Player Performance in the League of Ireland Premier Division 2024

Ranking the top 25 players based on performance metrics in the League of Ireland Premier Division 2024.

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1 Prerequisites

1.1 Install packages

```
install.packages("devtools", repos="http://cran.us.r-project.org")
install.packages("remotes", repos="http://cran.us.r-project.org")
remotes::install_github("tonyelhabr/fotmob",
 ↪  repos="http://cran.us.r-project.org")
devtools::install_github("JaseZiv/worldfootballR")
```

1.2 Load packages

```
library(tidyverse)
library(fotmob)
library(worldfootballR)
```

2 Data Retrieval

2.1 Fotmob League ID's

This provides a dataframe with the Fotmob league ID's and their corresponding league names. To make use of the Fotmob API, you will need the league ID to retrieve data for a specific league.

```
fotmob_league_ids <- fotmob_get_league_ids(cached = TRUE) # Retrieve Fotmob
 ↪  league IDs
```

2.2 Fotmob Player Statistics

This function retrieves player statistics for a specific league and season. The data includes individual player performance metrics such as goals, assists, passes, shots on target, and more. The function requires the country, league name, season name, and league ID as inputs.

```
prem_loi_player <- fotmob_get_season_stats(
  country = "IRL",
  league_name = "Premier Division",
  season_name = "2024",
  league_id = "126",
  team_or_player = "player",
  stat_name = c("Accurate long balls per 90",
                "Accurate passes per 90",
                "Assists",
                "Big chances created",
                "Big chances missed",
                "Blocks per 90",
                "Chances created",
                "Clean sheets",
                "Clearances per 90",
                "FotMob rating",
                "Fouls committed per 90",
                "Goals + Assists",
                "Goals conceded per 90",
                "Goals per 90",
                "Interceptions per 90",
                "Penalties conceded",
                "Penalties won",
                "Possession won final 3rd per 90",
```

```
                "Red cards",
                "Save percentage",
                "Saves per 90",
                "Shots on target per 90",
                "Shots per 90",
                "Successful dribbles per 90",
                "Successful tackles per 90",
                "Top scorer",
                "Yellow cards"),
  cached = TRUE
) # Retrieve player statistics for the League of Ireland Premier Division
 ↪  2024
```

2.2.1 Select necessary columns

```
prem_loi_player <- prem_loi_player %>%
  select(c("league_name", "season_name", "team_name",
   ↪  "participant_country_code", "participant_name", "matches_played",
   ↪  "minutes_played", "stat_name", "stat_value")) # Select necessary
   ↪  columns to clean up the dataframe
```

2.2.2 Pivot stat_name and stat_value columns wider and clean names

```
prem_loi_player_wide <- prem_loi_player %>%
  pivot_wider(names_from = stat_name, values_from = stat_value) %>% # Pivot
   ↪  stat_name and stat_value columns wider (i.e., a new column for each
   ↪  stat_name)
```

```
  janitor::clean_names() %>% # Clean column names
  mutate_if(is.numeric, ~replace(., is.na(.), 0)) %>% # Convert NA values
   ↪  to 0
  select(-fot_mob_rating) # Remove FotMob rating column
```

3 Creating Custom Functions

3.1 Function to rank the top 25 players based on a specific performance metric

The function takes the dataframe and column name as inputs and returns the top 25 players based on the specified metric (column name).

```
top_25_players <- function(data, column_name) {
  top_25 <- data %>%
    select(league_name, season_name, team_name, participant_country_code,
     ↪  participant_name, matches_played, minutes_played, {{column_name}})
     ↪  %>%
    filter(!is.na({{column_name}})) %>%
    arrange(desc({{column_name}})) %>%
    head(25)

  return(top_25)
}
```

The function `top_25_players` ranks the top 25 players based on a specific performance metric. The function takes two inputs: the dataframe containing player statistics and the column name of the performance metric you want to rank the players by. The function filters out any missing values for the specified metric, arranges the data in descending order based

on the metric, and selects the top 25 players. The function returns a dataframe with the top 25 players ranked by the specified metric.

3.1.1 Using the function to get the top 25 players for different metrics

Create new dataframes for the top 25 players based on the different performance metrics. Each specified metric (e.g.: top_scorer) is passed through the function to get the top 25 players based on that metric. Below I have sectioned the data to focus on attacking, possession, and defensive metrics.

3.1.1.1 Top 25 Players Attacking Metrics

```
top_25_goals <- top_25_players(prem_loi_player_wide, top_scorer)
top_25_assists <- top_25_players(prem_loi_player_wide, assists)
top_25_goals_assists <- top_25_players(prem_loi_player_wide, goals_assists)
top_25_goals_per_90 <- top_25_players(prem_loi_player_wide, goals_per_90)
top_25_big_chances_created <- top_25_players(prem_loi_player_wide,
↪  big_chances_created)
top_25_big_chances_missed <- top_25_players(prem_loi_player_wide,
↪  big_chances_missed)
top_25_chances_created <- top_25_players(prem_loi_player_wide,
↪  chances_created)
top_25_shots_per_90 <- top_25_players(prem_loi_player_wide, shots_per_90)
top_25_shots_on_target_per_90 <- top_25_players(prem_loi_player_wide,
↪  shots_on_target_per_90)
```

3.1.1.2 Top 25 Players Possession Metrics

```
top_25_accurate_long_balls_per_90 <- top_25_players(prem_loi_player_wide,
↪  accurate_long_balls_per_90)
top_25_accurate_passes_per_90 <- top_25_players(prem_loi_player_wide,
↪  accurate_passes_per_90)
top_25_penalties_won <- top_25_players(prem_loi_player_wide, penalties_won)
top_25_successful_dribbles_per_90 <- top_25_players(prem_loi_player_wide,
↪  successful_dribbles_per_90)
```

3.1.1.3 Top 25 Players Defensive Metrics

```
top_25_blocks_per_90 <- top_25_players(prem_loi_player_wide, blocks_per_90)
top_25_clean_sheets <- top_25_players(prem_loi_player_wide, clean_sheets)
top_25_clearances_per_90 <- top_25_players(prem_loi_player_wide,
↪  clearances_per_90)
top_25_fouls_committed_per_90 <- top_25_players(prem_loi_player_wide,
↪  fouls_committed_per_90)
top_25_interceptions_per_90 <- top_25_players(prem_loi_player_wide,
↪  interceptions_per_90)
top_25_penalties_conceded <- top_25_players(prem_loi_player_wide,
↪  penalties_conceded)
top_25_possession_won_final_3rd_per_90 <-
↪  top_25_players(prem_loi_player_wide, possession_won_final_3rd_per_90)
top_25_save_percentage <- top_25_players(prem_loi_player_wide,
↪  save_percentage)
top_25_saves_per_90 <- top_25_players(prem_loi_player_wide, saves_per_90)
top_25_successful_tackles_per_90 <- top_25_players(prem_loi_player_wide,
↪  successful_tackles_per_90)
top_25_yellow_cards <- top_25_players(prem_loi_player_wide, yellow_cards)
top_25_red_cards <- top_25_players(prem_loi_player_wide, red_cards)
```

3.2 Function to plot the top 25 players based on a specific performance metric

This function plots the top 25 players based on a specific performance metric. The function takes the dataframe, specified metric (column name), and the title you want to use as inputs. The function uses ggplot2 to create a bar plot with labels for each player's metric value.

```
plot_metric <- function(data, metric, title) {
  data %>%
    ggplot(aes(x =reorder(participant_name,{{metric}}), y = {{metric}},
     ↪  label = {{metric}})) +
    geom_bar(stat = "identity", fill = "green") +
    geom_label(aes(label={{metric}}), colour = "purple", fill = "white",
     ↪  size = 3, label.padding = unit(0.2, "lines"),
  label.r = unit(0.1, "lines"),
  label.size = 0.2,
  size.unit = "mm") +
    theme(
      legend.position = "none",
      axis.title.x=element_blank(),
      axis.title.y =element_blank(),
      #axis.text.x=element_blank(),
      #axis.ticks.x=element_blank(),
      plot.background = element_rect(fill = "purple", colour = "purple"),
      panel.background = element_rect(fill = "purple", colour = "purple"),
      panel.grid.major = element_line(colour = "purple"),
      panel.grid.minor = element_blank(),
      axis.line = element_line(colour = "white"),
      axis.text = element_text(colour = "white"),
      axis.title = element_text(colour = "white"),
      plot.title = element_text(colour = "white", hjust=.5, face="bold",
       ↪  size = 15),
```

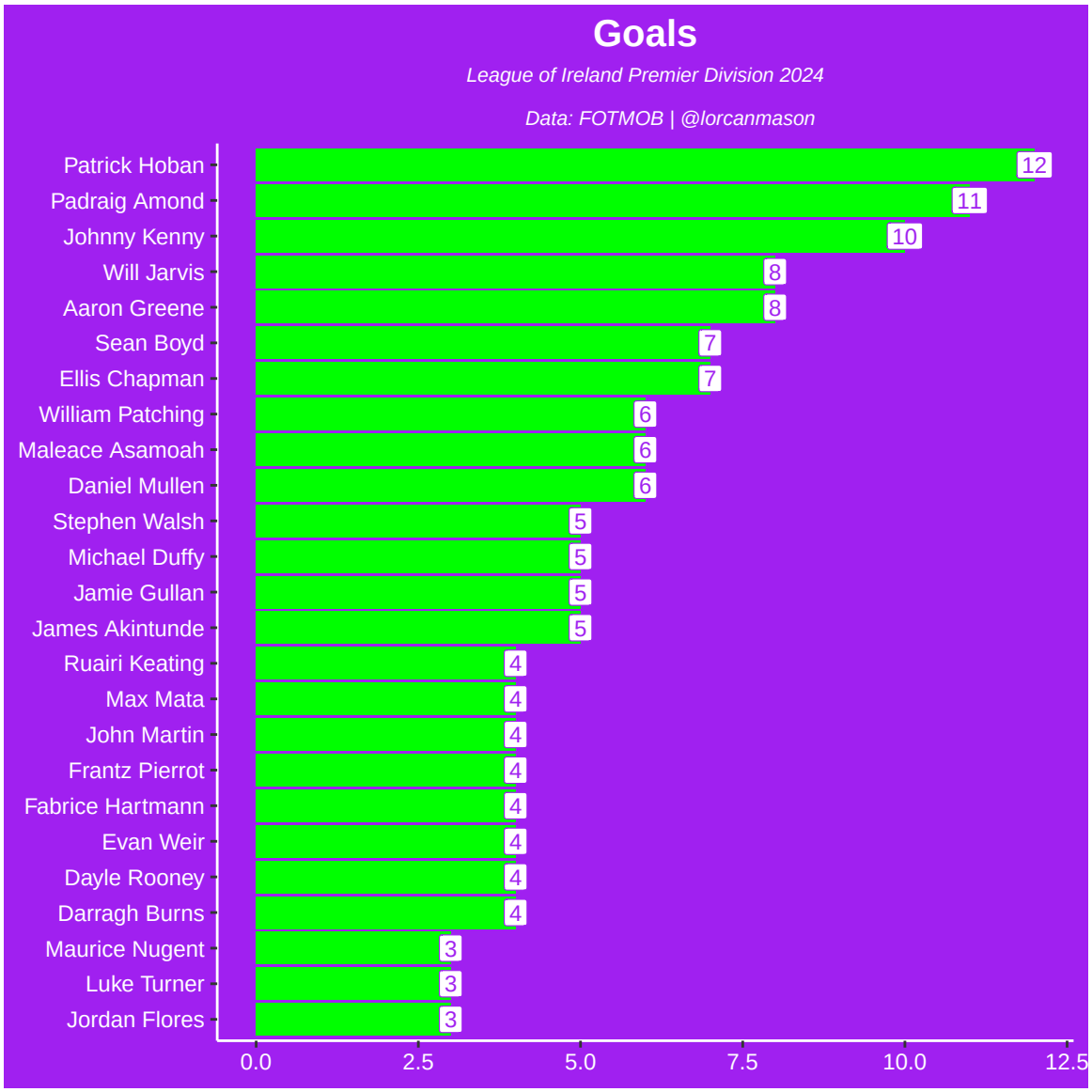
```
      plot.subtitle = element_text(colour = "white", hjust=.5,
      ↪  face="italic", size = 8)) +
      coord_flip() +
    labs(x = "Player",
         y = title,
         title = title,
         subtitle = "League of Ireland Premier Division 2024

         Data: FOTMOB | @lorcanmason")
}
```

The function `plot_metric` creates a bar plot of the top 25 players based on a specific performance metric. The function takes three inputs: the dataframe containing player statistics, the column name of the performance metric you want to plot, and the title of the plot. The function uses ggplot2 to create a bar plot with labels for each player's metric value. The plot is customized with a purple colour theme and white text to enhance readability. The function returns a bar plot of the top 25 players ranked by the specified metric.

