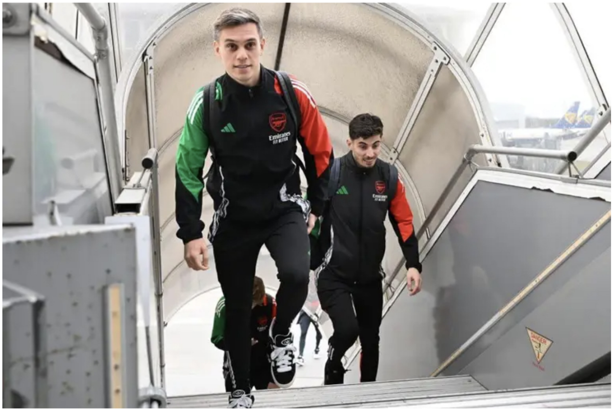
The Athletic | The New York Times

How European travel impacts performance – and why it's bad news for Arsenal



By **Conor O'Neill** 16m ago

The Champions League draw is set, with each side now knowing their path to the final in Munich.

The knockout rounds showcase the best of European football, but with Aston Villa, Liverpool and Arsenal drawn in the same half, their route could feel more domestic than continental.

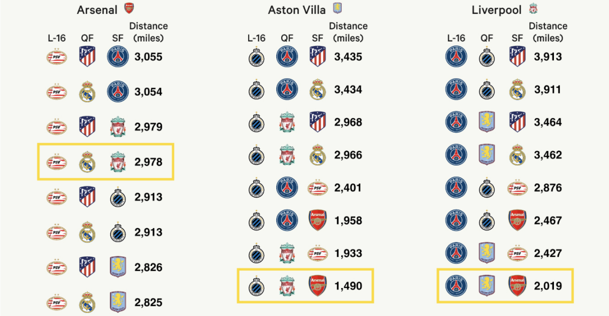
While undoubtedly a tough draw, the three sides will be relieved at the reduced prospect of long journeys as they juggle their domestic ambitions. Liverpool and Arsenal are battling for the Premier League title, while Aston Villa need a top-four finish to guarantee re-entry into Europe's top competition.

Domestically, each side has no more than seven away games left, keeping their Premier League travel fairly even. But in Europe, the further they progress. the more onerous the travel burden becomes.

On this front, Villa will be the most relieved — there's a real chance their route to the final will involve just one trip outside England, a last-16 game at Brugge. Arsenal, meanwhile, probably face the most onerous schedule.

Champions League routes for Arsenal, Liverpool & Aston Villa

Highlighted route indicates the most likely path given current Club Elo ratings



Miles calculated using round-trip, straight-line distances between stadia
Total miles includes the final in Munich (one-way trip)

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Among the known last-16 ties, the renewal of the fierce Madrid derby poses the fewest logistical concerns. Kylian Mbappe expressed his preference for this tie saying. “It would be much better if we don’t have to travel — we travel so much,” he said in his post-match interview after his hat trick against Manchester City.

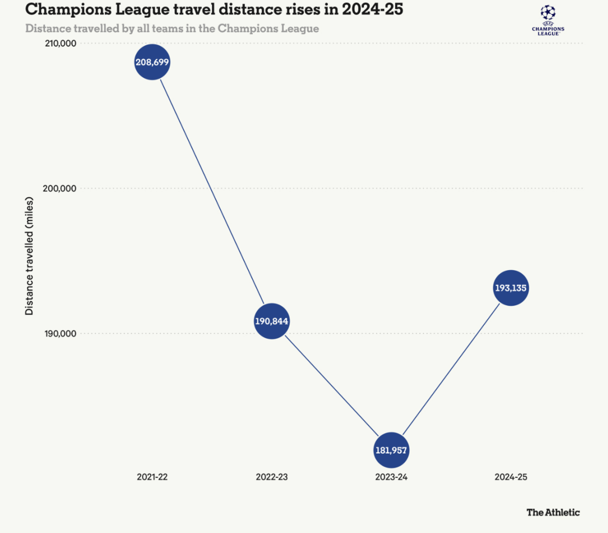
New format, more travel

The changes made to the Champions League may partly explain Mbappe’s travel fatigue.

