#### For immediate release

## (Press Release No. 22/2019)

Information Note to the Press





## **TELECOM REGULATORY AUTHORITY OF INDIA**

New Delhi, 20<sup>th</sup> March, 2019 (www.trai.gov.in)

Highlights of Telecom Subscription Data as on 31st January, 201										
Particulars	Wireless	Wireline	<b>Total</b> (Wireless+ Wireline)							
Total Telephone Subscribers (Million)	1181.97	21.79	1203.77							
Net Addition in January, 2019 (Million)	5.97	-0.07	5.90							
Monthly Growth Rate	0.51%	-0.34%	0.49%							
Urban Telephone Subscribers (Million)	654.20	18.71	672.91							
Net Addition in January, 2019 (Million)	6.68	-0.05	6.63							
Monthly Growth Rate	1.03%	-0.24%	1.00%							
Rural Telephone Subscribers (Million)	527.77	3.08	530.86							
Net Addition in January, 2019 (Million)	-0.70	-0.03	-0.73							
Monthly Growth Rate	-0.13%	-0.93%	-0.14%							
Overall Tele-density*(%)	90.15	1.66	91.82							
Urban Tele-density*(%)	156.85	4.49	161.34							
Rural Tele-density*(%)	59.04	0.34	59.38							
Share of Urban Subscribers	55.35%	85.86%	55.90%							
Share of Rural Subscribers	44.65%	14.14%	44.10%							
Broadband Subscribers (Million)	521.77	18.27	540.04							

- In the month of January, 2019, 5.84 million subscribers submitted their requests for Mobile Number Portability (MNP). With this, the cumulative MNP requests increased from 411.98 million at the end of Dec-18 to 417.82 million at the end of Jan-19, since implementation of MNP.
- Number of active wireless subscribers (on the date of peak VLR<sup>#</sup>) in January, 2019 was 1,022.58 million.

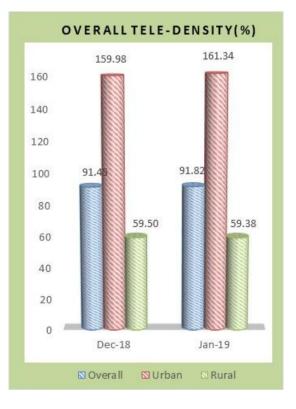
#### Note:

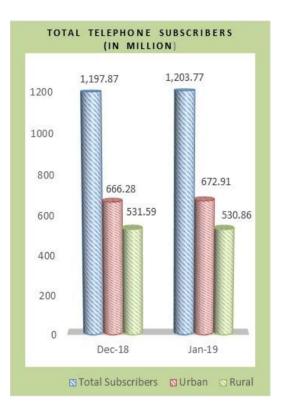
- Information in this Press Release is based on the data provided by the Service Providers
- \* Based on the population projections from Census data published by the Office of Registrar General & Census Commissioner of India.
- # VLR is acronym of Visitor Location Register. The dates of peak VLR for various TSPs are different in different service areas.

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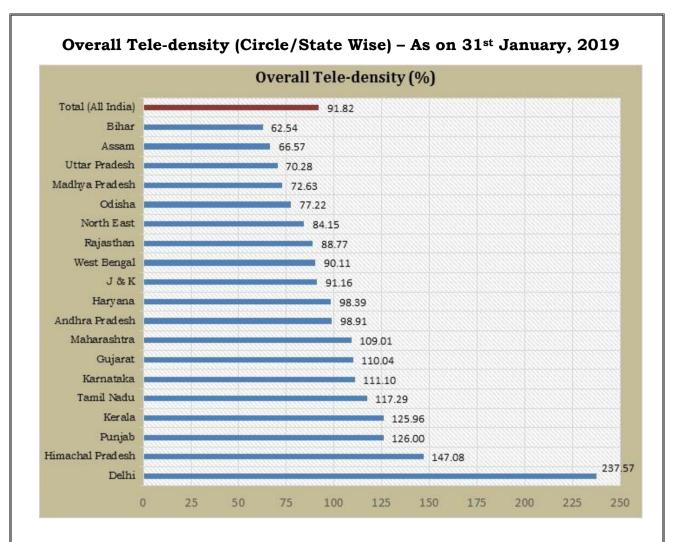
## I. Total Telephone Subscribers

• The number of telephone subscribers in India increased from 1,197.87 million at the end of Dec-18 to 1,203.77 million at the end of Jan-19, thereby showing a monthly growth rate of 0.49%. The urban subscription increased from 666.28 million at the end of Dec-18 to 672.91 million at the end of Jan-19, however, the rural subscription declined from 531.59 million to 530.86 million during the same period. The monthly of urban growth rates and rural subscription were 1.00% and -0.14% respectively during the month of Jan-19.





