particularly restoration costs, are significantly higher.

In addition, restrictions on overhead OFC deployment and the absence of pre-laid underground duct infrastructure increase reliance on trenching-based fiber deployment, which is both cost-intensive and time-consuming. As a result, fiber penetration in precisely those areas with the highest data demand remains inadequate. These constraints lead to network congestion, inconsistent speeds, and poor quality of service, ultimately impacting user experience and the commercial viability of such deployments.

Airtel therefore submits that RoW reforms must move from policy to practice through full adoption of the central RoW framework by States and local bodies, time-bound approvals and single-window online portals. Further, RoW charges, rentals and related fees for fiber, towers, poles and street-furniture-based installations, as well as restoration charges, should be standardised and rationalised, so that telecom networks face a predictable and non-discriminatory cost structure.

Furthermore, the Government should immediately notify all non-Government entities vested with the ownership, control or management of airports, railway stations, SEZs, malls, markets, tourist locations, educational institutions and other public facilities, as "public entities" under Section 10(a)(v) of the Telecom Act, to facilitate smooth RoW approvals for telecom network deployment at these locations.

In addition, facilitating affordable access to common ducts and shared use of street furniture for all licensed operators would accelerate expansion and densification of telecom networks. Moreover, new

public infrastructure (buildings, transport hubs, smart-city assets) should be mandated to have "digital-ready" design, with in-built ducting, power and mounting provisions that are available on open, non-discriminatory terms to all licensed operators.

Backhaul spectrum pricing and availability:

Notwithstanding the importance of fiber, backhaul spectrum forms the backbone of India's telecom infrastructure. Especially in hilly, forested, or sparsely populated areas, including parts of the Northeast, Jammu & Kashmir, and tribal belts, spectrum-based backhaul remains the only practical solution due to the challenges thrown by terrain and RoW. However, steep spectrum usage charges and restricted availability, may hamper widespread usage of spectrum for backhaul.

The current SUC model imposes escalating charges based on the number of carriers and is calculated as a percentage of AGR. This results in an inverted economic model where backhaul spectrum, which generates no standalone revenue, is subject to higher SUC than access spectrum. The extant rates are also much above international benchmarks – where backhaul spectrum is charged at nominal rates in recognition of its role as a complementary resource. While we welcome the reduced rates recommended by the Authority, almost 6 months have already passed with no final policy in this regard. Thus, we request the Authority to re-iterate its recommendation and call for immediate action on the same.

We would also like to take this opportunity to request the Authority to reconsider its recommendations on the following issues:

1. **15 GHz band must continue as a wireless backhaul band, irrespective of WRC-27 outcome:**
   The Authority has recommended that the usage of the 15 GHz band should be reviewed only after WRC-27 outcome. We re-iterate that 15 GHz band is the "lifeline" of India's mobile backhaul network, with a much higher utilization (at 78%) compared to other traditional microwave bands. Any re-allocation in light of WRC-27 would disrupt thousands of operational backhaul links, leading to service degradation for users. Therefore, 15 GHz band must continue to be used for wireless access backhaul in India, irrespective of global outcomes.

2. **E-band should be reserved exclusively for backhaul of wireless access network traffic, with a ceiling of 4 carriers per LSA:**
   The Authority also recommended that there should be a ceiling of 3 carriers per LSA for block-based assignment of E-band to wireless access service providers, and 2 carriers should be earmarked for P2P assignment to all licensees – including captive users – for backhauling of traffic other than wireless access network traffic. However, **E-band is targeted at enabling high capacity backhaul for 5G**. Availability of E-band is one of the key reasons why Indian operators have been able to achieve one of the fastest 5G rollouts in the world.

   There are **no similar or corresponding requirements for non-wireless/captive users**. Even the Recommendations have failed to provide any justification for earmarking of 2 carriers per LSA for P2P assignment to such users. **Therefore, E-band should be reserved exclusively for wireless access backhaul, with a ceiling of 4 carriers per LSA.** This would ensure availability of sufficient high-capacity backhaul for existing operators, as well as leave 3 spare carriers to accommodate any new entrant in future.

3. **Entire 21 GHz should not be reserved from P2P assignment:**
   TRAI has recommended that 21 GHz band should be assigned on P2P basis to all licensees – including captive users – for backhauling of traffic other than wireless access network traffic, and

it should not henceforth be assigned on block basis to wireless access service providers. We understand that traditional microwave bands have been open for P2P assignment for non-wireless/captive usage (in addition to block-based assignment to wireless access service providers), but only handful of P2P links have been established till date.

