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# Soccer-Specific Stadiums and Attendance in Major League Soccer: Investigating the Novelty Effect

Adam Love  
Andreas N. Kavazis  
Alan Morse  
Kurt C. Mayer Jr.

## Abstract

Major League Soccer (MLS) officials have focused on the construction of soccer-specific stadiums as a key aspect of the league's development strategy. Research in numerous professional sport contexts has found that teams tend to experience an increase in attendance after moving into new stadiums. Researchers have termed this phenomenon the *novelty effect*. Given MLS's longtime emphasis on constructing soccer-specific stadiums, the purpose of the current study was to examine the extent to which a novelty effect exists in MLS. Results of a repeated measures *t* test indicated that clubs experienced an increase in attendance during their first season in a soccer-specific stadium, and this novelty effect appears to persist to a significant extent for at least 3 years. However, the relatively young age of the league, the success of a club such as Seattle Sounders FC playing in a multipurpose venue, and the costs associated with stadium construction present important issues for further research and consideration.

**Keywords:** *Attendance, stadiums, soccer, Major League Soccer, novelty effect*

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In its first 16 years of existence, Major League Soccer (MLS) has grown from a 10-team league in its inaugural year of 1996 to an 18-team league in the 2011 season. In addition to an increasing number of clubs, another sign of MLS's progression has been the construction of soccer-specific stadiums, which the league has long focused on. Specifically, MLS Commissioner Don Garber, upon taking the job in 1999, referred to the stadium issue as a "massive priority" (Davis, 1999, p. 17B). More recently, in his 2007 State of the League address, Garber pointed to five factors that were "essential" to the future of the league, one of which was to "get all MLS teams playing in team-owned and operated soccer-only stadiums" (Polishuk, 2007, para. 12). In a 2010 interview, meanwhile, Garber stated, "Clearly MLS wouldn't be where it is today without the development of the nine soccer stadiums that we have in the league" (Ortiz, 2010, para. 5). Furthermore, when asked what had been the most important developments during MLS's history, Garber first identified "the development of soccer stadiums" (Ortiz, 2010, para. 17). Such a strategy appears to have successfully moved numerous clubs from multipurpose facilities to soccer-specific stadiums. Since the 1999 opening of Columbus Crew Stadium in Columbus, Ohio, 10 additional soccer facilities have been built, and by the end of the 2011 season, 12 of the 18 MLS clubs were playing in soccer-specific stadiums (see Table 1 for a complete list of soccer-specific stadiums in MLS).

**Table 1***Soccer-Specific Stadiums in Major League Soccer*

Opened	Facility	City	Club(s)	Capacity
1999	Columbus Crew Stadium	Columbus, OH	Columbus Crew	20,145 <sup>1</sup>
2003	Home Depot Center	Los Angeles, CA	Los Angeles Galaxy & Chivas USA	27,000 <sup>2</sup>
2005	Pizza Hut Park	Frisco, TX	FC Dallas	20,000 <sup>3</sup>
2006	Toyota Park	Bridgeview, IL	Chicago Fire	20,000 <sup>4</sup>
2007	BMO Field	Toronto, ON	Toronto FC	20,000 <sup>5</sup>
2007	Dick's Sporting Goods Park	Commerce City, CO	Colorado Rapids	18,000 <sup>6</sup>
2008	Rio Tinto Stadium	Sandy, UT	Real Salt Lake	20,000 <sup>7</sup>
2010	PPL Park	Chester, PA	Philadelphia Union	18,500 <sup>8</sup>
2010	Red Bull Arena	Harrison, NJ	New York Red Bulls	25,000 <sup>9</sup>
2011	Livestrong Sporting Park	Kansas City, KS	Sporting Kansas City	18,000 <sup>10</sup>
2011	Jen-Weld Field	Portland, OR	Portland Timbers	19,000 <sup>11</sup>

<sup>1</sup>[http://www.crewstadium.com/stadium\\_info.html](http://www.crewstadium.com/stadium_info.html)<sup>2</sup><http://www.homedepotcenter.com/contentright.php?section=aboutus&page=thehd><sup>3</sup><http://www.pizzahutpark.com/Home/AboutPizzaHutPark/FAQs/tabid/63/Default.aspx><sup>4</sup><http://toyotapark.com/venue/about.aspx><sup>5</sup><http://www.bmofield.com/><sup>6</sup><http://www.dickssportinggoodspark.com/Stadium/Facts.aspx><sup>7</sup>[http://www.riotintostadium.com/stadium\\_facts.php](http://www.riotintostadium.com/stadium_facts.php)<sup>8</sup><http://www.philadelphiaunion.com/ppl-park><sup>9</sup><http://www.redbullarena.us/arena/stadiumfacts.aspx><sup>10</sup><http://www.livestrongsportingpark.com/faq/><sup>11</sup><http://www.portlandtimbers.com/stadium-renovation>

