Information Note to the Press





TELECOM REGULATORY AUTHORITY OF INDIA

New Delhi, 18th April, 2019 (www.trai.gov.in)

Highlights of Telecom Subscription Data as on 28th February, 2019

Particulars	Wireless	Wireline	Total (Wireless+ Wireline)
Total Telephone Subscribers (Million)	1183.68	21.72	1205.40
Net Addition in February, 2019 (Million)	1.71	-0.08	1.63
Monthly Growth Rate	0.14%	-0.36%	0.14%
Urban Telephone Subscribers (Million)	656.57	18.67	675.24
Net Addition in February, 2019 (Million)	2.38	-0.05	2.33
Monthly Growth Rate	0.36%	-0.25%	0.35%
Rural Telephone Subscribers (Million)	527.11	3.05	530.16
Net Addition in February, 2019 (Million)	-0.67	-0.03	-0.70
Monthly Growth Rate	-0.13%	-1.00%	-0.13%
Overall Tele-density*(%)	90.20	1.65	91.86
Urban Tele-density*(%)	157.18	4.47	161.65
Rural Tele-density*(%)	58.93	0.34	59.27
Share of Urban Subscribers	55.47%	85.95%	56.02%
Share of Rural Subscribers	44.53%	14.05%	43.98%
Broadband Subscribers (Million)	531.95	18.29	550.24

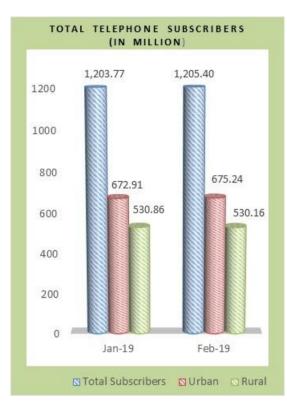
- ❖ In the month of February, 2019, 5.28 million subscribers submitted their requests for Mobile Number Portability (MNP). With this, the cumulative MNP requests increased from 417.82 million at the end of Jan-19 to 423.11 million at the end of Feb-19, since implementation of MNP.
- Number of active wireless subscribers (on the date of peak VLR#) in February, 2019 was 1,022.62 million.

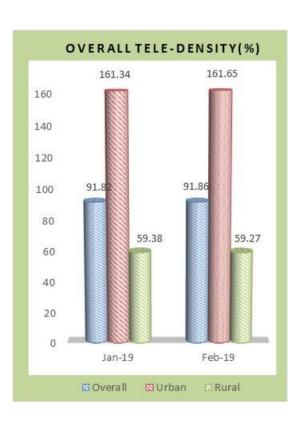
Note:

- 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.

I. Total Telephone Subscribers

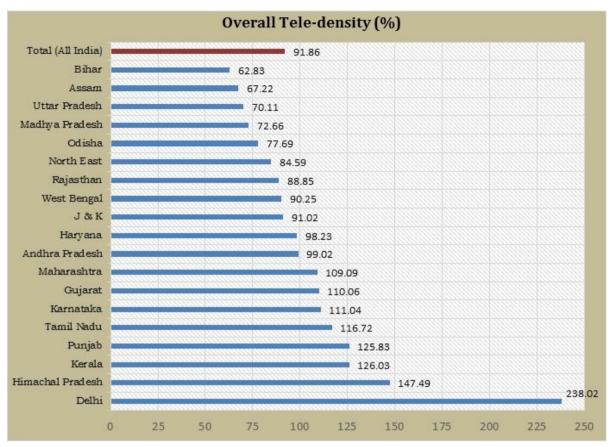
• The number of telephone subscribers India increased from 1,203.77 million at the end of Jan-19 to 1,205.40 million at the end of Feb-19, thereby showing a monthly growth rate of 0.14%. The urban subscription increased from 672.91 million at the end of Jan-19 to 675.24 million at the end of Feb-19, however, the rural subscription declined from 530.86 million to 530.16 million during the same period. The monthly growth rates of urban and rural subscription were 0.35% and -0.13% respectively during the month of Feb-19.





• The overall Tele-density in India increased from 91.82 at the end of Jan-19 to 91.86 at the end of Feb-19. The Urban Tele-density increased from 161.34 at the end of Jan-19 to 161.65 at the end of Feb-19, however Rural Tele-density declined from 59.38 at the end of Jan-19 to 59.27 at the end of Feb-19. The share of urban and rural subscribers in total number of telephone subscribers at the end of Feb-19 was 56.02% and 43.98% respectively.