Therefore, only a portion, say 20-25%, of 21 GHz band should be earmarked for P2P assignment for non-wireless/captive use at this stage. The rest of the band should be kept open for both wireless and non-wireless/captive use in the future, depending on the utilization of the earmarked portion. Such measured approach would ensure most efficient utilization of spectrum.

The above suggestions would facilitate a continuous supply of backhaul spectrum, which is especially necessary in the specific context of India with its relatively low levels of fiberization.

Need to address structural contraints:

The Authority's own analysis in the instant CP acknowledges that Public Wi-Fi is one of several complementary access modes – alongside FTTH, cable broadband, mobile broadband and satellite – that must together serve India's connectivity needs. Further, as discussed above, the "supply-side constraints" of RoW and backhaul spectrum pricing are structural issues that cut across technologies, not intrinsic or unique to Public Wi-Fi.

Given the evidence of currently limited and uneven demand from the general public as reflected in utilisation and revenue metrics discussed in the CP, interventions that ring-fence benefits only for Public Wi-Fi – such as Public Wi-Fi-specific RoW relaxations or backhaul subsidies – would risk misallocating scarce public resources and distorting competition and investment decisions vis-à-vis mobile and fixed broadband, while failing to achieve the broader objective of greater broadband penetration.

Therefore, Airtel recommends that supply-side constraints like RoW challenges and steep backhaul spectrum pricing affect broadband infrastructure deployment across all access technologies, and should thus be addressed in a horizontal manner.

Q2. What are the major demand-side constraints limiting the uptake of Public Wi-Fi services in the country? What targeted policy or regulatory measures may be required to address these demand-side constraints? Please provide your response in detail with justification.

Airtel Response:

The major demand-side constraints limiting the uptake of Public Wi-Fi services in the country stem from both the current practical limitations typically observed in Public Wi-Fi deployments and availability of a more convenient, secure and affordable alternative in the form of mobile broadband. At this stage, we do not see the need for additional Public Wi-Fi-specific policy or regulatory measures to address these demand-side constraints, beyond the horizontal reforms envisaged for the broadband ecosystem.

Mobile-first usage and limited incremental value of Public Wi-Fi:

The Authority has noted that average wireless data usage per subscriber has risen from 0.27 GB per month in 2014-15 to 25.70 GB per month by December 2025, with over a billion internet subscribers

and smartphones as the primary gateway to the digital ecosystem. India's average realisation per GB of wireless data is around ₹7.87, confirming that mobile broadband is extremely affordable for routine, heavy usage.

Against this backdrop, Public Wi-Fi offers limited incremental value for most users, who already consume large volumes of data comfortably within their mobile allowances. Users naturally prefer a single, persistent mobile connection that works across locations over having to search for, assess and switch to separate Public Wi-Fi networks.

Convenience, continuity and authentication friction:

The Authority's analysis candidly acknowledges that the convenience and continuity of mobile usage have become powerful drivers of behaviour, whereas Public Wi-Fi often requires multiple additional steps. Under Public Wi-Fi implementations, users frequently need to discover hotspots, connect to captive portals, register, generate OTPs and purchase small vouchers, often repeating these steps as sessions expire or as they move between hotspots.

When inexpensive mobile data is readily available, this authentication friction and lack of seamless roaming appear as unnecessary hassle to most users. The costs in time and effort undermine the PDO business model even where networks are technically available.

Security, privacy and trust concerns:

The Authority has also highlighted that security, privacy and trust concerns remain important considerations for users in the context of Public Wi-Fi, even where the underlying frameworks incorporate robust technical safeguards. Users may be cautious about connecting to networks operated by small or unfamiliar entities for sensitive activities, and often perceive their licensed mobile connection as relatively more controllable. Targeted awareness initiatives, promotion of best-practice security standards and visible branding of trusted Public Wi-Fi providers can help address these perceptions over time, but such efforts will need to complement, rather than substitute, the strong baseline of secure mobile connectivity.

