

AT&T MOBILE SERVICE LATENCY BY CELLULAR MARKET AREA

The table below sets forth data showing the ranges of actual latency for AT&T's mass market mobile broadband Internet access services, by transport technology and by Cellular Market Area ("CMA").

The range reported is from the 25th to the 75th percentile, which means that the 25th percentile lower bound is the value below which 25% of the test readings were, and the 75th percentile upper bound is the value below which 75% of the test readings were.

The reported information was compiled by AT&T through crowd-sourced performance test data between March 2016 and August 2016.

Data for CMAs with low population density (defined as less than 250 people per square mile) are aggregated per state and displayed in the lower section of the spreadsheet.

An entry of "I/D" signifies Insufficient Data to report reliable information. "I/D" entries for 4G and 3G technologies typically result from the fact that LTE coverage in the CMA/testing area precludes the use and testing of 4G and 3G service.

CMA CODE AND NAME	LTE		HSPA+/4G		HSPA/3G	
	Latency (ms)		Latency (ms)		Latency (ms)	
	25th Percentile	75th Percentile	25th Percentile	75th Percentile	25th Percentile	75th Percentile
001 - New York	31.0	41.0	46.0	77.5	56.0	77.0
002 - Los Angeles	30.0	38.0	57.0	83.5	76.8	89.0
003 - Chicago	28.0	36.0	48.0	70.0	73.0	87.0
004 - Philadelphia	37.0	69.0	53.0	83.0	66.0	94.4
005 - Detroit	37.0	63.3	68.0	88.0	82.0	96.0
006 - Boston	36.0	66.0	66.0	99.0	76.0	110.0
007 - San Francisco	29.3	37.0	50.0	75.5	75.0	92.3
008 - Washington	31.0	39.0	50.0	77.0	63.5	84.5
009 - Dallas	30.0	37.0	48.0	71.0	74.0	169.0
010 - Houston	27.0	36.0	46.0	67.0	67.0	79.0
011 - St. Louis	40.0	67.0	57.0	76.0	68.0	78.0
012 - Miami	42.0	56.0	69.0	96.0	92.0	106.0
013 - Pittsburgh	36.3	57.0	77.0	101.0	I/D	I/D
014 - Baltimore	32.0	44.0	49.0	71.5	62.0	87.0

015 - Minneapolis		37.0	66.0		53.5	81.0		65.0	75.0
016 - Cleveland		31.0	39.0		55.0	86.0		65.5	80.5
017 - Atlanta		28.0	36.0		48.5	73.0		71.5	85.0
018 - San Diego		32.0	39.0		55.0	82.0		78.9	88.0
019 - Denver - Boulder		68.7	79.0		79.0	107.0		87.0	109.0
020 - Seattle		32.0	65.0		47.0	82.0		56.0	76.0
021 - Milwaukee		28.5	36.0		50.0	75.0		75.0	85.0
022 - Tampa		40.0	65.0		68.0	107.5		84.0	116.7
023 - Cincinnati		54.5	71.0		72.0	88.0		I/D	I/D
024 - Kansas City		61.5	72.5		68.3	87.0		82.0	96.0
025 - Buffalo		49.0	63.0		79.0	102.0		I/D	I/D
026 - Phoenix		39.0	67.0		55.0	78.9		59.5	68.5
027 - San Jose		31.0	38.0		47.0	70.8		73.0	87.0
028 - Indianapolis		37.0	47.0		61.0	80.0		81.0	96.0
029 - New Orleans		52.0	62.0		77.5	97.0		95.5	106.0
030 - Portland		34.0	63.0		49.5	87.6		62.0	74.5
031 - Columbus		31.5	53.0		59.0	86.6		74.0	90.0
032 - Hartford		34.5	66.0		64.0	100.0		77.5	100.5
033 - San Antonio		33.0	47.5		54.0	76.0		85.0	91.0
034 - Rochester		47.0	60.0		77.3	109.0		I/D	I/D
035 - Sacramento		31.0	39.0		52.0	77.0		83.0	93.7
036 - Memphis		51.0	62.0		79.0	98.0		95.7	115.0
037 - Louisville		58.5	78.0		89.0	114.0		104.0	121.1
038 - Providence		35.3	66.0		69.0	106.0		I/D	I/D
040 - Dayton		61.0	73.0		76.0	98.0		86.5	112.0
041 - Birmingham		31.0	38.0		56.0	79.0		82.0	106.0
042 - Bridgeport		35.0	66.0		64.0	101.0		I/D	I/D
043 - Norfolk		35.0	48.0		65.0	86.0		I/D	I/D
044 - Albany		47.0	61.0		80.0	114.0		I/D	I/D
045 - Oklahoma City		34.0	44.5		54.0	76.5		84.0	92.0
046 - Nashville		40.0	49.0		62.0	86.0		95.0	109.3
047 - Greensboro		46.0	56.0		68.0	101.0		I/D	I/D
048 - Toledo		35.0	57.0		58.0	77.0		I/D	I/D
049 - New Haven		35.0	66.5		64.8	98.5		I/D	I/D
050 - Honolulu		130.0	146.0		149.0	171.0		I/D	I/D
051 - Jacksonville		41.0	62.3		67.0	98.0		87.0	106.0
052 - Akron		31.0	43.0		55.0	79.7		I/D	I/D
053 - Syracuse		47.0	65.0		79.0	118.0		I/D	I/D
054 - Gary - Hammond		30.5	39.0		54.7	78.0		I/D	I/D
055 - Worcester		38.0	70.0		67.0	103.0		I/D	I/D
056 - Northeast Pennsylvania		55.8	76.0		60.0	96.2		I/D	I/D