The revamped Swiss model-inspired league phase added more variety to the fixture list, with teams facing eight opponents instead of playing six matches home and away against just three teams. This has tripled the number of unique group-stage fixtures from 48 to 144, but the increased workload has raised concerns about fixture congestion and player welfare.

It’s not just the increased minutes that wear down these increasingly stretched squads, but also the additional air miles they accumulate travelling across Europe. The combined distance travelled in this season’s Champions League is already higher than the past two seasons, totalling more than 190,000 miles.

The distance covered is relatively low compared to American sports — most NBA teams, for example, travel more than 40,000 miles per season — but it still takes its toll.

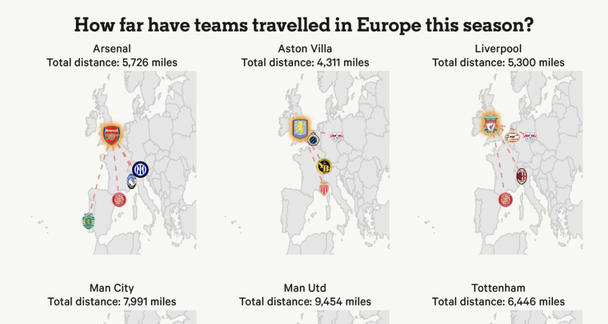

Champions League travel distance rises in 2024-25

Distance travelled by all teams in the Champions League

Excluding the Conference League, *The Athletic* measured each team's European air miles using straight-line distances between home and away stadiums.

Of the English clubs, Ruben Amorim's Manchester United top the list, having travelled almost 9,500 miles during their Europa League campaign, including trips to Bucharest and Istanbul against FCSB and Fenerbahce.

Meanwhile, Villa's first Champions League campaign has involved trips to Belgium, France, Germany, and Switzerland, totalling just over 100 miles more than their 4,180-mile trip to Trabzonspor in the 1994-95 UEFA Cup.


How far have teams travelled in Europe this season?

Arsenal
Total distance: 5,726 miles
Aston Villa
Total distance: 4,311 miles
Liverpool
Total distance: 5,300 miles
Man City
Total distance: 7,991 miles
Man Utd
Total distance: 9,454 miles
Tottenham
Total distance: 6,446 miles

Distance calculated is the straight-line, round-trip distance between stadia

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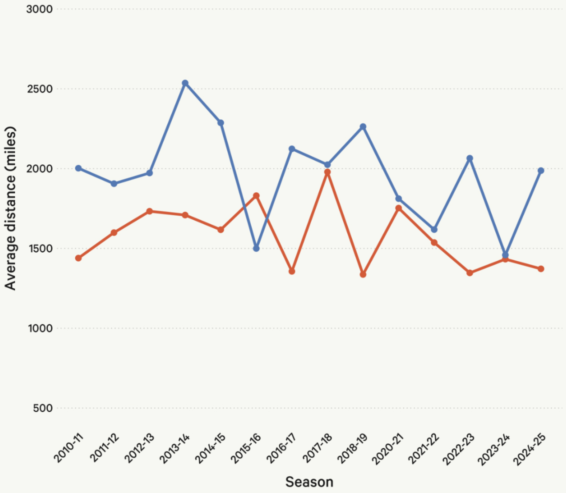
It’s little surprise that a Europa League side tops the list, given the broader geographical spread in that competition compared to the Champions League, which tends to be dominated by teams from western Europe.



English teams tend to travel further for Europa League games

Comparing average distances traveled per match in the Europa League and the Champions League

