



RJIL/TRAI/2022-23/059

May 11, 2022

To,
Shri Sanjeev Kumar Sharma
Advisor (BB&PA)
Telecom Regulatory Authority of India
Mahanagar Doorsanchar Bhawan
Jawaharlal Nehru Marg, New Delhi 110002

Subject: Comments on Consultation Paper on “Use of street furniture for small cell and aerial fiber deployment” dated 23rd March 2022.

Dear Sir,

Please find attached comments of Reliance Jio Infocomm Ltd. on the consultation paper dated 23.03.2022 on “Use of street furniture for small cell and aerial fiber deployment”.

Thanking you,

For **Reliance Jio Infocomm Ltd.**

Kapoor Singh Guliani
Authorized Signatory

Enclosure: as above

**Reliance Jio Infocomm Limited's comments on TRAI's consultation paper on
"Use of Street Furniture for Small Cell and Aerial Fiber deployment"
(Consultation Paper dated 23rd March 2022)**

Preface

1. We thank the Authority for issuing this topical consultation paper (CP) to seek views of the stakeholders on various vital aspects related to use of street furniture for Small Cell and Aerial Fiber deployment.
2. As noted by the Authority, the small cells are going to play **massive role in delivery of 5G to most localities and most importantly to dense urban localities**. Due to the high frequency spectrum lowering coverage span and high data capacity requirements, the **availability of easy to install, low-cost and high performing technology solutions in the form of small cells in near vicinity of consumer will decide on how the consumers are able to leverage 5G technologies in societal and economic aspects of their life**.
3. Evidently, only densification of networks will deliver the desired level of 5G service with all its promises. Needless to add that **densification of the 5G networks would depend primarily on availability of street furniture for deployment of small cells and Aerial Fiber**. Consequently, a lot of work has been done on making available the street furniture for delivery of 5G solutions, as has been well tabulated by the Authority in the CP.
4. We have already highlighted majority of concerns pertaining to making available street furniture for 5G in our response to the TRAI's supplementary consultation paper dated 19th May 2021 on "**Roadmap to Promote Broadband Connectivity and Enhanced Broadband Speed**". **For the sake of brevity, we are not repeating the submissions here and request your good office to treat said submissions as part and parcel of our comments to the CP**.
5. We submit that majority of Industry concerns are also reflected in TEC Committee Report on "**ROLL OUT OF SMALL CELLS FOR 5G NETWORK BY LEVERAGING STREET FURNITURE-to Facilitate a Standard Approach for the Proliferation of Dense Small Cell Infrastructure**" dated 28th March 2022.
6. We are extracting a few salient highlights of the recommendations of this report for your kind consideration as herein below.
 - I. **Timebound one Time Bulk Approvals:** Municipal Corporations, PWD, Central agencies [DISCOMs, Ministry of Defense (Cantonment Board), MoCA (Airport Authority of India - Airports), Metro Authority (Metro Stations/Pillars), MoHUA, CPWD, Department of

- Post] **need to provide approvals/ permissions in reasonable time period with respect to deployment of small cells.**
- II. **Online Portals for Approval:** There is a need for a bulk/one-time approval for the small cells by the agencies. All infrastructure owning agencies shall be required to have their web portal for processing online applications for small cell deployment cases and their disposal.
 - III. **Uniform ROW Rules:** There should be a uniform implementation of RoW rules across states, union territories and municipal bodies.
 - IV. **Amendment in ROW Rules:** The Indian Telegraph Right of Way Rules 2016, should be amended to incorporate provisions for small cells on Street Furniture on the following issues:
 - a. **Applications must be acted on no later than 60 days for requests to collocate equipment and 90 days for other requests.**
 - b. **Fees must be publicly disclosed, competitively neutral, technology neutral, nondiscriminatory and based on actual and direct costs** (including, for example, costs for maintenance and inspections).
 - c. Permits must be approved or denied on publicly available criteria that are reasonable, objective, and non-discriminatory.
 - d. Small cell applications may be **denied or regulated for objective and reasonable structural engineering standards, safety requirements or aesthetic or concealment requirements.**
 - e. The permission process has to be one time. ROW for Aerial Fiber laying/ installation of small cells should be done on a one-time basis by the concerned authorities across the complete city.
 - f. **RoW rules should allow Aerial Fiber on TSP owned poles and Energy Board (EB) poles.**
 - g. RoW rules should do away with the collection of all charges/ minimize charges levied per KM.
 - h. To speed up the approval process, for site locations, where electricity authorities, metro rail corporations or other government organizations are permitting installations of small cells & **telecom infrastructure, further permission from Municipal Corporation and local bodies need not be mandated.**

V. **Power Supply related:**

- a. **There is a need to look into a common power consumption bill for a large number of small cell sites which are going to be installed on street furniture. A lot of effort will be wasted if a bill is issued on a pole by pole basis.**
- b. There is a need to bring all State EBs on common platform for uniformity in process.
- c. Load calculation cannot be done for every pole on which a small cell is to be deployed. It is suggested that power department needs to make a one-time calculation for each type of pole and come up with a model depending upon the pole size/dimension and give approval.
- d. **Power supply must be made available continuously for the small cells. There should be arrangements for providing backup supply provision at the street furniture sites.**
- e. There shall be Grid availability for electrical power supply by electricity boards for small cells.
- f. DISCOMs should permit TSPs use of existing/upcoming EB Poles/Electricity Poles or install their own poles to carry out Aerial Fibre cabling.

