

QUALITY OF SERVICE OF CELLULAR MOBILE IN LUTYENS' AND NDMC AREAS OF DELHI – A STUDY

I. Introduction

1. TRAI had received a number of complaints from consumers regarding call drops, poor coverage etc. in Delhi, especially in the NDMC areas and the Lutyens' Bungalow Zone (LBZ). TRAI held discussions with the service providers on these issues and had also undertaken drive tests to understand the extent of the problem in these areas. This study paper is based on the findings of these discussions with the service providers and the results of the drive tests.

II. Geographical area

NDMC area:

2. The NDMC area is bounded by the upper ridge road from Dhaula Kuan to Panchkuan road via New Link Road, then through Panchkuan road to New Delhi Railway station, from there along railway tracks to Mathura road, along Mathura road upto Lodhi Road junction, then along Lodhi Road and turn towards Lodhi Colony upto its junction with Qutab Road; then towards south along the Qutub Road upto to its junction with Kushak Nalla; then towards east along the Kushak Nalla up to its junction with the Boundary of the Corporation and along the south boundary of the Medical Enclave upto its junction with the Ring Road near Gawalior Potteries; then towards north-west along the Ring Road upto its junction with Kitchner Road, then towards north along the Upper Ridge up to Dhaula Kuan (as per NDMC Act).

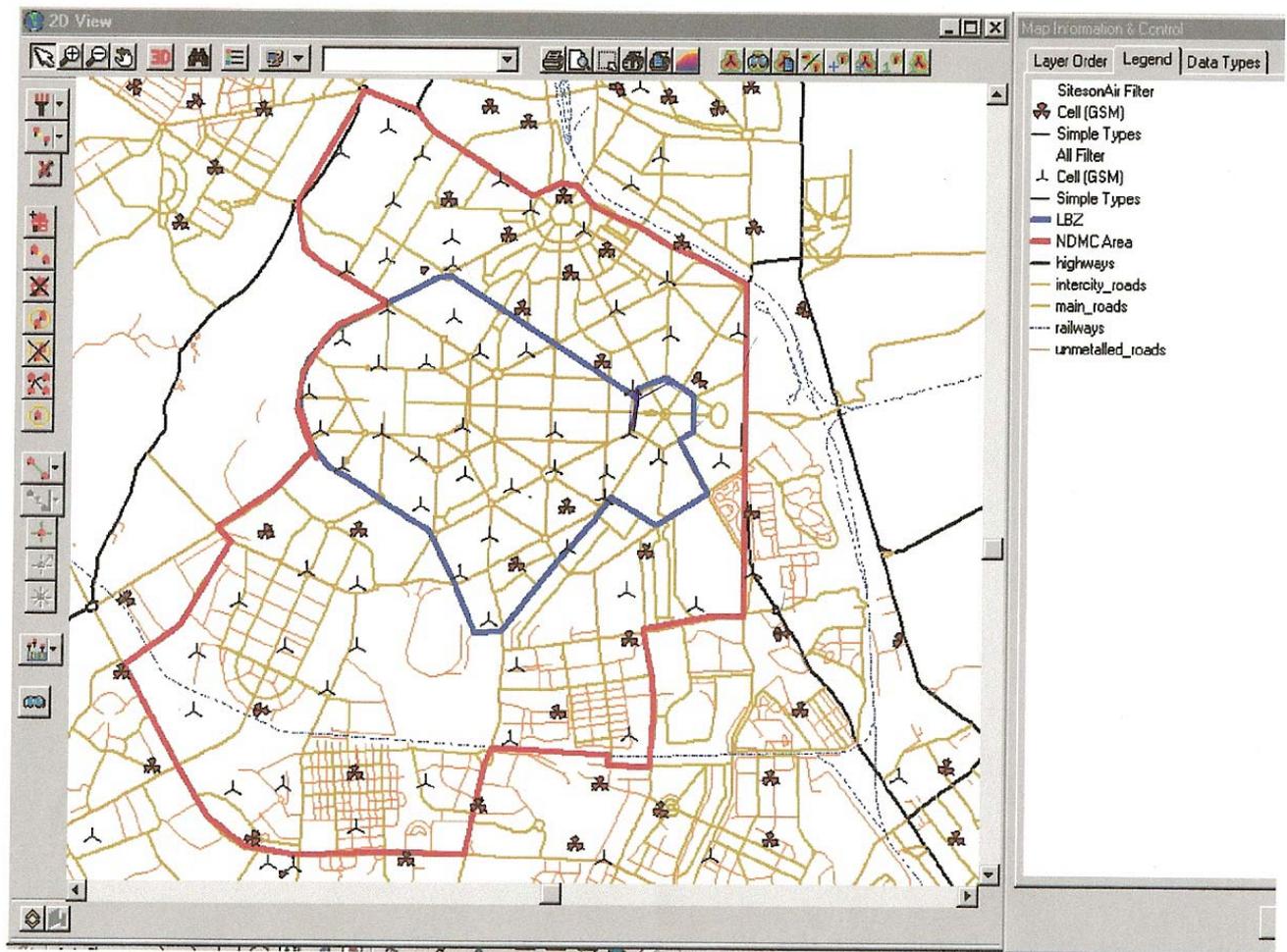
3. The prominent areas included in the NDMC areas are Connaught Place, Central Secretariat, Lodhi Colony, Sarojini Nagar, Chanakya Puri, India Gate, Race Course etc.

