Operator Assisted Drive Test Report

Jabalpur City and nearby Area
01/03/2023 to 03/03/2023
By
TRAI Regional Office Bhopal

The Operator Assisted Drive Test has been carried out by Regional Office, Bhopal with the help of Telecom Service Providers for Jabalpur City and surrounding areas from 10:00 AM to 7:00 PM from 01/03/2023 to 03/03/2023. The drive test covered drive route of around 330 KMs. Approximately 550 calls were made for each of the 2G/3G/4G.

TSP	Network tested
Airtel	2G & VoLTE
BSNL	2G & 3G
JIO	VoLTE
VIL	2G & VoLTE

Key Performance Indicators:

KPI	Benchmark	Observations
Block call rate %	≤3%	All TSPs achieved the benchmark
Drop call rate %	≤2%	All TSPs achieved the benchmark
CSSR %	≥95 %	All TSPs achieved the benchmark
Mobility HOSR %	≥95%	All TSPs achieved the benchmark
Good RX Quality %	≥95%	All TSPs achieved the benchmark except Airtel in 2G and Airtel & JIO in VoLTE

Overview

Regional Office, TRAI Bhopal conducted Operator Assisted Drive Test. The performance of Airtel, BSNL, Vodafone Idea and Jio was monitored across various technologies (2G, 3G and 4G). The test results obtained from these drive tests were utilized to assess the network quality for Voice and Data services.

Voice: Coverage, Quality, Handover Success Rate, Call Setup Success Rate, Drop Call Rate and Block Call Rate.

Data: Download Throughputs

Drive Test Details :
Voice Tests:
i.2G – measurement – UE Locked in 2G
ii.3G – measurement – UE in Dual mode (2G and 3G)
iii.4G – measurement – UE in Free mode

Calls were made for the **90-sec** duration with a wait time of **10 sec** between calls in all technologies.

Data Tests:
**Dynamic data –** repeat data file download (to check throughput on the entire route)

i.2G – measurement – UE Locked in 2G file size- 500KB
ii.3G – measurement – UE in 3G   File Size- 20MB
iii.4G – measurement – UE in LTE File Size- 40MB
Static Data: Download and Upload Throughputs, Web Browsing Delay, Video Streaming Delay, and Latency
i.Download- 2G - 500KB ,3G - 20 MB, 4G - 40MB
ii.Upload - 2G -100KB ,3G - 5 MB, 4G - 10MB
iii.Web browsing - 3 links of e-commerce websites https://www.amazon.in, https://www.flipkart.com, https://paytm.com.
iv.Video Streaming – 130 sec clip (only in 3G and LTE)
v.Latency – 32 Bytes on www.google.com.

Voice & Dynamic Data Test Drive Route
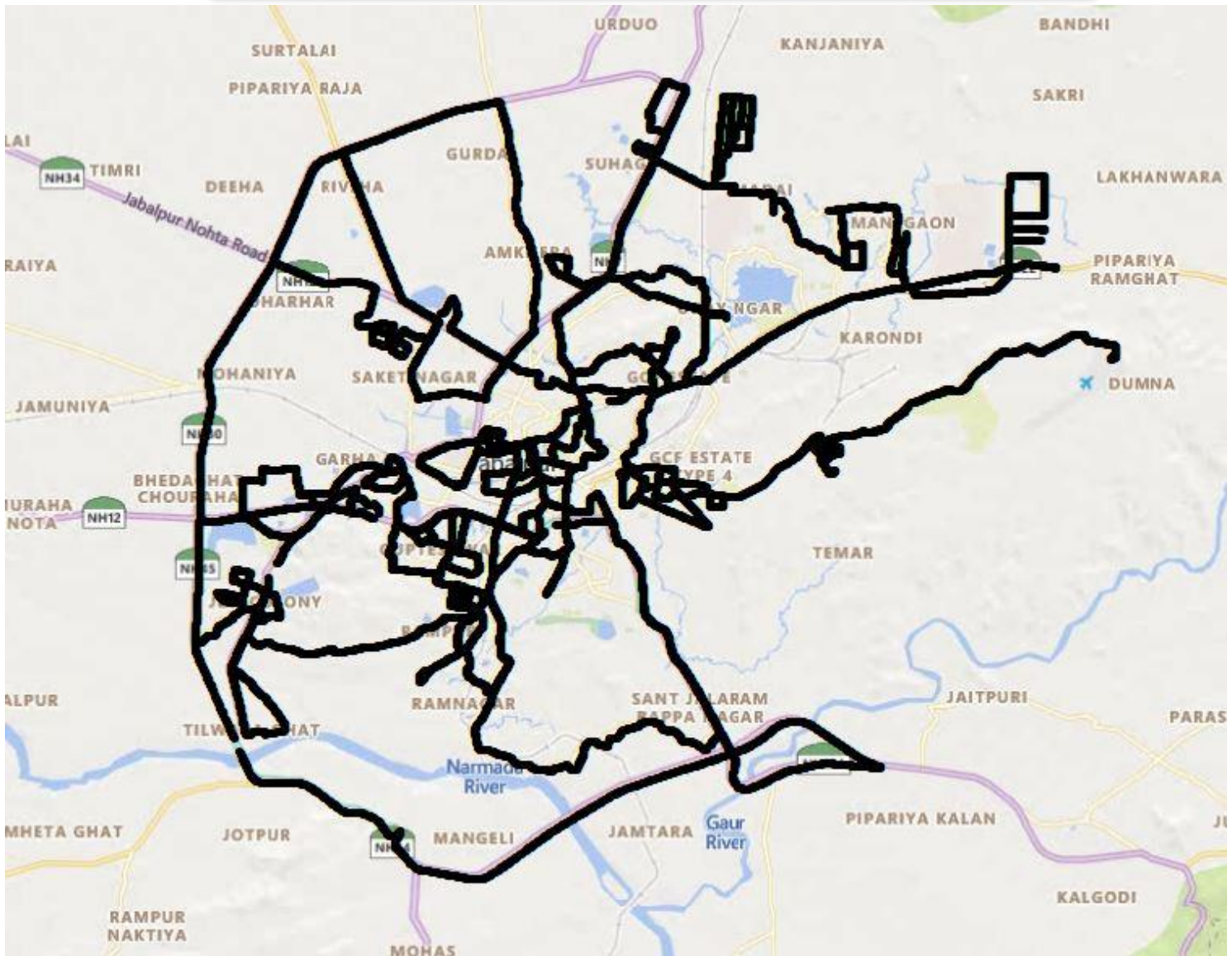
| List of important area covered during the drive test |
|---|
| Railway Station and Government medical college |
| ISBT ,Katangi bypass,Vijaynagar,Nayagaon, Ghantaghar |
| Tilhari,Bilhari,Bhatoli,saliwara,Gorabazar,,Sadar,Penty Naka |
| Mandla road,Ekta market,Gwarighat,Chappar,MPEB,Rampur, |
| Shakti Nagar,Gupteswar,Madanmahal,Ranital,Civilline,Ranjhi,Miloniganj |
| Barapathar,JEC College,Ghamapur,Kanchaghar,Fuahara, Shahsti nagar,Dhanwantri nagar |

Overview
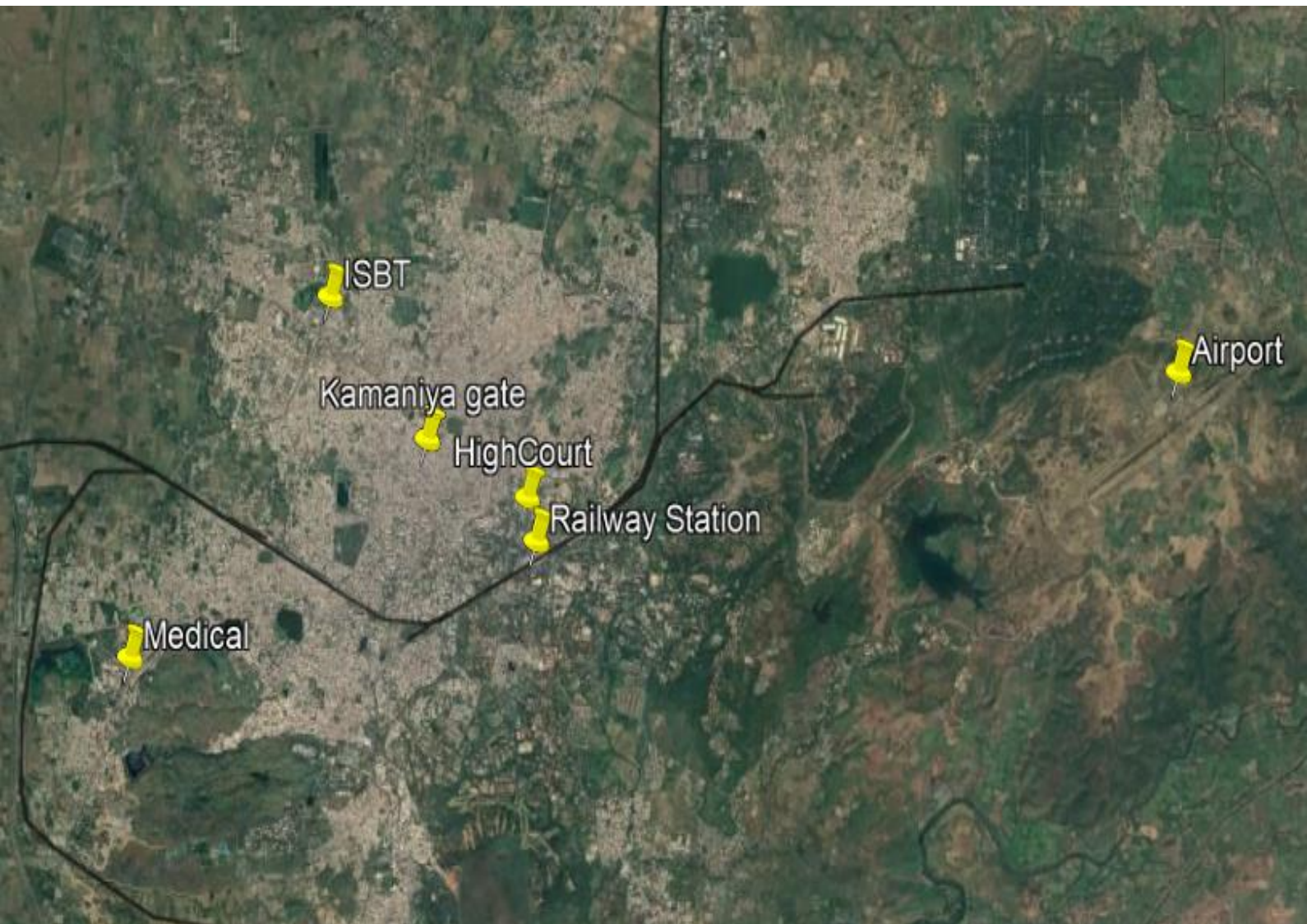
Hotspot Locations
1. High Court
2. ISBT
3. Medical
4. Airport
5. Kamaniya Gate
6. Railway Station

Voice Calls

QoS compliance of the TSPs for Voice across technologies 2G/3G/4G-VoLTE:
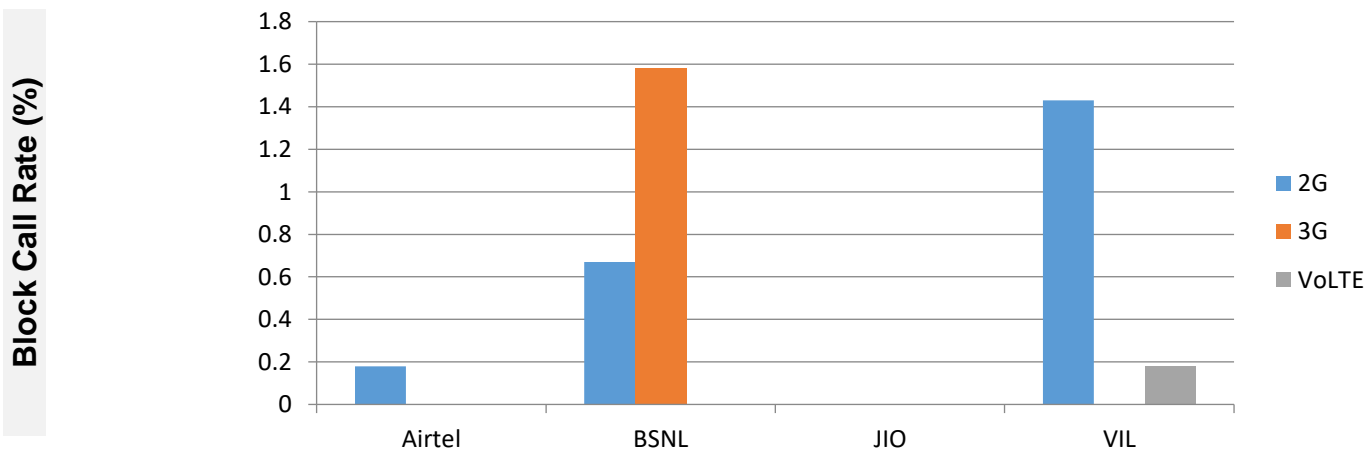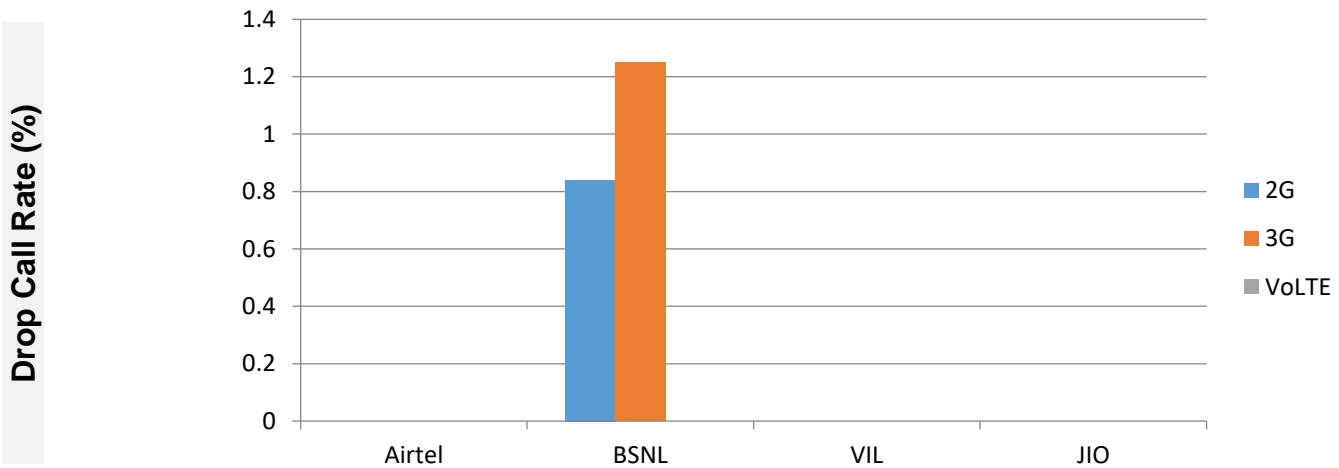
KPIs	2G			3G		VoLTE		
	Airtel	BSNL	VIL	BSNL	VIL	Airtel	RJIL	VIL
Drop Call Rate %	0	0.84	0	1.25	NA	0	0	0
Block Call Rate %	0.18	0.67	1.43	1.58	NA	0	0	0.18

a) All TSPs have met the 2% QOS benchmark of Drop Call Rate (DCR%)

b) Call Block Rate (CBR%) benchmark of 3% was achieved by all TSP's.