VI. **Infrastructure sharing** should be encouraged on an open access basis to all mobile network operators who are active in that location. **This is similar to the Small-Cell as a-Service (SaaS) cited by TRAI.**

VII. **Security Aspect:** Causing damage to telecom property may be considered to be included under cognizable offense.

VIII. **Access and Backhaul:** The committee recognized the importance of the Access and Backhaul requirements for deployment of small cells for 5G services. And the committee noted the options that can be used for small cells i.e. Fiber and E & V band (fiber in the air). **Early allocation of E & V bands to TSPs for access and backhaul purposes to augment capacities and improve site planning is recommended.**

IX. **Design of new street infrastructure:** For some of the Smart cities (Vizag, Bhopal), NDMC have been deploying well designed street furniture where-in small cells installation has been facilitated/is in-built. It is recommended that all smart cities

- where it is planned to install new/replace old street infrastructure should ab-initio have these designs to have plug and play capability to install small cell radios and power supply.
- X. **Operations and Maintenance:** There should be a Standard Operating Procedure for Installation as well as carrying out Maintenance of the small cell equipment installed on the street furniture without causing disturbance to the other utilities already present.
- XI. **Other Requirements:** The committee has also recommended on other important related aspects like **Aesthetics, Internal installs and camouflaging, external shrouding, hidden hardware attachments, labelling of all cables and that antenna must be mounted directly on top of the pole, unless a side arm installation is required by a pole owner.**
7. We submit that overwhelming evidence indicates a need towards a single solution to address country's ROW woes and that is - legally enforceable and uniform ROW Rules. Considering the importance of small cells and aerial fiber to 5G deployment, the ROW Rules 2016 should have dedicated sections for use of street furniture for small cells and aerial fiber.
8. With regards to small cells on street furniture, it is pertinent to note that **while the changes to bring uniformity regarding timelines, rules and ROW fees across the states would be required, it will also require amendments in local laws, and active involvement of local bodies in street furniture upgradation as well as co-opting the street furniture owned by third parties.**
9. We submit that considering the size and capacities of street furniture, **we need to go beyond the common perceptions on sharing of infrastructure.** While on paper, sharing at all levels seems a feasible idea, **there are practical difficulties in using same street furniture for multiple players. For instance, using a street light pole for many operators caused by height of small cell, power availability and EMF compliance.** Therefore, while the controlling authorities for street furniture should be mandated to share street furniture with TSPs/IPs, there should be no mandatory obligations on TSPs/IPs to share the street furniture and in place of mandate, incentive model should be deployed. **Further, provisions should be made so that allotment of street furniture should not lead to monopolization and stifling of competition.**
10. Other important aspects with regards to using street furniture for 5G infrastructure would be **availability of reliable and reasonably priced power, simplified approval process and exemption from EMF requirements owing to very low power output devices.** Another

related issue is that currently there is no clear estimate on how many small cells will be required for exhaustive coverage and whether there will be enough space on existing street furniture to accommodate the same. **Therefore, we also see a requirement of including provisions on making available the space to TSPs/IPs for installing their own poles at nominal charges under ROW Rules.**

11. Conclusions

1. **The role of street furniture in delivering 5G services across the country should be recognized and suitable provisions should be made in ROW Rules.**
2. **The ROW Rules should be made legally enforceable and uniform.**
3. **The state and local laws should be suitably amended to facilitate installation of small cells and aerial fiber.**
4. **The application process for use of street furniture for small cells and aerial fiber should be completely online with associated provisions for power, space and access.**
5. **There is a need for mandating sharing of all street furniture by local bodies.**
6. **The TSPs/IPs should be permitted to upgrade the street furniture and install own poles to facilitate deployment of 5G infrastructure.**
7. **Electricity Boards should be aligned to deliver always-on power supply to 5G infrastructure on street furniture at industrial or lower tariffs.**
8. **Suitable amendments and exemptions should be provided for EMF and application related compliances.**

Pointwise response to the Issues for Consultation (in Chapter 5):

Q.1: Is there a requirement for any modification in existing RoW Rules as notified by DoT to accommodate small cell deployment on street furniture? If yes, please provide the changes required.