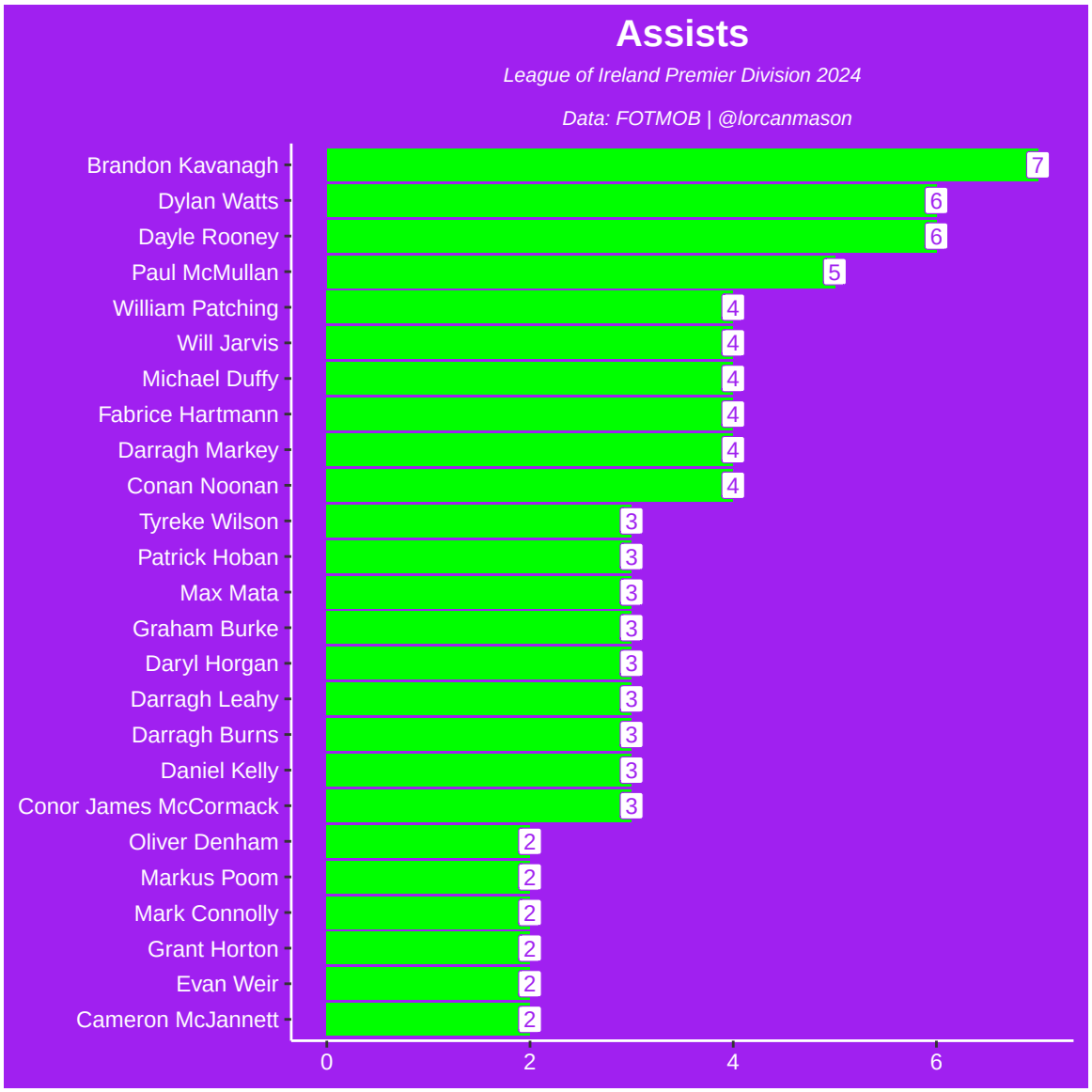
3.2.1 Using the function to get the top 25 players for different metrics

3.2.1.1 Top 25 Players Attacking Metrics

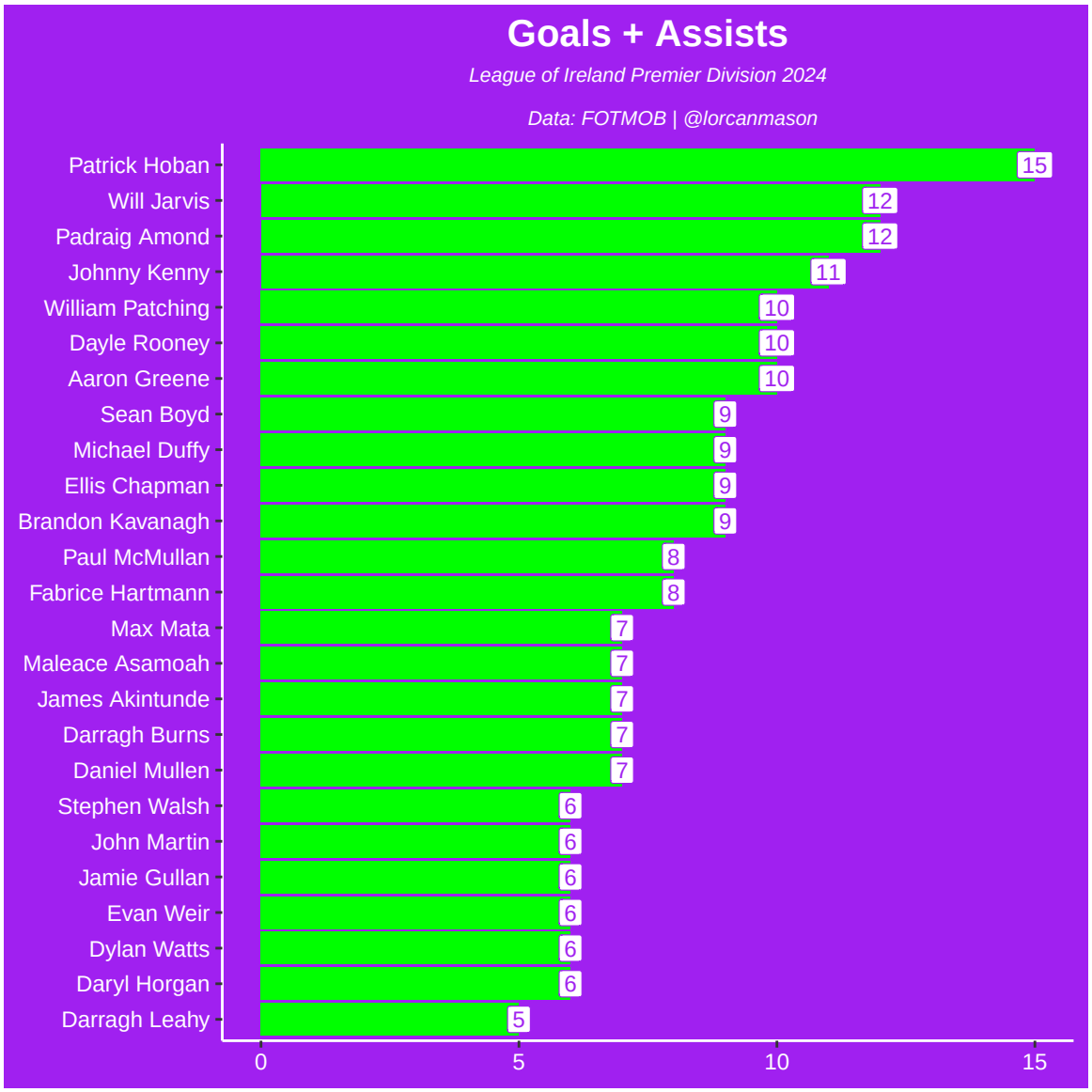
```
plot_metric(top_25_goals, top_scorer, "Goals")
```



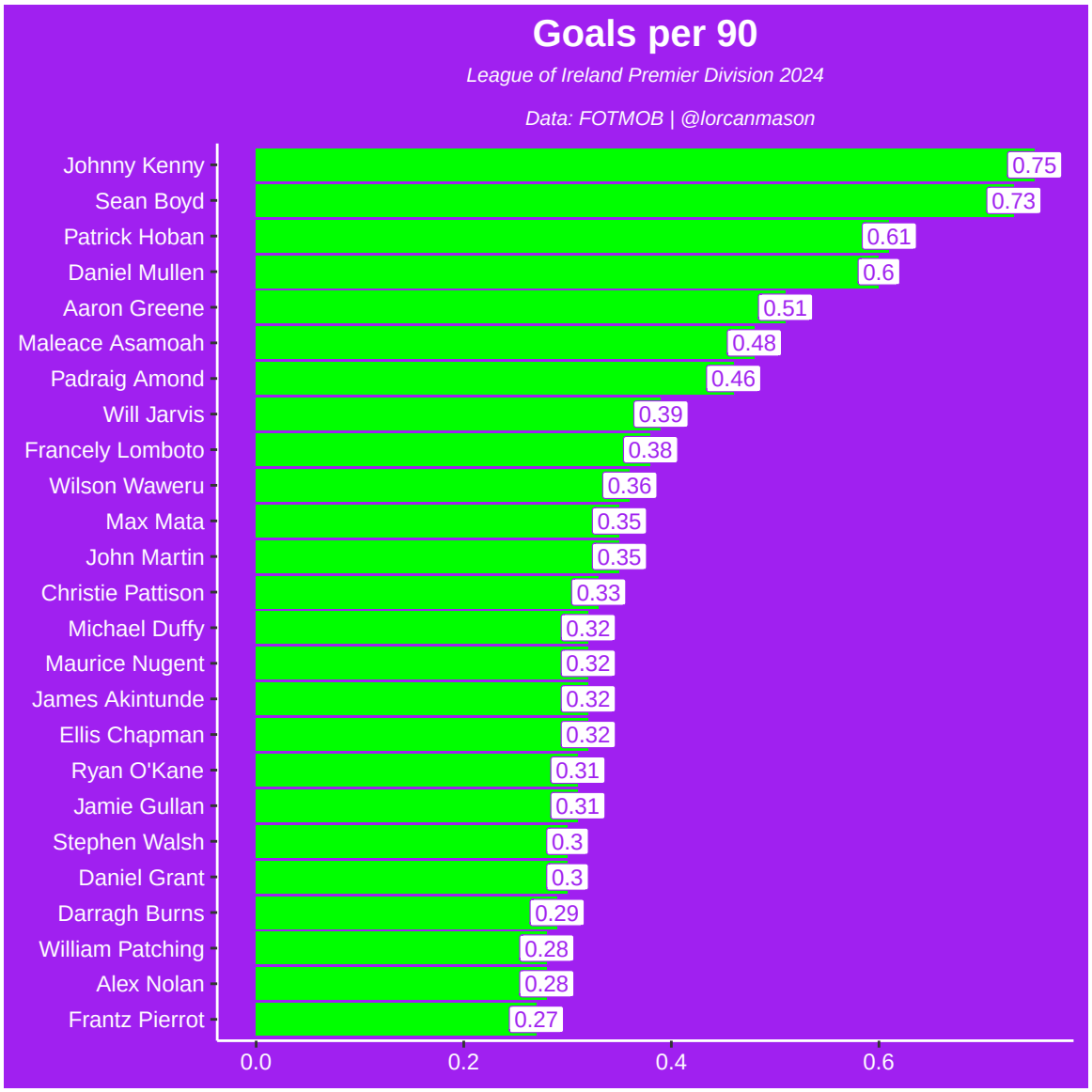

```
plot_metric(top_25_assists, assists, "Assists")
```



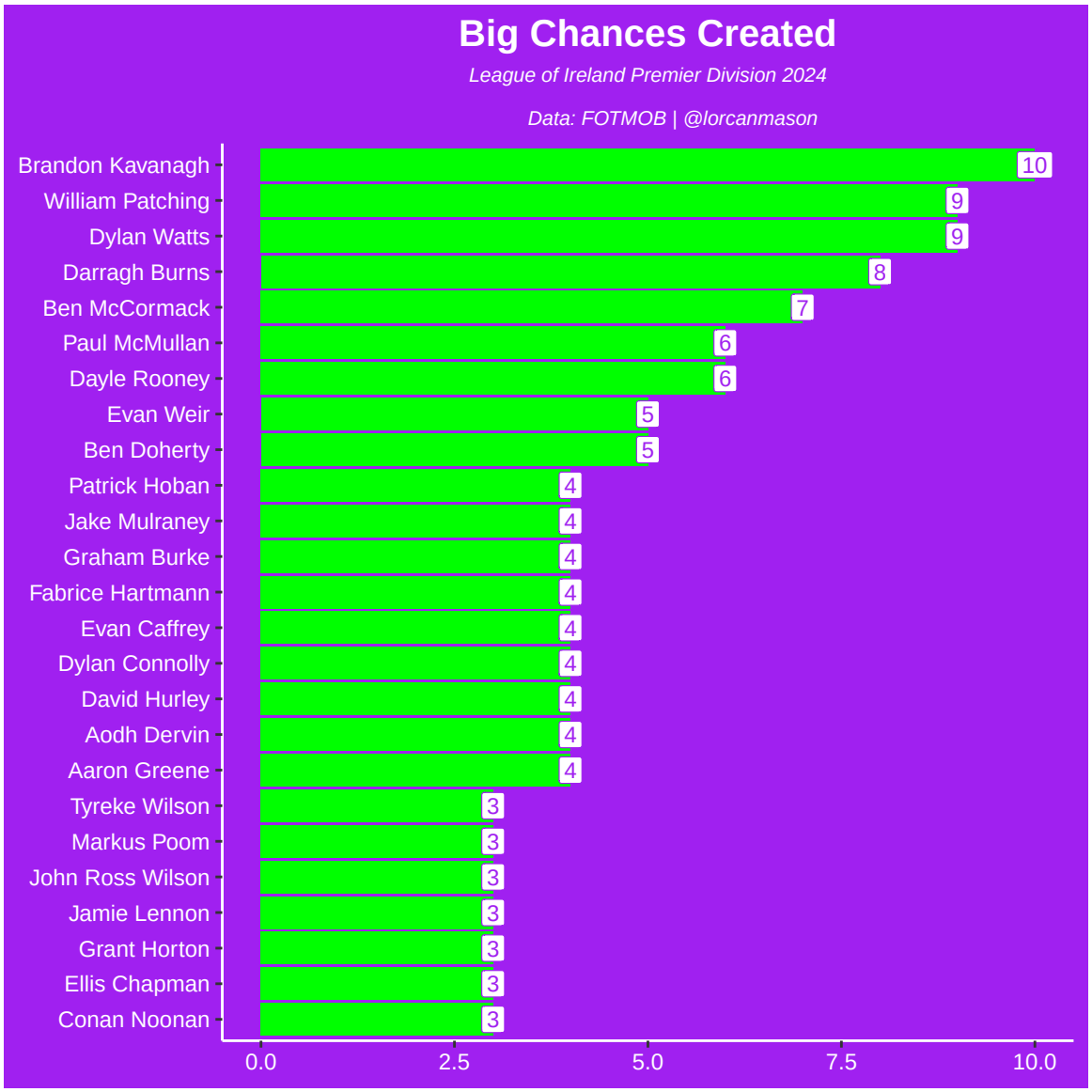

```
plot_metric(top_25_goals_assists, goals_assists, "Goals + Assists")
```



