



STATISTICAL ANALYSIS REPORT 2023

GAA Senior Football Championship

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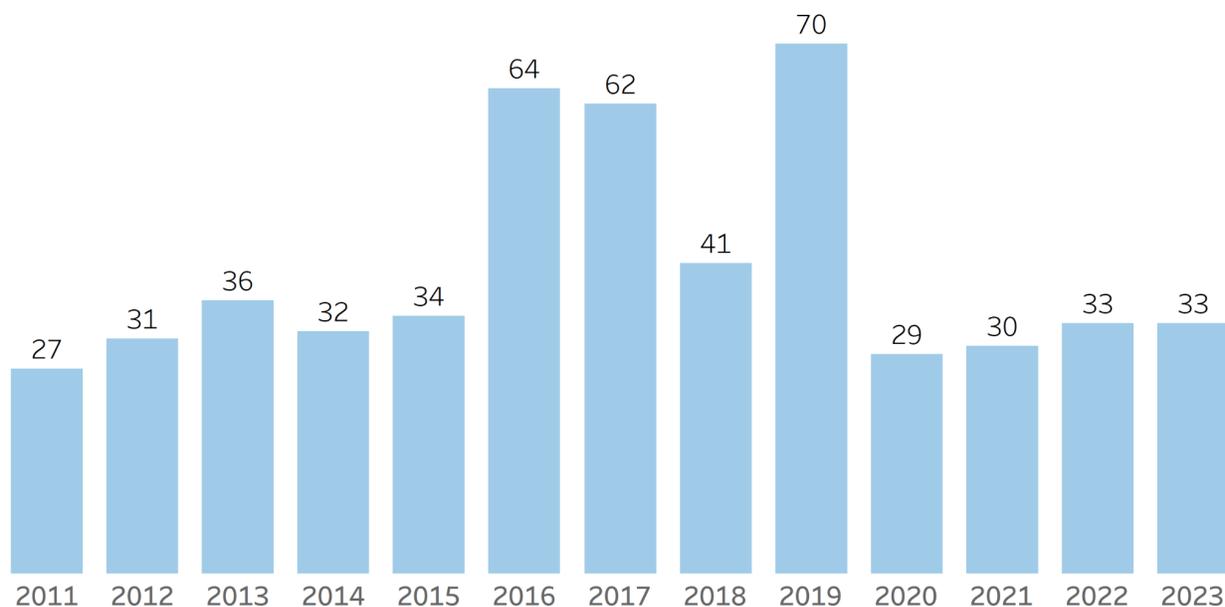
Data Overview	4
Total Games Coded	4
Total Games	4
Passing	5
Total Passes by Type	5
Hand Pass: Foot Pass Ratio	6
Uncontested Foot Passes	7
Footpass Locations	8
Footpass Backwards & Distance	10
Forward Footpasses Per Pitch Zone	11
Average no of back kick passes/game.	13
Average no passes to goalkeeper (kick pass and hand pass)	14
Hand Pass Locations	16
Average Number of High Catches/contests per sector/game	16
Number of Attacking Marks per game	17
Kickouts	18
Number of Kickouts/game	18
Number of contested K.O	19
% of Successful contested kickouts	21
Pressing Kickouts	23
Shooting	24
Scores Per Game	24
Average No Scores /game /half	26
Attempted Shots	28
Scoring Trends (Accuracy & Distance)	30
Shooting Distance	30
Shooting Accuracy - All Shots	31
Shooting Accuracy - From Play	31
Shooting Accuracy - From Free	33
Scoring Zone	34
Scoring Zone - Where do scores come from?	35
Shot Foot/Hand	37
Number of converted marks per game	38
Turnovers	39
Average Number of turnovers /Game/Sector/time.	39
Turnover by Type	41
Turnovers Unforced v Contested	42
Turnover Locations	43

Substitutions	44
Average no of substitutions per game and when these are made	44
Substitute Time	44
Playing Time	45
Duration of total game time	45
Duration of the Ball in Play time	45
Percentage of Ball in Play Time per Half	47
Difference between 1st and 2nd Half playing time	48
Ball in Play Location	49
Duration Kick out time	50
Number of frees taken by the goalkeeper per sector of pitch	51
% of goalkeeper frees that are successful.	52
Team Possessions	53
What is a Team Possession?	53
No. of Possession Per Game	53
Possession Start Events	54
Score Value of Possession Starts	55
Starting Zone Frequency	56
Starting Zone Value	57
No. of Passes per Possession	58
No of Passes and Possession Start Zone	59
Is there a higher probability of achieving a score from a longer kickout than a short/medium range kickout?	59

Data Overview

Total Games Coded

The chart below shows the total number of games included in the analysis throughout this report. In total 619 games have been analysed; 98 League Games (2019-2023) and 521 Championship Games (2011-2023). For the purposes of year over year comparison and consistency only the Championship games have been included.



Total Games

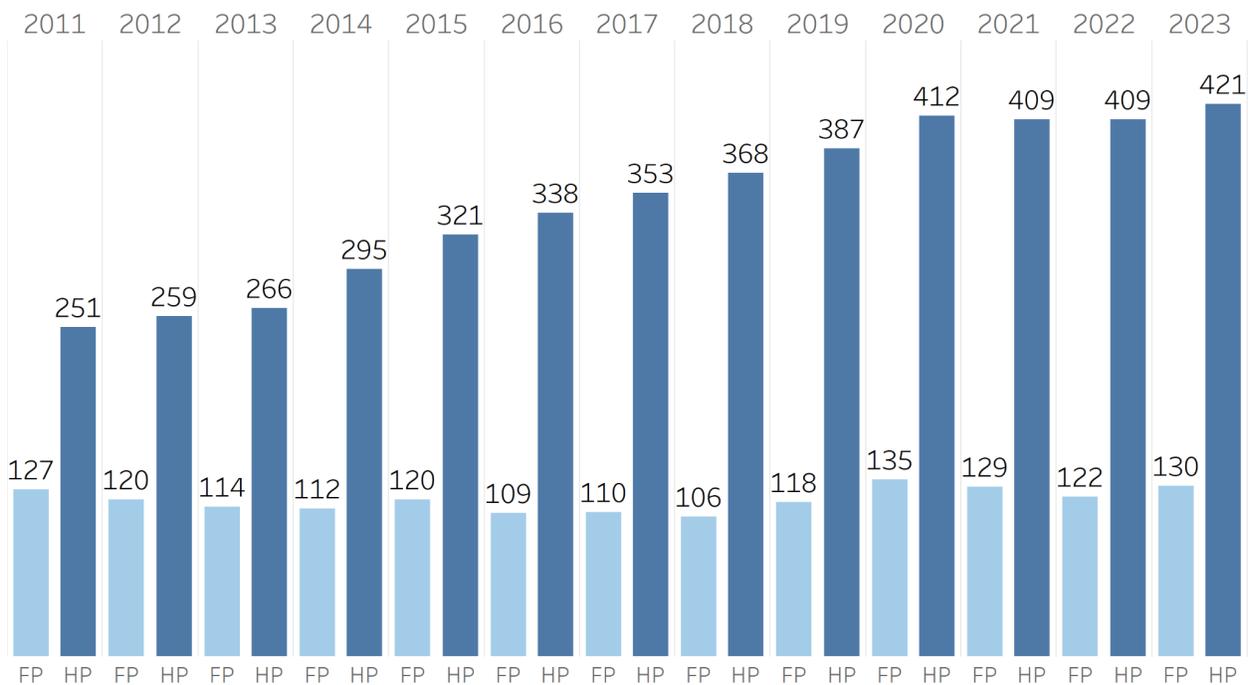
For the purposes of total scores in a season, average number of goals/points per season and winning margin all games from that season are included, regardless of them being fully coded as per above.

Passing

Total Passes by Type

In the chart below you can see that the average number of hand passes per game has increased from 251 in 2011 to 421 in this year's Championship. The increase in hand passing does not match the increase in foot passing and despite being on the decrease from 2011 to 2018, it has started to level off at around ~130 passes per game.

Championship: [Foot Passing](#) - [Hand Passing](#) Trend



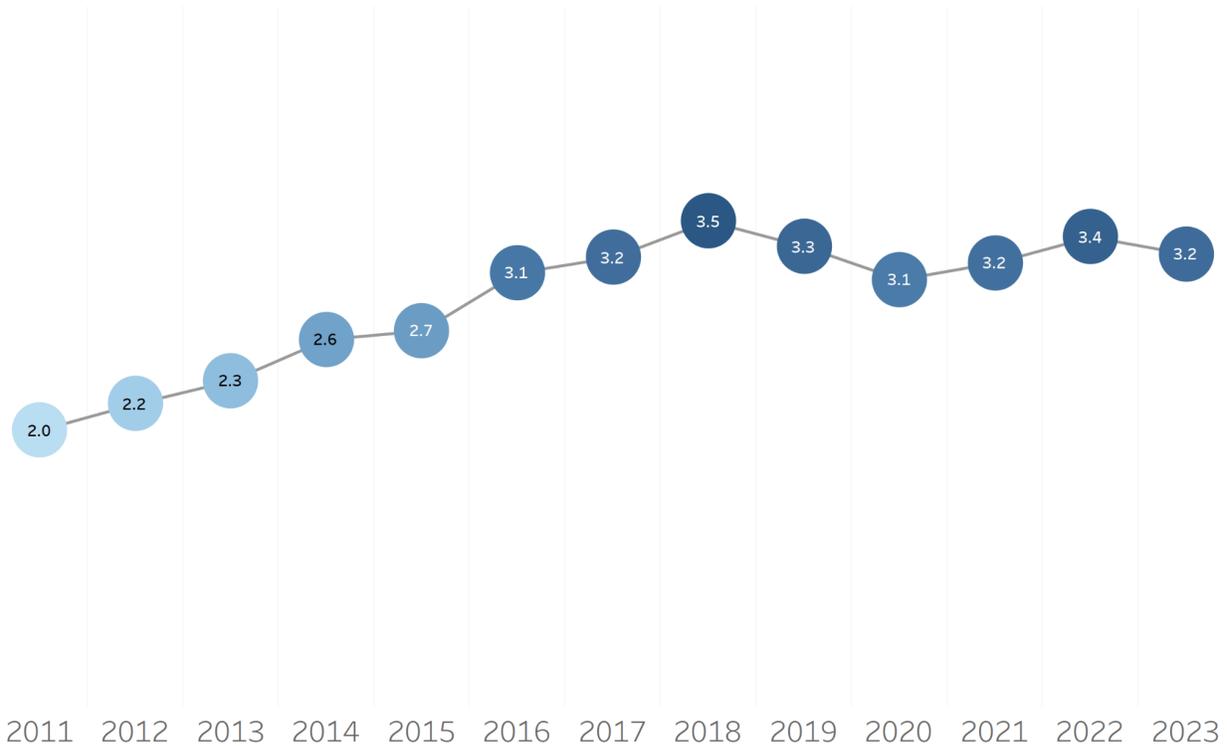
Some of the increase can be explained by an increase in game time. The Ball was in play for an average of 34 minutes in the 2011 season and now stands at 45 minutes, 30 seconds, a 32% increase over 13 seasons.

If hand passes increased at the same rate (32%) we would expect an average of ~330 per game, so while an increase in ball-in-play time can explain some of this increase it obviously doesn't account for the full change. If we apply a similar methodology to Foot Passing we would expect that to be at ~167 passes, but we see little to no increase over the past 13 seasons.

Hand Pass: Foot Pass Ratio

The chart below shows the hand pass to foot pass ratio for the last 13 seasons. In 2011 for example for every foot pass there were 2 hand passes, in 2023 that ratio is 3.2 hand passes to every foot pass. Despite the total number of hand passes increasing slightly this season the ratio is relatively consistent since 2016.

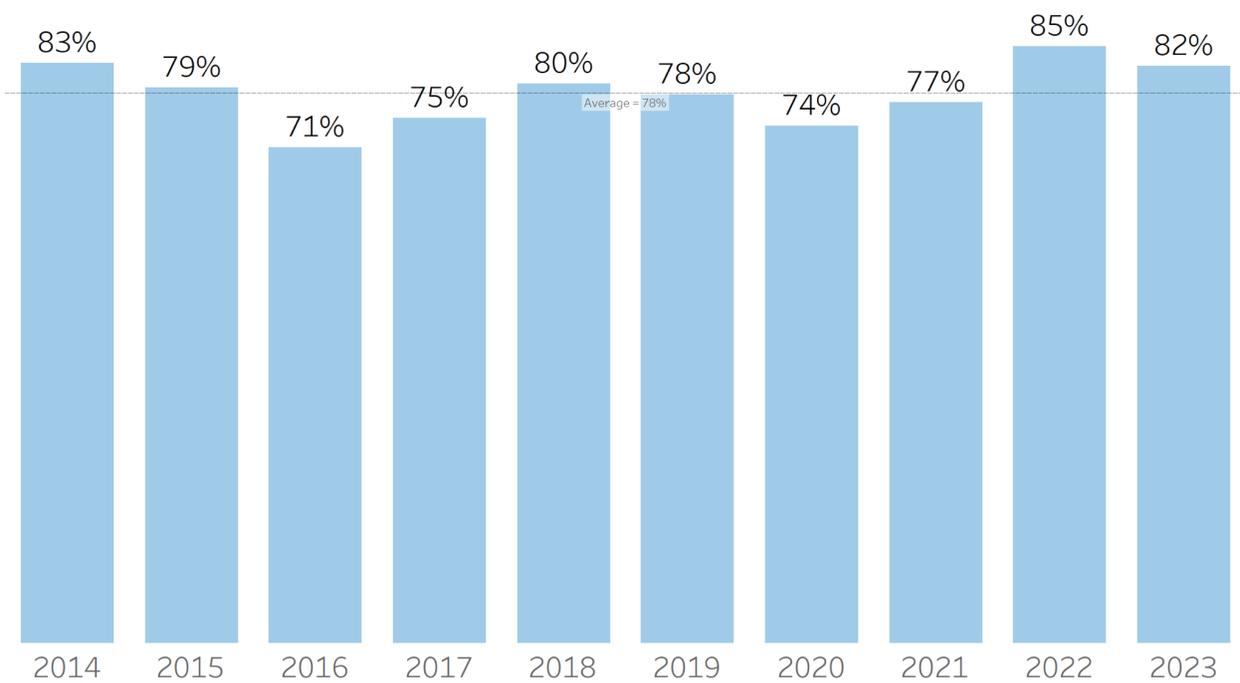
Championship | HP:FP Ratio



Uncontested Foot Passes

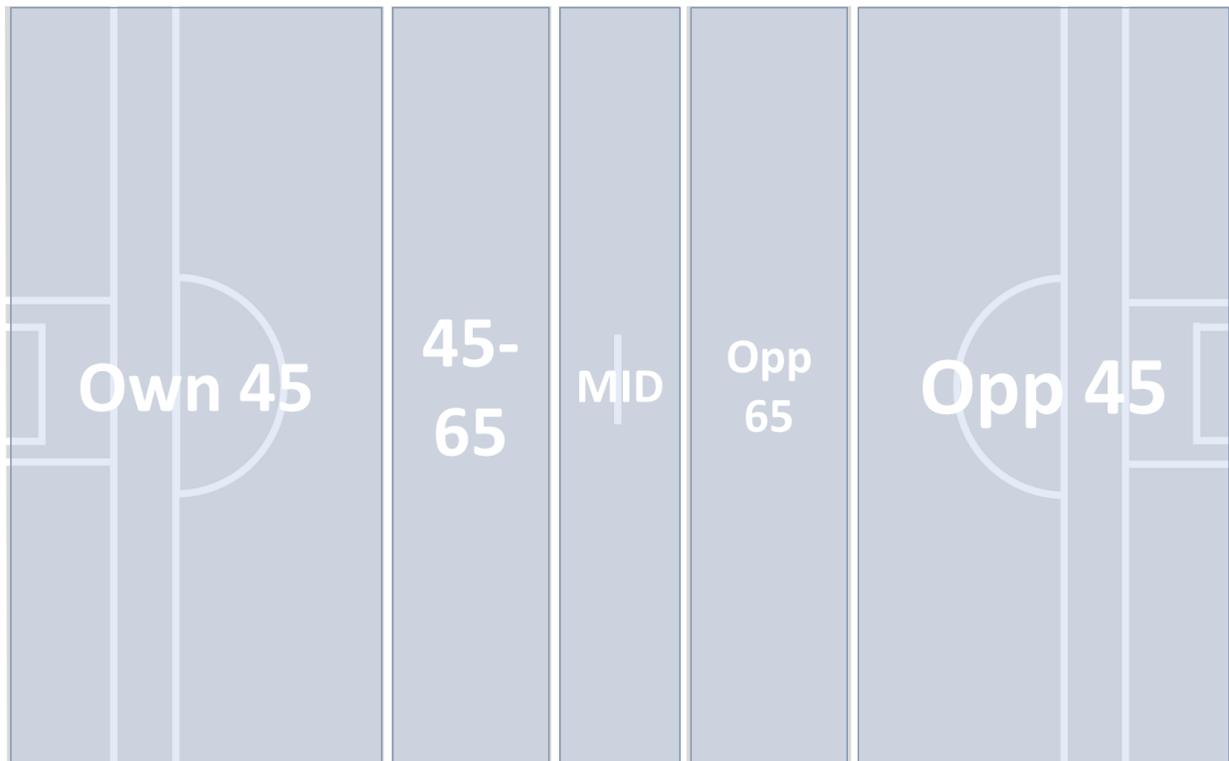
The chart below shows the percentage of foot passes that are uncontested (i.e not kicked to contests where the defending team has a chance to turnover possession). The contested/uncontested data has been coded since 2014, the average across this period is 78% uncontested kick passes.

Championship | Uncontested FP



Footpass Locations

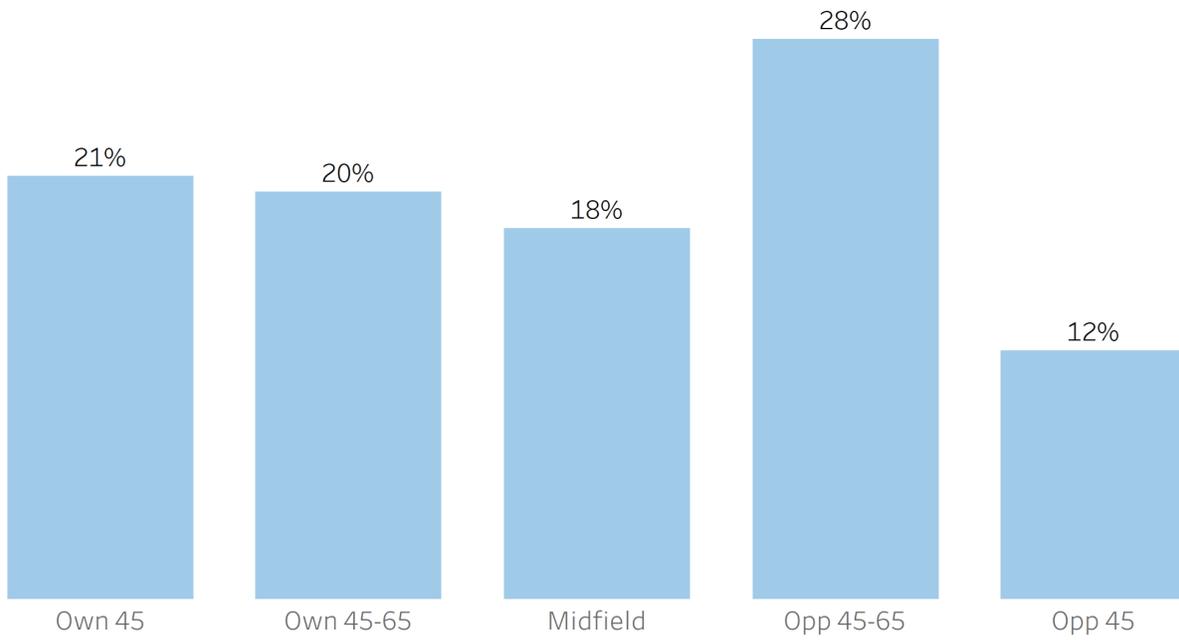
For the purposes of this analysis each foot pass is analysed with an X;Y coordinate for both the start and end of each pass. To simplify the display of this information these xy coordinates were aggregated and the pitch was broken into 5 zones as shown below.



- Own 45: inside the team's own 45
- 45-65 between their own 45 and 65m lines.
- Midfield: covers the area between the two 65m lines
- Opp 65: the attacking/oppositions 65-45
- Opp 45: covers the area inside the oppositions 45.

The chart below shows the distribution of kick passes per pitch zone. The majority, 28%, of kick passes were made between the oppositions 65 and 45 line.

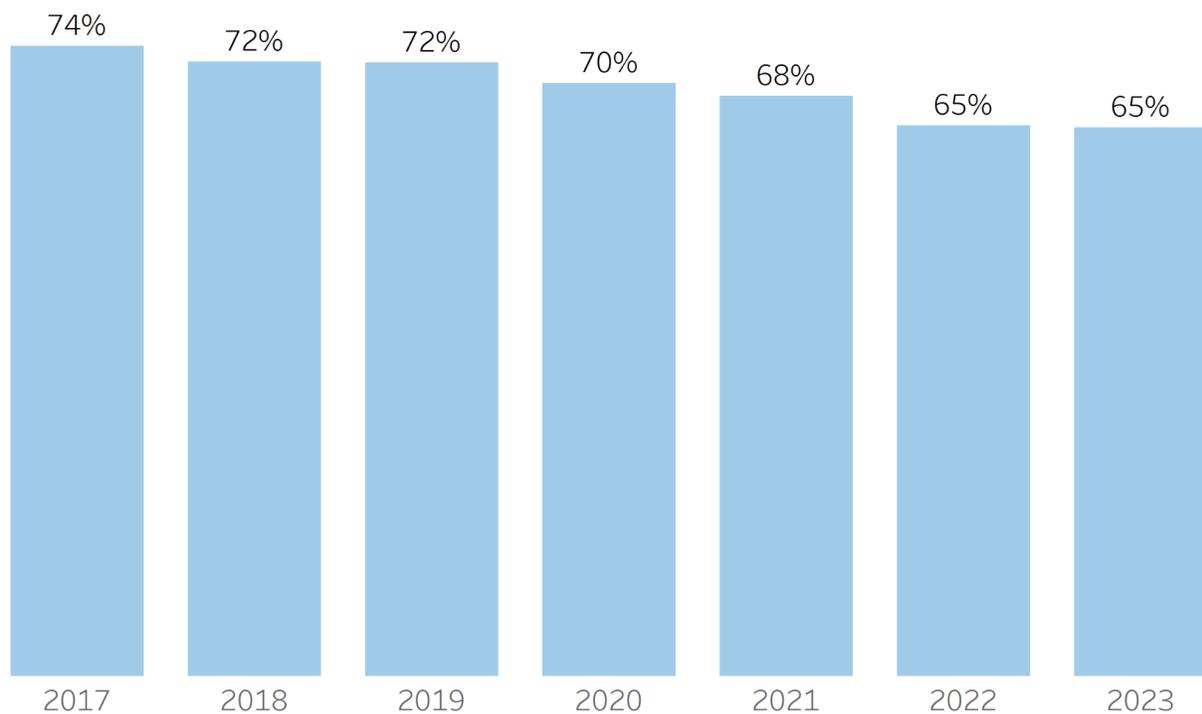
Kick Pass Location by Zone



Footpass Backwards & Distance

The chart below shows the distribution of passes that traveled forward (by any distance) since 2017, when the xy coordinates were collected. We can see a downward trend across those years with 2023 having 65% of passes traveling forward.

