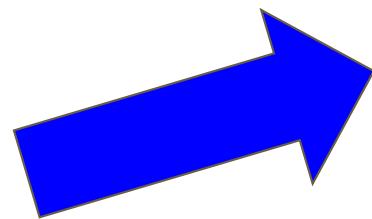
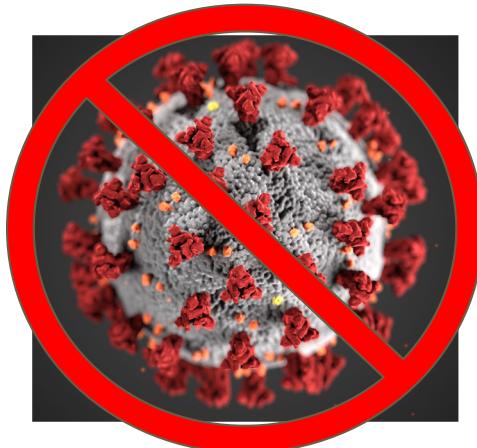




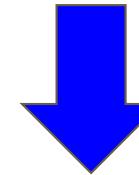
# Project No More COVID!

— Literally & Figuratively! —  
Dominic, Nick, Christian, Fang and Kyle

# Proposal



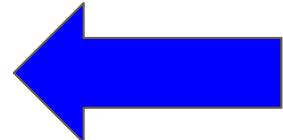
Everyone loves sports, right?



MLS Soccer



Who will be 2021 MLS Cup Champions?



Shhh...It's going to be the Sounders!

# Database

PostGresQL  
Database  
Sources:  
Kaggle.com

- **Team/Player Statistics**
- 2015 - Team Statistics
- 2016 - Team Statistics
- 2017 - Team Statistics
- 2018 - Team Statistics
- 2019 - Team Statistics
- 2015 - Player Statistics
- 2016 - Player Statistics
- 2017 - Player Statistics
- 2018 - Player Statistics
- 2019 - Player Statistics

- **Conference Statistics**
- 2015 - Western Conference
- 2016 - Western Conference
- 2017 - Western Conference
- 2018 - Western Conference
- 2019 - Western Conference
- 2015 - Eastern Conference
- 2016 - Eastern Conference
- 2017 - Eastern Conference
- 2018 - Eastern Conference
- 2019 - Eastern Conference

	Data Output	Explain	Messages	Notifications					
	rk integer	player character varying (200)	nation character varying (50)	pos character varying (10)	squad character varying (50)	age integer	born integer	mp_playingtime integer	starts integer
1	1	Brenden Aaronson\Brenden-A...	us USA	MFFW	Philadelphia	18	2000		28
2	2	Saad Abdul-Salaam\Saad-Ab...	us USA	DF	Seattle	27	1991		18
3	3	Lalas Abubakar\Lalas-Abubak...	gh GHA	DF	Colorado	24	1994		22
4	4	Lalas Abubakar\Lalas-Abubak...	gh GHA	DF	Columbus	24	1994		1
5	5	David Accam\David-Accam	gh GHA	FWMF	Columbus	28	1990		15
6	6	David Accam\David-Accam	gh GHA	FW	Philadelphia	28	1990		8
7	7	Bryan Acosta\Bryan-Acosta	hn HON	MF	FC Dallas	25	1993		26
8	8	Danilo Acosta\Danilo-Acosta	us USA	DF	Orlando City	21	1997		8
9	9	Kellyn Acosta\Kellyn-Acosta	us USA	MF	Colorado	23	1995		31
10	10	Luciano Acosta\Luciano-Acos...	ar ARG	MFFW	D.C. United	24	1994		31
11	11	Mo Adams\Mo-Adams	eng ENG	DFMF	Atlanta	22	1996		4
12	12	Mo Adams\Mo-Adams	eng ENG	MF	Chicago	22	1996		10
13	13	Fanendo Adi\Fanendo-Adi	ng NGA	FW	FC Cincinnati	28	1990		12
14	14	Ali Adnan Kadhim\Ali-Adnan...	iq IRQ	DF	Vancouver	25	1993		28
15	15	François Affolter\François-Aff...	ch SUI	DF	San Jose	27	1991		1
16	16	Harrison Afful\Harrison-Afful	gh GHA	DF	Columbus	32	1986		22

```
create table Players_2019 (
    Rk integer,
    Player varchar(200),
    Nation varchar(50),
    Pos varchar(10),
    Squad varchar(50),
    Age integer,
    Born integer,
    MP_playingtime integer,
    Starts_playingtime integer,
    Min_playingtime integer,
    Gls_performance integer,
    Ast_performance integer,
    PK_performance integer,
    PKatt_performance integer,
    CrdY_performance integer,
    CrdR_performance integer,
    Gls_per90min decimal,
    Ast_per90min decimal,
    G_plus_A_per90min decimal,
    G_minus_PK_per90min decimal,
    G_plus_A_minus_PK_per90min decimal,
    xG_expected decimal,
    npxG_expected decimal,
    xA_expected decimal,
    xG_per90min decimal,
```