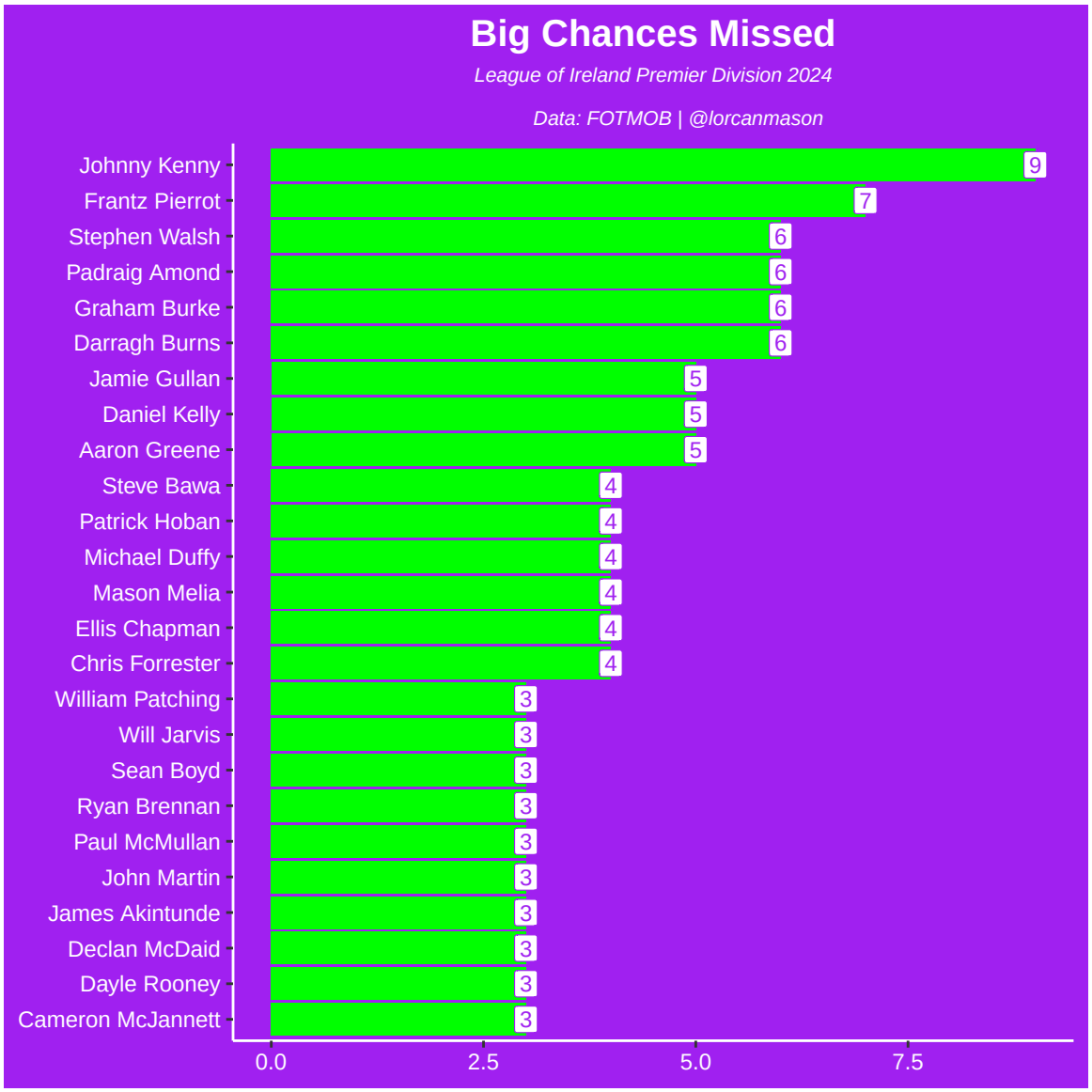

```
plot_metric(top_25_goals_per_90, goals_per_90, "Goals per 90")
```



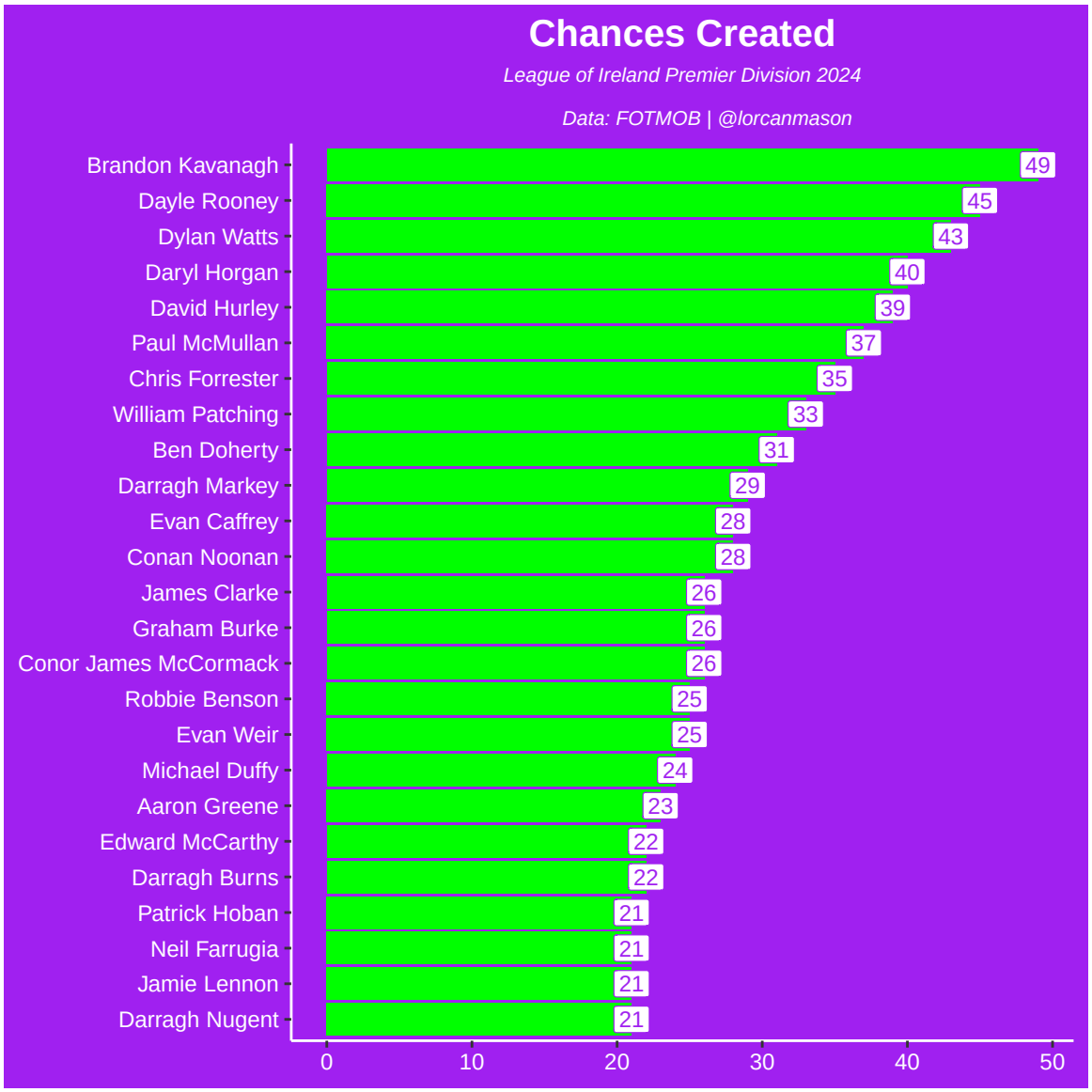

```
plot_metric(top_25_big_chances_created, big_chances_created, "Big Chances
↪  Created")
```



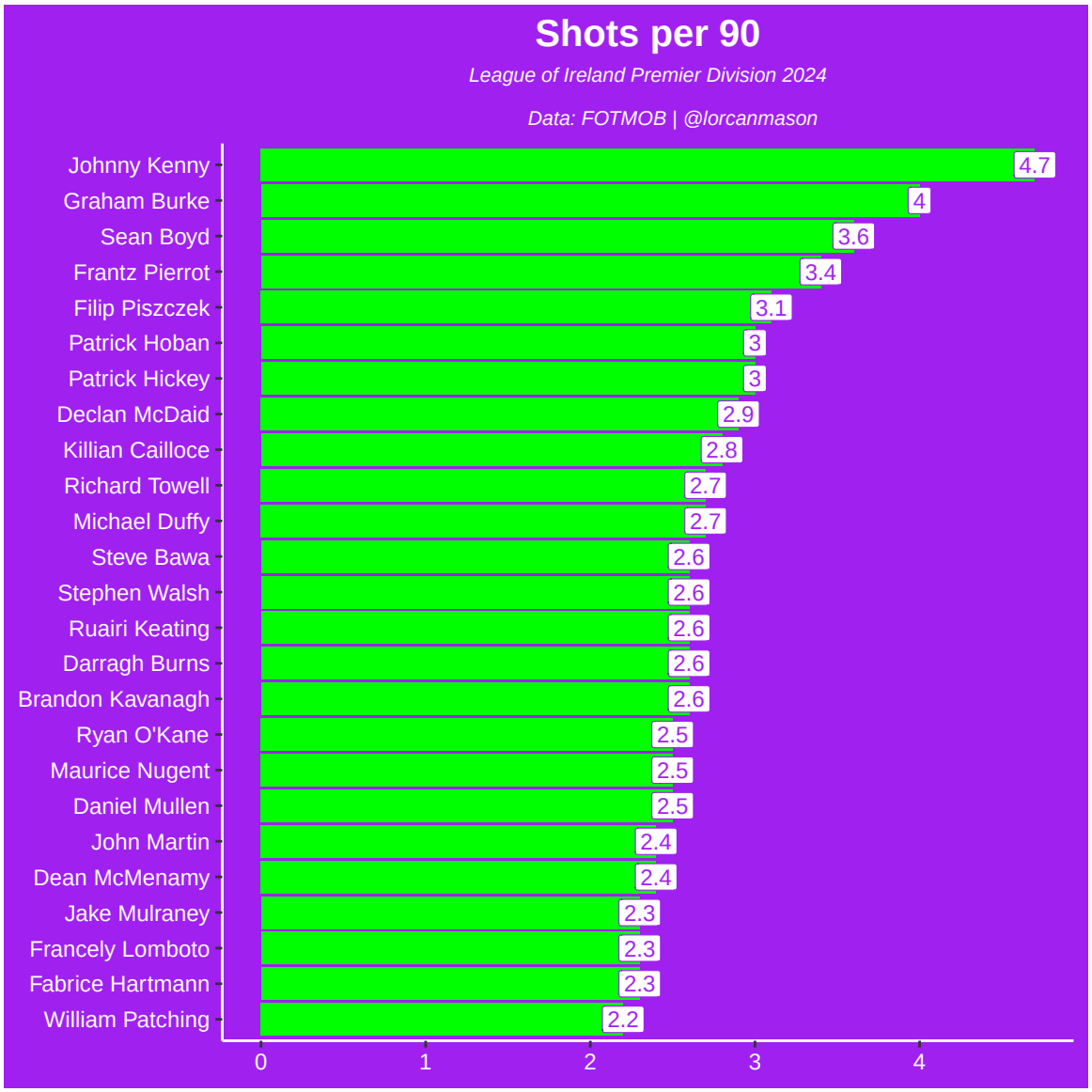

```
plot_metric(top_25_big_chances_missed, big_chances_missed, "Big Chances
↪  Missed")
```