From research in numerous sport contexts, it appears that one major potential benefit derived from the construction of a new stadium is a novelty effect leading to increased attendance (Coates & Humphreys, 2005; Howard & Crompton, 2003). Commissioner Garber demonstrated that he hopes that spectators will be attracted by new facilities in MLS, commenting that “every sports fan wants to witness a game in a safe and beautiful facility” and that a soccer-specific stadium provides “a real cathedral for fans to celebrate the game” (Ortiz, 2010, para. 5). Although research about the relationship between new stadium construction and attendance has been conducted in many professional sport leagues, such an investigation has not been carried out in the context of MLS. Because of this gap in the literature, in addition to the long-standing emphasis MLS officials place on the construction of soccer-specific stadiums, the purpose of the current study was to investigate the relationship between newly constructed soccer-specific stadiums and attendance in MLS. Specifically, we sought to answer the two questions: To what extent and for how long has a novelty effect existed in this context?

### **The Novelty Effect**

In the current study, we define the novelty effect as the change in attendance that occurs after a team moves into a new stadium. In fact, numerous studies have found that teams’ attendance figures tend to increase after moving into new venues (Baade & Sanderson, 1997; Coates & Humphreys, 2005; Danielson, 1995; Feddersen, Maennig, & Borcherdig, 2006; Howard & Crompton, 2003; Noll, 1974; Quirk & Fort, 1997; Roy, 2008; Watson & Krantz, 2003). Such a novelty effect accompanying new stadiums has been demonstrated to occur in many contexts of professional sport. For example, in a study examining attendance figures from 1969 through 2001 in North American professional sport, Coates and Humphreys (2005) found that new stadiums were associated with significant gains in attendance for Major League Baseball (MLB) and National Basketball Association (NBA) teams. Similarly, attendance increased an average of 22.2% for MLB, NBA, National Football League (NFL), and National Hockey League (NHL) teams during their first seasons in a new venue between 1995 and 1999 (Howard & Crompton, 2003). In the context of minor league baseball, Roy (2008) observed a 68% rise in attendance during the teams’ first seasons in new stadiums between the years 1994 and 2004. Specific to the sport of soccer, meanwhile, German professional teams experienced an average attendance increase of 10.7% in their first seasons in a new venue between 1963 and 2004 (Feddersen et al., 2006). This summary demonstrates the wide range of professional sport contexts in which a novelty effect has been found to exist.

Numerous factors may contribute to the existence of such a novelty effect. For example, some of the allure of a new stadium may stem from spectators’ desire to simply experience something fresh and unfamiliar to them—somewhat similar to the appeal of a new restaurant, retail store, or other attraction opening in a com-

munity (Roy, 2008). Additionally, venues built throughout the 1970s and 1980s have often been characterized as having bland, undistinguished “cookie-cutter” designs, and the cutting-edge technology present in state-of-the-art venues may provide a draw to potential spectators interested in experiencing “fully loaded” facilities that include an array of entertainment options designed to enhance the sport experience (Howard & Crompton, 2003). In addition to these general factors of attraction, there are further reasons to expect that new soccer-specific stadiums might provide a unique appeal in the context of MLS. Namely, for the first time in North America, teams are moving into venues specifically designed for the sport of soccer. With respect to soccer-specific venues, German professional soccer stadiums constructed during the 21st century have displayed a stronger novelty effect than those built prior to the year 2000 (Feddersen et al., 2006). This finding is possibly because German stadiums traditionally have a running track encircling the field, creating a larger distance between spectators and players. However, the more recently constructed facilities, which do not have running tracks, may achieve a new dimension of event character that is more attractive to spectators, thus producing a stronger novelty effect. Somewhat similarly, MLS teams moving from multipurpose facilities to soccer-specific stadiums may provide a comparably enhanced level of attraction for spectators. Thus, the existence of a novelty effect in a wide range of sporting contexts and the potentially unique attractiveness of soccer-specific venues in MLS provided the framework from which we formed our first research question:

RQ #1: To what extent does a novelty effect exist for newly constructed soccer-specific stadiums in MLS?

