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# Matt Barnes

Nashville Software School Graduate  
Data Analyst  
Baseball enthusiast (Go Giants!)

Data Source: [SeanLahman.com](https://seanlahman.com)



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**Baseball history is  
American history**

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# Baseball history is American history

My 93 year old Father-in-law, Howard, grew up in Brooklyn during the Great Depression.

He served in the Army during World War II.

Howard is a baseball fanatic.



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# Baseball history is American history

He's seen some of the greatest players of all time, including Jackie Robinson's monumental first game in 1947.

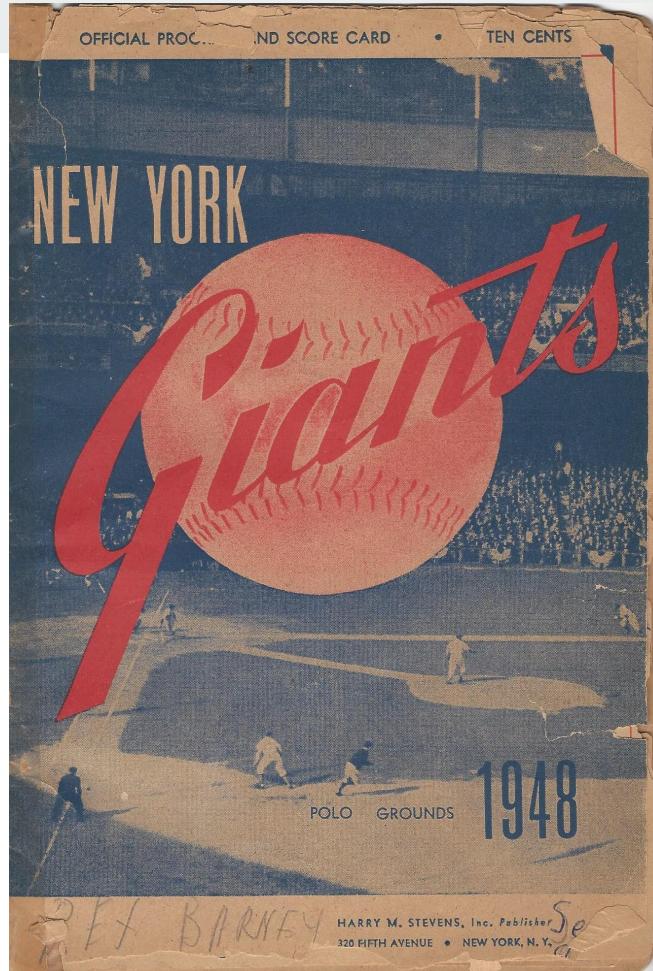


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# Baseball history is American history

Howard handed me this scorecard he filled out from a 1948 New York Giants game, and I instantly felt a connection to the history of baseball.

(Rex Barney threw a no hitter).



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# **Major League Baseball's Home Game Attendance: The Pulse of America's Pastime**

Capstone Project by Matt Barnes

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Star players: Do they draw a bigger crowd?

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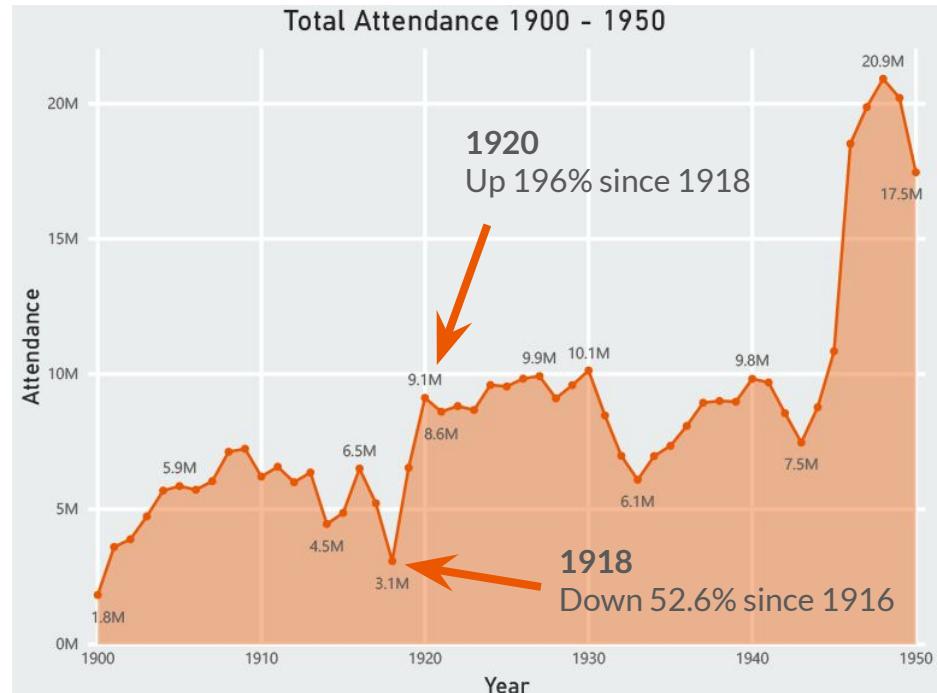
**Home game attendance:  
Why did you call it “the pulse?”**

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## The numbers follow events in world history...

The MLB saw almost 3.5 million less in attendance during the 1918 flu pandemic and World War I...