RJIL Response:

1. We submit that in current form the **ROW Rules 2016 and the subsequent amendment in 2021 do not directly address the use of street furniture of telecommunication services.** Therefore, **the ROW rules need to be modified to accommodate small cell deployment.** In the current form ROW Rules 2016 address only towers in the context of GBTs/ RTTs supporting a full BTS(s), thus it is imperative to include provisions to install small cells on street furniture.
2. It is also worthwhile to mention here that the issues faced with permissions for towers will be faced by small cells on street furniture as well, as these properties are also owned by local bodies. **Therefore, we request the Authority to recommend inclusion of a dedicated section on use of street furniture for small cells and aerial fiber with enforceable provisions.**
3. At the very outset, Rules should allow for installation of small cells, **and it should be mandatory to make available ROW for small cells on reasonable terms.** We submit that all possible and usable street furniture, as identified by TSPs and also noted in the CP should be made available by **Appropriate Authority for installing small cells, with a defined uniform norms, terms, and rate schedule.**
4. The Indian Telegraph Right of Way Rules, 2016 (as amended in 2021) (“**RoW Rules, 2016**”) provide for a permissions regime for application by a licensee for establishing underground and overground telegraph infrastructure. For the purposes of small cells, a **permit-exempt regime, such as the one established by the European Union, would greatly simplify the process of installation of small cell infrastructure and benefit the deployment of 5G infrastructure in the country.**
5. However, the core of the issues faced by licensees towards deployment and maintenance of essential telecom infrastructure is the (often unreasonable) additional requirements / permissions prescribed by the local authorities. Unless, the RoW Rules (with suitable amendments as proposed) are made uniformly applicable across the country, any well-intended changes to the RoW Rules would not ensure the benefit of the licensees, and therefore, the customers. In this regard, **in terms of the legislative powers conferred upon it Entry 31 of List I of the 7th Schedule to the Constitution of India, the Union must mandate**

strict compliance of the RoW Rules by the local authorities, thereby preventing local authorities from creating impediments in the deployment / maintenance of telegraph infrastructure. Unless such a mandate is prescribed, the licensees will be disabled from effectively deploying essential telegraph infrastructure across the country and providing the desired services to the customers.

6. A few small cells specific suggestions are listed below.

- a. The charging schedule should be fixed on required Area wise and Furniture Category wise. **The Authority can also consider recommending slabs based on number of small cells deployed on street furniture.**
 - b. The Appropriate Authority should be required to allow Aerial Fibre Connectivity and any face lifting or modification work needed for the furniture to suite the Telecon Infrastructure requirement.
 - c. For Small Cell deployment on street furniture, **fiber is key infrastructure requirement to ensure high throughput to the users along with seamless connectivity, hence the additional permissions required for extending fiber at these locations should be included in the permission to use street furniture.**
 - d. In the interest of Ease of Doing Business, **single window clearance for street furniture usage should be made available for all aspects of the approval including permissions for fiber, power, access at one platform** so that a comprehensive approval can be facilitated to deploy telecom infrastructure delivering good data connectivity to the users in a very short period.
 - e. The Rules should provide for **adequate protection and grievance redressal mechanism for issue relating to deliberate damage to telecom infrastructure.**
 - f. The electricity should be made available for **small cells as per industrial tariffs or special tariff which may be lower than industrial tariff.**
 - g. TSPs should be permitted to use captive power for small cells and the minimum load requirement / contract demand of 1 MW should not be applicable to power on small cells. **Green Energy for small cells should be encouraged and enabled through open access.**
7. We further submit that street furniture includes electricity poles, billboards, smart poles, traffic lights etc. and all of this, barring electricity poles, is not always owned, or managed by the Appropriate authorities under the RoW Rules. Thus, it is important to also

deliberate on the availability of such street furniture for small cells. **We submit that in case the street furniture is not owned by Appropriate Authorities, compliance with RoW Rules and mandatory access to Small cells should be a precondition while issuing permissions to erect such street furniture.**

Q.2: Have the amendments issued in 2021 to RoW rules 2016 been able to take care of the needs of aerial fiber deployment? If not, what further amendments can be suggested? Please provide exact text with justification.

RJIL Response:

1. We submit that the 2021 amendment to RoW Rules 2016 have the right intent of facilitating the installation of telecom infrastructure, including aerial cables, **however the lack of enforceability provisions have impacted the effectiveness of the Rules, as all the states are yet to incorporate the same in their policies.**
2. Further, even prior to the amendment, the RoW Rules were not being followed by many local bodies/ appropriate authorities in letter and spirit. Therefore, without effective implementation, the amendment cannot take care of the needs of aerial fiber deployment.
3. Furthermore, the Local bodies **that collected amount in excess of the fees / charges prescribed under RoW Rules should be mandated to refund the same or permit the TSP to adjust such amounts, against any amounts payable to such appropriate authorities towards any future payments / outflows / charges.**
4. Additionally, as currently over a hundred smart cities are coming up in the country, **there is a need to address the aerial cable provisions under the rules of Smart city as well alongwith a uniform tariff and Infrastructure sharing guidelines.** The smart city bye-laws mandate that all utility services should necessarily convert to underground, **therefore provision for aerial connectivity to street furniture from nearest possible tap off needs to be permitted and incorporated in these bye-laws.** Further such tap offs should not create any additional financial implication for TSPs / IPs. All Street Furniture rental should be made onetime till license period. Being an essential service, no recurring fee of any kind should be charged by Appropriate Authority.
5. Appropriate Authorities should be restricted from charging any additional fee other than the DoT Rule schedule. For any dispute or non-compliance, TSP / IPs should have legal recourse in the form of State Telecom Dispute Redressal Committee and to State High Court and there should be a restriction on setting up any Quasi-Judicial Committees to address such disputes.

