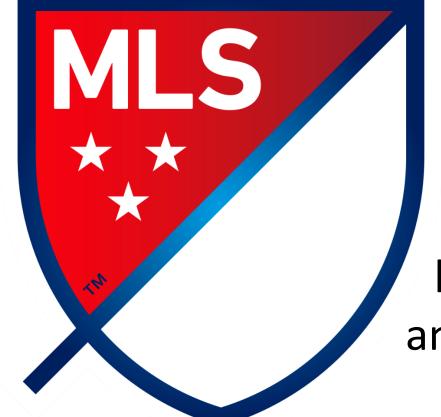


THE UNIVERSITY of NORTH CAROLINA at CHAPEL HILL



## INTRODUCTION

Founded in 1993, Major League Soccer had a lot of catching up to do as far as fan base and popularity with long-standing sport giants like the NFL and the NBA.

- The MLS built many soccer-specific stadiums to try and increase their attendance
- Recent addition of 8 new teams (as pictured in Figures 1 and 2)  $\bullet$ since the 2016 season and 9 new soccer specific stadiums
- Specific focus on fan environment that is experienced while attending a game in a soccer-specific stadium vs. an NFL or multi-purpose stadium.









*Figure 1*: Expansion teams from 2020-2022

### **RESEARCH QUESTION**

How does having a soccer specific stadium affect fan atmosphere in the MLS?

### METHODOLOGY

- A fixed effect model was utilized to observe the effects of stadium type on average attendance within teams who may have switched from an NFL stadium
- Dependent variable: Average Attendance (AVG)
- Independent variables: home win percentage (WINPCTHOME), whether or not the stadium was soccer specific (SOCCSPEC), whether or not the stadium had standing room (STAND), percent capacity (PCTSTADFILL), and population (MSAPop).
- Data was collected for all 28 MLS teams and their 2016-2022 regular season games

# The effect of stadium type on fan atmosphere in the MLS Avery Look, Yash Patel, Ike Weissman, Sarah Wooster

- Love et al. (2013) researched how the soccer-specific stadiums influenced MLS attendance.
  - The novelty-effect is the notion that when teams move into their own stadiums, meant specifically for soccer, the fan base will increase as well as attendance.
  - This paper found that soccer-specific stadiums were helpful in gaining attendance numbers.
- DeSchriver et al. (2015) found that expansion teams increase attendance within the MLS.

#### **PREDICTOR VARIABLES AND CORRELATIONS**

Table 1.	
Descriptive Statistics	

Variable	n	Minimum	Maximum	Mean	Std. Deviation
WPCTHOME	142	6	84	51.09859	14.05173
TEAMSEAS	142	1	27	14.19014	8.542703
MSAPop	142	303940	12.5m	3414543	3403975
CAP	142	18000	75412	33909.92	18447.79
SOCCSPEC	142	0	1	.75	.437
AVG	142	4070	53002	20647.81	8031.429
YEARSSTAD	142	1	105	20.3662	26.50585
PCTSTADFILL	142	7.502166	110.7222	70.19169	23.31986
STAND	142	0	1	.19	.394

- There are a few variables of note:
  - The highly negative correlation between capacity and soccerspecific stadiums shows that these stadiums tend to have less capacity.
  - The percent capacity is highly and positively correlated with soccer-specific stadiums.

#### Table 7 Descriptive Statistics and Correlations

Variable	M	SD	CAP	AVG	YEARSTAD	TEAMSEAS	SOCCSPEC	MSAPOP	PCTSTADFILL	STAND
Capacity	33909.92	18447.79								
AVG Attendance	20647.81	8031.429	.580**							
Years at Stadium	20.3662	26.50585	.269**	076						
Total Team Seasons	14.19014	8.542703	335**	395**	150					
Soccer Specific Stadium	.75	.437	857**	475**	305**	.266**				
City Population	3414543	3403975	.078	.204*	195*	112	044			
Percent Stadium Filled	70.19169	23.31986	736**	.060	320**	.105	.636**	.010		
Standing Seats	.19	.394	249**	-0.63	257**	127	.282**	058	.230**	
Win PCT at Home	51.098	14.05173	.102	.193*	081	009	075	.142	.013	139

\*\* p is significant at .01 level; \* p is significant at the .05 leve

## **PREVIOUS LITERATURE**

Table 3.

Final Predictive Model

Variable
(Constant)
WPCTHOME
SOCCSPEC
STAND
PCTSTADFILL
MSAPOP

<sup>a</sup>Significant at the .01 level ; <sup>b</sup>Significant at the .05 level



*Figure 2*: Expansion teams from 2017-2020

- stadiums.
- new fans is important.



#### RESULTS

The SOCCSPEC variable indicated that teams that switched from NFL or multi-purpose stadiums into soccer-specific stadiums lost around 7,318 fans In average attendance in the initial year of the switch (p < .01).

Coefficient		Coefficient t-statistics	Significance
	38936.47	5.00	0.000ª
	4.271377	0.33	0.745
	-7318.333	-4.15	0.000ª
	448.4538	0.29	0.772
	214.7396	12.35	0.000 <sup>a</sup>
	0083818	-3.85	0.000 <sup>a</sup>
		F-statistic	47.45
		Significance	.000ª
		$R^2$	0.68928



#### IMPLICATIONS

Declining rate of attendance in teams when switching from an NFL or multi-purpose stadium means the MLS does not need to spend hundreds of millions of dollars to build new

It would be helpful to know that it is not necessarily beneficial for teams to build their own stadium with two more expansion teams on the way for 2023.

Even when population is increasing, fan attendance is decreasing, so finding new and innovative ways to capture