Lutyens' Bungalow Zone (LBZ)

4. At the core of the city is the 2800 hectare area, included in Sir Edwin Lutyens' radial plan for New Delhi built from 1912 to 1931, officially designated as Lutyens' Bungalow Zone (LBZ), protected since 1980. This zone was built to house government officials and their administrative offices. It is a low density zone.

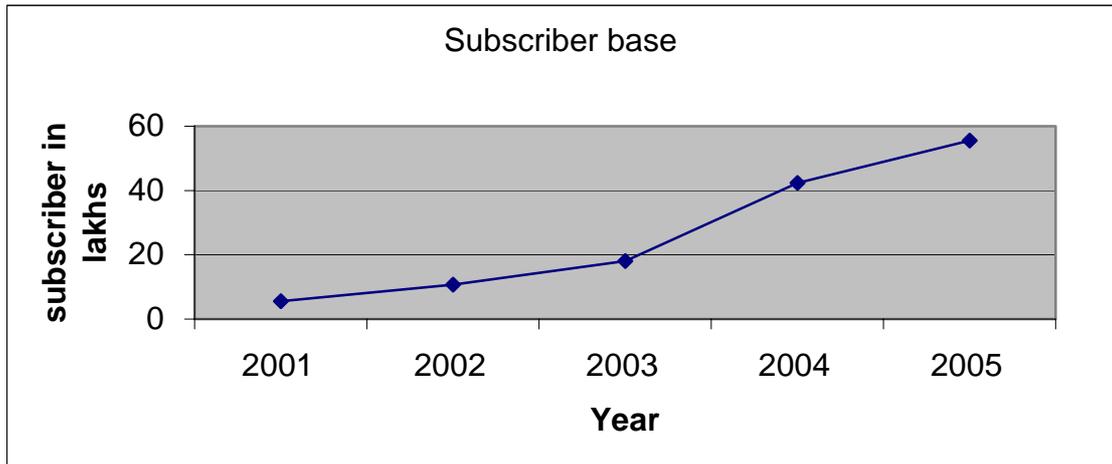
5. Among its most significant features is the "Central Vista" or axis of Rajpath, anchored by the Rashtrapati Bhawan flanked by North Block and South Block in the west, and India Gate and National Stadium in the east. One of the major nodes conceived by Lutyens for the Central Vista is Princes' Park (National Park), a landscaped hexagon of roads with the India Gate and the chhatra in the center. The Vista forms a very imposing and attractive public space.