 Delhi service area has maximum tele-density of 238.02 at the end of Feb-19 and the Bihar service area has minimum tele-density of 62.83 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

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

Circle		s in the month uary, 2019	_	bscriber base as bruary, 2019
Category	Wireline segment	Wireless segment	Wireline segment	Wireless segment
Circle A	-50,761	78,929	8,530,700	405,709,989
Circle B	-31,355	312,987	5,397,865	481,771,535
Circle C	-8,246	1,070,008	903,118	179,225,061
Metro	12,662	245,220	6,884,575	116,972,272
All India	-77,700	1,707,144	21,716,258	1,183,678,857

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

Circle	Monthly gro (Jan-19 t	wth rate (%) to Feb-19)		wth rate (%) to Feb-19)		
Category	Wireline Segment	Wireless Segment	Wireline Segment	Wireless Segment		
Circle A	-0.59	0.02	-6.03	0.67		
Circle B	-0.58 0.07		-7.30	4.90		
Circle C	-0.90	0.60	-13.59	0.71		
Metro	0.18	0.21	-1.91	0.29		
All India	-0.36	0.14	-5.44	2.32		

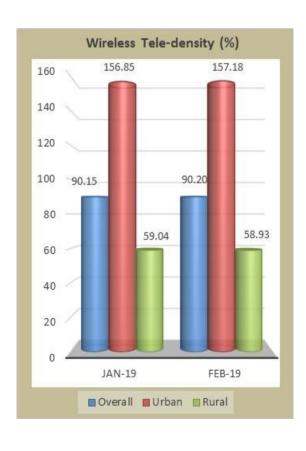
Note: Circle Category-Metro includes Delhi, Mumbai and Kolkata. Data for Chennai has been included in Circle Category-A, as part of TamilNadu.

- As can be seen in the above tables, in wireless segment, Circles of all categories showed positive monthly growth in their subscriber base in Feb-19. Circles in Category 'C' show maximum net addition and maximum growth rate in their wireless subscribers during the month.
- In Wireline segment, Circles of all Categories except metro circles, showed monthly decline in their number of wireline subscribers during Feb-19. However, on yearly basis, all categories show decline rate in their wireline subscribers during the month.

III. Wireless Subscribers

wireless Total subscribers (GSM, CDMA & LTE) increased from 1,181.97 million at the end of Jan-19 to 1,183.68 million at the end of Feb-19, thereby registering a monthly growth rate of 0.14%. The Wireless subscription in urban areas increased from 654.20 million at the end of Jan-19 to 656.57 million at the end of Feb-19, however rural wireless subscription declined from 527.77 million to 527.11 million during the month. The monthly growth rates of urban and rural wireless subscription were 0.36% and -0.13% respectively.





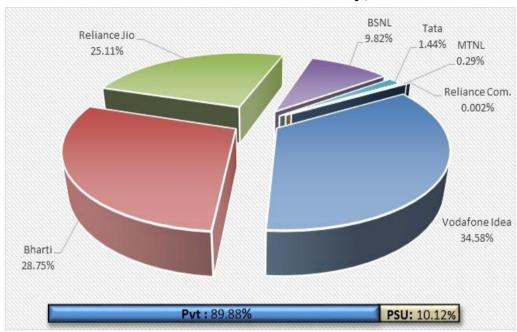
The Wireless Tele-density in India increased from 90.15 at the end of Jan-19 to 90.20 at the end of Feb-19. The Urban Wireless Tele-density increased from 156.85 at the end of Jan-19 to 157.18 at the end of Feb-19, however Rural Wireless Tele-density declined from 59.04 to 58.93 during the same period. The share of urban and rural wireless subscribers in total number of wireless subscribers was 55.47% and 44.53% respectively at the end of Feb-19. Detailed statistics of wireless subscriber base is available at

Annexure-I.

