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New Delhi – 110029

Subject: Bharti Airtel's Comments on Consultation Paper on *the Regulatory Framework for Vehicle-to-Everything (V2X) Communication*

Reference: TRAI's Consultation Paper dated 30th April 2026

Dear Sir,

This is in reference to TRAI's Consultation Paper on ***The Regulatory Framework for Vehicle-to-Everything (V2X) Communication*** *dated 30th April 2026.*

In this regard, please find enclosed our comments to the consultation paper for your kind consideration.

Thanking You,

Yours Sincerely,
For **Bharti Airtel Limited**

Rahul Vatts
Chief Regulatory Officer

Encl: a.a

Response to CP on the Regulatory Framework for Vehicle-to-Everything (V2X) Communication

Preamble:

Airtel thanks the Authority for giving it the opportunity to comment on this critical Consultation Paper **("CP")** titled, *The Regulatory Framework for Vehicle-to-Everything (V2X) Communication.* This discussion comes at the right time for India, as the country is rapidly expanding its highways, upgrading existing roads, and extending high-speed connectivity to more towns and villages. In this setting, V2X is not a niche technology topic; it is directly linked to how people travel every day and how safely they reach their destinations.

Why V2X matters for India's roads:

V2X technologies can make daily travel safer and smoother by allowing vehicles, road-side equipment and other road users to "talk" to each other in real time. This can help reduce accidents, ease congestion, and improve emergency response in a country where traffic density is rising and road safety remains a major public concern. For these benefits to reach people at scale, the regulatory framework has to encourage timely deployment, avoid unnecessary hurdles, and give all stakeholders clarity and confidence.

Guiding principles for the V2X framework:

Airtel sees three simple principles as central to a successful V2X framework:

- It must promote road safety and public welfare.
- It must ensure that devices and systems from different players interoperate reliably.
- It must offer a stable, predictable regulatory environment that supports long-term investment and large-scale deployment.

Without this balance, India risks fragmented rollouts, inconsistent user experience and reduced impact on road safety.

C-V2X with mandatory V2N over licensed mobile networks:

Airtel's submissions are guided by the view that **Cellular V2X ("C-V2X") built on licensed mobile networks should be at the heart of India's V2X strategy**. Critically, Vehicle-to-Network ("V2N") is not an optional add-on; it is a **mandatory component** that enables over-the-air ("OTA") updates, misbehaviour detection, cybersecurity monitoring, HD map synchronisation, remote diagnostics, emergency services and edge/ cloud-based applications that pure short-range links cannot support on their own.

From a licensing standpoint, Airtel therefore submits that **there is no need for a separate dedicated authorisation**. Instead, the scope of the Access Service licence/authorisation should be explicitly expanded to include all V2X communication services – V2N, Vehicle-to-Infrastructure ("V2I"), Vehicle-to-Vehicle ("V2V") and Vehicle-to-Pedestrian ("V2P"). This approach preserves clear accountability while avoiding a new silo licence that would fragment responsibilities and increase compliance costs without adding real benefits.

Auction of ITS spectrum and use of licensed mobile networks:

The **entire 5875-5925 MHz band identified for Intelligent Transportation System ("ITS") should be assigned to Access Service licensees through an exclusive licensing framework via auction**, on terms comparable to IMT spectrum. This band is a valuable mid-band resource and central to delivering reliable,

low-latency safety applications; auction-based, exclusive assignment provides regulatory certainty for long-term investments in Roadside Units ("RSUs"), edge infrastructure and 5G network densification, while ensuring efficient and accountable use of the band.

In Airtel's view, **leveraging existing licensed mobile network infrastructure is the most efficient path for rapid, scalable rollout of connected mobility services across highways, urban corridors and smart cities**. Assigning the ITS band to Access licensees via auction, and avoiding artificial splitting into "safety" and "non-safety" channels, keeps the spectrum flexible, supports future high-bandwidth V2X use cases, and aligns with India's established, transparent approach to spectrum management. At the same time, Airtel submits that no additional Spectrum Usage Charges ("SUC") – AGR-based or otherwise – should be levied on V2X services beyond auction-determined charges, in line with the practice followed for auctioned spectrum post 2021 Cabinet reforms.

LTE-V2X as the foundational technology:

Airtel believes that **LTE-based C-V2X ("LTE-V2X") should serve as the foundational technology for V2X deployment in India, with a clear roadmap for future evolution to NR-based C-V2X ("NR-V2X") as the ecosystem matures**. LTE-C-V2X already has a mature global ecosystem, with proven chipsets, devices and automotive integrations, and is well suited to support early safety and traffic-management use cases. Starting with a clear, common standard will help ensure interoperability across On-Board Units ("OBUs"), RSUs and networks, avoid fragmentation, and allow India to benefit quickly from large-scale deployments.

In parallel, Airtel supports bringing RSUs under the MTCTE framework, standardising the higher layers of the ITS stack (for example, using ETSI ITS), and keeping OBUs outside MTCTE – similar to the treatment of BTS and mobile handsets respectively. This combination helps maintain trust and security in the infrastructure, while keeping vehicle-side innovation and adoption friction-free.

Overall approach:

Airtel's approach is anchored on the following **core principles**:

- Inclusion of V2X in the scope of the Access Service licence rather than as a separate V2I authorisation
- Adoption of LTE-V2X with mandatory V2N over licensed mobile networks as the starting point
- Assignment of the entire 5875-5925 MHz band to Access licensees via auction, on similar terms & conditions as IMT spectrum

This approach keeps the framework simple and grounded in existing telecom structures. It would **support dense and reliable deployment of C-V2X infrastructure, and facilitate accrual of benefits of V2X to Indian road users in a timely and sustainable way.**

In summary:

- ✓ *There is no need for a dedicated license for V2I communication service. The scope of the Access Service license/authorisation should be expanded to include all V2X communication services, including V2I, V2N, V2V, V2P.*
- ✓ *V2N capability should be treated as a mandatory component of any V2X service framework in India.*
- ✓ *India should adopt the ETSI ITS protocol stack for higher layers, along with LTE-based C-V2X at the access layer, to create a complete and standardized end-to-end V2X communication system.*
- ✓ *LTE-V2X should be adopted as the foundational technology for deployment of C-V2X in India, with a clear roadmap towards NR-V2X.*
- ✓ *There is a strong need to bring RSUs under the MTCTE framework, while OBUs should be kept outside of it.*
- ✓ *The entire 5875-5925 MHz band, without any partitioning of spectrum into segregated safety & non-safety channels, should be assigned to Access Service licensees through exclusive licensing framework via auction – on similar terms and conditions as IMT spectrum.*
- ✓ *No additional SUC (AGR-based or otherwise) should be levied on V2X services deployed over IMT/ITS spectrum, over and above the auction-determined rates.*
- ✓ *There is no need to separately prescribe any financial conditions, including entry fee, bank guarantee, minimum equity and net worth requirements, application processing fee and authorisation fee, for V2X communication services. The applicable conditions under the extant Access Service license are adequate.*

In the remainder of this document, please find Airtel's question wise response to the Authority's Consultation Paper.