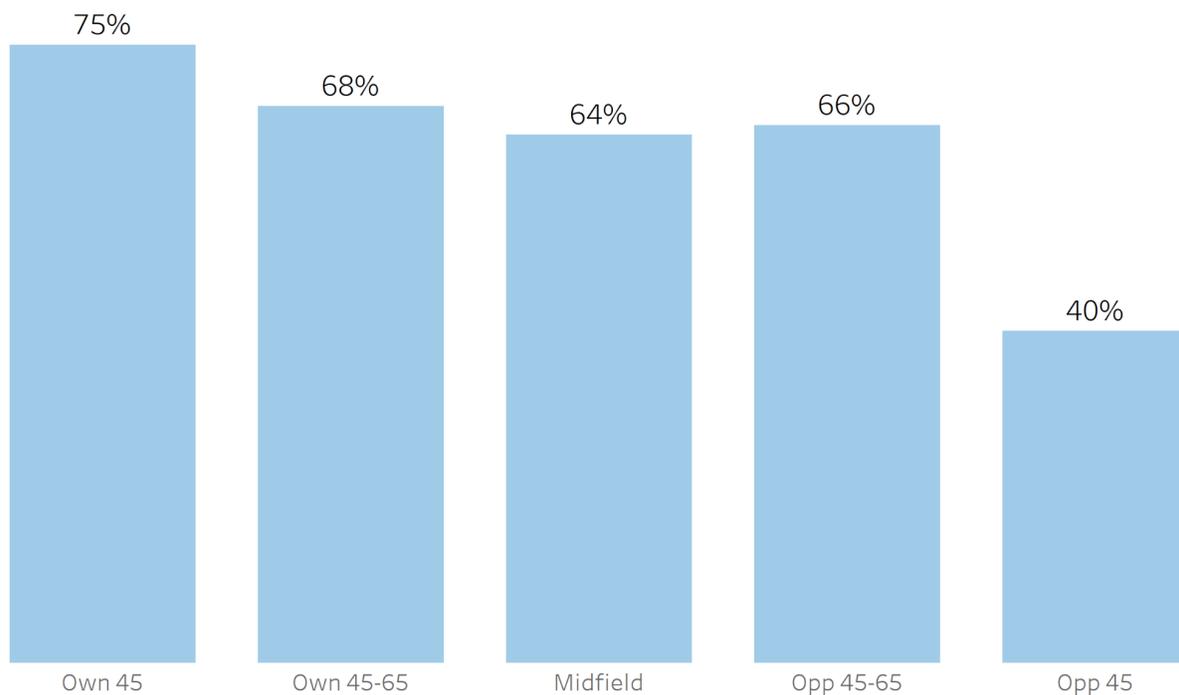
Championship | % of Forward Kick Passes



Forward Footpasses Per Pitch Zone

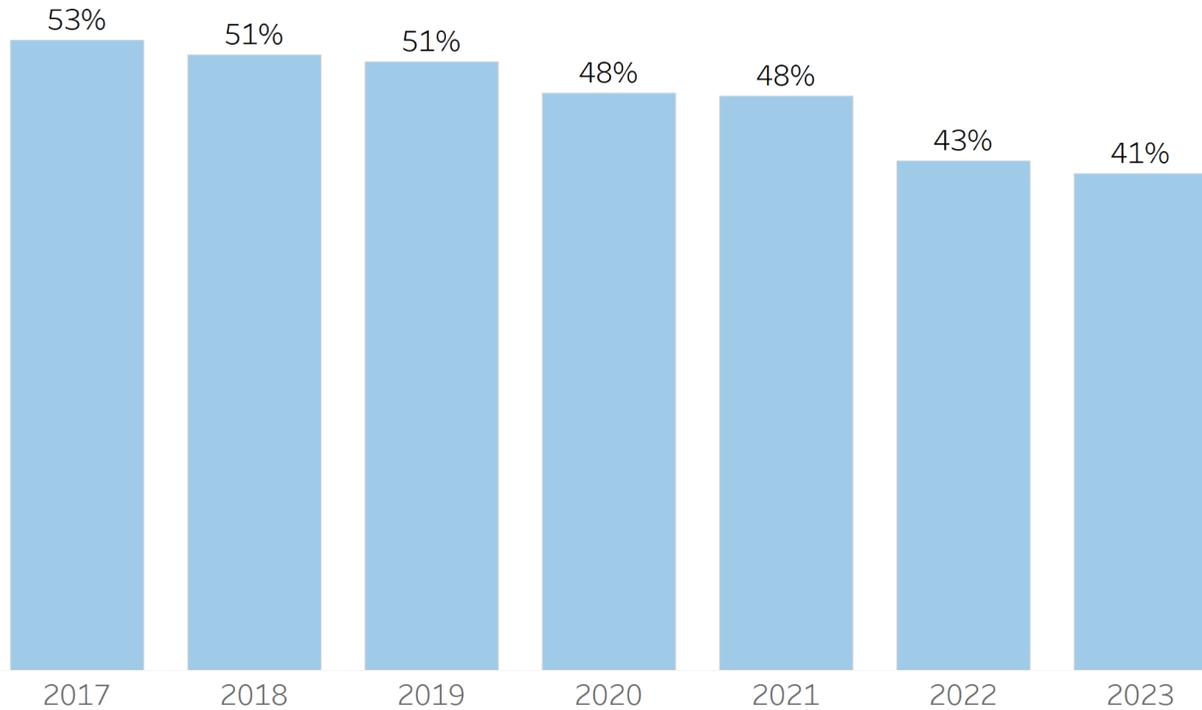
A further breakdown of pass location is displayed in the chart below. For each zone the % of Passes that went forward (by any distance) is displayed. Unsurprisingly the closer the play moved to the opposition goal the less passes that are played forward. For example in 2023 40% of foot passes in the opposition 45 went forward.

Championship | % of Forward Kick Passes



We can break this down further by looking at the percentage of kick passes that travel at least 15m down the pitch. This is an arbitrary number but highlights kick passes that travel a reasonable distance. In the chart below we can see in 2023 for example only 41% of forward kick passes met this threshold.

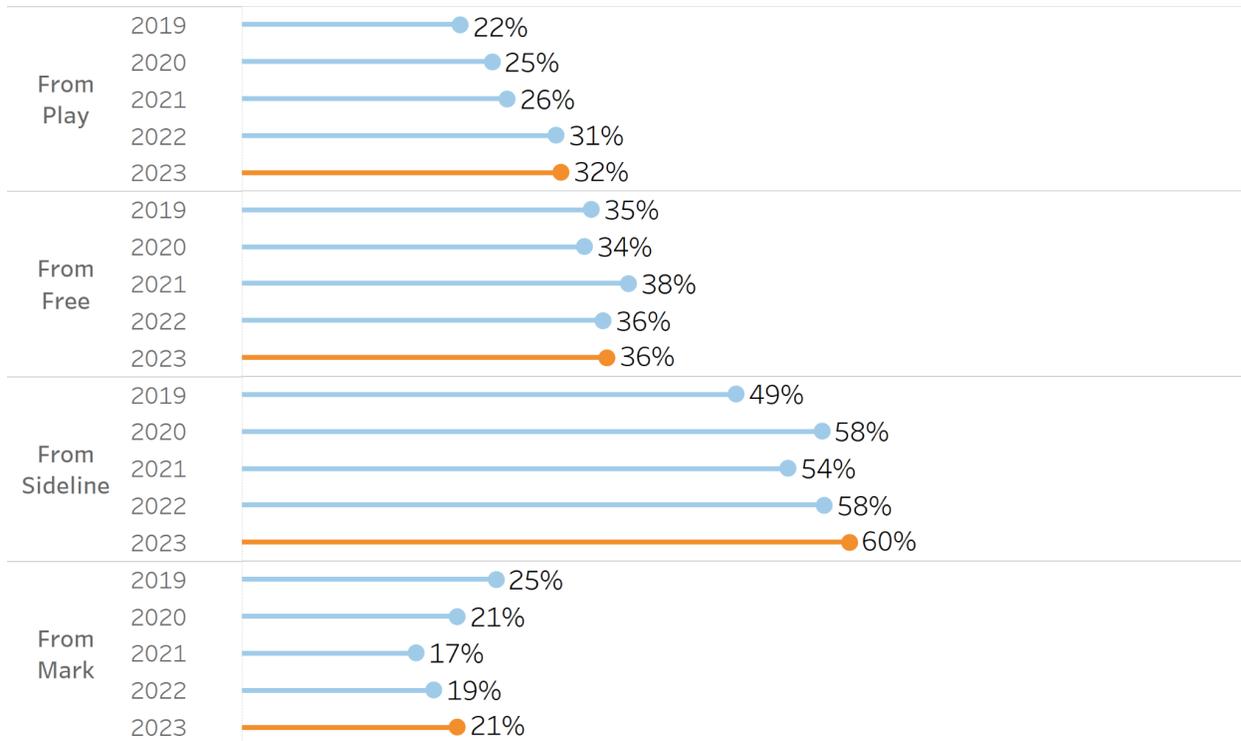
Championship | Kick Passes at least 15m



Average no of back kick passes/game.

The chart below shows the percent of foot passes that go backwards broken down by play type (from play, from free, sideline and mark).

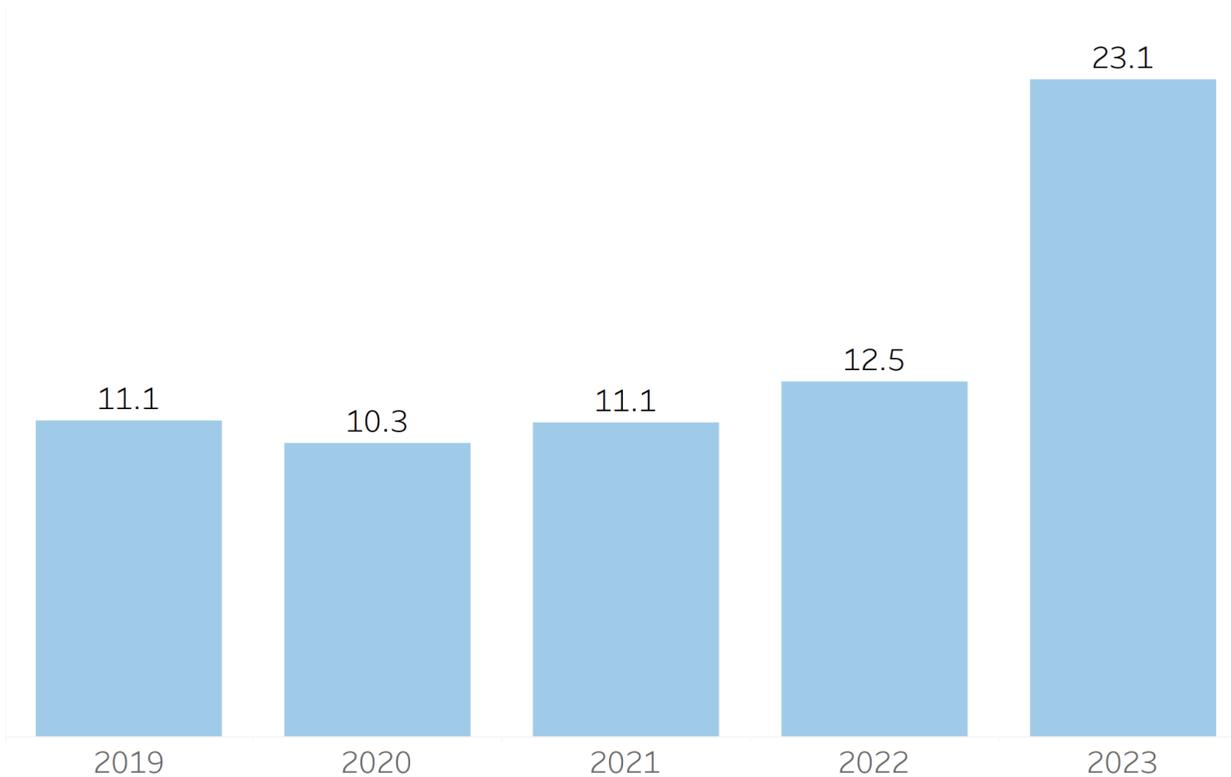
Championship | Backwards FPs Per Season



Average no passes to goalkeeper (kick pass and hand pass)

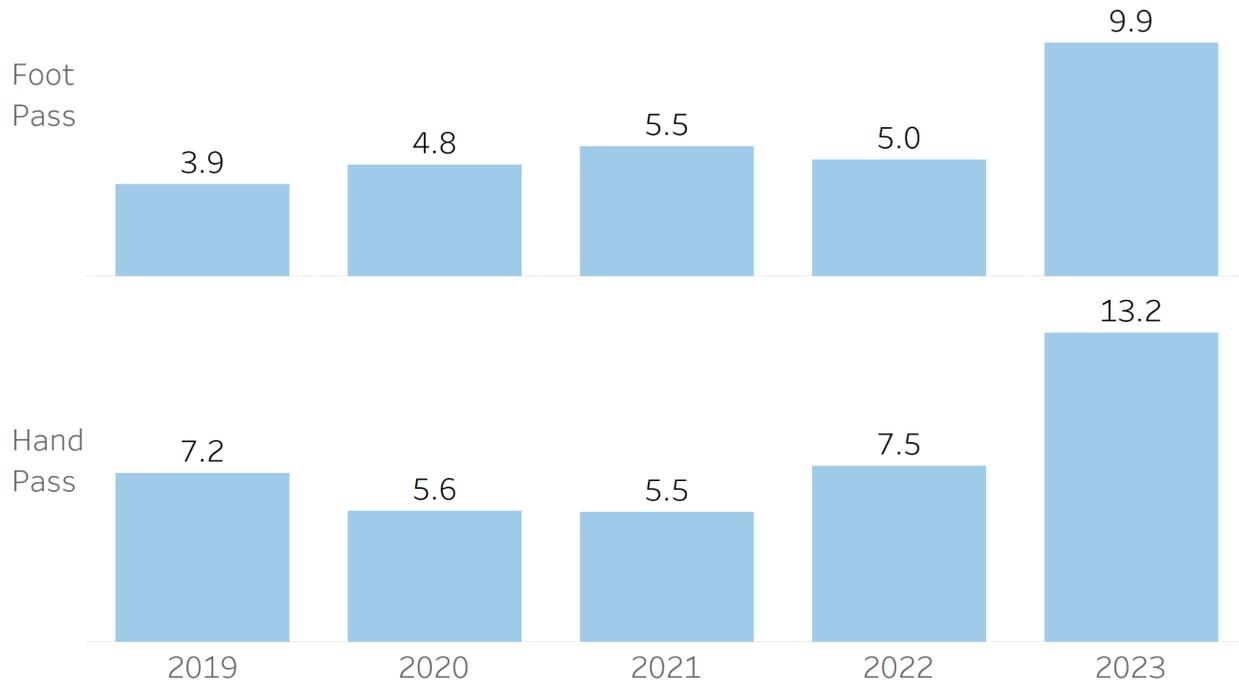
On average there were 23.1 passes to the keeper in the 2023 Championship, a considerable rise on previous years. This includes passes to goalkeepers who have moved outfield during play.

Championship | AVG Passes Back to Keeper per game



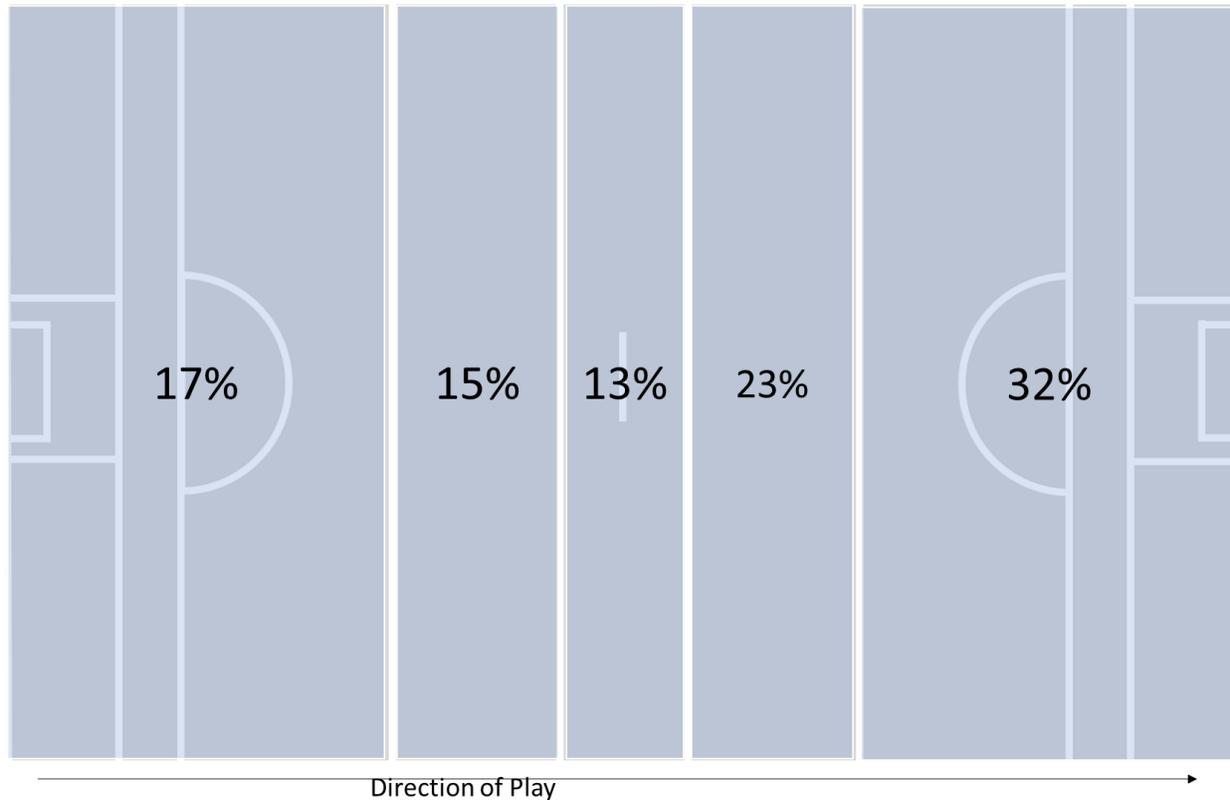
Slightly more on average are delivered with hand rather than the foot.

Championship | AVG Passes Back to Keeper Pass Type per game



Hand Pass Locations

The chart below shows the location of hand passes as a % across the 2023 Championship . The majority take place in the opposition's 45. And 55% of hand passes take place between the opposition 65 and end line.



Average Number of High Catches/contests per sector/game

High catches were only collected in the 2023 season, so we have no comparable evidence against previous seasons. There was an average of 6.5 per game in the 33 games analysed. With a high of 14 and a low of 1 in some games. The majority of high catches happen from a Kickout.

The chart below shows the percentage of high catches that were contested/uncontested.

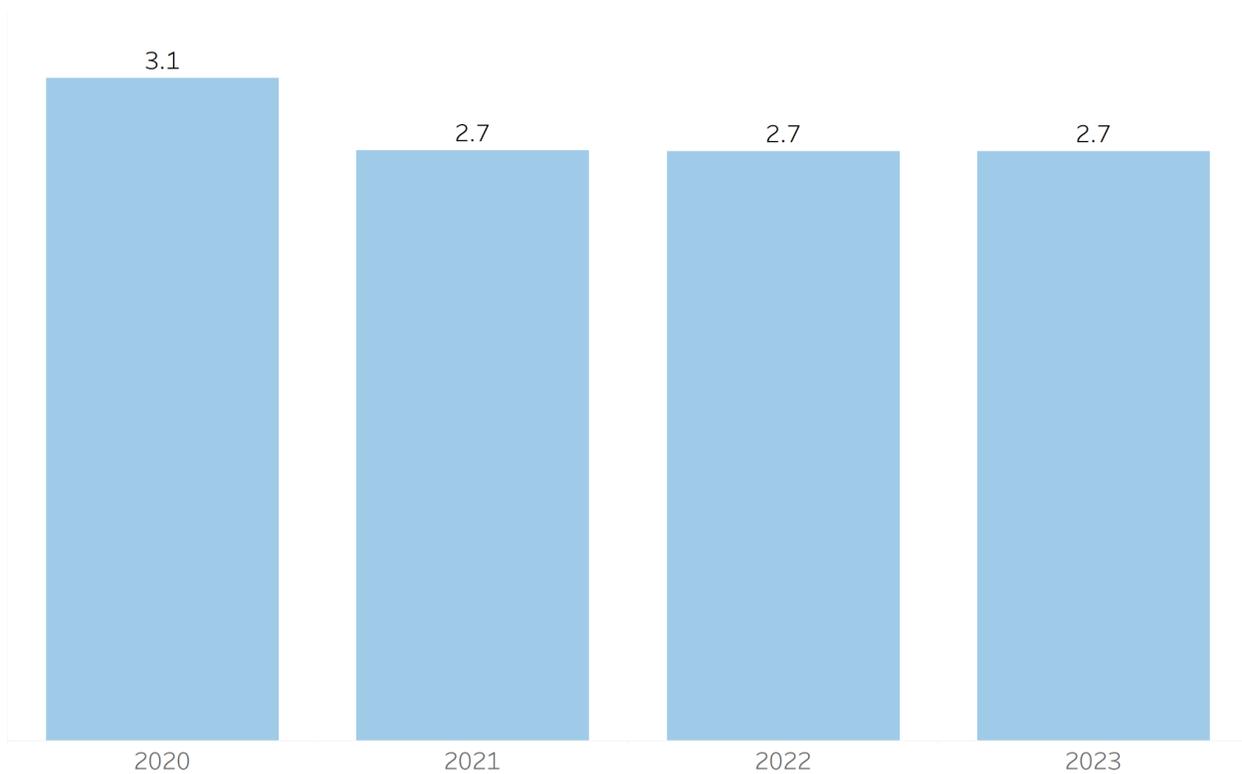
High Catches



■ Uncontested
■ Contested

Number of Attacking Marks per game

The chart below shows the average number of attacking marks per game across the previous 4 Championship seasons. This has remained steady at 2.7 for the last 3 seasons.