# Framework

## Focus Variables

- Squad
- Player
- Attendance
- Win rates
- Number of games played
- Playing time

The diagram illustrates a database schema. On the left, three tables are grouped by a bracket: **EasternConference**, **Team**, and **WesternConference**. Each of these tables contains a column named **squad** (with a primary key icon) of type VARCHAR(255). To the right of this group is a large table for **Player** and **Player\_GoalKeeper**. The **Player** table includes columns for **rk** (INT), **player** (primary key, VARCHAR(255)), **nation** (VARCHAR(255)), **pos** (VARCHAR(255)), **squad** (VARCHAR(255)), **age** (INT), **born** (INT), **mp\_playingtime** (INT), **starts\_playingtime** (INT), **min\_playingtime** (INT), **gls\_performance** (INT), **ast\_performance** (INT), **pk\_performance** (INT), **pkatt\_performance** (INT), **crdy\_performance** (INT), **crdr\_performance** (INT), **gls\_per90min** (DECIMAL), **ast\_per90min** (DECIMAL), **g\_plus\_a\_per90min** (DECIMAL), **g\_minus\_pk\_per90min** (DECIMAL), and **g\_plus\_a\_minus\_per90min** (DECIMAL). The **Player\_GoalKeeper** table includes columns for **rk** (INT), **player** (primary key, VARCHAR(255)), **nation** (VARCHAR(255)), **pos** (VARCHAR(255)), **squad** (VARCHAR(255)), **age** (INT), **born** (INT), **mp** (INT), **starts** (INT), **min** (INT), **90s** (DECIMAL), **ga** (INT), **ga90** (DECIMAL), **sota** (INT), **saves** (INT), **save\_percentage** (DECIMAL), **wins** (INT), **draws** (INT), **losses** (INT), **cs** (INT), **cs\_percentage** (DECIMAL), **pkatt** (INT), **pka** (INT), **pksv** (INT), and **pkm** (INT).

EasternConference	
<b>squad</b>	PRIMARY KEY VARCHAR(255)
wins	INT
draws	INT
losses	INT
attendance	INT

Team	
<b>squad</b>	PRIMARY KEY VARCHAR(255)
crdy_performace	INT
crdr_performace	INT

WesternConference	
<b>squad</b>	PRIMARY KEY VARCHAR(255)
wins	INT
draws	INT
losses	INT
attendance	INT