Question-wise Comments

Q1. Whether there is a need to introduce an authorisation for vehicle-to-infrastructure (V2I) communication service under Section 3(1)(a) of the Telecommunications Act, 2023? If yes, please provide input with respect to the following aspects:

(a) Eligibility conditions for the authorisation;
(b) Period of validity of the authorisation and conditions for its renewal;
(c) Service area of the authorisation;
(d) Scope of service of the authorisation;
(e) Technical, operating, security related conditions etc. of the authorisation;
(f) Any other related aspect.

Kindly provide a detailed response with justification.

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Q2. In case your reply to Q1 is no, what should be the mechanism for enabling, facilitating and regulating vehicle-to-infrastructure (V2I) communication service in India? Kindly provide a detailed response with justification.

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Q3. Any other suggestions relevant to the authorisation for vehicle-to-infrastructure (V2I) communication service may be submitted with proper explanation and justification.

Airtel's response:

No, there is no need to introduce an authorisation for V2I communication service under Section 3(1)(a) of the Telecommunications Act, 2023. The mechanism for enabling, facilitating and regulating all V2X communication services, including V2I, V2N, V2V, V2P, in India, should be to include them within the scope of the Access Service license/authorisation.

Integrated nature of V2X – why it fits within Access licence:

V2X is not a narrow, standalone short-range radio service; it is a **layered, integrated communications ecosystem** in which direct PC5 links (V2V/V2I) operate alongside wide-area V2N connectivity over the Uu interface on commercial mobile networks.

Essential safety and operational functions – such as OTA software updates, misbehaviour detection, cybersecurity monitoring, HD map synchronisation, remote diagnostics, traffic analytics, and edge/cloud-based applications – **depend critically on licensed mobile networks** and cannot be delivered through RSU-only, short-range links. Accordingly, **V2N must be treated as a mandatory foundational element of any V2X deployment in India**, not as an optional add-on.

Given this architecture, the natural regulatory "home" for V2X is the **Access Service authorisation**, which already covers:

- provision of public telecommunication services to end users and devices;
- establishment and operation of wireless access networks; and
- use of IMT and other assigned spectrum under a single set of licence, security and QoS conditions.

Embedding V2X within Access licence scope therefore:

- aligns with the **actual network topology**, where RSUs are simply another class of access node;
- ensures a **common framework for lawful interception, security, QoS and emergency services**; and
- avoids regulatory confusion between network-layer responsibilities of TSPs and sectoral responsibilities of transport authorities.

Avoiding fragmentation and duplication through a single authorisation:

Introducing a separate V2I authorisation would artificially carve out one layer of V2X from the rest of the ecosystem, leading to **fragmented accountability, inconsistent technical and security obligations, interoperability risks, duplication of compliances and delay in rollout** – without adding any regulatory value beyond what is already achievable under the Access licence framework.

By contrast, treating V2X as part of Access license preserves a single, integrated regulatory framework for all V2X communication anchored in the Access license, while avoiding a separate **"V2I licence silo"**. Under this approach, RSUs and V2I communication become part of the access network of an Access Service licensee, similar to any other radio access node using spectrum assigned to that licensee. OBUs continue under the license-exempt regime, like mobile handsets, as already envisaged by DoT.

Leveraging existing mobile infrastructure and spectrum framework:

India has already created a **robust, auction-based and service-agnostic IMT spectrum framework**, under which Access licensees invest heavily in 4G/5G radio sites, fibre backhaul, edge/cloud infrastructure and security systems. V2X services can be efficiently layered on top of this infrastructure without any new authorisation category, by:

- using **existing IMT bands** for V2N and related uplink/downlink traffic; and
- using the **5875-5925 MHz band** (assigned to Access Service licensees through auction) for ITS C-V2X in line with NFAP-2025 and the DoT/MoRTH task force recommendations.

Taken together, this approach provides a **single, predictable and investment-friendly framework** that leverages existing networks, maintains strong security and safety oversight, and avoids unnecessary regulatory duplication, while fully meeting the policy objectives underlying the consultation. This would act as a **critical enabler** for the coordinated, secure and scalable deployment of C-V2X in India.

Therefore, in summary, Airtel recommends the following:

(i) There is no need for a dedicated license for V2I communication service.

(ii) The scope of the Access Service license/authorisation should be expanded to include all V2X communication services, including V2I, V2N, V2V, V2P.

Q4. Whether a specific technology (such as LTE-based C-V2X, NRbased C-V2X etc.) should be prescribed for the implementation of C-V2X in India? If yes, which technology should be adopted for the implementation of C-V2X? If no, in what manner, the issues related to inter-operability between different technologies should be addressed? Kindly provide a detailed response with justification.

Airtel's response:

1. **Yes, it is important to prescribe a specific technology** for the implementation of C-V2X in India. A clear technology choice will help ensure interoperability across vehicles roadside infrastructure, telecom networks and ITS. It would also help avoid ecosystem fragmentation, ensure efficient spectrum utilization, reduce deployment complexity, and facilitate coordinated large-scale implementation of connected mobility solutions across the country.

2. In this regard, **Airtel submits that LTE-V2X technology should be adopted as the foundational deployment layer for implementation of C-V2X in India, with a clearly defined evolutionary roadmap towards NR-V2X as the ecosystem matures.**

3. LTE-V2X is a globally standardized and mature technology developed under the 3GPP framework and is specifically designed to support vehicular safety, mobility management and ITS. The technology is deployment-ready and capable of supporting immediate implementation of Day-0 and Day-1 road safety applications, which is particularly important considering India's growing road safety challenges and increasing requirement for ITS.