MAP OF LBZ & NDMC AREAS



III. Growth of mobile service in Delhi:

6. The cellular mobile service in Delhi has been experiencing tremendous growth in the last five years. The subscriber base of cellular mobile services which was about 5.56 lakhs in March, 2001 has grown to 55.54 lakhs by March, 2005. The year-wise growth is shown below:



IV. **Problems associated with exponential growth in mobile sector:**

7. Commensurate with this exponential growth in the subscriber base in Delhi, the service providers have not been able to put the requisite cell sites in the LBZ and NDMC areas. The concerns of NDMC and town planners is that large number of cell sites erected over roof tops of building will adversely affect the aesthetics of the landscape of the city centre. At the same time adequate number of cell sites are required for addressing the communication needs of the people who live here or come here for work. It is estimated that 15 lakhs people come for work or other-wise move through this zone each day. Inadequate number of cell sites has resulted in poor coverage, call drops, heavy congestion etc. over a period of time. TRAI had discussions with the operators recently regarding these problems. The facts emerged out of these discussions are given below.

(1) The LBZ area is covered by each operator with only two or three cell sites. Considering the size of the area, subscriber base and the fact that due to the location of a large number of government offices in this

area, the traffic both static and dynamic is quite large specially during the office hours, the number of cell sites are totally inadequate to provide satisfactory service.

The position with regard to the existing and proposed cell sites in the LBZ areas is given below:

Operator	Existing cell sites	Proposed new cell sites	Total requirement	Shortage
Airtel	3	17S + 12U = 29	32	29
Hutch	4	20S + 21U = 41	44	41
Idea	2	23S + 3U = 26	29	26
Reliance	3	13S + 1U = 17	20	17
Tata	1	18S	19	18
MTNL	5	7U	12	7
Total	18	91S + 44U = 135	156	135

S = Shared Cell Sites

U = Unique cell Sites

Thus, it may be seen from the above table there is a shortage of 135 cell sites in LBZ areas. Considering that two operators could share one site, there is a shortfall of 90 cell sites in LBZ areas. A list of existing and proposed sites of all operators is placed at Annex.1. Due to inadequate cell sites in the LBZ areas, the coverage is given mostly from cell sites outside the LBZ areas. For such coverage from outside area transmission has to be made with maximum power and this leads to interference near the cell site.

(2) Similarly in the NDMC areas also the service providers are operating with a few cell sites and considering the subscriber base and future growth, there is a requirement of 53 additional cell sites for all the operators. The service providers are facing problems in getting

approval from civic authorities due to multiplicity of authorities, delays etc. The position regarding additional new cell sites is given below:

Operator	Existing cell sites	Proposed new cell sites
Airtel	15	35S
Hutch	33	
Idea	16	
Tata	15	
Reliance	19	8S + 3U = 11
MTNL	17	7U
Total	115	43S + 10U = 53

S – shared
U - unique

V. **Initiatives taken by the industry to address the problem:**

8. The COAI/AUSPI and the individual operators had been taking up this issue with NDMC, Delhi Urban Arts Commission and the Delhi Government since long. In mid 2002, the Hon'ble Lt. Governor of Delhi convened a meeting of representatives of mobile operators, NDMC, MCD and DOT to address the concerns of the authorities and operators and a decision was taken regarding structural safety and stability of the buildings, sharing of towers, towers on unauthorized buildings, disclosure of agreements with the owners to MCD and NDMC and Towers in the LBZ area for expansion of coverage in the area. In the meeting, all parties agreed and decided as regards these concerns, except the issue relating to the expansion of coverage in the LBZ area, which was left unresolved. Here also a broad decision was made that the telecom operators and Chairman of NDMC shall meet and together **“workout an acceptable proposition with regard to expansion of the coverage of the communications towers in the area”**.

9. As a result of the initiatives taken for setting up of additional cell sites, the NDMC had in October, 2004 issued Guidelines for setting up cell sites. The operators had expressed concerns about these guidelines, especially regarding the fees. Their main proposals in this regard are as follows:

- For coverage in the LBZ area, there should be - clear cut demarcation of the LBZ area, permission to install communication towers on NDMC owned buildings other than NDMC schools and NDMC hospital buildings, they should be allowed installation of towers in a manner that the purpose of seamless coverage is achieved without compromising on safety and security aspects.
- There should be incentive for sharing cell sites and for this one time permission charges be levied only on a per cell site basis instead of a per user/ service provider basis.
- Reconsider one-time permission charges of Rs.2 lakh per cell site.
- Waive off penalties and withdraw criminal charges against the operators for installing cell sites without permission.