Of course, although people’s desire to experience something novel may provide an initial attraction to a new stadium, as spectators become accustomed to a stadium, the positive effects a new facility initially provides may diminish. Thus, in addition to documenting the increase in attendance resulting from new stadiums, scholars have also sought to determine the duration of such a novelty effect. Providing a precise answer about the amount of time a novelty effect persists is not a simple task, and the findings on this matter appear to differ based upon the context being examined. For example, Noll (1974) suggested the novelty of a new baseball stadium wears off after a period of 7 to 11 years. Howard and Crompton (2003), meanwhile, found that although 63% of MLB, NBA, NFL, and NHL teams saw their attendance begin to decline following their first season in a new venue, the majority of teams saw their attendance remain above that of the old stadium for a period of 5 years. In German professional soccer, Feddersen et al. (2006) concluded that a novelty effect appears to persist for a 5-year period. In minor league baseball, meanwhile, attendance was found to continue increasing in the second, third, fourth, and fifth years after teams moved into new stadiums, leading

the author to suggest that the novelty effect appears to last for a longer period in minor league sports as compared to major league sports (Roy, 2008). These varying findings regarding the duration of the novelty effect of a new stadium provided the context for our second research question:

RQ #2: After moving into a new soccer-specific stadium, for what period of time does a novelty effect persist in MLS?

## Method

### Sample

As of the 2011 season, 18 clubs were competing in MLS. Clubs calculate and report attendance figures based upon tickets distributed for each match, which is standard practice in North American professional sport. To gather data for the current study, the investigators contacted communication staff members at MLS clubs to obtain official attendance data for all years in each team's history. The analyses in this paper include only attendance data for regular season MLS matches.

### Data Analysis

To assess the presence and duration of a novelty effect in MLS, a repeated measures *t* test was used to compare each club's average attendance during its final season in a multipurpose venue with that during its initial four seasons in a soccer-specific stadium. For the majority of clubs in the sample, this involved comparing consecutive seasons, the first of which was a club's final season in a multipurpose venue and the second of which was its first season in a new soccer-specific stadium. In two cases, however, this test involved comparing nonconsecutive seasons. Specifically, FC Dallas split the 2005 season between a multipurpose venue and a soccer-specific stadium; thus, this test used 2004 as the club's final season in a multipurpose venue and 2006 as its first season in a soccer-specific stadium. Real Salt Lake, meanwhile, split the 2008 season between a multipurpose venue and a soccer-specific stadium; thus, this test used 2007 as the club's final season in a multipurpose venue and 2009 as its first season in a soccer-specific stadium. Because not all clubs in the sample had played a full four seasons in their new soccer-specific stadiums, the comparison of clubs' final seasons in multipurpose venues to first seasons in soccer-specific stadiums included eight clubs, and the comparisons with second seasons included seven clubs, the comparisons with third seasons included six clubs, and the comparisons with fourth seasons included five clubs.

## Results

Table 2 provides a comparison of attendance averages from clubs' final seasons at multipurpose venues and their initial seasons in new soccer-specific stadiums. In all, eight clubs moved from a multipurpose venue to a soccer-specific

stadium during MLS's first 16 seasons. Specifically, mean attendance during these eight clubs' final seasons in multipurpose venues was 13,555, compared to a mean of 17,081 during their first seasons in soccer-specific stadiums, which represents a 25.5% increase ( $p = 0.027$ ). In clubs' second seasons in soccer-specific stadiums, attendance was 23.7% ( $p = 0.022$ ) higher than during their final seasons in multipurpose venues. During their third seasons in soccer-specific stadiums, attendance was 18.7% ( $p = 0.043$ ) higher than in the final seasons in multipurpose venues. In clubs' fourth seasons in soccer-specific stadiums, attendance was still 12.9% higher than in their final seasons in multipurpose venues, but this figure ceased to be significant at the 0.05 level ( $p = 0.233$ ). See Figure 1 for a graphical summary of these comparisons.