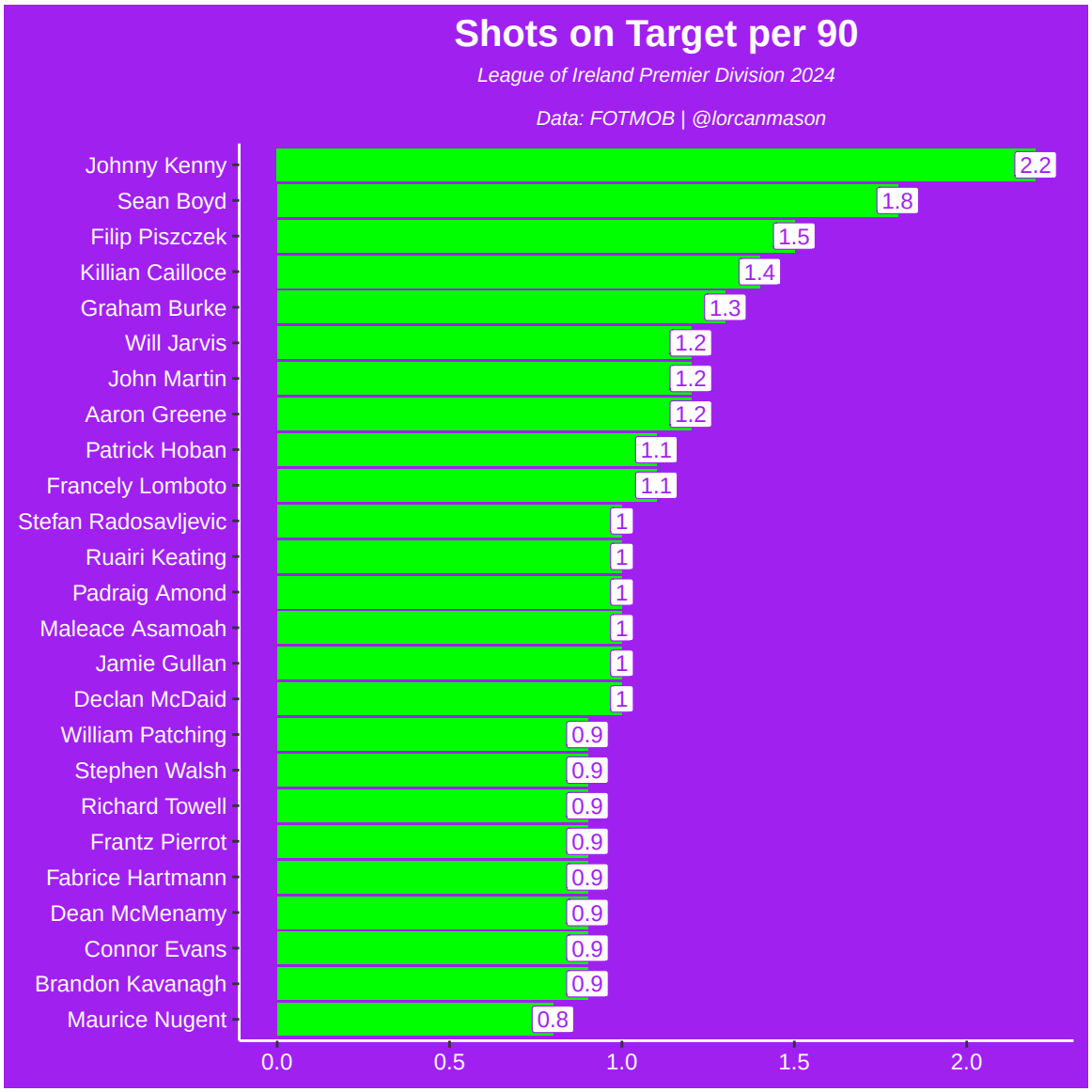

```
plot_metric(top_25_chances_created, chances_created, "Chances Created")
```




```
plot_metric(top_25_shots_per_90, shots_per_90, "Shots per 90")
```

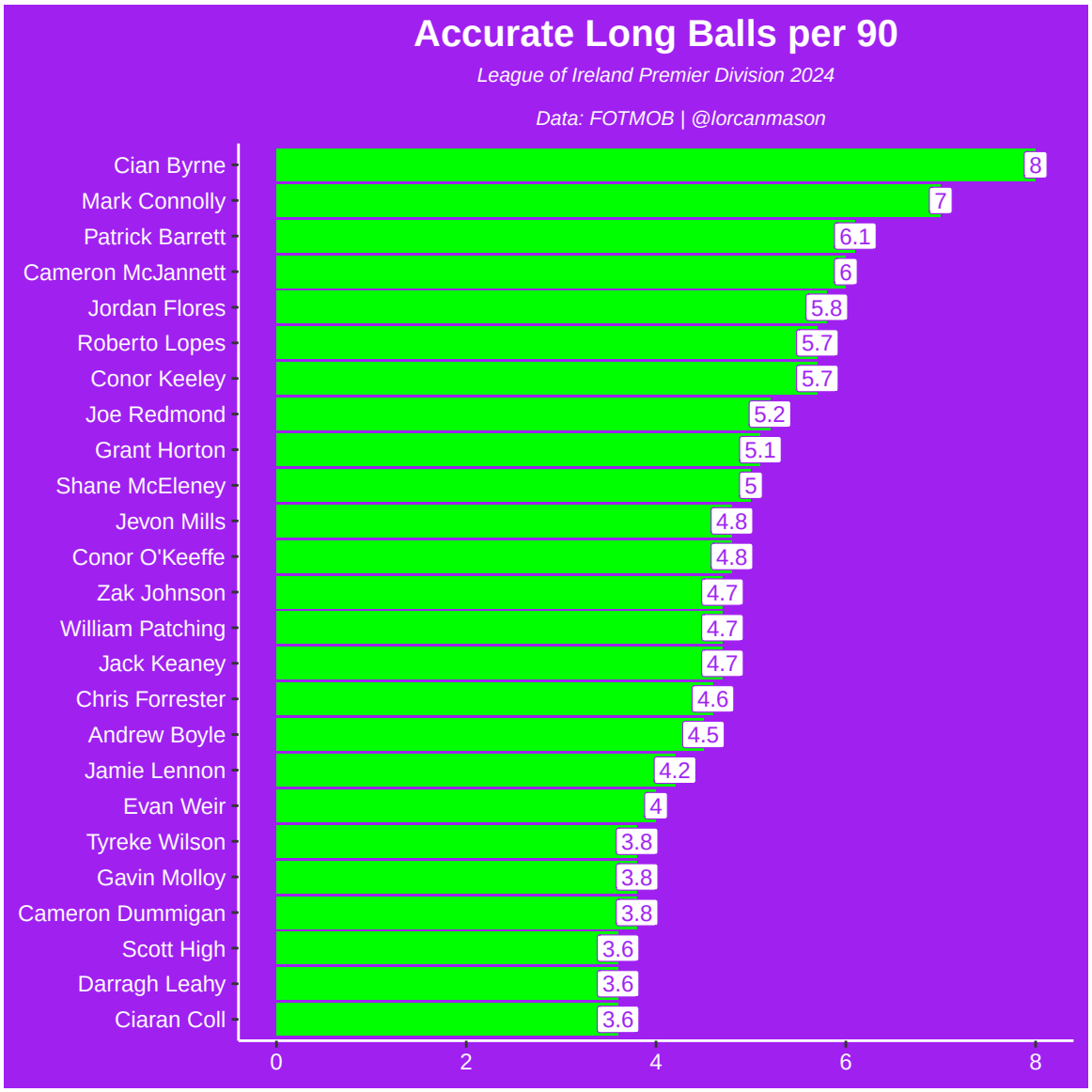



```
plot_metric(top_25_shots_on_target_per_90, shots_on_target_per_90, "Shots
↪  on Target per 90")
```

