



TTL Response on In-Building Access by Telecom Service Providers

Preamble:

1. Role of In-Building Access

Mobile networks were first conceived and dimensioned primarily to serve voice traffic. However, the need to cater to the increasing requirements for high performance and capacity for data has led operators to invest in network modernization and adopt new technologies such as HSPA and LTE. The process of increasing performance and capacity with heterogeneous networks involves three discrete steps: improving, densifying and complementing the macro layer by adding low power nodes such as micro, pico and indoor solutions.

Providing good 'in-building' coverage plays an important role in attracting and retaining mobile subscribers. Ordinarily, coverage from the macro network extends into buildings but should be complemented by dedicated in-building solutions to improve the Quality of Service & for increasing the capacity of the network. Also, crowded areas like malls, airports, large commercial complexes need a dedicated system to handle the capacity requirements for the large number of calls at such locations.

2. Present Challenges

As pointed out in the consultation paper by the Authority, several deterrents are posed by the building owners that prevent the telecom operators from extending the reach of telecom services at important public places through In building solutions.

- a. **Denial of permission by building owners:** It is difficult for the Industry to obtain permission for setting up sites in the commercial and public buildings. The deployment is often hindered by building owners/building developers delaying the negotiations. Further, building owners charge exorbitant rates from TSPs for providing the space and essential services such as electricity supply. As TSPs cannot leave public places like airports/railway stations uncovered, they are forced to enter into agreement at the terms set by the other parties. Such restrictive practices take away the choice and flexibility from consumers which otherwise they have in terms of quality of service (QoS), tariff, redundancy etc.
- b. **Absence of a overarching and comprehensive policy for deployment of sites on all types of Government land/ buildings/LDA colony/ Residences and in Defense/Cantonment areas (though there are a some executive orders in specific cases by the concerned department) :** Lack of enabling policy in respect of deployment of antennas/ BTS on Government land/ buildings/ residences and in Defense establishments has led to coverage gaps thereby leading to incidences of poor signal quality. In its Recommendations on "*Telecommunications Infrastructure Policy*" dated April 12, 2011", TRAI had recommended that DoT should advise all ministries to provide, within a year, IBS/DAS solutions in all Central Government buildings including central PSU buildings, Airports and buildings falling under their jurisdiction & control. We are very thankful to DOT that some positive steps have been taken by the Department by writing letters to various agencies and departments but *Telecommunications Infrastructure Policy* is still not there.



- c. **Restrictions imposed by State Governments and Municipalities:** Further in its Recommendations on “*Telecommunications Infrastructure Policy*” dated April 12, 2011”, the Authority had recommended that all State Governments should be advised to provide/mandate, within a year, IBS/DAS solutions in all buildings including hospitals having more than 100 beds and shopping malls of more than 25000 square feet super built area. Till date, no enabling policies have been enacted by State Government. On the other hand, restrictions are imposed by State Governments and Municipalities for erecting cell-sites in non-commercial areas and the problem of sealing of the Cell-sites by Municipal Authorities is yet not resolved. This sealing of towers has further increased challenges of TSPs in providing the services.
- d. The laying of cables inside the buildings becomes challenge in absence pre-installed ducts.
- e. In addition to the challenges listed above for the In-building access , there are various other challenges faced by TSPs for the maintenance of telecommunication infrastructure as listed below:
- i. State bodies initiate actions against the towers without any prior notices like disconnecting electricity supplies, sealing the premises and even dismantling of tower sites for reasons some of which are highlighted below
 - ii. Alleged EMF radiation hazards in installing mobile cell-sites in residential areas, even though very stringent guidelines have been made by DoT. The awareness campaign by TRAI and DOT along with the TSPs has starting paying some dividends during last couple of months, however.
 - iii. State bodies insisting on multiple levies like registration/installation/sharing /renewal fees, property tax, etc. considering telecom/ telecom infrastructure as a revenue-making exercise for the exchequer.
 - iv. Issues pertaining to OFC Right of Way (Row) – due to no approval, operators are not even in position to put up sites.
 - v. Frequent fiber cuts due to infrastructure projects are recurring phenomena in almost all circles.
 - vi. Site outages on account of long power failures due to poor EB availability and delay in restoration of power supply by electricity boards.
 - vii. Owner/legal issues – This is an important factor, because if the operator does not obtain the permission to set up the cell site, then services will get affected because of coverage issues.
3. Despite, the challenges listed above, following efforts have been made by TSPs to improve the services in the country:
- a. Roll out of the 3G and 4 G network i.e. offloading the traffic from 2G networks and optimised hand-offs between 2G. 3G & 4G sites.



- b. Reached out to customers, seeking their help to identify areas where they face QoS related issues and their suggestions on setting up mobile cell-sites.
- c. Offloading of the traffic to Wi-Fi
- d. Installation of IBS and Small cells for improving indoor coverage wherever it is possible to obtain permission
- e. Augmentation of existing RF resources.
- f. Various other Continuous Optimization efforts

Therefore, this consultation paper comes at a right time to address the concerns regarding In-building access as Telecom is an essential service and space/ infra for providing telecom service should be made available at cost basis. Telecom operators need to make investment in in-building solutions (IBS) to provide high speed data. Telecom operators need to place their equipment inside the building for creating Wi-Fi hotspot.

