

Mobile speeds in 2H 2019:

Which UK metros
were home to the
fastest speeds?



RootMetrics®
By IHS Markit





With 5G service in the UK still expanding, most mobile users continue to rely on 4G LTE networks to provide the fast speeds that power their daily connected experience. The good news is that results from our testing in the second half of 2019 showed that the UK operators are providing generally fast speeds in most metros across the UK, and as 5G takes hold in more and more cities, speeds should get even faster. Read on to see which UK metros were home to the fastest 4G LTE speeds in the second half of 2019.

The fastest metros in the UK

How we calculated each metro's speed

To determine which metropolitan areas across the UK were home to the fastest and slowest speeds, we aggregated the median download speeds recorded on the networks of EE, O2, Three, and Vodafone in each of the 16 most populated metropolitan areas in the UK and ranked them from fastest to slowest.

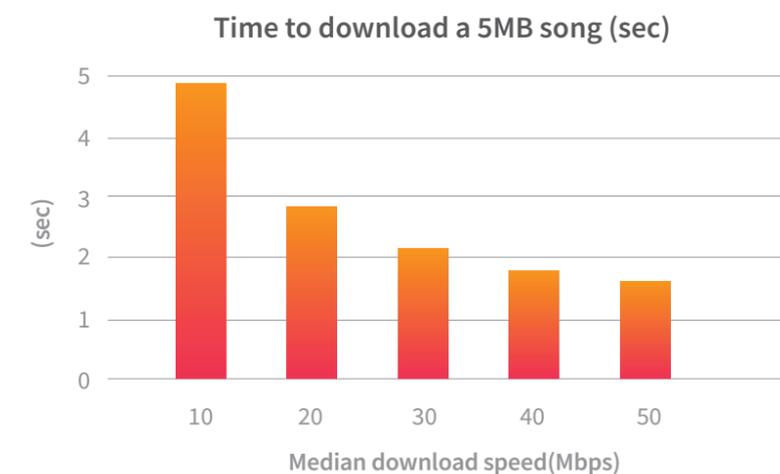
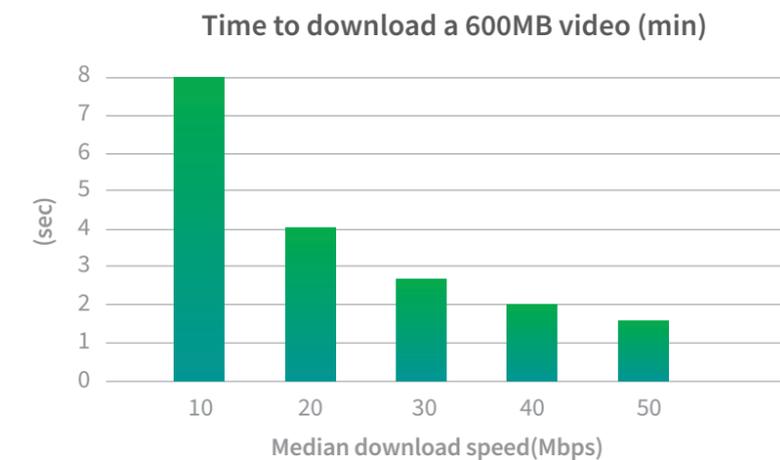
Metro	Population	Population rank	Aggregate median download speed (Mbps)	Speed rank
Birmingham	2,357,100	4	28.9	1
Liverpool	1,365,900	6	28.8	2
Manchester	2,600,100	2	26.7	3

Birmingham offers blazing speeds - With an aggregate median download speed of 28.9 Mbps, Birmingham claimed top honours as the fastest city in the UK. The city's impressive speed was largely due to EE's terrific median download speed of 51.6 Mbps, which registered as a statistical tie for the fastest median download speed in any UK metro in 2H 2019. Vodafone also impressed, clocking a strong speed of 38.4 Mbps. O2 and Three, on the other hand, didn't fare quite as well, registering median download speeds of 10.4 Mbps and 15.1 Mbps, respectively.

While the speeds of all operators in Birmingham were fast enough for most end-user data activities, consumers should certainly notice a difference between the speeds of EE and Vodafone and those of O2 and Three. At EE's median download speed of 51.6 Mbps, for example, downloading a 600 MB video from Netflix would take less than two minutes. On the networks of O2 or Three, meanwhile, downloading the same movie would take between five and eight minutes.

Liverpool a tick behind Birmingham (literally) - Liverpool's aggregate median download speed of 28.8 Mbps was just 0.1 Mbps "slower" than that of Birmingham. For all intents and purposes, each city's speed was identical, but the important thing is that both metros were fast. Leading the way in Liverpool were EE and Vodafone, with each operator clocking strong median download speeds of roughly 40 Mbps. O2 and Three remained a step behind, with speeds of 11.3 Mbps and 17.7 Mbps, respectively.