4. A key advantage of LTE-V2X **lies in its ability to support both direct communications through the PC5 interface as well as network-based communications over licensed mobile networks through the Uu interface.** This layered communication architecture enables safety-critical applications to continue functioning even in areas with intermittent or limited RSU infrastructure, while simultaneously enabling advanced network-assisted functionalities wherever good RSU infrastructure is available. **Such an integrated architecture is particularly well-suited for Indian deployment conditions, characterized by diverse road infrastructure, mixed traffic environments, and varying levels of V2X technology adoption across urban, semi-urban, and rural geographies.**

5. Airtel further submits that permitting parallel deployment of **legacy Dedicated Short-Range Communication ("DSRC") technologies alongside C-V2X within the same spectrum environment may lead to fragmentation of the ecosystem.** DSRC and C-V2X technologies are **not designed for harmonized coexistence within the same channel environment and parallel deployment** may result in interoperability limitations, inefficient spectrum utilization, deployment complexity, and harmful interference scenarios. A fragmented technology approach may also **adversely impact economies of scale, investment certainty** and long-term technological evolution of the ecosystem.

6. In this regard, various stakeholder deliberations and policy discussions globally have increasingly demonstrated **preference toward C-V2X-based frameworks for future ITS ecosystems.** LTE-V2X has emerged as the globally preferred foundational technology for deployment of connected mobility

services with a clear migration path toward NR-V2X and advanced autonomous transportation applications.

7. LTE-V2X additionally provides a **practical and investment-efficient migration pathway toward future NR-V2X deployments.** Allowing automotive OEMs, telecom operators, and infrastructure providers to deploy LTE-V2X for initial safety and mobility use cases while enabling software-driven evolution **toward NR-V2X would ensure long-term scalability of the ecosystem.** Such an approach would facilitate support for future high-bandwidth and ultra-low latency applications including **cooperative driving, advanced traffic coordination, remote driving support** and **autonomous vehicle platooning without necessitating large-scale hardware replacement in the future.**

8. Airtel further submits that interoperability should remain a **central consideration within the proposed framework. Accordingly, the 3GPP C-V2X standards framework should be adopted in a harmonized manner supported by standardized ITS protocols**, conformance testing mechanisms, mandatory certification requirements, backward compatibility provisions, security credential management systems, and interoperable communication standards. Such harmonization would ensure seamless communication between vehicles, roadside infrastructure, telecom networks and future ITS platforms.

9. An overview of global developments further supports adoption of LTE-V2X as the foundational deployment framework:

a) China has emerged as the global leader in large-scale C-V2X deployment[1], where LTE-V2X has moved beyond pilot deployments into commercial implementation across highways, urban corridors, and smart transportation systems. These deployments are based upon globally standardized 3GPP LTE-V2X specifications and are supported by a broad ecosystem comprising telecom operators, automotive manufacturers, infrastructure providers and technology companies.

b) South Korea formally adopted C-V2X direct communication technology as part of its national connected mobility framework, with LTE-V2X[2] forming the foundational deployment layer and future evolution planned toward NR-V2X capabilities.

c) The United States has also progressively transitioned away from legacy DSRC-oriented approaches toward C-V2X ecosystems, with LTE-V2X forming the initial commercial deployment layer for connected transportation services.

10. In view of the above, **Airtel submits that adoption of LTE-V2X as the foundational technology framework for India** would provide the most efficient, scalable, interoperable, and future-ready pathway for development of ITS and connected mobility ecosystems in the country.

Therefore, in summary, Airtel recommends the following:

(i) LTE-V2X should be adopted as the foundational technology framework for implementation of C-V2X services in India.

(ii) A clearly defined evolutionary roadmap should be established to facilitate future migration toward NR-V2X and advanced 5G-Advanced mobility ecosystems.

[1] China Mobile Develops Roadside Units for LTE-V2X PC5 Direct Communication Featuring Qualcomm C-V2X Chipset Solution | Qualcomm

[2] The Republic of Korea Picks C-V2X as its Technology of Choice - 5GAA

(iii) **The implementation framework should support integrated operation of both direct communication interfaces (PC5) and licensed mobile network connectivity (Uu interface).**

(iv) **Fragmented deployment of multiple non-interoperable vehicular communication technologies within the same spectrum environment may not be encouraged.**

(v) **The 3GPP C-V2X standards framework should be adopted in a harmonized manner supported by standardized ITS protocols, interoperability mechanisms, conformance testing requirements, mandatory certification frameworks, and security credential management systems.**

(vi) **The framework should support software-driven upgrades and long-term scalability toward advanced connected and autonomous mobility use cases.**

(vii) **The proposed framework should leverage India's existing telecom infrastructure ecosystem, including LTE and evolving 5G networks, to enable cost-efficient and scalable nationwide deployment of ITS.**

(viii) **The overall regulatory and technology framework should remain future-ready, interoperable, technology-consistent, and aligned with global standards evolution for ITS and connected mobility ecosystems.**

Q5. Whether there is a need to bring road-side units (RSUs) and onboard units (OBUs) under the regime of Mandatory Testing Certification of Telecom Equipment (MTCTE)? If no, in what manner, Electromagnetic Interference (EMI), Electromagnetic Compatibility (EMC), safety, technical and security requirements prescribed by TEC/DoT may be ensured? Kindly provide a detailed response with justification.

Airtel's response:

1. **Yes, there is a strong need to bring RSUs under the MTCTE framework. However, OBUs should be kept outside its scope.**

2. Under the existing regulatory framework, MTCTE mandates that telecom equipment deployed within communication networks must undergo mandatory testing and certification to ensure compliance with prescribed technical, safety, security, EMC, EMI and interoperability requirements. The framework plays a critical role in ensuring integrity, reliability, and security of India's telecom infrastructure ecosystem.

3. Airtel submits that RSUs should not be **viewed merely as roadside or ancillary electronic equipment. RSUs constitute core communication infrastructure within the V2X ecosystem** as they facilitate wireless exchange of safety-critical and latency-sensitive information between vehicles, roadside infrastructure, cloud platforms, and telecom networks. Such communications may include collision warnings, emergency braking alerts, intersection movement assistance, traffic signal coordination, emergency vehicle prioritization, and various other ITS functions directly impacting public safety and network reliability.

4. We must understand that it is essential that such equipment complies with prescribed technical and security standards prior to deployment. **Uncertified or non-compliant equipment may lead to harmful electromagnetic interference, out-of-band emissions, degraded communication reliability, interoperability failures, message delivery errors, inaccurate positioning information, cybersecurity vulnerabilities, and adverse impact on safety-critical applications.** Accordingly, bringing RSUs under MTCTE would ensure that all deployed equipment adheres to nationally prescribed requirements relating to EMI/EMC compliance, RF performance, spectrum usage conditions, security standards, network integrity, and operational reliability.