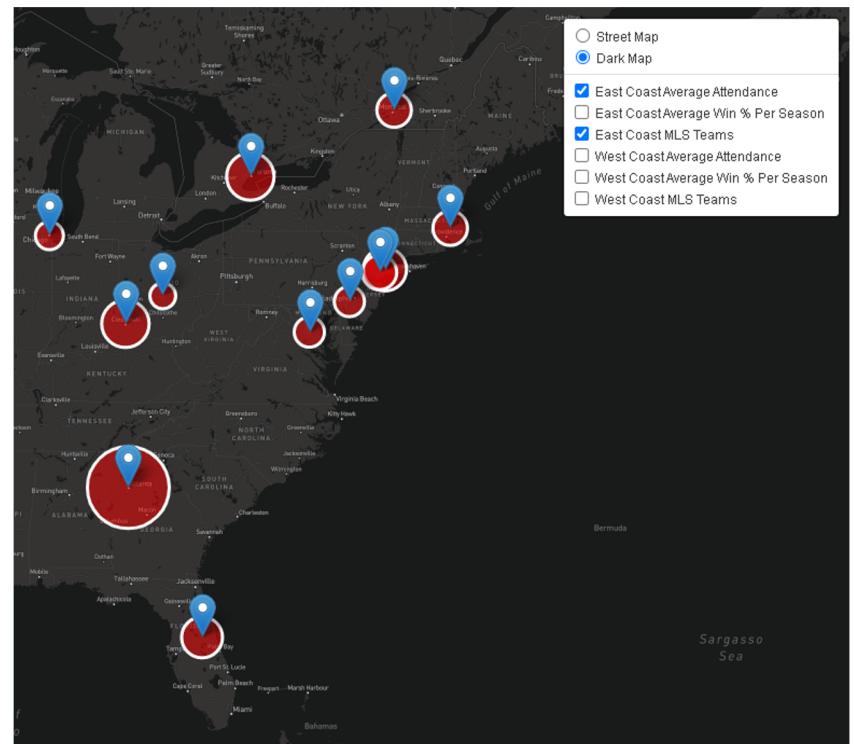
Player	
<b>rk</b>	INT
<b>player</b>	PRIMARY KEY VARCHAR(255)
<b>nation</b>	VARCHAR(255)
<b>pos</b>	VARCHAR(255)
<b>squad</b>	VARCHAR(255)
<b>age</b>	INT
<b>born</b>	INT
<b>mp_playingtime</b>	INT
<b>starts_playingtime</b>	INT
<b>min_playingtime</b>	INT
<b>gls_performance</b>	INT
<b>ast_performance</b>	INT
<b>pk_performance</b>	INT
<b>pkatt_performance</b>	INT
<b>crdy_performance</b>	INT
<b>crdr_performance</b>	INT
<b>gls_per90min</b>	DECIMAL
<b>ast_per90min</b>	DECIMAL
<b>g_plus_a_per90min</b>	DECIMAL
<b>g_minus_pk_per90min</b>	DECIMAL
<b>g_plus_a_minus_per90min</b>	DECIMAL

Player_GoalKeeper	
<b>rk</b>	INT
<b>player</b>	PRIMARY KEY VARCHAR(255)
<b>nation</b>	VARCHAR(255)
<b>pos</b>	VARCHAR(255)
<b>squad</b>	VARCHAR(255)
<b>age</b>	INT
<b>born</b>	INT
<b>mp</b>	INT
<b>starts</b>	INT
<b>min</b>	INT
<b>90s</b>	DECIMAL
<b>ga</b>	INT
<b>ga90</b>	DECIMAL
<b>sota</b>	INT
<b>saves</b>	INT
<b>save_percentage</b>	DECIMAL
<b>wins</b>	INT
<b>draws</b>	INT
<b>losses</b>	INT
<b>cs</b>	INT
<b>cs_percentage</b>	DECIMAL
<b>pkatt</b>	INT
<b>pka</b>	INT
<b>pksv</b>	INT
<b>pkm</b>	INT