Manchester rounds out the top three - Clocking in with an aggregate median download speed of 26.7 Mbps, Manchester finished third in our speed rankings. Manchester's top-shelf speed was helped by impressive speeds from EE and Vodafone, with both EE and Vodafone delivering median download speeds of about 43 Mbps. At that speed, end users can download a 600MB video in less than two minutes or download a 5MB song in just 1.7 seconds. At the other end of the spectrum, O2's median download speed of 8.1 Mbps was the second-slowest median download speed we recorded in 2H 2019. While Three delivered a respectable speed of 12.4 Mbps, the bottom line for end users in Manchester is that subscribers of EE or Vodafone will likely have a faster mobile experience than customers of O2 or Three.



What do speeds mean in real-world terms?

To give a sense of what median download speeds mean for your daily connected experience, these tables show how long it would take to download a 600MB video from Netflix at various median download speeds, as well as the time it would take to download a 5MB song from iTunes at the same speeds. Video download times are in minutes, while song download times are in seconds.



Mobile users are crazy about speed

As fast data connectivity becomes a fundamental aspect of everyday life, it's no surprise that fast speeds are becoming the cornerstone of the always-on end-user experience. In fact, a recent RootMetrics survey of always-on mobile users showed:

- 71% say slow data performance significantly reduces productivity
- 40% say slow data performance leads to a loss of customers
- 28% say slow data performance leads to a loss of revenue
- 11% say slow data performance leads to customer dissatisfaction

Small but speedy: Bigger cities aren't always faster

Who doesn't love a good underdog story? Consumers tend to associate large cities with fast speeds, but our testing has shown that cities with smaller populations often outpace larger, more populated cities. In 2H 2019, Coventry stood out as a smaller city home to speeds faster than those in all but four UK metros.

Metro	Population	Population rank	Aggregate median download speed (Mbps)	Speed rank
Coventry	651,000	14	25.3	5

Small city Coventry faster than London - The third-smallest metro in the UK boasted a strong aggregate median download speed of 25.3 Mbps, which ranked ahead of London (ranked 9th fastest) and finished as the fifth-fastest speed across the UK. Residents in Coventry should experience strong speeds from all four operators.



The biggest cities in the UK: Birmingham shines, while London finishes in the middle of the pack

Overall, speeds were generally mixed among the UK's five largest metros. Birmingham, Manchester, and Glasgow shined and cracked the top of our speed rankings, while London ranked in the middle of the pack. Leeds and Bradford, meanwhile, came in near the bottom, finishing with a speed ranking of 14th out of 16 metros tested.

Metro	Population	Population rank	Aggregate median download speed (Mbps)	Speed rank
London	11,917,000	1	24.1	9
Manchester	2,600,100	2	26.7	3
Leeds and Bradford	2,393,300	3	20.7	14
Birmingham	2,357,100	4	28.9	1
Glasgow	1,747,100	5	26.7	4

London leaves room for improvement, but 5G could change that going forward: London, by far the largest metro in the UK, finished with a middle-of-the-pack aggregate median download speed of 24.1 Mbps that was largely kept afloat by EE's excellent 45.6 Mbps. While O2 and Vodafone each delivered relatively solid median download speeds of 17.6 and 21.3 Mbps, respectively, Three's speed of 11.7 Mbps left something to be desired.

That said, the 5G results we recorded from EE and Vodafone during our [5G First Look](#) testing could change the game for Londoners. While 5G results weren't factored into London's aggregate median download speed, EE and Vodafone delivered blazing-fast 5G median download speeds of 149.2 Mbps and 97.7 Mbps, respectively. In short, 5G in London is fast and much faster than 4G LTE.

Manchester is both big and fast: While our testing has often shown that bigger isn't always better (or faster), speeds in Manchester were indeed fast. The UK's second-largest city was home to the UK's third-fastest aggregate median download speed of 26.7 Mbps.

Leeds and Bradford home to relatively decent speeds: While Leeds and Bradford's aggregate median download speed of 20.7 Mbps ranked near the bottom of the pack, that doesn't tell the entire story. In fact, with speeds ranging from Three's respectable 15.2 Mbps to EE's strong 36.2 Mbps, all four operators delivered generally good speed results in Leeds.