Voice Calls

Coverage

a) Percentage of coverage samples for 2G ≥ -85 dBm.

TSPs	2G		
	Airtel	BSNL	VIL
Coverage %	86.33%	98.47 %	96.86%

b) Percentage of coverage samples for 3G ≥ -90 dBm

TSPs	3G	
	BSNL	VIL
Coverage %	98.62 %	NA

b) Percentage of coverage samples for LTE ≥ -110 dBm.

TSPs	VoLTE		
	Airtel	JIO	VIL
Coverage %	99.80%	98.44%	99.7%

c) Percentage of time spent on 3G/4G network

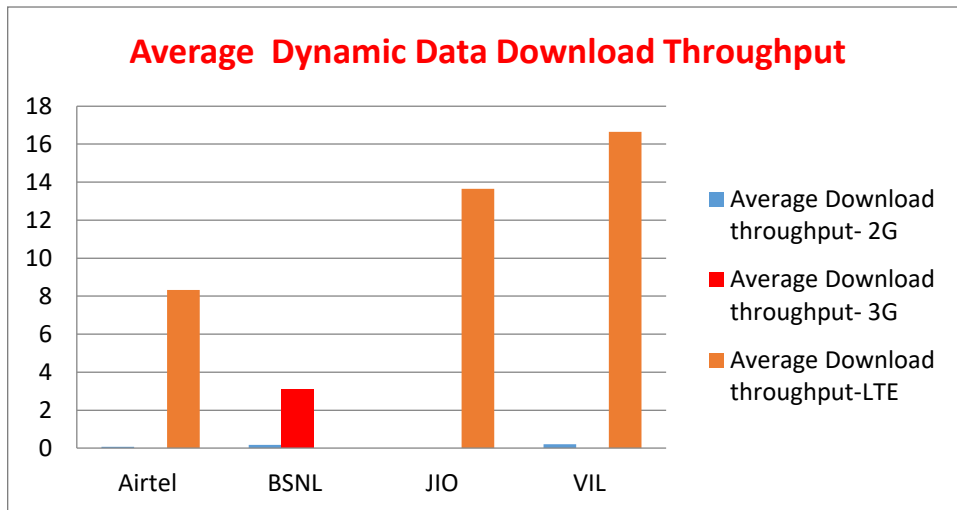| TSPs	3G		VoLTE		
	BSNL	VIL	Airtel	VIL	JIO
Time Spent on 3G/4G %	92 %	NA	100%	94.7%	100%

Data Services Dynamic

Dynamic Data -Download Throughput was tested.

Data Download Performance - Dynamic

3G/4G/ Network:

TSP	Airtel	BSNL	JIO	VIL
Average Download throughput- 2G in Kbps	80.64	181 Kbps	NA	205.70
Average Download throughput- 3G In Mbps	NA	3.1 Mbps	NA	NA
Average Download throughput-LTE in Mbps	**8.33**	NA	13.65	16.65

Summary

TSP (For 2G)	Airtel	BSNL	JIO	VIL
Call attempts	544	596	NA	558
Block call rate %	0.18	0.67 %	NA	1.43
CSSR %	99.82	99.32 %	NA	98.57
Drop call rate %	0	0.84%	NA	0
Mobility HOSR %	99.63	98.56%	NA	96.2
RX Quality %	94.69	99.94 %	NA	97.92
Average CST Sec	4.08	2.1 Sec	NA	2.46

TSP (For 3G)	Airtel	BSNL	JIO	VIL
Call attempts	NA	568	NA	
Block call rate %	NA	1.58 %	NA	
CSSR %	NA	98.41%	NA	
Drop call rate %	NA	1.25%	NA	
Mobility HOSR %	NA	97.54 %	NA	
RX Quality %	NA	96.26 %	NA	
Average CST (Sec)	NA	2.2 sec	NA	

TSP (For Volte)	Airtel	BSNL	JIO	VIL
Call attempts	568	NA	501	568
Block call rate %	0	NA	-	0.18
CSSR %	100	NA	100%	99.82
Drop call rate %	0	NA	0%	0
Mobility HOSR %	100	NA	98.82%	99.5
RX Quality %	**90.57**	NA	**90.32%**	95.20
Average CST(Sec)	0.69	NA	0.4	0.64

Summary

TSP (For 2G)	Airtel	BSNL	JIO	VIL
Download throughput in Kbps	64.76	173.1	NA	185.35
Upload Throughput in Kbps	54.15	70.68	NA	79.60
Web browsing delay in second	70.52	8	NA	114.71
Latency in (msec)	581.8	238.80	NA	228.83

TSP (For 3G)	Airtel	BSNL	JIO	VIL
Download throughput in Mbps	NA	4.81	NA	NA
Upload Throughput in Mbps	NA	2.32	NA	NA
Video streaming delay in sec	NA	1.93	NA	NA
Web browsing delay in second	NA	4.50	NA	NA
Latency in (msec)	NA	156.28	NA	NA

TSP (For LTE)	Airtel	BSNL	JIO	VIL
Download throughput in Mbps	14.03	NA	11.45	36.66
Upload Throughput in Mbps	5.08	NA	6.38	9.2
Video streaming delay in sec	0.72	NA	0.91	0.51
Web browsing delay in second	2.29	NA	3.83	4.38
Latency in (msec)	70.9	NA	59	76.2

Data Services Static

Data was tested at 6 locations .Following services were tested: Data Download/Upload, Latency (www.google.com), and Web browsing (Flipkart, Amazon, PayTm)

3G/4G/ Network:

Static Avg. download throughput

- 2G Download throughput in Mbps
- 3G Download throughput in Mbps
- VoLTE Download throughput in Mbps

Static Avg. upload throughput

- 2G Upload Throughput in Kbps
- 3G Upload Throughput in Mbps
- VoLTE Upload Throughput in Mbps

Static Avg. Video streaming delay

- 3G Video streaming delay in sec
- VoLTE Video streaming delay in sec

Static-Avg. Web browsing delay

- 2G Web browsing delay in second
- 3G Web browsing delay in second
- VoLTE Web browsing delay in second

Static-Avg. latency

- 2G Latency in (msec)
- 3G Latency in (msec)
- VoLTE Latency in (msec)

1. Hotspot Location- Jabalpur Bus stand ISBT

	2G			
	Airtel	**BSNL**	**JIO**	**VIL**
Download throughput in Kbps	48.36	200	NA	195.4
Upload Throughput in Kbps	53.53	83.3	NA	71.62
Web browsing delay in second	91.87	10	NA	17.23
Latency in (msec)	391.78	249.3	NA	213

	3G			
	Airtel	**BSNL**	**JIO**	**VIL**
Download throughput in Mbps	NA	3.8	NA	NA
Upload Throughput in Mbps	NA	2.6	NA	NA
Video streaming delay in sec	NA	1.1	NA	NA
Web browsing delay in second	NA	4	NA	NA
Latency in (msec)	NA	207.33	NA	NA

	LTE			
	Airtel	**BSNL**	**JIO**	**VIL**
Download throughput in Mbps	4.42	NA	5.31	46.25
Upload Throughput in Mbps	0.71	NA	8.4	9.04
Video streaming delay in sec	0.67	NA	1.08	0.42
Web browsing delay in second	1.96	NA	3.82	0.86
Latency in (msec)	64.96	NA	49	103

Summary

2. Hotspot Location- MP high court

	2G			
	Airtel	**BSNL**	**JIO**	**VIL**
Download throughput in Kbps	104.52	173.6	NA	208.29
Upload Throughput in Kbps	60.53	71.6	NA	86.37
Web browsing delay in second	31.52	6	NA	7.7
Latency in (msec)	371.38	280.3	NA	214

	3G			
	Airtel	**BSNL**	**JIO**	**VIL**
Download throughput in Mbps	NA	4.1	NA	NA
Upload Throughput in Mbps	NA	2.2	NA	NA
Video streaming delay in sec	NA	2.3	NA	NA
Web browsing delay in second	NA	5	NA	NA
Latency in (msec)	NA	159.66	NA	NA

	LTE			
	Airtel	**BSNL**	**JIO**	**VIL**
Download throughput in Mbps	14.29	NA	13.62	52.73
Upload Throughput in Mbps	3.49	NA	4.55	11.6
Video streaming delay in sec	0.60	NA	0.839	0.46
Web browsing delay in second	2.78	NA	3.44	0.73
Latency in (msec)	67.54	NA	67	84

3. Hotspot Location-   Medical College

	2G			
	Airtel	**BSNL**	**JIO**	**VIL**
Download throughput in Kbps	94.55	150	NA	108.2
Upload Throughput in Kbps	70.64	66	NA	43.41
Web browsing delay in second	45.34	8	NA	11.75
Latency in (msec)	484.6	305	NA	254

	3G			
	Airtel	**BSNL**	**JIO**	**VIL**
Download throughput in Mbps	NA	3.7	NA	NA
Upload Throughput in Mbps	NA	2.2	NA	NA
Video streaming delay in sec	NA	1.87	NA	NA
Web browsing delay in second	NA	4	NA	NA
Latency in (msec)	NA	99	NA	NA

	LTE			
	Airtel	**BSNL**	**JIO**	**VIL**
Download throughput in Mbps	8.30	NA	9.19	29.49
Upload Throughput in Mbps	3.60	NA	7.31	7.3
Video streaming delay in sec	0.92	NA	0.56	0.40
Web browsing delay in second	2.09	NA	3.42	0.55
Latency in (msec)	73.72	NA	45	69

Summary

4. Hotspot Location-Railway Station

	2G			
	Airtel	**BSNL**	**JIO**	**VIL**
Download throughput in Kbps	42.61	107	NA	199.65
Upload Throughput in Kbps	42.52	32.3	NA	96.01
Web browsing delay in second	110.50	7	NA	12.1
Latency in (msec)	435.83	179	NA	237

	3G			
	Airtel	**BSNL**	**JIO**	**VIL**
Download throughput in Mbps	NA	5	NA	
Upload Throughput in Mbps	NA	2.46	NA	
Video streaming delay in sec	NA	1.93	NA	
Web browsing delay in second	NA	3	NA	
Latency in (msec)	NA	90	NA	

	LTE			
	Airtel	**BSNL**	**JIO**	**VIL**
Download throughput in Mbps	27.80	NA	21.6	36.27
Upload Throughput in Mbps	11.79	NA	11.59	8.5
Video streaming delay in sec	0.70	NA	1.13	0.40
Web browsing delay in second	2.36	NA	3.7	0.49
Latency in (msec)	63.95	NA	64	68

5. Hotspot Location- Kamaniya Gate

	2G			
	Airtel	**BSNL**	**JIO**	**VIL**
Download throughput in Kbps	120.57	190	NA	208.71
Upload Throughput in Kbps	70.25	66.6	NA	91.14
Web browsing delay in second	29.25	9	NA	4.34
Latency in (msec)	445.83	229.6	NA	218

	3G			
	Airtel	**BSNL**	**JIO**	**VIL**
Download throughput in Mbps	NA	3.4	NA	NA
Upload Throughput in Mbps	NA	2.27	NA	NA
Video streaming delay in sec	NA	2.35	NA	NA
Web browsing delay in second	NA	5	NA	NA
Latency in (msec)	NA	97	NA	NA

	LTE			
	Airtel	**BSNL**	**JIO**	**VIL**
Download throughput in Mbps	26.78	NA	13.11	28.33
Upload Throughput in Mbps	10.35	NA	4.88	10.7
Video streaming delay in sec	0.57	NA	0.96	0.42
Web browsing delay in second	2.36	NA	3.31	0.55
Latency in (msec)	75.16	NA	43	61

6. Hotspot Location- Jabalpur airport

	2G			
	Airtel	**BSNL**	**JIO**	**VIL**
Download throughput in Kbps	33.78	218	NA	191.82
Upload Throughput in Kbps	27.45	104.3	NA	89.05
Web browsing delay in second	154.62	8	NA	5.21
Latency in (msec)	1361.33	189.6	NA	237

	3G			
	Airtel	**BSNL**	**JIO**	**VIL**
Download throughput in Mbps	NA	8.88	NA	NA
Upload Throughput in Mbps	NA	2.18	NA	NA
Video streaming delay in sec	NA	2	NA	NA
Web browsing delay in second	NA	6	NA	NA
Latency in (msec)	NA	284.66	NA	NA

	LTE			
	Airtel	**BSNL**	**JIO**	**VIL**
Download throughput in Mbps	4.58	NA	5.85	26.87
Upload Throughput in Mbps	0.53	NA	1.61	7.5
Video streaming delay in sec	0.87	NA	0.92	0.95
Web browsing delay in second	2.16	NA	4.65	0.55
Latency in (msec)	80.09	NA	76	72

RF Coverage relates to the geographical footprint within the system that has sufficient RF signal strength to provide for a call session. The Coverage rate is calculated on the basis of % of samples in which the Rx level ≥ -85 dBm, RSCP is ≥ -90 dBm & RSRP ≥ -110dBm. The details are as follows.
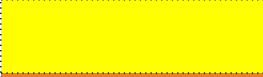
TSP	Coverage Rate %
Airtel 2G	86.33
BSNl 2G	98.47
VIL 2G	96.86
BSNL 3G	98.62
VIL 3G	NA
Airtel VoLTE	99.80
Jio VoLTE	98.44
VIL VoLTE	99.7
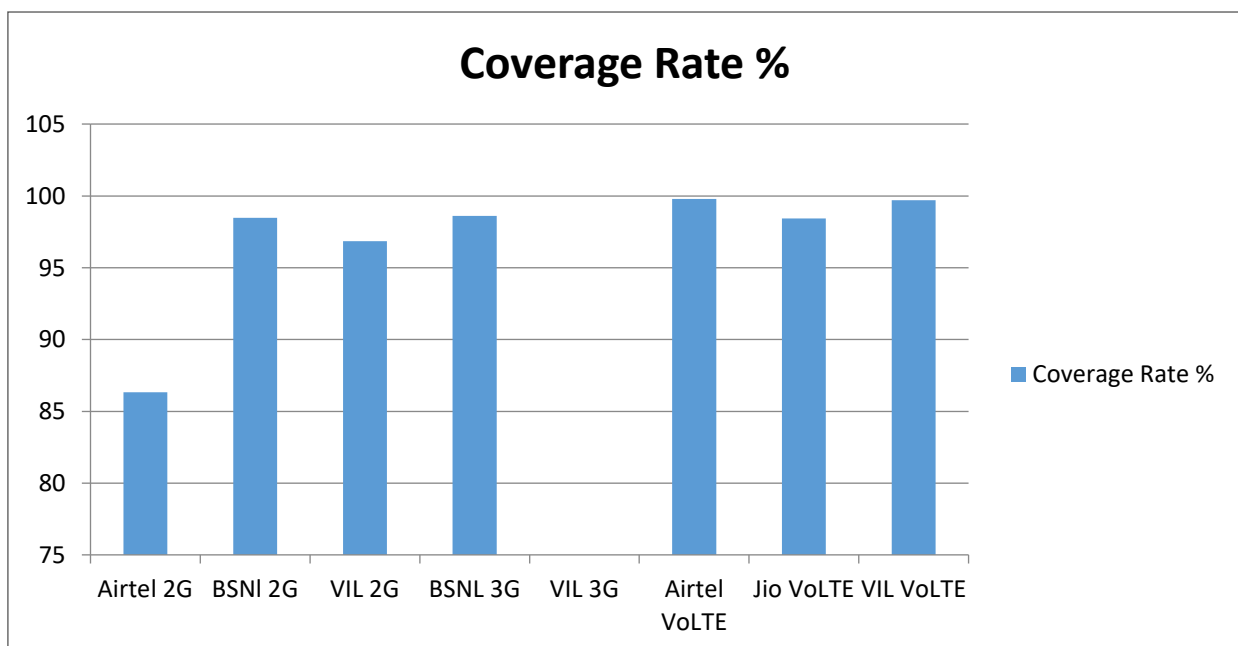
TSP- Airtel