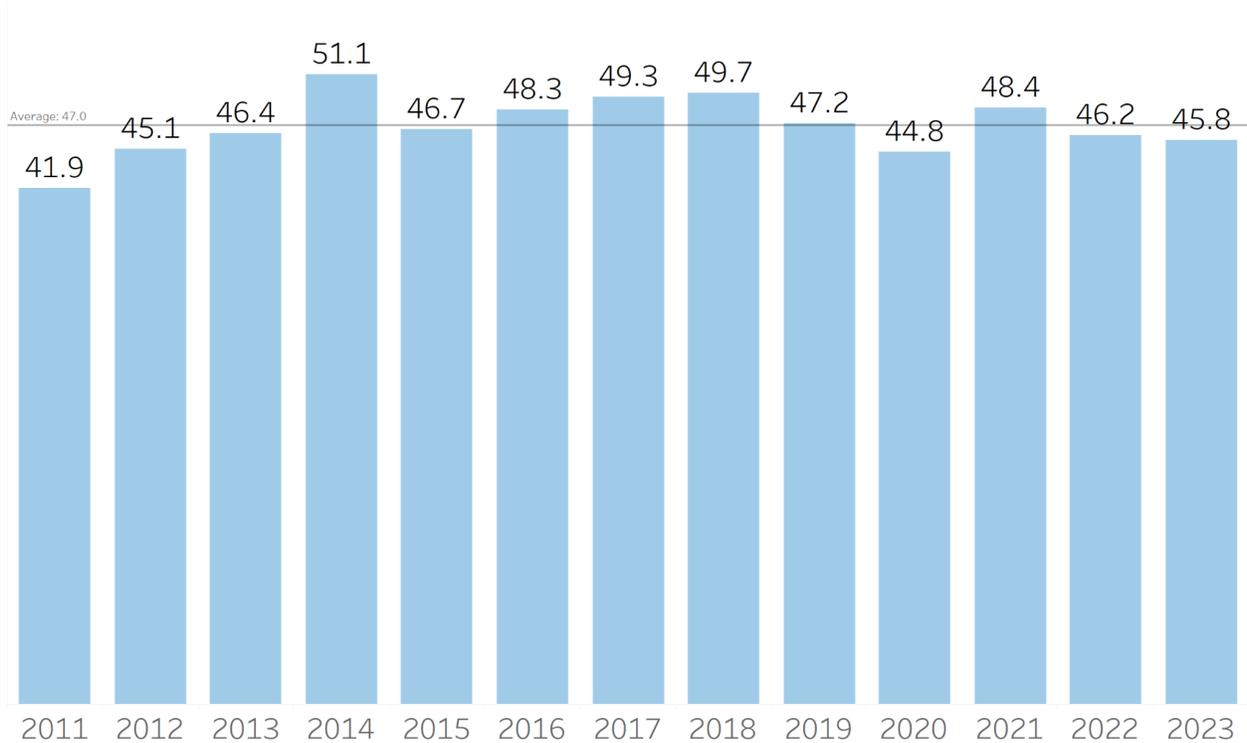


Kickouts

Number of Kickouts/game

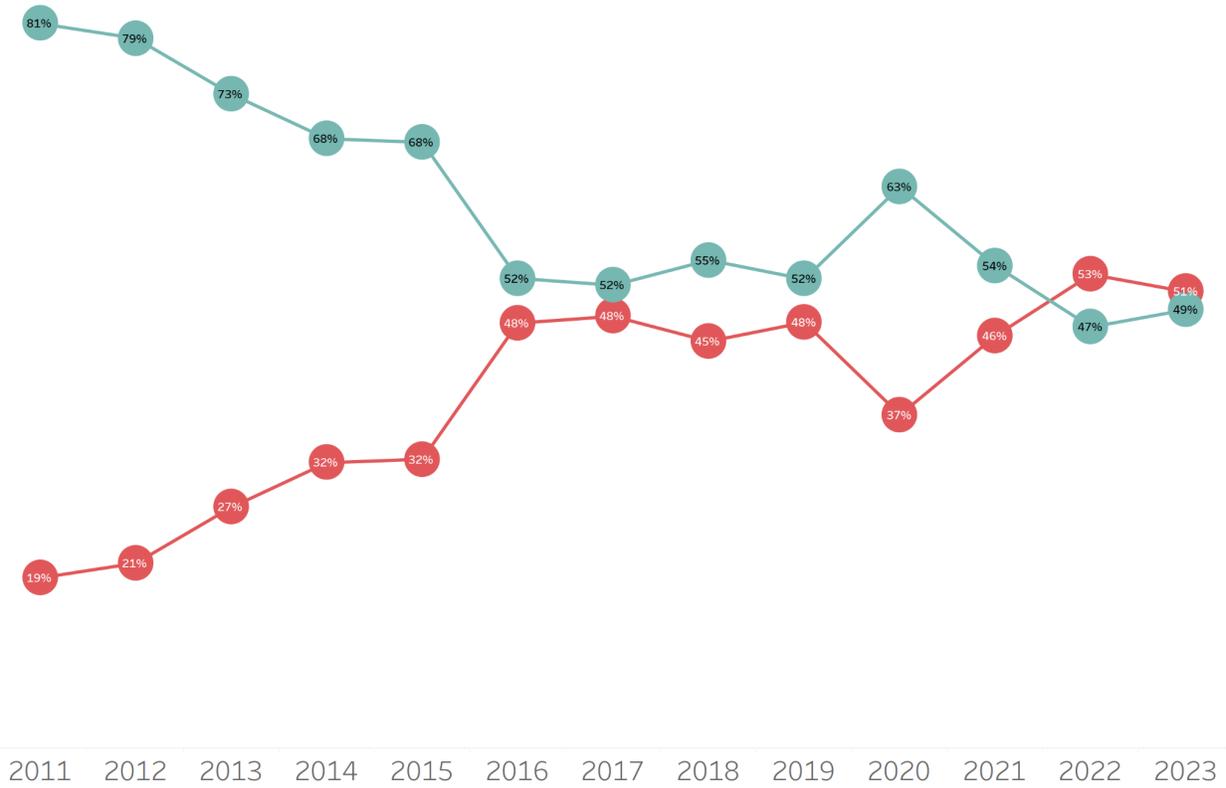
The chart below shows the average number of kickouts per game across the last 13 seasons.

Championship | Total Kickouts



Kickouts Long v Short

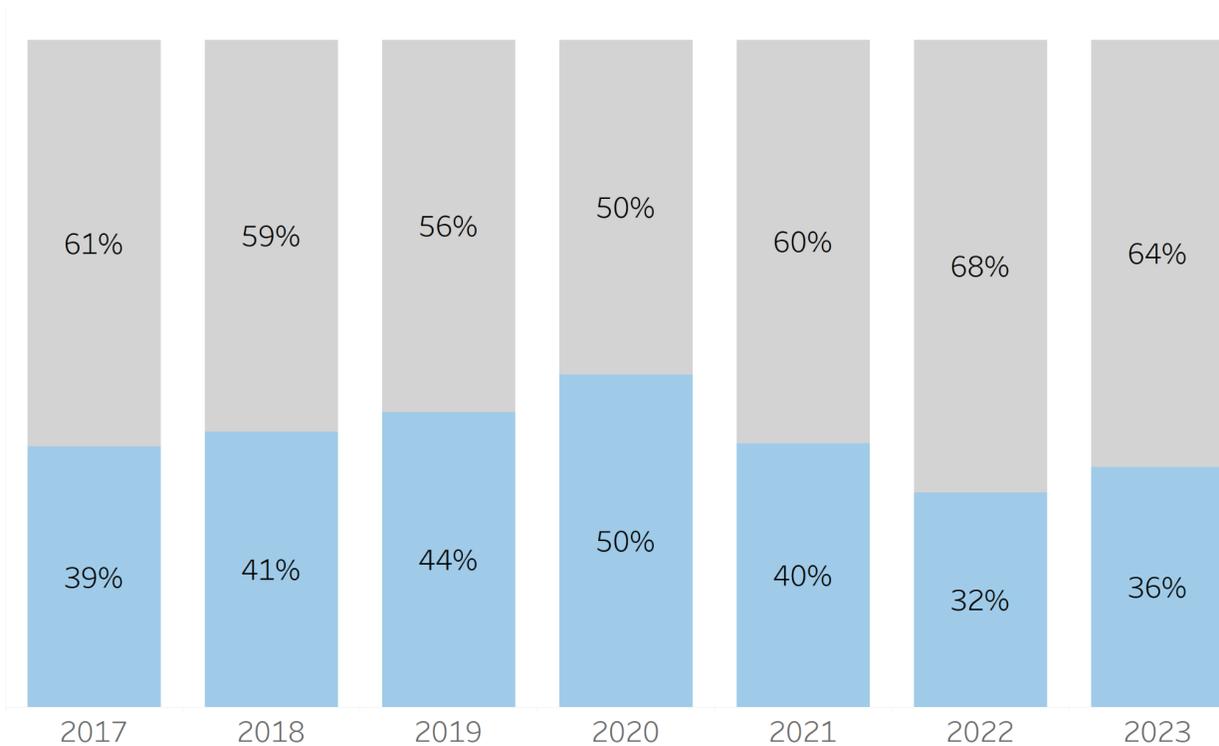
Championship | Kickout Long v Short



Number of contested K.O

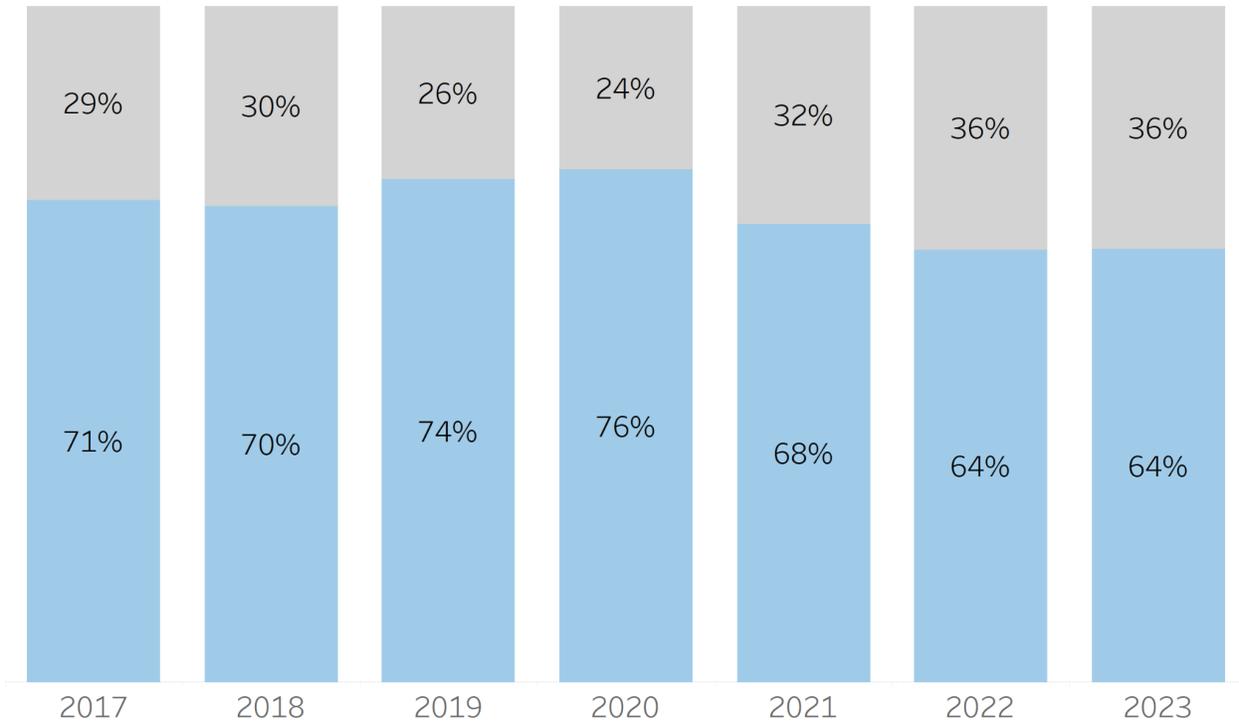
Since 2017 all kickouts have been further classified as contested or uncontested i.e where the defending team had no reasonable chance of intercepting/catching the ball. The chart below shows the percentage of kickouts that are deemed contested (blue) across the last 7 seasons. In 2023 64% of all kickouts analysed were uncontested.

Championship | Percentage of **Contested** & **Uncontested** Kickouts



If we break kickouts into two distance buckets (i.e. long kickouts are those that travel beyond the 45) we can see that long kickouts become much more likely to be contested. In 2023 for example 64% of kickouts that traveled beyond the 45 were contested.

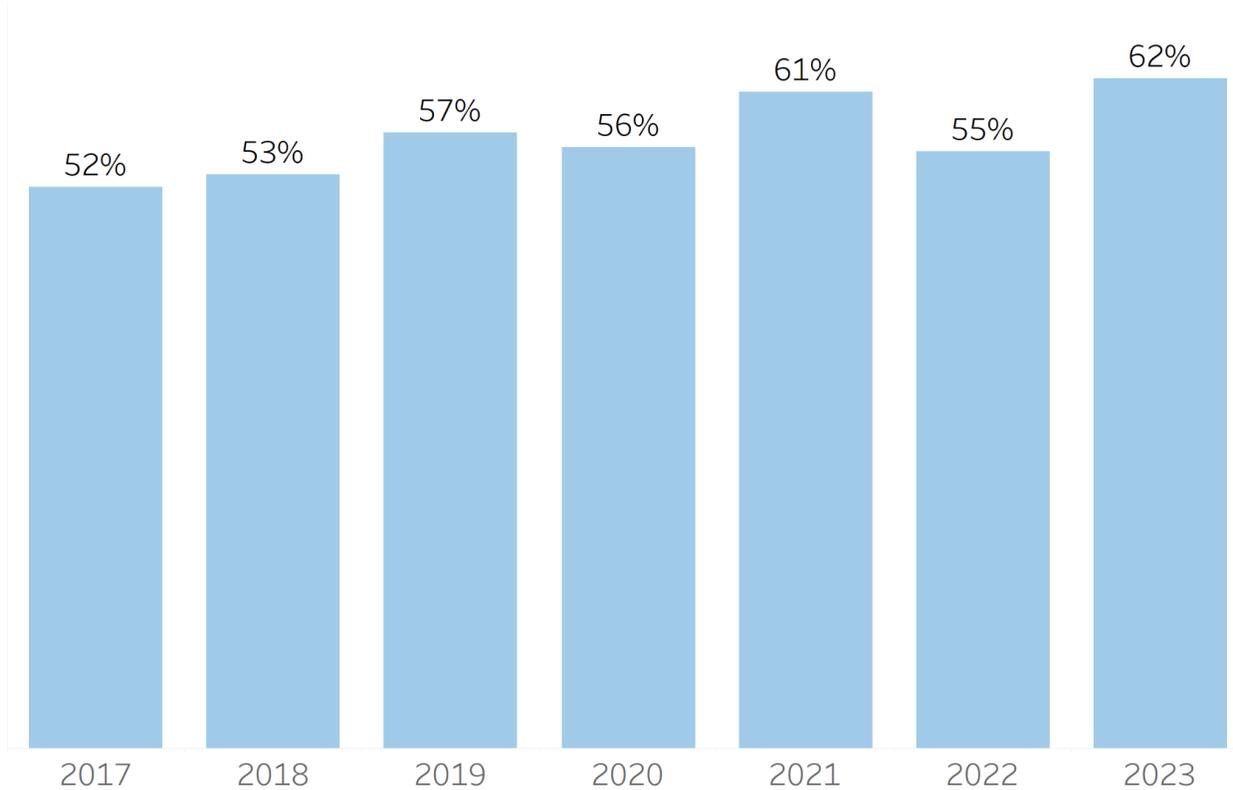
Championship | Total Contested Long Kickouts



% of Successful contested kickouts

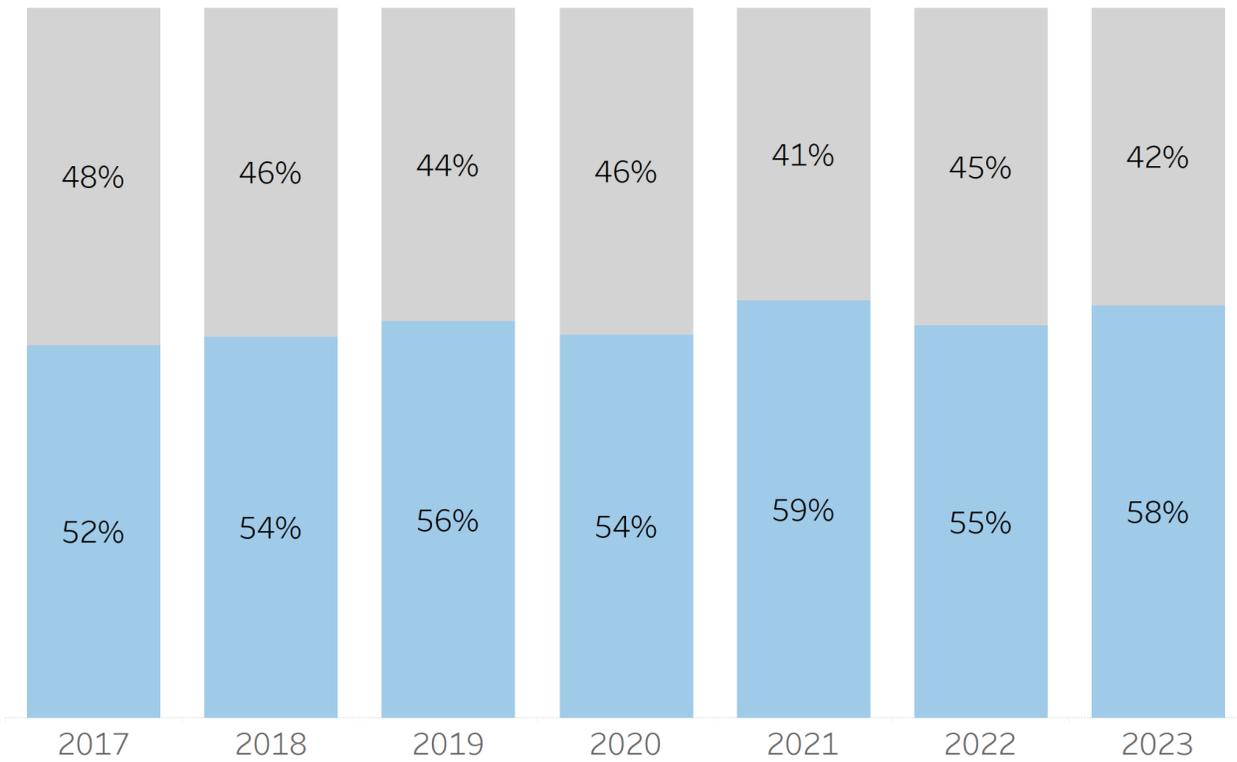
Examining only kickouts that are contested we can look at the % of these that are won or lost by the kicking team. The chart below shows the % of kickouts won by the kicking team where the kickout was contested by the opposition. One possible interpretation of this data is that even when kickouts are competitive teams win 2 out of every 3.

Championship | Contested Kickout Win %



However when we examine just long kickouts we can see that the winning %, while not quite 50/50 get much closer to parity. The chart below shows the % in blue of contested kickouts that are won by the kicking team.

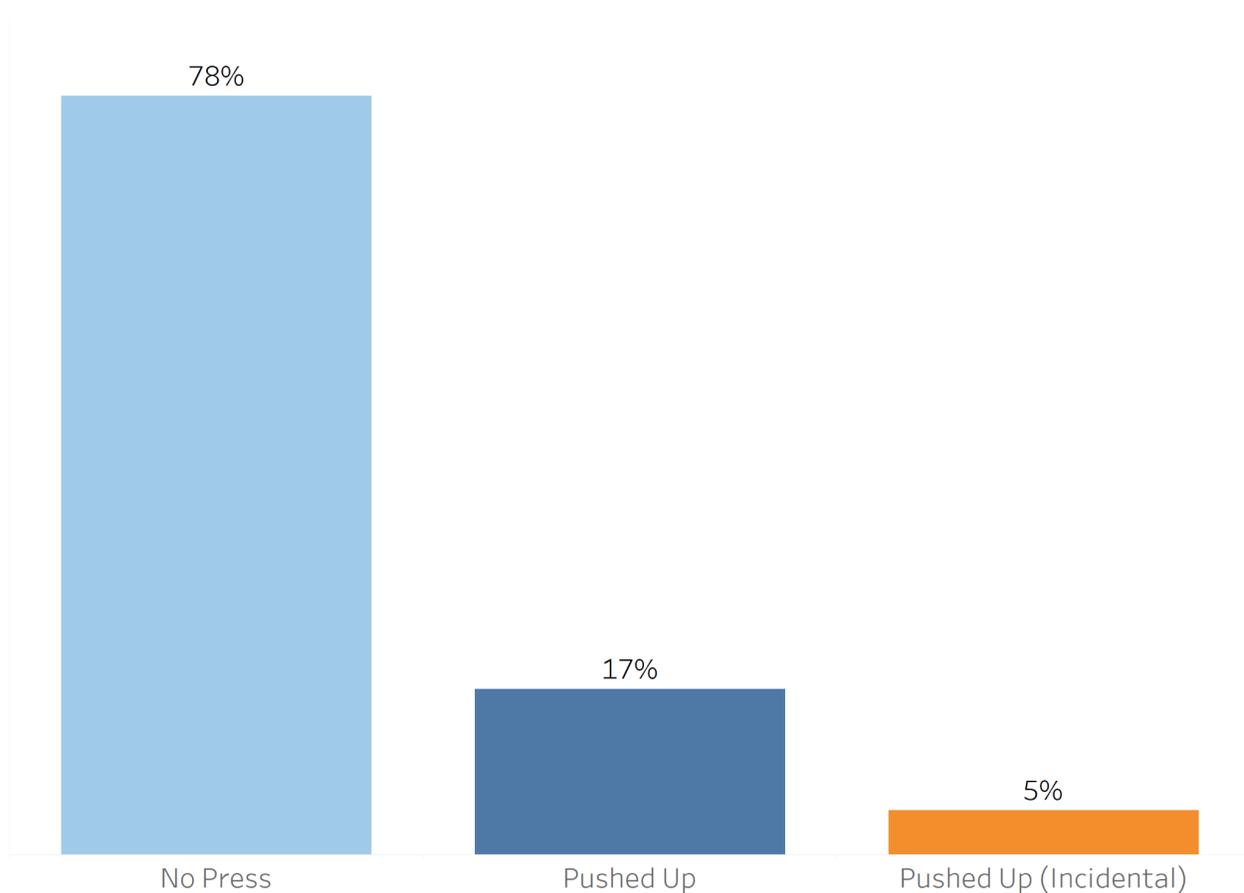
Championship | Long Contested Kickout Win %



Pressing Kickouts

Newly introduced for 2023 we examined if teams ‘press’ the opposition. We defined this as having 6 or more players inside the opponents 45 when the ball was kicked. This is not a perfect definition and there are some restrictions with regards to the TV footage available, but in the absence of spatial data of every player this was deemed the best way to code pressing on kickouts. As well as Press, we also analysed where teams had 6 players but were clearly not making an attempt to win the ball i.e. some player jogging back towards their own goal.