6. All States / UTs should accept the amendment of essential service act 2019. The State Police should treat any breach of security of telecom infrastructure as a cognized offense and FIR should be registered on such cases. DoT Rules should ensure security of Network and Telecom Infrastructure as well.
7. Local State Government Departments (LSGD) Authority should take the responsibility to create awareness program on RF radiation and other emission criteria related to telecom infrastructure within their jurisdiction. It should be made compulsory through Digital and visual media.
8. If a State / UT has issued a blanket order for usage of street furniture and TSPs / IPs have paid the fee as per schedule, in such cases Local bodies should not be entitled for separate fee/ permission.
9. The TSP / IP shall have the choice of restoration /reinstatement works for installation of telecom infrastructure. Appropriate Authority should not be entitled to make any additional charge other than schedule rate given in DoT Rules, such as supervision charge, additional cess etc. Authority should not charge any fee on restoration, if the restoration is the responsibility of TSPs / IPs. Otherwise, Appropriate Authority should charge for restoration based on the schedule rate fixed by Competent Authority for that financial year and shall be liable for restoration on their own.
10. For small cell deployment on street furniture, fiber is a key infrastructure requirement to support the 5G small cells along with the distribution power. However, in the absence of underground fiber laying permissions, there are provisions for providing backhaul fiber through aerial methodology and this shall also be extended to ensure the availability of power at each telecom equipment deployed for Installation of Small Cells. Hence, the design of street furniture shall be in compliance to take the load of aerial fiber and power cables deployment.

Q.3: What are the suggestions of stakeholders for aligning RoW policies issued by various other Central Government Bodies with existing DoT RoW policy?

RJIL Response:

1. As submitted earlier vide our response to Consultation Paper on 'Roadmap to Promote Broadband Connectivity and Enhanced Broadband Speed', the **ROW Rules require the force of legislation and provisions for enforceability to improve the compliance by various states and local bodies.**

2. We submit that even in case of street furniture, there needs to be a mandate for the central bodies and states to align ROW policies to existing DOT ROW policy. **For any policy on street furniture to be successfully implemented, it is imperative that the State Government bodies are aligned as large amount of street furniture / infrastructure is owned by them.**
3. Further, as far as other central government departments are concerned, it is pertinent to mention that DoT ROW Rules are not in consonance with Forest Conservation Act, Defense Rules, MoD Guidelines, Railway Act & Guidelines, NHAI & MoRTH, Cantonment Act & Guidelines and PNGRB Act leading to non-implementation of ROW Rules by these departments. In order to settle these issues and **ensure an early implementation, an Inter-Ministerial coordination at Central Govt is required to streamline the different processes and procedures followed by different Departments and ensure implementation of ROW Rules.** We have already submitted our suggestions to make the ROW Rules more effective in our response to Consultation Paper on 'Roadmap to Promote Broadband Connectivity and Enhanced Broadband Speed' and the same should be considered as part and parcel of this response. Further with respect of use of street furniture for small cells and aerial cable, we submit following suggestions for consideration.
 - a. All Central Govt ministries may notify on adoption of ROW Rules, as amended from time to time in toto, without any deviations.
 - b. ROW permissions should include Power cable laying permission as well.
 - c. Central Government guidelines on use of street furniture for small cells and aerial cabling should be implemented in letter and spirit by State and local municipal bodies.
 - d. The application process should be online and all the applications and permissions to be published online vide application numbers for more transparency.
 - e. For clarifications/disputes a central body should be appointed for faster resolution of queries in a time bound manner.

Q.4: Whether it should be mandated that certain public infrastructure (municipality buildings, post offices, bus, and railway stations, etc.) be earmarked to have dedicated spaces that allow service providers to deploy macro/small cells? If yes, what are the possibilities and under what legal framework this can be done? What should be the terms and conditions of use of such infrastructure? Please provide detailed inputs with justifications.