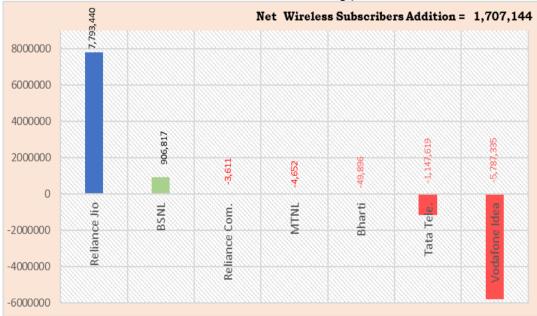
• As on 28th February, 2019, the private access service providers held 89.88% market share of the wireless subscribers whereas BSNL and MTNL, the two PSU access service providers, had a market share of only 10.12%.

• 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 28th February, 2019



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



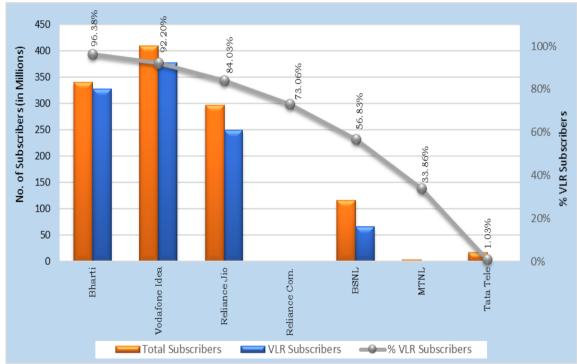
Note: 1. On noticing that while reporting number of subscribers, some of the TSPs were deducting inactive subscribers. A Direction was issued on 18th August 2017 to TSPs to strictly adhere to the Department of Telecommunications' methodology for reporting their number of subscribers. However, some of 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)

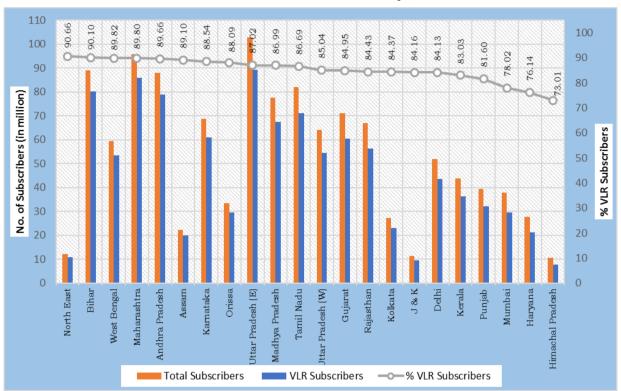
- Out of the total wireless subscribers (1,183.68 million), 1,022.62 million wireless subscribers were active on the date of peak VLR in the month of Feb-19. The proportion of active wireless subscribers approximately 86.39% of the total wireless subscriber base.
- The detailed statistics on of proportion active wireless subscribers (also referred to as VLR subscribers) on the date of peak VLR in the month of Feb-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 February, 2019



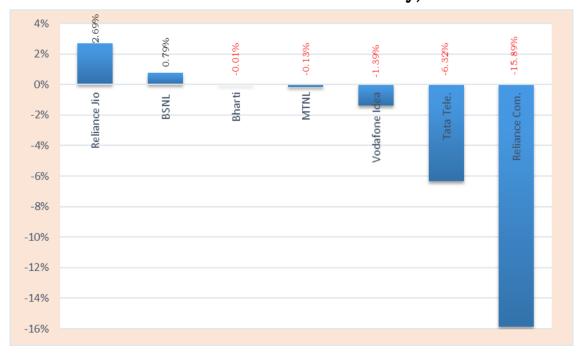
- Bharti Airtel has the maximum proportion (96.38%) of its active wireless subscribers (VLR) as
- against its total wireless subscribers (HLR) on the date of peak VLR in the month of Feb-19.



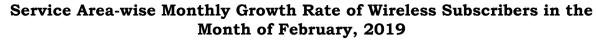


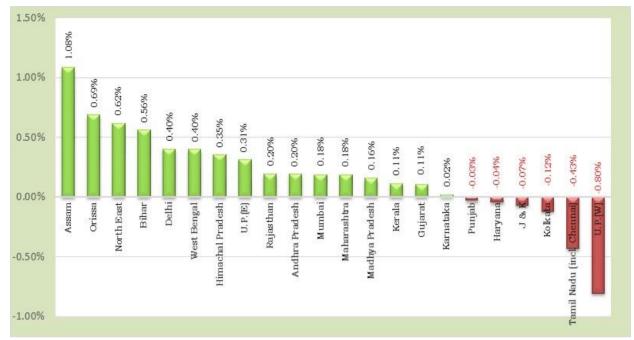
V. Growth in Wireless Subscribers

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



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





During the month of February,
 2019, Assam service area showed
 Maximum growth of 1.08% and

U.P.(West) service area showed maximum decline (0.80%) in their wireless subscriber.