058 - Allentown		42.0	71.5		61.5	93.0		70.7	88.0
059 - Richmond		30.0	37.0		57.0	80.0		I/D	I/D
060 - Orlando		38.0	65.0		65.0	100.0		85.0	117.0
061 - Charlotte		39.0	48.0		66.0	87.0		I/D	I/D
062 - New Brunswick		32.0	49.0		47.0	69.0		I/D	I/D
063 - Springfield		39.0	71.0		68.0	105.0		I/D	I/D
064 - Grand Rapids		39.0	67.0		67.0	87.5		I/D	I/D
065 - Omaha		62.0	73.0		72.0	168.0		I/D	I/D
066 - Youngstown		35.0	67.0		66.0	109.5		I/D	I/D
067 - Greenville		52.0	65.0		79.0	106.0		I/D	I/D
068 - Flint		40.0	69.0		71.0	136.0		I/D	I/D
069 - Wilmington		36.0	70.0		56.0	86.9		I/D	I/D
070 - Long Branch		32.0	44.8		47.8	79.0		I/D	I/D
071 - Raleigh		45.0	56.0		67.8	93.8		92.8	106.3
072 - West Palm Beach		42.0	56.0		69.0	96.0		86.0	104.0
073 - Oxnard - Ventura		30.5	37.0		58.0	80.0		74.0	87.0
075 - Austin		40.0	48.5		65.0	85.0		86.3	97.0
076 - New Bedford		37.0	68.0		65.0	100.0		I/D	I/D
079 - Knoxville		38.0	49.0		65.0	88.0		95.0	103.0
080 - Baton Rouge		50.5	62.0		77.0	98.0		97.0	107.0
081 - El Paso		57.0	79.0		87.8	117.0		I/D	I/D
082 - Tacoma		31.0	57.0		45.8	81.0		I/D	I/D
084 - Harrisburg		49.0	72.0		57.1	88.0		I/D	I/D
087 - Canton		31.0	40.0		56.0	83.0		I/D	I/D
088 - Chattanooga		39.0	50.0		59.0	86.0		I/D	I/D
090 - Charleston		48.0	65.0		78.0	107.0		I/D	I/D
091 - San Juan - Caguas, PR		88.0	115.5		117.0	155.5		133.0	157.5
093 - Las Vegas		36.0	68.0		73.0	94.0		81.5	94.0
095 - Columbia		42.0	52.0		67.0	93.0		I/D	I/D
099 - York		47.0	71.0		57.3	90.0		I/D	I/D
102 - Des Moines		49.0	70.0		59.7	80.0		I/D	I/D
104 - Newport News		35.5	48.0		57.0	84.0		I/D	I/D
105 - Lancaster		43.7	71.0		56.0	95.0		I/D	I/D
107 - Stockton		32.0	41.0		56.0	78.0		84.3	118.8
108 - Augusta		33.0	42.0		56.0	87.0		I/D	I/D
109 - Spokane		37.0	69.0		57.0	100.0		I/D	I/D
111 - Vallejo - Fairfield - Napa		33.0	40.5		57.0	78.0		I/D	I/D
112 - Corpus Christi		42.0	60.0		67.0	93.0		I/D	I/D
113 - Madison		35.0	48.0		57.0	82.5		I/D	I/D