RJIL Response:

1. Yes, it should be mandated. While land and buildings are State subject, the macro / small cells to be deployed are matters falling under the ambit of telecommunications, which is under Union list. This leads to a dichotomy wherein the rules regarding deployment of telecom infrastructure are notified under the Indian Telegraph Act, 1885. However, these need to be adopted by the local bodies and appropriate authorities (viz railways, airports) for implementation. **Therefore, a legal mandate is only solution to avoid non-uniform and much delayed implementation.**
2. In addition to this mandate, the National Building Code should also be amended to facilitate installation of telecom infrastructure. Although the current NBC mentions about DAS/ IBS and wireless system, a provision shall be made in the Building Rules / bye-laws to ensure compliance of the same as a condition precedent for grant of Building Completion certificate.
3. The issues viz number of TSPs / service providers to be accommodated and provisioning of the same should be ensured on a nondiscriminatory basis. Any and all appropriate amendments required in local laws should also be carried out to facilitate the objective. **It is worthwhile to mention that in many cases, only intent will facilitate the implementation without any legal hurdles. For instance, Railway stations are already deploying Wi-Fi hotspots and the infrastructure should be shared for setting up macro/small cells.**
4. Furthermore, as mentioned in previous submissions, the common legal framework is the only solution to enable the optimum utilization of public property. Currently, all public infrastructures available is governed by multiple bodies such as Street light poles, corporation buildings, bus stops, hoardings, flyover, skywalk, signal poles owned by local corporation bodies under various departments who have their own set of framework/guidelines to cater to the request from the TSPs. However, in the absence of a common framework the approval process is either delayed or denied. e.g.: Railways has 19 zones and 70 divisions with most of the infra under the flagship of RailTel which is a separate entity controlling all the permissions/agreements and network related activities.
5. We submit that in order to facilitate the use of public infrastructure such as Govt Municipal Buildings etc., simplified and predictive policies should be implemented. Long Lease option or multiple years bundling lease with bare minimum recurring charges for space usage on same should be preferred. However for the modification work expenses limited to facilitate the telecom installations on such infrastructure, such costs including strengthening expenses shall be borne by the TSP / IPs.

6. Lease charge should be negotiable keeping the yearly ready reckoner value and / or bundling for multiple years by considering yearly recurring of fix percentage of rate of previous year. Whenever executing a Leave and License Agreement with Appropriate Authority, IBD work and fiber connectivity inside the premises should be included by default, without involving any additional commercial implication to TSPs /IPs.

Q.5: Can some of the street furniture like traffic lights, metro pillars etc be earmarked for mandatory sharing between controlling administrative authority and Telecom Service/Infrastructure providers for deployment of small cells and aerial fiber? Does existing legal framework support such mandating? What should be the terms and conditions of such sharing? Please provide details

RJIL Response:

1. We submit that some of the street furniture items like Metro pillars, foot over bridges, Fly over pillars can be used for deployment of small cells in the current form on as-is basis. However a few other items like traffic lights, street light poles would needs to be replaced to accommodate small cells. **Street poles/bus stops/hoardings are generally under agreement with advertisement agencies leading to space crunch for small cell deployment at a suitable height, leading to the need for the infrastructure to be either upgraded/swapped/re-designed based on the small cells loading.**
2. Building of street furniture suitable of catering to the small cell requirement will require additional CAPEX investment from the local authority thus burdening the exchequer. **However, by carrying out a Public Private Partnership, the infrastructure can be upgraded using long term agreement/lease between the TSPs and the Appropriate Authority.**
3. Further, there is lack of clarity in terms of common framework for use of street furniture, also as the current available infrastructure is not owned singularly due to ongoing lease or co-ownership arrangements. It is important that the controlling administrative authorities be required to share the infrastructure with TSPs/IPs for deploying small cells. **Therefore, it should be mandatory for the controlling authorities to share street furniture for telecom deployment on a non-discriminatory basis.**
4. However, in either case, mandated sharing between different TSPs/IPs would not be feasible because of myriad requirements and various arrangement models between service providers and controlling authorities. Besides there are technical and policy level issues with regard sharing of active services. All these must be reviewed and debated for arriving at the most adoptable and implementable solutions.

5. We also submit that an incentivizing approach should be followed. For example, as part of smart city initiative, the traffic light poles could be changed to smart connected traffic light poles with provision for small cell. Further, in metro cities with the local authorities putting up CCTV's for security purposes, the infrastructure could be shared for setting up small cells alongwith the CCTV. Development and deployment of the aesthetic street furniture in-line with the existing deployed infrastructure will meet the requirements of both parties i.e. ensured delivery of TSPs infra requirements in terms of space/power/access and no additional cost for Controlling Authorities.

Q.6: How can infrastructure mutualization and infrastructure collaboration be ensured to avoid exclusive rights of way? What legal provisions can support mandating these? Provide full details.