Technology	Coverage %
2G	86.33

2G			
Overall RxLevel	**# Samples**	**% PDF**	**Legends**
[Max, >=-75]	3849965	58.05	
[-75, >=-85)	1874846	28.27	
[-85, >=-95)	878854	13.25	
[-95, >=Min)	27928	0.42	
Total	6631593	**100**	

TSP-BSNL

Technology	Coverage %
2G	100 %
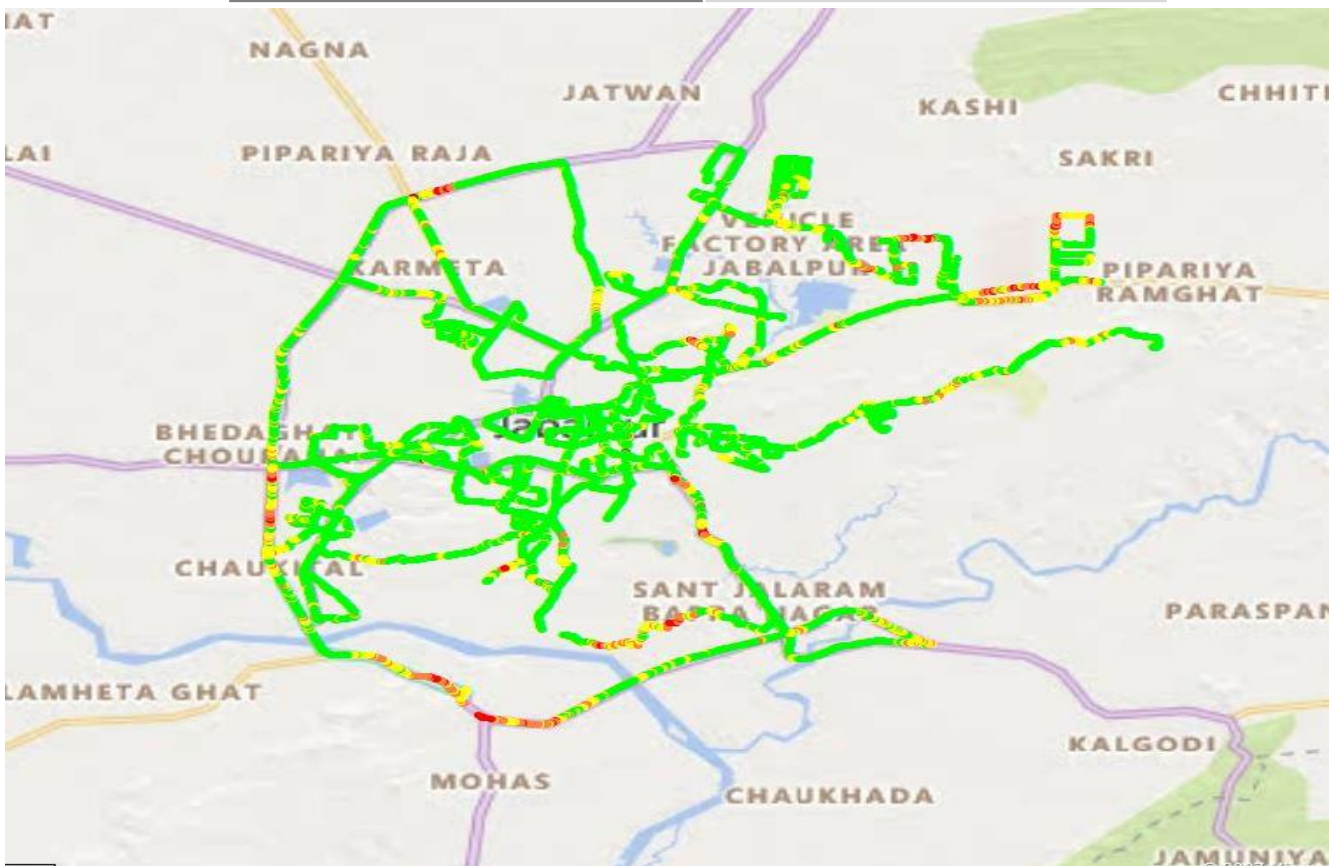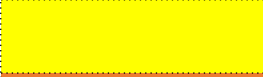
2G			
Overall RxLevel	**# Samples**	**% PDF**	**Legends**
[Max, >=-75]	91272	56.67%	
[-75, >=-85)	67328	41.80%	
[-85, >=-95)	1688	1.04%	
[-95, >=Min)	752	.46%	
Total	161040	100.00%	

TSP-VIL

Technology	Coverage %
2G	96.86%
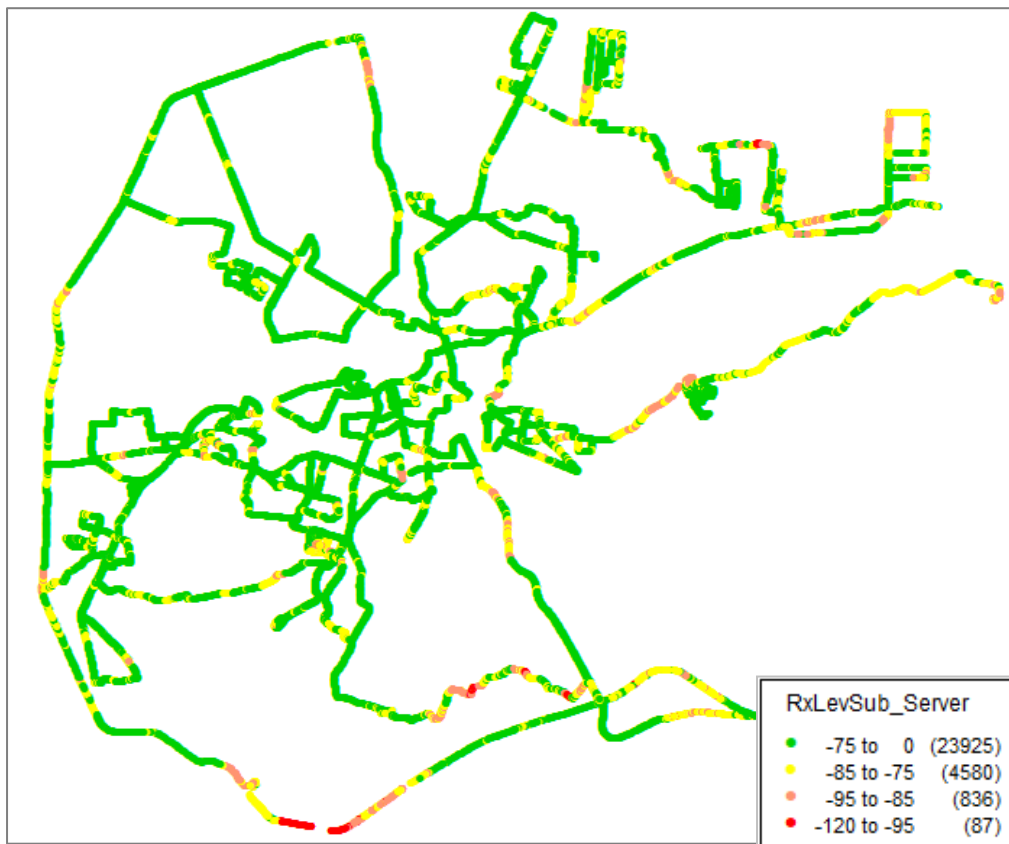
2G			
Overall RxLevel	**# Samples**	**% PDF**	**Legends**
[Max, >=-75]	23925	81.30%	
[-75, >=-85)	4580	15.56%	
[-85, >=-95)	836	2.84%	
[-95, >=Min)	87	0.30%	
Total	29428	100%	

TSP- BSNL

Technology	Coverage %
3G	100 %
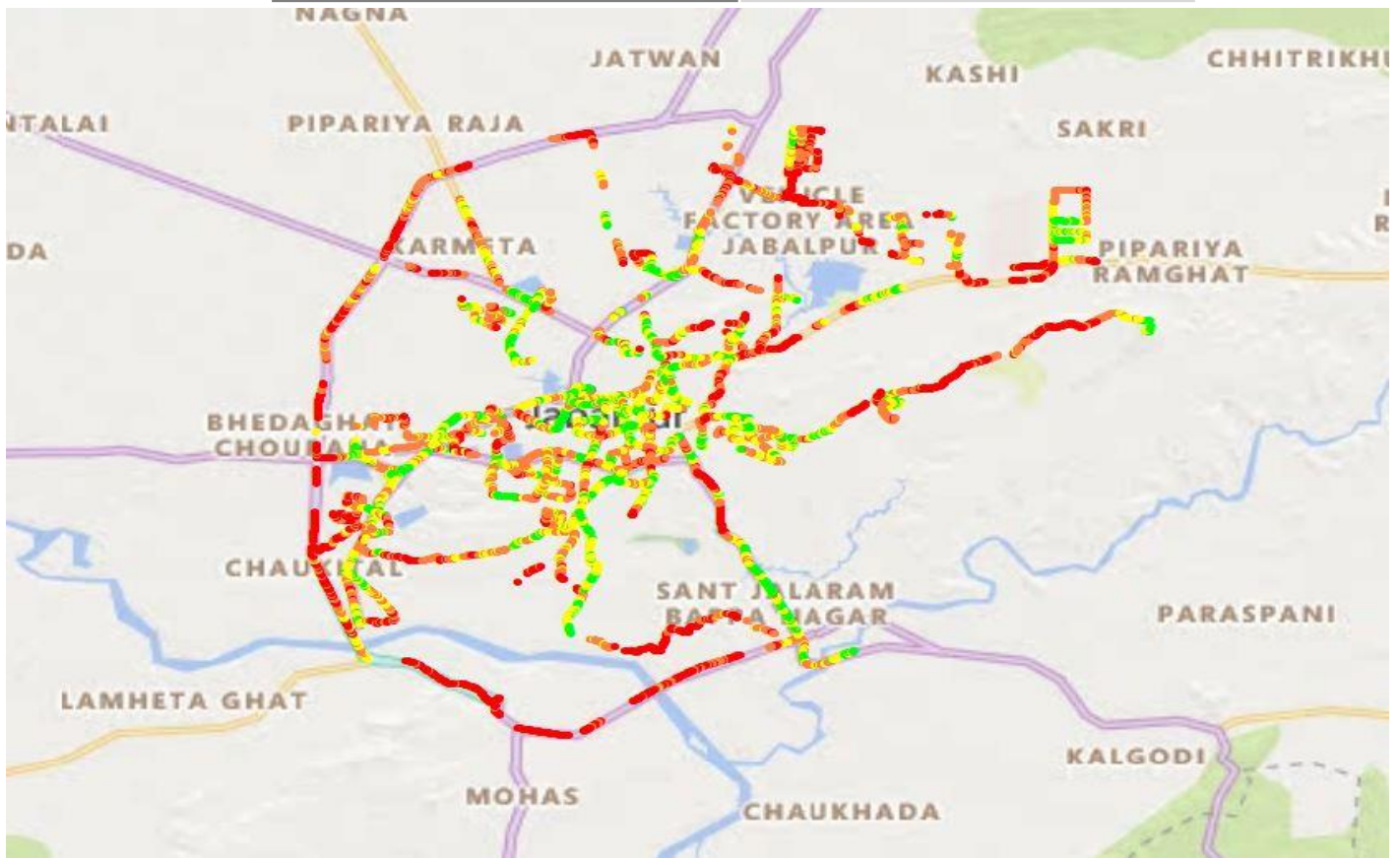
3G			
Overall RSCP	**# Samples**	**% PDF**	**Legends**
[Max, >=-70]	559940	27.95%	
[-70, >=-80)	741999	37.04%	
[-80, >=-90)	673689	33.63%	
[-90, >=Min)	27352	1.36%	
Total	**2002980**	**100.00%**	

TSP- Airtel

Technology	Coverage %
VoLTE	99.80

VoLTE			
Overall RSRP	**# Samples**	**% PDF**	**Legends**
[Max, >=-80]	3669760	33.23	
[-80, >=-90)	6802591	61.60	
[-90, >=-110)	549326	4.97	
[-110, >=Min)	22162	0.20	
Total	11043839	**100**	

TSP-JIO

Technology	Coverage %
VoLTE	98.44%
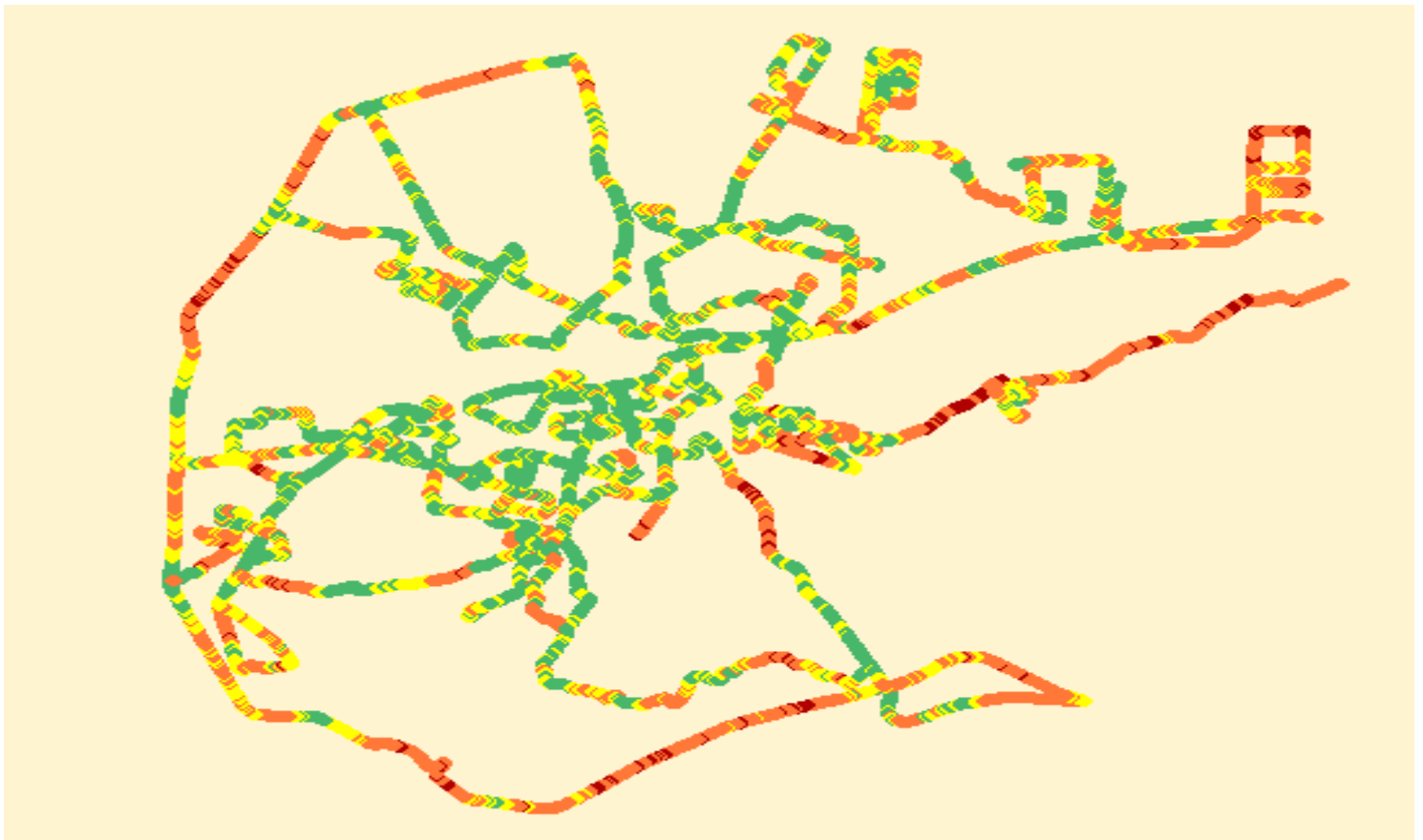
VoLTE