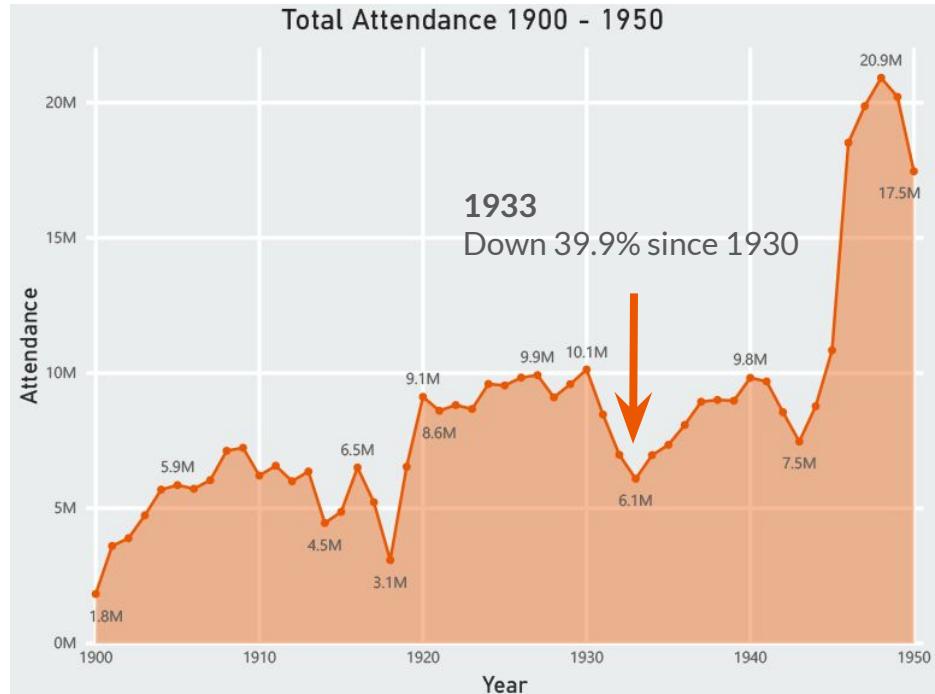
...then rebounded with over 6 million more in attendance following the end of the Great War.



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## The numbers follow events in world history...

Attendance dropped by 4 million during the Great Depression.

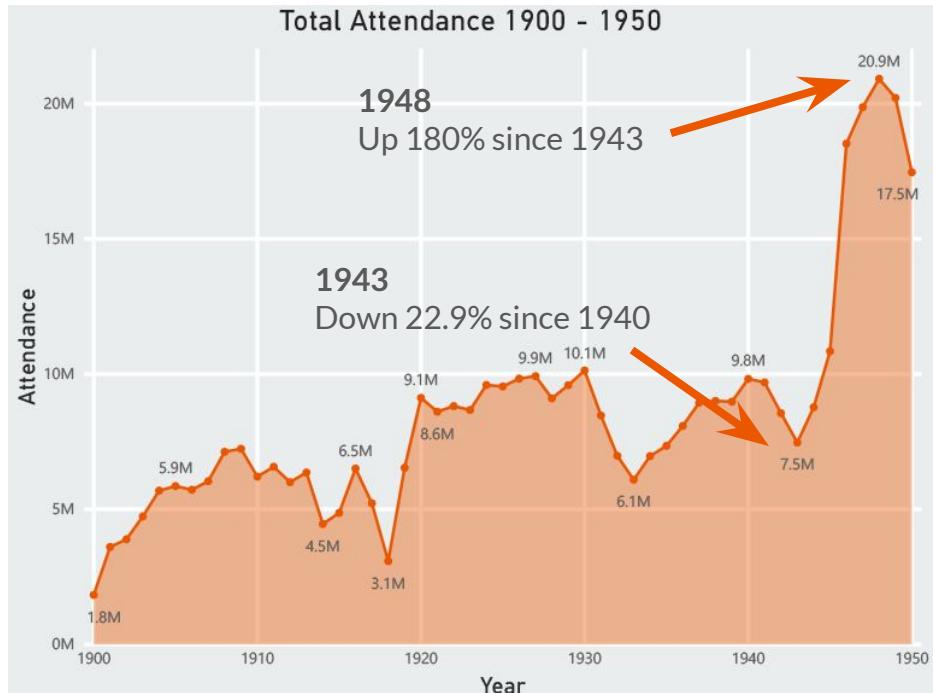


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## The numbers follow events in world history...

The league saw another drop (about 2.2 million) as the U.S. entered World War II in 1941...

...and an explosion in growth following the end of the war (13.4 million increase).