As the chart below shows in 78% of cases there was no press on the kickouts.

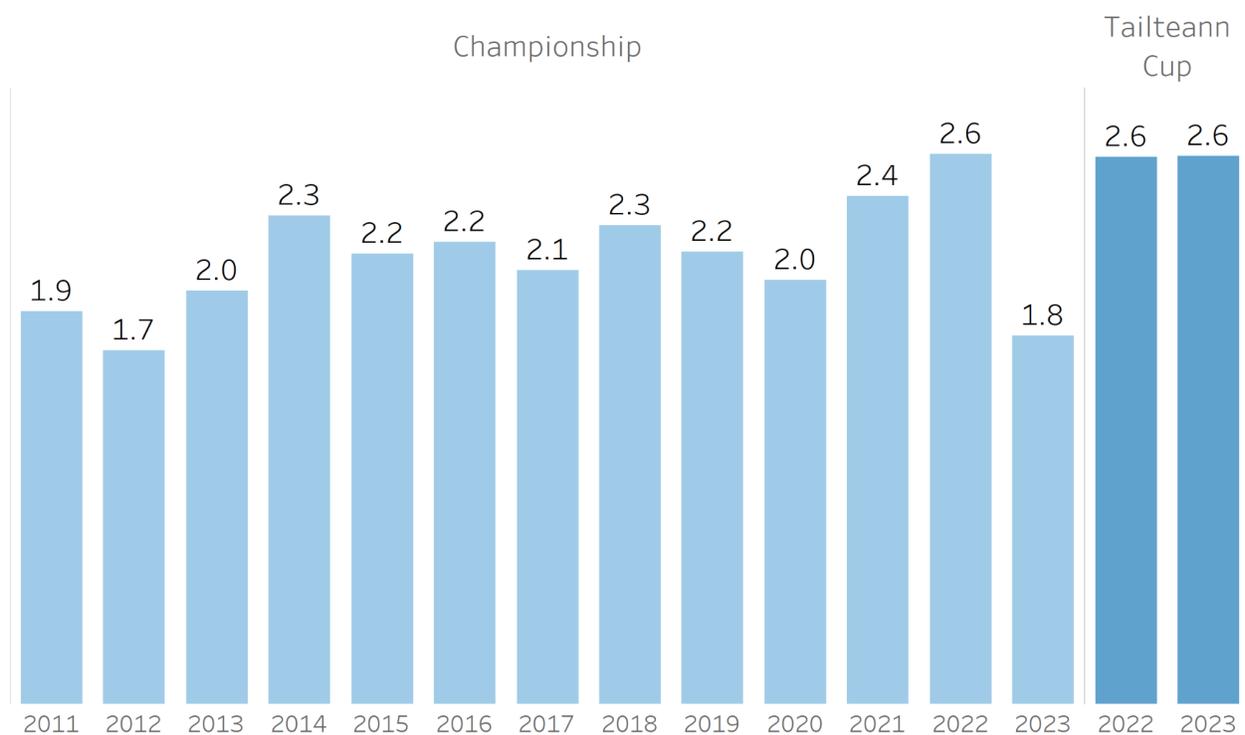


Shooting

Scores Per Game

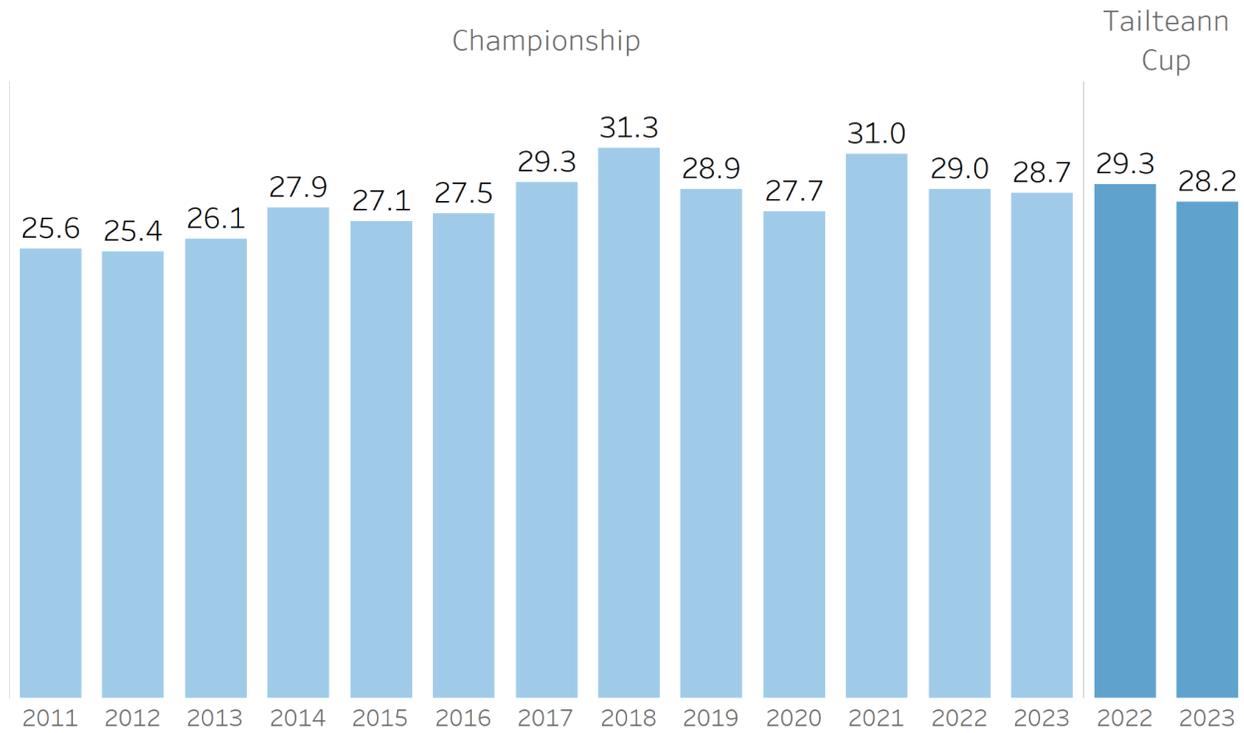
The chart below shows the average number of goals per game across the previous 13 seasons. The Tailteann Cup games are included as two separate columns. The average goals scored in this year's Championship is at its lowest since 2012.

Championship & Tailteann Cup | Total Goals Per Season



The chart below shows the average number of points per game. This figure remains broadly stable across the previous 13 seasons.

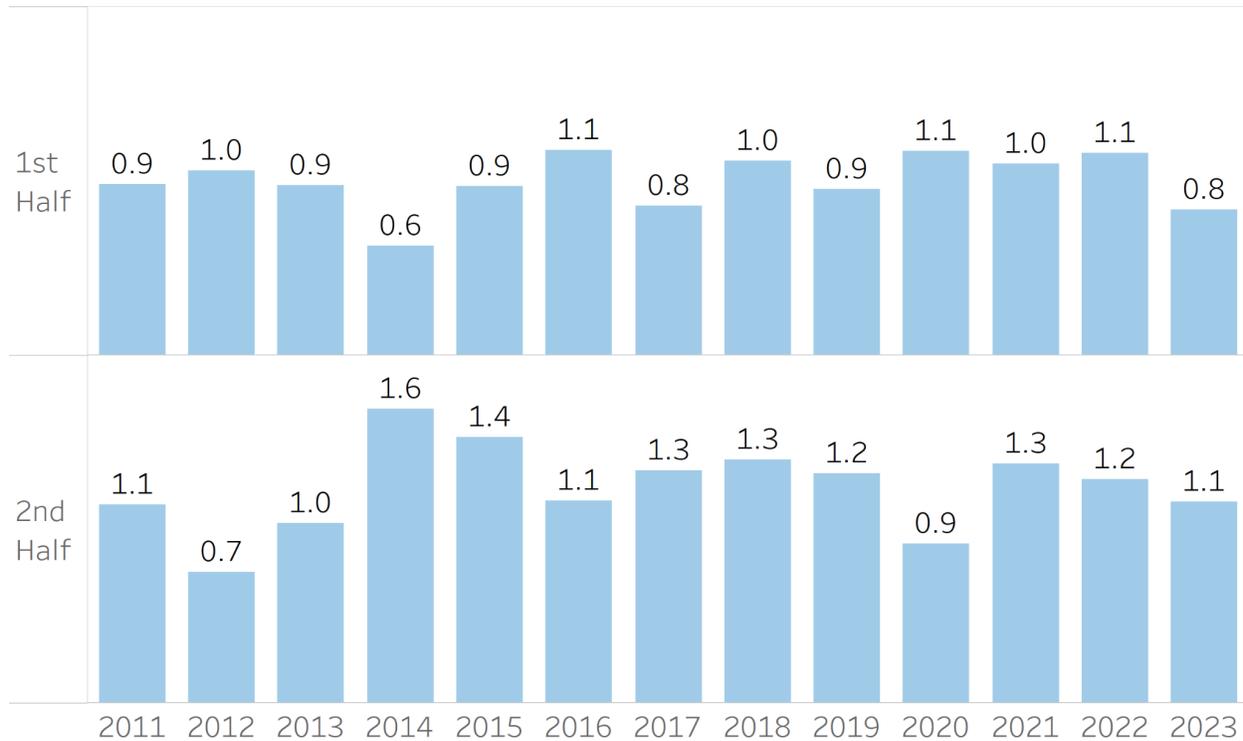
Championship & Tailteann Cup | Total Points Per Season



Average No Scores /game /half

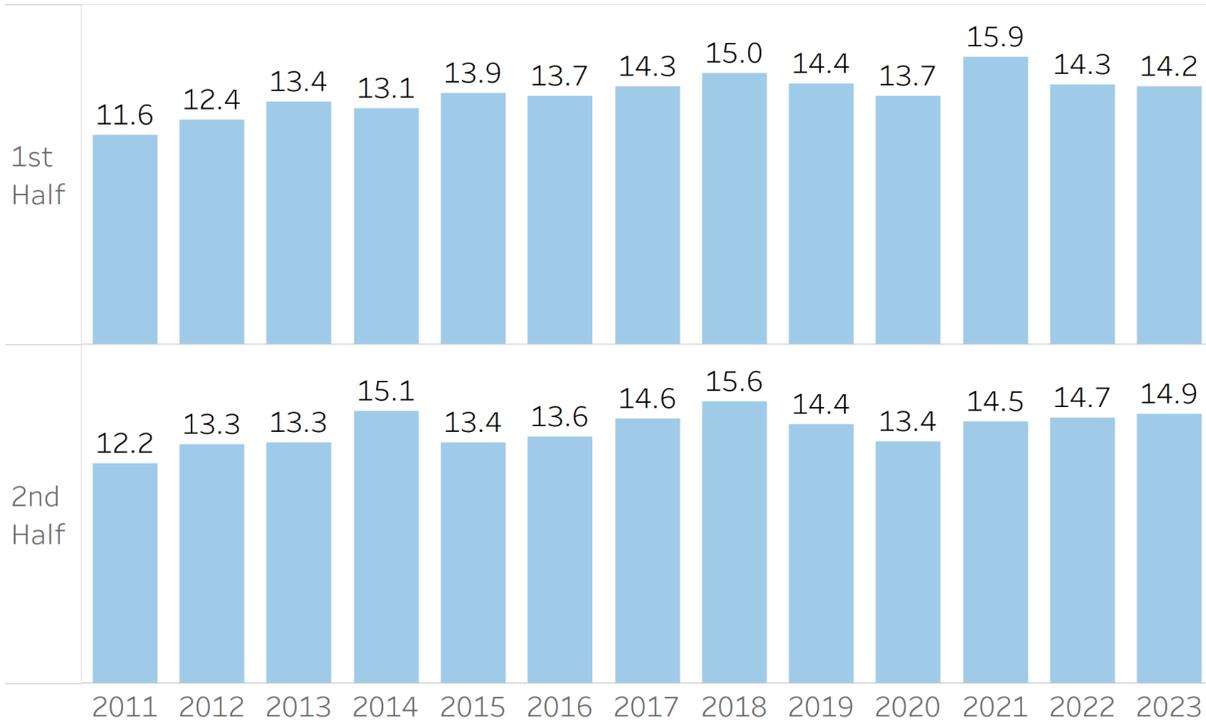
Examining which half goals are scored in shows very little difference between first half and second half. Across the 13 seasons in games analysed (not all fixtures) we can see the distribution of goals scored per half. There is a slight increase in 2nd half goals.

Championship | AVG Goal's Per Half



Similarly for points we see a slight increase in the total number of points scored in the 2nd half, but it is marginal.

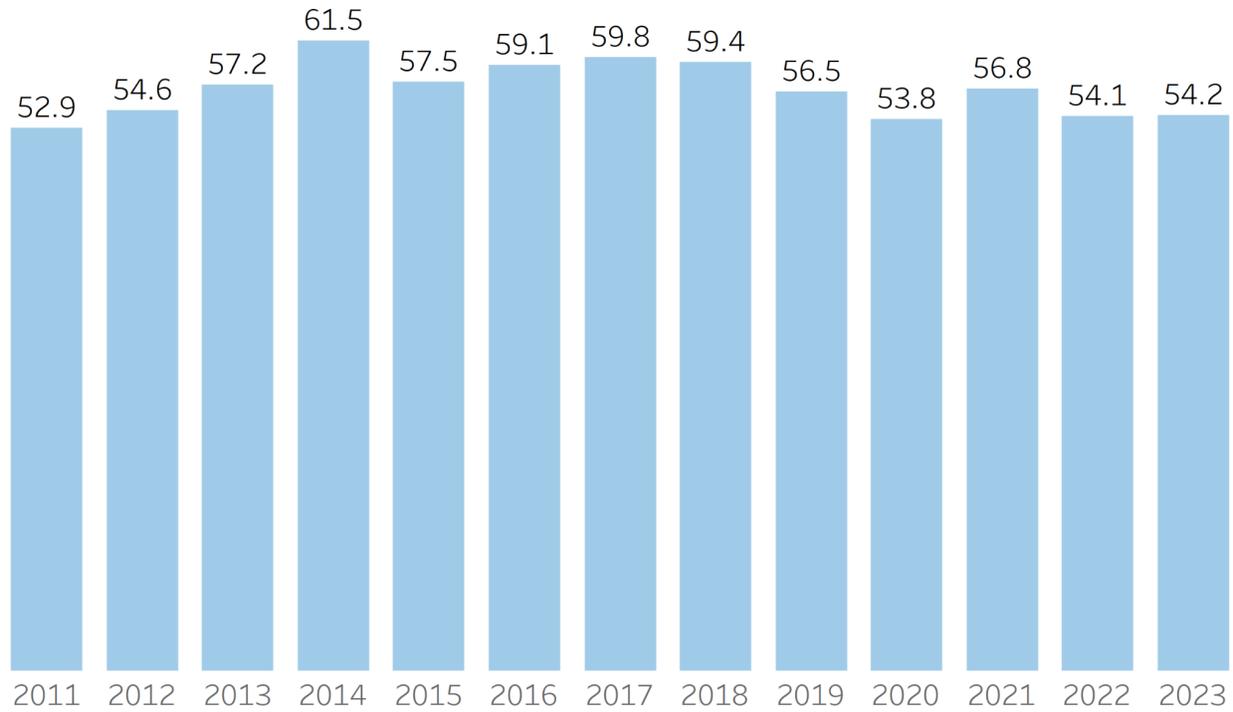
Championship | AVG Point's Per Half



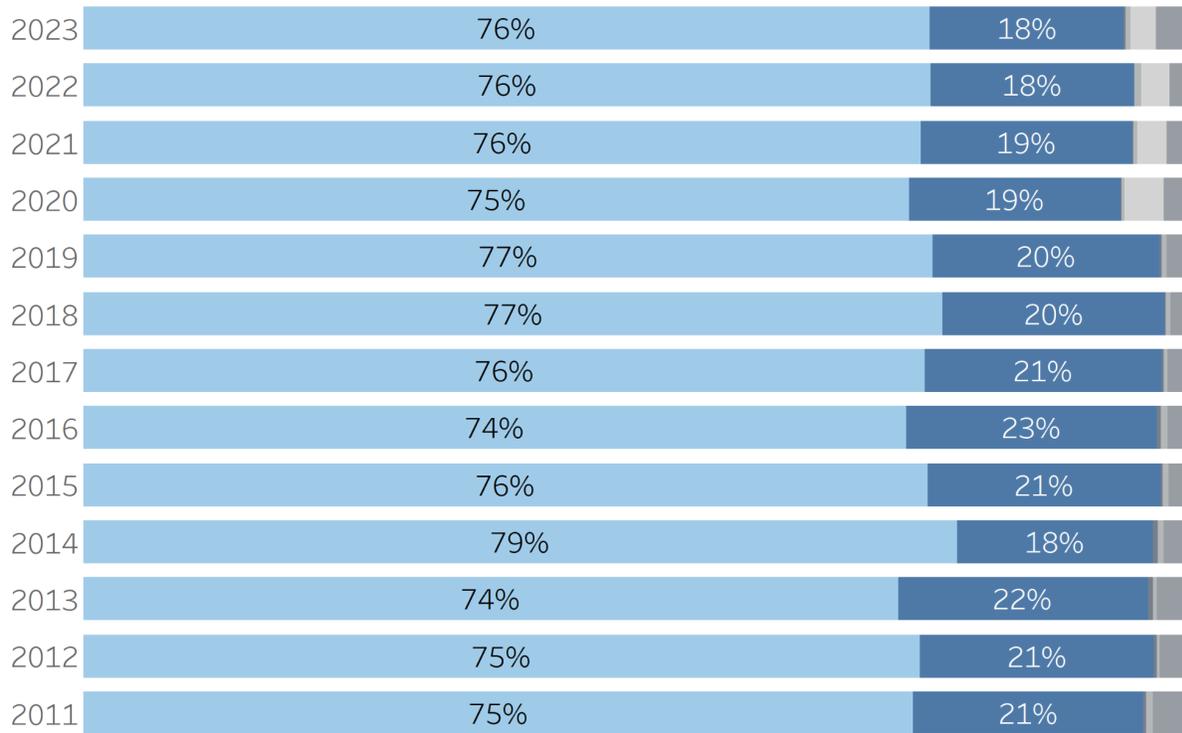
Attempted Shots

The number of attempted shots per game averaged 54.2 in the 2023 Championship season. As shown in the chart below this is largely in-line with previous seasons.

Championship | Total Shots



The table below shows the average number of shots per category across the 13 seasons. The vast majority (~75%) of shots per game come from play.

Championship | Shot Origin Per Season

Shot Origin

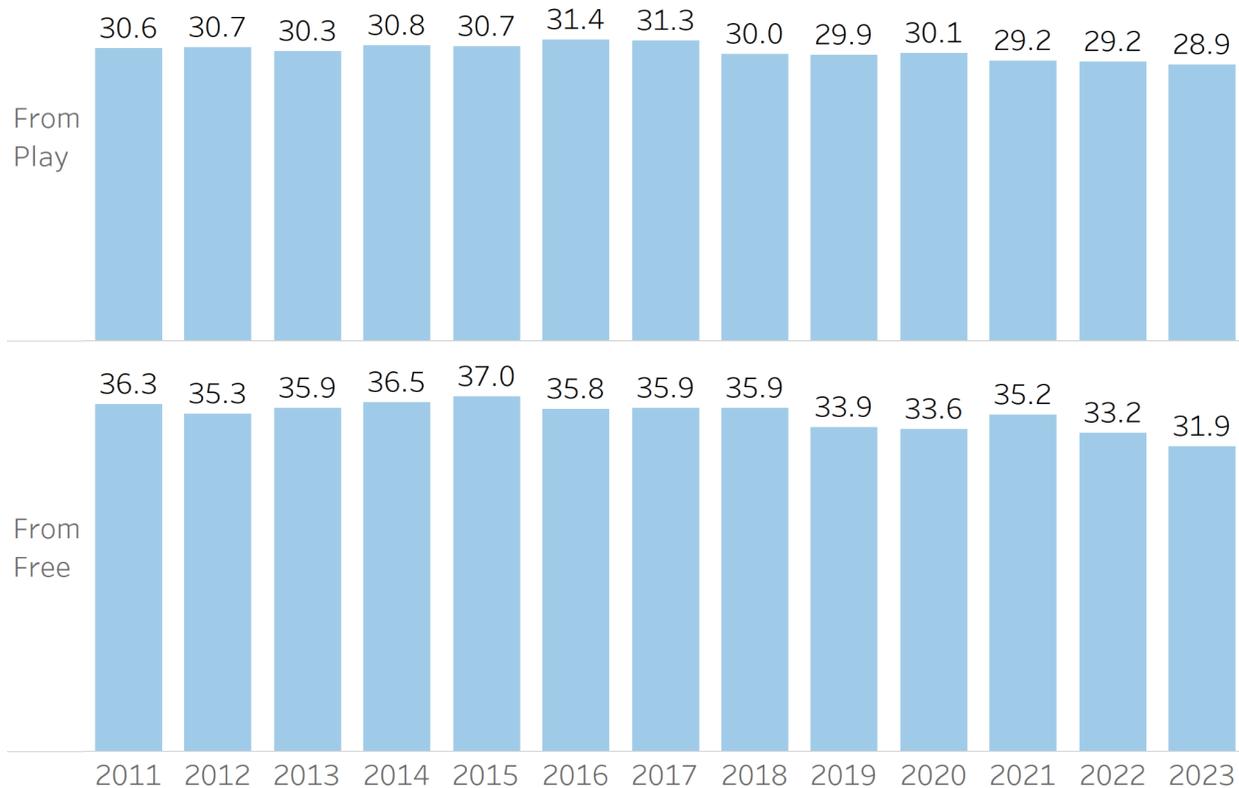
- From 45
- From Mark
- From Penalty
- Lineball
- From Free
- From Play

Scoring Trends (Accuracy & Distance)

Shooting Distance

For each shot the XY coordinate is recorded. The chart below shows the average distance from the centre of the goal of each shot across the 13 championship seasons analysed. The data suggest a slight decrease in shooting distance from play and a larger increase (average over 4m) from frees.

