R Football Analytics Basics

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2025-07-24

Yards By week for The Chicago Bears
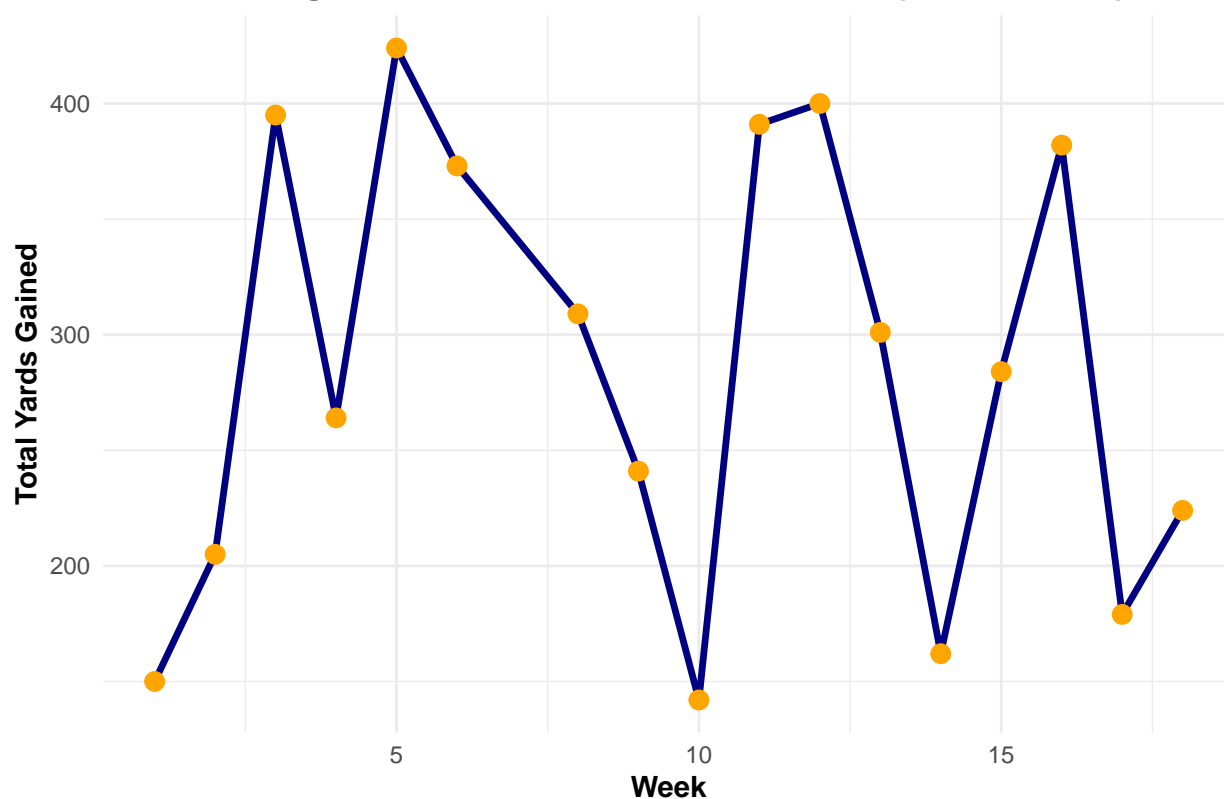
```r
chicago_bears_24 <- season_24 %>%
  filter(posteam == "CHI") %>%
  select(week, yards_gained) %>%
  group_by(week) %>%
  summarize(yards_per_week = sum(yards_gained, na.rm = TRUE))

head(chicago_bears_24)
```

```
## # A tibble: 6 x 2
##    week yards_per_week
##   <int>          <dbl>
## 1     1            150
## 2     2            205
## 3     3            395
## 4     4            264
## 5     5            424
## 6     6            373
```

```r
ggplot(chicago_bears_24, aes(x = week, y = yards_per_week)) +
  geom_line(color = "navy", size = 1.2) + # Added some basic styling
  geom_point(color = "orange", size = 3) +
  labs(
    title = "Chicago Bears Offensive Yards Per Week (2024 Season)",
    x = "Week",
    y = "Total Yards Gained"
  ) +
  theme_minimal() +
  theme(
    plot.title = element_text(hjust = 0.5, face = "bold"),
    axis.title = element_text(face = "bold")
  )
```

```
## Warning: Using `size` aesthetic for lines was deprecated in ggplot2 3.4.0.
## i Please use `linewidth` instead.
## This warning is displayed once every 8 hours.
## Call `lifecycle::last_lifecycle_warnings()` to see where this warning was
## generated.
```