Overall RSRP	# Samples	% PDF	Legends
[Max, >=-80]	23779	43.75%	
[-80, >=-90)	16768	30.85%	
[-90, >=-110)	12958	23.84%	
[-110, >=Min)	850	1.56%	
Total	54355		

TSP-VIL

Technology	Coverage %
VoLTE	99.7%

EpsServingCellRsrp
- -80 to   0   (17636)
- -90 to -80   (10438)
- -110 to -90   (6226)
- -120 to -110   (103)
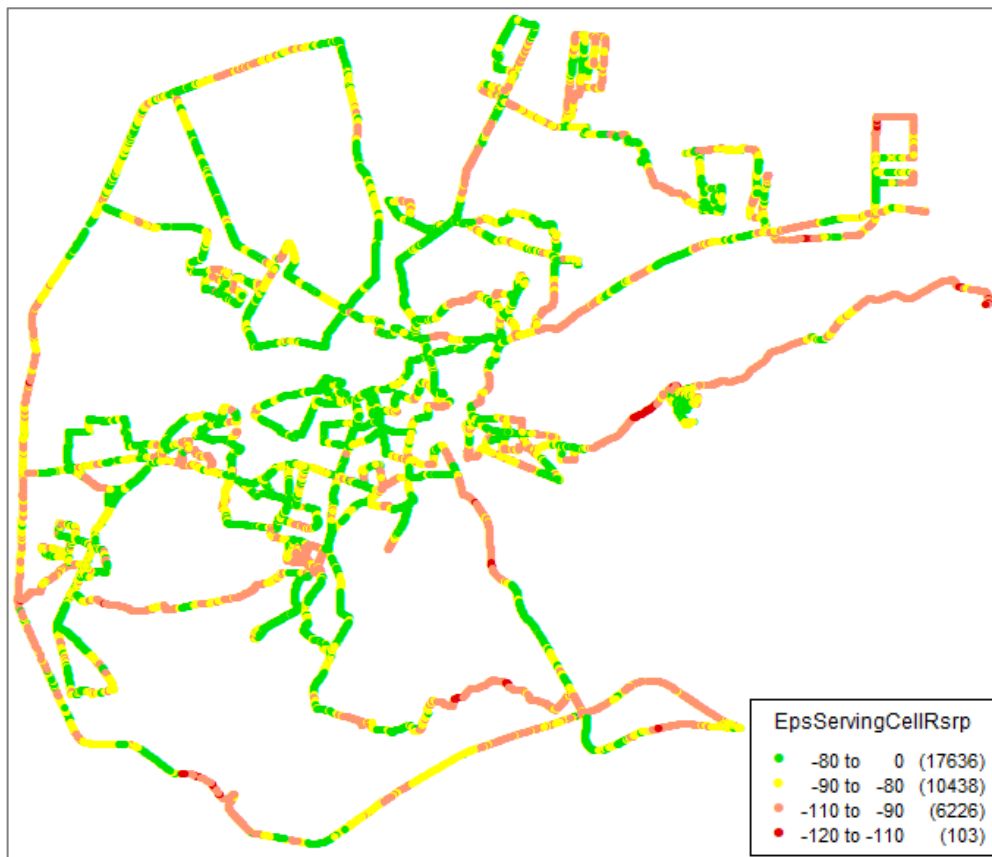
VoLTE			
Overall RSRP	**# Samples**	**% PDF**	**Legends**
[Max, >=-80]	17636	51.26%	
[-80, >=-90)	10438	30.34%	
[-90, >=-110)	6226	18.10%	
[-110, >=Min)	103	0.30%	
Total	34403	100.00%	

For measuring voice quality, as per the QoS norms, RxQual <=5 for GSM TSPs, EcNo >= -14 dBm for 3G TSP sand SINR >0 in case of VoLTE is considered to be good, where as quality beyond this benchmark is considered to be bad. The benchmark should usually be ≥ 95%.
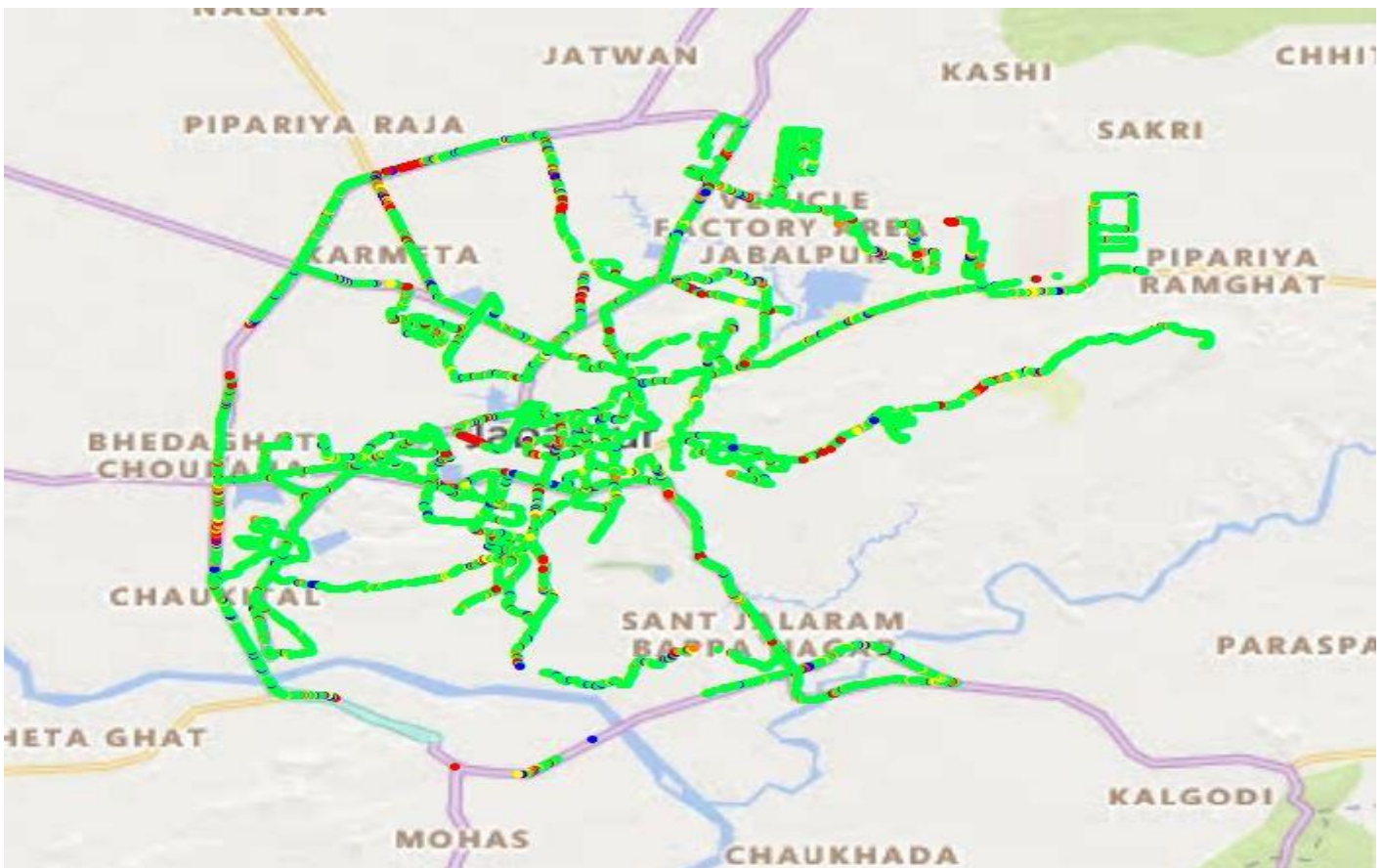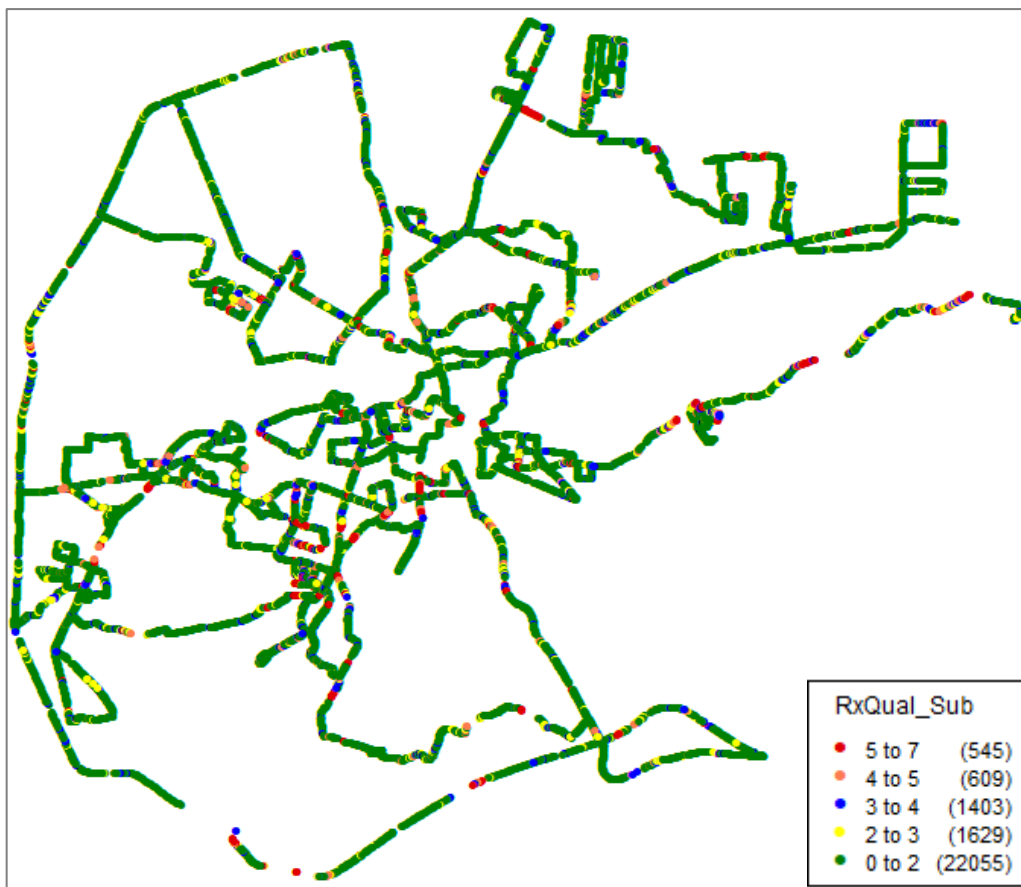
TSP	Rx Quality %
Airtel 2G	94.69%
BSNl 2G	99.94 %
VIL 2G	97.92%
BSNL 3G	96.26 %
VIL 3G	NA
Airtel VoLTE	90.57%
Jio VoLTE	90.32%
VIL VoLTE	95.20%
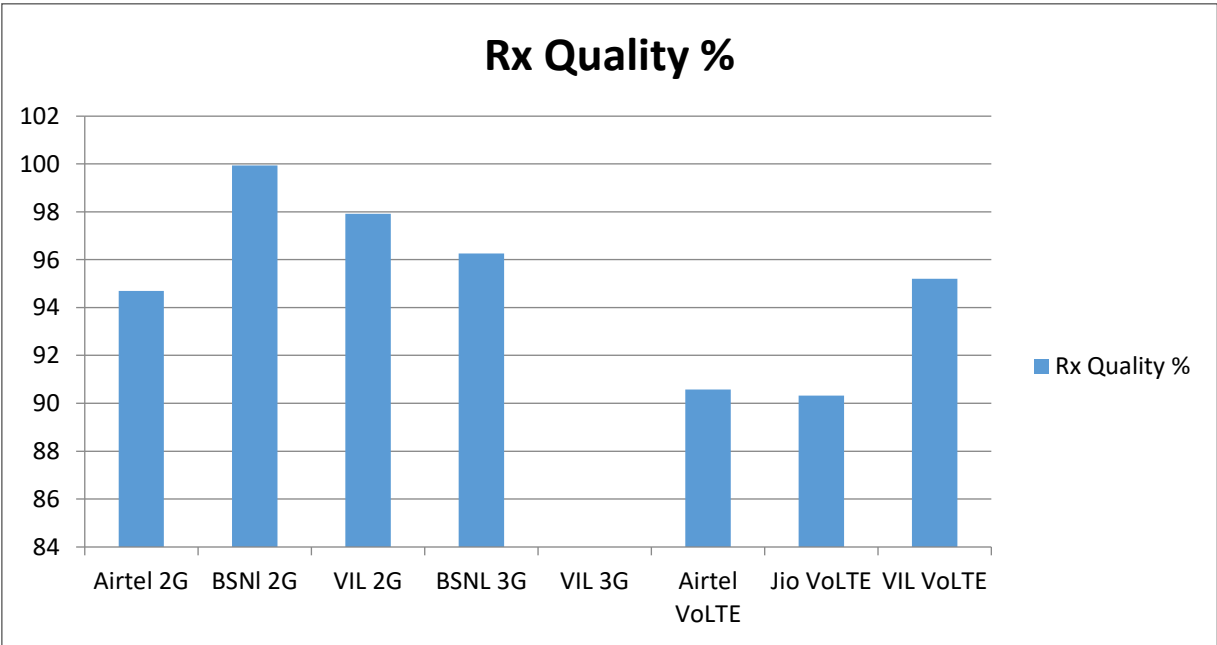
Rx Quality %

For measuring voice quality, as per the QoS norms, RxQual <=5 for GSM TSPs, EcNo >= -14 dBm for 3G TSP sand SINR >0 in case of VoLTE is considered to be good, where as quality beyond this benchmark is considered to be bad. The benchmark should usually be ≥ 95%.

TSP- Airtel

Technology	Rx Quality %
2G	94.69

Overall Rx Quality	# Samples	% PDF	Legends
(Min, <=2)	5445636	82.12	🟩
(2, <=3)	267415	4.03	🟨
(3 , <=4)	222886	3.36	🟦
(4 , <=5)	343311	5.18	🟧
(5 , <=Max)	352345	5.31	🟥
Total	6631593	100	

For measuring voice quality, as per the QoS norms, RxQual <=5 for GSM TSPs, EcNo >= -14 dBm for 3G TSP sand SINR >0 in case of VoLTE is considered to be good, where as quality beyond this benchmark is considered to be bad. The benchmark should usually be ≥ 95%.

TSP-BSNL

| Technology	Rx Quality %
2G	99.94%

Overall Rx Quality	# Samples	% PDF	Legends
(Min, <=2)	100534	96.42%	
(2, <=3)	1903	1.82%	
(3 , <=4)	1530	1.46%	
(4 , <=5)	1732	1.66%	
(5 , <=Max)	65	0.06%	
Total	105764	100.00%	

For measuring voice quality, as per the QoS norms, RxQual <=5 for GSM TSPs, EcNo >= -14 dBm for 3G TSP sand SINR >0 in case of VoLTE is considered to be good, where as quality beyond this benchmark is considered to be bad. The benchmark should usually be ≥ 95%.