5. Further, the proposed V2X ecosystem is expected to involve large-scale deployment of RSUs across highways, urban corridors, intersections, and smart mobility infrastructure involving multiple stakeholders including telecom operators, automotive OEMs, infrastructure providers, municipal authorities, and public agencies. In the absence of a harmonized certification framework, there exists significant risk of fragmented deployment, interoperability limitations, and inconsistent technical implementations across the ecosystem. Mandatory certification under MTCTE would therefore provide a uniform national compliance framework ensuring interoperability and seamless communication across devices and platforms deployed by different stakeholders.

6. Since V2X communication involves exchange of real-time vehicular and mobility-related information over wireless networks, it is important to ensure implementation of appropriate security standards, encryption mechanisms, trusted firmware controls, software integrity verification, secure communication protocols, and protection against unauthorized network access or malicious interference.

7. Airtel, therefore in this regard, bringing RSUs under MTCTE will help ensure **trusted, interoperable, and secure deployment of C-V2X systems at scale**, while avoiding fragmented or non-compliant implementations. It will also provide regulatory clarity to stakeholders and align India with global best practices in connected mobility and accordingly, RSUs should be explicitly notified under MTCTE for mandatory testing and certification prior to deployment.

8. On the other hand, bringing OBUs under MTCTE would add substantial regulatory and cost overhead without a commensurate gain in network integrity or public safety. **OBUs are essentially end-user terminal devices, comparable to smartphones or in-vehicle infotainment units** that incorporate communication modules, and will be produced and integrated at scale by global and domestic automotive OEMs.

9. Subjecting every OBU variant, model year and trim configuration to MTCTE would create a heavy certification bottleneck across thousands of SKUs, **slowing down vehicle launches, increasing costs for consumers, and undermining the objective of rapid, mass-scale adoption of V2X safety features.** It is operationally impractical and could even **discourage OEMs from enabling V2X in lower-cost segments**.

10. In any case, OBUs are designed for low-power, short-range operation and do not control the core network or spectrum management functions, which would remain under the responsibility of Access Service licensees operating certified RSUs and mobile networks.

11. Keeping OBUs outside MTCTE enables **fast diffusion of V2X capabilities across the vehicle fleet, leverages existing global certification pipelines for vehicular electronics, and keeps India's**

ecosystem aligned with global supply chains, while the MTCTE framework is reserved for RSUs whose behaviour and compliance are central to the stability of the national telecom network.

Therefore, in summary, Airtel recommends the following:

(i) **RSUs should be brought under the MTCTE regime prior to deployment within V2X networks.**

(ii) TEC should prescribe clear Essential Requirements ("ERs") covering RF performance, EMI, EMC, security, interoperability, positioning accuracy, safety, and operational reliability parameters for RSUs.

(iii) Strict adherence to prescribed radio frequency parameters, including transmit power limits, out-of-band emission limits, and EIRP requirements, should be ensured for all certified RSUs.

(iv) Mandatory interoperability requirements should be prescribed to ensure seamless communication and compatibility across equipment deployed by different telecom operators, infrastructure providers, automotive OEMs, and device vendors.

(v) Appropriate cybersecurity, encryption, secure firmware, trusted software update, and security credential management mechanisms should be mandated as part of the certification framework.

(vi) The certification framework should **remain technology-neutral while remaining aligned with globally accepted 3GPP C-V2X standards and future evolution toward advanced 5G-Advanced and NR-V2X ecosystems.**

(vii) Mandatory certification should be implemented prior to commercial deployment to ensure trusted, secure, reliable, and interoperable nationwide implementation of ITS and connected mobility infrastructure in India.

(viii) **OBUs should be kept outside the MTCTE framework.**

Q6. To ensure inter-operability among different RSUs/OBUs, whether there is a need to standardize the layered communication framework (stack) for higher layers (other than the access layer in which C-V2X will be used) of Intelligent Transportation System (ITS)? If yes, which standard for ITS stack and security should be adopted? Specifically, whether the ETSI standard for ITS stack and security, as recommended by the Task Force on Intelligent Transportation System for the use of 5.9 GHz (mentioned at para 3.5 of this consultation paper) should be adopted? If no, in what manner, inter-operability among different RSUs/OBUs can be ensured? Kindly provide a detailed response with justification.

Airtel's response:

1. **Yes,** there is a **clear need to standardize the layered communication framework**, particularly the higher layers of the ITS protocol stack, to ensure interoperability among RSUs and OBUs.

2. **While LTE-based C-V2X provides a common and standardized access layer, the overall performance of the system depends equally on how information is structured, transmitted** and interpreted at the

higher layers of the communication stack. Without such standardization, different devices may not be able to correctly exchange or understand safety messages, which may compromise safety.

3. Standardizing the higher-layer protocol stack ensures that messages such as **collision warnings, traffic alerts and signal phase information are uniformly defined** and interpreted across all devices, regardless of the manufacturer.

4. This is critical because V2X communication involves multiple stakeholders, including vehicles, infrastructure, and pedestrian devices, all operating in a shared environment. For example, a vehicle approaching an intersection may be unable to receive a **red-light violation warning from an RSU operating on an incompatible protocol stack, regardless of signal strength or coverage conditions.**

5. A standardized ITS stack helps ensure security, reliability and future scalability. It enables consistent implementation of security protocols, supports seamless upgrades **to advanced use cases and aligns India with global best practices, because without a common higher-layer framework**, deployments may become fragmented, leading to compatibility issues between different RSUs and OBUs.

6. While C-V2X standardizes the access layer, safe and reliable communication also requires common higher-layer message formats, application profiles and security procedures so that devices from different manufacturers can correctly interpret and trust each other's transmissions. Accordingly, India should adopt a **globally interoperable ITS stack based on internationally recognized V2X standards** and a certificate-based security framework for authentication, integrity, and trust management.

7. In addition to standardization, there is also a need for institutional and operational coordination to enable nationwide interoperability. Therefore, Airtel submits that there is a need to establish a **centralized authority for interstate operations of ITS/C-V2X, along with a centralized platform for implementing ITS services.** This will ensure **harmonization across states, avoid fragmented deployments, and enable consistent policies, security frameworks** and data exchange mechanisms across the country.

8. For the ITS protocol stack, it is **further recommended that India adopt a globally harmonized and widely accepted framework,** such as **the ETSI ITS stack, based on wider ecosystem consultation and consensus.** Adoption of ETSI standards ensures **compatibility with global deployments, supports interoperability across OEMs and infrastructure providers, and avoids the risk of developing fragmented or non-compatible national solutions.**

9. Accordingly, the corresponding ETSI standards may be adopted as National Standards through appropriate Indian standardization bodies such as TSDSI and TEC. This combined approach standardization of higher-layer protocols along with centralized governance and adoption of global standards will ensure a robust, interoperable, and scalable ITS/C-V2X ecosystem in India.