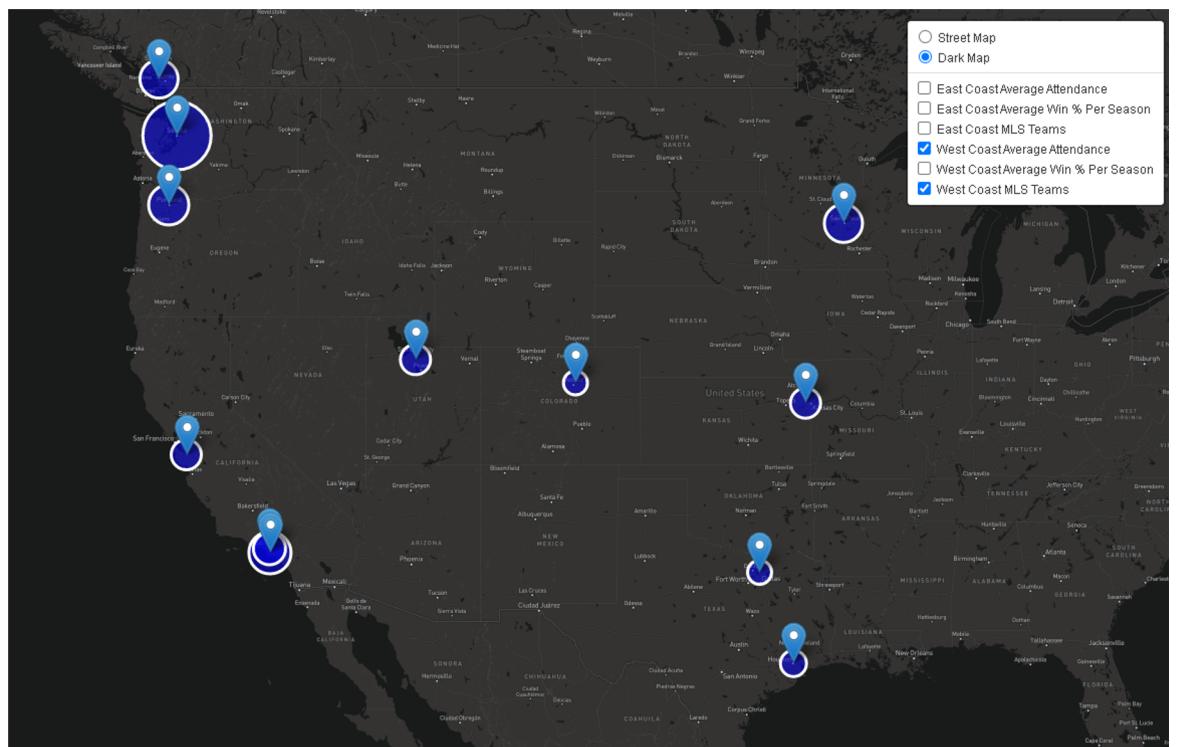
# Visualizations - Leaflet (Dom)

1. Atlanta - 51,237
2. FC Cincinnati - 27,336
3. Orlando City - 27,165
4. Toronto FC - 25,871
5. NYCFC - 24,570



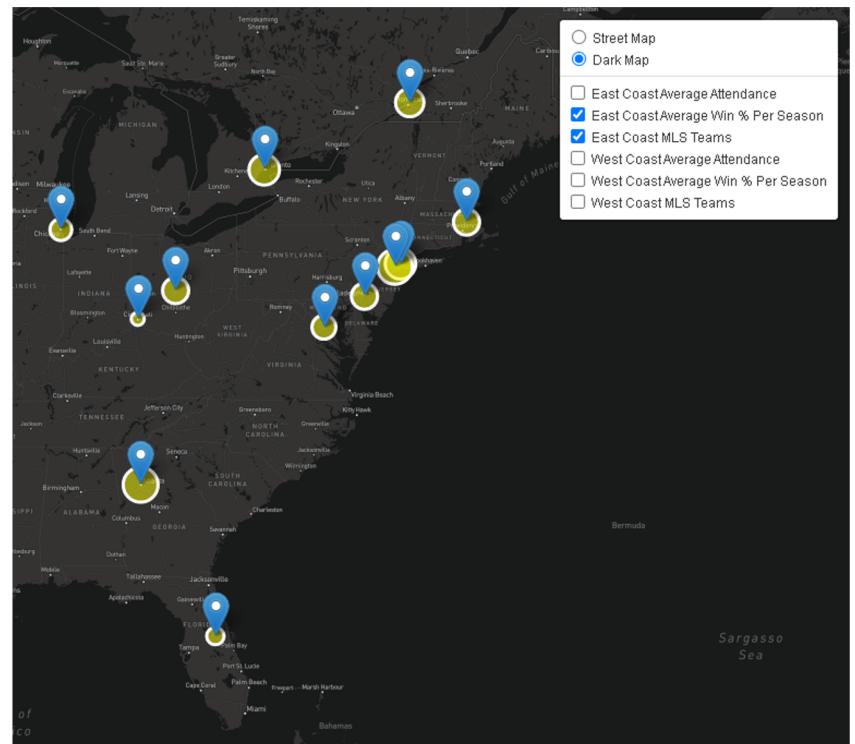
# Visualizations - Leaflet (Dom)