• The overall Tele-density in India increased from 91.45 at the end of Dec-18 to 91.82 at the end of Jan-19. The Urban Tele-density increased from 159.98 at the end of Dec-18 to 161.34 at the end of Jan-19, however Rural Tele-density declined from 59.50 at the end of Dec-18 to 59.38 at the end of Jan-19. The share of urban and rural subscribers in total number of telephone subscribers at the end of Jan-19 was 55.90% and 44.10% respectively.



• Delhi service area has maximum tele-density of 237.57 at the end of Jan-19 and the Bihar service area has minimum tele-density of 62.54 during the same period.

#### Notes:

- 1. Population data/projections are available state wise only.
- 2. Tele-density figures are derived from the telephone subscriber data provided by the access service providers and the projections of population published by the Office of the Registrar General & Census Commissioner, India.
- 3. Telephone subscriber data for Delhi, includes, apart from the data for the State of Delhi, wireless subscriber data for the areas served by the local exchanges of Ghaziabad & Noida (in Uttar Pradesh) and Gurgaon & Faridabad (in Haryana).
- 4. Data/information for West Bengal includes Kolkata, Maharashtra includes Mumbai, Tamil Nadu includes Chennai and Uttar Pradesh includes UPE & UPW service area(s).
- 5. Data/information for Andhra Pradesh includes Telengana, Madhya Pradesh includes Chhatishgarh, Bihar includes Jharkhand, Maharashtra includes Goa, Uttar Pradesh includes Uttarakhand, West Bengal includes Sikkim and North-East includes Arunachal Pradesh, Manipur, Meghalaya, Mizoram, Nagaland & Tripura States.

# II. Category-wise Growth in subscriber base

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Circle		is in the month ary, 2019	Telephone Subscriber base on 31 <sup>st</sup> January, 2019								
Category	Wireline segment	Wireless segment	Wireline segment	Wireless segment							
Circle A	-28,733	1,383,087	8,581,461	405,631,060							
Circle B	-33,200	2,087,819	5,429,220	481,458,548							
Circle C	-11,597	1,512,584	911,364	178,155,053							
Metro	-703	991,073	6,871,913	116,727,052							
All India	-74,233	5,974,563	21,793,958	1,181,971,713							

# Circle Category-wise Net Additions in Telephone Subscribers in the month of January, 2019

#### Circle Category-wise monthly and yearly Growth Rates in Telephone Subscribers in the month of January, 2019

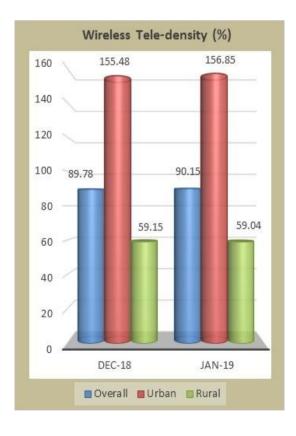
Circle	Monthly gro (Dec-18 t	wth rate (%) to Jan-19)		wth rate (%) to Jan-19)
Category	Wireline Segment	Wireless Segment	Wireline Segment	Wireless Segment
Circle A	-0.33	0.34	-6.02	0.70
Circle B	-0.61	0.44	-7.22	5.24
Circle C	-1.26	0.86	-12.51	2.28
Metro	-0.01	0.86	-2.46	-0.61
All India	-0.34	0.51	-5.53	2.61

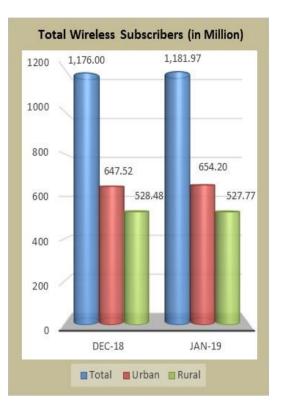
Note: Circle Category-Metro includes Delhi, Mumbai and Kolkata. Data for Chennai has been included in Circle Category-A, as part of TamilNadu.

- As can be seen in the above tables, in wireless segment, Circles of all categories showed positive monthly growth in their subscriber base in Jan-19. However on yearly basis, Circles in Metro Circles showed negative growth in their subscriber base during the month of Jan-19.
- In Wireline segment, Circles of all Categories showed monthly and yearly (Y-o-Y basis) decline in their number of wireline subscribers during the month of Jan-19.