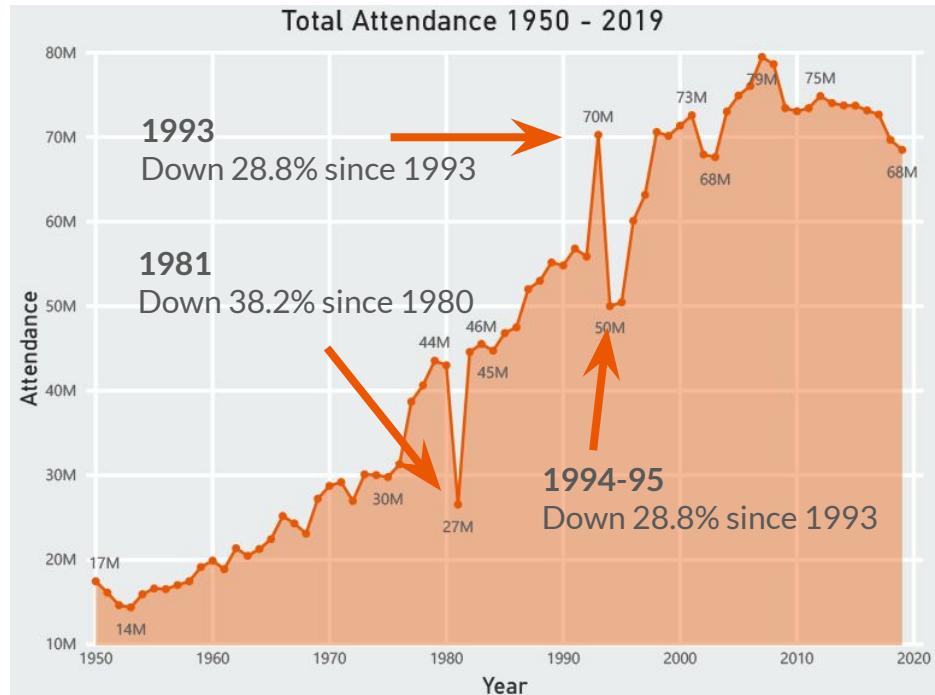


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# The numbers follow events in league history...

Player strikes in 1981, & 1994-1995.\*

NL adds two teams to total 28.



\*Contextual data from Wikipedia

**Home game attendance  
numbers are a vital sign for the  
game, and reflect world  
events.**

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Star players: Do they draw a  
bigger crowd?

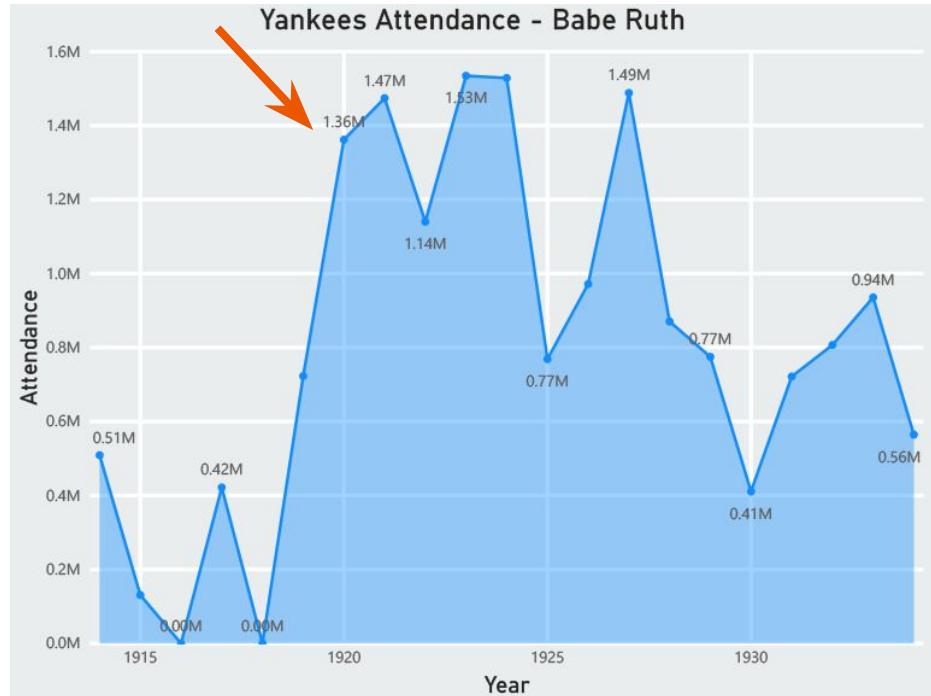
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# Babe Ruth

## New York Yankees

Signed in 1920.

Broke single season home run record in 1919 with 29 home runs, and again in 1920 with 54 home runs.



\*Wikipedia.org

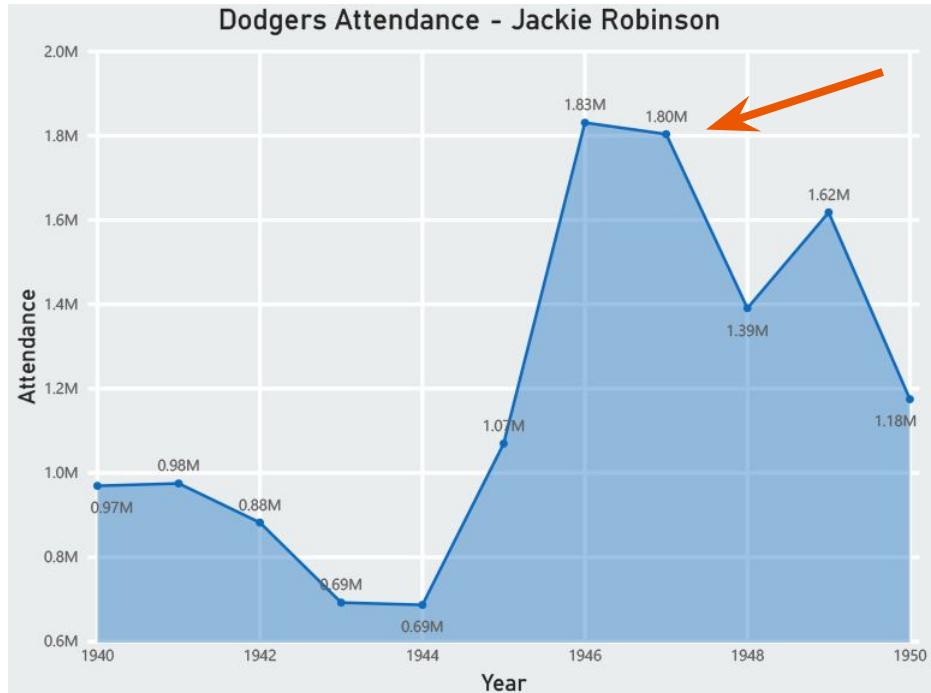
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# Jackie Robinson Brooklyn Dodgers

Signed in 1947.