In light of the above, our suggestions on the issue are as below:

1. It should be made mandatory in the Building Code that buildings are constructed in such a way that they are 'Telecom Infrastructure deployment' ready by creation of one time infrastructure such as ducts.
2. **Public Buildings:** In all buildings and facilities used/accessed by the public for general purposes, whether government owned building or commercial building, such as airports, railway stations, central and state government offices, government residential housing complexes, malls, hotels, hospitals, shopping complexes, it should be made mandatory to grant permission to TSPs to install telecom infrastructure in specific timeframe
3. **Private Housing Buildings:** In all private housing buildings providing multifamily housing, it should be made mandatory to grant TSPs permission to install telecom infrastructure.
4. The permission & conditions for the installation of telecom infrastructure should be granted on a non-discriminatory basis to all TSPs/IP-1.

Considering our above submissions, below is our Issue wise response:

1. **Do you agree that there is a need to address the issues discussed in this consultation paper or the market is capable of taking care of these issues without having any policy intervention/guidelines in this regard?**



TTL RESPONSE

Yes, as pointed out earlier that the in building solutions compliment the outdoor coverage, therefore there is a need to make policies that will facilitate the installation of Indoor telecom infrastructure for providing the In-building solutions.

A mandate in the building code must be considered for public & large private buildings to have a room dedicated for housing equipments of various Telecom service providers. Such a space room should have direct access through ducts from manholes outside the building and also should have access to the in-building telecom infrastructure. (Could be shared for other related services as well if space is adequate)

Also telecom infrastructure should be created inside the building on similar lines as the electrical infrastructure in terms of vertical ducts within the building, laying of fiber optic cables and termination point at individual units within the building which can be used for both wireless, wireline and broadband telecom distribution.

As far as state govts are concerned, different rules and procedures with varying and exorbitant fess exist for telecommunication infrastructure. DoT had sent to the state governments report of the national level committee for streamlining the provision of RoW and Rationalising fees for the TSPs. State govts do not have a policy for promoting and facilitating telecommunication infrastructure like state industrial policy.

Importance of provision of efficient and world class telecommunications depends upon ensuring deployment of sufficient physical infrastructure. TRAI has rightly been emphasizing since 2011, upon implementation of its recommendations for laying of telecom infrastructure. Even its recommendation of 2015 for modifying building bye laws, to provide for IBS basic provisions in the plans for buildings for 63 cites covered under JNRUMM could not be implemented. .

Thus, it is urged upon Authority to ensuring of acceptance of its recommendations made for building bye laws by all ULBs.

2. How can sharing of telecom infrastructure inside a residential or commercial complex/airport/hotels/multiplexes etc. among service providers be encouraged? Should the sharing of such telecom infrastructure be made mandatory?

TTL RESPONSE

As pointed out earlier, it is important for telecom service providers to have mobile coverage / network presence inside big residential / commercial complexes.

Sharing of infrastructure in the building could be in the first place left **to the mutual agreements between the TSPs/IP-1** as there are various complexities involved in the installation of In-building infrastructure which are dealt on a case by case basis. IBS infrastructure like antennas etc is also dependent on the spectrum owned by operators.

The Installation of equipment which supports multiple operators using different technologies/equipment increases the overall cost of installation. Equipment such as these might not be of use for every service provider as operators might use different solutions/technology.



At the time of installation of infrastructure/equipment by the first TSP/IP-1, there will be no clarity on how many operators in future, would want to provide their services in the particular building through the in-building infrastructure as the same depends on network planning strategies of individual operators based on their technology.

In the cases, where other operators eventually don't turn up to provide the coverage through the In Building infrastructure then the TSP/IP-1 who has installed the equipment would have to bear the loss on account of installing the equipment which supports multiple technologies/features or by making provisions for the use of infrastructure by multiple operators.

These complexities can be best dealt by having mutual agreements between operators for the cases wherever it is possible to share the infrastructure considering the ease, feasibility and cost of deployment.

In view of the fact that TSPs have accepted as necessity of sharing of towers, it may be more desirable that authority should evolve a framework applicable to " in- building facilities" and its sharing in a transparent and non discriminatory manner.

However, Mandatory sharing ,if however necessary, should only be in respect of areas of public access for transportation, eg, Railway/ Metro Stations, Multiplex, Large Commercial / Residential Complex, and also areas Heritage and Security & Environment sensitivity . It may also be necessary in the design of the framework for sharing of IBS to provide for its monitoring.

3. In view of the international practices given in para 18-23 of Chapter-II of the Consultation Paper, what provisions should be included in the National Building Code of India to facilitate unhindered access for all the TSPs?

TTL RESPONSE

As highlighted earlier, it is important for the operators to extend the coverage in the buildings but currently there are various impediments are imposed by the building owners which slow down the speed of deployment of In-building infrastructure. Therefore, the following steps should be taken in order to address the situation:

- a. It should be made mandatory in the Building Code that buildings are constructed in such a way that they are 'Telecom Infrastructure deployment' ready by creation of one time infrastructure such as ducts
- b. **Public Buildings:** In all buildings and facilities used/accessed by the public for general purposes, whether government owned building or commercial building, such as airports, railway stations, central and state government offices, government residential housing complexes, malls, hotels, hospitals, shopping complexes, it should be made mandatory to grant permission to TSPs to install telecom infrastructure.
- c. The permission and conditions for the installation should be granted on a non-discriminatory basis to all TSPs/IP-1.



- d. **Private Housing Buildings:** In all private housing buildings providing multifamily housing, preferential permission to install telecom infrastructure.
 - e. Further, as highlighted in the consultation paper, the common infrastructure required such as ducts for laying the cables should be pre-installed, provision should be made for common space for installation of telecom equipment etc. so that the buildings are 'Telecom Access' ready. The adoption of best practices as highlighted
4. **Any other option, which in your view, could resolve the issues discussed in this consultation paper? Please explain and justify your opinion on all the above questions.**

TTL RESPONSE:

No specific inputs as the points are covered in above paragraphs