Birmingham offers fast 4G LTE speeds and even faster 5G speeds: Residents of Birmingham should be especially pleased with the performances of EE and Vodafone, registering impressive median download speeds of 51.6 Mbps and 38.4 Mbps, respectively. Speeds in the city were generally strong, but those looking for even faster speeds might want to consider the 5G networks of EE or Vodafone. During our 5G First Look testing in the Summer of 2019, EE and Vodafone delivered remarkable 5G median download speeds of 185.7 Mbps and 112.2 Mbps, respectively. While those 5G results weren't factored into the city's aggregate median download speed, it's clear that 5G in Birmingham is incredibly fast.

Glasgow ranks among the top 5 fastest metros: Stop us if you've heard this before, but Glasgow's fourth-fastest aggregate median download speed of 26.7 Mbps was largely propped up by EE and Vodafone, with EE registering an outstanding median download speed of 41.3 Mbps and Vodafone clocking a strong 39.0 Mbps. In the middle of that range (40 Mbps), end users in Glasgow can download a 600MB video in about two minutes. On the other hand, O2 and Three weren't nearly as fast, recording median download speeds of 11.4 Mbps and 14.9 Mbps, respectively. At the middle of that range (12.5 Mbps), downloading the same movie would take closer to six minutes.

Keep in mind that even though a metro may have a low speed ranking, it doesn't necessarily mean that every operator's speed in that metro was poor. Because our aggregate median download speeds consider speed results across all networks in a city, fast speeds from one operator can be canceled out by lagging speeds from others. For details on performance within individual metros, see our [Metro Area RootScore Reports for the top 16 metros across the UK](#).



Notable changes in speed: The metros with the biggest speed increases

Mobile performance is typically steady in most major metros over relatively short periods of time, with routine network upgrades leading to generally small, incremental improvements that end users may not even notice. That said, it's important to keep in mind that the mobile performance landscape is fluid and constantly shifting. Any number of things could affect operator performance in a city over the course of time, from the construction of new buildings to new cell towers being added to a city, and more.

Getting faster

Metro	2H 2019 aggregate median download speed	1H 2019 aggregate median download speed	Difference
Birmingham	28.9 Mbps	24.7 Mbps	+ 4.2 Mbps
Hull	24.5 Mbps	21.0 Mbps	+3.6 Mbps

Birmingham boosted by all four operators in 2H 2019: Improving in speed rank from 6th in 1H 2019 to 1st in 2H 2019, Birmingham's aggregate median download speed increase of 4.2 Mbps marked the biggest improvement across all UK metros. While impressive speeds from both EE (51.6 Mbps) and Vodafone (38.4 Mbps) certainly contributed to Birmingham's top-notch speed, the city's aggregate speed improved thanks to faster speeds from all four operators in 2H 2019.

Hull speeds up as two operators improve: Hull's aggregate median download speed increased largely because of faster speeds from EE and O2. EE's speed increase was especially noteworthy, jumping from an already fast 36.8 Mbps in 1H 2019 to a sterling 51.2 Mbps in 2H 2019, which registered as one of the two fastest median download speeds recorded across all 16 metros in 2H 2019. O2 also showed improvement, with its median download speed jumping from 15.5 Mbps to 17.6 Mbps. While Vodafone's median download speed of 22.2 Mbps was quite strong and consistent with that in 1H 2019, the news wasn't all good in Hull. Three's median download speed of 7.1 Mbps was the slowest speed we recorded across all UK metros in the second half of 2019.



The full list:

All 16 most populated UK metros ranked by speed

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Glasgow	1,747,100	5	26.7	4
Coventry	651,000	14	25.3	5
Bristol	1,006,600	9	25.2	6
Edinburgh	787,700	12	24.6	7
Hull	573,300	16	24.5	8
London	11,917,000	1	24.1	9
Nottingham	825,600	11	23.6	10
Leicester	772,400	13	23.2	11
Cardiff	841,600	10	21.7	12
Belfast	641,638	15	21.6	13
Leeds and Bradford	2,393,300	3	20.7	14
Sheffield	1,277,100	7	20.7	15
Newcastle	1,055,600	8	20.1	16





Looking ahead

While it's clear that 4G LTE networks provided generally fast speeds in most UK metros (especially those of EE and Vodafone), 5G could ultimately change the game for end users looking for fast data connectivity. We've already begun our first-half 2020 testing in UK metros, and those results will include 5G (where available). As 5G continues to expand, we expect to see faster aggregate median download speeds and stronger performance in general going forward. Keep in mind, however, that new network technologies always take time to reach their full capabilities, and we don't expect 5G to become ubiquitous until 2021 or 2022. In the meantime, check our [RootScore Reports](#) to see how the operators performed in the UK's 16 biggest metros, within the four nations, and across the UK as a whole.