Broke the color barrier in baseball.

Rookie of the year.



\*Wikipedia.org

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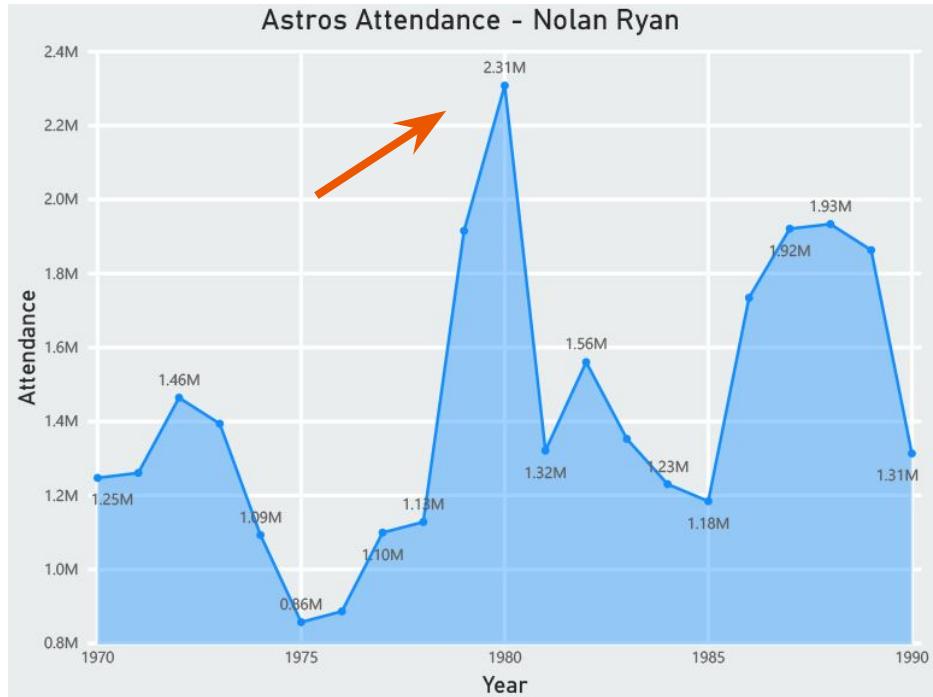
# Nolan Ryan Houston Astros

Signed in 1980.

First player to earn \$1 million per year in 1980.

Broke Sandy Koufax's single season strikeout record in 1973 with 383 strikeouts.

\*Wikipedia.org

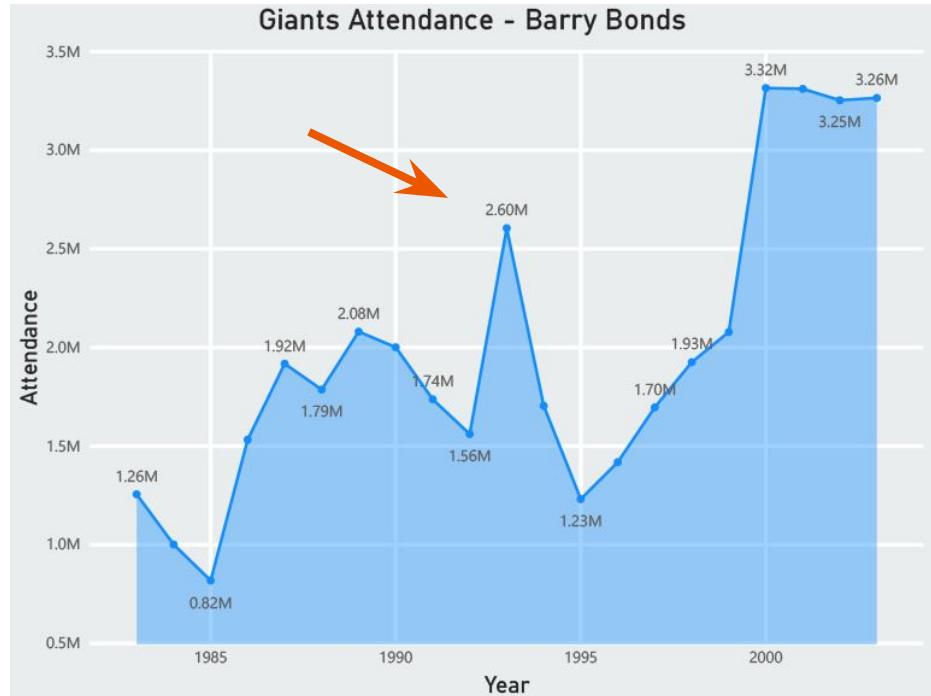


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# Barry Bonds San Francisco Giants

Signed in 1993.

NL MVP, gold glove for outfield, finished season with most home runs and most RBIs in the national league.