VI. Mobile Number Portability (MNP)

- Intra-service area Mobile number portability (MNP) was implemented first in 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 Feb-19, a total of 5.28 million requests were received for MNP. Out of total 5.28 million new requests, 2.89 million requests received from Zone-I and 2.39 million requests received from Zone-II. The cumulative MNP requests increased from 417.82 million at the end of Jan-19 to 423.11 million at the end of Feb-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 33.89 million) followed by Maharashtra (about 30.62 million) service area. In MNP Zone-II (Southern and Eastern India), the highest number of requests till date have been received in Karnataka (about 39.50 million) followed by Andhra Pradesh (about 35.93 million) and Tamil Nadu (about 35.92 million).

Service Area Wise MNP Status										
Zon	e -1		Zone - 2							
Service Area	Service Area Number o Reque		Service Area	Number of Porting Requests (in Million)						
	Jan-19	Feb-19		Jan-19	Feb-19					
Delhi	21.45	21.71	Andhra Pradesh	35.50	35.93					
Gujarat	27.51	27.96	Assam	3.32	3.35					
Haryana	15.18	15.38	Bihar	16.39	16.74					
Himachal Pradesh	2.02	2.05	Karnataka	39.18	39.50					
Jammu & Kashmir	1.00	1.02	Kerala	10.07	10.20					
Maharashtra	30.01	30.62	Kolkata	10.13	10.22					
Mumbai	21.64	21.84	Madhya Pradesh	27.33	27.69					
Punjab	15.94	16.17	North East	1.30	1.31					
Rajasthan	33.59	33.89	Orissa	8.32	8.44					
U.P.(East)	22.85	23.17	Tamil Nadu	35.56	35.92					
U.P.(West)	18.36 18.64		West Bengal	21.17	21.37					
Total	209.55	212.45	Total	208.27	210.66					
Total (Zone-1 + Zon	e-2)			417.82	423.11					
Net Addition (Februa	ry, 2019)				5.28					

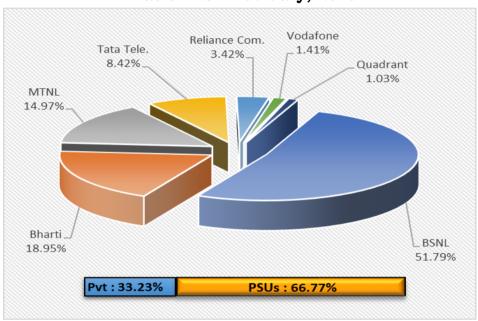
VII. Wireline Subscribers

• Wireline subscribers further declined from 21.79 million at the end of Jan-19 to 21.72 million at the end of Feb-19. Net decline in the wireline subscriber base was 0.07 million with a monthly

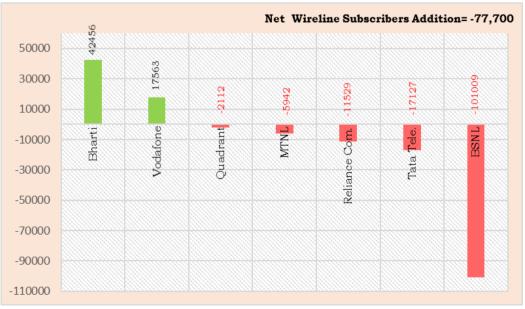
decline rate of 0.36%. The share of urban and rural subscribers in total wireline subscribers were 85.95% and 14.05% respectively at the end of Feb-19.

- The Overall Wireline Teledensity(%) declined from 1.66 at the end of Jan-19 to 1.65 at the end of Feb-19. Urban and Rural Wireline Tele-density were 4.47 and 0.34 respectively during the same period.
- BSNL and MTNL, the two PSU access service providers, held 66.77% of the wireline market share as on 28th February, 2019. Detailed statistics of wireline subscriber base are available at **Annexure-III**.

