TELECOM REGULATORY AUTHORITY OF INDIA

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For Immediate Release

TRAI Assesses Network Quality Across Mumbai City under Mumbai Licensed Service Area

The Telecom Regulatory Authority of India (TRAI) has released its Independent Drive Test (IDT) findings for the Mumbai Licensed Service Area (LSA), covering extensive city and highway routes during the month of June 2025. The drive tests, conducted under the supervision of the TRAI Regional Office, Bengaluru, were designed to capture real-world mobile network performance across diverse usage environments - urban zones, institutional hotspots, public transport hubs, and high-speed corridors.

Between **17 to 20 June 2025**, TRAI teams conducted detailed tests across **Mumbai City and surrounding areas including 243.1 Kms of City drive test, Highway drive test of 267 Kms (Mumbai- Charoti- Kasatwadi- Vikramgad- Kalyan- Thane- Mumbai) and 09 Hot spots segments.** Technologies evaluated included 2G, 3G, 4G, and 5G, reflecting the service experience of users across multiple handset capabilities. The findings of IDT have been intimated to all Telecom Service Providers (TSPs) concerned.

Key Parameters Assessed:

a. **Voice Services:** Call Setup Success Rate (CSSR), Drop Call Rate (DCR), Call Setup Time, Call Silence Rate, Speech Quality (MOS), Coverage.

b. **Data Servies:** Download/Upload Throughput, Latency, Jitter, Packet Drop Rate, and Video Streaming Delay.

The overall mobile network performance in Mumbai city is summarised below: -
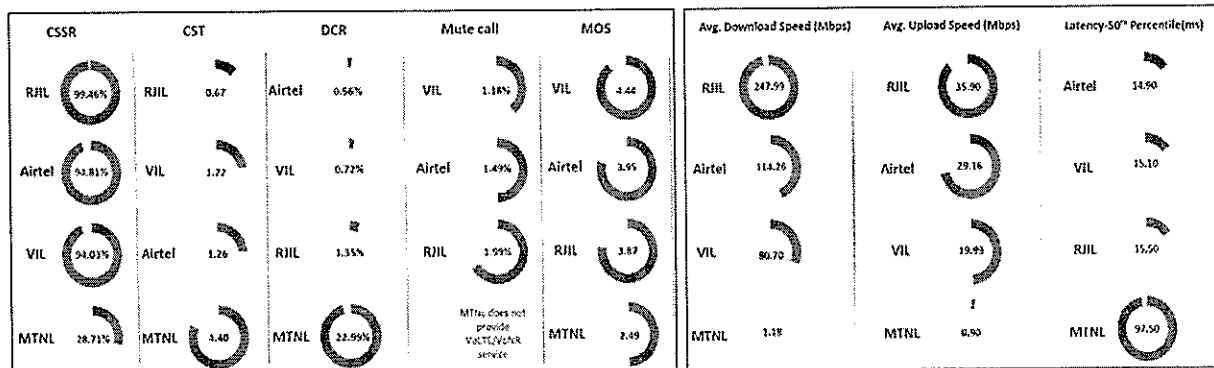
Call Setup Success Rate - Airtel, MTNL, RJIL and VIL have 94.81%, 28.71%, 99.46% and 94.03% respectively in Auto-selection mode (5G/4G/3G/2G).

Drop Call Rate - Airtel, MTNL, RJIL and VIL have value of 0.56%, 22.99%, 1.35% and 0.72% respectively in Auto-selection mode (5G/4G/3G/2G).

5G data services also delivered peak download speeds reaching 879.66 Mbps and upload speeds touching 84.55 Mbps in city hotspots.

Performance against key QoS parameters

CSSR: Call Setup Success Rate (in %), **CST**: Call Setup Time (in seconds), **DCR**: Drop Call Rate (in %) & **MOS**: Mean Opinion Score.