**Table 2**

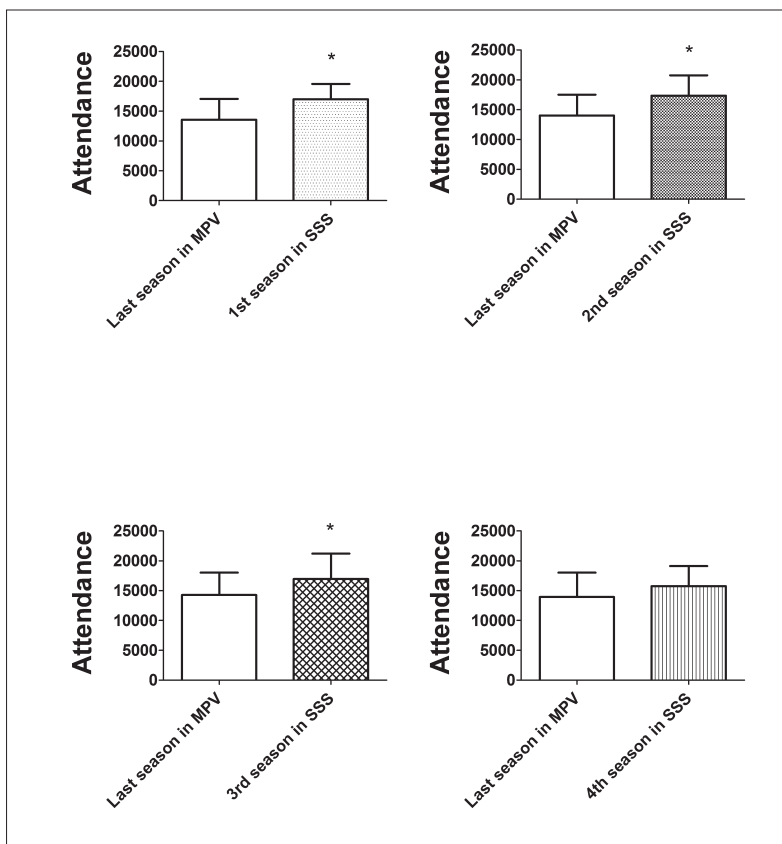
*Comparison of Average Attendance During Final Season in Multipurpose Venues (MPV) and Initial Seasons in Soccer-Specific Stadiums (SSS)*

Club	Final season in MPV	1st season in SSS	2nd season in SSS	3rd season in SSS	4th season in SSS
Columbus Crew	12,274	17,695	15,451	17,511	17,428
Los Angeles Galaxy	19,047	21,983	23,809	24,203	20,813
FC Dallas	9,087	14,982	15,145	13,023	12,440
Chicago Fire	17,238	14,111	16,490	17,034	14,689
Colorado Rapids	12,055	14,748	13,658	12,330	13,328
Real Salt Lake	15,960	16,375	17,095	17,591	N/A
New York Red Bulls	12,490	18,441	19,749	N/A	N/A
Sporting K.C.	10,287	17,810	N/A	N/A	N/A

## Discussion

During their first, second, and third seasons in soccer-specific stadiums, MLS clubs reported attendance figures that were significantly higher than those of their final seasons in multipurpose venues. By their fourth seasons in soccer-specific stadiums, clubs' attendance averages were still greater than those during their final seasons in multipurpose venues, but no longer to a statistically significant extent. These results suggest that a novelty effect exists for newly constructed soccer-specific stadiums in MLS, and this novelty effect appears to persist for a period of at least 3 years. The existence of such a novelty effect is consistent with previous research that has identified an attendance increase associated with new venues in contexts such as MLB (Coates & Humphreys, 2005; Howard & Crompton, 2003), the NBA (Coates & Humphreys, 2005; Howard & Crompton, 2003), the NFL (Howard & Crompton, 2003), the NHL (Howard & Crompton, 2003),

## Soccer Attendance



**Figure 1.** Average attendance during teams' final season in a multipurpose venue (MPV) compared to the first, second, third, and fourth seasons in a soccer-specific stadium (SSS).

\*  $p < 0.05$ .

minor league baseball (Roy, 2008), and German professional soccer (Feddersen et al., 2006). In this respect, the construction of soccer-specific stadiums in MLS appears to have an impact on attendance that is similar to the impact in a number of other sport leagues.

At the surface level, the results of this study suggest that MLS officials' strategy of prioritizing the construction of soccer-specific stadiums has been a success for the league, at least with respect to attendance. However, Commissioner Garber's comment about how soccer-specific stadiums are "essential" to the league's future highlights additional complexity regarding the issue. In one respect, the relationship between soccer-specific stadiums and increased attendance may lead some readers to agree with Garber's comments. However, it is worth considering the case of Seattle Sounders FC, a club that entered the league in 2009 and plays at CenturyLink Field, a multipurpose venue shared with the Seattle Seahawks of the



NFL. Since its debut, the club has led MLS in attendance each year, including an average of 38,496 spectators per match during the 2011 regular season. Thus, despite the attendance gains associated with soccer-specific stadiums, the case of Seattle casts doubt about whether soccer-specific stadiums are “essential” to the future of the league. Certainly, a variety of factors may influence attendance, and the Sounders’ success suggests that constructing soccer-specific stadiums is not necessarily an essential component of developing a strong fan following for MLS clubs. The intent of the current study was only to investigate the existence and duration of a novelty effect, and a range of potential factors that impact attendance should be taken into account when interpreting the results of the current study and in considering these findings in the context of strategic planning for the league and its affiliated clubs. Future research should investigate how important the novelty effect and the role of stadiums are compared to other factors that may influence attendance in MLS.