Access Service Provider-wise Market Shares of Wireline Subscribers as on 28th February, 2019



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



VIII. Broadband (≥ 512 Kbps download)

 As per the reports received from 313 operators in the month of February 2019, the number of broadband subscribers increased from 540.04 million at the end of Jan-19 to 550.24 million at the end of Feb-19 with a monthly growth rate of 1.89%. Segment-wise broadband subscribers and their monthly growth rates are as below:

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

	Broadband (in mi	Monthly growth	
Segment	As on 31 st January, 2019	As on 28 th February, 2019	rate in the month of Feb-19
Wired subscribers	18.27	18.29	0.11%
Mobile devices users (Phones and dongles)	521.35	531.54	1.95%
Fixed Wireless subscribers (Wi-Fi, Wi-Max, Point-to- Point Radio & VSAT)	0.42	0.42	-0.10%
Total	540.04	550.24	1.89%

• Top five service providers constituted 98.65% market share of the total broadband subscribers at the end of Feb-19. These service providers were Reliance Jio Infocomm Ltd

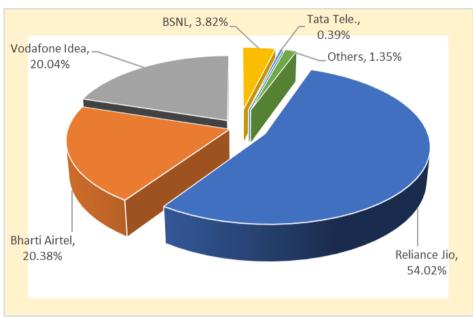
(297.23 million), Bharti Airtel (112.13 million), Vodafone Idea (110.25 million), BSNL (21.01 million) and Tata Tele. Group (2.17 million).

Note: 1. In the press release No.13/2019 dated 20th February, 2019, total number of broadband subscriber of M/s Bharti Airtel may be read as 107.07 million in place of 100.26 million and number of wireless broadband subscriber may be read as 104.80 million in place of 97.99 million.

2. 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:

Service Provider-wise Market Share of Broadband (wired+wireless) Services as on 28.02.2019



- As on 28th February, 2019, the top five Wired Broadband Service providers were **BSNL** (9.17)million), Bharti Airtel (2.33)million), Atria Convergence Technologies (1.41)million), Hathway Cable & Datacom (0.79 million) and MTNL (0.76 million).
- As on 28th February, 2019, the top five <u>Wireless</u> Broadband Service providers were Reliance Jio Infocomm Ltd (297.23 million), Vodafone Idea (110.23 million), Bharti Airtel (109.80 million), BSNL (11.84 million) and Tata Teleservices (1.72 million).