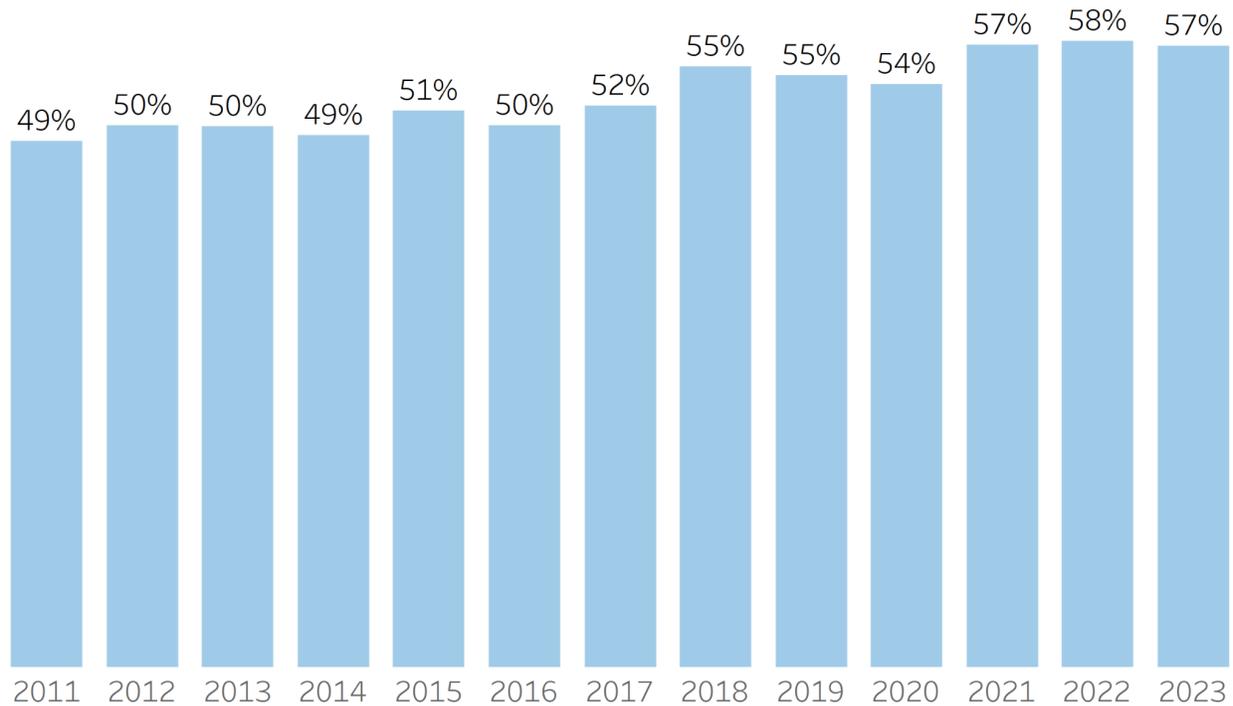
Championship | Average Distance of Shots



Shooting Accuracy - All Shots

Shooting accuracy has been steadily rising over the last 13 seasons. On average shots are scored (goal or point) 57% of the time. This figure had hovered around the 50% mark from 2011-2017. These shots exclude penalties.

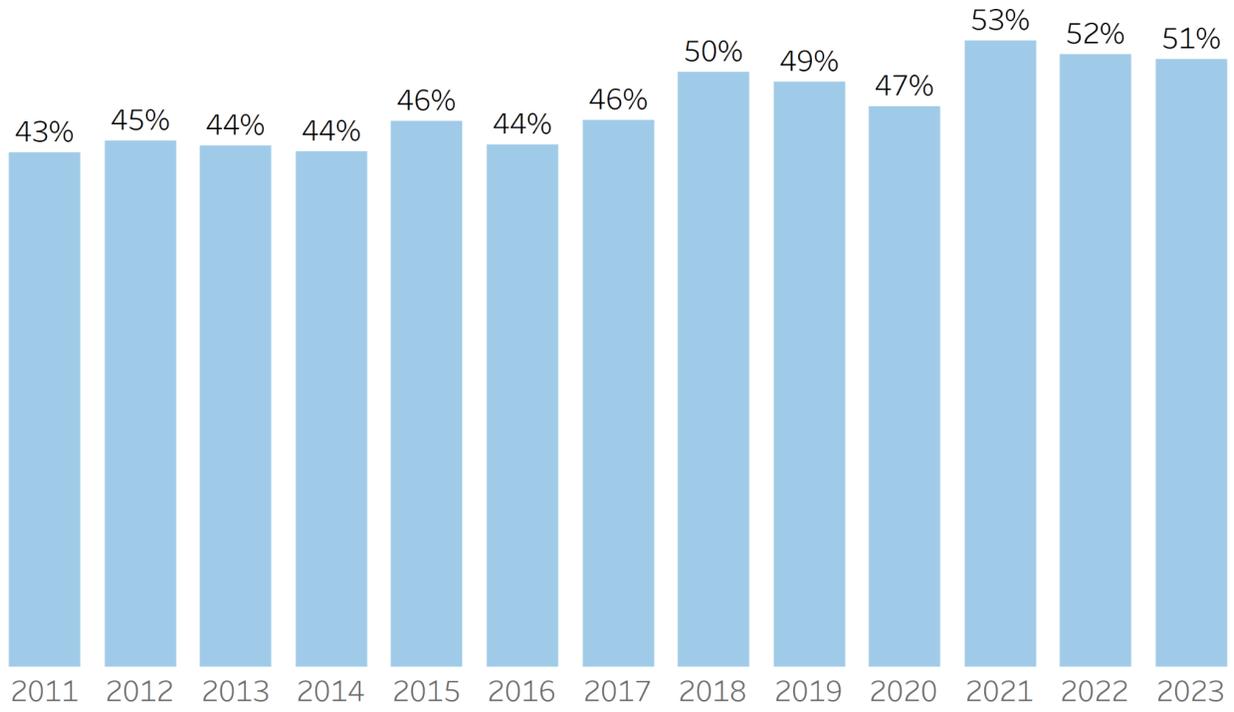
Championship | Shooting Accuracy



Shooting Accuracy - From Play

When we examine only shots from play, although the overall shot accuracy decreases we again see a similar trend of players on average shooting more accurately.

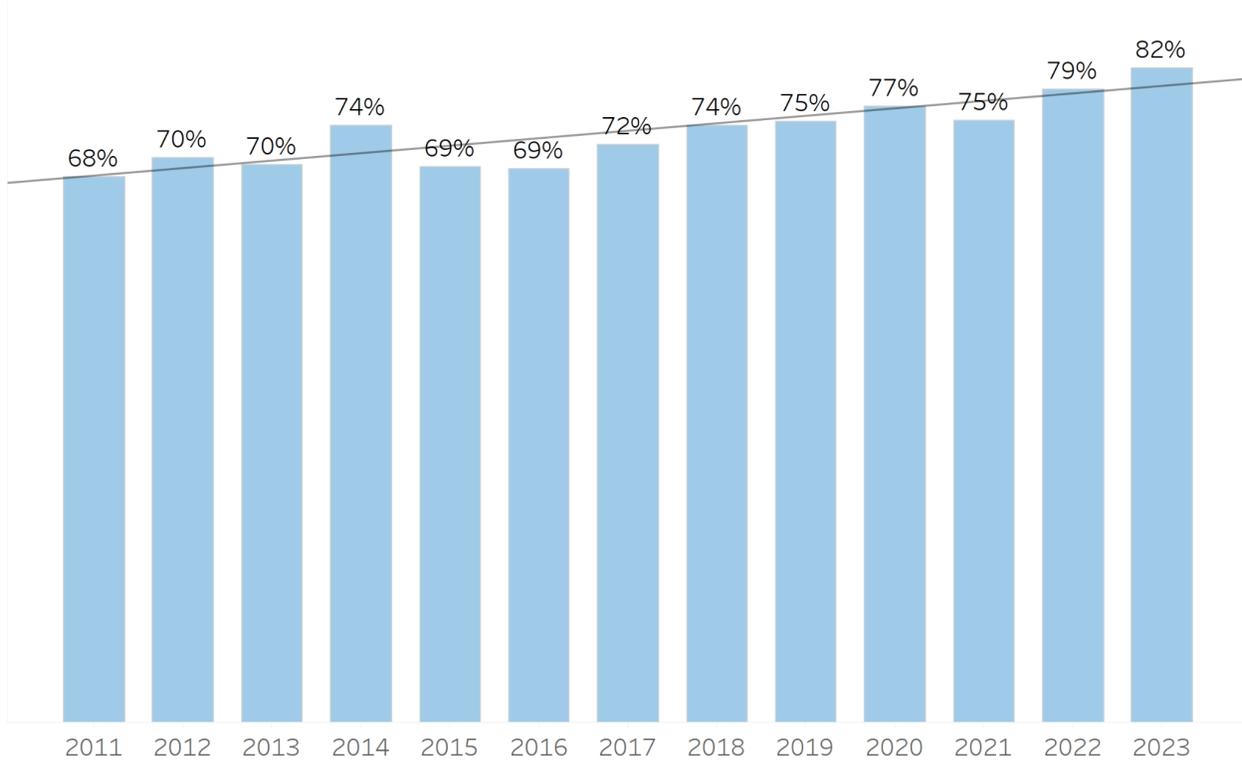
Championship | Shooting Accuracy Shot Type: From Play



Shooting Accuracy - From Free

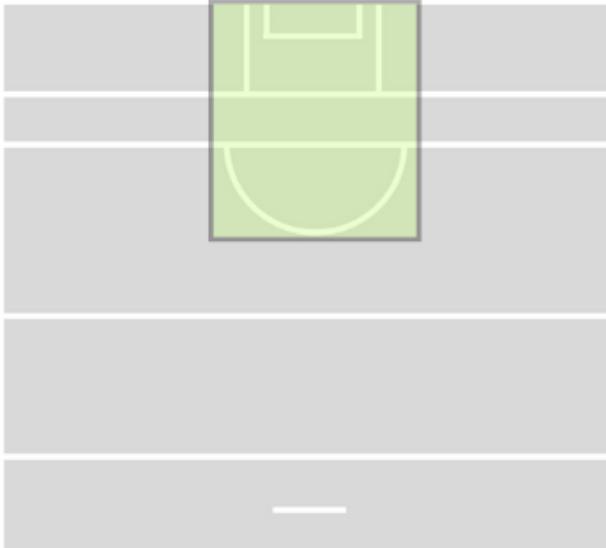
The increase in shooting accuracy is most pronounced when it comes to looking at frees. In 2011 frees were scored 68% of the time, while in 2023 they were scored 82% of the time. When we consider that the average distance of a shot has not changed dramatically over the last 13 seasons, most if not all this improved accuracy can be attributed to increased player skill.

Overall Free Taking Shot Success Rates 2011 - 2023



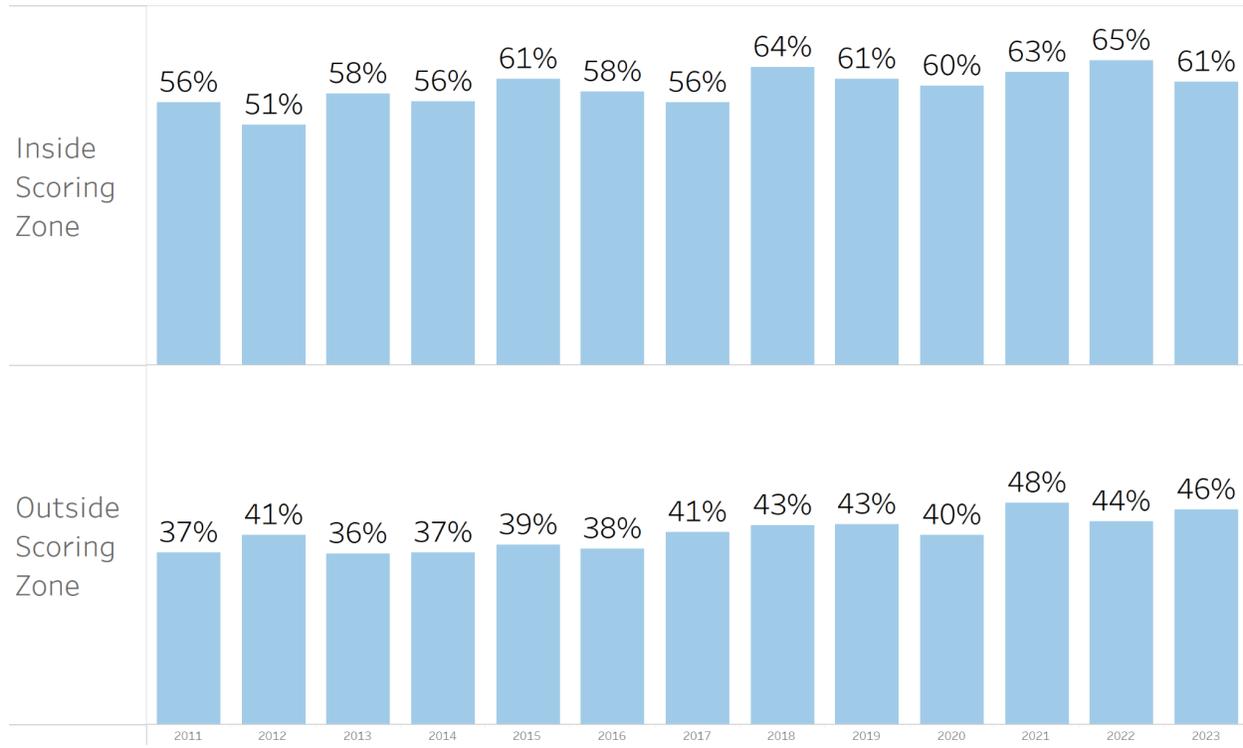
Scoring Zone

There can be debate about what constitutes the scoring zone. For the purposes of this analysis I have defined the scoring zone as the area covering the D to the end line, as shown in the image below.



Unsurprisingly shot accuracy is much higher inside this zone compared to shots taken from outside. For example in 2023 shots from play inside the zone were scored 61% of the time v 46% outside.

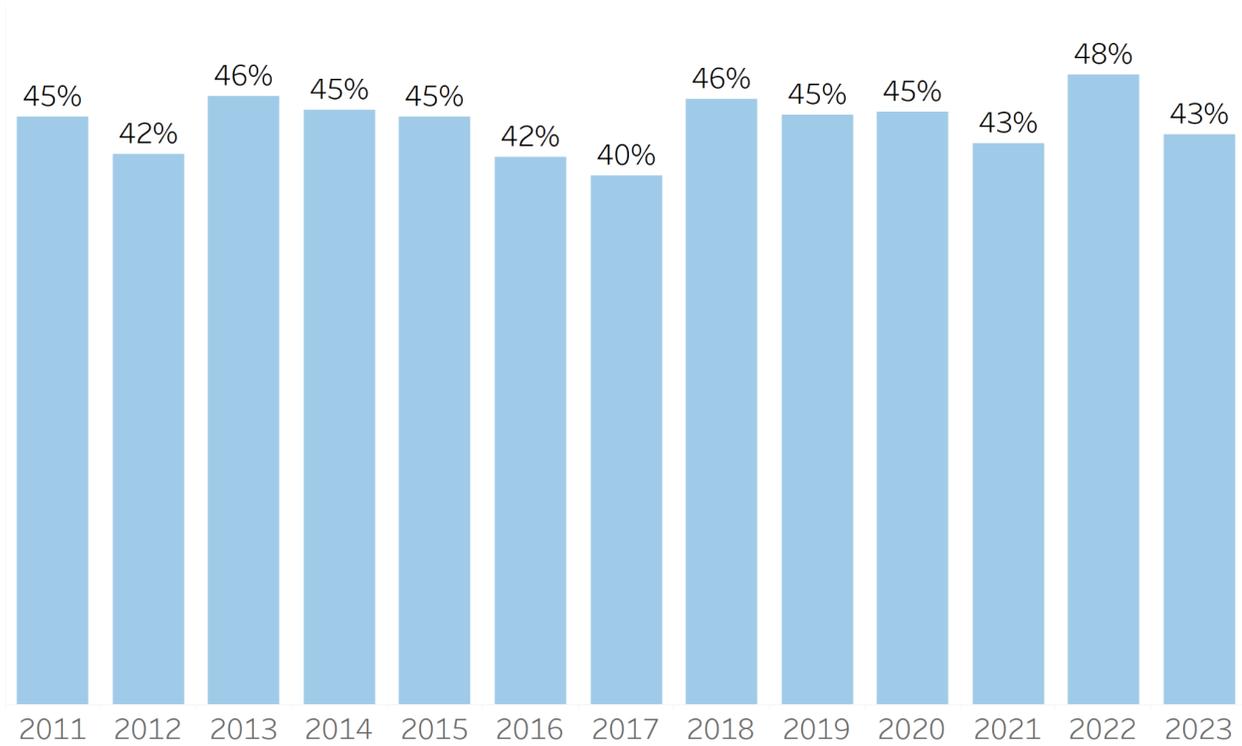
Championship | Shot Accuracy Inside/Outside Scoring Zone



Scoring Zone - Where do scores come from?

Examining only shots from play we can see the percentage of scores that come from inside this scoring zone. So while shot accuracy is better inside, the majority of shots are still taken outside this zone. The chart below shows the % of scores that come from inside the scoring zone i.e 43% of scores from play in the 2023 Championship were scored from inside the scoring zone.

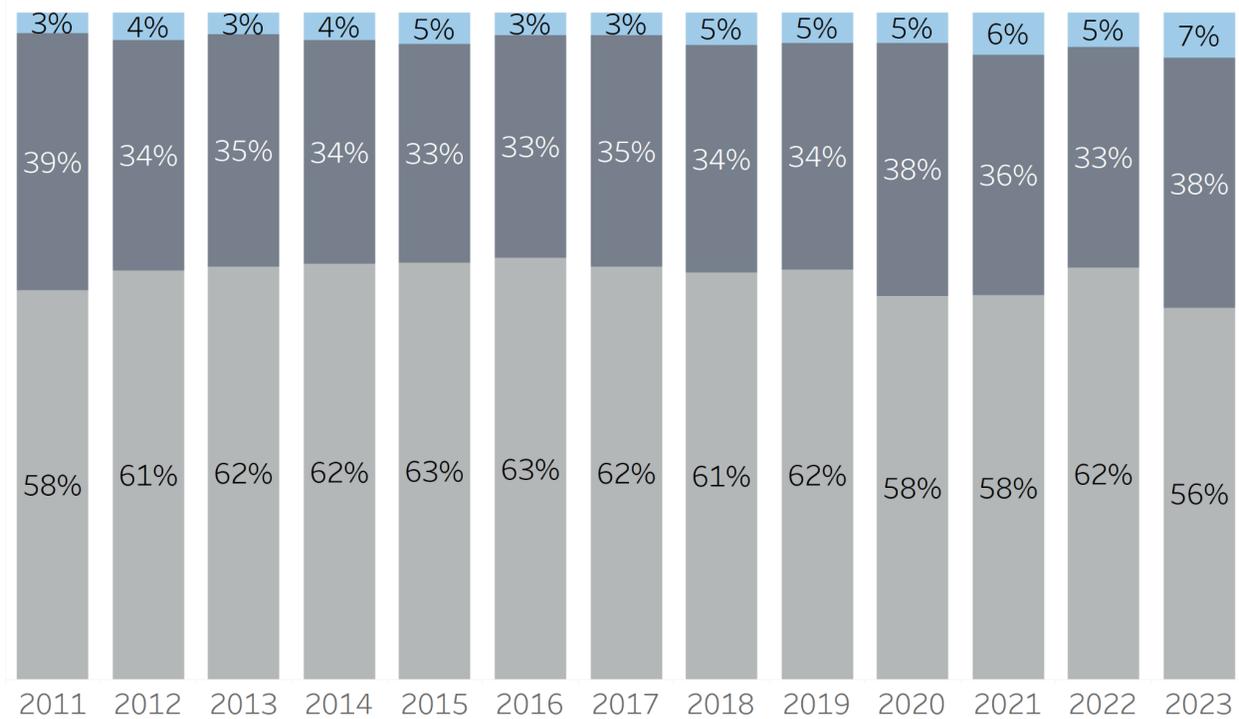
Championship | % of Scores from Inside Scoring Zone



Shot Foot/Hand

The analysis also includes which foot (or hands) was used when the player took a shot. The chart below shows shots taken from play and is broken into Right/Left/Hand. The majority of shots are taken with the foot, and although relatively small numbers the % of shots taken with the hands has doubled since 2011.