Expectation of "free Wi-Fi" and weak willingness to pay:

The Authority's demand-side assessment explicitly notes that Indian consumers, conditioned by ultra-low mobile data tariffs, increasingly perceive connectivity as a near-zero-cost commodity, leading to a strong expectation that Wi-Fi in public places should be free. When PDOs attempt to charge even nominal amounts (₹5-10) for access, users either prefer to use their mobile data or treat Wi-Fi as a complimentary amenity like hotel or café Wi-Fi, undermining paid or freemium business models.

This expectation erodes the revenue base necessary for sustainable hotspot operations, especially when combined with the small ticket size and low transaction frequency inherent in micro-voucher models. In our view, it is unlikely that entrenched price expectations in a market with very affordable mobile data can be sustainably altered through regulation.

Experience with Central and State initiatives:

The CP documents that, despite multiple reforms – simplified registration, clarification of PDO/PDOA roles, and tariff caps for PDO connectivity – Public Wi-Fi uptake has remained modest and hotspot

utilisation weak. Various State-level attempts to expand Public Wi-Fi footprints have similarly not produced sustained demand or viable revenue streams.

Airtel respectfully submits that this pattern confirms that the core issue is structural: limited sustainable demand and weak unit economics at the last mile, rather than insufficient schemes, incentives or regulatory attention. Designing successive, narrowly targeted demand-side schemes for Public Wi-Fi risks adding complexity and administrative cost without materially changing underlying user preferences. A more sustainable approach is to strengthen the overall broadband environment.

PCO model – a cautionary tale:

The experience with Public Call Offices (PCOs) illustrates how access models naturally evolve as underlying mobile networks expand and become more affordable. As coverage deepened and tariffs fell, PCOs gradually became less central to everyday connectivity, and today they operate only in limited niches. A similar evolution can be expected in data access, with different models, including public Wi-Fi, finding sustainable roles where they complement robust mobile broadband.

Structural nature of demand-side constraints:

As observed by the Authority itself in the instant CP, India is an overwhelmingly mobile-first market, with over one billion internet subscribers and very high wireless data usage per subscriber, underpinned by among the lowest mobile data prices globally. In such an environment, the relatively weak demand for Public Wi-Fi – compared to markets where mobile data is significantly more expensive – is a structural feature of user preferences and price signals, not a temporary anomaly.

In summary, the demand-side constraints around Public Wi-Fi usage in India primarily reflect rational consumer choices in a market where licensed mobile networks already provide affordable, personal and always-on connectivity. Rather than attempting to engineer demand through prescriptive, Public Wi-Fi-specific measures, policy should focus on strengthening the overall broadband ecosystem.

Therefore, Airtel recommends the following:

(i) The major demand-side constraints limiting the uptake of Public Wi-Fi in India are due to a combination of the current practical limitations typically observed in Public Wi-Fi deployments and availability of a more convenient, secure and affordable alternative in the form of mobile broadband.

(ii) The need of the hour is horizontal reforms envisaged for the broadband ecosystem, instead of Public Wi-Fi-specific policy or regulatory measures to address these demand-side constraints.

Q3. Despite the PM WANI initiative, scaling the number of public hotspots across diverse geographies, especially in remote and underserved regions, remains uneven. What are the key challenges in expanding both the density and geographic spread of hotspots, and what strategies could help accelerate more balanced, nationwide coverage? Please provide your response in detail with justification.

Airtel Response:

Please refer to our response to Q1–2. The multiple structural constraints affecting the proliferation of public Wi-Fi in India also shape the density and geographic spread of hotspots. In our view, there is no need for separate, hotspot-number targets or public-Wi-Fi-exclusive expansion schemes; instead, policy should focus on horizontal reforms for the larger broadband ecosystem.

Uneven hotspot distribution as a structural outcome:

As observed by the Authority itself in the instant CP, Public Wi-Fi deployments are naturally concentrated in urban and high-footfall locations where both backhaul and user demand are stronger. In rural and sparsely populated areas, higher per-site costs and weaker paying demand make standalone Public Wi-Fi deployments more challenging. This pattern reflects underlying economics and demand conditions. Policy should therefore primarily address structural constraints affecting the telecom sector in general.

Structural challenges that also limit density and spread:

The Authority has acknowledged that key constraints such as non-uniform adoption of the central RoW framework, high and variable RoW charges, and complex local approvals impede fiber-based backhaul expansion and timely deployment of Wi-Fi hotspots. It further notes that outdoor hotspots in open areas face additional hurdles related to reliable power supply, exposure to vandalism and the cost of extending high-capacity backhaul to dispersed sites.