TSP-VIL

Technology	Rx Quality %
2G	97.92%

RxQual_Sub
- 5 to 7   (545)
- 4 to 5   (609)
- 3 to 4   (1403)
- 2 to 3   (1629)
- 0 to 2   (22055)

Overall Rx Quality	# Samples	% PDF	Legends
(Min, <=2)	22055	84.05%	
(2, <=3)	1629	6.21%	
(3 , <=4)	1403	5.35%	
(4 , <=5)	609	2.32%	
(5 , <=Max)	545	2.08%	
Total	26241	100.00%	

For measuring voice quality, as per the QoS norms, RxQual <=5 for GSM TSPs, EcNo >= -14 dBm for 3G TSP sand SINR >0 in case of VoLTE is considered to be good, where as quality beyond this benchmark is considered to be bad. The benchmark should usually be ≥ 95%.

TSP-BSNL

| Technology	Rx Quality %
3G	96.26 %
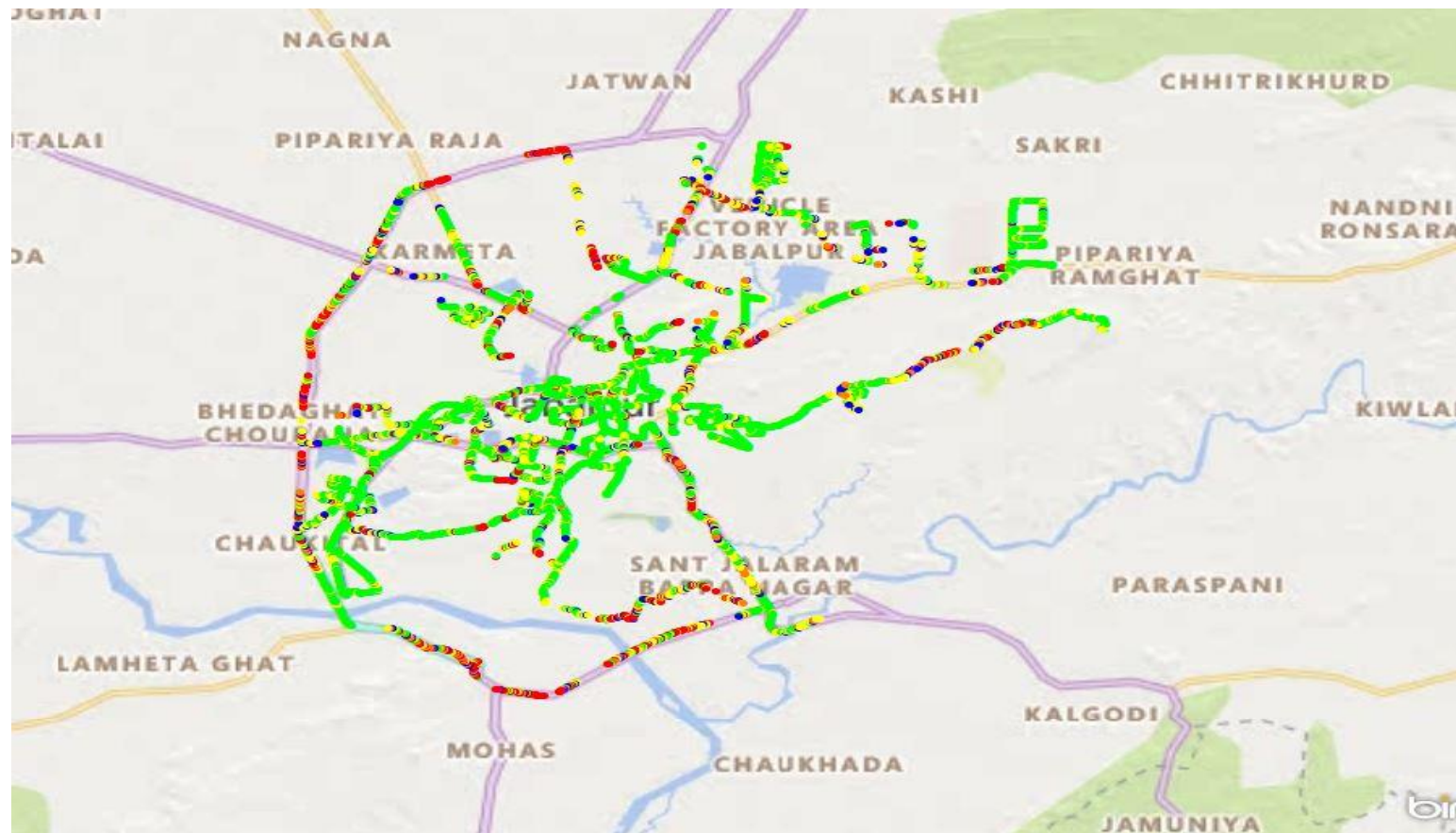
Overall Ec/No	# Samples	% PDF	Legends
(Max, <=-6)	22247	27.44%	🟩
(-6, <=-9)	19214	23.70%	🟨
(-9, <=-11)	18357	22.64%	🟦
(-11, <=-14)	18223	22.47%	🟧
(-14, <= Min)	3025	3.73%	🟥
Total	**81066**	**100%**	

For measuring voice quality, as per the QoS norms, RxQual <=5 for GSM TSPs, EcNo >= -14 dBm for 3G TSP sand SINR >0 in case of VoLTE is considered to be good, where as quality beyond this benchmark is considered to be bad. The benchmark should usually be ≥ 95%.
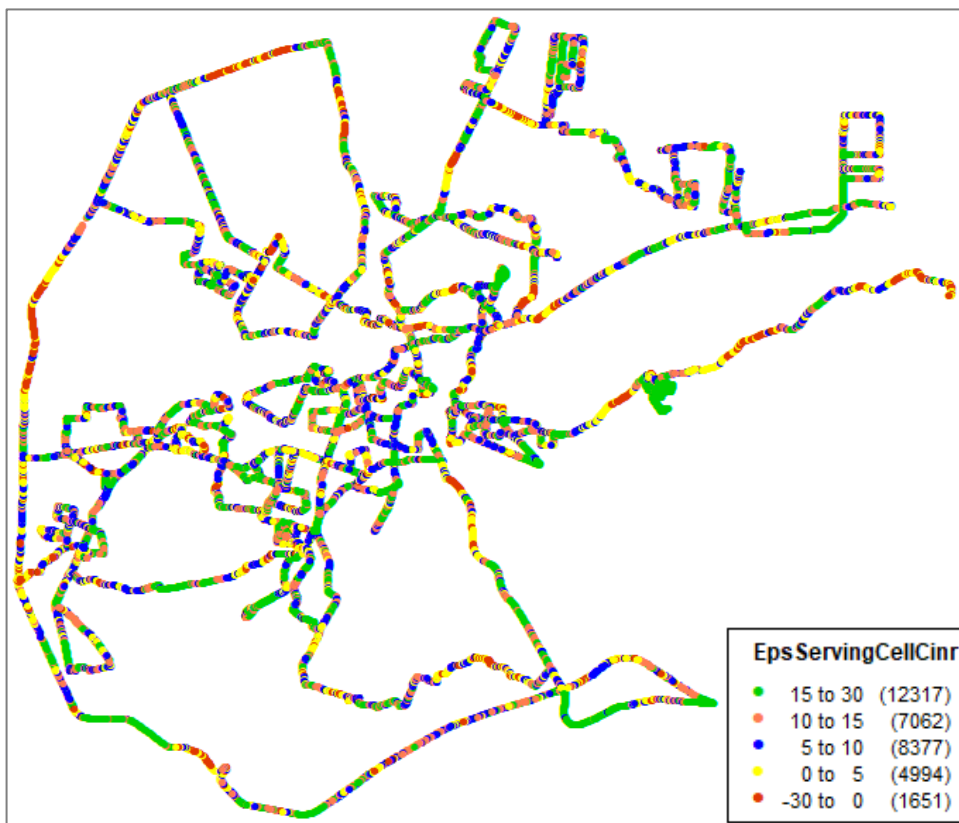
TSP-Airtel

Technology	Rx Quality %
VoLTE	90.57

Overall SINR	# Samples	% PDF	Legends
(Min, <=0)	1041606	9.43	
(0, <=5)	8330166	75.44	
(5, <=10)	852368	7.72	
(10, <=15)	509476	4.61	
(15, <=Max)	308748	2.80	
Total	11042364	100	

For measuring voice quality, as per the QoS norms, RxQual <=5 for GSM TSPs, EcNo >= -14 dBm for 3G TSP sand SINR >0 in case of VoLTE is considered to be good, where as quality beyond this benchmark is considered to be bad. The benchmark should usually be ≥ 95%.

TSP-JIO

Technology	Rx Quality %
VoLTE	90.32%
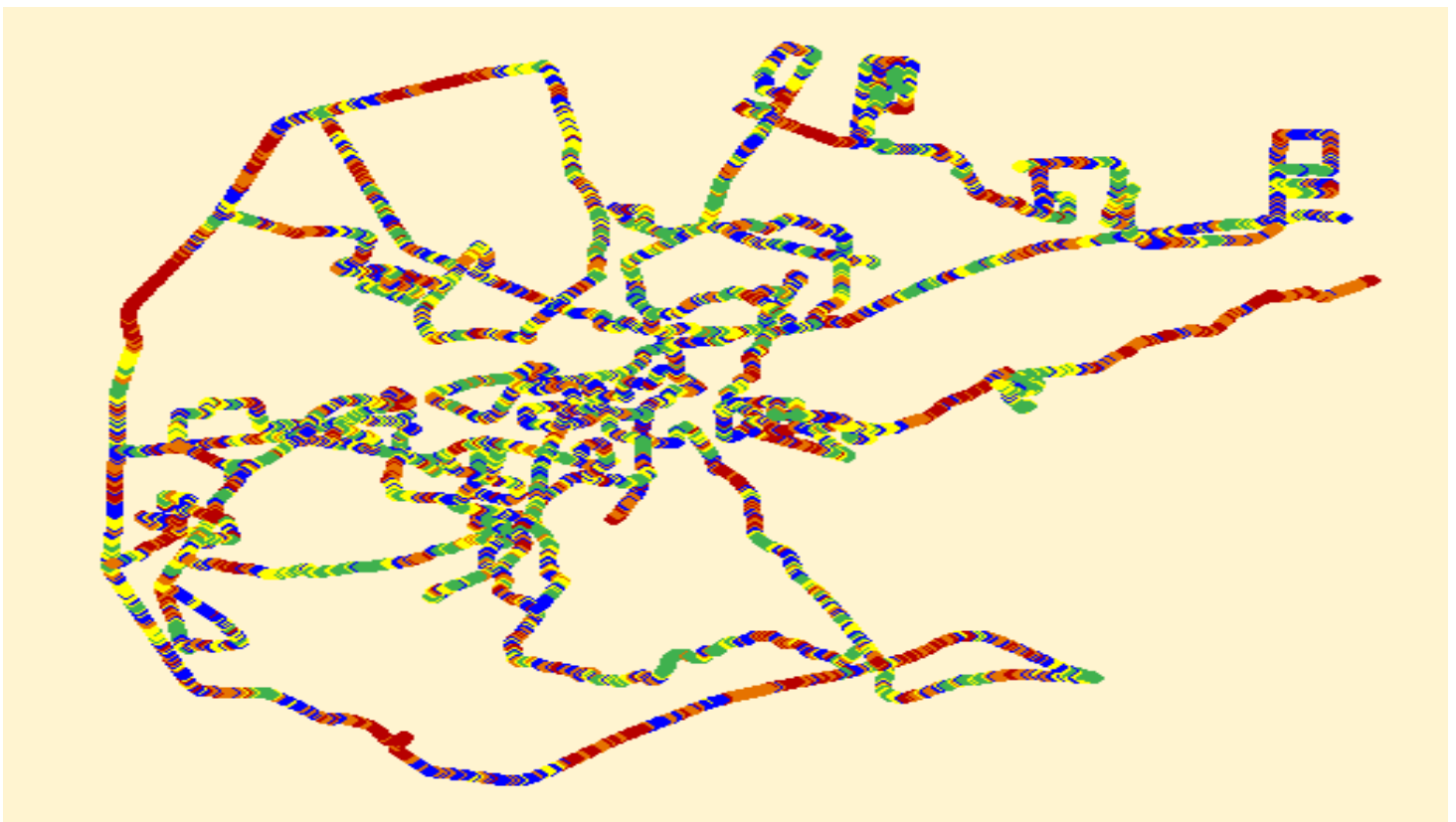
Overall SINR	# Samples	% PDF	Legends
(Min, <=0)	5260	9.68%	
(0, <=5)	9971	18.34%	
(5, <=10)	13278	24.43%	
(10, <=15)	12419	22.85%	
(15, <=Max)	13427	24.70%	
Total	54355		

For measuring voice quality, as per the QoS norms, RxQual <=5 for GSM TSPs, EcNo >= -14 dBm for 3G TSP sand SINR >0 in case of VoLTE is considered to be good, where as quality beyond this benchmark is considered to be bad. The benchmark should usually be ≥ 95%.
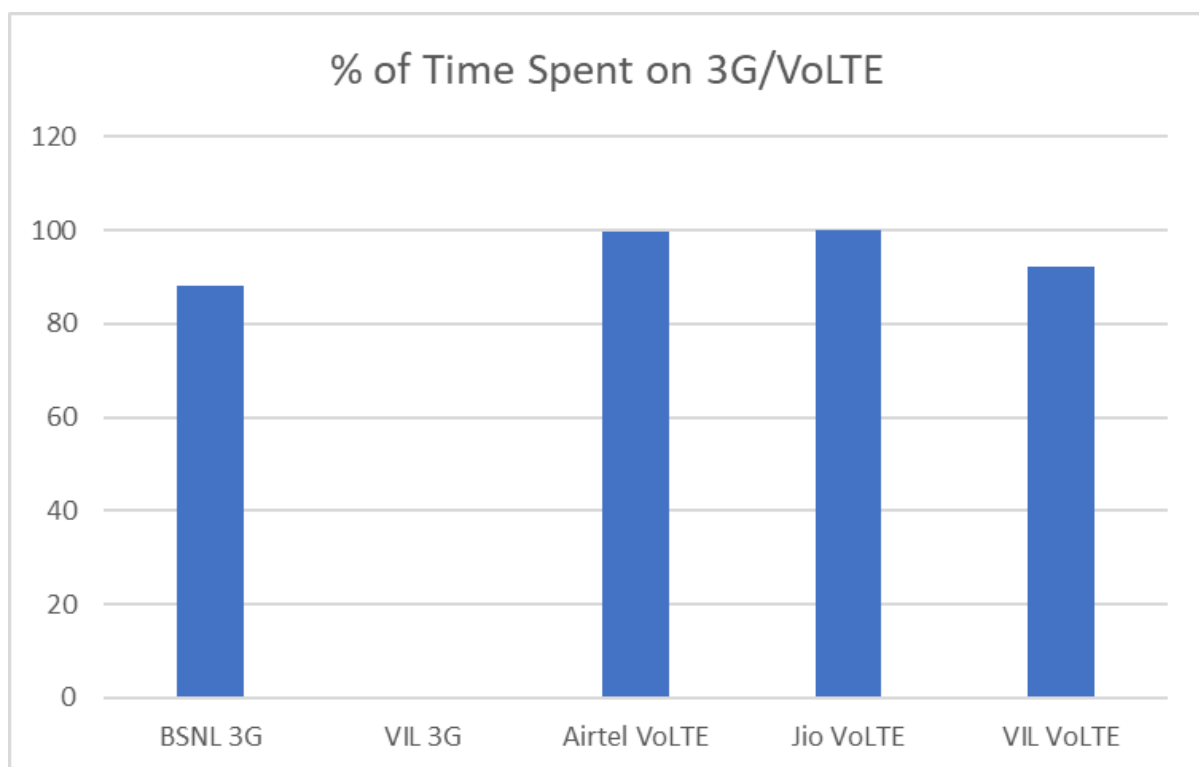
TSP-VIL