1. Seattle - 37,570
2. LA Galaxy - 27,857
3. Portland - 22,408
4. Los Angeles FC - 22,147
5. Minnesota - 21,388



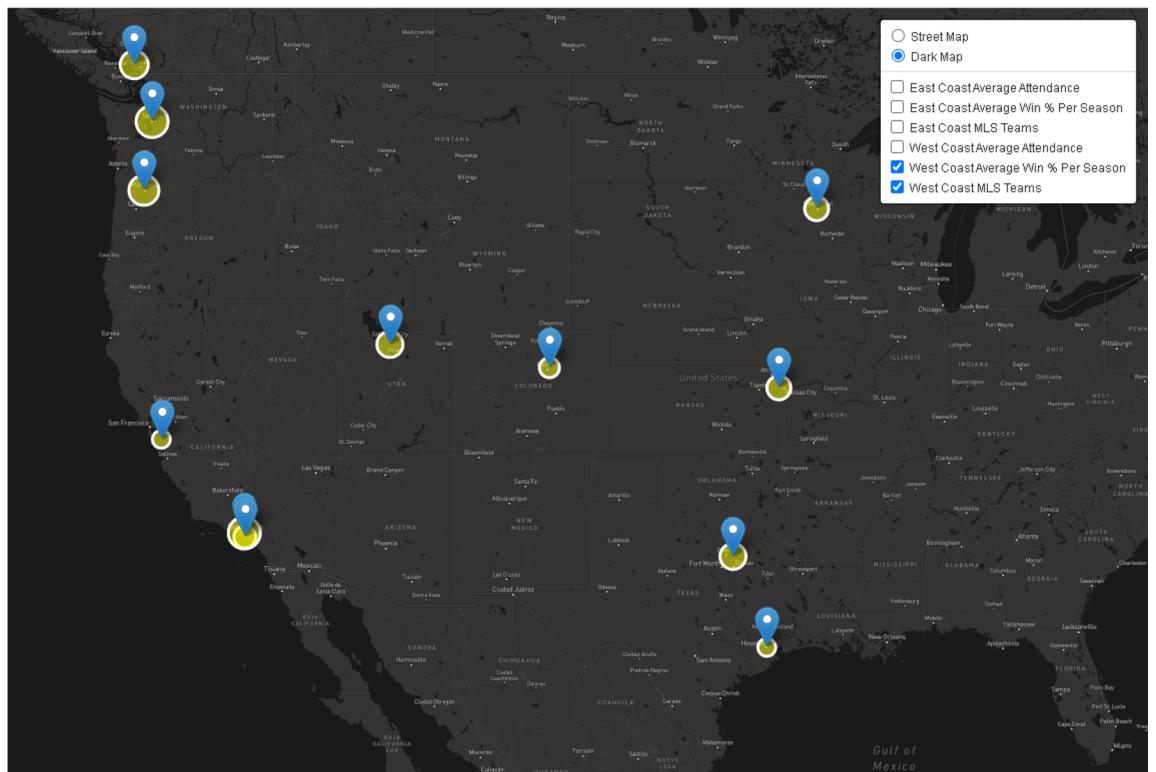
# East Coast - Average Win % Regular Season