RJIL Response:

1. Considering the humongous number of small cells required to meet the data requirements in the country, infrastructure mutualization and infrastructure collaboration would play a critical role in delivering 5G to every Indian. These measures need to be incentivized for both the TSPs as well as the Infrastructure Providers in the form of reduction / discounts on levies applicable to them.
2. The option of infrastructure mutualization and / or infrastructure collaboration will primarily depend on the state of infrastructure in an urban area. For instance, Public-Private Partnership model of infrastructure mutualization will be more useful for already built cities where the common infrastructure upgrade has been completed. On the other hand, Infrastructure Collaboration will be a more suitable model for cities which are undertaking the infrastructure upgrade projects or upcoming smart city projects.
3. However, in order to be useful, these models should be developed with the core principle of ensuring availability of a robust digital infrastructure for all smart applications like smart metering of water / power, traffic monitoring and handling in collaboration with various IoT initiatives. A robust connectivity infrastructure of 5G and Fibre network will enable multiple revenue opportunities for the local administration and public at large. Considering the advantages of this local bodies shall incentivize the TSP / IPs to create infrastructure at near zero costs on self – restoration basis. These infrastructures includes Bus Stops, Streetlights, traffic signals, CCTV infrastructures, public advertising places etc.
4. Empowered centralized coordinating agencies shall be established under the legislative powers of Parliament of India for "Single Window Clearances" to fast-track and smoothen the process of award of permissions for usage and upgradation of existing Street Furniture. These agencies shall have direct liaison with the local bodies and shall be

empowered by their charters for providing necessary permissions across all authorities under ‘PBO (Plan, Build & Operate)’ model for all kinds of street furniture and not limited to the above mentioned.

5. Infrastructure created under PBO model shall be shared by all TSP / IPs at uniform slab rates, hence improving aesthetics and ensuring a safe engineered structures for deployment of 5G equipment.

Q.7: Should there be permission exemption for deploying certain categories of small cells at all places or all categories of small cells at certain places (Like apartments etc.)? What legal framework will support such exemptions?

RJIL Response:

1. Yes, the Authority should recommend permission exemptions for small cells installed at common areas in apartment complexes/buildings, shopping malls/complex etc. For this the building code should also be modified and it should provide for identified space for these exemption category small cells in the building. **Treating broadband as an essential service inside the buildings, the space allotment, under the available common space availability should be free for small cells.**
2. The free space allocation for such permission exempted small cells would lead to better indoor connectivity as this will help TSPs plan these installations along with deployment of FTTx in the buildings. It would also ensure overall improvement in the high speed broadband connectivity to the users. Availability of Space for infra and power tapping at service area/terrace location for providing connectivity will provide outside-in coverage to the areas within the premise. This is essential for large complexes which have more than 1000 dwelling units.
3. In addition to this, in places like Highrise apartments, private properties, TSPs should be allowed to extend their coverage using their own available infrastructure rather than the third party infrastructure which is non-upgradable and does not ensure high quality user experience. Deployment of small cell should also be allowed as required by individual users as per their choice.
4. **Further, as there is already a reporting requirement on activation of IBS before the TERM Cells / DoT, small cells should also be exempted from the permission regime by the local bodies, as no useful purpose will be served, if such permissions are required to be taken from local bodies. Hence it may be completely exempted from the permission regime of local bodies.**

Q.8: What should be the criterion/ conditions (like power, height etc.) and administrative procedure for implementing such exemptions? Please provide exact text with detailed Justifications

RJIL Response:

1. Considering the low output power of the small cells, these should be exempt from incumbent guidelines/regulations and the Authority should recommend a paradigm shift in governance for such equipment.
2. Our suggestions are listed below:
 - a. Height Relaxation to be made upto 3m for utilization of Bus Stops and Traffic signals.
 - b. EMF guidelines to be relaxed (EIRP< 1000W), since the output power of the small cell is low.
 - c. Provisions to allow tapping of existing power utilities.
 - d. Bulk application process should be allowed for all the above.
 - e. The type of site wise suggestions are tabulated below:

Type of Sites	ODSC	HP-ODSC	Remarks
Output Power	4 x 5W	4 x 10W	
Duplexing	4x4 MIMO	4x4 MIMO	
Permissible Deployment Height	>3m	>5m	
EMF Applicable	>1000W	>1000W	
Backhaul	Fiber/UBR	Fiber/UBR	
Power	3KW	4KW	
Power Backup	4Hrs	4Hrs	For Medium & Poor EB Towns, back-up needs to be increased

Q.9: For Small cells that do not fall under the exemption category, should there be a simplified administrative approval process (like bulk approvals etc.) for deployment? If yes, what should be the suggested process? If not, what should be the alternative approach?

RJIL Response:

1. Yes, the small cells not falling under the exemption category should be kept under a much **simplified administrative self-certification based deemed approval process**. Since the output power of small cells is much less compared to macro cells, small cells can be installed at lower height as it emits lower power, hence a generic declaration confirming to the maximum allowable power under the small cells category should be sufficient without any additional document process.
2. We also request the Authority to simplify the documentation requirement by recommending a self-certification mechanism with minimum one-time fee covering all types of costs (EMF/SACFA) for such small cells.

Q.10: What power related problems are envisaged in deploying small cells on street furniture? Please provide full details.