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					Wireless	Subscrib	er Base											Annexu	ıre-I
Olivata	Bharti	Airtel	Reliano	ce Com.	Vodafo	ne Idea	Tata Tele	eservices	BS	NL	BSNL	(VNO's)	мт	`NL	Relian	ce Jio	Total		Net
Circle	Jan-19	Feb-19	Jan-19	Feb-19	Jan-19	Feb-19	Jan-19	Feb-19	Jan-19	Feb-19	Jan-19	Feb-19	Jan-19	Feb-19	Jan-19	Feb-19	Jan-19	Feb-19	Addition
Andhra Pradesh	29807948	29803288	2304	1919	22929051	22632175	1648423	1567617	10176735	10147764					23301106	23884329	87865567	88037092	171525
Assam	8384938	8387735			5518973	5493436	0	0	2418559	2502807	,				5852380	6031027	22174850	22415005	240155
Bihar	39361605	39365655	170	187	23127009	22708688	294711	270623	5092654	5284522					20729722	21474536	88605871	89104211	498340
Delhi	15167551	15161922	3895	2775	19658629	19533394	49263	20					2218237	2215617	14591593	14983601	51689168	51897329	208161
Gujarat	12326435	12320998	389	409	33661617	33216380	829599	757856	5848936	5915704					18379190	18910786	71046166	71122133	75967
Haryana	3813714	3816304	142	157	11165328	11004097	800309	753295	4908887	4906008					7174884	7370933	27863264	27850794	-12470
Himachal Pradesh	3616874	3615002	72	72	1337270	1311235	3896	3221	2786927	2804626					2808843	2857055	10553882	10591211	37329
J & K	5643221	5639669			1309305	1273347	0	0	1229353	1231687					3356333	3385087	11538212	11529790	-8422
Karnataka	27192232	27193785	3165	1878	15691056	15436841	3058244	2918884	7143153	7178488					15730664	16101111	68818514	68830987	12473
Kerala	5133203	5133759	372	338	20472029	20439838	301947	278942	10848994	10868008					7077438	7163079	43833983	43883964	49981
Kolkata	6441769	6439257	44	34	9665258	9534292	1042456	980404	1845008	1896262					8275299	8386791	27269834	27237040	-32794
Madhya Pradesh	15622507	15615637	679	721	31943152	31616279	1854267	1743985	6141456	6132619					21785141	22359824	77347202	77469065	121863
Maharashtra	16411938	16403619	897	769	48571813	48106467	1559214	1430241	7018169	7108327					21896059	22585005	95458090	95634428	176338
Mumbai	8449084	8449569	5527	5092	15792934	15768365	796565	719749					1251734	1249702	11472206	11645426	37768050	37837903	69853
North East	5337377	5337843			2292075	2280327	0	0	1656268	1669984					2702898	2774210	11988618	12062364	73746
Orissa	13120578	13114170	114	127	5693390	5458096	502418	466573	5549614	5700991					8427506	8782523	33293620	33522480	228860
Punjab	10362767	10364241	190	203	11173160	10997595	857321	813501	5417523	5408371					11557594	11772092	39368555	39356003	-12552
Rajasthan	23365992	23357537	302	338	18566894	18253004	115754	101331	5749143	5842883					18907200	19280561	66705285	66835654	130369
Tamil Nadu (incl. Chennai)	25772389	25771860	3335	2875	24652288	23907799	1384014	1297656	11912285	11960560	33835	40786			18684577	19103813	82442723	82085349	-357374
U.P.(E)	32740803	32742229	671	684	36407320	35998380	1706137	1621908	11911552	11946298					19645090	20422130	102411573	102731629	320056
U.P.(W)	13773562	13775731	65	62	28832961	28022189	1317673	1252774	5956749	5954341					14822507	15177976	64703517	64183073	-520444
West Bengal	18516217	18502998	396	478	26696504	26378457	35403	31415	1713338	1764919					12263311	12783086	59225169	59461353	236184
Total	340362704	340312808	22729	19118	415158016	409370681	18157614	17009995	115325303	116225169	33835	40786	3469971	3465319	289441541	297234981	1181971713	1183678857	1707144
Net Addition		-49896		-3611		-5787335		-1147619		899866		6951		-4652		7793440	0	1707144	
Rural Subscribers	163121778	157499361	0	0	218676421	215081102	2451905	2272559	36389567	40379934	0	0	46361	46306	107087183	111825749	527773215	527105011	-668204

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

Proportion of VLR on the date of Peak VLR in the month of Feb-19 (%) Annotation											
Circle	Bharti	BSNL	Vodafone Idea	MTNL	Reliance Com.	Reliance Jio	Tata Tele.	Total			
Andhra Pradesh	98.33	69.04	100.18		73.48	83.48	0.71	89.66			
Assam	95.67	61.85	89.94			90.51		89.10			
Bihar	89.36	52.79	97.27		58.82	94.17	0.13	90.10			
Delhi	93.23		90.20	24.66	87.57	75.71	-	84.13			
Gujarat	95.37	47.90	94.12		56.23	77.06	0.03	84.95			
Haryana	120.57	34.58	91.36		52.23	65.81	0.51	76.14			
Himachal Pradesh	89.43	42.34	91.05		58.33	74.13	1.15	73.01			
J & K	89.78	68.58	83.57		-	80.68		84.16			
Karnataka	105.14	61.97	93.70		106.34	83.32	0.80	88.54			
Kerala	102.69	64.86	93.68		67.46	69.17	5.21	83.03			
Kolkata	101.99	52.10	90.23		94.12	80.59	6.48	84.37			
Madhya Pradesh	99.28	53.64	88.71		56.87	91.89	0.28	86.99			
Maharashtra	97.17	55.04	93.89		71.52	92.31	0.50	89.80			
Mumbai	88.59		76.74	50.18	66.97	79.78	1.68	78.02			
North East	100.33	72.95	86.16		-	86.42		90.66			
Orissa	93.78	73.24	93.15		53.54	90.77	0.41	88.09			
Punjab	102.10	47.64	95.52		52.71	71.79	0.09	81.60			
Rajasthan	90.77	46.62	90.06		53.55	83.32	0.58	84.43			
Tamil Nadu (incl. Chennai)	96.31	69.90	97.81		69.22	76.19	0.89	86.69			
U.P. (E)	99.53	43.55	89.96		60.23	94.09	0.16	87.02			
U.P. (W)	100.32	43.78	91.74		61.29	82.00	0.20	85.04			
West Bengal	90.20	89.66	89.22		50.21	90.74	1.02	89.82			
Total	96.38	56.83	92.20	33.86	73.06	84.03	1.03	86.39			