Championship | Scores with Right/Left Foot or Hands



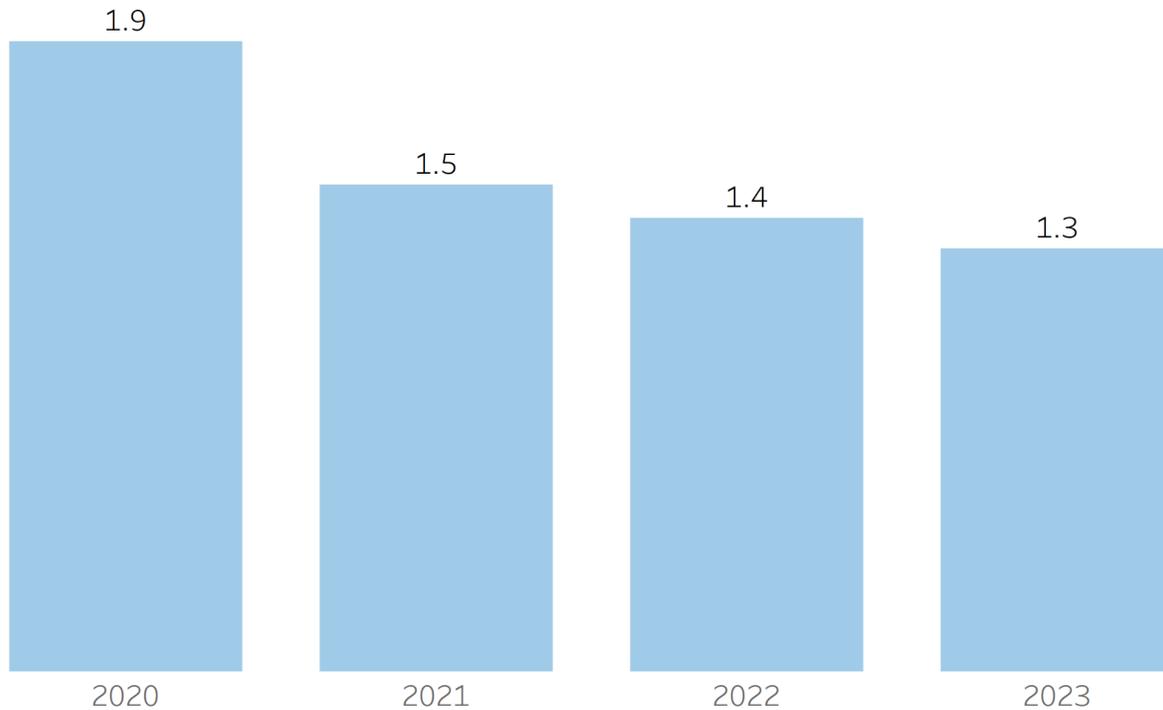
Shot Method

- Hand
- Left Foot
- Right Foot

Number of converted marks per game

The chart below shows the average number of shots from marks per game. In 2023 there were 42 shots from Marks across the 33 games analysed. Note that this does not include marks where the player chooses to play on, only shots that were taken directly after the mark are included.

Championship | AVG Shots From Mark Per Game

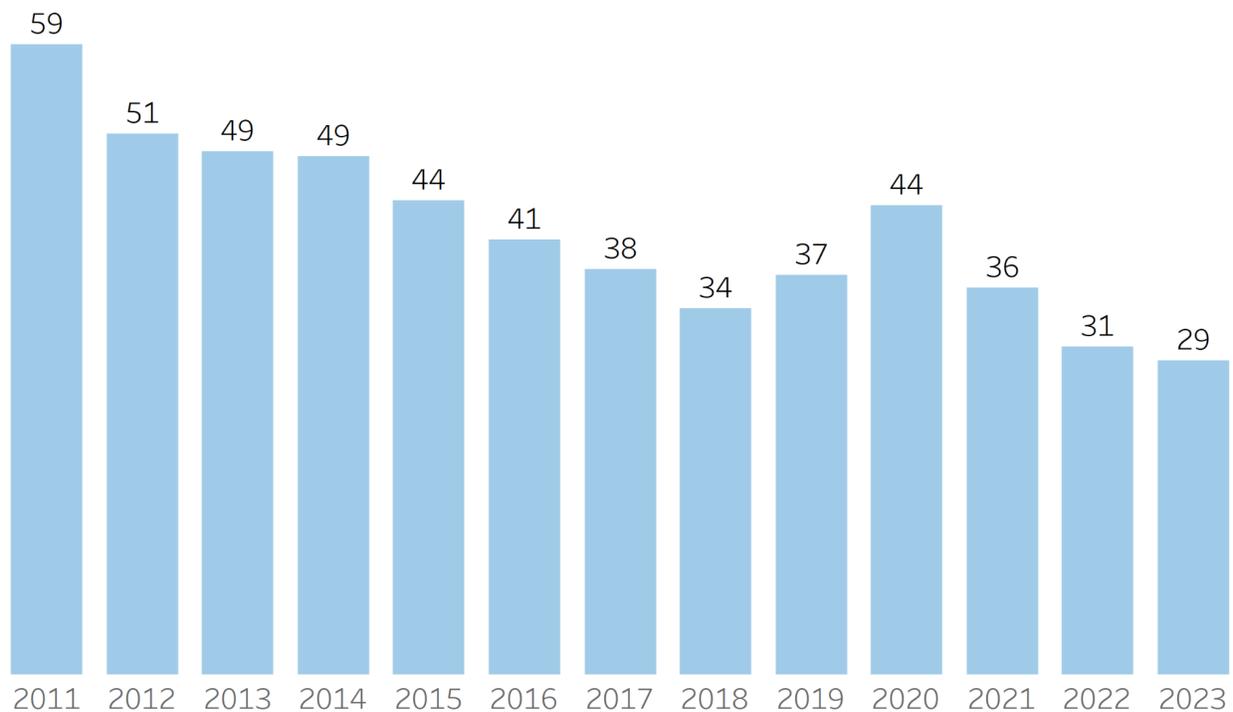


Turnovers

Average Number of turnovers /Game/Sector/time.

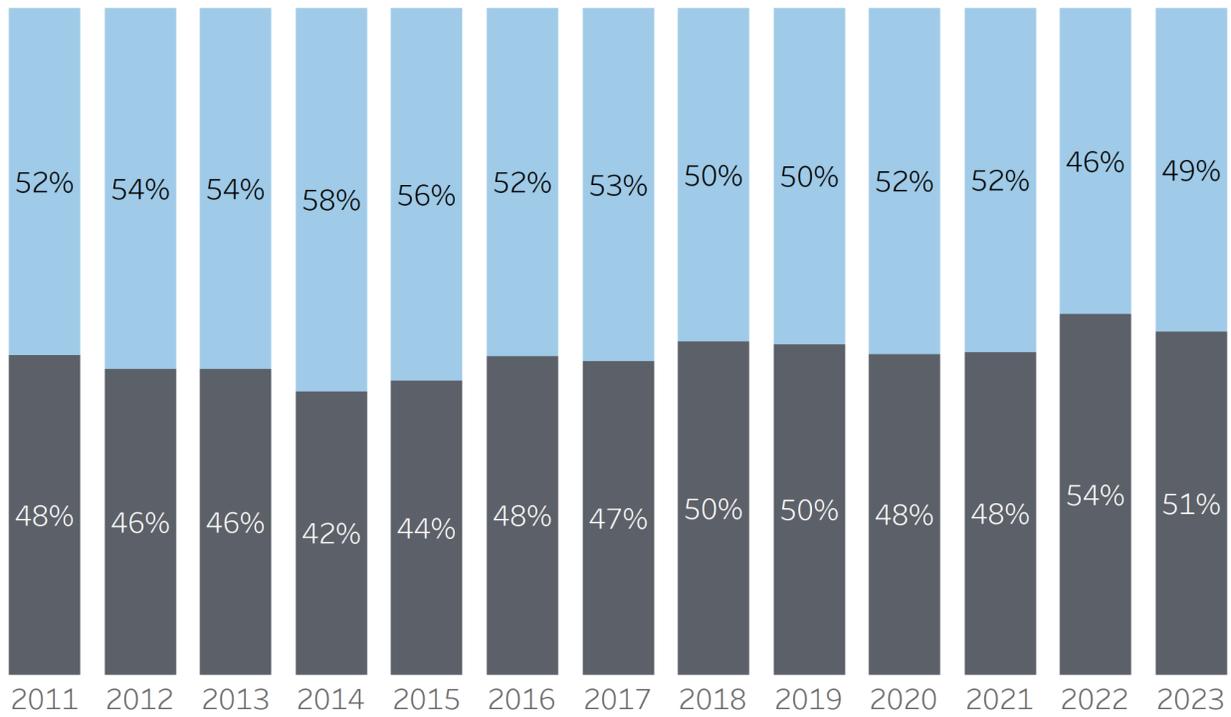
A turnover is defined as the team in possession relinquishing the ball to the opponent. This can occur in a number of different ways; Unsuccessful Pass (hand or foot), fouling the ball while in possession and losing the ball in contact. The chart below shows the average number of turnovers per game across the previous 13 Championship seasons. As we can see this has fallen quite substantially since 2011.

Championship | Avg Turnovers Per Game



When looking at the number of turnovers in each half of the game, we see it relatively evenly split across the seasons.

Championship | % of Turnovers Per Half



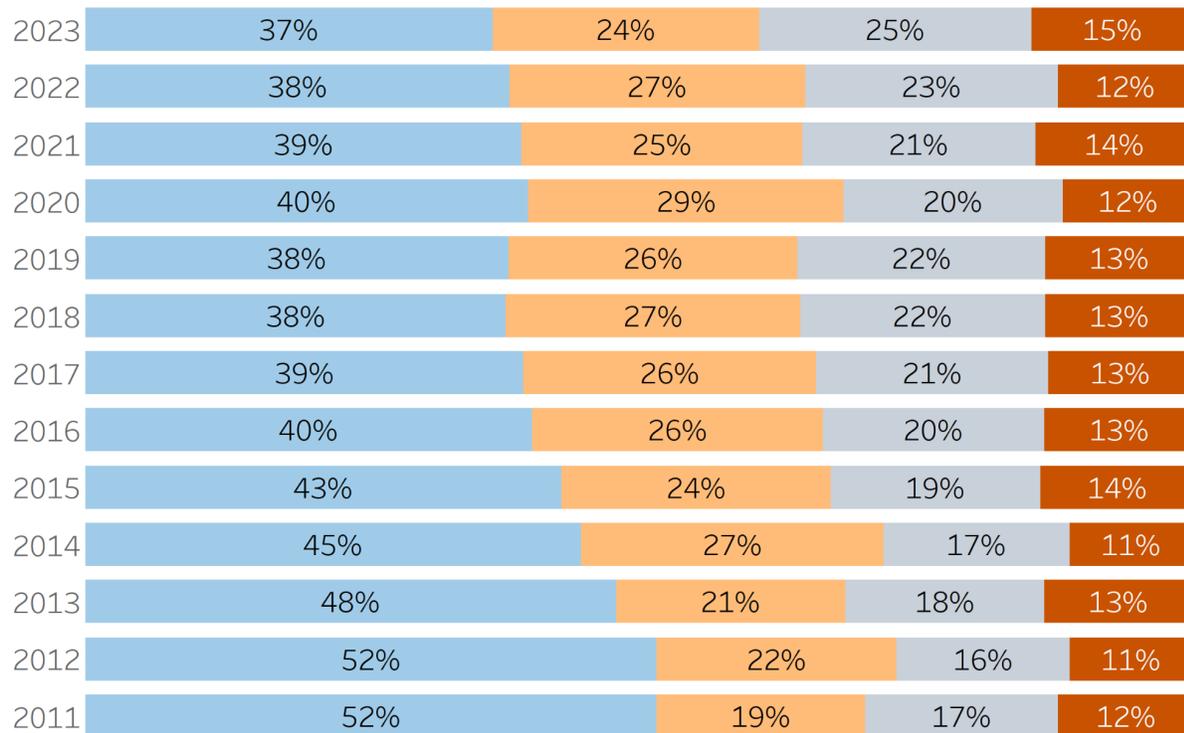
Half

- 1st Half
- 2nd Half

Turnover by Type

A further breakdown of the turnovers by type shows that the majority ~37% of turnover in 2023 were from unsuccessful kick passes.

Championship | Turnovers Avg Per Game by Type



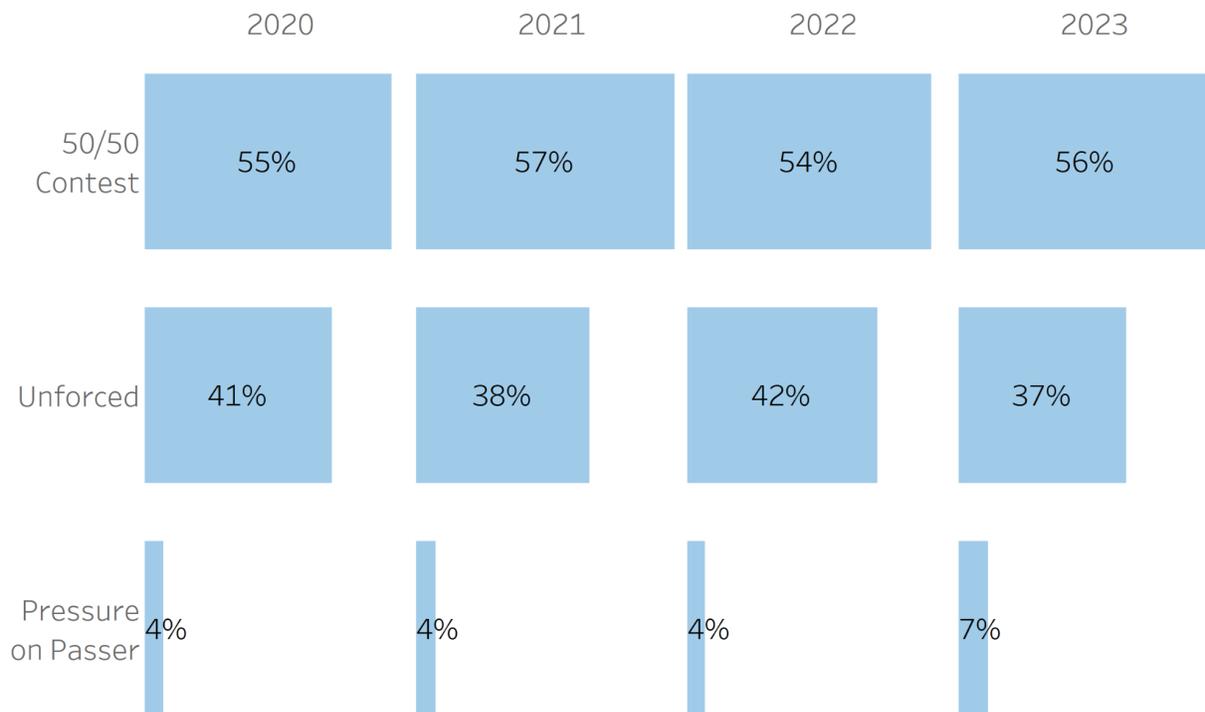
Turnover Type

- Foul Against
- HP Unsuccessful
- In Tackle
- FP Unsuccessful

Turnovers Unforced v Contested

We can single out turnovers from unsuccessful kick passes and examine why they occur. This is broken into 3 main categories. Was the ball kicked to a contest, unforced error or was there pressure put on the passer that forced the turnover. The chart below shows the breakdown in percentage terms. The largest reason for an unsuccessful foot pass is that it was kicked to a contest.

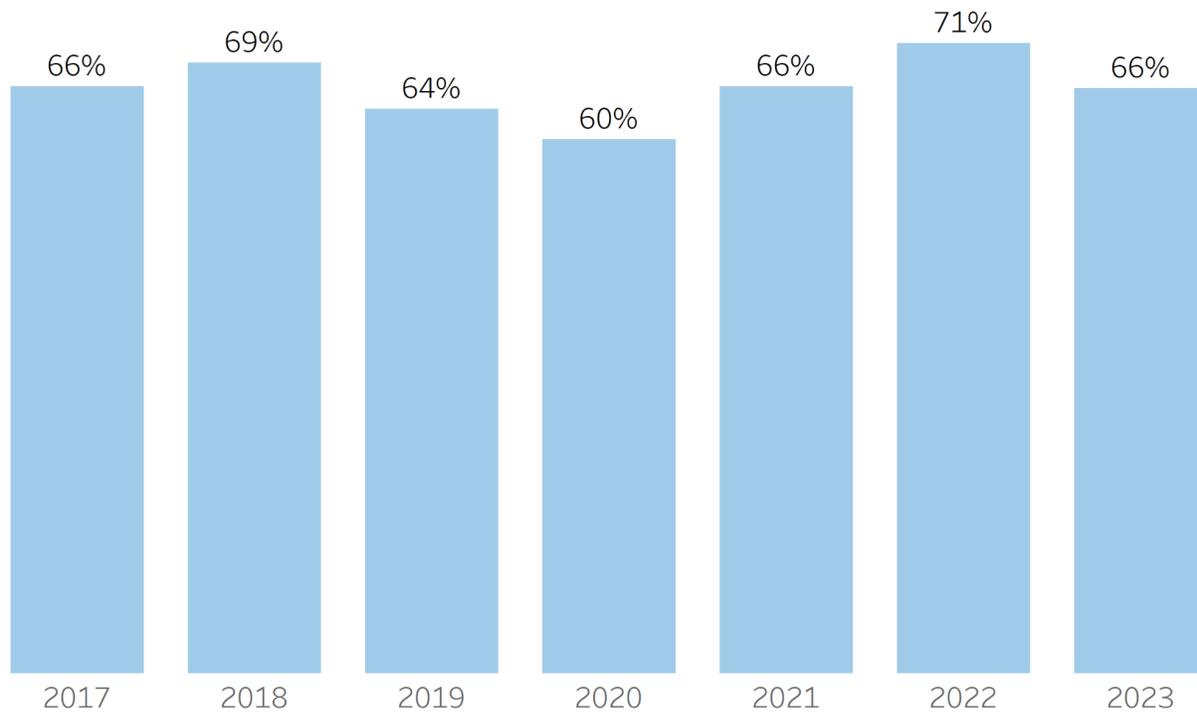
Championship | Foot Pass Turnovers by Type



Turnover Locations

For each turnover lost the XY co-ordinate is coded. Bucketing these events into the 5 zones (Own 45, Own 45-65, Midfield, Opp 45-65 and Opp 45) unsurprisingly the majority of turnovers lost occur in the oppositions 45. The table below shows the % of turnovers that end in the opposition's 45 from 2017-2023.

Championship | % of Turnovers occurring in Opposition 45

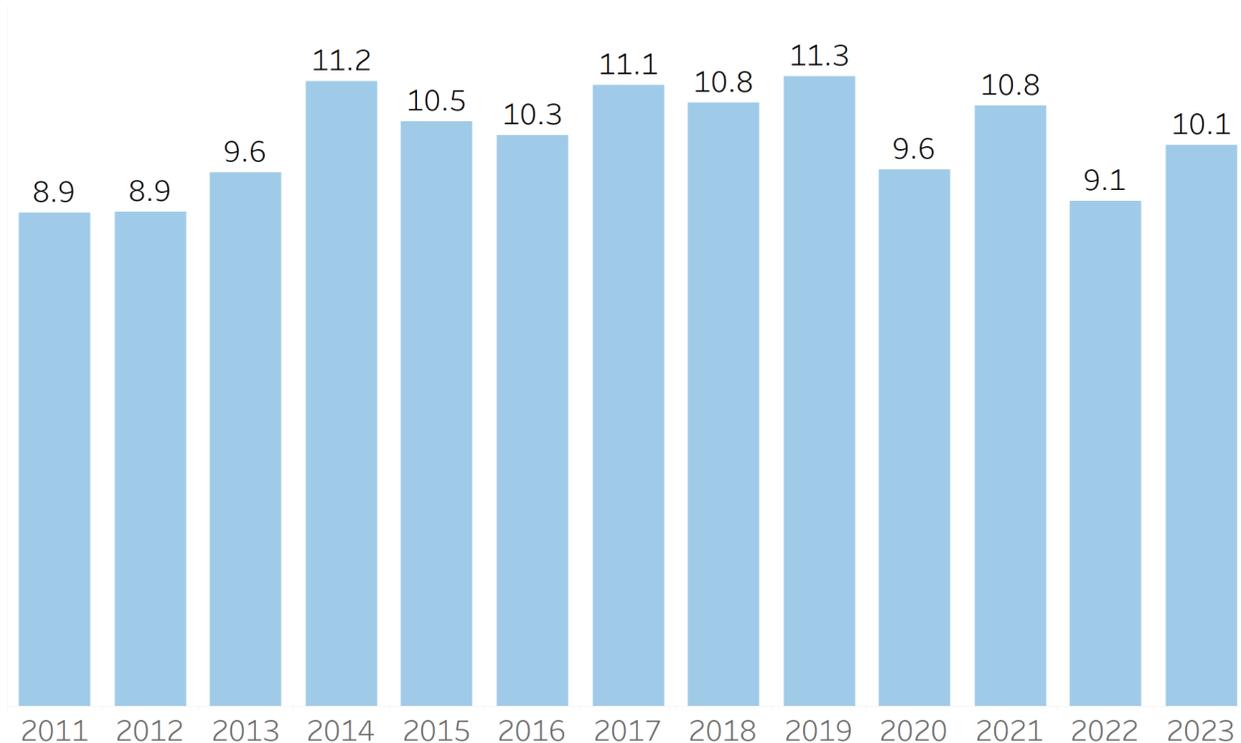


Substitutions

Average no of substitutions per game and when these are made

The chart below shows the average number of substitutions per game (including temp subs).

Championship | Avg Substitutes per game



The vast majority of these are made in the 2nd half. On average there was less than 1 substitution per game in the 1st half in 2023.

Substitute Time

On average teams make 5 substitutions each per game. Some of these substitutions can be double (or more), where multiple players are subbed at the same time. The average length of time the ball was out of play in 2023 for a substitution was 39 seconds. This is broadly in line with previous seasons. A multi-player substitution took on average 1 minute.

Playing Time

Duration of total game time

The chart below shows the total playable game time on average across the 13 seasons analysed. In 2023 the average game time was 77 minutes 28 seconds.