## **III. Wireless Subscribers**

Total wireless subscribers (GSM, CDMA & LTE) increased from 1,176.00 million at the end of Dec-18 to 1,181.97 million at the end of Jan-19, thereby registering a monthly growth rate of 0.51%. The Wireless subscription in urban areas increased from 647.52 million at the end of Dec-18 to 654.20 million at the end of Jan-19, however wireless subscriptions in rural areas declined from 528.48 million to 527.77 million during the month. The monthly growth rates of urban and rural wireless subscription were 1.03% and -0.13% respectively.



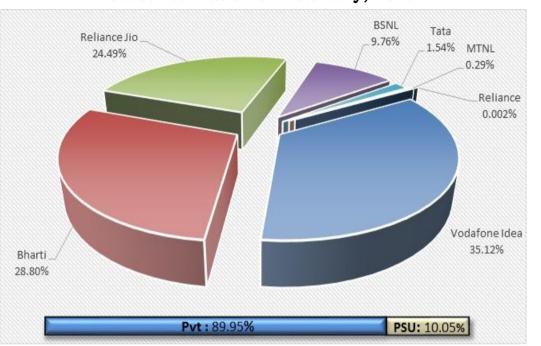


The Wireless Tele-density in India increased from 89.78 at the end of Dec-18 to 90.15 at the end of Jan-19. The Urban Wireless Tele-density increased from 155.48 at the end of Dec-18 to 156.85 at the end of Jan-19. however Rural Wireless Tele-density declined from 59.15 to 59.04 during the same period. The share of urban and rural wireless subscribers in total number of wireless subscribers was 55.35% and 44.65% respectively at the end of Jan-19. Detailed statistics of wireless subscriber base is available at Annexure-I.

• As on 31<sup>st</sup> January, 2019, the private access service providers held 89.95% market share of the wireless subscribers whereas BSNL and MTNL, the two PSU access service providers, had a market share of only 10.05%.

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• The graphical representation of access service provider-wise market share and net additions in wireless subscriber base are given below:



Access Service Provider-wise Market Shares in term of Wireless Subscribers as on 31<sup>st</sup> January, 2019

#### Net Additions in Wireless Subscribers of Access Service Providers in the Month of January, 2019

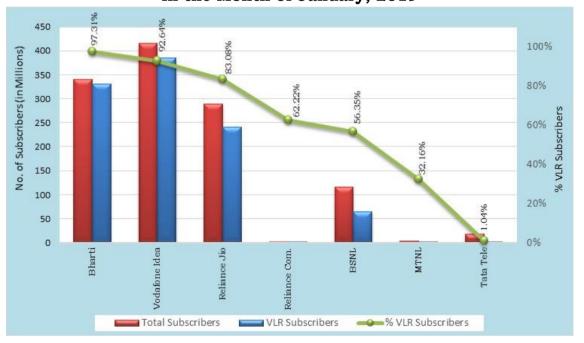


- **Note:** 1. On noticing that while reporting number of subscribers, some of the TSPs were deducting inactive subscribers. A Direction was issued on 18<sup>th</sup> August 2017 to TSPs to strictly adhere to the Department of Telecommunications' methodology for reporting their number of subscribers. However, some of the Telecom Service Providers are yet to comply with the Direction.
  - 2. Virtual Network Operator (VNO) of BSNL has started reporting of its subscribers from the month of October, 2018 and the same has been included in the subscriber number of BSNL.

# IV. Active Wireless Subscribers (VLR Data)

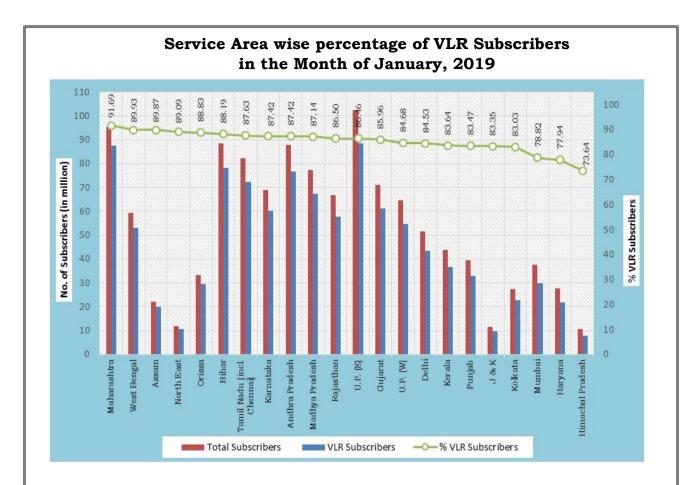
- Out of the total wireless subscribers (1, 181.97)million), 1,022.58 million wireless subscribers were active on the date of peak VLR in the month of Jan-19. The proportion of active wireless subscribers was approximately 86.51% of the total wireless subscriber base.
- The detailed statistics on of proportion active wireless subscribers (also referred to as VLR subscribers) on the date of peak VLR in the month of Jan-19 is available at Annexure-II and methodology for the used reporting VLR subscribers is available at **Annexure-IV**.