114 - Lakeland		42.0	68.0		66.0	102.0		I/D	I/D
116 - Lexington		68.0	80.0		92.0	113.0		I/D	I/D
117 - Colorado Springs		69.0	81.0		81.0	116.0		I/D	I/D
118 - Reading		46.0	73.0		59.0	92.5		I/D	I/D
120 - Huntsville		48.0	57.0		71.0	96.0		95.0	107.0
121 - Trenton		38.0	69.0		56.0	83.0		I/D	I/D
123 - Santa Rosa - Petaluma		32.0	38.0		54.0	79.0		I/D	I/D
127 - Pensacola		65.0	79.0		87.0	116.5		I/D	I/D
128 - Mcallen - Edinburg - Mission		40.0	53.0		59.0	85.0		I/D	I/D
129 - South Bend		62.7	74.0		82.0	122.5		I/D	I/D
130 - Erie		41.8	66.0		78.0	107.0		I/D	I/D
131 - Rockford		31.0	38.0		51.0	76.0		I/D	I/D
132 - Kalamazoo		47.0	70.0		69.0	95.0		90.0	97.0
133 - Manchester		41.0	71.0		70.0	111.0		I/D	I/D
134 - Atlantic City		46.8	72.3		61.0	88.0		I/D	I/D
136 - Lorain		31.0	51.0		51.0	69.0		I/D	I/D
137 - Melbourne		41.0	67.0		67.0	99.0		I/D	I/D
142 - Modesto		31.5	38.5		52.0	76.0		I/D	I/D
144 - Orange County		36.0	65.0		54.3	91.5		I/D	I/D
145 - Hamilton		58.0	71.0		75.0	97.0		I/D	I/D
146 - Daytona Beach		42.3	68.0		68.0	100.8		95.0	133.0
147 - Ponce, PR		89.0	107.5		106.0	145.4		I/D	I/D
149 - Fayetteville		47.5	59.0		74.0	97.5		I/D	I/D
151 - Poughkeepsie		47.0	62.0		71.0	110.0		I/D	I/D
152 - Portland		41.0	76.0		77.0	115.0		I/D	I/D
154 - New London		34.5	66.0		62.0	103.0		I/D	I/D
155 - Savannah		38.0	48.0		58.8	94.5		I/D	I/D
159 - Provo		67.0	78.0		97.0	125.7		I/D	I/D
161 - Lubbock		36.0	49.0		57.0	124.7		I/D	I/D
162 - Brownsville - Harlingen		39.0	48.0		59.8	84.0		I/D	I/D
163 - Springfield		65.0	76.0		72.0	88.0		85.0	114.7
164 - Fort Myers - Cape Coral		47.0	70.0		76.0	103.3		I/D	I/D
167 - Sarasota		55.5	82.0		85.0	120.0		I/D	I/D
169 - Mayaguez, PR		66.0	94.0		85.0	136.0		I/D	I/D
170 - Galveston		28.0	37.0		45.5	71.0		I/D	I/D
172 - Lincoln		62.0	77.0		73.0	156.0		I/D	I/D
174 - Lafayette		49.0	62.0		77.0	103.3		I/D	I/D
175 - Santa Cruz		33.0	43.0		55.0	77.0		I/D	I/D