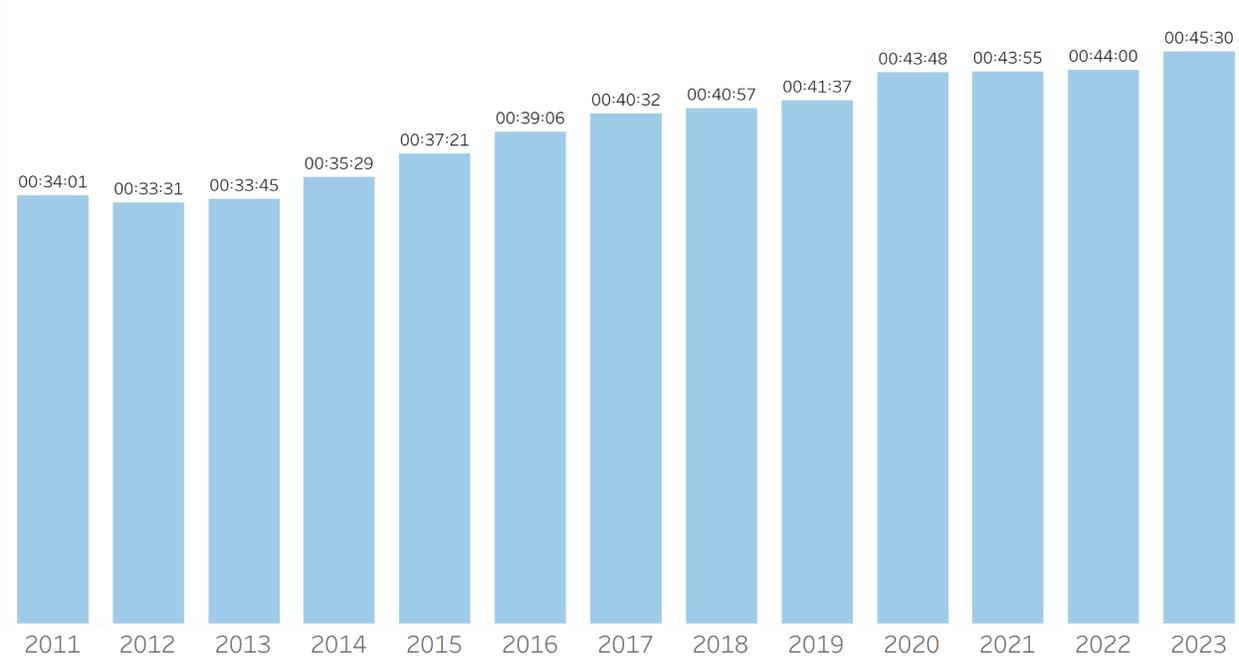
Championship | AVG Total Game Time Per Season



Duration of the Ball in Play time

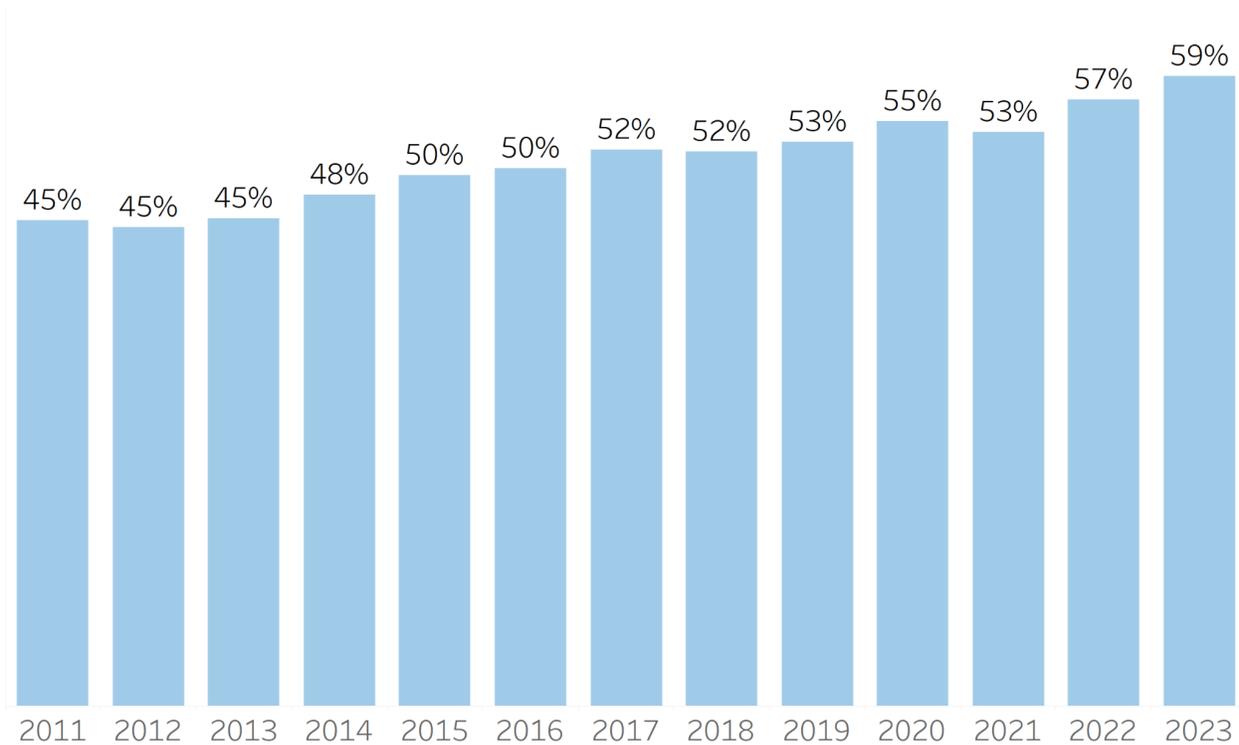
The chart below shows the average ball in play time, this has been increasing year on year since 2011.

Championship | Ball-InPlay Time Per Season



Ball in Play time by percentage - Ball was in play for 59% of the game on average in 2023.

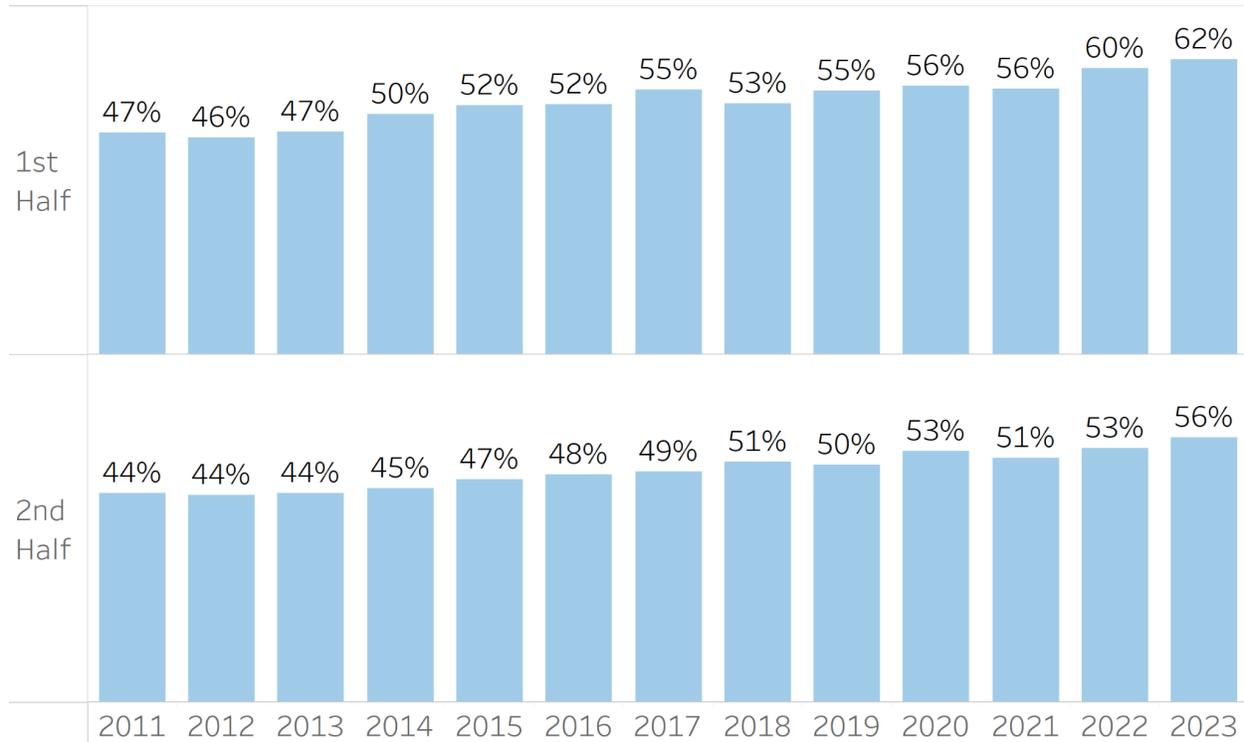
Championship | Ball-InPlay % Per Season



Percentage of Ball in Play Time per Half

The chart below shows the percentage of ball in play time per half. Perhaps unsurprisingly we can see ball is in play for a higher percentage in the first half than the second half.

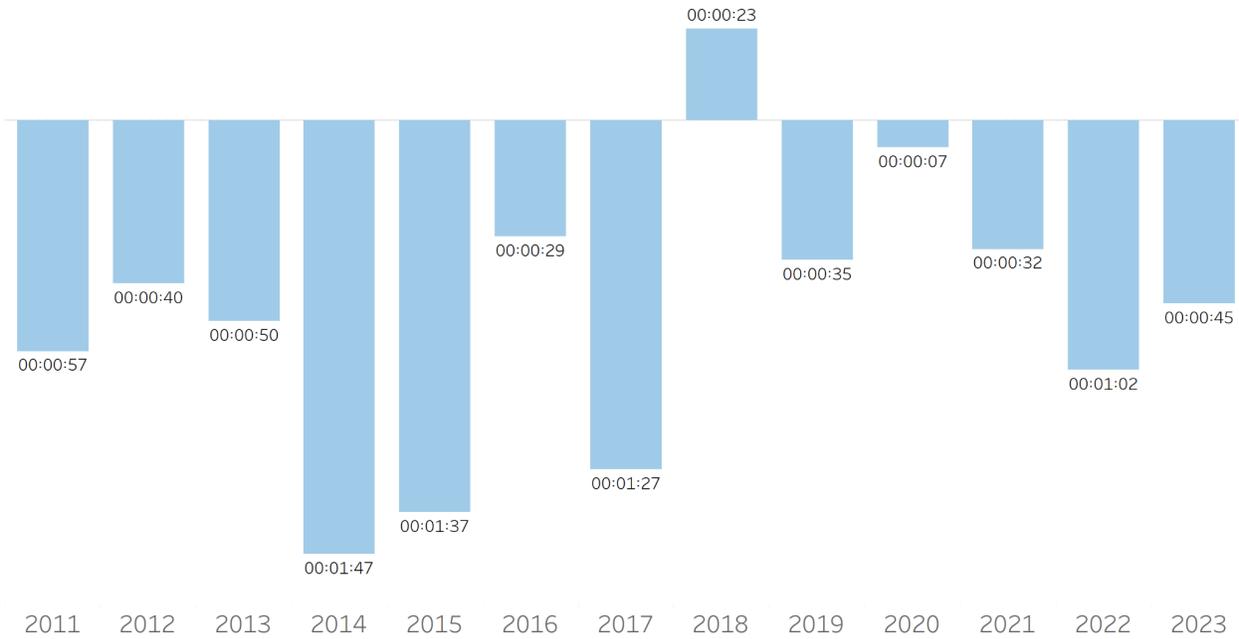
Championship | Ball-InPlay % Per Season by Half



Difference between 1st and 2nd Half playing time

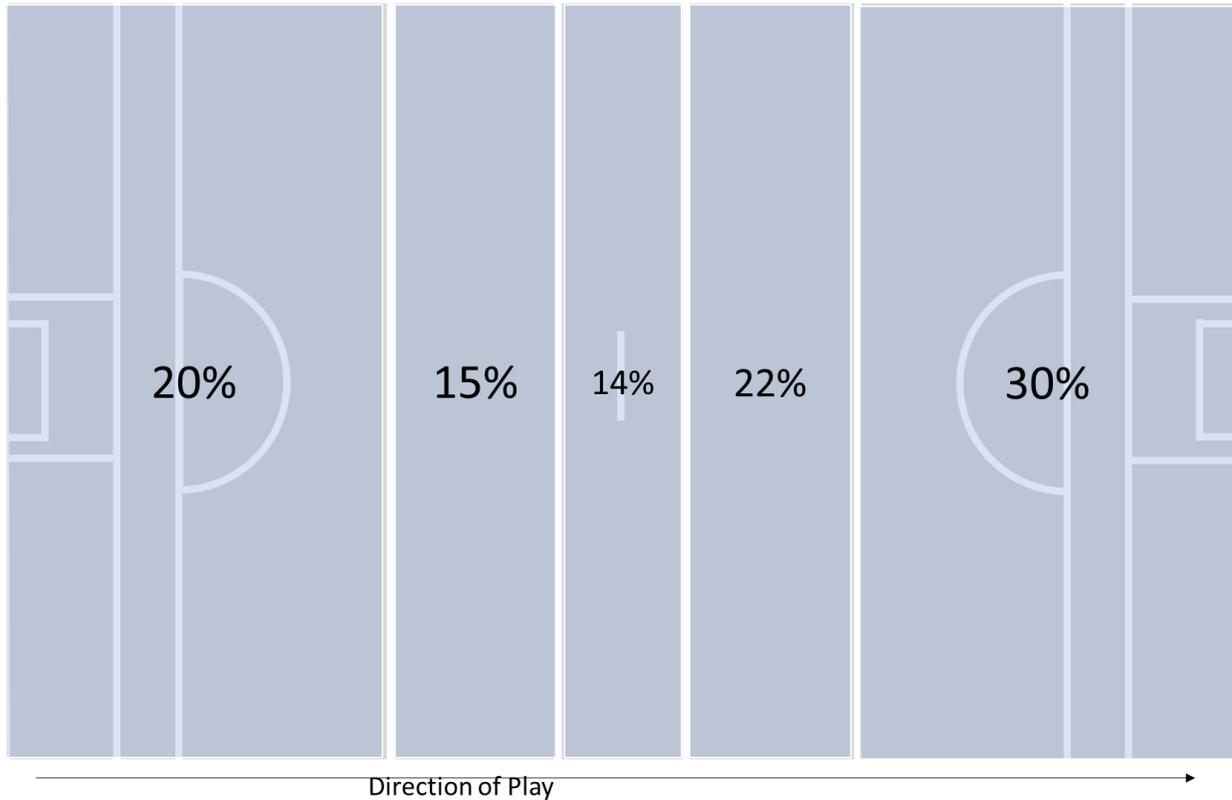
The chart below shows the average difference in minutes between 1st and 2nd half playing time. Not surprisingly the 2nd half has less ball in play time. For example in 2023 the ball was in play on average 45 seconds less in the 2nd half.

Championship | Difference between 1st Half and 2nd Half playing time



Ball in Play Location

The chart below shows the average ball in play time per game for each of the 5 playing zones. The most time is spent in the opposition 45 at an average of 30% of ball in play time.

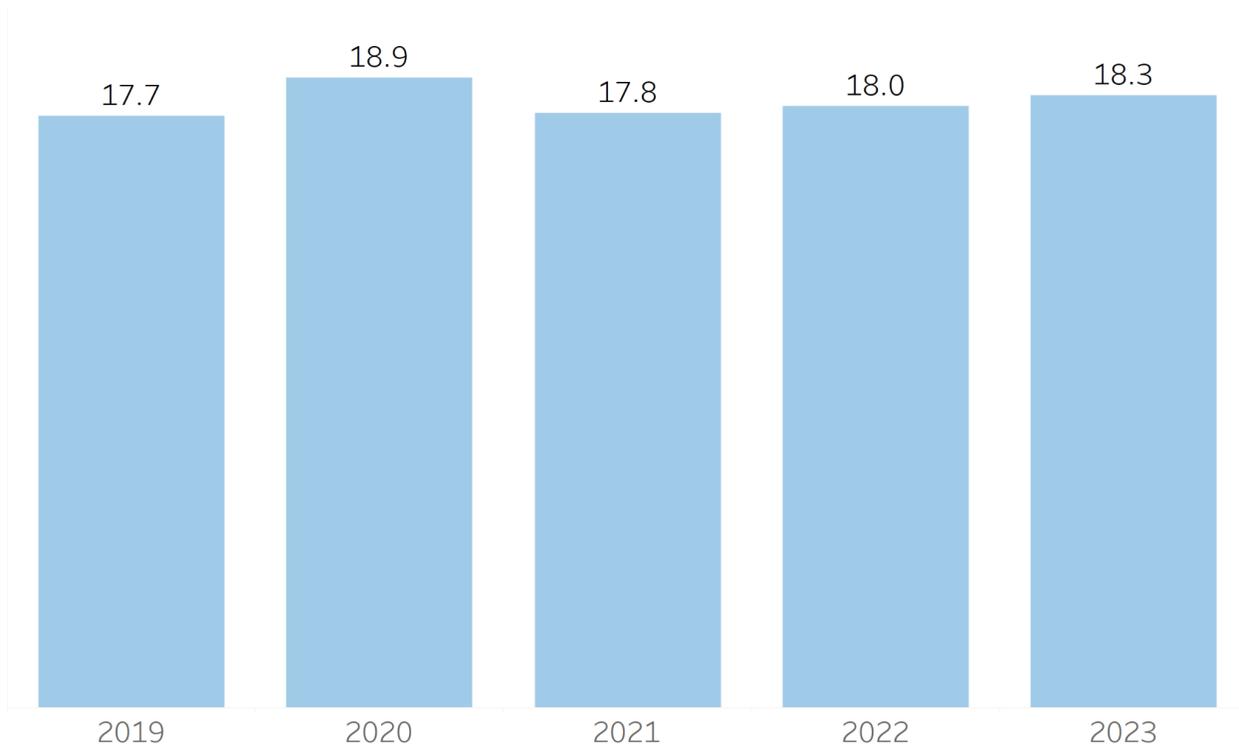


Duration Kick out time

Each time the ball goes out of play, the time is recorded and the reason for the stoppage (kickout, injury, discipline etc...). In some instances multiple stoppage reasons can happen at once. For example a Kickout and a substitution. To keep the analysis consistent we have only included Kickout stoppages where there was no other factor involved.

The chart below shows the average time the ball is out of play for kickouts since 2019. There is little change in this metric over this time.

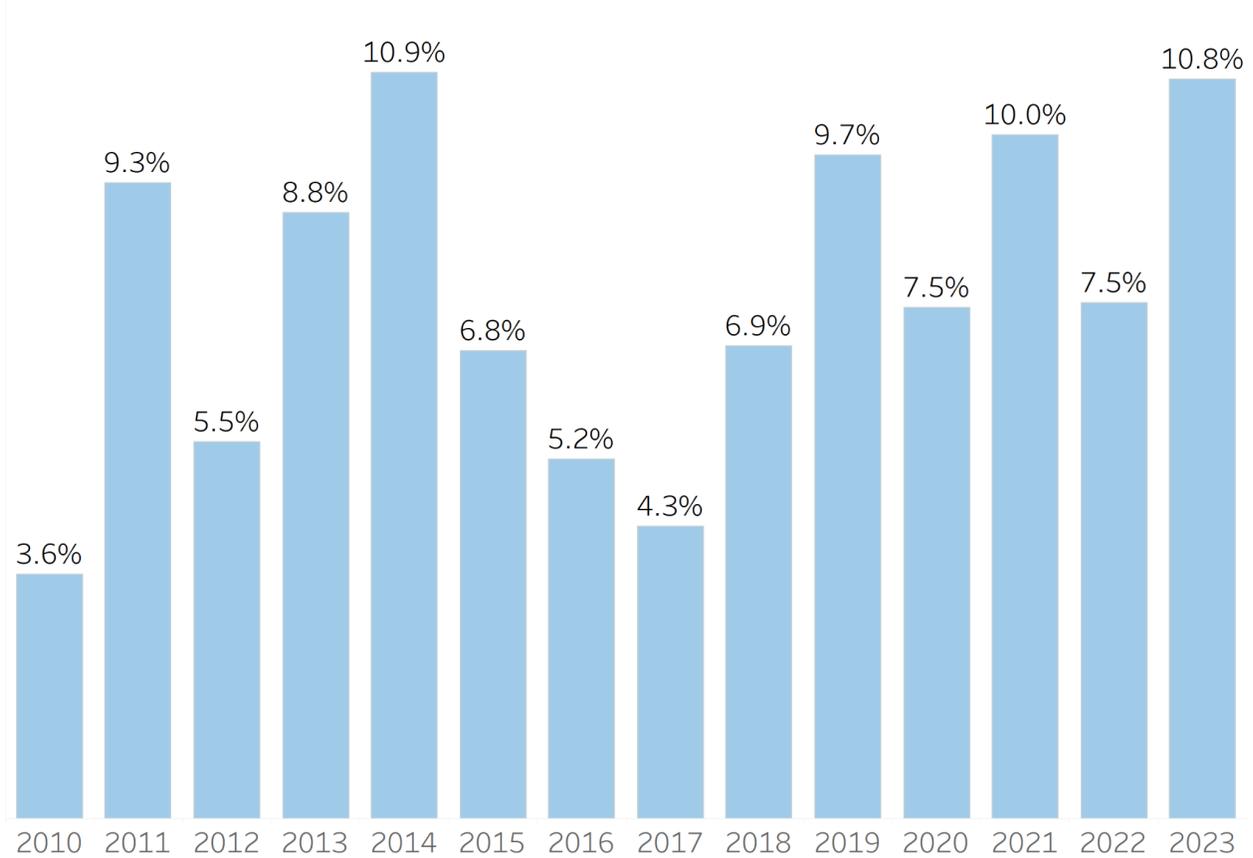
Championship | Ball Out of Play Time (sec) | Kickout



Number of frees taken by the goalkeeper per sector of pitch

The chart below shows the % of free's and 45's taken by the Goalkeeper since 2011. The number has bounded up and down over the seasons but never been more than 11%.

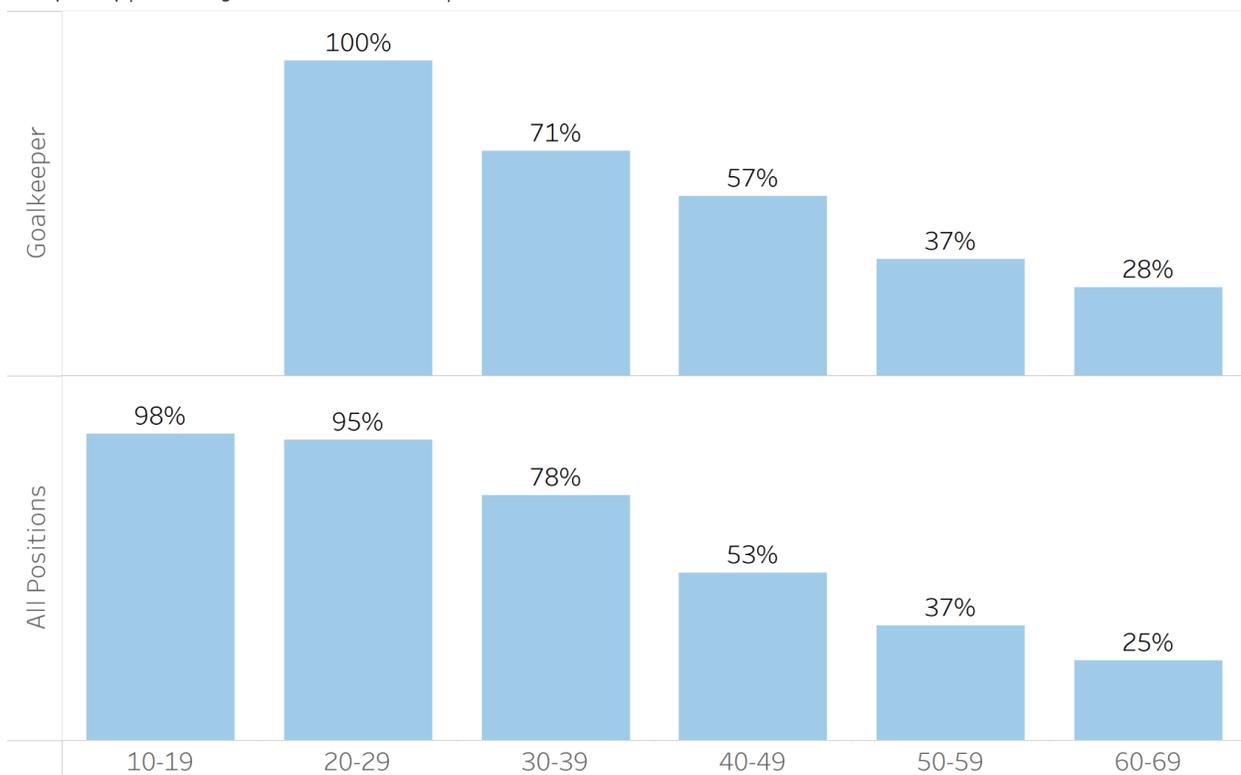
Championship | % of Shots from Free's & 45's taken by the GK



% of goalkeeper frees that are successful.