Access Service Provider-wise Percentage of VLR Subscribers in the Month of January, 2019



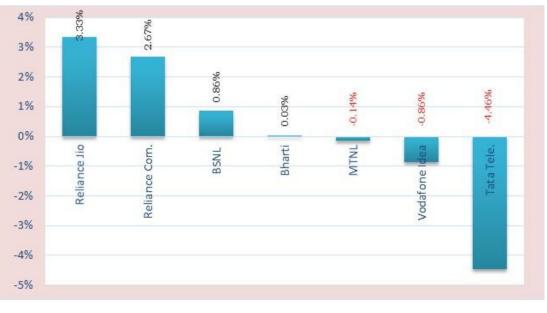
 Bharti Airtel has the maximum proportion (97.31%) of its active wireless subscribers (VLR) as against its total wireless subscribers (HLR) on the date of peak VLR in the month of Jan-19.

Note: M/s Vodafone and M/s Idea have been merged together and became a new company namely M/s Vodafone Idea Ltd.

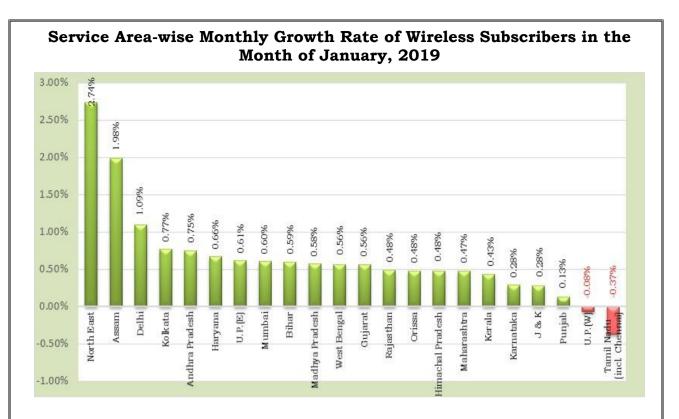


# V. Growth in Wireless Subscribers

### Access Service Provider-wise Monthly Growth Rate of Wireless Subscribers in the Month of January, 2019



Note: BSNL includes its Virtual Network Operator (VNO).



• During the month of January, 2019, all service areas except U.P.(West) and Tamil Nadu, showed positive monthly growth in their wireless subscribers during the month of Jan-19. North East service area showed Maximum growth of 2.74% in its wireless subscriber during the month of Jan-19.

## VI. Mobile Number Portability (MNP)

- Intra-service area Mobile number portability (MNP) was first in implemented Haryana service area w.e.f. 25.11.2010 and in the rest of the country w.e.f. 20.01.2011. Inter-Service Area MNP has been implemented in the country w.e.f. 03.07.2015. Now, the wireless telephone subscribers can retain their mobile numbers when they relocate from one service area to another.
- During the month of Jan-19, a total of 5.84 million requests were received for MNP. Out of total 5.84 million requests, 3.17 million requests received from Zone-I and 2.67 million requests received from Zone-II. The cumulative MNP requests increased from 411.98 million at the end of Dec-18 to 417.82 million at the end of Jan-19, since the implementation of MNP.

In MNP Zone-I (Northern and Western India), the highest number of requests till date have been received in Rajasthan (about 33.59 million) followed by Maharashtra (about 30.01 million) service area. In MNP Zone-II (Southern and Eastern India), the highest number of requests till date have been received in Karnataka (about 39.18 million) followed by Tamilnadu (about 35.56 million).