Therefore, in summary, Airtel recommends the following:

(i) **Adopt end-to-end standardization:** India should adopt LTE-based C-V2X at the access layer along with a standardized ITS protocol stack (higher layers) to ensure seamless interoperability, safety, and reliable communication across all devices.

(ii) **Align with global standards:** India should adopt the ETSI ITS stack as the national standard, through bodies like TEC/TSDSI, to avoid fragmentation and ensure compatibility with global V2X ecosystems.

(iii) **Enable centralized coordination:** A centralized authority and platform should be established to ensure uniform implementation, security, and interoperability of ITS/C-V2X services across states.

Q7. Whether there is a need for prescribing a security framework for ITS/C-V2X in India? If yes, –

(a) What should be the security framework for ITS/C- V2X?
(b) Which agency [such as Controller of Certifying Authorities (CCA), Ministry of Electronics & Information Technology (MeitY)] should implement the Public Key Infrastructure (PKI) framework for ITS/C-V2X in India?
(c) How to ensure coexistence of V2X PKI certificates with the legacy PKI mechanism in India i.e. based on X.509, operated by Root Certifying Authority of India (RCAI)?

Please provide a detailed response with justifications.

Airtel's response:

1. Airtel submits that **yes; there is a clear need for prescribing a security framework for ITS/C-V2X in India.** As C-V2X systems involve continuous real-time communication between vehicles, roadside infrastructure, and networks, they carry safety-critical information such as vehicle speed, location, braking signals, and traffic alerts. Any compromise of this data can directly impact road safety and public security.

2. A defined security framework is important to ensure authentication, data integrity, privacy, and protection against misuse. C-V2X systems rely on large-scale data exchange between multiple stakeholders, including telecom networks, automobile manufacturers, infrastructure providers, and application platforms.

3. Without a standardized security framework, there is a high risk **of unauthorized access, spoofing of messages, or manipulation of safety alerts**, which can create confusion among vehicles and lead to accidents or traffic disruptions. Global standards and certification programs already emphasize security, interoperability, and reliability of V2X communications as critical requirements for deployment.

4. In the absence of a strong security framework, C-V2X systems could become vulnerable to cyber threats. For example, malicious actors could send false collision warnings, fake traffic signals, or manipulated location data, misleading drivers and connected systems.

5. Such risks are often discussed in cybersecurity scenarios, where compromised devices can disrupt traffic flow or even create large-scale safety hazards. This highlights that C-V2X must be treated not just as a **telecom service, but as critical safety infrastructure requiring high levels of trust and protection.**

6. From a national perspective, implementing a robust security framework aligns with India's vision of Viksit Bharat, digital infrastructure development and smart mobility. As India moves towards connected transport systems and smart cities, it is essential to ensure that these systems are secure by design, reliable, and trusted by users. **A well-defined security framework will support safe adoption, protect users, and enable large-scale deployment of ITS services across the country.**

7. Accordingly, Airtel submits that **a comprehensive security framework covering authentication, encryption, data protection, and certification mechanisms is essential for ensuring safe, reliable, and scalable deployment of ITS/C-V2X in India.**

Therefore, in summary, Airtel recommends the following:

(i) India should adopt the **ETSI ITS protocol stack for higher layers, along with LTE-based C-V2X at the access layer**, to create a complete and standardized end-to-end V2X communication system. Standardization across all layers – Access, Networking & Transport, Facilities and Application is important to ensure interoperability, safety, and smooth ecosystem development.

(ii) The security architecture should incorporate interoperability guidelines to maintain certificate validity as vehicles transit between different states.

(iii) TEC/CCA can formalize this by issuing an **Interface Requirement Document ("IRD")** that includes mandatory ETSI ITS standards, India-specific application profiles, and testing requirements linked with MTCTE. This will help **avoid fragmentation, ensure compatibility across deployments, and align India with global best practices**, while strengthening its position in the ITS ecosystem.

Q8. What should be the regulatory framework for the assignment of frequency spectrum to the entities holding the proposed V2I communication service authorisation? Specifically, –

(a) Whether there is a need for partitioning the 30 MHz spectrum (5,875-5,905 MHz) for specific applications such as "safety applications" and "operational applications (non-safety applications)"?

(b) In case more than one authorized entity has to operate in the same geographical area, what should be the mechanism for simultaneous use of the spectrum? Specifically, whether the spectrum should be divided amongst the authorized entities in an exclusive manner, or should the authorised entities utilize the spectrum in a shared manner?

(c) If your response to part (b) is "in an exclusive manner", what should be the minimum quantity of spectrum to be assigned to each entity holding the proposed V2I communication service authorisation? If your response to part (b) is "in a shared manner", whether there is a need to prescribe a mechanism for interference management?

(d) For interference management, whether there is a need to prescribe –

(i) minimum directionality of road-side unit (RSU), or

(ii) protection distance between the RSUs, or

(iii) maximum antenna height for RSUs?

If yes, what should be such parameter(s)?

(e) Whether there is need to mandate a mechanism for obtaining prior approval (analogous to SACFA clearance) for the establishment of RSUs by the entities holding the proposed V2I communication service authorisation? If no, in what manner, the establishment of RSUs should be regulated?

(f) For avoiding (i) interference between RSUs, (ii) interference between RSUs and OBUs, and (iii) interference between OBUs, whether the radiated power limits for OBUs and RSUs and OOBE limits, recommended by the Task Force on Intelligent Transportation System for the use of 5.9 GHz (mentioned at para 3.4 of this consultation paper) should be adopted? If no, what should be the radiated power limits for OBUs and RSUs and OOBE limits?

(g) What should be the maximum period of assignment of spectrum to the entities holding the proposed V2I communication service authorisation?

(h) Whether there is a need to prescribe roll-out obligations associated with the assignment of spectrum to the entities holding the proposed V2I communication service authorisation?

(i) Whether there is a need to introduce a provision for the surrender of frequency spectrum?

Kindly provide a detailed response with justification.

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Q9. Whether there is a need for prescribing timelines for processing the applications for the assignment of spectrum to the entities holding the proposed V2I communication service authorisation? Kindly provide a detailed response with justification.

Airtel's response:

The entire 5875-5925 MHz band, without any partitioning into safety/non-safety applications, should be assigned to Access Service licensees through an exclusive licensing framework based on auctions, on similar terms and conditions as IMT spectrum. Auction-based, exclusive assignments will provide the

required **regulatory certainty and investment confidence** for large-scale deployment of RSUs and associated 4G/5G/edge infrastructure, while ensuring that a scarce mid-band spectrum resource is put to its **highest-value, most efficient use** in support of road safety and ITS.