These same bottlenecks equally affect the rollout and densification of mobile and fixed broadband infrastructure. Airtel therefore reiterates that they are structural issues rather than Public Wi-Fi-specific obstacles, and that resolving them will naturally improve feasibility where there is real demand, without the need for hotspot-density mandates.

Demand-side realities and limited case for nationwide Wi-Fi layers:

As the Authority's analysis shows, India's digital access is overwhelmingly mobile-centric, with very high wireless data usage per subscriber and among the lowest mobile data prices globally. Users rely on affordable 4G/5G connections as their default, always-on access and face limited incremental benefit in actively seeking Public Wi-Fi.

At the same time, persistent expectations of "free Wi-Fi", authentication friction, lack of seamless roaming and security/privacy concerns mean that even where hotspots are deployed, utilisation and revenue per site are often insufficient to cover recurring costs. Airtel submits that these demand-side realities inherently limit the sustainable density and geographic spread of hotspots, and that policy should accept this rather than try to create artificial usage through expansion schemes.

Risks of forcing "balanced" nationwide hotspot coverage:

Designing strategies aimed at equalising hotspot density across rural, urban and high-footfall areas – through mandatory deployment obligations, Public Wi-Fi-specific viability-gap funding or usage targets – would create a subsidy-dependent access layer with negligible underlying market demand. This would divert scarce public funds (for example under USOF/DBN) toward a technology whose own economics remain weak in many locations.

Airtel respectfully submits that the appropriate response is to acknowledge that the same structural constraints discussed in our response Q1-2 above – backhaul, RoW, mobile-first demand and weak PDO business models – also explain the uneven density and geographic spread of Public Wi-Fi

hotspots. The policy focus should therefore remain on structural reforms rather than on designing separate strategies to increase hotspot numbers or equalise their distribution.

Therefore, Airtel recommends that policy should prioritize horizontal structural reforms, instead of any separate Public Wi-Fi-specific strategies or hotspot-density targets.

Q4. What changes, if any, are required in the existing PM-WANI framework to improve revenue certainty and long-term sustainability for PDOs/PDOAs? Please provide your response in detail with justification.

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Q5. Are there any other challenges currently faced by PDOAs/PDOs? If yes, what changes can enhance the participation of entrepreneurs under the PM-WANI framework? Please provide your response in detail with justification.

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Q6. Are there improvements needed in the Authentication, Authorization, Roaming, and Payment architecture of the PM-WANI Framework? Please share suggestions, if any. Please provide your response in detail with justification.

Airtel Response:

In our assessment, the core design of the PM-WANI framework, including its Authentication, Authorization, Roaming and Payment architecture, is broadly adequate to support sustainable Public Wi-Fi where robust demand exists. Further adjustments, if any, should be industry-led and evidence-based, rather than involving major new prescriptive obligations. At this stage, we therefore do not see the need for significant regulatory overhauls of the PM-WANI framework.

Over the last few years, the Government and the Authority have already implemented multiple, targeted reforms to enable PM-WANI, including light-touch registration, clear delineation of PDO/ PDOA roles, and tariff caps for connectivity from licensed operators to PDOs. Despite these measures, the Authority's own analysis in the instant CP shows that Public Wi-Fi uptake, hotspot utilisation and commercial viability remain weak, confirming that the core constraint is limited sustainable demand and thin unit economics at the last mile rather than an inadequacy of the current framework.

The Authority's demand-side assessment highlights several factors that structurally weaken the commercial viability of Public Wi-Fi hotspots: expectations of "free Wi-Fi", competition from very affordable mobile data, security/privacy concerns, and low willingness to pay for small Wi-Fi vouchers even at nominal prices.

Airtel respectfully submits that no conceivable adjustment to PM-WANI scheme parameters – whether in registration processes, or in Authentication, Authorization, Roaming and Payment architecture – can overturn these basic economics in a market where mobile broadband already offers ubiquitous, personal connectivity at ultra-low tariffs. Compulsory re-engineering of the existing framework could add compliance complexity and cost to an already fragile model. Thus, there is no

case for further prescriptive changes to PM-WANI's architecture, nor for introducing new obligations around authentication, roaming or payments.

Therefore, Airtel recommends that the focus should be on strengthening the broader broadband ecosystem, instead of further changes in the PM-WANI framework.