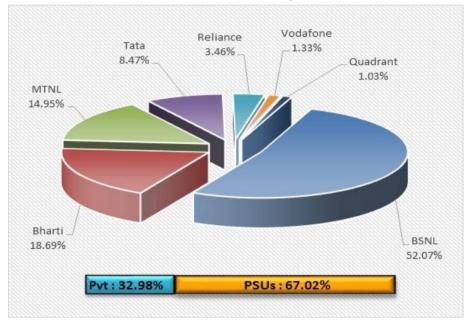
Service Area Wise MNP Status											
Zon	e -1		Zone - 2								
Service Area		of Porting sts (in ion)	Service Area	Number of Porting Requests (in Million)							
	Dec-18	Jan-19		Dec-18	Jan-19						
Delhi	21.18	21.45	Andhra Pradesh	35.06	35.50						
Gujarat	26.96	27.51	Assam	3.29	3.32						
Haryana	14.93	15.18	Bihar	16.01	16.39						
Himachal Pradesh	1.99	2.02	Karnataka	38.84	39.18						
Jammu & Kashmir	0.98	1.00	Kerala	9.92	10.07						
Maharashtra	29.38	30.01	Kolkata	10.03	10.13						
Mumbai	21.45	21.64	Madhya Pradesh	26.94	27.33						
Punjab	15.69	15.94	North East	1.29	1.30						
Rajasthan	33.24	33.59	Orissa	8.15	8.32						
U.P.(East)	22.51	22.85	Tamil Nadu	35.13	35.56						
U.P.(West)	18.07	18.36	West Bengal	20.92	21.17						
Total	206.38	209.55	Total	205.60	208.27						
Total (Zone-1 + Zon	.e-2)			411.98	417.82						
Net Addition (Januar	y, 2019)				5.84						

# VII. Wireline Subscribers

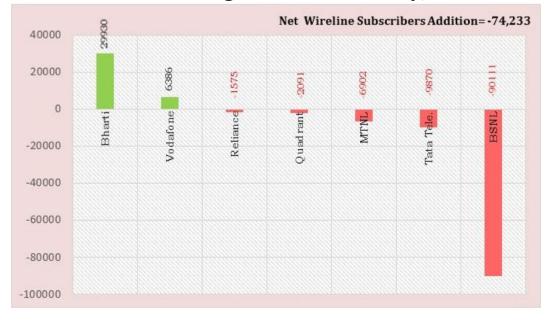
• Wireline subscribers further declined from 21.87 million at the end of Dec-18 to 21.79 million at the end of Jan-19. Net decline in the wireline subscriber base was 0.07 million with a monthly decline rate of 0.34%. The share of urban and rural subscribers in total wireline subscribers were 85.86% and 14.14% respectively at the end of Jan-19.

- The Overall Wireline Teledensity(%) declined from 1.67 at the end of Dec-18 to 1.66 at the end of Jan-19. Urban and Rural Wireline Tele-density were 4.49 and 0.34 respectively during the same period.
- BSNL and MTNL, the two PSU access service providers, held 67.02% of the wireline market share. Detailed statistics of wireline subscriber base are available at **Annexure-III**.

#### Access Service Provider-wise Market Shares of Wireline Subscribers as on 31<sup>st</sup> January, 2019



#### Access Service Provider-wise Net Additions/declines in Wireline Subscribers during the Month of January, 2019



# VIII. Broadband ( $\geq 512$ Kbps download)

As per the reports received from 308 operators in the month of January 2019, the number of broadband subscribers increased from 518.55 million at the end of Dec-18 to 540.04 million at the end of Jan-19 with a monthly growth rate of 4.15%. Segmentwise broadband subscribers and their monthly growth rates are as below:

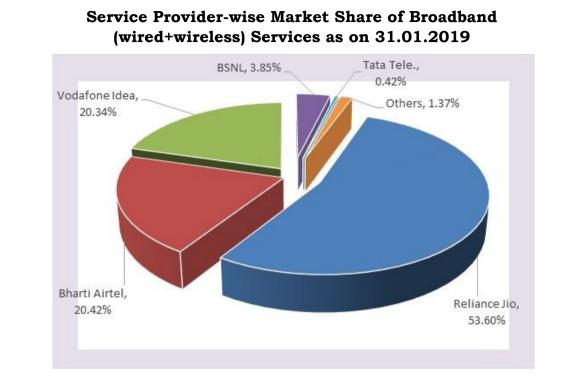
Segment	(in mi As on 31 <sup>st</sup>	Broadband subscribers (in million) As on 31 <sup>st</sup> As on 31 <sup>st</sup> December, January,						
	2018	2019	Jan-19					
Wired subscribers	18.17	18.27	0.56%					
Mobile devices users (Phones and dongles)	499.95	521.35	4.28%					
Fixed Wireless subscribers (Wi-Fi, Wi-Max, Point-to- Point Radio & VSAT)	0.43	0.42	-1.58%					
Total	518.55	540.04	4.15%					

Segment-wise Broadband Subscribers and Monthly Growth Rate in the month of January, 2019

• Top five service providers constituted 98.63% market share of the total broadband subscribers at the end of Jan-19. These service providers were Reliance Jio Infocomm Ltd (289.44 million), Bharti Airtel (110.25 million), Vodafone Idea (109.86 million), BSNL (20.81 million) and Tata Tele. Group (2.26 million).