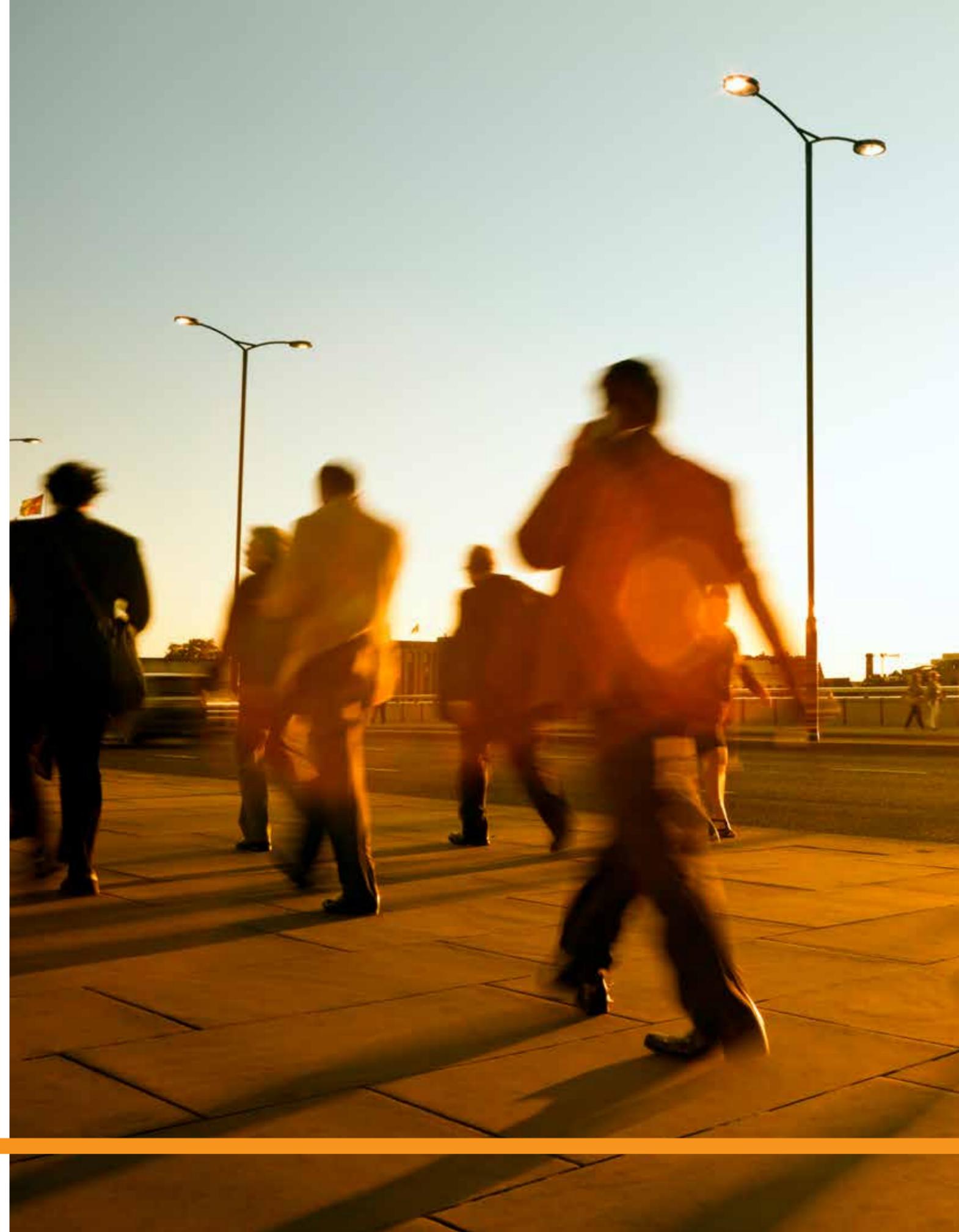


How we test

We believe that real-world results come from real-world testing, and all RootMetrics testing is conducted from the consumer's point of view. For metro, nation, and UK-wide testing in 2H 2019, we used Samsung Galaxy S9 4G LTE smartphones purchased off the shelf from operator stores, and tests were conducted during the day and night while walking and driving. During 5G First look testing in the Summer and Fall of 2019, we used a OnePlus 7 Pro 5G to test EE's 5G network and a Xiaomi Mi Mix 3 5G to test Vodafone's 5G. Results from 5G First Look testing were not factored into any 2H 2019 aggregate median download speed results. In 2020, we will use 5G-enabled smartphones for all testing in the UK.

We utilise random sampling techniques to ensure our results offer a robust characterisation of performance in the places consumers most often use their mobiles, and all testing is focused on the activities for which consumers typically use their mobiles, including data, call, and text usage.

To learn more about our testing, visit our [methodology](#) page.





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