Safety-of-life use cases demand deterministic performance:

ITS C-V2X underpins **safety-critical applications** such as collision warnings, intersection movement assistance, emergency vehicle pre-emption, queue warnings and cooperative lane merge. These use cases require predictable latency, high reliability and tight interference control across dense deployment environments (urban intersections, expressway corridors, logistics hubs). An exclusive licensing regime gives an operator both the **right and the obligation** to manage interference, optimise network design and guarantee quality of service ("QoS") across the band. This is much harder to achieve under uncoordinated, administrative or unlicensed models, where no single entity bears end-to-end responsibility for performance.

Efficient use of a scarce mid-band resource:

The 5.9 GHz range is globally recognised as **prime mid-band spectrum** that combines good propagation with large contiguous bandwidth, and is already heavily sought for both ITS and broadband uses in many markets. Assigning this band through auctions ensures that entities who most value and can most efficiently use the spectrum acquire it and are incentivised to **fully utilise and densify deployments** along highways and in cities, rather than warehousing it or deploying in a piecemeal manner.

Leveraging existing mobile networks and investment cycles:

V2X services are not a standalone radio island; they rely on tight integration with **existing mobile networks, edge compute and backhaul transport networks**. Assigning 5875-5925 MHz via auction to Access Service providers allows operators to design and deploy RSUs as a natural extension of their 5G/edge footprint: co-locating RSUs with macro and small cells, sharing backhaul, and using common security, management and monitoring platforms. This integrated deployment model is only meaningful if operators have **exclusive, predictable access** to the ITS band, aligned with their long-term spectrum and capex planning. Auctions, with similar terms and conditions of spectrum assignment as IMT spectrum, including 20 years' validity, surrender provisions etc., **align ITS spectrum with existing IMT investment cycles and financing models.**

Avoiding fragmented "islands" of coverage:

If ITS spectrum is assigned administratively to multiple road-owning or sectoral agencies, each corridor, city, or state may pursue its own RSU deployment plan, equipment vendor and operating model. That leads to **patchwork coverage, interoperability concerns and inconsistent QoS**, particularly on long-distance routes that traverse several jurisdictions. Auctioning the band to national or circle-level Access licensees, who are already obliged to provide wide-area coverage and continuity of mobile services, is the most practical way to secure **end-to-end, pan-India continuity of V2X connectivity** across highways, urban corridors and rural stretches.

Centralised responsibility for interference management:

Any radio network including C-V2X requires careful coordination of channel plans, transmit power, out-of-band emissions, antenna characteristics and RSU siting to avoid harmful interference, especially

where high-density RSU deployments coexist with other services in adjacent bands. Under an exclusive auctioned model, specific licensees can be made **explicitly responsible** for:

- complying with TEC/WPC technical conditions;
- coordinating RSU deployment along corridors; and
- resolving interference through network optimisation and controlled power and antenna management.

This is significantly more practical than regulating disparate administrative assignees with varying capabilities and incentives, some of whom may treat ITS radios as "ancillary equipment" rather than as part of a managed RF environment.

Supporting future evolution and high-bandwidth use cases:

Early "Day-0/Day-1" ITS applications are relatively modest in bandwidth needs; however, **future C-V2X and NR-V2X use cases** – such as HD map distribution, sensor data sharing, cooperative perception, platooning and remote driving support – will require sustained, high-throughput links and dynamic spectrum management. Exclusive, auctioned licences make it possible to plan such evolution, aggregate carriers if needed, and invest confidently in upgraded RSUs, edge resources and security infrastructure, knowing that the underlying spectrum rights are secure and long-term.

No partitioning for safety/non-safety applications:

Fragmentation of this limited spectrum into safety and non-safety applications would undermine **spectral efficiency, restrict technological flexibility and prevent support of future high-bandwidth, advanced V2X use cases.** Even the majority of international examples, studied by the Authority itself in the instant CP, suggest against any such fragmentation. Thus, the entire range of 5875-5925 MHz should be assigned, without any fragmentation, to Access Service licensees through auctions – on similar terms and conditions as IMT spectrum.

Therefore, in summary, Airtel recommends the following:

(i) India's V2X framework should be designed as an integrated, layered ecosystem with mobile networks playing a central role. V2N capabilities must be treated as a mandatory component

(ii) **The entire 5875-5925 MHz band, without any partitioning of spectrum into segregated safety & non-safety channels, should be assigned to Access Service licensees through exclusive licensing framework via auction – on similar terms and conditions as IMT spectrum.**

(iii) Exclusive spectrum licensing regime will ensure controlled & managed RSU deployments and facilitate interference management.

Q10. Whether there are any other suggestions related to assignment of spectrum to the entities holding the proposed V2I communication service authorisation? Please provide a detailed response with justification.

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Q11. Any other issues/suggestions relevant to the regulatory framework for V2X communication may be submitted with proper explanation and justification.

Airtel's response:

1. Airtel wishes to make certain submissions regarding additional considerations that may be taken into account while assigning spectrum to entities holding authorization for V2X communication services.

2. Spectrum is a scarce and valuable national resource and its assignment must be governed through a transparent, efficient, and well-defined regulatory framework. Given that V2X communication services will utilize dedicated spectrum resources for enabling safety-critical and ITS applications, it is important that such spectrum assignment is undertaken in a manner that ensures efficient utilization, regulatory oversight, interference protection, investment certainty, and long-term sustainability of the ecosystem.

3. In this regard, assignment of the 5875-5925 MHz band through an exclusive licensed framework via auction would be the most appropriate approach, particularly considering India's established market-based spectrum assignment regime and the increasing convergence of V2X services with licensed mobile network infrastructure. Assignment through a licensed framework would ensure coordinated deployment, facilitate efficient spectrum management, and provide the regulatory certainty necessary for long-term investments in roadside infrastructure, edge computing systems and ITS.

4. Airtel further submits that V2X communication should not be viewed merely as a standalone short-range communication service. Rather, it should be recognized as an integrated and layered communications ecosystem comprising V2N, V2I, V2V and V2P functionalities operating in a complementary and interoperable manner.

5. The complete benefits and transformative potential of C-V2X technology cannot be realized through fragmented, piecemeal, or isolated deployment approaches. Instead, an integrated and interoperable deployment framework leveraging both direct communication interfaces (PC5) and licensed mobile network connectivity through the Uu interface is necessary for enabling seamless nationwide deployment of ITS.