Note: Some wireless service providers exclude incidental data users from their subscriber base, based on minimum usage decided by them.

• The graphical representation of the service provider-wise market share of broadband services is given below:



- As on 31<sup>st</sup> January, 2019, the top five Wired Broadband Service BSNL (9.17)providers were million), Bharti Airtel (2.30)million), Atria Convergence (1.40)Technologies million), Hathway Cable & Datacom (0.79 million) and MTNL (0.77 million).
- As on 31<sup>st</sup> January, 2019, the top five <u>Wireless</u> Broadband Service providers were Reliance Jio Infocomm Ltd (289.44 million), Vodafone Idea (109.84 million), Bharti Airtel (107.96 million), BSNL (11.64 million) and Tata Teleservices (1.79 million).

Contact details in case of any clarification:

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Authorized to issue:

(S. K. Mishra) Pr. Advisor (F&EA)

					Wireless	Vireless Subscriber Base												Annexu	re-I
	Bharti	Airtel	Relianc	ce Com.	Vodafo	ne Idea	Tata Tele	eservices	BSNL		BSNL (VNO's)		) MTNL		Relian	ice Jio	Total		Net
Circle	Dec-18	Jan-19	Dec-18	Jan-19	Dec-18	Jan-19	Dec-18	Jan-19	Dec-18	Jan-19	Dec-18	Jan-19	Dec-18	Jan-19	Dec-18	Jan-19	Dec-18	Jan-19	Addition
Andhra Pradesh	29798728	29807948	2298	2304	23144533	22929051	1700765	1648423	10145072	10176735					22422936	23301106	87214332	87865567	651235
Assam	8382180	8384938			5303241	5518973	0	0	2418559	2418559					5639950	5852380	21743930	22174850	430920
Bihar	39346424	39361605	129	170	23417362	23127009	310450	294711	4890882	5092654					20119506	20729722	88084753	88605871	521118
Delhi	15164364	15167551	3920	3895	19570240	19658629	62435	49263					2220516	2218237	14108953	14591593	51130428	51689168	558740
Gujarat	12322135	12326435	314	389	33947738	33661617	884064	829599	5775864	5848936					17720545	18379190	70650660	71046166	395506
Haryana	3812942	3813714	90	142	11247676	11165328	832938	800309	4904904	4908887					6880952	7174884	27679502	27863264	183762
Himachal Pradesh	3615762	3616874	- 72	72	1371833	1337270	4291	3896	2767116	2786927					2744696	2808843	10503770	10553882	50112
J & K	5642025	5643221			1339981	1309305	0	0	1214265	1229353					3309640	3356333	11505911	11538212	32301
Karnataka	27186628	27192232	3155	3165	15923911	15691056	3150454	3058244	7101238	7143153					15258054	15730664	68623440	68818514	195074
Kerala	5131817	5133203	317	372	20404012	20472029	318184	301947	10850884	10848994					6942760	7077438	43647974	43833983	186009
Kolkata	6439985	6441769	42	44	9674397	9665258	1083018	1042456	1792484	1845008					8072806	8275299	27062732	27269834	207102
Madhya Pradesh	15617229	15622507	589	679	32185390	31943152	1936607	1854267	6119647	6141456					21044892	21785141	76904354	77347202	442848
Maharashtra	16404201	16411938	923	897	48916041	48571813	1647573	1559214	6907764	7018169					21132249	21896059	95008751	95458090	449339
Mumbai	8447178	8449084	5427	5527	15776272	15792934	850151	796565					1254382	1251734	11209409	11472206	37542819	37768050	225231
North East	5335815	5337377			2067625	2292075	0	0	1642752	1656268					2622832	2702898	11669024	11988618	319594
Orissa	13114987	13120578	75	114	5885690	5693390	527842	502418	5527595	5549614					8078892	8427506	33135081	33293620	158539
Punjab	10362648	10362767	137	190	11494406	11173160	891419	857321	5335427	5417523					11234533	11557594	39318570	39368555	49985
Rajasthan	23357048	23365992	243	302	18751708	18566894	123990	115754	5694204	5749143					18458434	18907200	66385627	66705285	319658
Tamil Nadu (incl. Chennai)	25771495	25772389	3390	3335	25332666	24652288	1511988	1384014	11879836	11912285	29804	33835			18221611	18684577	82750790	82442723	-308067
U.P.(E)	32724449	32740803	624	671	36564291	36407320	1765487	1706137	11820748	11911552					18914302	19645090	101789901	102411573	621672
U.P.(W)	13772831	13773562	60	65	29513753	28832961	1365337	1317673	5923283	5956749					14177099	14822507	64752363	64703517	-48846
West Bengal	18508444	18516217	333	396	26912269	26696504	38546	35403	1630129	1713338					11802717	12263311	58892438	59225169	332731
Total	340259315	340362704	22138	22729	418745035	415158016	19005539	18157614	114342653	115325303	29804	33835	3474898	3469971	280117768	289441541	1175997150	1181971713	5974563
Net Addition		103389		591		-3587019		-847925		982650		4031		-4927		9323773	0	5974563	
Rural Subscribers	168632566	163121778	0	0	220709247	218676421	2577837	2451905	36044189	36389567	0	0	46409	46361	100467784	107087183	528478032	527773215	-704817