Q7. In the Indian context, which of the following models would be more appropriate for the proliferation of Public Wi-Fi?

a. A model where the Government actively ensures hotspot deployment through direct funding and implementation support, including backhaul provision; or
b. A model where the Government primarily ensures availability of robust backhaul infrastructure and intervenes in hotspot deployment only in cases of market failure.

Please provide your response in detail with justification.

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Q8. Is there a need to adopt separate strategies for Public Wi-Fi proliferation in rural and urban areas? If yes, suggestions may be provided. Please provide your response in detail with justification.

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Q9. What measures can be taken to improve the deployment and uptake of Public Wi-Fi networks in high-footfall areas for both outdoor (such as bus stops, roadside transit points, open public parks, markets, tourist sites), and indoor (such as airports, railway stations, malls, public institutions)? Please provide your response in detail with justification, separately for outdoor and indoor scenarios.

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Q10. If the Government decides to provide financial support for the proliferation of Public Wi-Fi, which funding mechanisms would be most suitable for India? Should a uniform funding mechanism be adopted nationwide, or should differentiated funding mechanisms be used for rural, urban, and high-footfall areas? Please provide your response in detail with justification.

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Q11. What criteria should govern the allocation and disbursement of funds across rural, urban, and high-footfall areas, respectively? Please provide your response in detail with justification.

Airtel Response:

The Government should focus on ensuring availability of robust backhaul infrastructure in a horizontal manner for telecom networks. Further, any funding schemes should aim to bridge genuine coverage gaps instead of Public Wi-Fi specific deployments.

International experience shows that even where Governments fund or deploy Public Wi-Fi, their most consistent role is in creating strong backhaul foundations, while letting operators and venues drive access deployments based on commercial viability. In India's overwhelmingly mobile-first, ultra-low-tariff market, the Government's most constructive role similarly lies in enabling robust, affordable and scalable backhaul – through rational backhaul spectrum pricing, effective RoW, affordable common ducts – rather than directly funding or mandating Public Wi-Fi layers.

Further, if the Government decides to introduce any direct funding, it should not be restricted only to Public Wi-Fi deployments. Directing substantial public funds specifically and exclusively towards Public Wi-Fi, in a context of currently limited and uneven demand, may risk inefficient allocation of resources.

We also wish to caution against adopting foreign models as is, without accounting for the specific context of our country. The international examples used by the Authority are not only distinct from India in the affordability and accessibility of mobile data, but also in the regulatory regimes applicable to telecom operators. The license fee, at 8% of AGR, is one of the highest in the world – with international benchmarks tilting towards recovery of only the administration costs. Further, US and UK, among others, have a mechanism for re-imbursement/Government contribution towards costs of national security compliance.

International experience offers valuable insights into the role that public Wi-Fi can play in mature broadband ecosystems. However, these models operate under very different demand, pricing and network conditions, as illustrated above. Any features drawn from such examples, including Public Wi-Fi-specific measures, should therefore be carefully adapted to India's context to avoid unintended consequences and to ensure consistency with our country's broadband trajectory.

Therefore, Airtel recommends the following:

(i) The Government should focus on ensuring availability of robust backhaul infrastructure in a horizontal manner for telecom networks.

(ii) Any funding schemes should aim to bridge genuine coverage gaps.

Q12. Is the lack of adequate and reliable last-mile connectivity a critical constraint for the proliferation of Public Wi-Fi in the country? If yes, what specific measures may be considered by the Central Government, State Governments, and local bodies to address the last-mile constraints? Please provide your response in detail with justification.

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Q13. Is there a need for the Government to provide funding for provisioning of last-mile connectivity in the uncovered or underserved areas for Public Wi-Fi networks? If yes, which funding option is best suited in the Indian context, and what should be the criteria for rural, urban, and high footfall areas, respectively? Please provide your response in detail with justification.

Airtel Response:

Please refer to Airtel's response to Q1 above. The lack of adequate and reliable last-mile connectivity is not only a critical constraint for the proliferation of Public Wi-Fi in the country – but also equally affects other technologies, i.e. mobile and fixed broadband.

Accordingly, instead of Public Wi-Fi-specific measures, it is more appropriate to address these structural constraints in a horizontal manner through measures including uniform implementation of RoW reforms, and bridging genuine connectivity gaps through USOF/DBN.