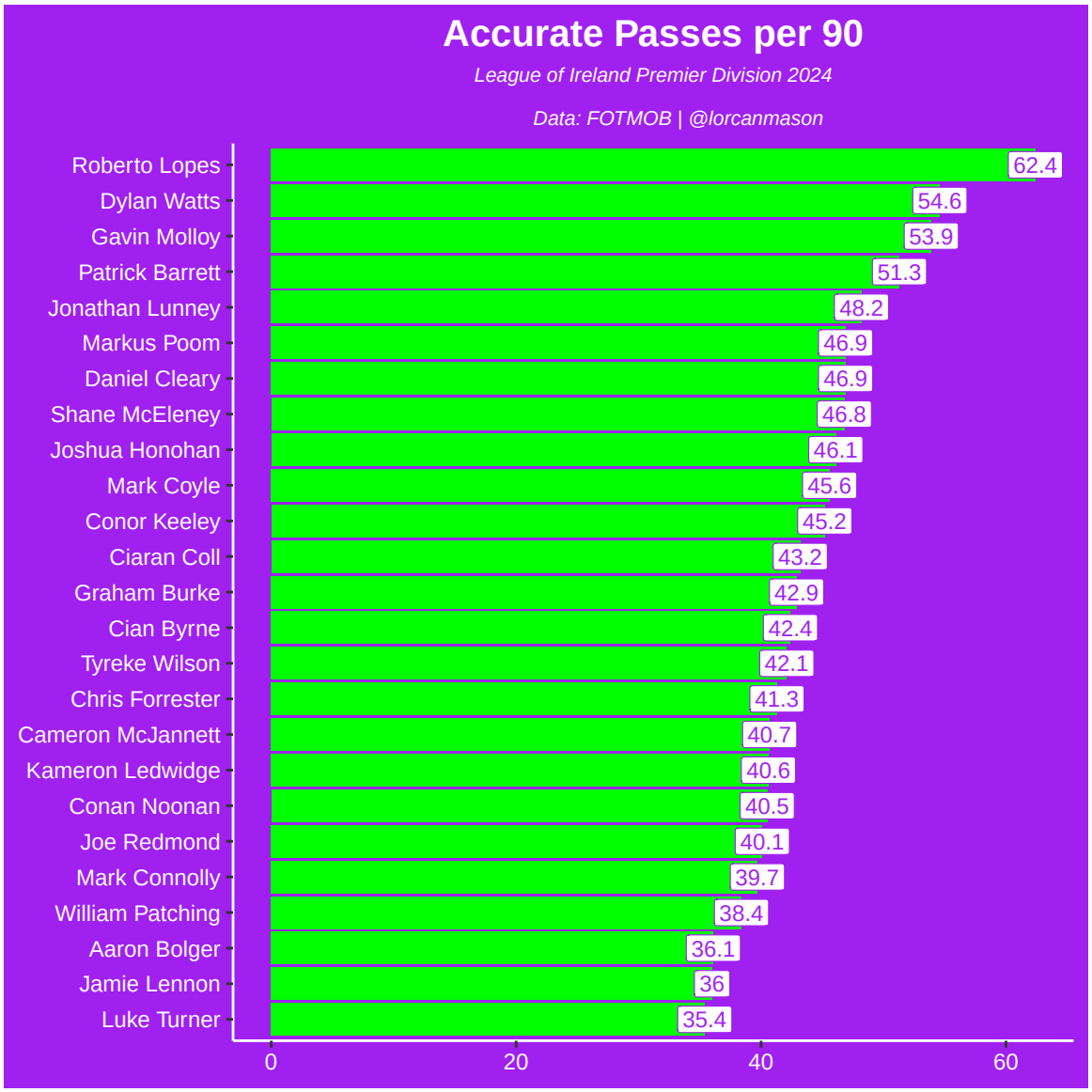


3.2.1.2 Top 25 Players Possession Metrics

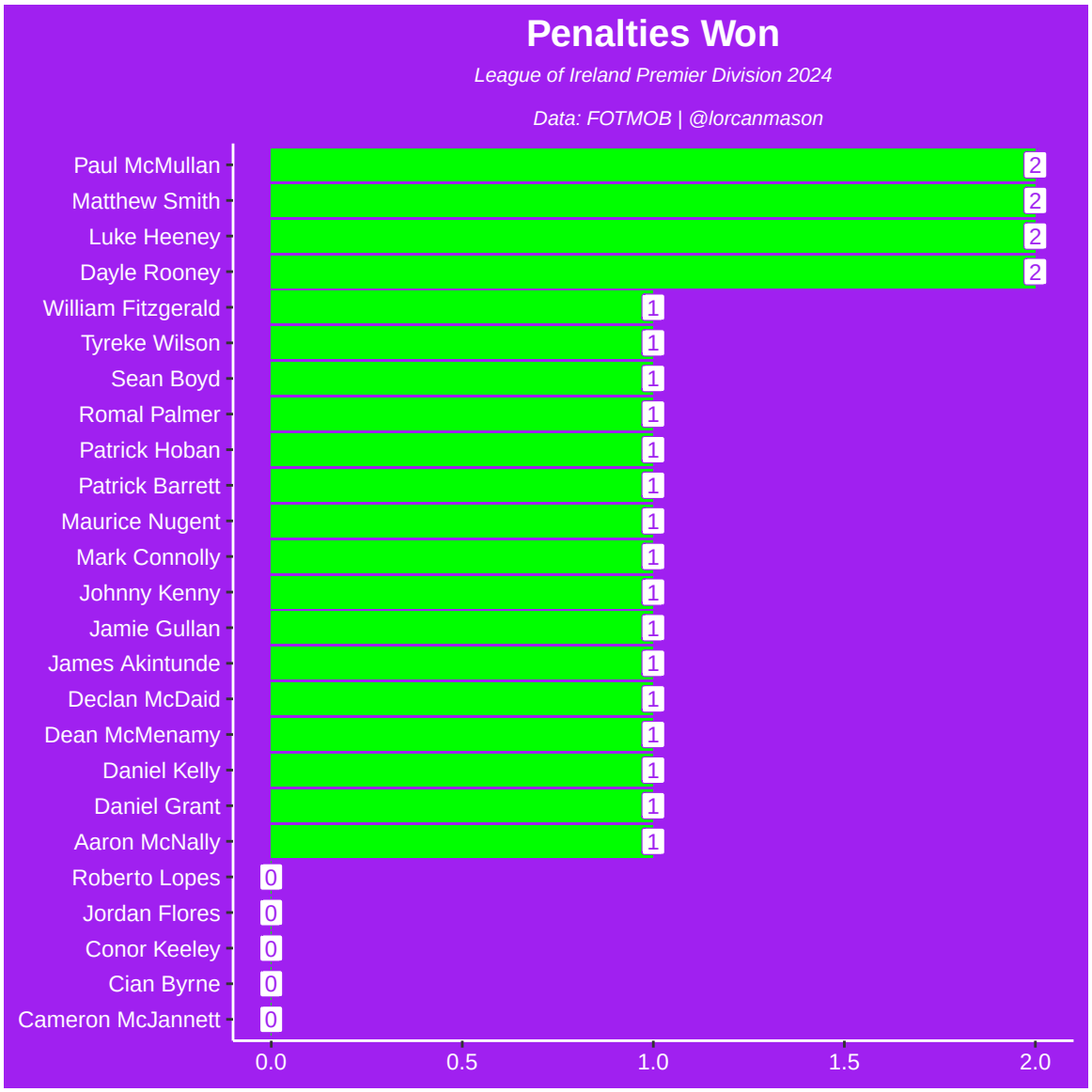
```
plot_metric(top_25_accurate_long_balls_per_90, accurate_long_balls_per_90,
↪  "Accurate Long Balls per 90")
```



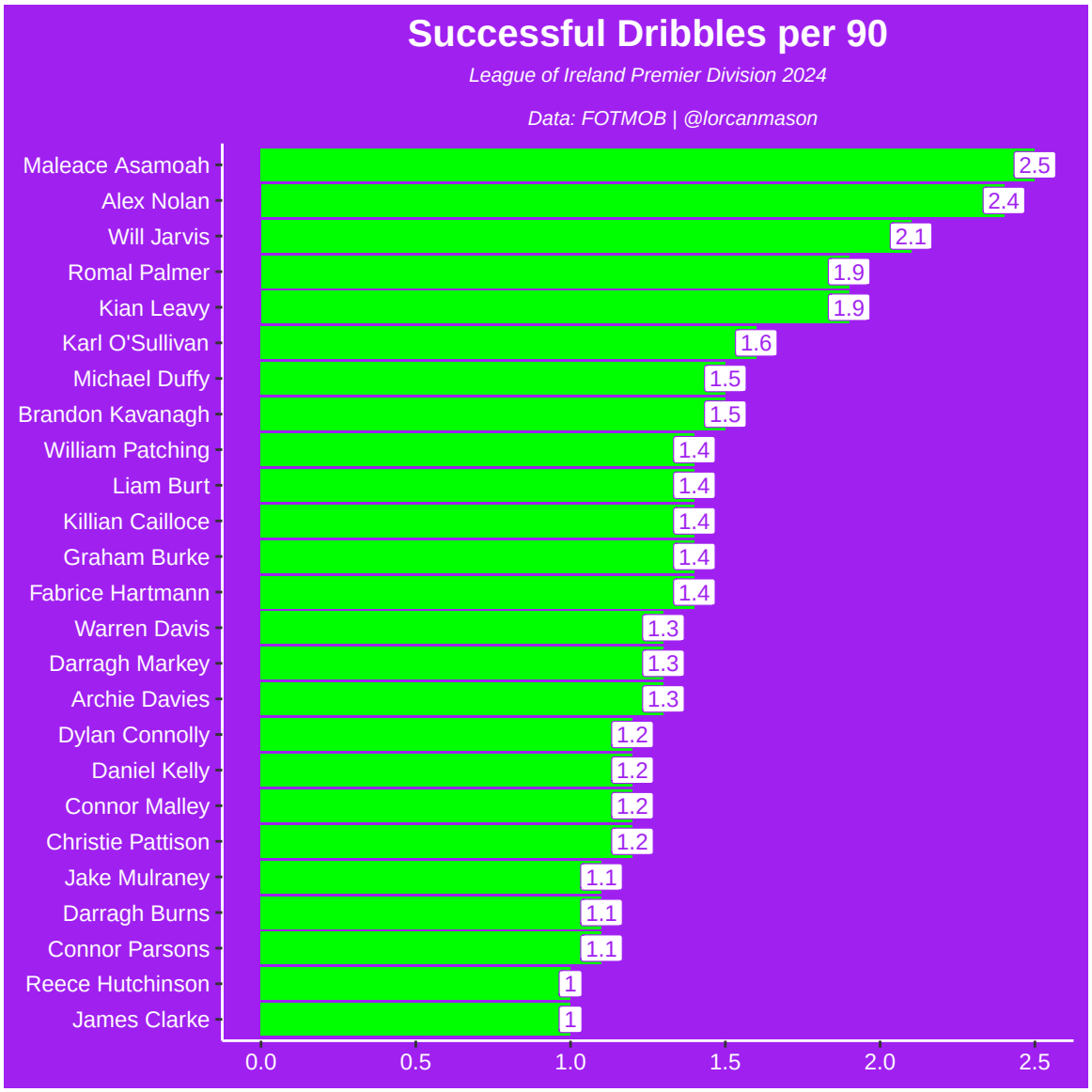

```
plot_metric(top_25_accurate_passes_per_90, accurate_passes_per_90,
↪  "Accurate Passes per 90")
```




```
plot_metric(top_25_penalties_won, penalties_won, "Penalties Won")
```

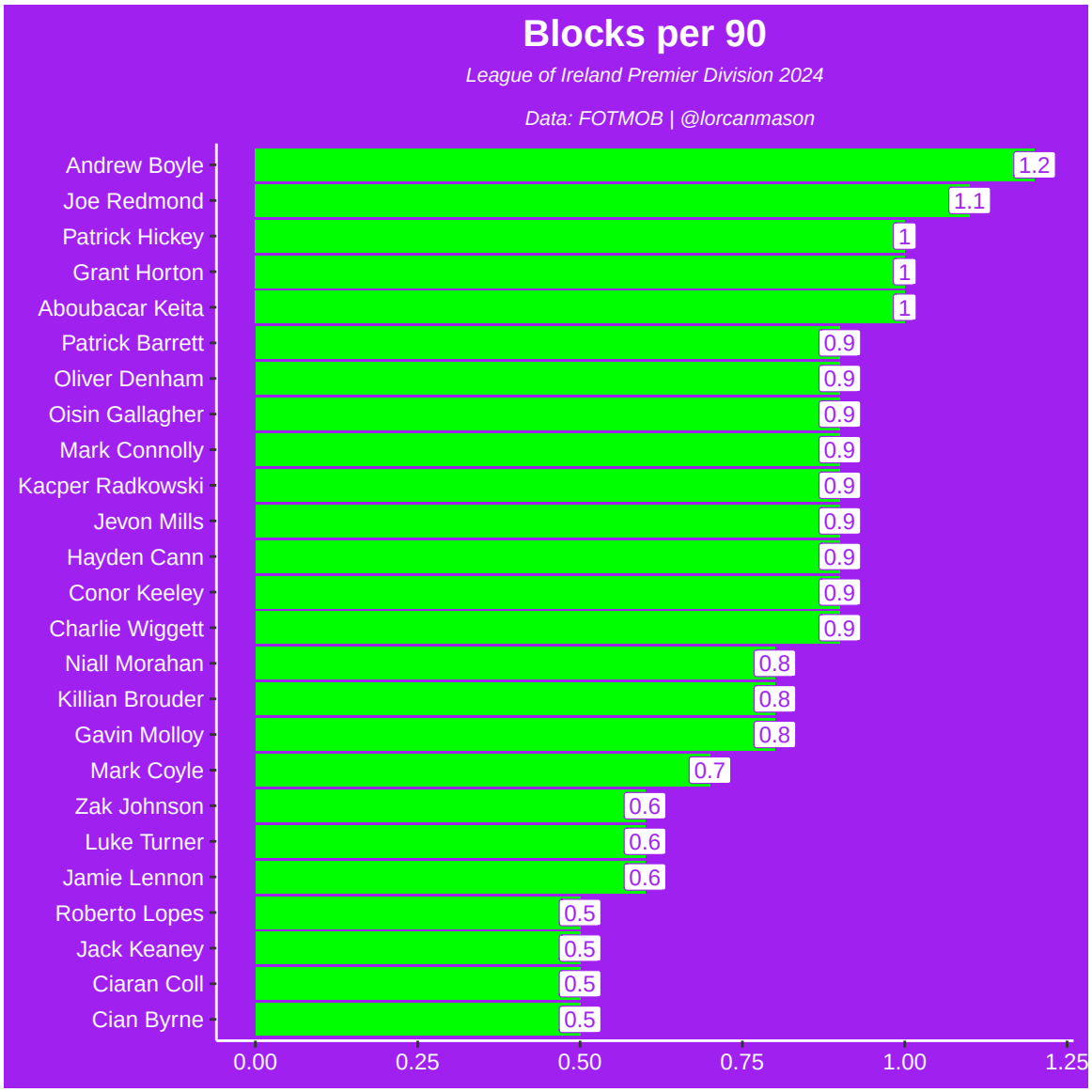



```
plot_metric(top_25_successful_dribbles_per_90, successful_dribbles_per_90,
↪  "Successful Dribbles per 90")
```

