Geospatial Precision to Distinguish Urban and Rural Network Performance

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Agenda

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3. The Technology Generation Rollout
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1. Executive Overview

Mapping the Nation's Real Network Footprint

A New Way to Measure: This final assessment moves away from rigid administrative state borders. Instead, it uses actual human activity across **739,294 real-world network tests** to map out where infrastructure is actively being used.

The Core Takeaway: Your digital experience is strongly influenced by your geographical environment, but the performance gap between urban centers and rural corridors is gradually shifting due to modernization.

Our Journey Together: This concluding deck ties together everything we found: The Geographic Split ➔ How Technology Generations Behave ➔ What it Means for Consumer Choices ➔ Our Roadmap for a Balanced Digital Space.

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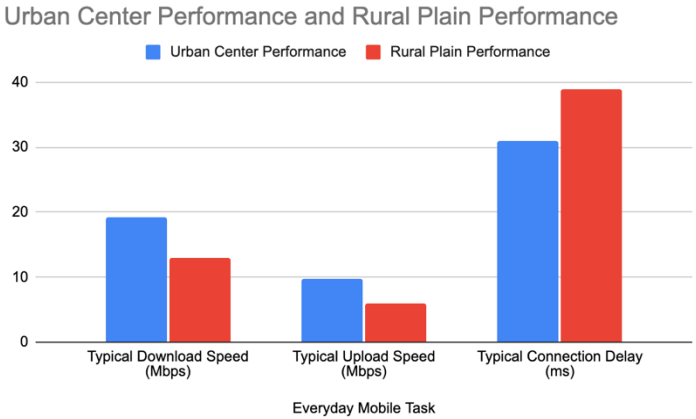
2. Urban Hubs vs. Rural Plain Environments

The Daily Experience: Understanding Environmental Differences

Urban Center Behavior: Highly concentrated pockets of smartphone usage focused around major economic corridors (Lagos, Abuja, Port Harcourt, and the Kano-Kaduna line). High density supports balanced, symmetrical connections.

Rural Plain Behavior: Spans large geographic spaces across interior agricultural regions and northern transit pathways. Sparser measurements reveal a persistent digital divide, with connection response times running slightly higher.

The Progress Meter: Rural network speeds improved modestly by roughly **0.2 Mbps per month** over the 17-month study—showing a steady, positive trajectory, though highlighting the need for sustained long-term attention.



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3. The Technology Generation Rollout

Modern lanes vs. Legacy Lanes: Tracking 5G, LTE, and 3G

📡 **5G (The High-Capacity Urban Layer):** Delivers premium, high-bandwidth capability with responsive low-20ms lag. However, deployments remain tightly bound to specific metropolitan neighborhoods.

🌐 **LTE (The Nationwide Network Backbone):** Functions as the primary access layer across Nigeria. It provides highly consistent behavior between city centers and country towns, making it the most impactful tool for digital inclusion.

🔄 **3G (The Legacy Support Path):** Operates purely as older system infrastructure. It is steadily approaching phase-out as lanes open up for modern, high-speed 4G expansion.

Technology Class	Typical Download Speed (Mbps)	Typical Upload Speed (Mbps)	Typical Latency (ms)	National Scale Focus
5G Layer	181.5	15.6	24	Dense Metropolitan Clusters Only
LTE Baseline	15.7	9.5	31	Nationwide Backbone Core
3G Legacy	5.8	2	42	Gradual Phase-Out Trajectory

4. Consumer Choice Profiles

The Investment Effect: How Provider Strategy Impacts Daily Use

Infrastructure Over Geography: A key finding reveals that a provider's network architecture and backhaul depth have a stronger impact on daily performance than a user's physical location.

The Rural Paradox: Strategic deployment can yield highly optimized rural connections. For instance, a robust rural setup from an infrastructure-heavy provider can deliver a faster experience than a crowded, capacity-constrained urban network.

The Level Playing Field: Network performance variations become highly pronounced in rural corridors, meaning smart provider selection is crucial for remote or agricultural workers.

Provider Profile Group	Urban Download (Mbps)	Rural Download (Mbps)	Urban Upload (Mbps)	Rural Upload (Mbps)	Urban Latency (ms)	Rural Latency (ms)
MTN	25.2	17	12.9	8.4	28	38
Airtel	17.4	10.1	7.8	5.4	31	41
Glo	10.1	9.8	4.6	4.8	33	38
T2	18.9	10.1	1	1.3	63	92

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5. Strategic Structural Profiles

A Scannable View of the Provider Landscape

Balanced Strategy: Providers must balance high peak capability in city centers with baseline consistency across country roads to truly serve modern consumers.

Operational Characteristics Observed:

- **MTN:** Focuses heavily on nationwide depth, maintaining high throughput consistency across both urban and rural environments.
- **Airtel:** Focuses on a highly reliable, stable middle baseline with very low overall performance volatility.
- **Glo:** Experiences regional constraints, where data lanes appear focused on maintaining base responsiveness over raw speed.
- **T2:** Demonstrates highly localized urban peaks combined with elevated latency and connection fluctuations across remote testing hubs

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6. The Long-Term Connectivity Roadmap

Steps Toward Digital Equity

📍 **Targeted Rural Densification:** Actively driving spectrum modernization and tower placement into remote corridors to lift baseline country connections closer to urban standards.

📡 **Sustained LTE Investment:** Recognizing that while 5G expands in major cities, updating and strengthening 4G LTE is the most immediate tool to connect rural businesses and students.

🤝 **Incentivized Infrastructure Sharing:** Creating universal service framework adjustments that encourage network operators to share baseline physical structures across large, low-density regions.

📊 **Geospatial Public Dashboards:** Continuing to publish localized consumer quality indices to keep communities informed and foster healthy infrastructure upgrades

Thank You