Q14. Are there any RoW challenges faced by service providers in accessing public places or street furniture to install Public Wi-Fi hotspots? If yes, details may be provided along with suggestions for improvements. Please provide your response in detail with justification.

Airtel Response:

Please refer to our response to Q1 above. Multiple RoW challenges are faced by service providers in accessing public places or street furniture; and these challenges equally affect installation of Public Wi-Fi hotspots and other networks i.e. mobile and fixed.

The RoW-related issues identified by the Authority – non-uniform adoption of the central RoW framework, non-standard processes, high ad-hoc charges for RoW permissions or restoration, non-availability of common ducts etc. – are cross-cutting issues that hamper all broadband networks. Rather than any exclusive measures for Public Wi-Fi, these challenges should be resolved in a horizontal manner – in order to serve India's broader broadband objectives.

Q15. What facilitative roles can State Governments play in accelerating Public Wi-Fi deployment across rural, urban, and high-footfall areas, respectively? Should States consider deploying Public Wi-Fi networks at the municipal and gram panchayat level? Please provide your response in detail with justification.

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Q16. Should the State Government need to take initiatives to improve the availability of last-mile connectivity for Public Wi-Fi networks? If yes, what measures can incentivise States/ municipalities to undertake city- and town-level fiberisation to ensure Public Wi-Fi network proliferation? Please provide your response in detail with justification.

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Q17. What facilitative roles can local bodies play in accelerating the deployment and sustainable operation of Public Wi-Fi networks in rural and urban areas? Please provide your response in detail with justification.

Airtel Response:

Please refer to our response to Q7-11 above. **The Government should focus on ensuring availability of robust backhaul infrastructure in a horizontal manner for telecom networks. Further, any funding schemes should aim to bridge genuine coverage gaps.**

Q18. What regulatory or policy incentives, schemes or programs are required to promote active participation of TSPs and ISPs in Public Wi-Fi deployment? Please provide your response in detail with justification.

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Q19. What regulatory or fiscal incentives, schemes or programs may be required in the provisioning of bandwidth and backhaul for Public Wi-Fi networks? Please provide your response in detail with justification.

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Q20. What measures can be adopted to incentivise private enterprises, commercial establishments, shop owners, community institutions etc. to install public Wi-Fi hotspots? Please provide your response in detail with justification.

Airtel Response:

Regulatory, policy or fiscal incentives, schemes or programs should be targeted towards improving the investment climate in the industry, in order to promote active participation of TSPs/ISPs in the larger broadband ecosystem.

India is a **mobile-first, ultra-low-tariff data market**, where licensed mobile networks already carry the overwhelming majority of broadband traffic and where operators bear substantial licence, spectrum and compliance costs. In such an environment, TSPs/ISPs will naturally prioritise investments that offer the greatest coverage and capacity benefits per rupee of capital. Any regulatory or fiscal measures should be aimed towards making the environment more conducive to investments and innovation**.** Following are certain long-standing asks of the industry in this regard, which need immediate attention of the Government:

Rationalization of Regulatory Levies:

Under the current regime, a licensee is required to pay an annual LF, equivalent to 8% of the AGR. This rate includes two components – a levy of 5% for USOF/DBN and a 3% rate towards license fee.

At the outset, Airtel submits that the USOF/DBN levy should be delinked from the license fee. Further, Airtel's separate submissions with regard to the LF and USOF/DBN levy are as follows:

License Fee of 3%:

As India has enacted a new Telecom Act and intends to usher in a reformed regulatory regime to attract investment, ensuring the long-term financial viability and sustainability of the telecom sector, it is crucial that the regulatory levy (license fee component) be rationalised. Internationally, in many

jurisdictions, the license fee is limited to recover only the administrative cost of managing/ administering the license.

Presently, the Indian telecom industry faces one of the highest regulatory levies globally, which carries on from a legacy approach when spectrum was bundled with license and the Government had only one source of revenue, i.e., LF basis revenue share. However, now that the government is able to regularly earn significantly higher revenues via regular auctions, the right approach is to recover only the cost of administering the license, in line with international best practices.

Accordingly, the license fee should be reduced from 3% to 1%. This will not only reduce the regulatory burden on TSPs but will also increase their ability to invest in network infrastructure, upgrades and new technologies.