However, the issue of expansion of coverage in the LBZ areas is not yet resolved and as per the service providers, the NDMC is presently not entertaining any request for setting up cell sites in these areas.

V. **Problems relating to in-building coverage in LBZ Zone:**

10. The buildings of the zone are a harmonious and unique amalgamation of Victorian-European and Indo-Islamic-Buddhist styles, making them architectural treasures for world heritage. The important buildings in this zone are Rashtrapati Bhavan, Central Secretariat,

Parliament, Buildings of central Ministries such as Rail Bhavan, Krishi Bhavan, Udyog Bhavan, Nirman Bhavan, Shastri Bhavan, Defence offices like Air Headquarters, Sena Bhavan, Supreme Court, National Museum, residences of Ministers and other VIPs etc. The communication system has to cater to the needs of 15 lakhs people who come for work or other-wise move through this zone each day. The structure of many of the Government buildings in the LBZ Zone is characterized by thick walls, blocking penetration of signals which is otherwise poor due to inadequate cell sites.

11. TRAI had undertaken drive test in the area and found that while the signal strength at street level is poor, for improving the coverage inside buildings it is necessary to set up micro cell sites in these buildings. However, according to the operators, the CPWD is not giving permission for setting up micro cell sites in these buildings. Another aspect is that commercial buildings in the LBZ areas are very few and the operators have to rely on Government buildings for setting up cell sites and for putting in-building solutions for boosting signal in these important government buildings.

12. It has also been reported by some of the operators that they have received eviction notes from the NDMC for removal of existing sites in LBZ areas and NDMC areas. Any such removal of the existing sites would further aggravate the problem of poor coverage in these areas.

VI. **Problems relating to Spectrum:**

13. The operators are facing shortage of spectrum due to high growth and delay in allocating additional spectrum. This is also an issue affecting the service quality of mobile services all over Delhi. The

position regarding spectrum allotted to various operators in Delhi is given below:

Operator	Subscriber base (As on Mar 05)	Spectrum allotted	Norms for additional Spectrum	Additional spectrum applied
Bharti/Airtel	1615522	2 x 10 MHz	Norms for additional spectrum beyond 2x10 MHz under finalisation by DOT	5MHz applied on 7.10.03 Reached 10 lakhs subs. Base in June 2003
Hutch	1467846	2 x 10 MHz	Same as above	5MHz applied on 8.3.04 Reached 10 lakhs subs. Base in Dec. 2003
MTNL GSM	401678	2 x 6.2 MHz	Addl. spectrum on achieving subs. Base > 5 lakhs	1.8 MHz applied in June 2005. Reached 5 lakhs in June 05.
Idea	608505	2 x 6.2 MHz	Same as above	1.8MHz applied in Feb.04 Reached 5 lakhs subs. Base in March 04
MTNL CDMA	135426	2 x 3.75 Mhz	Allotment of 3 rd carrier on reaching subscriber base of 3 lakhs and 4 th carrier on reaching subscriber base of 10 lakhs	Not applied

Reliance CDMA	1109478	2 x 5 MHz	-do-	Not Applied
Tata CDMA	215420	2 x 5 Mhz*	-do-	-do-

* For Delhi SDCA the allocated spectrum, is 2X5 MHz, but in Ghaziabad, NOIDA, Faridabad and Gurgaon it is 2X3.25 MHz.

Most of these service providers in Delhi have already crossed the benchmark for allocation of additional spectrum.

VII. **Present status**

14. The issue of expansion of coverage in the LBZ areas is not yet resolved and as per the service providers, the NDMC is presently not entertaining any request for setting up cell sites in these areas. As regards requests for new sites in NDMC areas, these are pending with the NDMC for approval. The multiplicity of authorities in Delhi for giving clearances in this area is also contributing to delays.

VIII. **Way out for addressing the problem:**

15. Until and unless the issues relating to setting up of additional cell sites in LBZ areas is resolved and a way out is made and also the permission of new cell sites in NDMC areas is expedited, the problems relating to poor coverage in LBZ and NDMC area are not going to be addressed. The issues have been taken up with the concerned authorities.

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