



TELECOMMUNICATIONS

10.1 BACKGROUND

Delhi has a large network of telecom facilities, which is vital for various economic activities and this has helped in concentration of these activities in Delhi in preference to other locations in the region. Likewise, provision of effective and efficient Telecom facilities in the entire NCR holds immense significance in the context of Regional Plan, where the ultimate aim is to promote growth and balanced development in the entire region. Thus, it would be necessary to extend similar telecom services in the region.

During the past ten years or so, large-scale developmental and technological changes have taken place, particularly in the telecommunication sector. This contributed to rise in the living standard of the people, awareness of its importance and personal conveniences. Thus, a rapid increase in demand for telephones has been generated in Metro centres, Regional centres and other smaller towns and villages in NCR.

Regional Plan-2001 and its Functional Plan for Telecommunication proposed uniform local call system in CNCR towns in the first phase and in the rest of NCR area in the second phase. The Plan also envisaged provision of single STD code for whole of NCR including NCT-Delhi and telephone on demand by 1997.

Review of the Regional Plan-2001 undertaken in the year 1999 emphasized the need to bridge the gap between demand and supply of telephones in the region and to upgrade all the remaining electro-mechanical telephone exchanges to electro-digital exchanges and connect the same with modern transmission media such as optical fiber cables etc.

10.2 EXISTING STATUS

Over the last few years, significant improvement has been made in terms of capacity and technology upgradation to keep pace with the changing trends. The region has been covered with uniform local call system (direct dialing) with 95 level but with differential pulse rate depending upon the distance. This facility is available only for Delhi and intra-state. It has not been made available on inter-state basis. The Ministry of Communications and Information Technology informed that single STD code was not possible for the whole region due to technical/administrative problems. They also informed that the goal for providing telephones on demand in the entire region could not be achieved due to higher growth of demand than expected and penetration of telecom services up to the village level on a large scale.

As per the status provided by the Ministry of Communications and Information Technology, the switch capacity in NCR has increased from 9,95,248 on 31.07.2001 to 14,11,650 on 30.08.2003. Similarly, the capacity of Direct Extension Lines (DEL) has increased from 8,46,628 to 18,88,067 and Wait List (WL) has reduced from 34,912 to 10,411 during the same period. Details of the same are given in Annexure 10/I. Various value added services, relevant to growth, like pagers, cellular, digital network and internet are available in most of the region. Data Internet Services are yet to be provided in some of the Haryana

towns like Ballabhgarh, Bahadurgarh, Palwal, Panipat, Dharuhera, Rewari etc. Details are given in Annexure 10/II.

The Ministry of Communications and Information Technology has spent Rs. 3,301.70 crores during 9th Plan for upgradation of telecom services in the region. Sub-region wise details are given in the following Table 10.1.

Table 10.1: Expenditure during 9th Plan in NCR

Sub-region	Expenditure (Rs. in Crores)
1	2
NCT-Delhi	2,294.85
Haryana	473.07
Rajasthan	100.92
Uttar Pradesh	432.86
Total NCR	3,301.70

10.3 ISSUES

Some of the issues emerging from the existing scenario include:

- i) The Department of Telecommunication (DoT) has expressed inability to extend the MTNL boundary to entire NCR and also in providing single STD code to the entire region because of administrative and operational reasons.
- ii) Since DoT is still operating on the basis of States, as the administrative jurisdiction of their circles, the local dialing facility on the regional basis is not available and inter Sub-regional dialing (i.e., between Haryana, Rajasthan and U.P. Sub-regions) is still through STD.
- iii) The goal of providing telephones on demand in the entire region is yet to be achieved. It is because of higher rate of demand than expected and penetration of telecom services up to village level on a large-scale.

10.4 POLICIES AND PROPOSALS

In order to improve the Telecom facilities in the region by the year 2021, following strategies and policies are proposed:

- i) Make available telephone on demand and sustain it thereafter so as to achieve a tele-density of 11.5 in urban areas and 3.0 for rural areas by March 2007.
- ii) Service providers (private sector and BSNL/MTNL) should be allowed to have a common inter-linked system of basic services for the entire NCR treating it as a single telecom circle and should be encouraged to supplement the efforts of DoT in achieving the goals. Further, efficient telecommunication system will reduce number of trips and load on the transport corridors.
- iii) Constituent States should provide land, building and other facilities to the telecom service providers for setting up of telephone exchange and other installations.