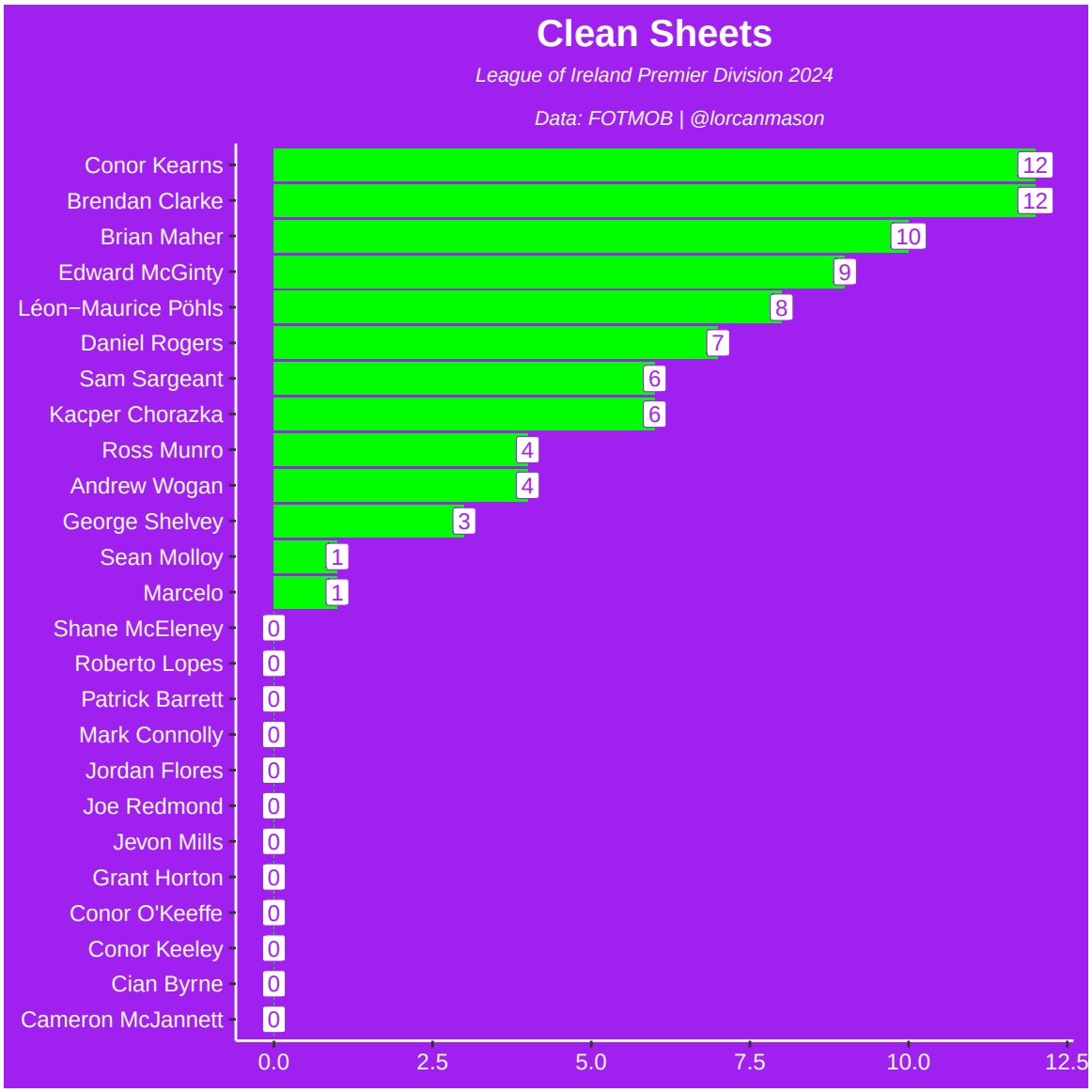


3.2.1.3 Top 25 Players Defensive Metrics

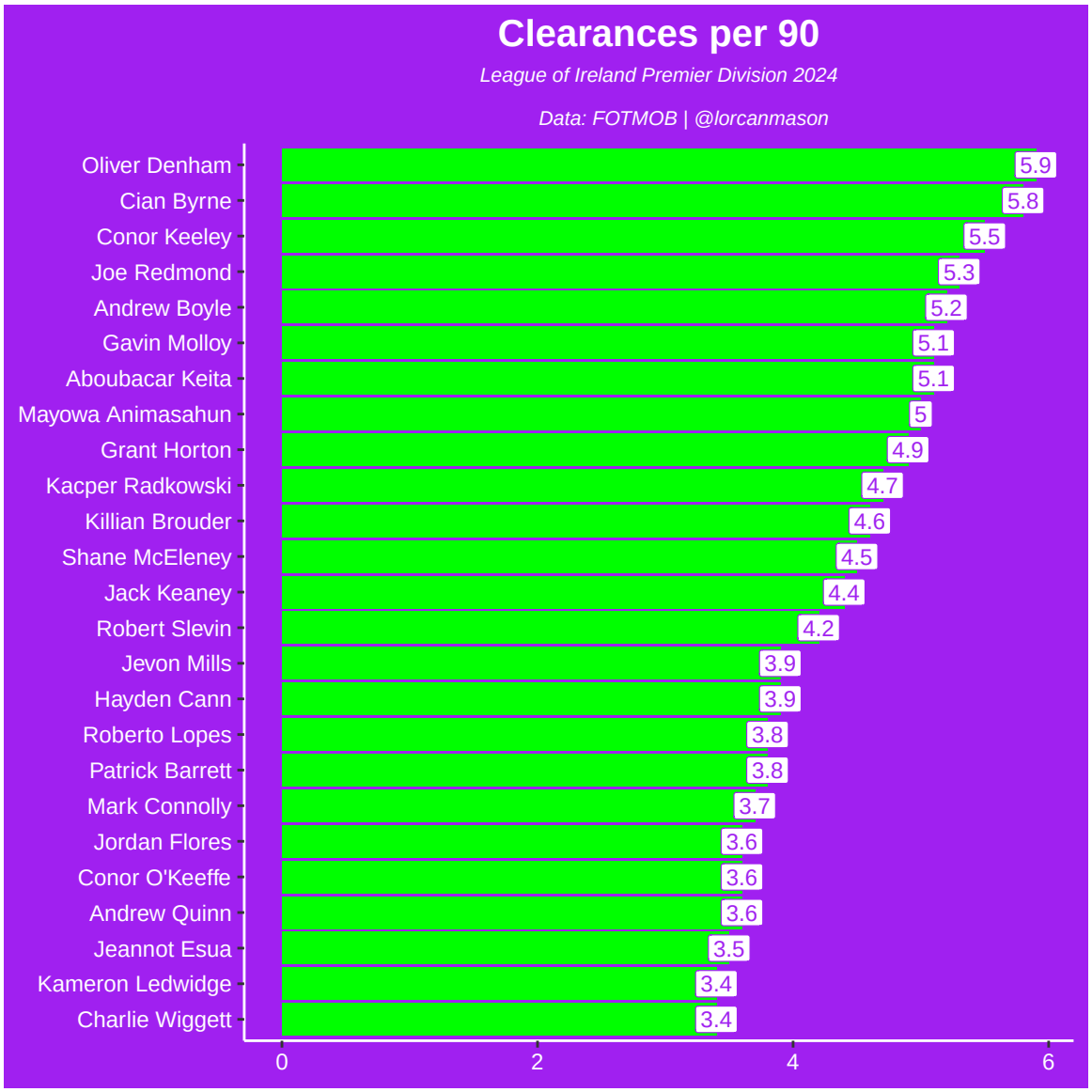
```
plot_metric(top_25_blocks_per_90, blocks_per_90, "Blocks per 90")
```



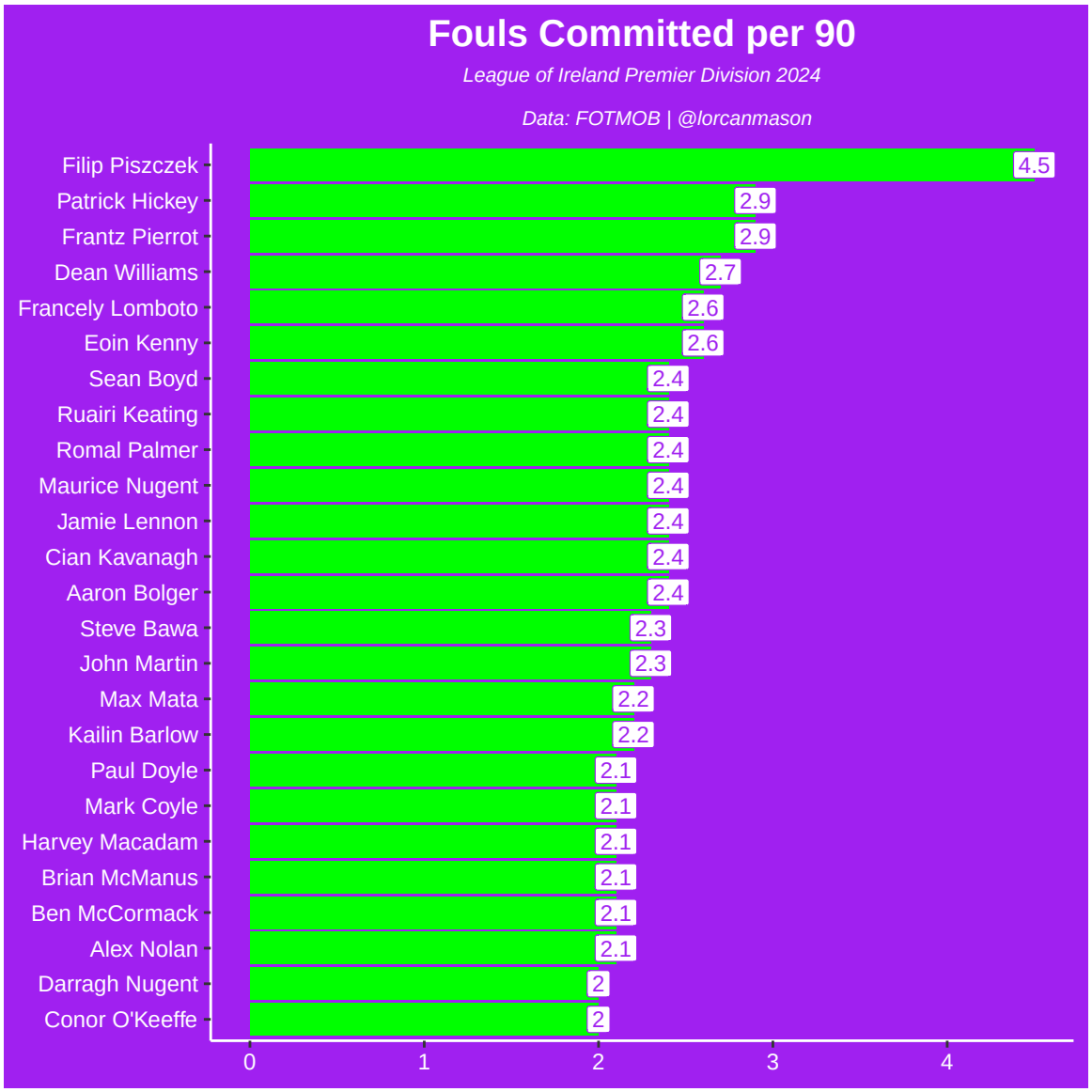

```
plot_metric(top_25_clean_sheets, clean_sheets, "Clean Sheets")
```



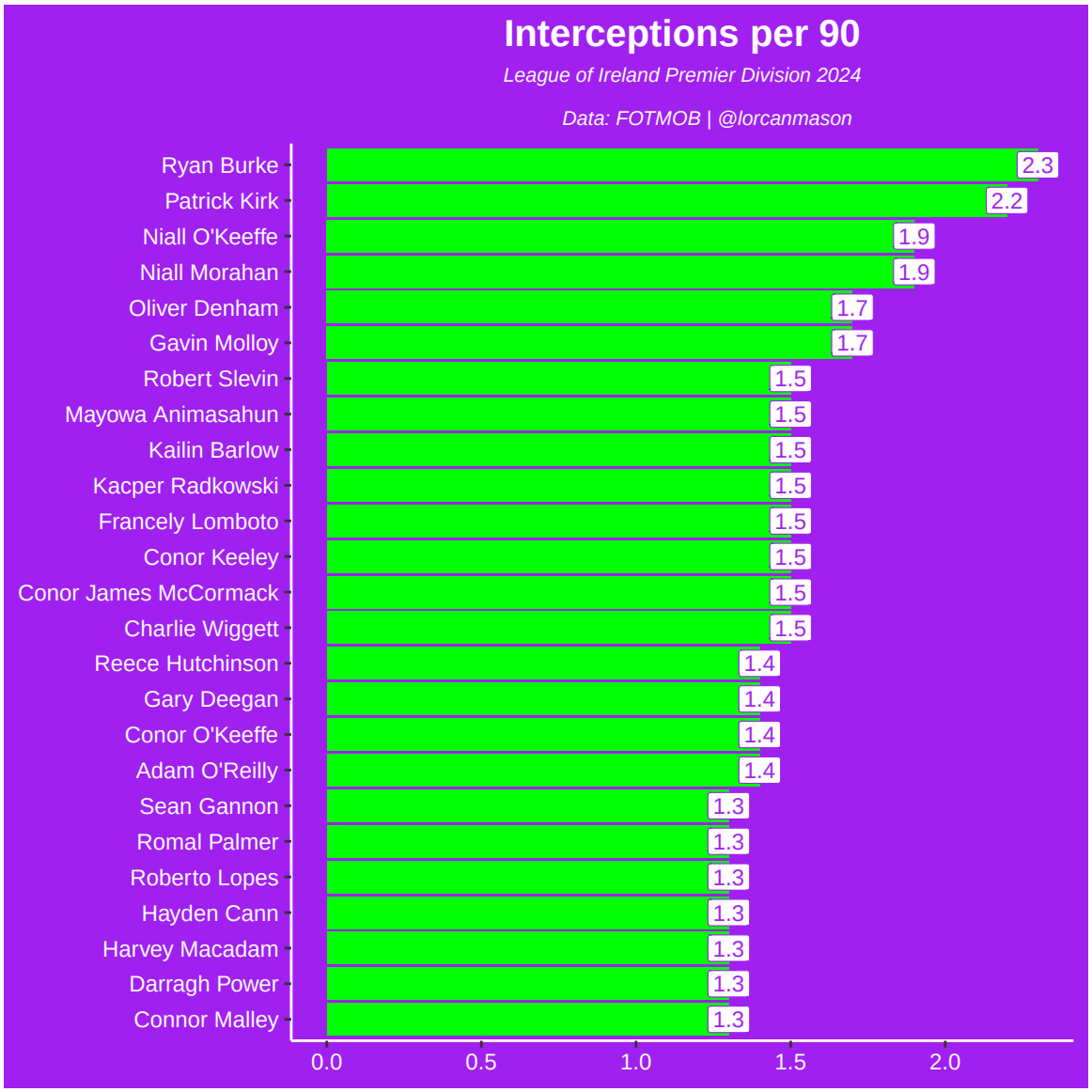

```
plot_metric(top_25_clearances_per_90, clearances_per_90, "Clearances per
↪  90")
```