182 - Fayetteville		51.7	65.0		75.0	96.0		97.0	107.0
186 - Green Bay		40.0	49.0		58.0	108.0		I/D	I/D
189 - Racine		29.0	37.0		51.0	76.0		I/D	I/D
190 - Boise City		78.0	105.0		113.0	147.0		I/D	I/D
193 - Benton Harbor		52.0	70.1		70.0	98.0		I/D	I/D
195 - Cedar Rapids		45.0	72.0		56.0	79.0		I/D	I/D
202 - Aricebo, Pr		71.0	113.0		106.0	149.0		I/D	I/D
204 - Aguadilla, PR		67.0	99.0		89.0	143.0		I/D	I/D
208 - Fort Pierce		43.0	59.0		65.8	94.0		I/D	I/D
211 - Bradenton		56.0	81.0		80.0	114.0		I/D	I/D
212 - Bremerton		31.0	64.0		47.0	95.0		I/D	I/D
217 - Anderson		38.9	48.0		63.0	85.0		I/D	I/D
218 - Wilmington		48.0	58.0		78.4	104.5		I/D	I/D
223 - Elkhart		61.0	72.0		76.0	111.0		I/D	I/D
227 - Anderson		50.0	63.0		86.4	141.0		I/D	I/D
228 - Vineland		41.0	71.0		57.0	92.0		I/D	I/D
234 - Athens		30.0	37.0		54.0	80.0		I/D	I/D
236 - Muncie		37.3	47.0		59.0	86.0		I/D	I/D
242 - Olympia		32.0	66.0		47.0	84.0		I/D	I/D
244 - Kenosha		29.0	36.5		51.0	76.0		I/D	I/D
247 - Lafayette		38.5	48.0		65.0	86.0		I/D	I/D
257 - Hagerstown		34.0	60.0		49.0	76.0		I/D	I/D
258 - Jacksonville		49.0	62.0		74.0	96.0		I/D	I/D
278 - Columbia		60.0	74.7		68.0	89.0		I/D	I/D
280 - Burlington		49.0	63.0		I/D	I/D		I/D	I/D
282 - Bloomington		38.7	48.0		63.0	86.0		I/D	I/D
287 - Bryan - College Station		30.2	41.0		49.0	70.5		I/D	I/D
301 - Lawrence		64.0	74.0		75.2	88.0		I/D	I/D
303 - Aurora		29.0	36.0		59.0	69.0		I/D	I/D
359 - DE 1 - Kent		37.0	72.0		55.0	97.0		I/D	I/D
363 - FL 4 - Citrus		45.0	70.0		71.5	109.0		I/D	I/D
469 - MD 3 - Frederick		32.0	44.0		51.4	85.0		I/D	I/D
471 - MA 2 - Barnstable		44.0	75.0		70.3	120.5		I/D	I/D
550 - NJ 1 - Hunterdon		34.4	64.3		48.0	107.0		I/D	I/D
551 - NJ 2 - Ocean		34.0	56.3		49.0	95.0		I/D	I/D
552 - NJ 3 - Sussex		34.0	58.0		53.0	70.0		I/D	I/D
579 - NC 15 - Cabarrus		39.0	48.0		67.5	98.0		I/D	I/D
623 - PA 12 - Lebanon		52.0	74.0		57.0	95.0		I/D	I/D
624 - RI 1 - Newport		36.0	67.0		77.0	107.5		I/D	I/D

633 - SC 9 - Lancaster		38.2	47.0		66.0	83.0		I/D	I/D
723 - PR 1 - Rincon		67.0	94.0		81.0	126.0		I/D	I/D
724 - PR 2 - Adjuntas		83.0	113.0		96.0	147.3		I/D	I/D
725 - PR 3 - Ciales		98.0	129.4		128.0	181.0		I/D	I/D
726 - PR 4 - Aibonito		95.5	124.0		126.0	159.0		I/D	I/D
727 - PR 5 - Ceiba		89.7	117.0		122.0	167.0		I/D	I/D
730 - Virgin Islands 1 - St. Thomas		I/D	I/D		I/D	I/D		I/D	I/D
731 - Virgin Islands 2 - St. Croix		I/D	I/D		I/D	I/D		I/D	I/D