Technology	Rx Quality %
VoLTE	95.20%

Eps ServingCellCinr
- 15 to 30 (12317)
- 10 to 15 (7062)
- 5 to 10 (8377)
- 0 to 5 (4994)
- -30 to 0 (1651)

Overall SINR	# Samples	% PDF	Legends
(Min, <=0)	1651	4.80%	
(0, <=5)	4994	14.52%	
(5, <=10)	8377	24.35%	
(10, <=15)	7062	20.53%	
(15, <=Max)	12317	35.80%	
Total	34401	100.00%	

TSP	% of Time Spent on 3G/VoLTE
BSNL 3G	92
VIL 3G	NA
Airtel VoLTE	100
Jio VoLTE	100
VIL VoLTE	94.7

% of Time Spent on 3G/VoLTE

TSP-Airtel

Technology	% of Time Spent on 3G/VoLTE
2G	
VoLTE	100
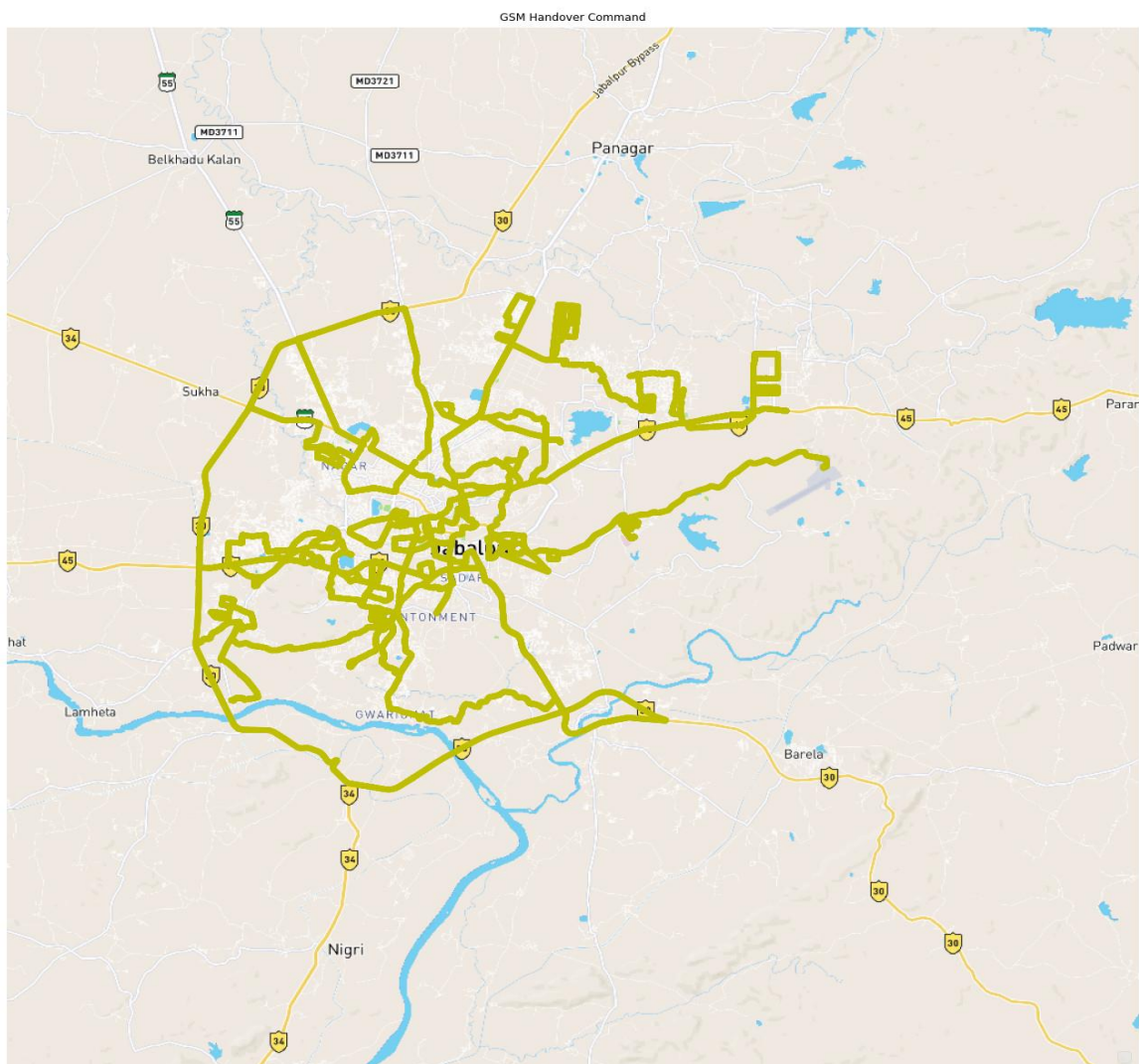
TSP-BSNL

Technology	% of Time Spent on
3G	92 %
VoLTE	
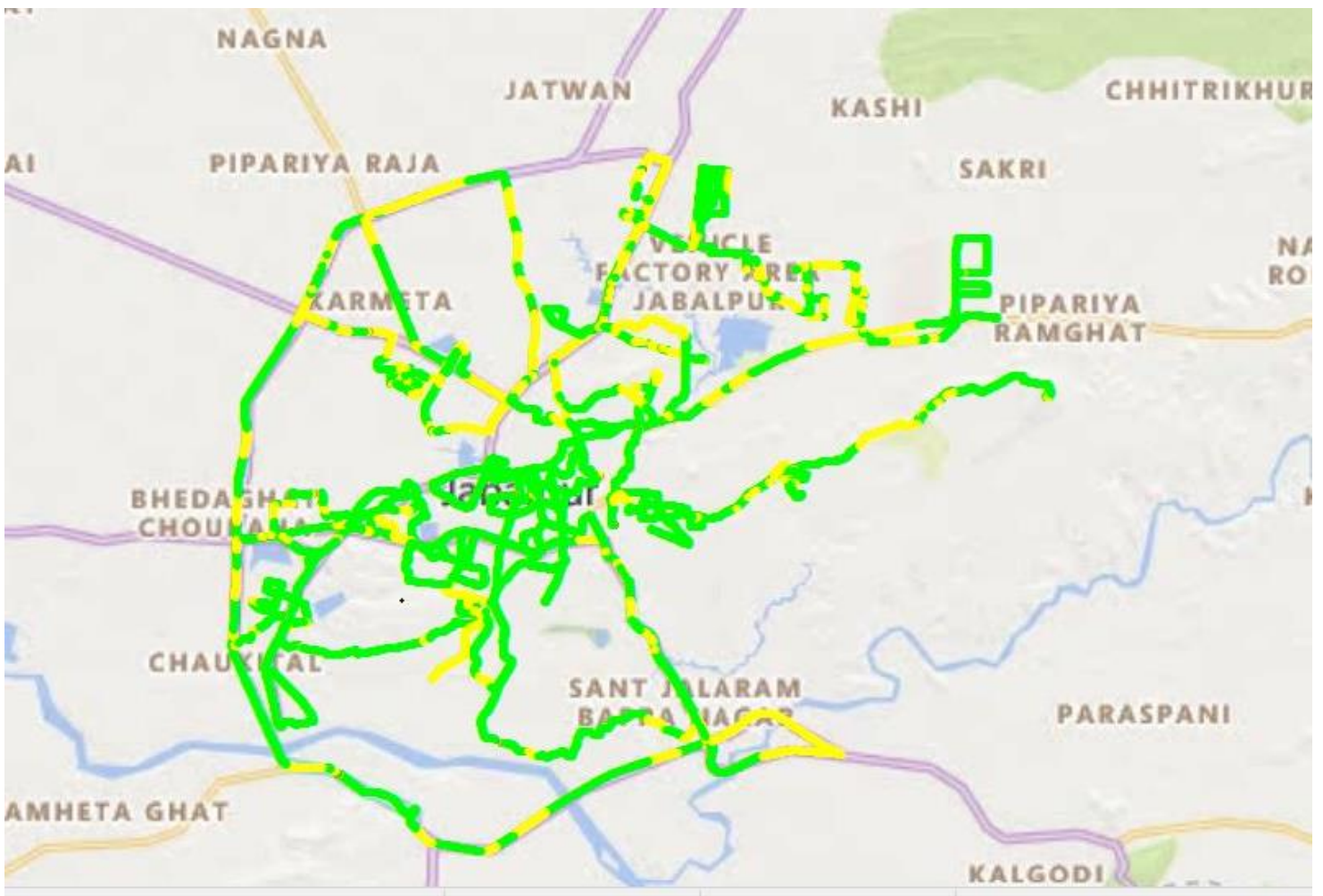
TSP-JIO

Technology	% of Time Spent on
3G	
VoLTE	100%

Qualcomm Lte/LteAdv Intrafreq Measure
PCell Band

- Band 3 (33.15%, 18021)
- Band 40 (8.48%, 4612)
- Band 5 (58.36%, 31722)
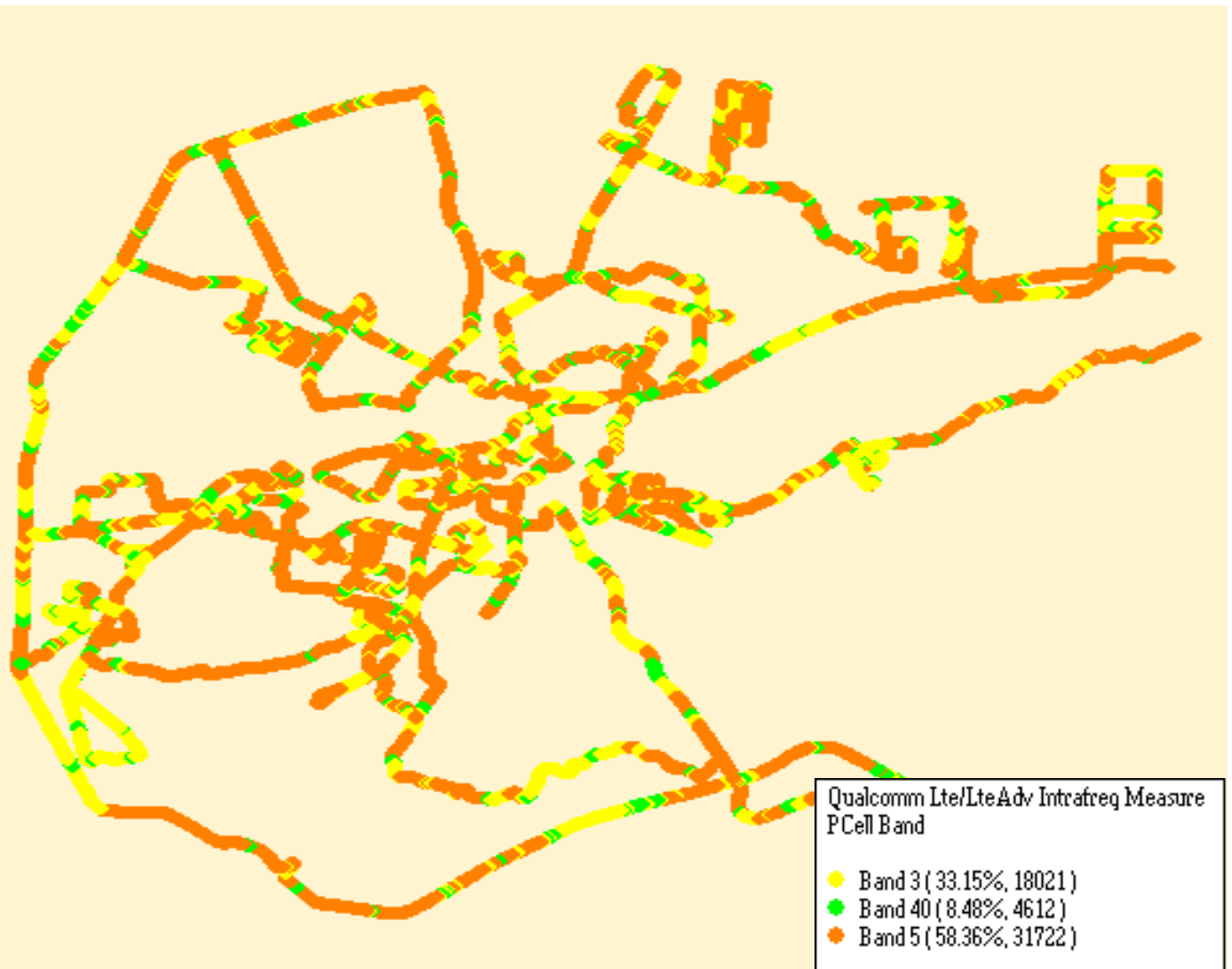
TSP-VIL

Technology	% of Time Spent on
3G	NA
VoLTE	**94.70%**
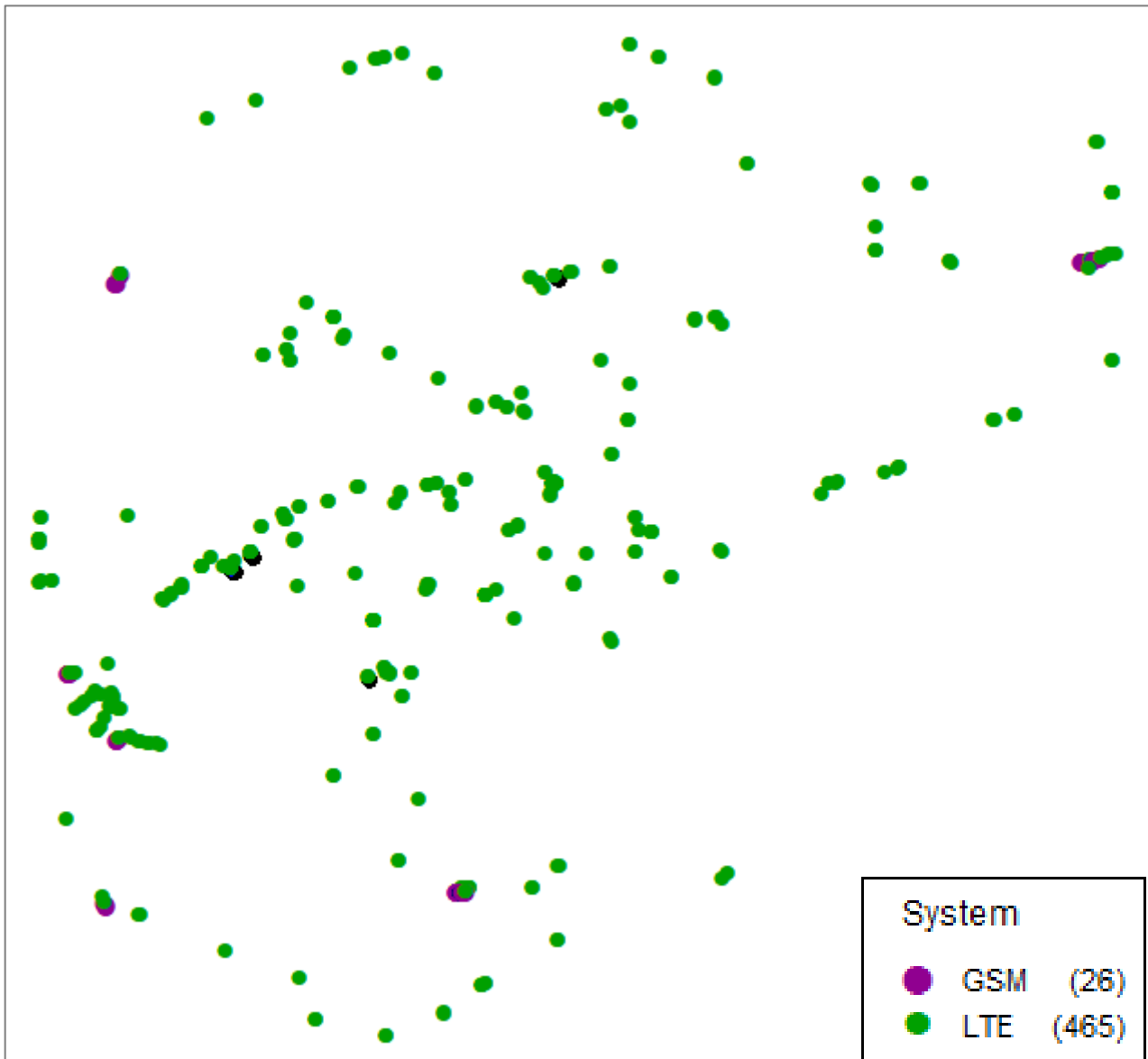
System