1. Atlanta - 53%
2. NY Red Bulls - 49%
3. NYCFC - 44%
4. Toronto FC - 42%
5. Columbus - 37%

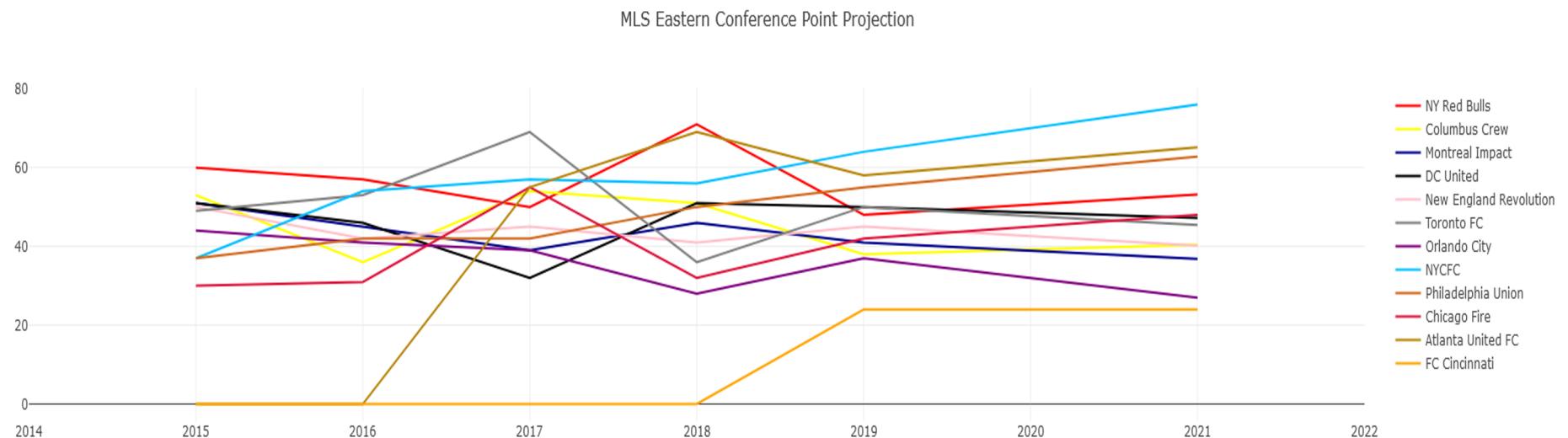


# West Coast - Average Win % Regular Season

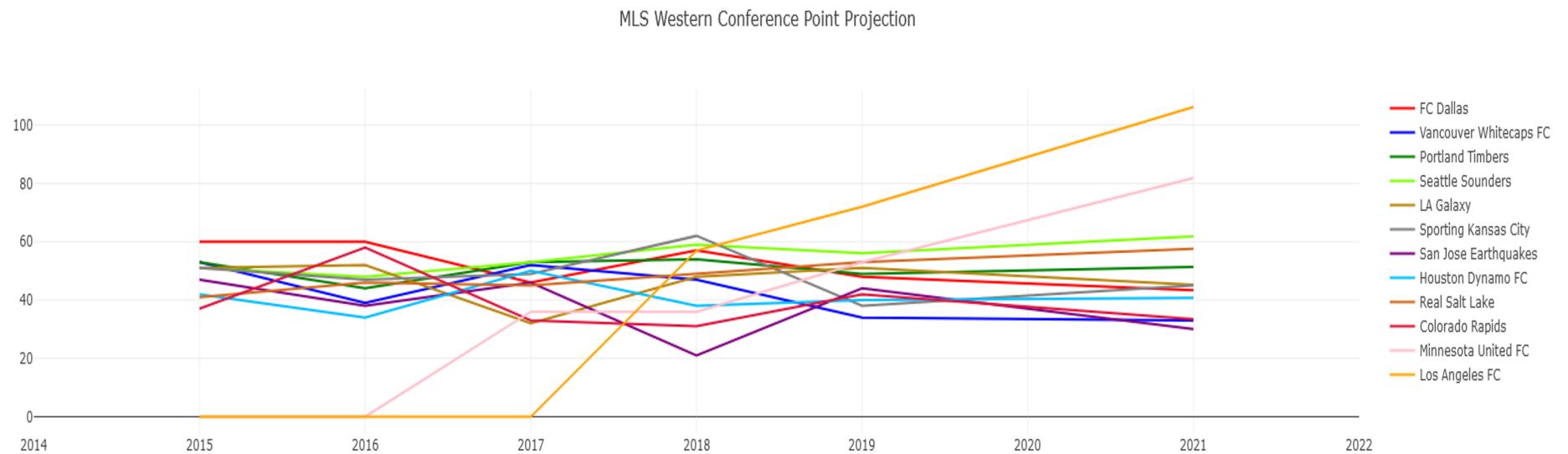
1. Los Angeles FC - 54%
2. Seattle - 45%
3. FC Dallas - 44%
4. Portland - 42%
5. Sporting KC - 39%



# Visualizations - Eastern Conference Point Projection



# Visualizations - Western Conference Point Projection



# MLS Point Projections

1. Los Angeles FC - 106.2 points
2. Minnesota United - 81.8 points
3. NYCFC - 76 points
4. Atlanta United - 65.2 points
5. Philadelphia Union - 62.8 points
6. Seattle Sounders - 61.8 points
7. Real Salt Lake - 57.6 points
8. New York Red Bulls - 53.2 points