Note: Virtual Network Operator (VNO) of BSNL has reported its subscriber number from the month of October, 2018.

Proportion of	VLR on the	e date of Po	eak VLR in th	ie montl	n of Jan-19 (%	6)	Anne	xure-II
Circle	Bharti	BSNL	Vodafone Idea	MTNL	Reliance Com.	Reliance Jio	Tata Tele.	Total
Andhra Pradesh	98.34	67.22	95.69		62.07	80.29	0.62	87.42
Assam	96.43	63.72	91.72			89.55		89.87
Bihar	89.43	52.92	90.37		64.12	93.32	0.14	88.19
Delhi	94.42		90.37	21.85	62.26	76.09	30.19	84.53
Gujarat	97.79	46.83	94.89		61.44	78.01	0.04	85.96
Haryana	120.26	33.28	96.53		62.00	65.71	0.61	77.94
Himachal Pradesh	89.27	44.05	97.44		62.00	71.62	1.00	73.64
J & K	90.25	70.37	87.24		-	74.99		83.35
Karnataka	104.39	61.70	94.77		63.22	79.35	0.52	87.42
Kerala	104.20	63.25	95.02		62.00	70.45	4.74	83.64
Kolkata	103.80	52.38	90.66		68.18	74.39	6.85	83.03
Madhya Pradesh	101.01	52.86	89.73		63.33	90.42	0.55	87.14
Maharashtra	98.28	55.03	97.32		62.43	92.51	0.60	91.69
Mumbai	90.99		78.53	50.44	62.00	78.70	1.80	78.82
North East	96.27	72.79	87.48		-	86.28		89.09
Orissa	95.78	73.56	92.59		62.00	90.80	0.45	88.83
Punjab	103.82	47.48	95.33		62.00	76.80	0.10	83.47
Rajasthan	92.33	45.95	95.01		62.00	83.80	0.54	86.50
<b>Tamil Nadu</b> (incl. Chennai)	100.23	69.60	95.98		61.47	77.18	1.00	87.63
U.P. (E)	99.88	44.09	89.64		62.00	91.39	0.13	86.46
U.P. (W)	100.62	42.60	90.99		62.00	82.03	0.24	84.68
West Bengal	91.19	88.11	90.77		62.00	86.73	0.99	89.93
Total	97.31	56.35	92.64	32.16	62.22	83.08	1.04	86.51

Note: Peak VLR figures in some circles of some of the service providers are more than their HLR figures due to a large number of inroamers.