Chicago Bears Offensive Yards Per Week (2024 Season)
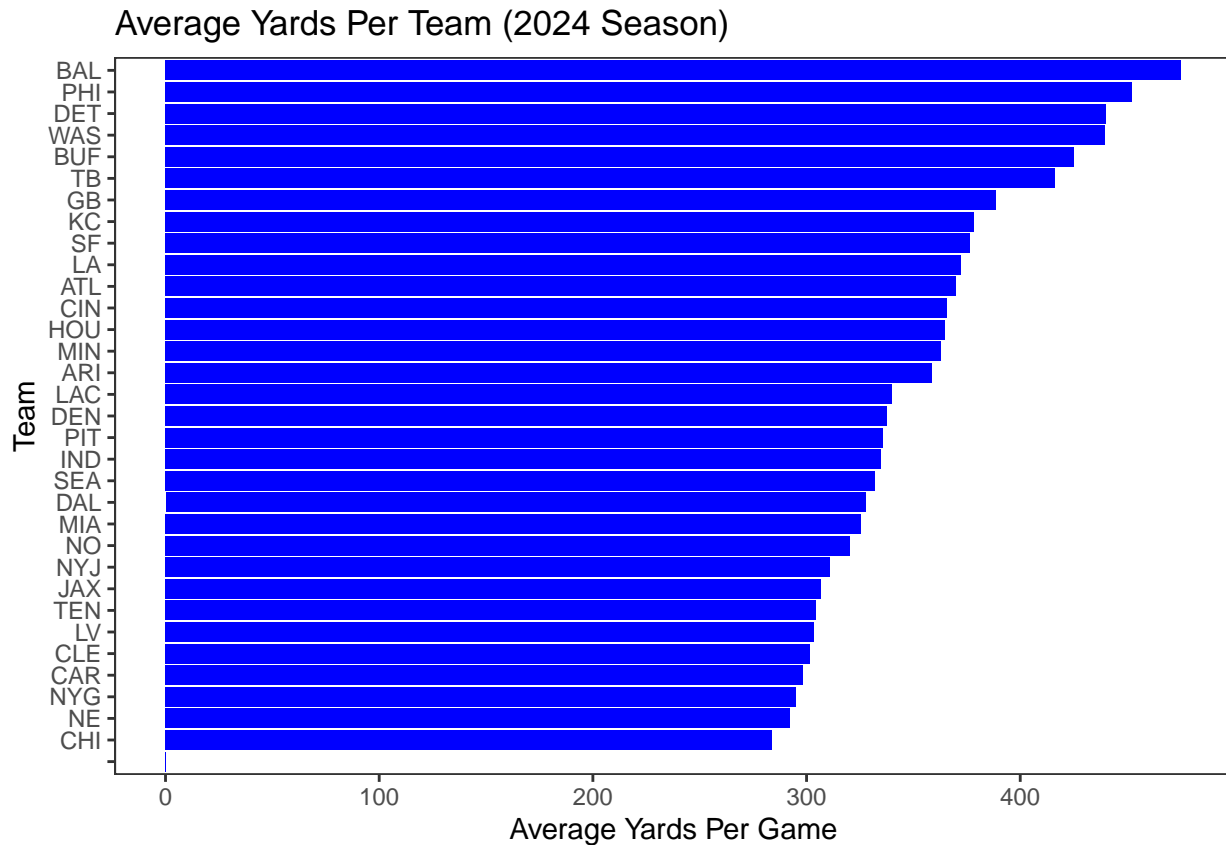


```r
ggsave("chicago_yards_by_week_R.png")
```

```
## Saving 6.5 x 4.5 in image
```

```r
yards_pg_pt <- season_24 %>%
  group_by(posteam) %>%
  summarize(avgyards = (sum(yards_gained, na.rm = TRUE) / 17)) %>%
  arrange(desc(avgyards)) %>%
  mutate(posteam = factor(posteam, levels = rev(posteam)))

ggplot(yards_pg_pt, aes(x = avgyards, y = posteam))+
  geom_col(fill = "#0000ff") +
  labs(title = "Average Yards Per Team (2024 Season)",
       x = "Average Yards Per Game",
       y = "Team") +
  theme_test()
```

Average Yards Per Team (2024 Season)


```r
ggsave("average_yards_per_team24.png")
```

```
## Saving 6.5 x 4.5 in image
```