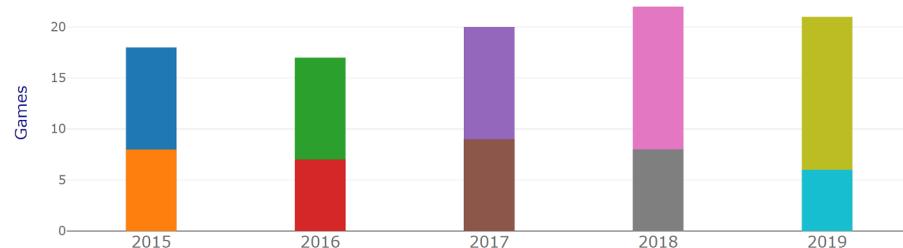


# Visualizations - Bar Chart

34 total games played

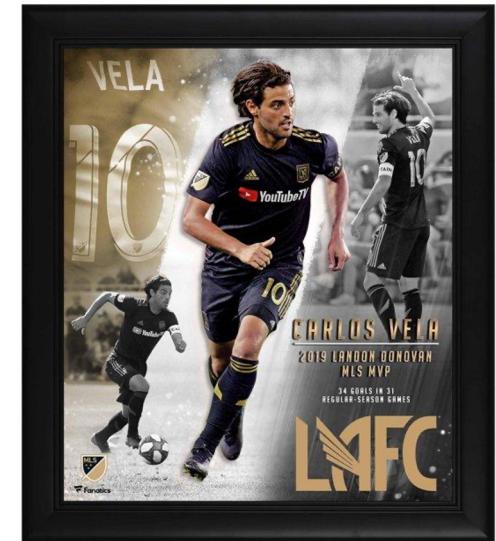
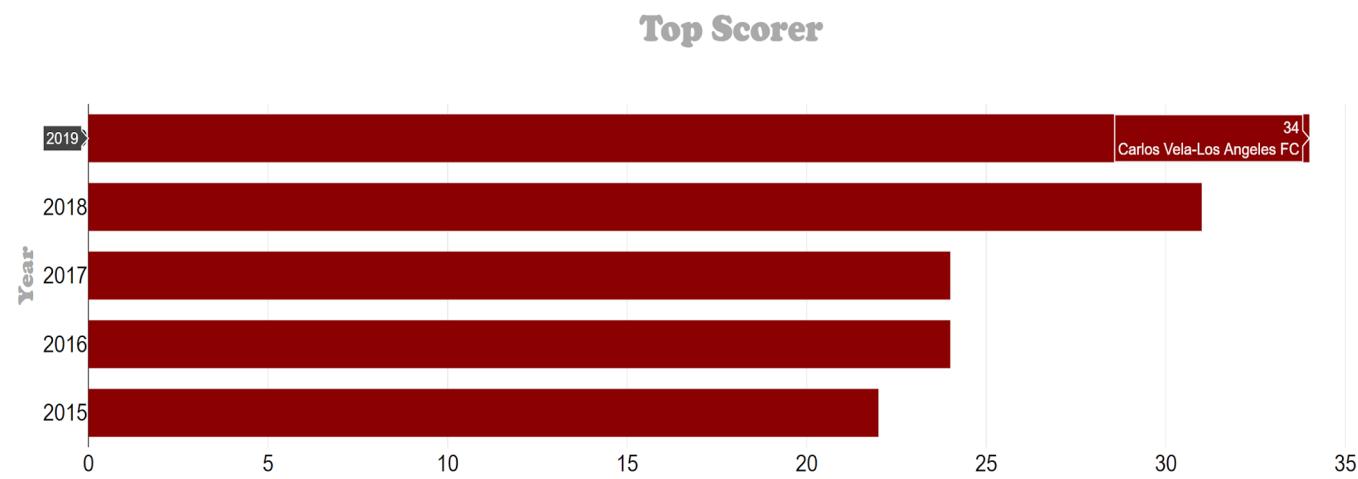


Top Team Vs Bottom Team ?



Played 3060 minutes / 34 games

# The Best of the Best



# MLS Cup Prediction

- LAFC is the predicted champion using the data we retrieved
- Based on a function of Goals per 90 minutes and Goals allowed per 90 minutes with every matchup