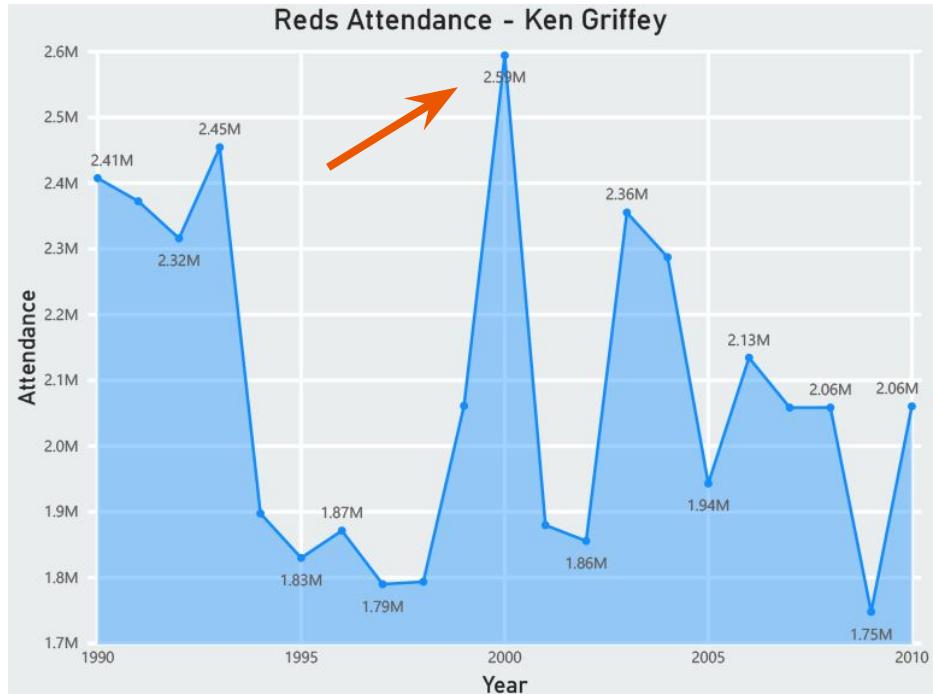
\*Wikipedia.org

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# Ken Griffey Jr. Cincinnati Reds

Signed in 2000.

By the time Griffey signed with the Reds, he was an established and prolific superstar.



\*Wikipedia.org

I wasn't able to quantify a  
player's impact on home game  
attendance...

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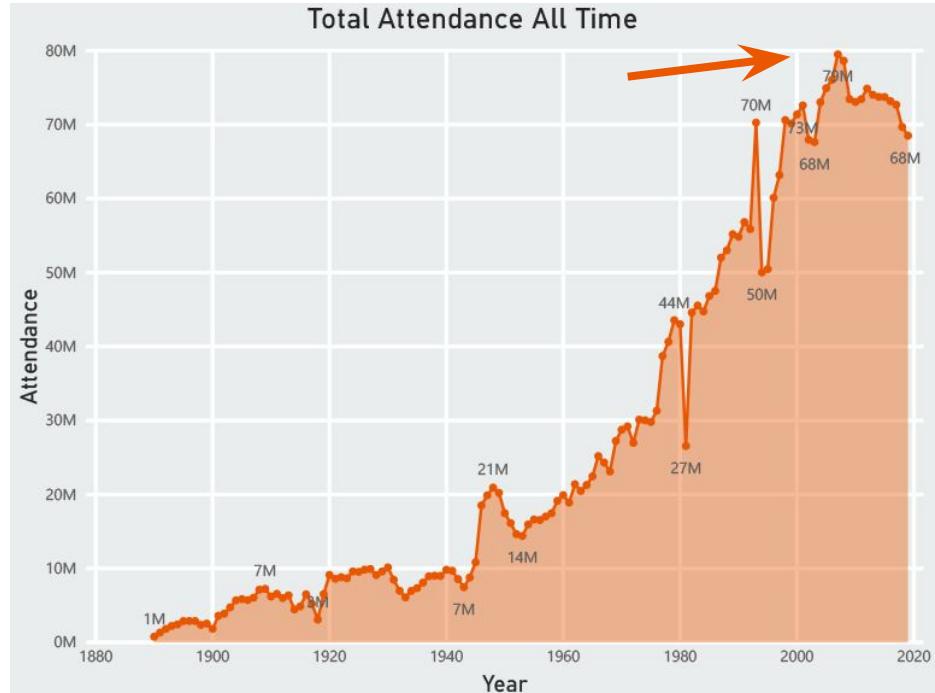
# What does the future hold for baseball?

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# Attendance reached an all time high in 2007...

The total home game attendance exceeded 79.5 million only 13 years ago.

Right before the Great Recession.