Goalkeepers tend to take more difficult frees. Therefore comparing shot accuracy on its own would not be a fair comparison. The chart below breaks down free's into distance from goal (10m buckets) and calculates the accuracy % for each bucket. From this you can compare where goalkeepers are better/worse than all other players combined. In the 20-29 and 30-39 buckets there are only ~17 frees taken by goalkeepers so a very small sample size for comparison. As the distance increases the sample size for keepers increases and becomes more representative.

Championship | Free Taking Shot % Based on Distance | GK v's All Positions



Team Possessions

What is a Team Possession?

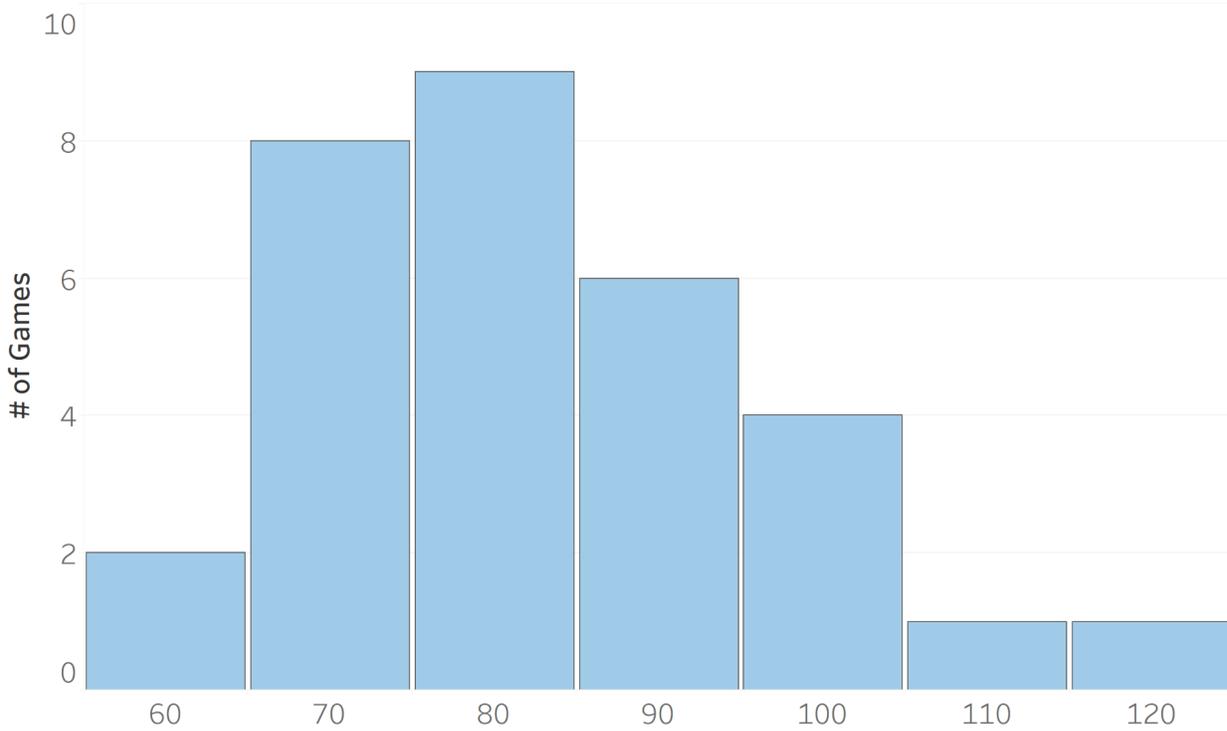
A Team Possession is a passage of play which belongs to one team and is ended by a turnover or a shot. For example, if the team in possession has a shot and it lands short but they maintain possession of the ball the first sequence ends when the first shot is taken and a new sequence begins from the moment they retain the ball.

*Note a Kickout that is lost by the kicking team is not counted as a Team Possession, the possession is counted from the winning of the kickout.

No. of Possession Per Game

The chart below shows the basic distribution of the number of possessions per game, and how often different numbers of possessions occur. Matches typically have between 70-90 possessions per game or 35-45 per team in 2023.

Total Phases Per Game



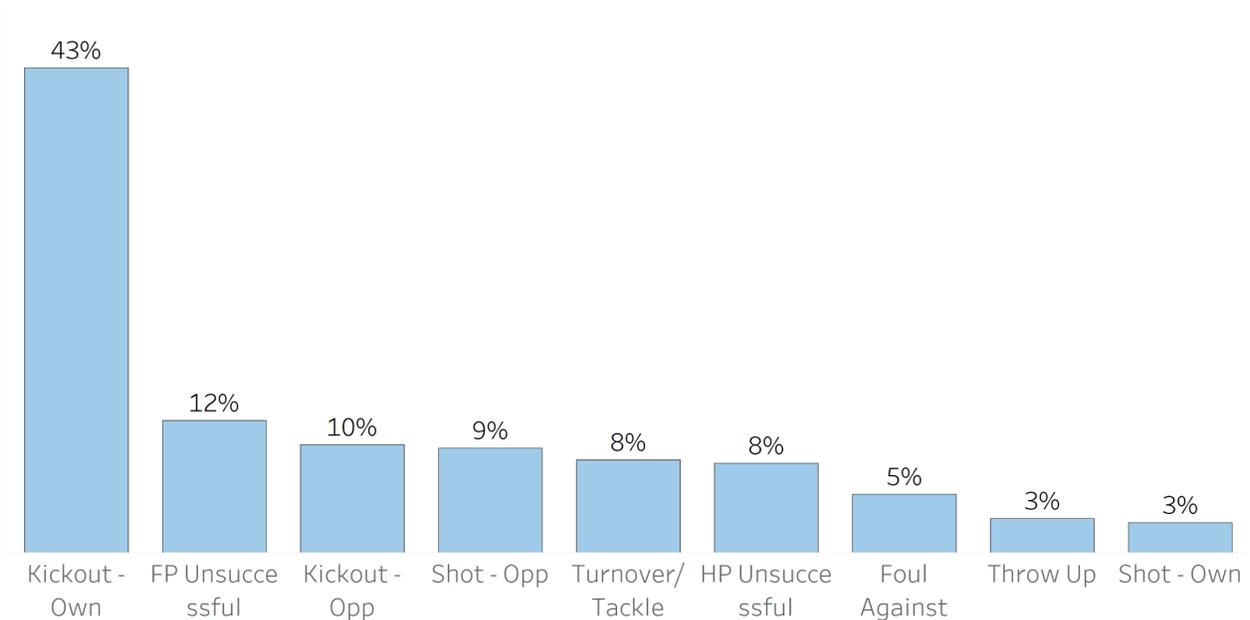
Possession Start Events

There are 9 possible ways a team possession can begin;

1. Own Kickout won
2. Opp Kickout won
3. Unsuccessful Foot Pass by the opposition
4. Unsuccessful Hand Pass by the opposition
5. Turnover in Tackle
6. Reclaiming possession from your own shot (where the ball remains in play/results in a 45)
7. Reclaiming possession from an opposition shot (where the ball remains in play)
8. Opposition fouling the ball
9. Throw Up

The chart below shows the distribution of possession and how frequently they start with each event type. i.e The most frequent start of team possession is winning your own kickout.

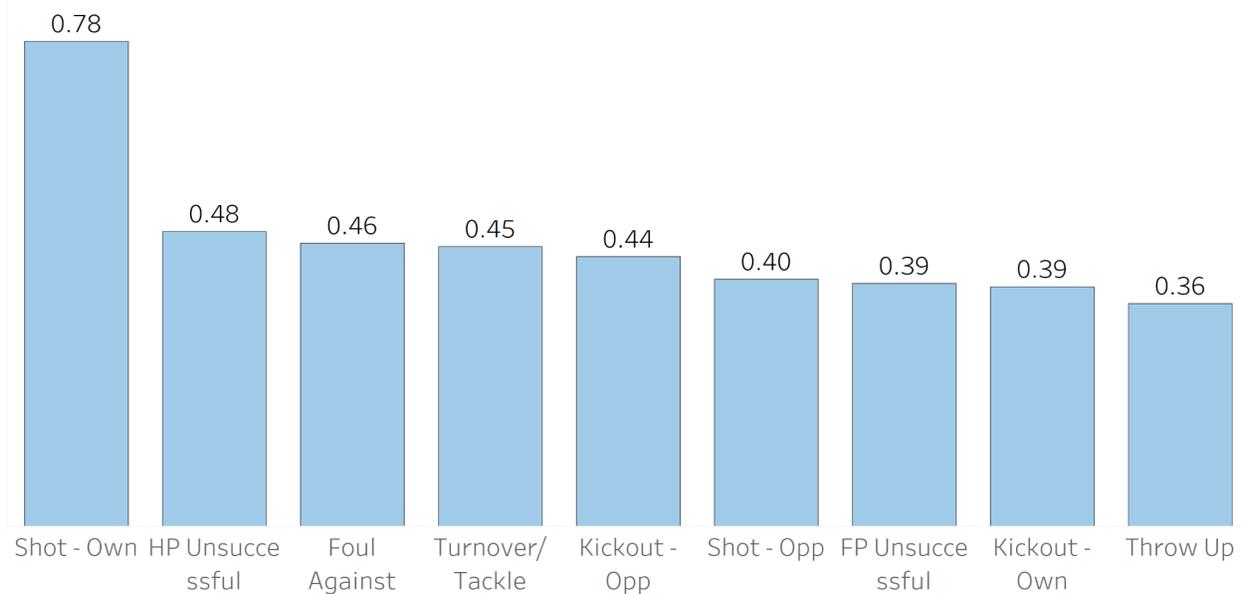
Phase Start Event Occurance



Score Value of Possession Starts

The chart below shows the average score value of each possession start event. The total scores for each event were divided by the total number of team possessions that started via that event. For example the value of winning an opposition kickout was worth .44 points on average.

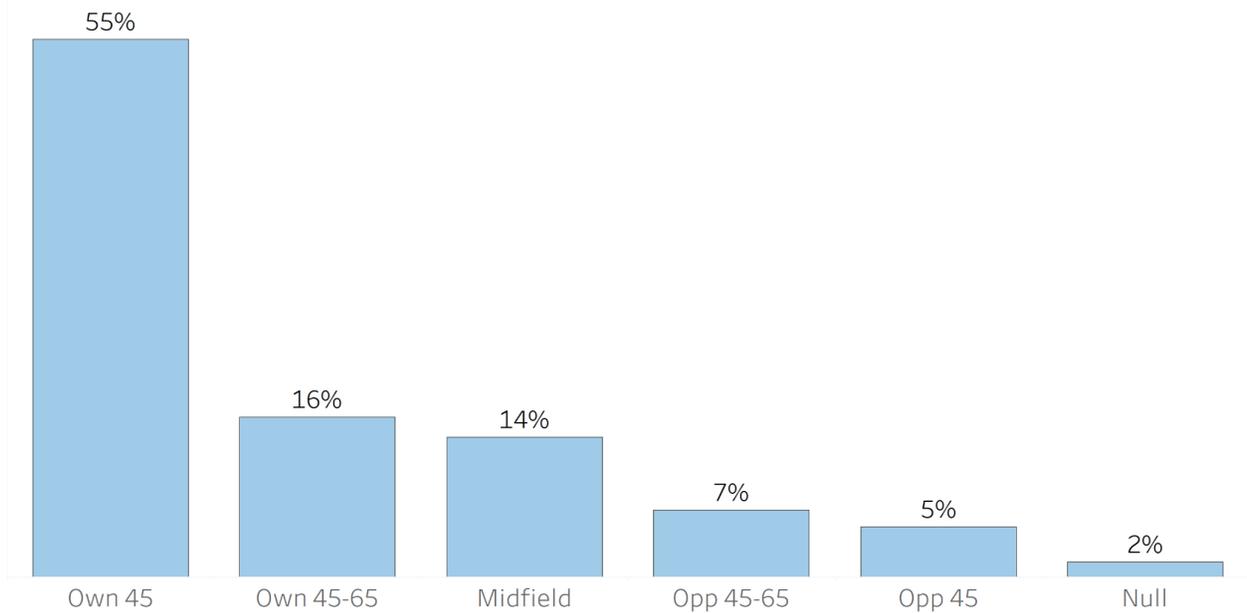
Phase Start Event v Actual Score Value



Starting Zone Frequency

The chart below shows the distribution of the starting zone of each team possession. The pitch is broken into 5 distinct zones, (Own/Opp 45, Own/Opp 45-65 and Midfield). The majority of possession begins inside a teams own 45.

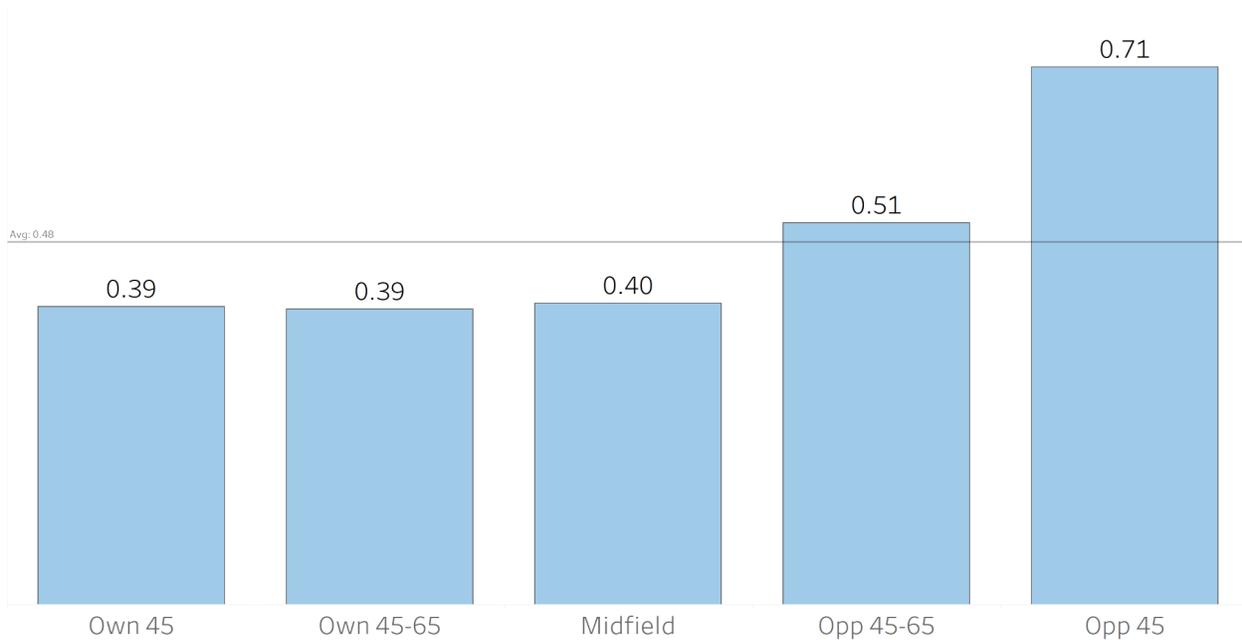
Phase Start Zone Frequency



Starting Zone Value

The chart below shows the average score value of each team possession based on the starting zone. Unsurprisingly the closer to the opposition goal the possession starts the higher the possession value. However there are many factors to consider here, and events that start in the opposition 45 are much less frequent ~5% and therefore are more prone to small events having a large impact.

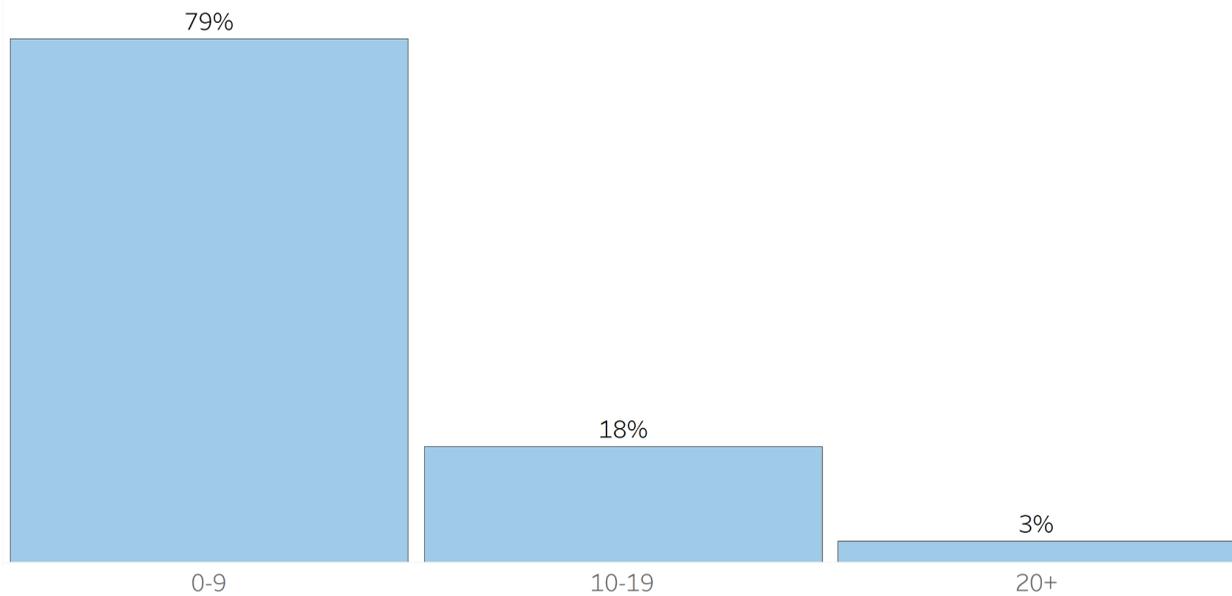
Phase Start Zone v Avg Points Scored



No. of Passes per Possession

The chart below shows the basic distribution of the number of passes per team possession, and how often different numbers of possessions occur. As you can see below, the most common possession involves between 0-9 passes.

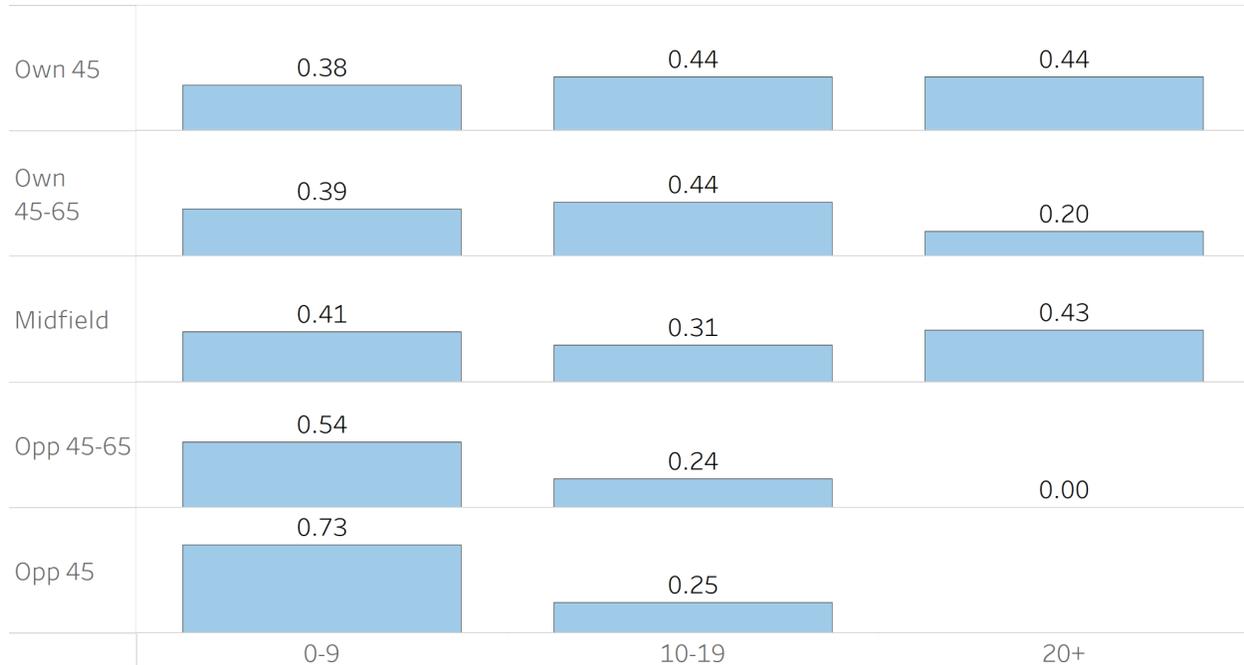
No of Passes Per Phase. The vast majority of phases involve fewer than 10 passes



No of Passes and Possession Start Zone

The chart below shows the average score value as a combination of number of passes in a team possession and the starting zone. For example possessions that start in the Opp 45 and have 9 or fewer passes on average return .73 points, whereas possessions starting in a teams Own 45 and have 20 or more passes on average return .44 points.

No of Passes per Phase -Start Zone



Is there a higher probability of achieving a score from a longer kickout than a short/medium range kickout?

If we look at only Kickouts won by the kicking team and break these team possessions into whether the kickout was won via a long (beyond 45) v short (inside 45) kickout we see no difference in score value.

Own Kickouts won are worth .4 points on average, regardless of where on the pitch they are won.

Given that you are more likely to secure possession via a short kickout and the score values tend to be the same, it's no wonder teams value winning the kickout over the distance covered.