- iv) Provide high-speed data and multimedia capability using technologies including ISDN to all towns with a population of more than two lakhs.
- v) DoT should promote tele-conferencing, net-meeting, internet protocol telephone, wireless LAN services etc. within the region at par with NCT-Delhi. The technologies such as General Packet Radio System (GPRS); Blue Tooth Technology; Architecture for Voice, Video and Integrated Data Technology (AVVID), etc. should also be promoted. A brief description of these technologies is highlighted in the following boxes:

Box 10.1

GENERAL PACKET RADIO SYSTEM

General Packet Radio System (GPRS) is a new service that provides actual packet radio access for mobile Global System for Mobile Communications (GSM) and time-division multiple access (TDMA) users. The main benefit of GPRS is that it reserves radio resources only when there is data to be sent and it reduces reliance on traditional circuit-switched network elements. The increased functionality of GPRS will decrease the incremental cost to provide data services, that will, in turn, increase the penetration of data services among consumer and business users. GPRS is important step toward third-generation (3G) networks. GPRS will allow network operators to implement IP-based core architecture for data applications, which will continue to be used and expanded upon for 3G services for integrated voice and data applications.

Box 10.2

BLUE TOOTH TECHNOLOGY

Telecom technology compatible with Blue Tooth is a Radio Frequency (RF) specification for short-range, point-to-multi-point voice and data transfer. Bluetooth will enable users to connect to a wide range of computing and telecommunications devices without the need for proprietary cables that often fall short in terms of ease-of-use. The technology represents an opportunity for the industry to deliver wireless solutions that are ubiquitous across a broad range of devices. Bluetooth technology was designed to be small and inexpensive. Bluetooth technology has no line-of-sight requirements making it a potential replacement for infra-red ports. Bluetooth can operate through walls or from within your briefcase. Printers, PDA's, desktop computers, fax machines, keyboards, joysticks and many other digital devices can be part of the Bluetooth system. Bluetooth radio technology provides a universal bridge to existing data networks, a peripheral interface, and a mechanism to form small private and ad-hoc groupings of connected devices away from fixed network infrastructures.

Box 10.3

AVVID TECHNOLOGY

Telecom facility compatible to AVVID Technology (Architecture for Voice, Video and Integrated Data) defines a framework for building and evolving customer networks supporting internet business solutions. As more and different applications begin sharing the data network, the needs for management, reliability, and control grow. Unlike traditional hierarchical network architectures, such as SNA, the emerging network model is widely distributed so that servers anywhere in the network provide information and processing services to users regardless of location. Adequately serving the needs of Internet business solutions in this environment requires a consistent set of network services end-to-end through the network, providing prioritization, high availability, and performance. Since a level physical foundation provides the reference point and support for a complex physical building, these consistent services provide a foundation for rapid deployment and easy administration of internet business solutions.

- vi) Reliable media should be provided through adequate band-width, convergence of technology for voice, data and video, and connectivity through OFC up to the last mile. The rural exchanges should be synchronized to enable data transmission in a time bound programme.
- vii) All the villages in the region should be covered with telecom facilities. Telecommunications services in rural areas should be made more affordable by providing suitable tariff structure and making rural communications mandatory for all fixed service providers.
- viii) Use of non-conventional sources of energy for rural communication should be encouraged in coordination with the Ministry of Non-conventional of Energy Sources and concerned State

Governments, as the availability of dependable power supply is a major problem in running telecommunications services in rural areas.

- ix) Integration of the telecommunication service network with power distribution network should be explored wherever it is technically feasible and commercially viable.

10.5 FINANCIAL IMPLICATIONS

The Ministry of Communications and Information Technology has proposed to achieve the tele-density of 11.5 i.e., 11.5 telephone connections per 100 persons in urban areas and three telephone connections per 100 persons in rural areas in the 10th Plan period. Accordingly, the requirement of new connections in Metro and Regional Centres has been calculated on the basis of existing telephone connections given under respective telephone exchanges and population of the town in the year 2001. The coverage of telephone exchanges extends beyond the urban limit also and thereby outskirt colonies are also covered by these telephone exchanges, whereas the projected population is taken for the town only. Besides, mobile phones are also in extensive use. These connections are not included in estimating the existing as well as the proposed tele-density. The requirement of funds is a rough estimate for making Sub-component Plan for Communications and Information Technology. Details are given in Annexure 10/III. As per the estimates of the Ministry of Communication and Information Technology, Rs.1,153 crores will be required to achieve the tele-density target in the NCR towns.