RJIL Response:

1. Power at the street furniture is limited to the requirement of the infra deployed at the location and is non-upgradable to meet the new requirements with small cell deployment. As the uptime of street furniture is limited to the requirements and is relatively very low in comparison to always-on Broadband networks, it is a major concern.
2. Another concern is the stringent maintenance SLAs for TSPs which are quite different from street furniture. Therefore, back-up needs to be provided at the sites, which leads to requirement of additional space for utilities. Without power back-up, the sites are prone to large outages leading to poor user experience, which will defeat the whole purpose of dense small cell deployment.
3. The power requirement of street furniture site with the battery back-up and other infra will be very high leading to provision of either a centralized source or upgrade of existing power utility at the small cell location.
4. As per current laws electrical connectivity at each individual equipment for 5G deployment, a process of installation of electricity meters is required if the power is tapped from available public distribution. The process of obtaining electrical connectivity will not be viable in case of mass deployment of small cell equipment across the geography. New provisions for centralized billing and providing the distributed electricity connectivity at equipment nodes shall be looked into.

Q.11: What viable solutions are suggested to address these problems? Please provide full details.

RJIL Response:

1. ROW can be clubbed to include power utility requirement such as laying of higher rating power cable along with the placement of utility rack.
2. We can also have a centralised power source inclusive of back-up and distribution mechanism which will cater to the street furniture requirement during the period of its operation along with the small cell power requirement.
3. We submit that considering the vital role of telecommunication and broadband service in the economic growth of connected areas at local levels and holistically national growth on larger scale implies that there should be separate power connection type for the telecom requirements with 24 hour availability and tariffs lower than industrial tariffs.
4. Further, as mentioned above, most of the street furniture infrastructure does not require power during the day, hence the power is discontinued during such period which is not suitable for telecom infrastructure. However, we can have a centralized power source with back-up for a cluster of street furniture's with a power cut-off mechanism localized at the street furniture location (example - IoT embedment for switching lights during night time only) so that telecom services are not affected.
5. Further, the centralized charging model based on the power/space requirement should also be simplified and be based on incentives. The TSPs should be incentivized in the form of discounts in terms space / EB Power for upgrading / providing infrastructure (including power cables) at street furniture locations.
6. Based on the power rating of the equipment slab rates to be defined and established to overcome the hurdle of metering requirement. Bulk billing as per the cumulative equipment installed shall be done at the respective division level by electrical distribution companies.

Q.12: Is there a need for standardizing the equipment or installation practices for next generation small cell deployment on street furniture? If yes, what are the suggested standards and what should be the institutional mechanisms for defining, and complying to them?

RJIL Response:

1. There is no need for standardization of equipment. The operators are innovating based on equipment design and products available as well as on installation practices basis the different locations, space availability, power and fibre/radio connectivity and any unnecessary standardization would act as a deterrent on pace of deployment.
2. We submit that deployment templates will emerge under the market based evolution, based on the type of street furniture, no. of small cells, availability or requirement of other smart devices, types of connectivity that can be replicated across all similar locations bringing about uniformity in deployment as well as maintaining the aesthetics.

Q.13: Is there a need for a specific mechanism for collaboration among local bodies /agencies for deployment of small cells and arial fiber using street furniture? If yes, what mechanisms should be put in place for collaboration among various local bodies/agencies involved in the process of permissions with TSPs/IP1s and to deal with other aspects of Small Cell deployment?

RJIL Response:

1. At each Local Authority level, inter-departmental coordination is required for utilizing street furniture. In every local Government jurisdiction, there is a possibility of the road being owned by one department while the road side furniture being owned by another department. Therefore, Rule based coordination in departments should be facilitated.
2. We submit that Rules should be enacted in such a way that once street furniture is leased to a service provider, all other associated local departments should ensure rest of the Infrastructure development. This can be best facilitated by setting up of a single window based approval mechanism at centralized level and also at local government level.
3. We request the Authority to recommend a specific mechanism for local body co-ordination consisting of the following
 - a. Single window for application and obtaining the permission.
 - b. Mechanism for bulk applications
 - c. Minimum, one-time fee for street furniture applications.
 - d. Stipulated time duration for application process with deemed approval, in case approval not issued within 30-45 days of application.
 - e. Grievances addressal mechanism in-case of breach of SLAs.

Q.14: Kindly suggest an enabling Framework that shall include suggestions about the role of various authorities, rules of coordination among them, compliance rules and responsibilities, approval process, levies of fees/penalties, access rules etc.

RJIL Response:

1. We have already submitted most of measures required in the enabling framework for utilizing street furniture for small cell deployment in detail. We are summarizing the broad measures to be adopted as below:
 - a. **Legally enforceable Rules:** The State / Local Authority and Central Government should work together to ensure that the DoT ROW Rules, including those for use of street furniture for small cells and aerial cable, are complied with.
 - b. **Single Window Clearances:** State level / District level single window clearance should be made mandatory in case of deployment falling within the jurisdiction of more than one district and / within the jurisdiction of more than one local body but within the same district as the case may be. State level / District level Nodal Officers may be appointed with delegated power to decide on grant of permission and for resolutions in case of any disputes. Responsibility matrix to be published online along with the escalation and grievance redressal process.
 - c. **Localized Coordination Committees:** The coordination committees at district / local body level would help facilitate the process of approvals. Also it is important to include the Electricity distribution company in the process as they need to be brought on board to get the electrical installation done so as to enable quick activation of these small cells.
 - d. **Dedicated specialized governance:** A special team should be formed which will have the End-to-End responsibility of street furniture deployment and process the applications in a time bound manner. This team should also have the right to publish amendments as required by the specific city to meet its requirement along with the authority to collect fees and levy fine / penalties.