USOF/DBN Levy of 5%:

The USOF/DBN has amassed a substantial corpus, with the current balance to the tune of INR 1,06,552.50 Cr. (as on 31.03.2026). The USOF collection has been increasing over the years but the disbursement has not been comparatively commensurate. On the other hand, significant CAPEX has been invested by the industry in the rollout of 4G and 5G technologies and the expansion of telecom services in uncovered areas.

Furthermore, most of the population is already covered by mobile broadband networks and the remaining population is likely to be covered under the current projects undertaken by USOF. Therefore, availability of mobile broadband networks is not a challenge anymore.

Given the substantial capital currently held in the fund and the ongoing capital needs of the industry, and since only a handful of unconnected villages/areas are left to be connected, **the 5% USOF levy on TSPs should be abolished**. In the interim, it must be kept in abeyance till the entire unutilised amount of the corpus gets fully utilised. Or, alternatively, it should be immediately brought down from 5% to 3% in line with the Authority's recommendations.

In summary,

(i) The USOF/DBN levy should be delinked from the license fee.
(ii) The rate of the license fee should be reduced from 3% to 1% of AGR, and brought at par with global best practices of recovering only the administrative cost of managing the license.
(iii) The USOF/DBN levy of 5% should be abolished altogether. Or, at least in the interim, it must be kept in abeyance till the unutilised amount of the corpus gets fully utilised. Or, the rate should be immediately brought down from 5% to 3%.

Doing away with the requirement of Bank Guarantees:

The industry has matured over the last 30 years and the existing players have ably demonstrated their performance and experience. What they now expect from policymakers are less onerous financial obligations and the freeing up of precious capital/funds to be deployed into networks and services. To that extent, the recent Cabinet reforms already recognised this fact and reduced the BGs requirement.

The amount blocked in BGs benefits no one (neither TSPs nor the DoT), except perhaps the lenders. Rather, if such securities are released, it will free up the working capital flow for the TSPs and remove the infructuous payment of charges and generate value for the TSPs.

On the aspect of securitising Government dues, the risk to government dues is actually emerging more due to the high levels of recurring and sector-specific levies, i.e., LF/USOF levy/SUC rather than the failure of TSPs to pay the same. The time has come to substantially rationalise these levies and recover only the cost of administration of license. Moreover, the imposition of such BGs to securitise dues is not consistent with other statutory dues like tax dues – there is no requirement for BGs under the Income Tax Act or under GST laws to securitise such due payments.

Thus, Airtel believes that the government can go a step further in having faith in sectoral players and, in the spirit of reform, **do away with the BG requirements (PBG and FBG both) altogether**. The time has come to **enable industry to mobilise and deploy precious funds/capital in generating value for all stakeholders by putting more investments into digital infrastructure, networks and services** rather than blocking those funds in the form of BG.

Sharing of costs incurred towards telecom security:

With evolving technology, the security-related compliance conditions imposed on TSPs have also evolved. The measures now required to be taken by TSPs include installation of infrastructure for robust lawful interception of telecom traffic by the Law Enforcement Agencies (LEAs), monitoring of telecom traffic by various Government agencies as well as storage of Call Data Records (CDRs)/Exchange Detail Records (EDRs)/IP Detail Records (IPDRs), etc.

While Airtel remains fully committed to the primary aim behind these measures, i.e., ensuring National security, it needs to be highlighted that the elaborate infrastructure set up required to provide the lawful interception and monitoring (LIM) facility at the premises of various LEAs/Government agencies and to store the huge amount of CDRs/EDRs/IPDRs generated due to the humongous traffic flowing through the networks these days involves a huge CAPEX as well as OPEX.

It is pertinent to highlight here that the traffic carried on TSP networks is multiplying very rapidly. The overall traffic is growing on both counts – expansion in customer base as well as increase in voice and data usage per customer. As per the Authority's own reports, the volume of Indian telecom traffic in 2023 grew ~1.5x the traffic in 2021. It is estimated to grow by 300% by 2028, compared to 2021.

Further, TSPs are subject to new obligations, depending on the requirements of the LEAs. For instance, in 2021, the period for which CDRs/EDRs/IPDRs have to be stored was doubled to 2 years. With the ever-increasing traffic, the storage of these records for double the time is a herculean task, even without the substantial costs that the TSPs have to incur. On top of it, additional parameters relating to the destination IP and destination port have been included in the IPDR format, which again adds up not just to the storage, but also the extraction and computation obligations for TSPs.