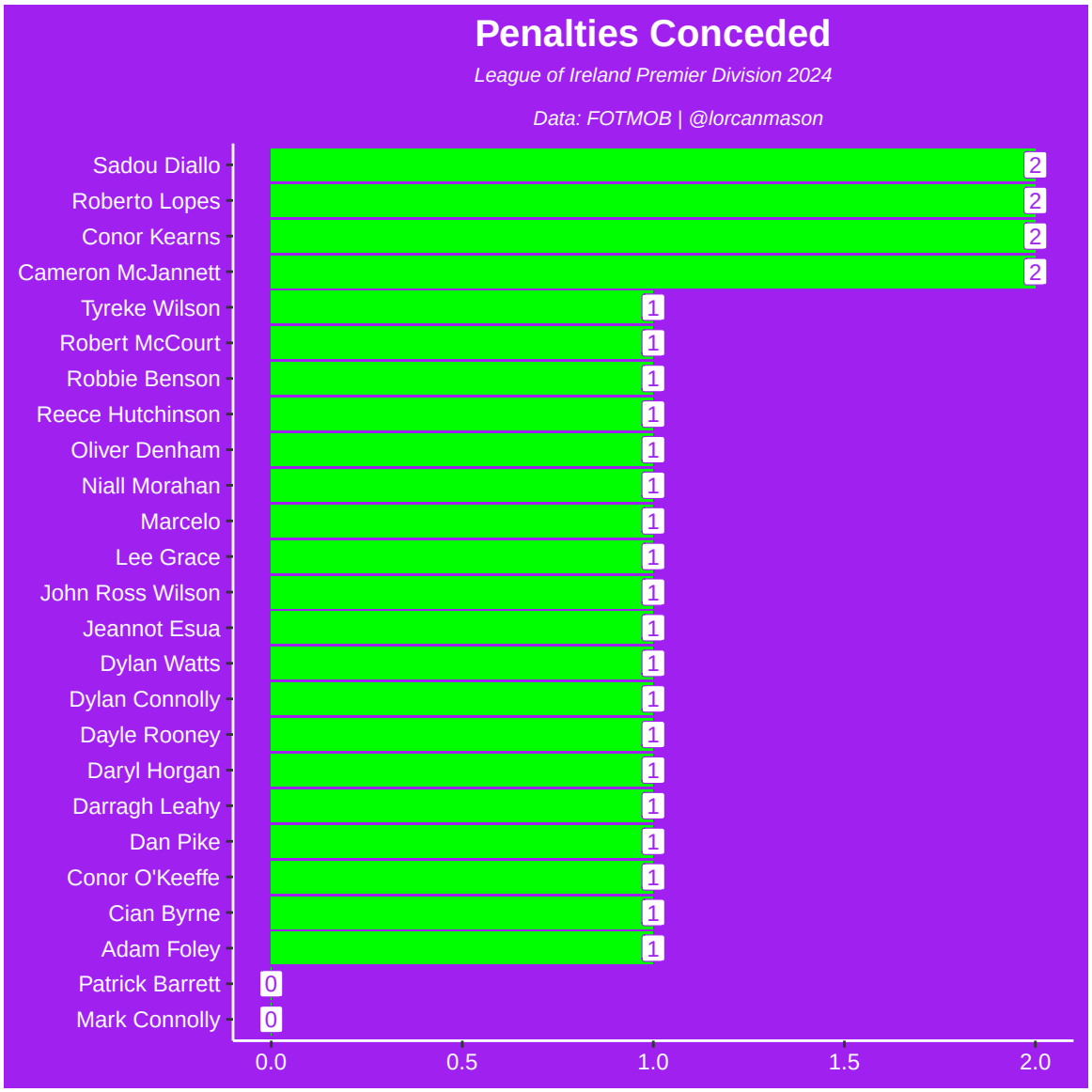

```
plot_metric(top_25_fouls_committed_per_90, fouls_committed_per_90, "Fouls
↪  Committed per 90")
```



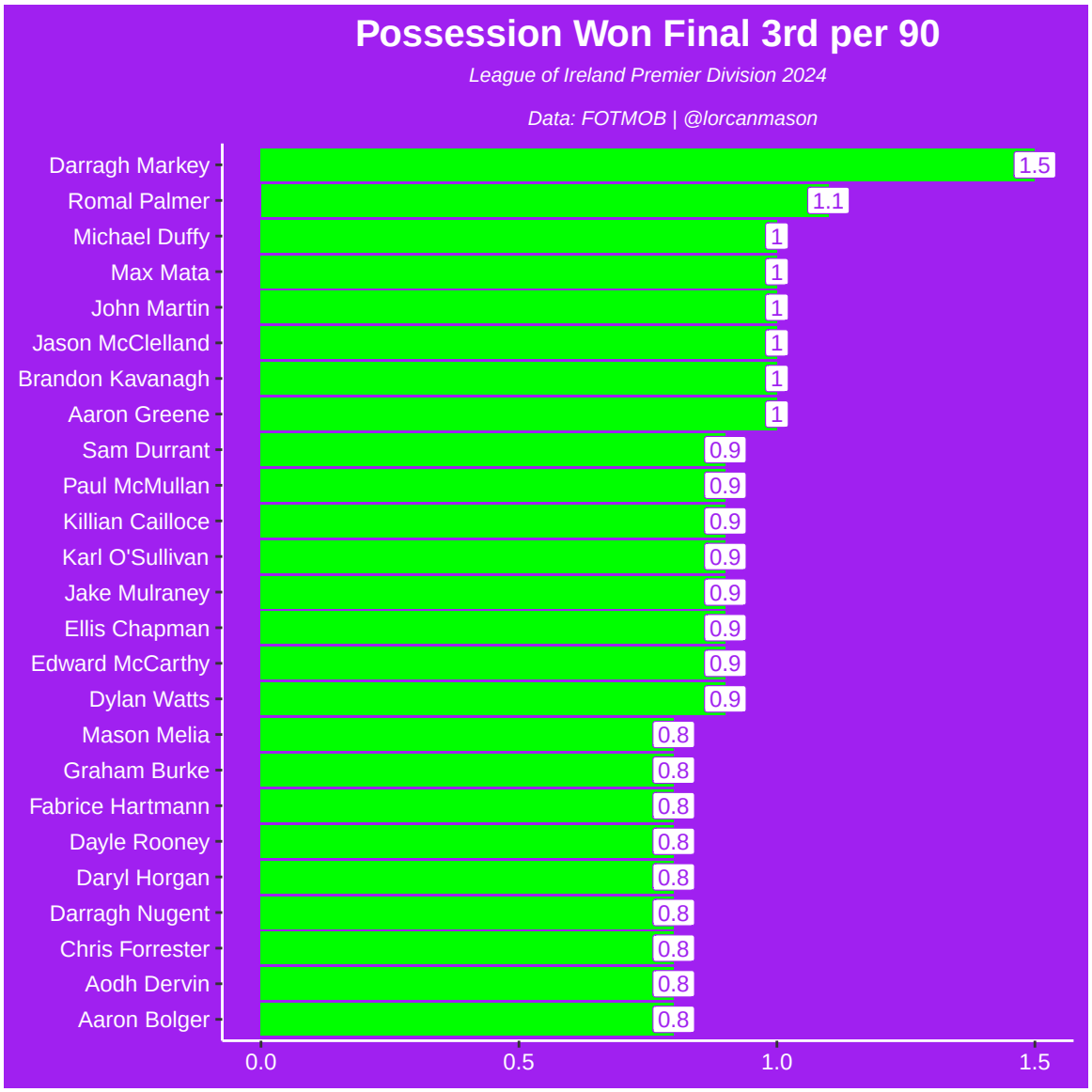

```
plot_metric(top_25_interceptions_per_90, interceptions_per_90,
↪  "Interceptions per 90")
```



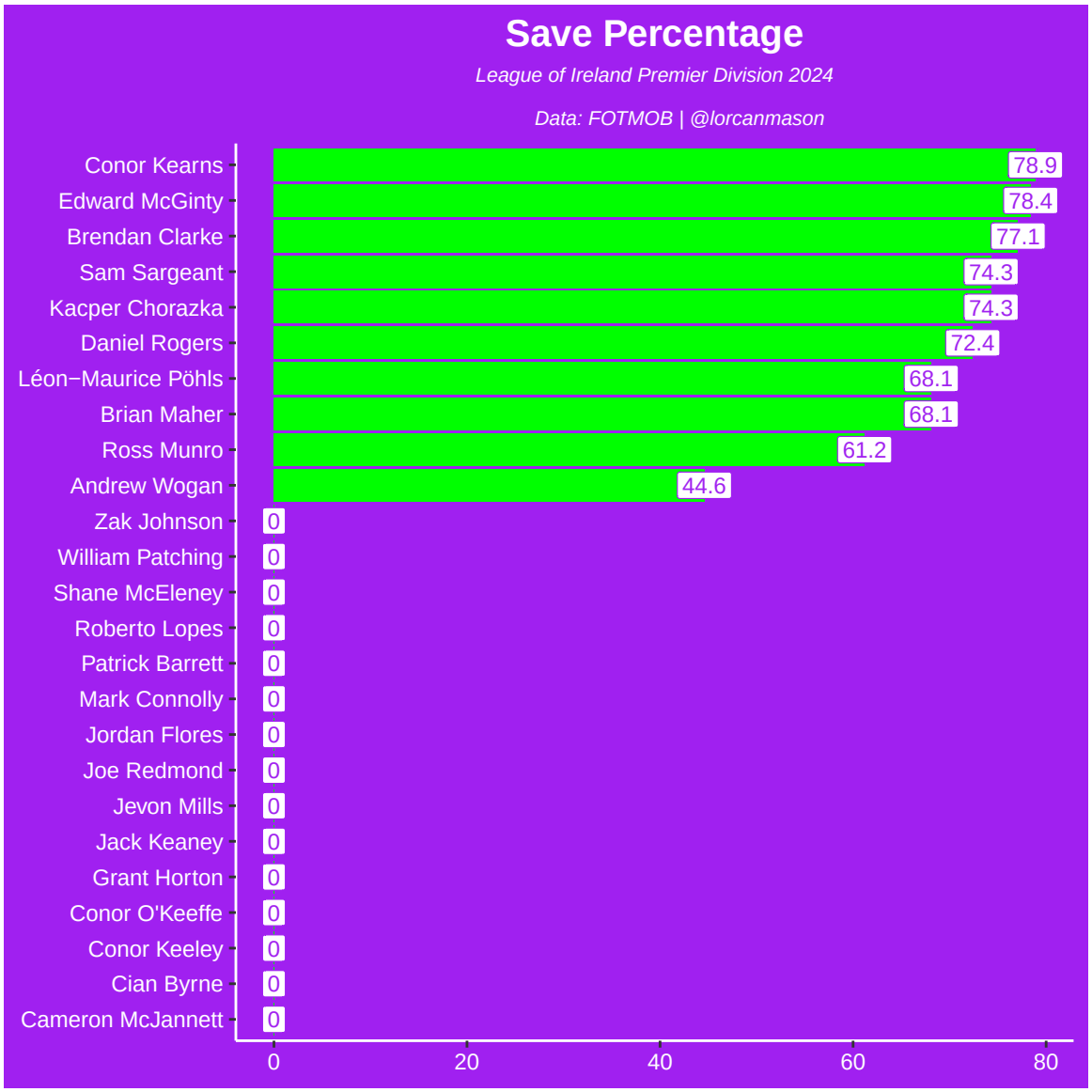

```
plot_metric(top_25_penalties_conceded, penalties_conceded, "Penalties
↪  Conceded")
```



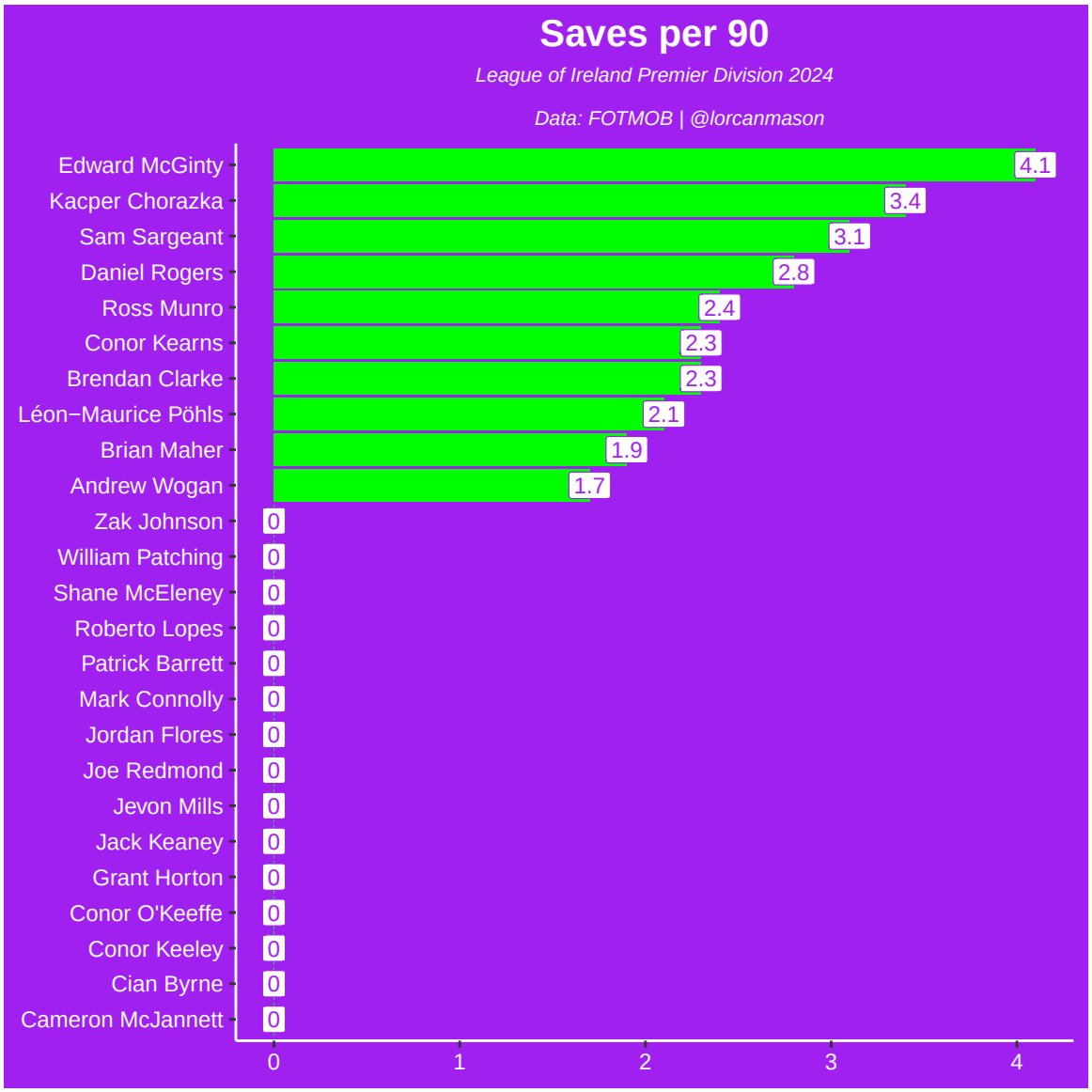

```
plot_metric(top_25_possession_won_final_3rd_per_90,
↪  possession_won_final_3rd_per_90, "Possession Won Final 3rd per 90")
```