6. Mobile networks constitute an integral component of the ITS framework in India. The V2X ecosystem is inherently dependent upon telecom network infrastructure for enabling cloud connectivity, real-time traffic intelligence, OTA software updates, HD map synchronization, remote diagnostics, edge computing, lawful interception, cybersecurity management, QoS assurance and future autonomous mobility applications. Accordingly, V2N capability should be treated as a mandatory and essential component of any future V2X framework in India.

7. Any regulatory framework that excludes or under-emphasizes the role of licensed telecom networks may lead to fragmented and sub-optimal implementation of ITS. Artificial segregation of V2X functionalities into isolated authorization or spectrum categories may adversely impact interoperability, spectral efficiency, investment incentives, economies of scale and long-term technological evolution of the ecosystem.

8. In the Indian context, leveraging existing licensed mobile network infrastructure provides the most efficient and scalable pathway for rapid deployment of connected mobility services across highways, urban corridors, logistics routes, and smart city ecosystems. A harmonized licensed framework would facilitate coordinated participation by telecom service providers, automotive OEMs, infrastructure providers, cloud service providers and public authorities, while aligning with India's broader objectives relating to Digital India, smart mobility, road safety modernization, indigenous innovation and next-generation digital infrastructure development.

9. In view of the above, Airtel submits that the proposed regulatory framework for V2X communication, including the terms & conditions of spectrum assignment, should adopt a unified, interoperable, technology-consistent, and telecom-integrated approach that supports long-term ecosystem sustainability, efficient spectrum utilization, and future evolution toward advanced connected and autonomous mobility ecosystems.

10. It is further submitted that once the value of spectrum has been discovered through a transparent market-based auction mechanism, no additional SUC, whether AGR-based or otherwise, should be imposed on V2X services deployed over existing IMT spectrum bands. Imposition of any additional SUC would effectively amount to double charging for the same spectrum resource and would be inconsistent with established principles of spectrum valuation and regulatory certainty.

Therefore, in summary, Airtel recommends the following:

(i) Spectrum is a scarce and valuable national resource, and its assignment must be governed through an appropriate and well-defined regulatory framework.

(ii) Spectrum assignment for V2X communication services should be governed through a transparent, well-defined, and market-based regulatory framework. The entire 5875-5925 MHz band should be assigned through an exclusive licensed framework via auction.

(iii) Fragmented or piecemeal authorization and spectrum assignment approaches for V2X services may not be encouraged. Larger contiguous spectrum blocks should be maintained to ensure spectral efficiency, interoperability, scalability and support for advanced low-latency V2X applications.

Q12. In view of the public welfare-oriented nature of V2X applications and the need to encourage the deployment of such infrastructure and services, should there be spectrum charges levied on spectrum assigned to the V2I communication service authorized entities under the proposed V2I communication service authorisation? Please provide detailed justification in support of your response.

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Q13. If answer to Q12 is affirmative, whether the spectrum charges for the V2I communication service authorized entities under the proposed V2I communication service authorisation should be determined based on the spectrum charging methodology prescribed by the Department of Telecommunications (DoT) vide its order dated 11.12.2023? If yes, then which of the radiocommunication services specified in the said order, should be taken as basis for calculation of spectrum Charges? Please provide detailed justification in support of your response.

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Q14. If answer to Q12 is affirmative, whether the spectrum charges for the V2I communication service authorized entities under the proposed V2I communication service authorisation should be levied as a percentage of Adjusted Gross Revenue (AGR)? If yes, are there any specific operational/ non-operational revenue items that should be included in/excluded from AGR for the purpose of determination of spectrum charges? Please provide your response with detailed justification.

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Q15. If response to questions 13 and 14 is negative, then what should be the appropriate methodology for determination of spectrum charges for the V2I communication service authorized entities under the proposed V2I communication service authorisation? Please provide detailed justification in support of your response.

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Q16. For spectrum assigned to the V2I communication service authorized entities under the proposed V2I communication service authorisation, what should be the appropriate payment terms for spectrum charges, if any? Please provide your response with detailed justification.

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Q17. What are the potential sources of revenue, if any, for an V2I communication service authorized entity under the proposed V2I communication service authorisation? Please provide your response with detailed justification

Airtel's response:

1. **No additional SUC should be imposed** on V2X services over and above the auction-determined prices paid for obtaining the right to use spectrum.

2. Once the spectrum value has already been discovered through a transparent auction process, there may be no justification for levy of additional SUC. The Cabinet has itself done away with SUC on auctioned spectrum, vide the 2021 Reforms.

3. Thus, in line with the established practice, the existing IMT spectrum used for V2X services, as well as ITS spectrum in 5.9 GHz, should not be subject to any additional SUC beyond the auction-determined prices.

4. Introducing SUC on V2X services over auctioned IMT/ITS bands would **increase the cost of deployment and operations**, including investments in network upgrades, roadside integration and interoperability. This would disincentivize operators from leveraging existing spectrum resources efficiently and could delay the rollout of safety-critical applications. It would **undermine the objective of promoting widespread adoption** and disrupt the technology-neutral and service-agnostic nature of auctioned spectrum usage, which has historically enabled innovation and efficient spectrum utilization.

Therefore, in summary, Airtel recommends that no additional SUC (AGR-based or otherwise) should be levied on V2X services deployed over IMT/ITS spectrum, over and above the auction-determined rates.

Q18. What should be the definitions of Gross Revenue (GR), Applicable Gross Revenue (ApGR), and Adjusted Gross Revenue (AGR) for V2I communication service authorized entity under the proposed V2I communication service authorisation? Further, what should be the relevant items of revenue, exclusions and deductions and consequent definitions of GR, AGR and ApGR? Please provide your response with detailed justification.

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Q19. What revenue components should be included in, or excluded from, the computation of Gross Revenue (GR), Applicable Gross Revenue (ApGR) and Adjusted Gross Revenue (AGR) for the purpose of determining authorisation fees or spectrum charges for the proposed V2I communication service authorisation? Please provide your response with detailed justification.

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Q20. Whether revenue derived from safety-related V2X services under the proposed V2I communication service authorisation should be excluded from the computation of AGR, in view of their public interest and non-commercial nature? Please provide your response with detailed justification.

Airtel's response:

1. We wish to make certain submissions in respect of the definitions of GR, AGR and ApGR which may be relevant for V2X communication service

2. **Cabinet Reforms of September 2021:** In September 2021, the Cabinet brought out structural reforms in the telecom licensing regime. Along with various measures to support the telecom industry, the definition of AGR was also reformed, by excluding certain non-telecom revenue items from the ambit of revenue for purposes of levying the License Fee ("LF") and SUC. Accordingly, the license conditions were amended by DoT in October 2021 – the method of calculation of AGR was modified and the

concept of ApGR was brought in. Later, i.e., in July 2023, in order to address various issues raised by the industry, DoT issued a clarification regarding the revised definition of AGR.