Excludes the 2019-20 season due to COVID-19 disruptions

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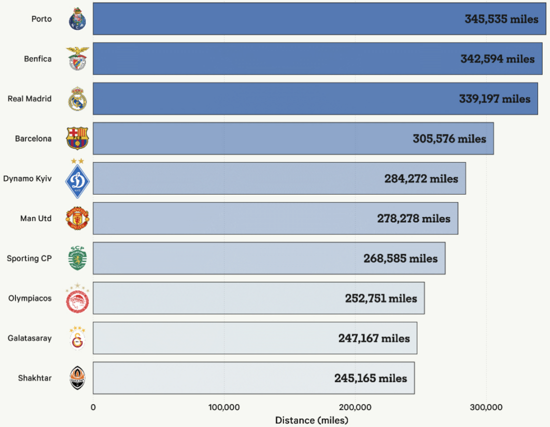
Regardless of who racks up the most miles this season, they can expect little sympathy from Portuguese powerhouses Porto and Benfica. Aided by their immaculate record of qualifying for Europe in every season since 1992-93, the pair have accumulated nearly 700,000 miles in UEFA competitions (roughly three times the distance to the Moon).

Benfica also hold the record for the longest European away day, when they travelled more than 7,000 miles to face Kazakh side Astana during the 2015-16 Champions League — roughly equivalent to the distance between London and Hawaii.



Porto's European travels equivalent to 14 trips around the world

Total distance travelled in European competition* since 1992-93

*Champions League and Europa League matches only, since 1992-93

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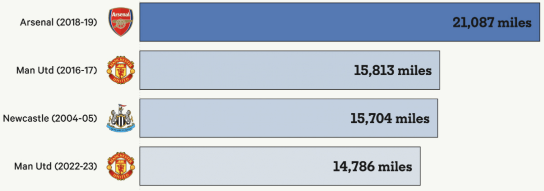
Does travel impact performance?

Managers often wince at the prospect of long-haul European trips, fearing the disruption to their domestic form.

After Liverpool’s 2009-10 Champions League draw, then-manager Rafael Benitez welcomed the short trips, saying, “The important thing, as always, is that the travelling isn’t too bad, we don’t have too far to go for any of the games.”

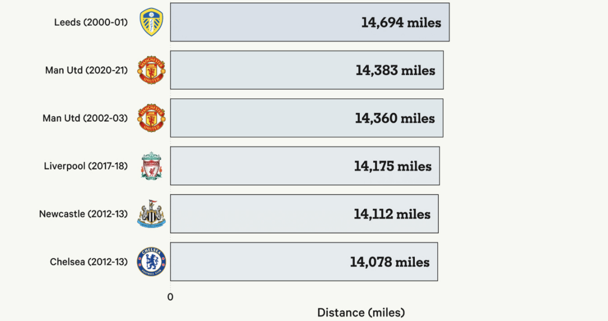
Even domestic journeys have sparked complaints. After Manchester City’s 1-0 loss at Tottenham in February 2023, Pep Guardiola complained: “It’s so exhausting coming to London.”

Arsenal hold the modern record for the furthest distance travelled in European competition in a single season, clocking up more than 21,000 miles in their 2018-19 Europa League fixtures, when they finished runners-up to Chelsea. That included a 6,000-mile round trip for the final in Baku (albeit both teams were faced with that logistical challenge).



Arsenal travelled over 20,000 miles in the 2018-19 Europa League

Longest distances travelled by English teams in European competition*



**Champions League and Europa League matches only, since 1992-93*

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But is travel distance a legitimate concern, and does it actually impact performance?

"The findings of our research suggest that travel distance is the No 1 most impactful metric on performance," says Stephen Smith CEO of Kitman Labs, a performance intelligence and technology company, specialising in injury welfare and performance analytics. "It's not just about the distance itself but how it interacts with other factors like team cohesion, form, and recovery periods."

Kitman Labs' study, which used machine learning algorithms to analyse more than 61,000 fixtures from the top seven European leagues over the past two decades, found that travel distance had a greater impact on match performance than opponent quality or team form.

Smith explains that this is a consequence of the general upheaval caused by travel. Sleep patterns, dietary routines and circadian rhythms — the physical, mental, and behavioural changes a human being experiences over 24 hours — are all disrupted when playing away from home.

"You can't replicate the mattress you sleep on, the temperature of the room you're sleeping in — all of those things have a huge impact," says Smith.

Top-tier sports science can only do so much to mitigate these effects.

However, Smith believes that clever squad management can help counteract them, and that data analytics can advise coaches on rotation strategies that maximise player rest without disrupting team cohesion.