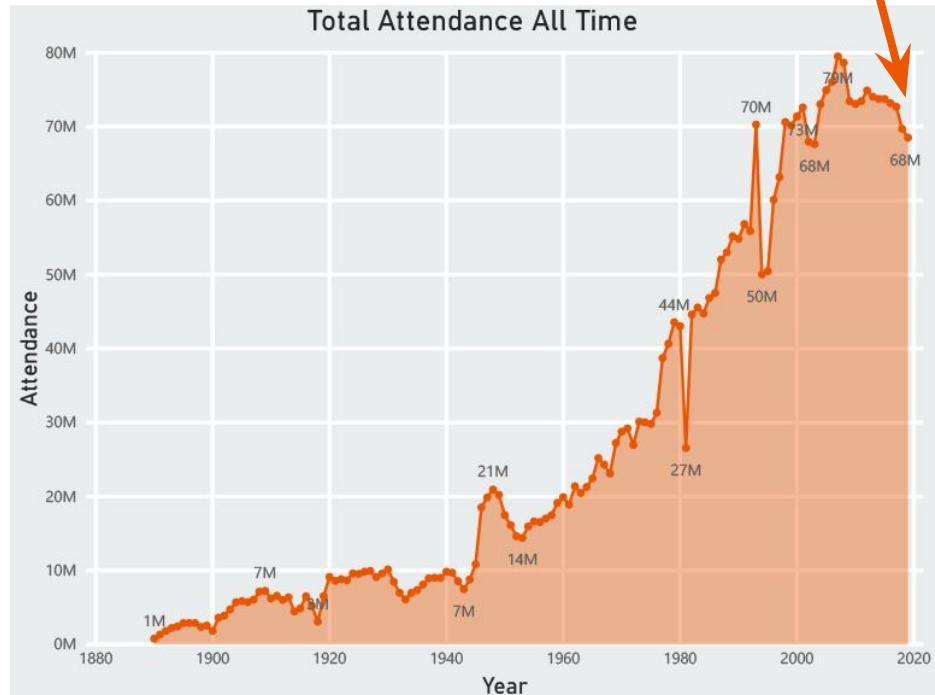


\*Contextual data from Wikipedia

**...and has since  
declined as of 2019**

Attendance is down about 10.9 million less fans in at the ballpark since 2007.

2019: down 13.8% since 2007



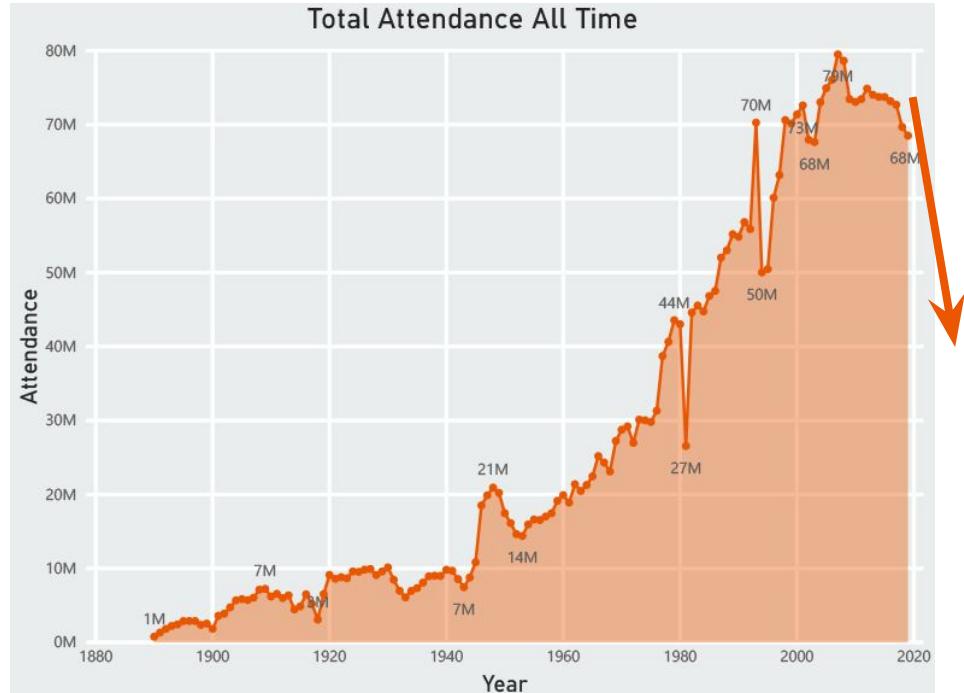
\*Contextual data from Wikipedia

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# Drop in attendance for 2020 will be unprecedented

It is not clear to how the league will recover from the COVID-19 pandemic.

The league has announced a 60 game season, each game in an empty stadium.



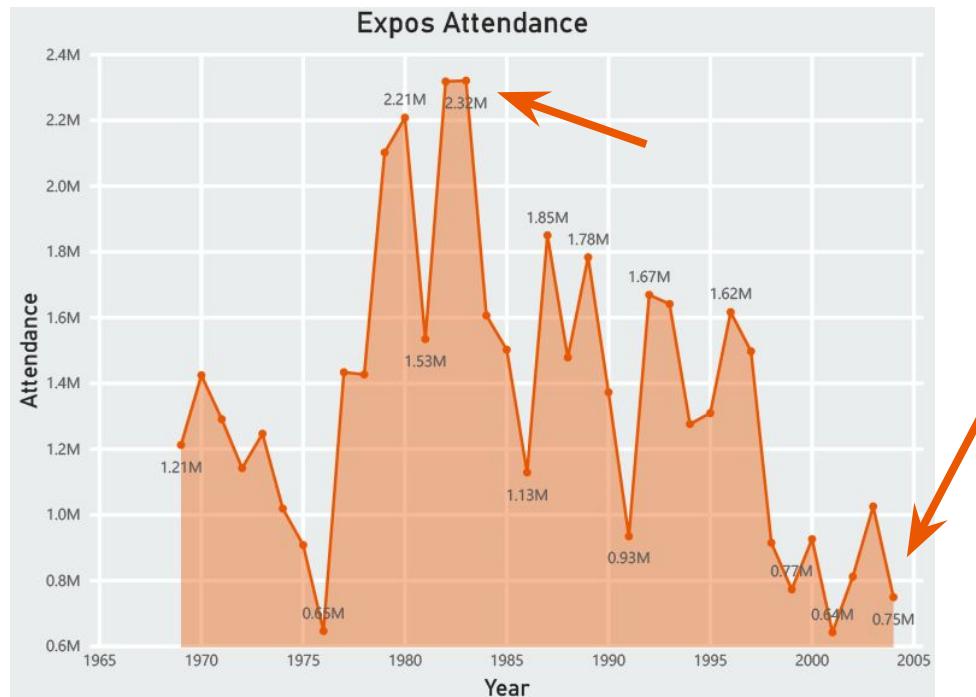
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## Some teams never recover from a dip in attendance.