Q.15: How can sharing street furniture for small cell deployment be mandated or incentivized? What operational, regulatory, and licensing related issues are expected to be involved in sharing of small cells through various techniques in the Indian context and what are the suggested measures to deal with the same?

RJIL Response:

1. As mentioned earlier, a large part of the street furniture would comprise of electric poles and solitary structures and sharing of same structure by multiple TSPs would make the individual site bulky and it will be difficult to maintain the aesthetic appeal. Therefore sharing every individual furniture by TSP / IPs may not be an optimum solution in such scenarios.
2. Further, **the current EMF requirements, if unchanged for small cells, would be a massive deterrent for small cell sites to be co-located as the power emission criteria is very stringent and at shared sites, the height of the small cell needs to be increased, (subject to the availability of street furniture height). Which would in turn lead to small cells getting further away from the users and becoming ineffective.**
3. Furthermore, the solution of each TSP varies with respect to radio equipment dimensions, backhaul termination and power utility makes it more difficult to accommodate all the independent requirements at a single location. The small cell orientations are also important and necessarily all TSPs will not be able to always align the small cells in the same direction.
4. We understand in situations where multiple TSPs are requiring small cell coverage of an area, the following two approaches would be more suitable:
 - a. **TSP to deploy at alternate site locations rather than co-locating at a single location, thereby making the solution more aesthetic and all TSPs will be able to use it to the maximum benefit.**
 - b. **Smart Poles can be deployed by the TSPs which will cater to all the TSP & City requirements which can be incentivized by offering FOC ROW and waiver on other fees.**
5. Nevertheless, wherever suitable, sharing should be incentivized and any revenue from such sharing should be allowed to be deducted from Gross Revenue for the TSP while calculating the AGR/ApGR.

Q.16: Whether there should be any specific regulatory and legal framework to enable Small Cell and Aerial Cable deployment on

- i. Bus Shelters
- ii. Billboards
- iii. Electric/Smart Poles
- iv. Traffic lights
- v. Any other street furniture

RJIL Response:

1. As the Authority is aware, currently, no common law / act is in place for usage of street furniture for any third-party use. Local Government Authorities are taking decision as per their individual council resolutions based on TSPs / IPs request. **Therefore, it will be useful to have a common facilitative law to address these issues.**
2. We submit that in order to facilitate the use of public infrastructure simplified and predictive policies should be implemented. Long Lease option or multiple years bundling lease with bare minimum recurring charges for space usage on same should be preferred. However for the modification work expenses limited to facilitate the telecom installations on such infrastructure, such costs including strengthening expenses shall be borne by the TSP / IPs.
3. Empowered centralized coordinating agencies shall be established under the legislative powers of Parliament of India for "Single Window Clearances" to fast-track and smoothen the process of award of permissions for usage and upgradation of existing Street Furniture. These agencies shall have direct liaison with the local bodies and shall be empowered by their charters for providing necessary permissions across all authorities under 'PBO (Plan, Build & Operate)' model for all kinds of street furniture and not limited to the above mentioned.
4. Any augmentation of Street Poles for structured aerial network of distribution power cables / fiber cables shall be enabled as per the policy.

Q.17: What should be the commercial arrangements between the TSP's/Infrastructure Providers and street furniture owners for the same?

RJIL Response:

1. We submit that **consistent with principles of light touch regulatory regime, the commercial arrangement between the TSPs and the street furniture owners should be left to mutual negotiations for the already deployed street furniture.**
2. However, as mentioned above, there will be a requirement to redevelop the street furniture by the TSPs to enhance the capabilities of the street furniture. In such cases there should be mandatory requirement for either on one-time long lease for the TSPs / IPs License period OR by multiple years bundling with a fix yearly recurring percentage on previous year's rate.

3. We propose to have an PBO (Plan, Build & Operate) model for small cell deployment whereby each TSP upgrades / deploys the infra based and shares with other TSPs. PBO (Plan, Build & Operate) model will ensure that the TSP is incentivized, and local body requirements are met along with the scope envisaged for street furniture deployment reducing exchequer.
4. TSP / IPs shall be provided landuse rights to create infrastructure under PBO (Plan, Build & Operate) model to fast-track the deployment. These street furniture created shall be shared by all TSPs at rack rate / established preferential rental rates. The investment made by TSP / IPs for upgrading / creation of these street furniture shall be recovered by creating advertising space for rentals which may be shared by local bodies and TSP / IP who has built the infrastructure.