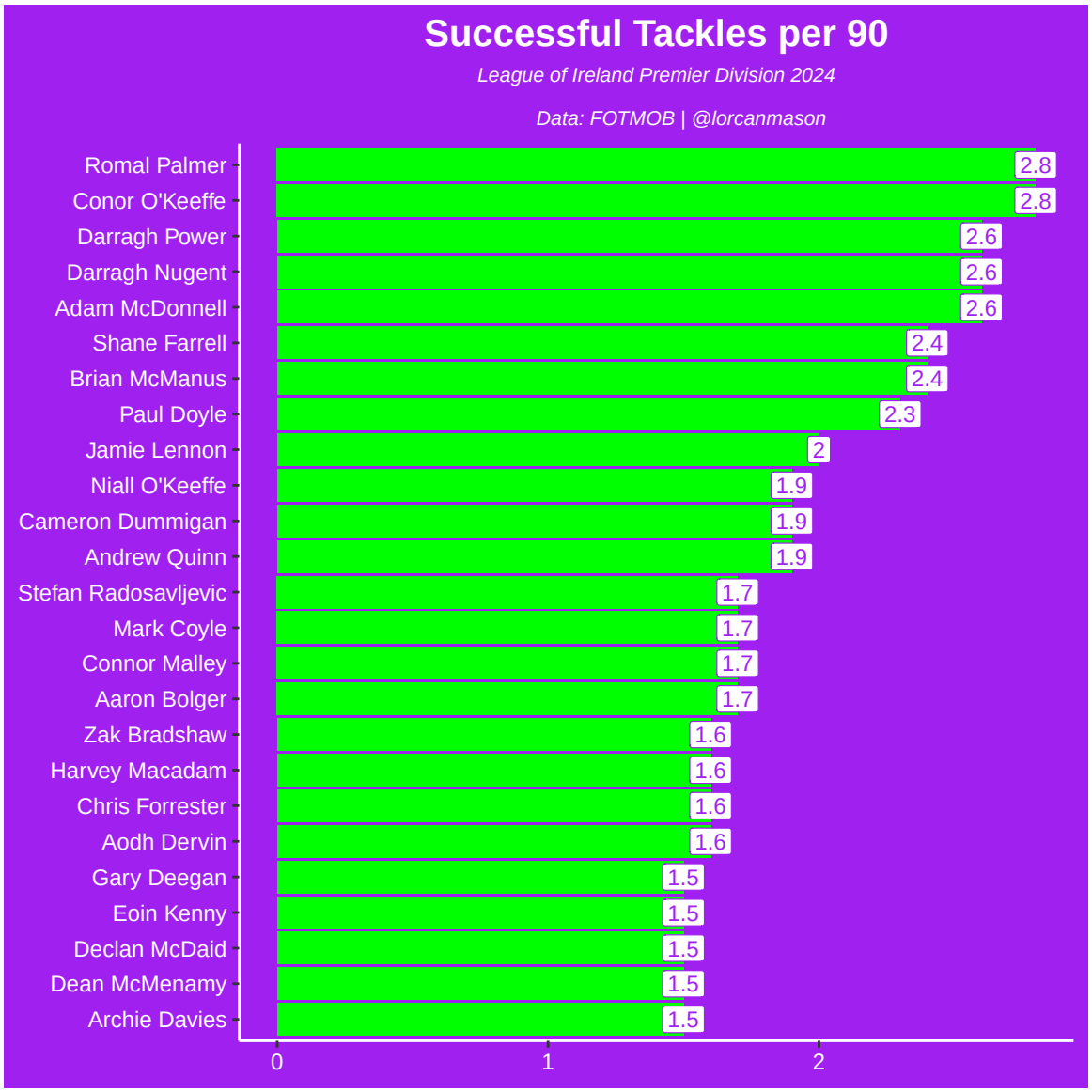

```
plot_metric(top_25_save_percentage, save_percentage, "Save Percentage")
```



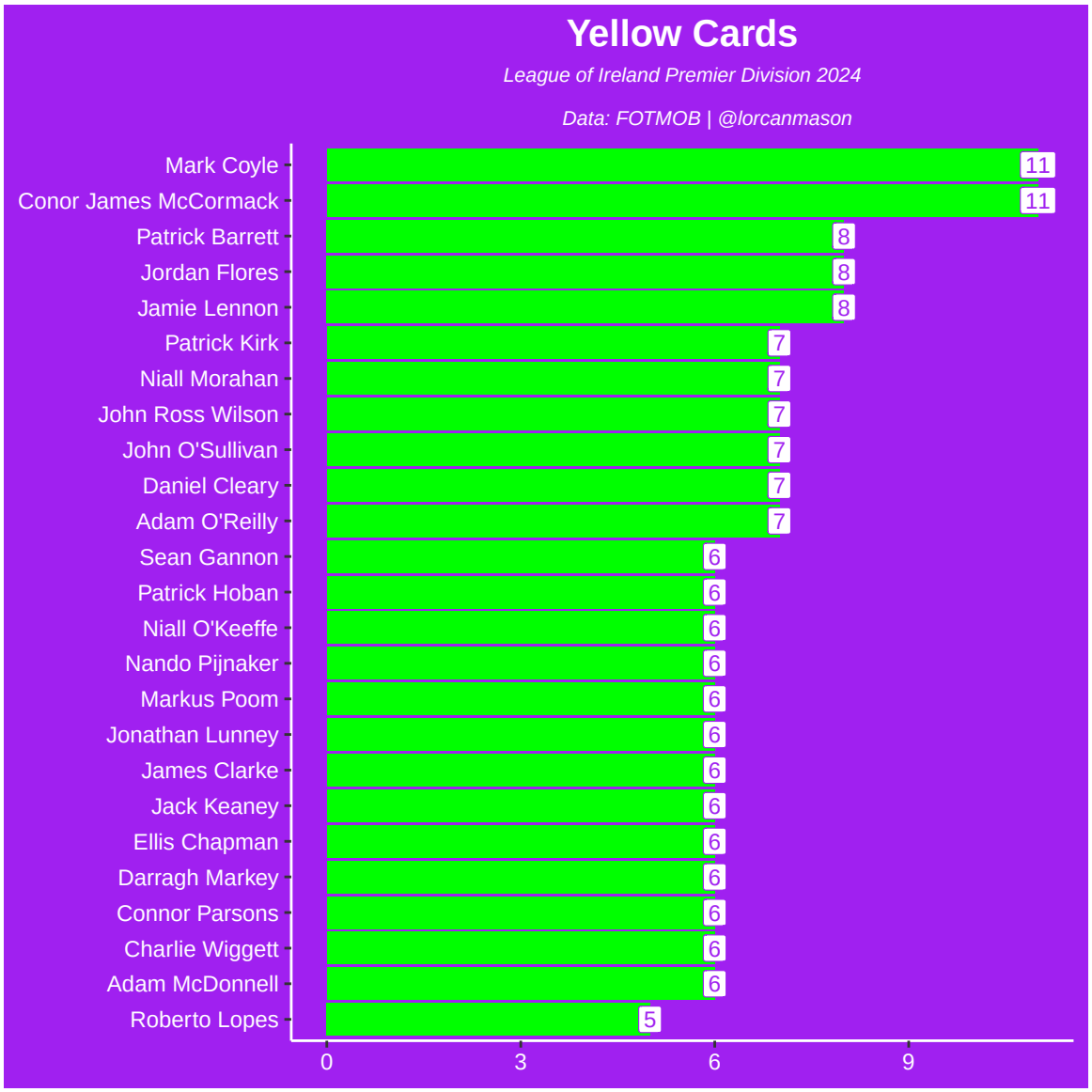

```
plot_metric(top_25_saves_per_90, saves_per_90, "Saves per 90")
```



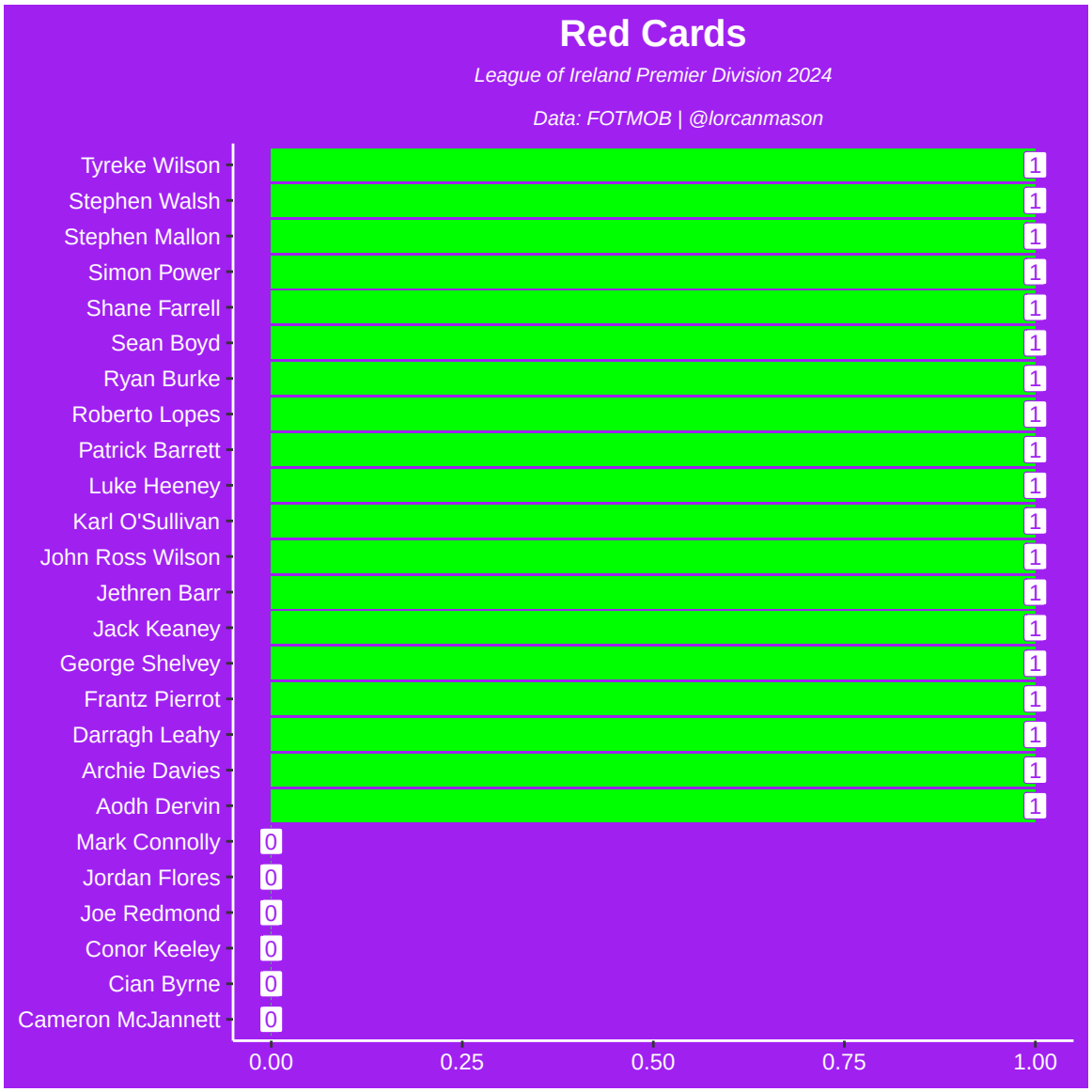

```
plot_metric(top_25_successful_tackles_per_90, successful_tackles_per_90,
↪  "Successful Tackles per 90")
```




```
plot_metric(top_25_yellow_cards, yellow_cards, "Yellow Cards")
```




```
plot_metric(top_25_red_cards, red_cards, "Red Cards")
```



4 Conclusion

This report ranks the top 25 players based on various performance metrics in the League of Ireland Premier Division 2024. The analysis provides insights into the top-performing players in the league across different categories such as goals, assists, possession, and defensive metrics. The visualizations highlight the stand out players in each category, showcasing their contributions to their respective teams throughout the season. The data-

driven approach offers a comprehensive overview of player performance and can be used to evaluate player effectiveness and impact on the league. For more detailed analysis and insights, further exploration of the data and additional metrics can be conducted.

Have fun, stay curious!