3. As per the clarification, AGR would now include revenues from all non-licensed telecom activities as well as non-telecom activities if bundled with licensed services or provided by a licensed entity to any other non-licensed/licensed entity as ancillary to a telecom service.

4. Challenges that continue post the September 2021 reforms: These changes posed the following key challenges for the industry and require urgent attention from the Authority:

a. **Definition of GR:** Since the definition of GR has not been changed and continues to be the same as it was prior to the Cabinet Reforms, many activities which do not require a license under the current section 3 of the Telecom Act (earlier section 4 of the Telegraph Act) continue to form part of the revenue. Additionally, the anomaly within the definition of GR has also not been addressed – for instance, items that are not revenue in nature, such as forex, set-off of related items of expense, etc. continue to be part of GR.

b. **Exclusion of Non-Telecom vs. Non-Licensed Activities:** A concept of ApGR was introduced, wherein the items for exclusion from GR have been listed. However, this did not exclude all non-licensed telecom activities, like sale of user terminals or handsets, standalone OTT subscriptions (other than telecom packs), management support charges or supplementary services, etc. The impact of this is that all such non-licensed and non-telecom activities continued to be part of AGR and thus under the LF/SUC ambit.

c. **Limited Scope of Deductions:** The deductions allowed from ApGR for the purposes of AGR remained restricted to IUC, Roaming Revenue and GST (if included in revenue). This is despite the fact that IUC has effectively been removed by the Authority and there has been no concept of Domestic Roaming now in the last 7-8 years. Thus, practically, the scope of deduction has been curtailed.

d. Since these reforms were based on the Authority's recommendations of 2015 (issued 6-7 years before the reforms), they completely overlooked the technological advancements in the industry and the changes in consumer preferences that had taken place in the meantime. They also overlooked the future technological changes and possibility of emergence of new business opportunities in the larger telecom sector.

5. The cost of regulatory levy being 8-12% on GR, without necessary setoffs for expenses, is a substantial cost, which has the potential to nullify any value creation by an operator. Therefore, the current definitions of GR/ApGR/AGR need to be reconsidered.

6. **Proposal:** Airtel believes that it is crucial to re-evaluate the definitions of GR, ApGR and AGR. The authorities must reconsider these definitions with respect to the following aspects to enable not just the C-V2X ecosystem but also the larger telecom industry to transform and compete and be ready to thrive in the future:

a) Align the definitions of GR, ApGR and AGR with the objectives of the Telecom Reforms of September 2021 as granted by the Union Cabinet and allow co-existence of licensed as well as non-licensed telecom/non-telecom services/products.

b) Increase the scope of deduction to make it effective and remove the cascading effect of regulatory levy. This can be done by allowing the deduction for charges paid by one operator to another operator for licensed telecom services.

7. In view of the above, Airtel urges the Authority to recommend a definition of revenue restricting it to the licensed telecom activities as envisaged under Section 3 of the Telecom Act.

8. **Co-existence of Non-Telecom/Non-Licensed with Licensed Activity and Revenue:** Simultaneously, Airtel also advocates for the coexistence of other products and services that do not require a license or authorisation with telecom services. DoT may also wish to protect its share of legitimate revenue for the value arising from the services granted under the License/Authorisation in such scenarios of coexistence of other products and services. This can be ensured by introducing the concept of fair valuation of each product and/or services bundled.

The Authority may recommend fair valuation of price for telecom services in cases of co-existing telecom + non-telecom products/services, thereby protecting the Government's revenue while allowing the operators a chance to re-position themselves in the market and compete effectively. To summarize, with respect to the definition of GR, ApGR and AGR,

Therefore, in summary, Airtel recommends the following:

(i) The scope of revenue should be limited to revenue from licensed activities only. The activities that do not require authorisation under the Act should be excluded from the ambit of LF/SUC.

(ii) The scope of deduction should be increased to make it effective and should include charges paid by an operator to another operator to avoid the cascading effect of LF/SUC.

(iii) Co-existence of licensed telecom services with non-licensed services/products should not attract levy on composite products/services. DoT can protect its legitimate revenue by adopting a fair valuation approach.

Q21. What should be the appropriate entry fee for V2I communication service authorized entities under the proposed V2I communication service authorisation? Please provide detailed justification in support of your response.

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Q22. Any What should be the appropriate terms and conditions for bank Guarantees for the proposed V2I communication service authorisation? Please provide detailed justification in support of your response.

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Q23. What should be the applicable minimum equity and minimum net worth requirements for authorized entities under the proposed V2I communication service authorisation? Please provide detailed justification in support of your response.

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Q24. What should be the applicable application processing fee for the proposed V2I communication service authorisation? Please provide detailed justification in support of your response.

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Q25. What should be the applicable rate of authorisation fee for proposed V2I communication service authorisation? Please provide detailed justification in support of your response

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Q26. Apart from the financial provisions discussed earlier, are there any other financial terms and conditions that should be made applicable for the proposed V2I communication service authorisation? Please provide detailed justification in support of your response.

Airtel's response:

Please refer to our response to Q1 above. **There is no need for a dedicated license for V2I communication service, and the scope of the Access Service license/authorisation should be expanded to include all V2X communication services, including V2I, V2N, V2V, V2P.**

Accordingly, there may be no requirement to separately prescribe any financial conditions, including entry fee, bank guarantee, minimum equity and net worth requirements, application processing fee and authorisation fee, for V2I/V2X communication services. **The applicable conditions under the extant Access Service license are adequate to ensure that only serious players participate and to prevent night flight operators or non-operational entities from entering the ecosystem.**

Notwithstanding, we wish to re-iterate our long-standing asks concerning the overall telecom industry:

a. The requirement for a BG (both PBG and FBG) should be done away with – which would lead to freeing up of precious capital/funds to be deployed into networks and services.

b. The USOF/DBN levy should be delinked from the license fee.

c. 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.

d. 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 (INR 1,06,552.50 Cr. as on 31.03.2026) gets fully utilised. Or, the rate should be immediately brought down from 5% to 3%.

In summary, Airtel recommends the following:

(i) There is no need to separately prescribe any financial conditions, including entry fee, bank guarantee, minimum equity and net worth requirements, application processing fee and authorisation fee, for V2I/V2X communication services.

(ii) The applicable conditions under the extant Access Service license are adequate.