According to CBSSports.com, the Montreal Expos never recovered from the player strikes in 1994-95.

The Franchise moved to Maryland in 2005 to become the Nationals.

The Expos saw a drop of 67.7% since the height of their popularity in 1983



\*Contextual data from CBSSports.com

The effects could be  
devastating for the most  
vulnerable teams in the near  
future.

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**A decline in fan interest, plus a  
60 game season with no fans  
could have dire consequences  
for the sport.**

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**What would a socially/physically  
distant baseball game look like?**

# Case Study: San Francisco Giants at Oracle Park

How many fans could safely sit in each section?

Oracle parks seats 41,915 total fans.\*



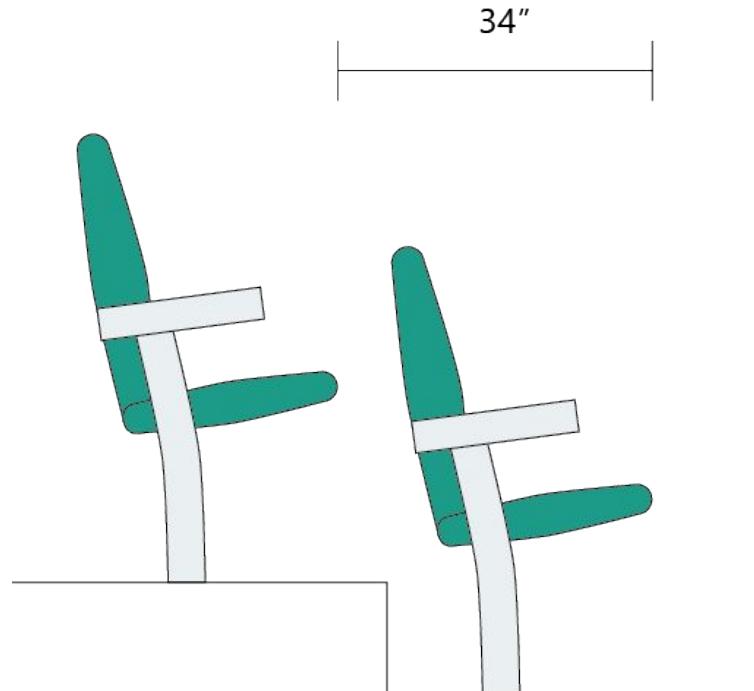
\*Wikipedia.org

Image source: TickPick.com

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## A quick note about “tread” in terms of seating

Tread Depth refers to the depth or horizontal measurement of the front of a bleacher seat to the front of the bleacher seat in the next row.\*

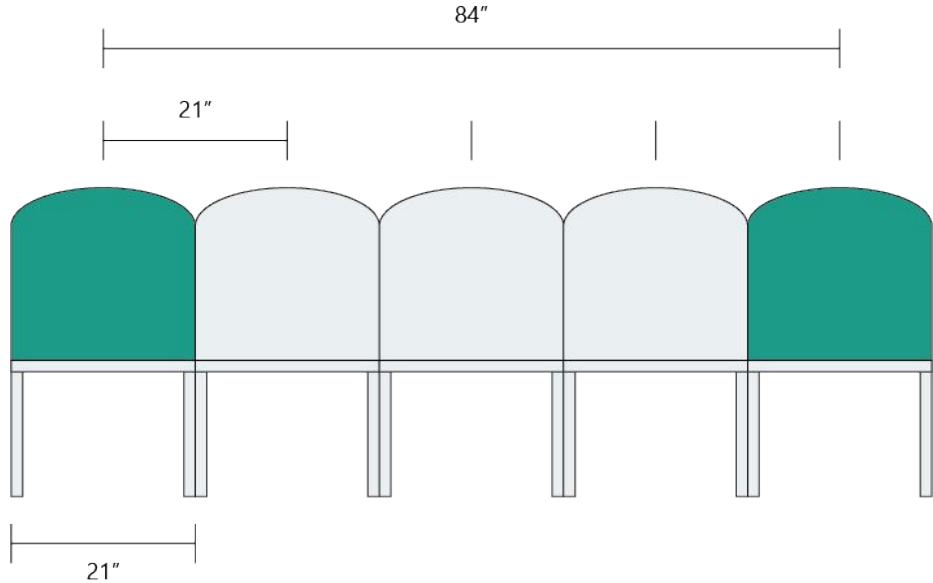


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# Dimensions of stadium seating

Average stadium seating is somewhere between 19" to 23" wide\*, so I picked the median width of 21" to work with.

To maintain a six foot distance, roughly one in every four seats would be occupied.