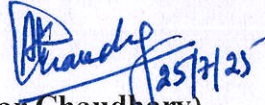| Summary-Voice services	Summary-Data services
Call Setup Success Rate: Airtel, MTNL, RJIL and VIL have 94.81%, 28.71%, 99.46% and 94.03% call setup success rate respectively in Auto-selection mode (5G/4G/3G/2G).	**Data Download performance (Overall):** Average download speed of Airtel (5G/4G/2G) is 114.26 Mbps, MTNL (3G/2G) is 1.18 Mbps, RJIL (5G/4G) is 247.99 Mbps and VIL (5G/4G/2G) is 80.70 Mbps.
Call Setup Time: Airtel, MTNL, RJIL & VIL have call setup time of 1.26, 4.40, 0.67 and 1.22 seconds respectively in Auto-selection mode (5G/4G/3G/2G).	**Data Upload performance (Overall):** Average upload speed of Airtel (5G/4G/2G) is 29.16 Mbps, MTNL (3G/2G) is 0.90 Mbps, RJIL (5G/4G) is 35.90 Mbps and VIL (5G/4G/2G) is 19.99 Mbps.
Drop Call Rate: Airtel, MTNL, RJIL and VIL have drop call rate of 0.56%, 22.99%, 1.35% and 0.72% respectively in Auto-selection mode (5G/4G/3G/2G).	

Call Silence/Mute Rate: Airtel, RJIL and VIL have silence call rate of 1.49%, 1.99% and 1.18% respectively in packet switched network (4G/5G).	**Data performance - Hotspots (in Mbps):**
	
	Airtel- 4G D/L: 31.46 4G U/L: 9.77
	         5G D/L: 183.55 5G U/L: 44.95
	RJIL- 4G D/L: 33.75 4G U/L: 12.82
	         5G D/L: 274.52 5G U/L: 46.50
	VIL- 4G D/L: 26.89 4G U/L: 11.76
	         5G D/L: 115.43 5G U/L: 31.51

Mean Opinion Score (MOS): Airtel, MTNL, RJIL and VIL have average MOS of 3.95, 2.49, 3.87 and 4.44 respectively.	**Note- "D/L" Download speed, "U/L" Upload speed 4G & 5G technology have not been observed in MTNL**

In Mumbai, the assessment included high-density neighbourhoods like Colaba, Nearby Navy Nagar, Gateway of India Mumbai, Charni Road, Mumbai Central, Fort, CSMT, Coastal Road, Haji Ali Sea Face, Worli, Bandra Worli Sea Link Flyover, Marbles Line, Professor NS Phadke

Road, Swami Vivekanand Road, Golibar Road, Kalwa, Pimpalner, Kalyan, Sonar Pada, Kalyan Shilphata Road, Mumbai Agra Highway and Santacruz Chembur Link Road etc.

TRAI also evaluated real-world conditions at 09 static hotspots—including Andheri West Local Railway Station, Thane Collector Office, DN Nagar Metro Station, Dombivli-Kalyan Municipal Corporation, ISKCON Temple Juhu, Juhu Beach, Kalyan Railway Station, Andheri Lokhandwala Complex, The Civil Hospital, Thane - to reflect stationary user experience.

The Highway route, a high-speed mobility stretch Mumbai, Charoti, Kasatwadi, Vikramgad, Kalyan, Thane, Mumbai passing through Dharavi, Bandra East, Vakola, Prabhat Colony, Vile Parle, Jogeshwari East, Malad East, Metro Mall, Ahmedabad Mumbai Highway, Pelhar, Sakawar, Dhekale, Sativali, Haloli, Monor, Chilhar, Ghol, Kasa, Veti, Medhi, Dengachimet, Sakhare, Malwada, Wada, Nehroli, Khupari, Kudus, Ambadi, mahapoli, Angaon, Thane, Vikhroli, Ghatkopar and Eastern Express Highway etc., was also tested to understand quality of service during intercity travel.

The tests were conducted using TRAI calibrated equipment and standardised protocols in real-time environments. The detailed report is available at TRAI website www.trai.gov.in. For any clarification/information, Shri Brajendra Kumar, Advisor (RO, Bengaluru) TRAI may be contacted on email: adv.bengaluru@trai.gov.in or at Tel. No. +91-80-22865004.

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