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	!						Annexur	e-III	
	BSI	NL	МТ	NL	Bha	Bharti		Reliance		ta	Quad	irant	Voda	afone	Total		Net
Service Area	Jan-19	Feb-19	Jan-19	Feb-19	Jan-19	Feb-19	Jan-19	Feb-19	Jan-19	Feb-19	Jan-19	Feb-19	Jan-19	Feb-19	Jan-19	Feb-19	Addition
Andhra Pradesh	985688	963708			178463	180695	48015	47497	175062	175213			36370	41730	1423598	1408843	-14755
Assam	114500	112736											2850	2850	117350	115586	-1764
Bihar	219952	217854					3216	3217	8441	8364			1800	1710	233409	231145	-2264
Delhi			1488195	1485383	1395738	1423397	123031	119866	154808	153571			51960	54300	3213732	3236517	22785
Gujarat	1007977	1006150			83094	84485	20154	19843	88036	87092			20749	26480	1220010	1224050	4040
Haryana	212772	211183			22958	23065	2743	2736	36043	35730			180	210	274696	272924	-1772
Himachal Pradesh	111438	110612					2916	2796	1890	1851			60	60	116304	115319	-985
J & K	102887	102452													102887	102452	-435
Karnataka	1036552	1026583			675757	681203	139345	137081	274652	273069			43465	42895	2169771	2160831	-8940
Kerala	1801919	1797358			60149	60279	17171	16827	19374	18849			2910	2970	1901523	1896283	-5240
Kolkata	495473	491254			127551	128772	40049	39746	52914	52654			8810	8780	724797	721206	-3591
Madhya Pradesh	654871	653663			242481	242605	10896	10553	15207	15161			1020	1050	924475	923032	-1443
Maharashtra	1106754	1095716			90162	91769	48214	47763	286037	281228			18552	18560	1549719	1535036	-14683
Mumbai			1769655	1766525	366209	367590	178454	176821	565439	560615			53627	55301	2933384	2926852	-6532
North East	104216	103675											270	270	104486	103945	-541
Orissa	224438	222361					2462	2463	7868	7747			2160	2100	236928	234671	-2257
Punjab	405325	399135			129519	129926	11938	11833	13562	12443	225073	222961	1680	1680	787097	777978	-9119
Rajasthan	445926	441961			54091	54245	21177	20932	11895	11256			7320	9850	540409	538244	-2165
Tamil Nadu (incl. Chennai)	1451353	1434734			556213	556898	72331	71445	119331	119298			19135	19565	2218363	2201940	-16423
U.P.(E)	358261	357813			66481	66289	7093	6528	8186	8070			11870	11960	451891	450660	-1231
U.P.(W)	269112	267109			23414	23518	3702	3469	5303	4765			4140	4170	305671	303031	-2640
West Bengal	239193	231541					1722	1684	2423	2368			120	120	243458	235713	-7745
Total	11348607	11247598	3257850	3251908	4072280	4114736	754629	743100	1846471	1829344	225073	222961	289048	306611	21793958	21716258	-77700
Net Addition		-101009		-5942		42456		-11529		-17127		-2112		17563		-77700)
Rural Subscribers	2983421	2953865	0	0	0	0	1476	1475	50699	49814	46307	46024	0	0	3081903	3051178	-30725

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.