GSM (26)
LTE (465)

TSP- Airtel

Data Statistics - Dynamic data testing

Data KPIs - Overall	2G
Download Throughput (Kbps)	**80.64**

Plot: data_gsm_rlc_dl_throughput

Legend:
- 0 to 100 (37230 : 70.00%)
- 100 to 150 (5172 : 9.72%)
- 150 to 200 (7216 : 13.57%)
- 200 to 5000 (3566 : 6.71%)
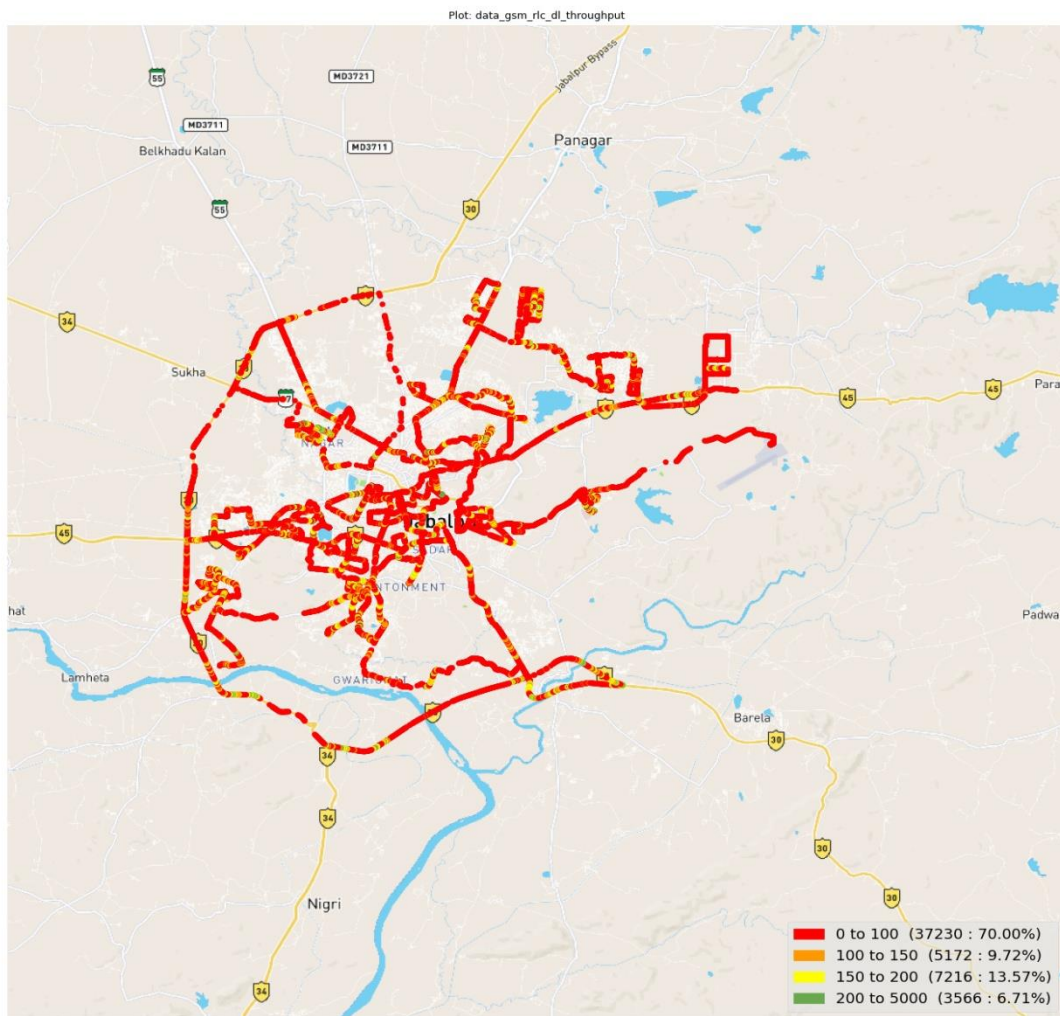
DL throughput	No of Sample	%	Legends
< 100 Kbps	37230	70	
100-150Kbps	5172	9.72	
150-200Kbps	7216	13.57	
>200Kbps	3566	6.71	

TSP-BSNL

Data Statistics - Dynamic data testing

Data KPIs - Overall	2G
Download Throughput (Kbps)	181
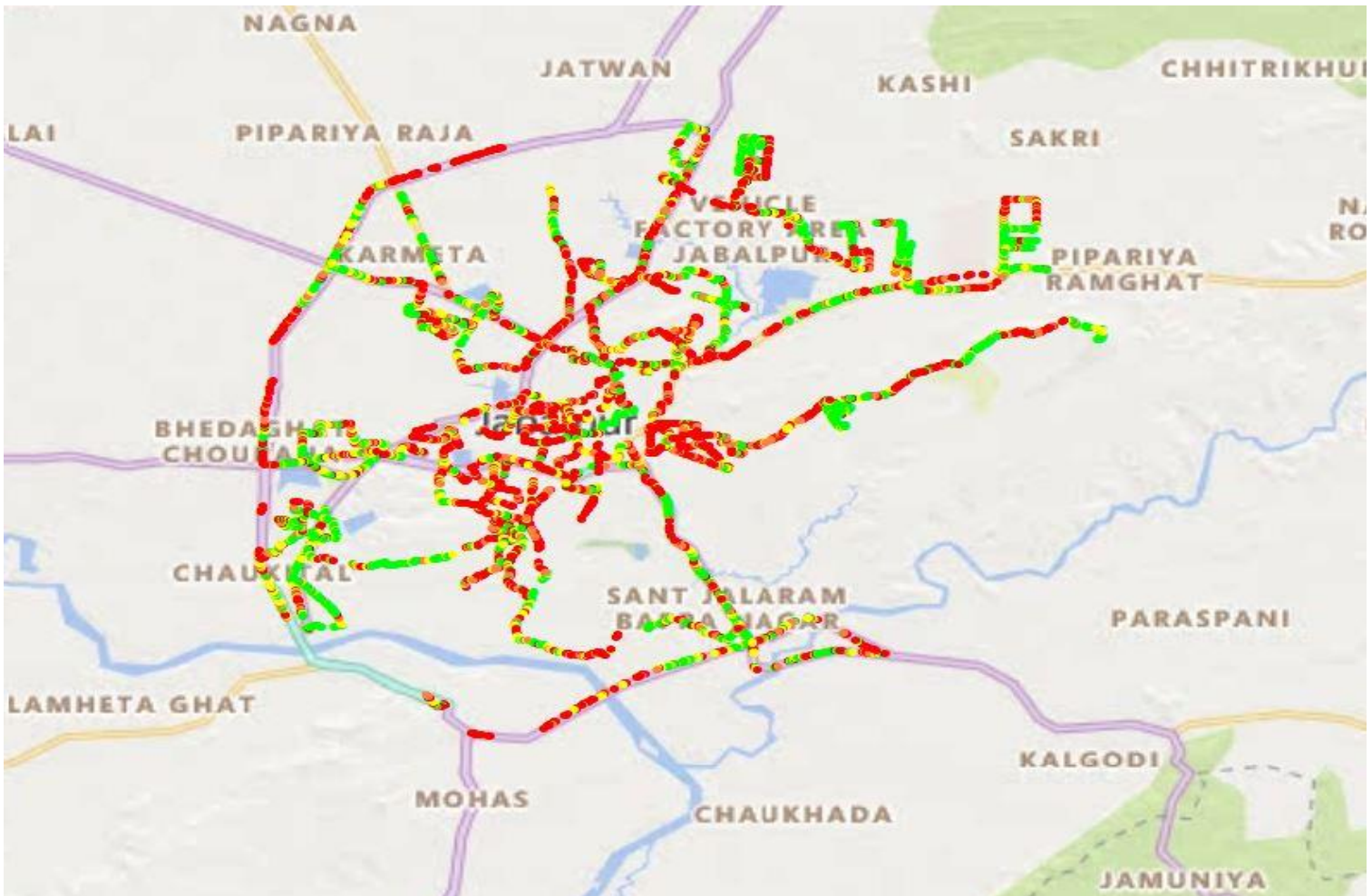
DL throughput	No of Sample	%	Legends
< 100 Kbps	8407	28.5%	🟥
100-150Kbps	4593	15.6%	🟧
150-200Kbps	5640	19.1%	🟨
>200Kbps	10821	36.7%	🟩

TSP-BSNL

Data Statistics - Dynamic data testing

Data KPIs - Overall	3G
Download Throughput (Mbps)	**3.1**
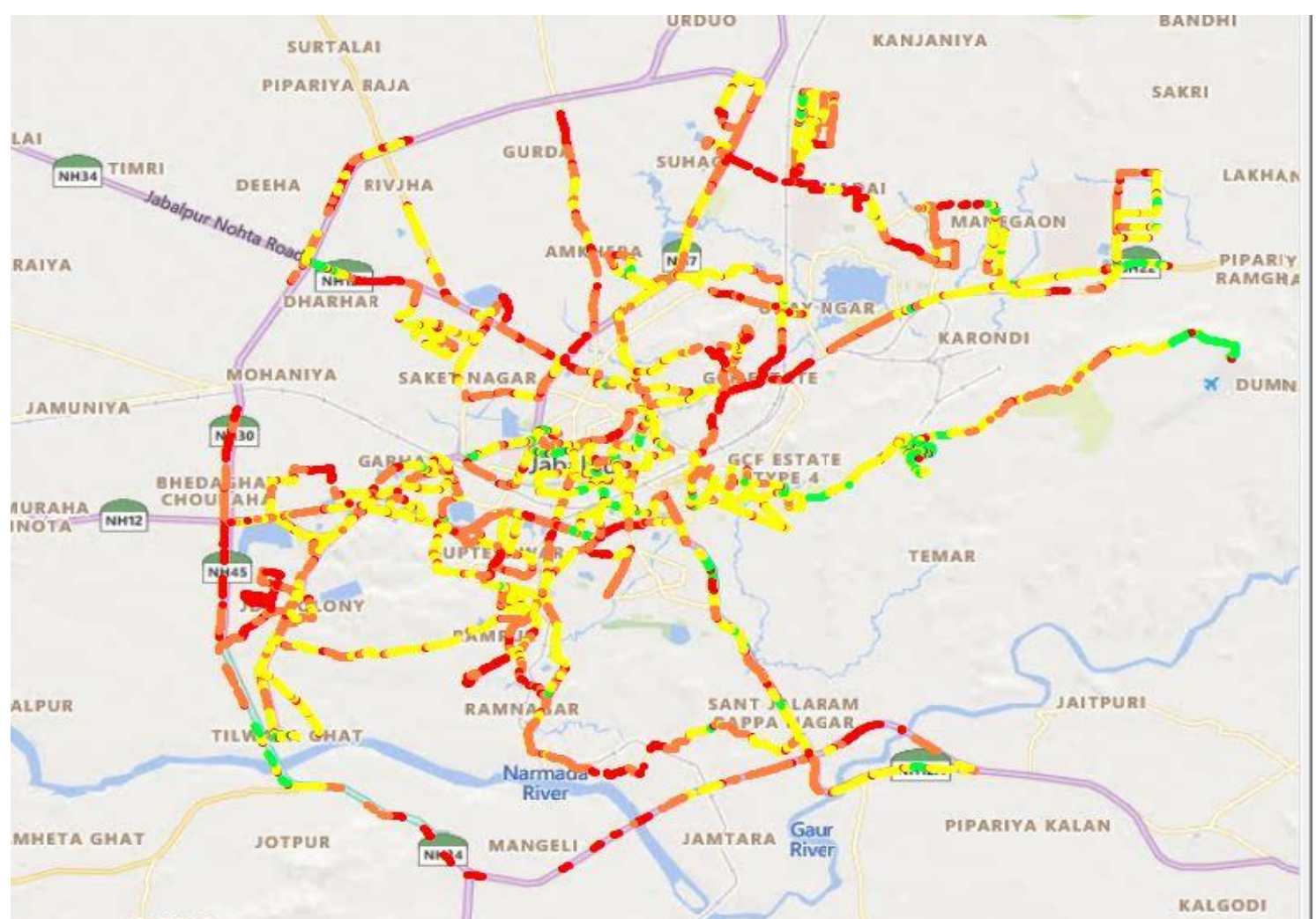
DL throughput	No of Sample	%	Legends
< 1 Mbps	6115	13.02%	
1-5 Mbps	12788	27.24%	
5-10 Mbps	22605	48.16%	
>10Mbps	1426	3.03%	