						Wireline	Subscri	ber Base	•						Annexure	e-III	
	BS	NL	МТ	MTNL		arti	Reli	ance	Та	ta	Quad	lrant	Voda	fone	Tot	tal	Net
Service Area	Dec-18	Jan-19	Dec-18	Jan-19	Dec-18	Jan-19	Dec-18	Jan-19	Dec-18	Jan-19	Dec-18	Jan-19	Dec-18	Jan-19	Dec-18	Jan-19	
Andhra Pradesh	998736	985688			174826	178463	46869	48015	174471	175062			34580	36370	1429482	1423598	-5884
Assam	116309	114500											2820	2850	119129	117350	-1779
Bihar	222513	219952					3540	3216	8410	8441			1770	1800	236233	233409	-2824
Delhi			1490886	1488195	1382801	1395738	124216	123031	154349	154808			51070	51960	3203322	3213732	10410
Gujarat	1008211	1007977			82520	83094	20620	20154	89660	88036			20539	20749	1221550	1220010	-1540
Haryana	220020	212772			22800	22958	2894	2743	36258	36043			150	180	282122	274696	-7426
Himachal Pradesh	113046	111438					3035	2916	1831	1890			60	60	117972	116304	-1668
J & K	105329	102887													105329	102887	-2442
Karnataka	1039637	1036552			671236	675757	140110	139345	274109	274652			42475	43465	2167567	2169771	2204
Kerala	1809217	1801919			59997	60149	17170	17171	19413	19374			2550	2910	1908347	1901523	-6824
Kolkata	500573	495473			126895	127551	39764	40049	52749	52914			8390	8810	728371	724797	-3574
Madhya Pradesh	656076	654871			242111	242481	10724	10896	15770	15207			870	1020	925551	924475	-1076
Maharashtra	1123163	1106754			88787	90162	49324	48214	289655	286037			18343	18552	1569272	1549719	-19553
Mumbai			1773866	1769655	363306	366209	179535	178454	571166	565439			53050	53627	2940923	2933384	-7539
North East	106397	104216											270	270	106667	104486	-2181
Orissa	225488	224438					2520	2462	7463	7868			2160	2160	237631	236928	-703
Punjab	411522	405325			128549	129519	10571	11938	14096	13562	227164	225073	1620	1680	793522	787097	-6425
Rajasthan	451088	445926			53518	54091	20999	21177	12273	11895			7320	7320	545198	540409	-4789
Tamil Nadu (incl. Chennai)	1456658	1451353			555593	556213	72696	72331	118701	119331			18675	19135	2222323	2218363	-3960
U.P.(E)	358611	358261			66088	66481	6174	7093	8215	8186			11840	11870	450928	451891	963
U.P.(W)	273129	269112			23323	23414	3749	3702	5342	5303			3990	4140	309533	305671	-3862
West Bengal	242995	239193					1694	1722	2410	2423			120	120	247219	243458	-3761
Total	11438718	11348607	3264752	3257850	4042350	4072280	756204	754629	1856341	1846471	227164	225073	282662	289048	21868191	21793958	-74233
Net Addition		-90111		-6902		29930		-1575		-9870		-2091		6386		-74233	
Rural Subscribers	3010972	2983421	0	0	0	0	1484	1476	51351	50699	46879	46307	0	0	3110686	3081903	-28783

# VLR Subscribers in the Wireless Segment

**Home Location Register (HLR)** is a central database that contains details of each mobile phone subscriber that is authorized to use the GSM core network. The HLRs store details of every SIM card issued by the service provider. Each SIM has a unique identifier called an International Mobile Subscriber Identity (IMSI), which is the primary key to each HLR record. The HLR data is stored for as long as a subscriber remains with the service provider. HLR also manages the mobility of subscribers by means of updating their position in administrative areas. It sends the subscriber data to a Visitor Location Register (VLR).

**Subscriber numbers** reported by the service providers is the difference between the numbers of IMSI registered in service provider's HLR and sum of other figures as given below:-

1	Total IMSI's in HLR (A)
2	Less: $(B = a + b + c + d + e)$
a.	Test/Service Cards
b.	Employees
c.	Stock in hand/in Distribution Channels (Active Card)
d.	Subscriber Retention period expired
e.	Service suspended pending disconnection
3	Subscribers Base (A-B)

**Visitor Location Register** (VLR) is a temporary database of the subscribers who have roamed into the particular area, which it serves. Each base station in the network is served by exactly one VLR; hence a subscriber cannot be present in more than one VLR at a time.

If subscriber is in active stage i.e. he is able to send/receive calls/SMSs he is available both in HLR and VLR. However, it may be possible that the subscriber is registered in HLR but not in VLR due to the reason that he is either switched-off or moved out of coverage area, not reachable etc. In such circumstances he will be available in HLR but not in VLR. This causes difference between subscriber number reported by the service providers based on HLR and numbers available in VLR.

The VLR subscriber data calculated here is based on active subscribers in VLR on the date of Peak subscriber number in VLR of the particular month for which the data is being collected. This data is to be taken from the switches having the purge time of not more than 72 hours.