Average Yards Per Game by Team

```r
yards_pg_pt <- season_24 %>%
  filter(!is.na(yards_gained), !is.na(posteam)) %>%
  group_by(posteam) %>%
  summarize(avgyards = (sum(yards_gained, na.rm = TRUE) / 17), .groups = 'drop') %>%
  mutate(clean_team_abbr = clean_team_abbrs(posteam)) %>%
  filter(!is.na(clean_team_abbr)) %>%
  arrange(desc(avgyards)) %>%
  mutate(clean_team_abbr = factor(clean_team_abbr, levels = rev(clean_team_abbr))) %>%
  filter(posteam != "")
```

```r
ggplot(yards_pg_pt, aes(x = avgyards, y = clean_team_abbr)) +
  geom_col(aes(fill = clean_team_abbr, color = clean_team_abbr), width = .8) +
  geom_nfl_logos(aes(x = 0, y = clean_team_abbr, team_abbr = clean_team_abbr),
                     width = 0.03,
                     hjust = 0,
                     vjust = 0.5) +
  geom_text(aes(x = 0, y = clean_team_abbr, label = clean_team_abbr),
                hjust = -0.5,
                vjust = 0.5,
                nudge_x = max(yards_pg_pt$avgyards, na.rm = TRUE) * 0.03,
                color = "white", size = 2.5) +
```
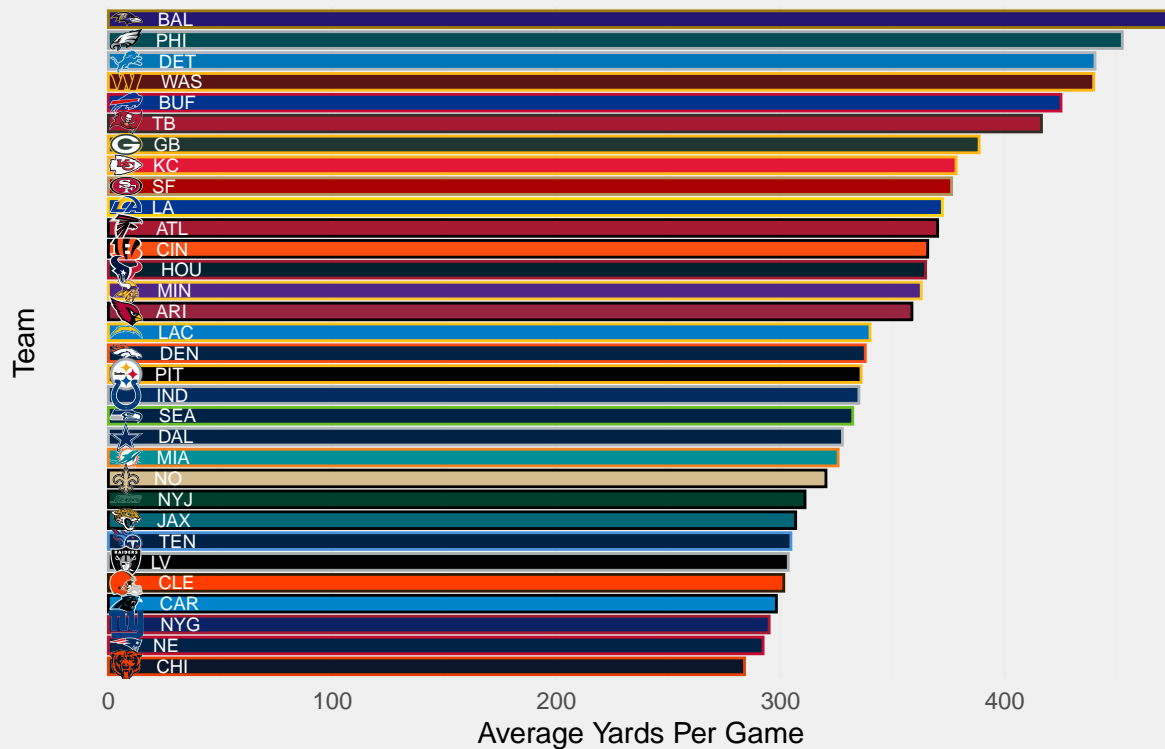
```
  labs(
    x = "Average Yards Per Game",
    y = "Team",
    title = "2024 NFL Team Average Yards Per Game",
    subtitle = "Data derived from season_24"
  ) +
  theme_minimal() +
  theme(
    axis.text.y = element_blank(),
    axis.ticks.y = element_blank(),
    panel.grid.major.y = element_blank(),
    panel.grid.minor.y = element_blank(),
    plot.title = element_text(face = "bold", hjust = 0),
    plot.title.position = "plot",
    plot.subtitle = element_text(hjust = 0),
    plot.background = element_rect(fill = "#F0F0F0", color = NA),
    legend.position = "none"
  ) +
  scale_fill_nfl() +
  scale_color_nfl(type = "secondary")
```

2024 NFL Team Average Yards Per Game
Data derived from season_24


```
ggsave("teams_ypg.png")
```

```
## Saving 6.5 x 4.5 in image
```

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