TSP-VIL

Data Statistics - Dynamic data testing

Data KPIs - Overall	2G
Download Throughput (Kbps)	**103.08**

Http Download Throughput Kbps
- 200 to 500 (1875)
- 150 to 200 (4673)
- 100 to 150 (6776)
- 0 to 100 (24900)
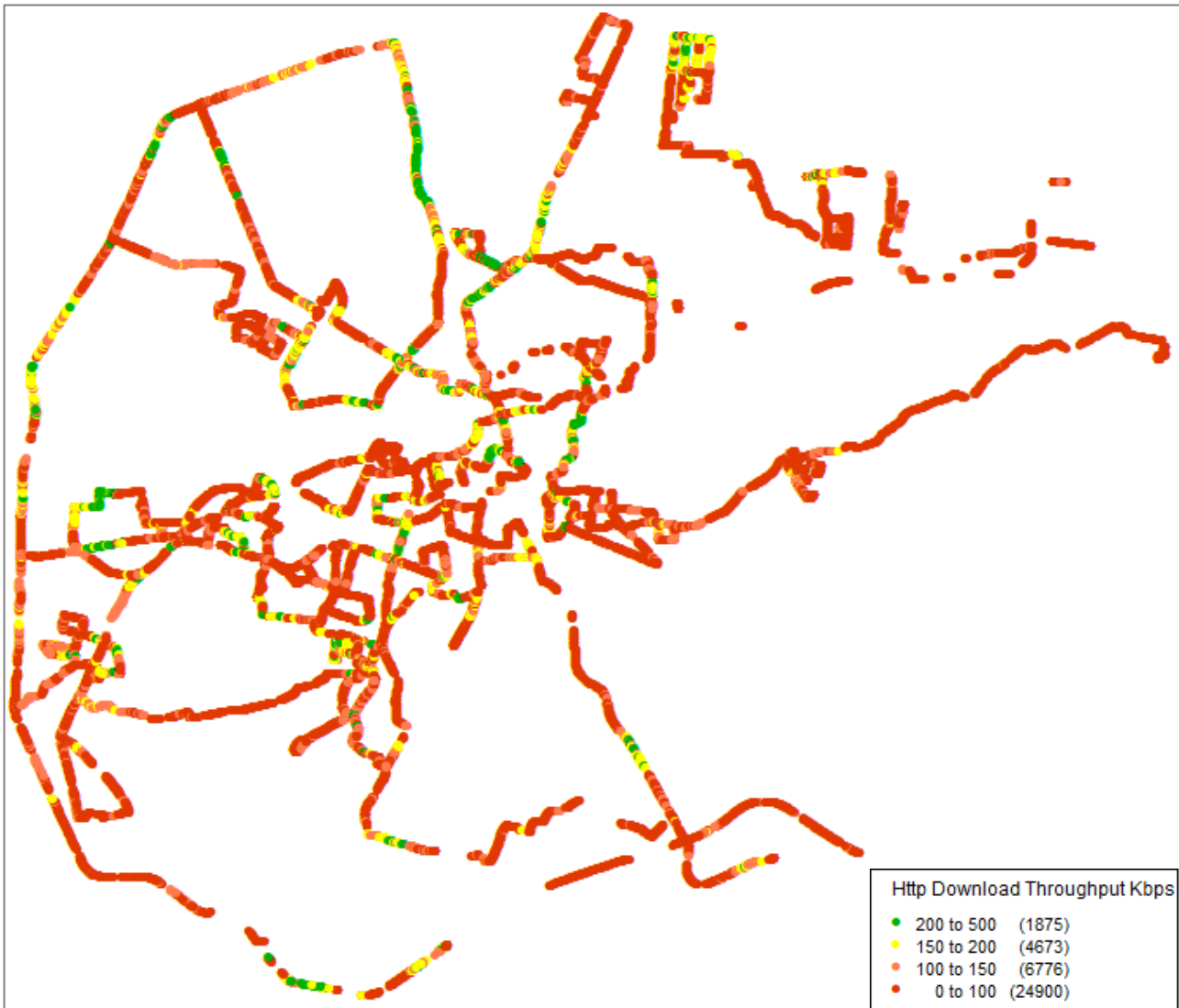
DL throughput	No of Sample	%	Legends
< 100 Kbps	24900	65.14%	
100-150Kbps	6776	17.73%	
150-200Kbps	4673	12.23%	
>200Kbps	1875	4.91%	

TSP-Airtel

Data Statistics - Dynamic data testing

Data KPIs - Overall	LTE
Download Throughput (Mbps)	8.33

Plot: ftp_download_throughput

0 to 2000 (10240 : 16.33%)
2000 to 5000 (16249 : 25.92%)
5000 to 10000 (23851 : 38.04%)
10000 to 200000 (12352 : 19.70%)
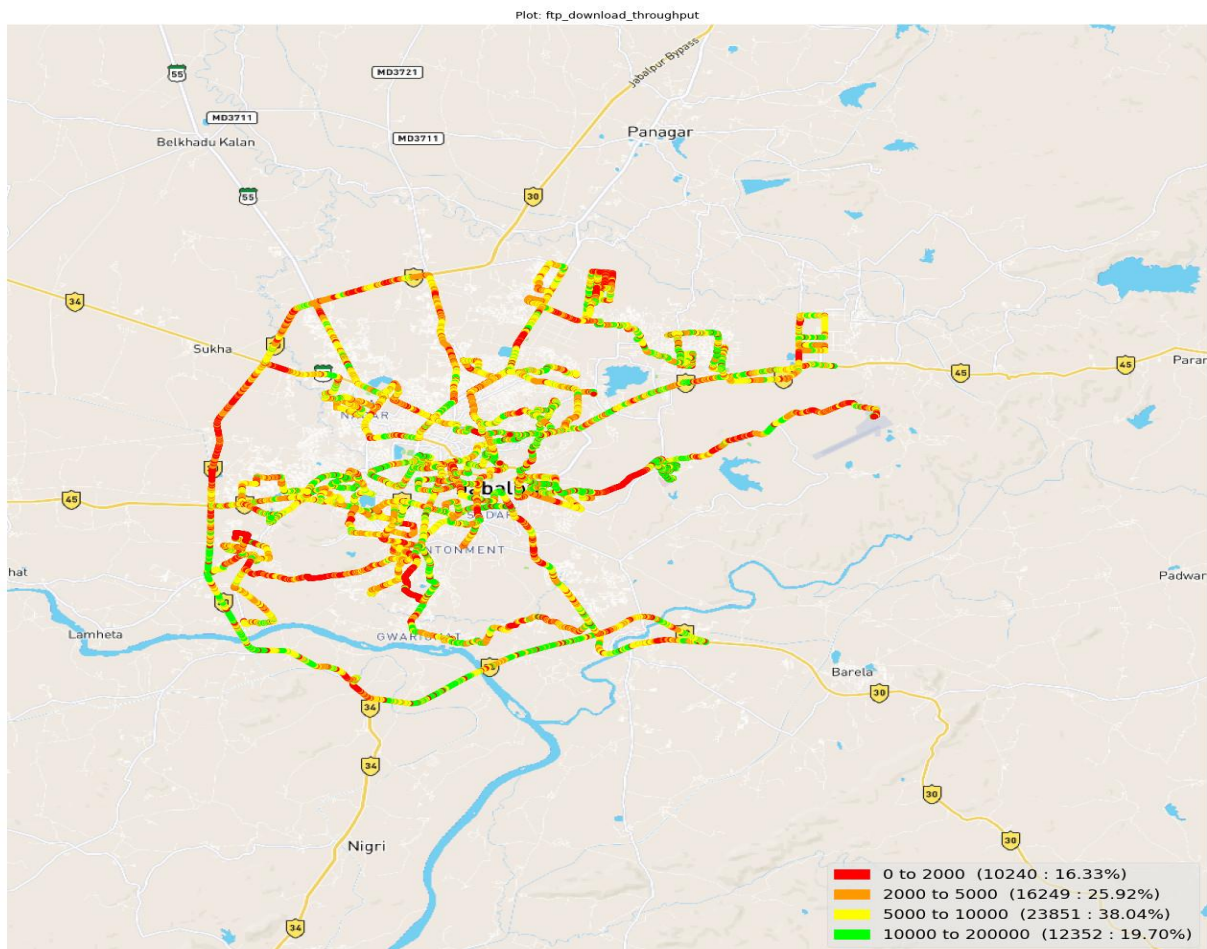
DL throughput	No of Sample	%	Legends
< 2Mbps	10240	16.33	
2-5 Mbps	16249	25.92	
5-10 Mbps	23851	38.04	
>10Mbps	12352	19.70	

TSP-JIO

Data Statistics - Dynamic data testing

Data KPIs - Overall	LTE
Download Throughput (Mbps)	**13.65**
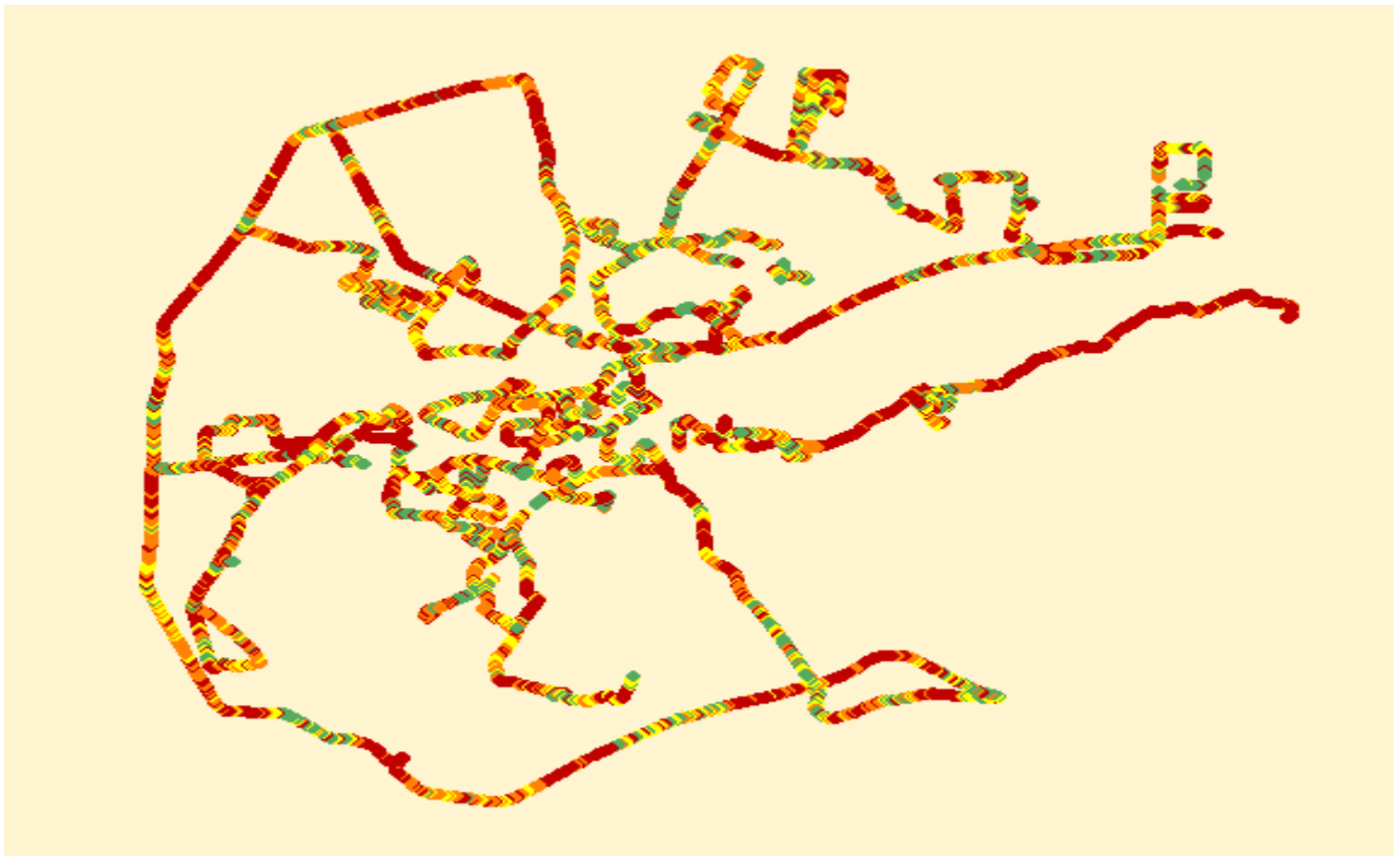
DL throughput	No of Sample	%	Legends
< 2Mbps	16259	34.21%	
2-5 Mbps	11361	23.90%	
5-10 Mbps	9977	20.99%	
>10Mbps	9936	20.90%	

TSP-VIL

Data Statistics - Dynamic data testing

Data KPIs - Overall	LTE
Download Throughput (Mbps)	**16.65**

Http Download Throughput Kbps
- 10,000 to 170,000 (27487)
- 5,000 to 10,000 (7334)
- 2,000 to 5,000 (4760)
- 0 to 2,000 (3358)
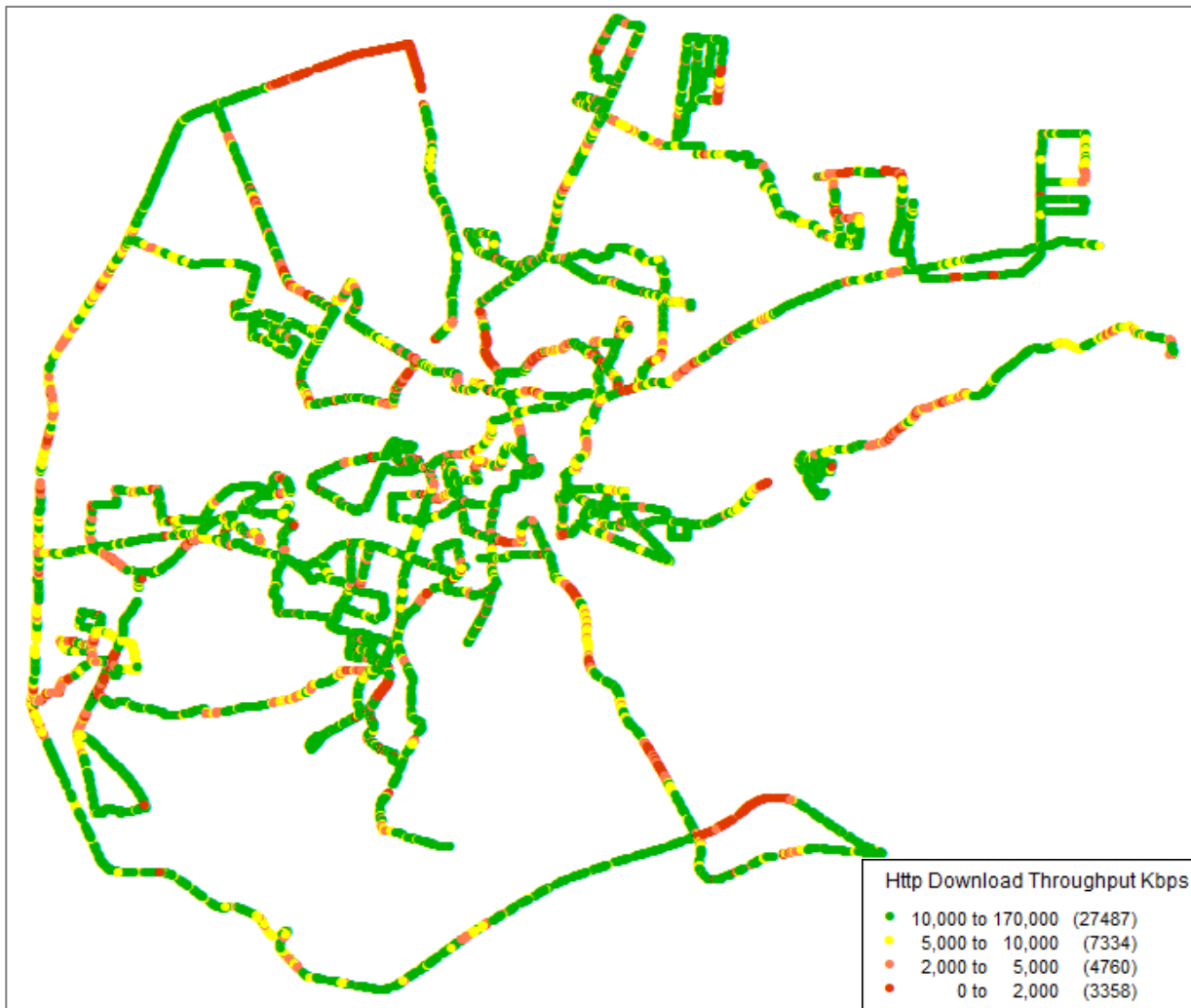
DL throughput	No of Sample	%	Legends
< 2Mbps	3358	7.82%	
2-5 Mbps	4760	11.09%	
5-10 Mbps	7334	17.08%	
>10Mbps	27487	64.01%	