Apart from these National security requirements, TSPs are also required to make significant investments into cyber security to protect both their own networks as well as the data of their subscribers from different types of threats and attacks.

Given the importance of such measures in the socio-economic resilience of the country as a whole, TSPs should not be the only ones saddled with the entire responsibility of implementing the same. It is necessary for the Government to support the costs being incurred by TSPs towards security compliance and bring about a balance in the ecosystem. Appropriate budgetary support or contribution may be one way of effectively alleviating the (incremental) cost burden of meeting National Security requirements by TSPs.

Regulators and governments in various countries around the world allow for financial compensation to TSPs to cover infrastructure costs for maintaining national security or for lawful interception and monitoring. For instance, in Australia, the Telecommunications (Interception and Access) Act 1979 (Section 207-208 and 210) puts the onus of bearing the costs on both Carriers and Interception Agencies.[1] In France, the Postal and Electronic Communications Code (Article L34-1) allows for financial compensation for responding to LEA requests pertaining to national security.[2] In the United Kingdom, the Investigatory Powers Act, 2016 (Section 249) provides for government contribution towards the compliance costs incurred by TSPs.[3] In the United States, the Communications Assistance for Law Enforcement Act includes Cost Recovery Regulations with reimbursement procedures.[4] In fact, the Authority has itself recommended in favour of a mechanism to suitably compensate the TSPs.[5]

In line with global best practices and the Authority's recommendations, **a process should be established whereby the costs of meeting the requirements of LEAs/various government agencies for the purposes of maintaining national security and enabling law enforcement are reimbursed by the Government/respective agencies.**

Therefore, Airtel recommends TSPs/ISPs should be encouraged to participate in the larger broadband ecosystem, by strengthening the overall investment climate in the industry.

Q21. Is there a need to strengthen the role of public or private entities as system integrators for the deployment of Public Wi-Fi networks? If yes, what policy or institutional support may be required? Please provide your response in detail with justification.

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Q22. Are users facing challenges in the authorization and authentication procedures for accessing Public Wi-Fi Networks? If yes, how can authorization and authentication processes be simplified while ensuring security and compliance? Please provide your response in detail with justification.

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Q23. Is there a need for a centralized platform for authentication and payment systems in the Public Wi-Fi ecosystem? If yes, which entity is best suited for its implementation and management? Please provide your response in detail with justification.

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[1] https://classic.austlii.edu.au/au/legis/cth/consol_act/taaa1979410/s208.html; https://classic.austlii.edu.au/au/legis/cth/consol_act/taaa1979410/s209.html; http://classic.austlii.edu.au/au/legis/cth/consol_act/taaa1979410/s210.html
[2] https://www.wipo.int/wipolex/en/text/493345
[3] https://www.legislation.gov.uk/ukpga/2016/25/section/249/enacted
[4] https://www.ecfr.gov/current/title-28/chapter-I/part-100
[5] https://www.trai.gov.in/sites/default/files/2024-11/Recommendation_18092024.pdf

Q24. What steps are required to achieve interoperability and seamless roaming among Public Wi-Fi networks? Should inter-hotspot roaming be made mandatory, and if yes, should a "super-aggregator" need to be introduced to facilitate it? Please provide your response in detail with justification.

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Q25. What monetisation models are most appropriate for rural, urban, and high-footfall locations, respectively? Please also suggest any additional monetisation models that may be suitable in the Indian context. Please provide your response in detail with justification.

Airtel Response:

The role of system integrators, authorization and authentication procedures, payment systems, technical standards for interoperability and monetization models for Public Wi-Fi should be guided by **global best practices and industry consensus**, not by prescriptive mandates.

The Authority has highlighted multiple emerging trends – advanced system integrators, OpenRoaming, Hotspot 2.0, central platforms and diverse monetisation models – but has also recognised that India is structurally a mobile-first, ultra-low-tariff market where Public Wi-Fi is a complementary rather than primary access mode. Airtel therefore submits that India should encourage voluntary, industry-driven adoption of suitable models and standards, while avoiding rigid regulations that would increase costs or complexity without resolving the underlying demand and business-case constraints.

Q26. Please provide any additional comments, observations, or suggestions related to the proliferation of Public Wi-Fi in the country, including any potential issues or considerations that may not have been covered in the sections above. Please provide your response in detail with justification.

Airtel Response:

No comments.