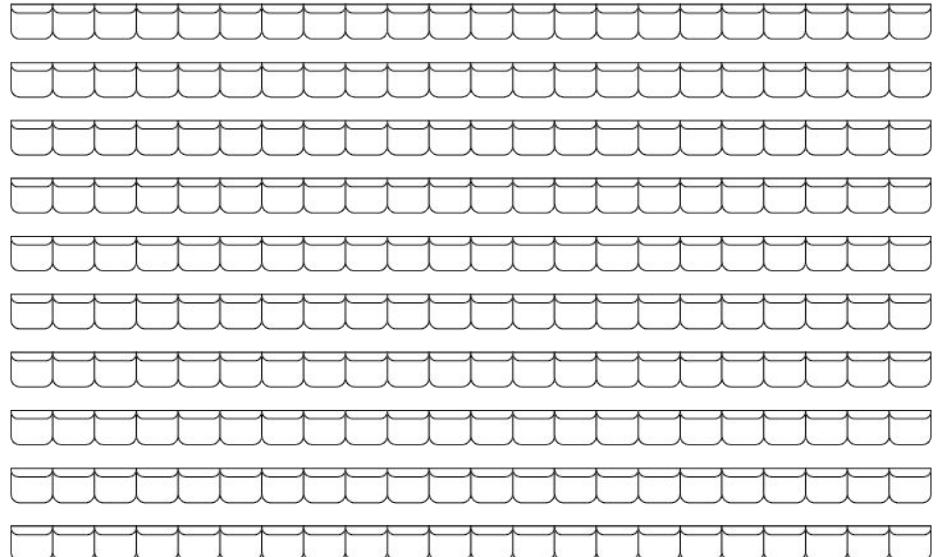


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# Mapping out the seating arrangement

Each section has an average number of rows, and an average number of seats per row, so I was able to determine the number of seats per section.\*

300 Section: 18 rows per section, 22 seats per row



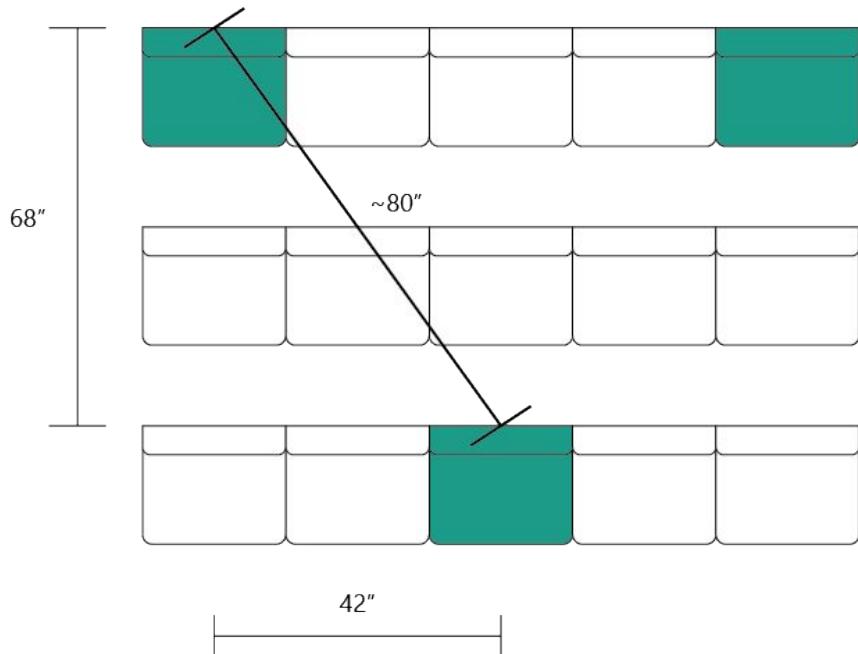
\*Values obtained from TickPick.com

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# Determining a safe seating distance

Used Pythagorean theorem to determine the next seat at the safest available distance.

300 Section: 18 rows per section, 22 seats per row

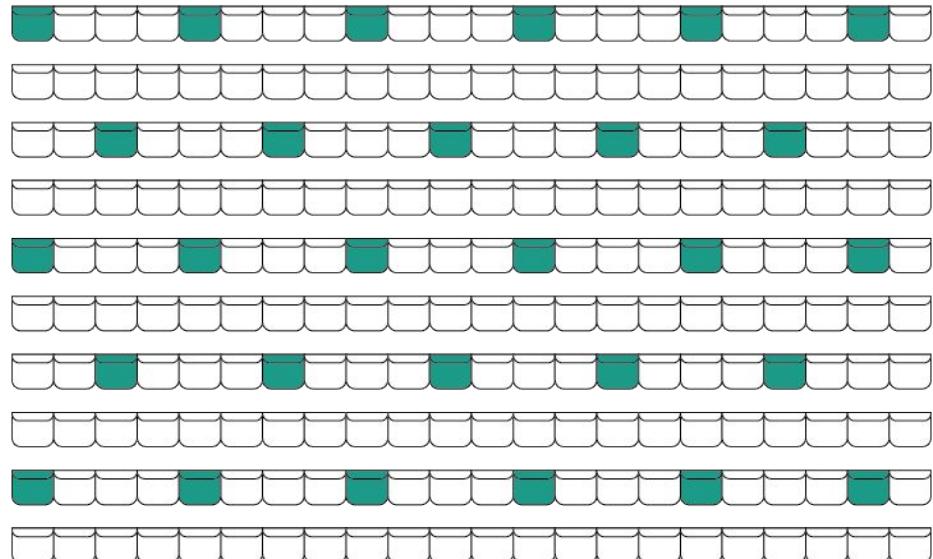


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# A possible seating arrangement

How many seats will be filled?

300 Section: 18 rows per section, 22 seats per row



# 6,744 seats

This is a far cry from 41,915 seats.

Would require strict rule enforcement to maintain safe distances everywhere i.e, entering/exiting the stadium, bathrooms, concessions, etc.



**A decrease in fan interest,  
coupled with the COVID-19  
pandemic, are the two  
greatest threats to the pulse of  
the American Pastime.**

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# Thank you for your time!

Tools used: Python (SQLAlchemy), PowerBI, Photoshop, Illustrator

Any questions?

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# Thank you for your time!

Tools used: Python (SQLAlchemy), PowerBI, Photoshop, Illustrator