	LTE		HSPA+/4G		HSPA/3G	
	Latency (ms)		Latency (ms)		Latency (ms)	
STATE LEVEL AGGREGATION OF LOW POPULATION DENSITY CMAs	25th Percentile	75th Percentile	25th Percentile	75th Percentile	25th Percentile	75th Percentile
Alabama	39.0	65.0	68.0	101.5	87.0	106.3
Alaska	91.0	116.0	123.0	163.8	126.0	162.0
Arizona	55.0	87.0	78.0	171.8	79.0	124.0
Arkansas	45.0	63.0	70.3	101.5	85.0	106.0
California	34.0	48.0	62.5	94.0	84.0	100.0
Colorado	72.5	107.0	95.0	155.0	97.0	139.0
Connecticut	35.0	66.0	74.0	104.5	I/D	I/D
Florida	48.0	76.0	79.8	117.0	98.0	142.0
Georgia	32.0	48.0	57.0	93.0	79.0	99.5
Hawaii	122.3	145.0	150.0	179.0	I/D	I/D
Idaho	74.0	109.5	84.0	137.0	I/D	I/D
Illinois	38.0	58.1	71.0	105.0	87.0	105.8
Indiana	45.0	70.5	74.0	106.0	87.0	107.0
Iowa	52.0	73.0	59.0	87.4	I/D	I/D
Kansas	67.0	79.0	79.0	109.0	90.0	107.0
Kentucky	59.5	77.0	87.0	115.0	105.0	127.0
Louisiana	50.5	68.0	78.0	102.0	98.0	115.0
Maine	45.0	77.0	88.0	199.0	179.0	234.0
Maryland	37.0	69.0	58.0	101.0	I/D	I/D
Massachusetts	43.0	77.0	78.0	113.0	I/D	I/D
Michigan	55.0	72.7	76.0	107.0	82.3	104.5
Minnesota	46.0	72.0	59.0	87.0	70.0	82.7
Mississippi	53.0	68.0	81.0	107.0	103.0	118.0

Missouri		62.0	75.0		70.0	94.7		75.0	93.0
Montana		129.0	177.0		160.0	198.0		160.0	194.0
Nebraska		71.0	220.0		86.0	231.0		I/D	I/D
Nevada		35.0	52.0		74.0	158.0		82.0	109.0
New Hampshire		43.0	77.0		75.0	113.0		I/D	I/D
New Mexico		69.0	103.0		93.0	168.2		136.0	238.0
New York		49.0	68.0		79.0	118.0		95.0	140.0
North Carolina		47.0	62.0		77.0	99.0		96.0	105.7
North Dakota		92.0	118.0		115.0	158.0		I/D	I/D
Ohio		37.0	71.0		67.0	106.0		77.5	115.0
Oklahoma		37.5	48.0		59.0	84.2		79.0	96.0
Oregon		37.0	72.0		59.0	104.0		66.0	103.0
Pennsylvania		47.0	70.0		69.5	105.0		79.0	143.0
South Carolina		47.0	58.5		76.0	98.0		97.0	110.0
South Dakota		71.0	108.0		89.5	139.0		I/D	I/D
Tennessee		47.0	58.3		73.0	101.0		96.0	108.0
Texas		38.0	58.0		64.5	94.0		84.0	117.0
Utah		67.0	78.0		97.5	133.0		105.0	118.5
Vermont		43.0	75.0		76.0	109.0		88.0	116.5
Virginia		36.0	65.0		60.0	105.0		65.0	103.0
Washington		39.0	73.0		57.0	100.0		66.0	81.0
West Virginia		59.0	79.0		87.7	117.0		89.5	124.5
Wisconsin		37.0	66.0		61.0	93.0		73.0	96.0
Wyoming		139.0	160.2		160.0	270.0		I/D	I/D