Another limitation affecting the interpretation of results from this study is that because MLS has been in existence since just 1996, it is much younger than many of the other leagues in which the novelty effect has been identified. Given this, we wish to stress that the findings of the current study are to be interpreted as somewhat preliminary. Furthermore, as of the end of the 2011 season, only five MLS clubs had played in soccer-specific stadiums for at least 4 years after having moved from multipurpose venues. Thus, due to factors such as the relative young age of the league, combined with the fact that many of the league’s soccer-specific stadiums have just been constructed in the past few seasons, it will be useful to revisit this topic in the years to come to further assess the extent and duration of the novelty effect as well as how it relates to MLS’s long-term stability.

An additional item worthy of further consideration is that substantial costs are often involved in constructing stadiums. Many scholars who have examined the economic impact of sport stadiums and arenas have concluded that funding the construction of such facilities is an unwise use of public resources (see Siegfried & Zimbalist, 2006). For example, Bridgeview, Illinois, site of the Chicago Fire’s Toyota Park, has the highest rate of debt of any community in the Chicago region after having borrowed more than \$100 million associated with the costs of the stadium (Ryan & Mahr, 2012). In part due to the substantial debt payments related to the venue, Bridgeview officials have nearly tripled property taxes during the past decade (Ryan & Mahr, 2012). Assessing the economic impacts of soccer-specific stadiums was not the intent of the current study. However, given the potential burdens placed on taxpayers and public budgets, we suggest that future research should consider how stadium construction has impacted the MLS and communities in which clubs are located from a financial perspective. Additionally, individuals involved in decision making and strategic planning should weigh the costs of stadiums along with potential benefits to be derived from their construction.

## Conclusion

MLS officials have long placed an emphasis on the important role of soccer-specific stadiums in the league's development. One potential benefit of new soccer-specific stadiums is increased fan bases for clubs in the league. In many other sport contexts, a novelty effect resulting in increased attendance has been found to exist with newly constructed stadiums. Given MLS officials' long-standing emphasis on soccer-specific stadiums, combined with the existence of a novelty effect associated with new stadiums in a variety of sport contexts, the current study investigated the relationship between attendance and new soccer-specific stadiums in MLS. Results suggest that a novelty effect, which appears to persist for a period of at least 3 years, exists for soccer-specific stadiums in MLS. Although the results of the current study may suggest that MLS officials' strategy of prioritizing the construction of soccer-specific stadiums has been successful, important issues beyond attendance are certainly worth considering. The relatively young age of the league, the success of a club such as Seattle Sounders FC playing in a multipurpose venue, and the costs associated with stadium construction present important issues for additional scholarly research as well as further consideration by MLS officials, club executives, local administrators, and members of the general public.

## References

- Baade, R. A., & Sanderson, A. R. (1997). Minor league teams and communities. In R. G. Noll & A. Zimbalist (Eds.), *Sports, jobs, and taxes* (pp. 452–493). Washington, DC: The Brookings Institution.
- Coates, D., & Humphreys, B. R. (2005). Novelty effects of new facilities on attendance at professional sporting events. *Contemporary Economic Policy*, 23(3), 436–455.
- Danielson, M. N. (1995). *Home team: Professional sports and the American metropolis*. Princeton, NJ: Princeton University Press.
- Davis, S. (1999, November 27). New commissioner out to kick-start MLS. *Dallas Morning News*, p. 17B.
- Fedderson, A., Maennig, W., & Borcherdig, M. (2006). The novelty effect of new soccer stadia: The case of Germany. *International Journal of Sport Finance*, 1(3), 174–188.
- Howard, D. R., & Crompton, J. L. (2003). An empirical review of the stadium novelty effect. *Sport Marketing Quarterly*, 12(2), 111–117.
- Noll, R. G. (1974). Attendance and price setting. In R. G. Noll (Ed.), *Government and the sport business* (pp. 115–158). Washington, DC: The Brookings Institution.
- Ortiz, J. J. (2010, July 26). Q&A: MLS commissioner Garber says league has arrived. *Houston Chronicle*. Retrieved from <http://www.chron.com/sports/dynamo/article/Q-A-MLS-commissioner-Garber-says-league-has-1710345.php>

- Polishuk, M. July 9, 2012, from <http://www.mlssoccer.com/news/article/garber-delivers-state-league-address>
- Quirk, J., & Fort, R. D. (1997). *Pay dirt: The business of professional team sports* (2nd ed.). Princeton, NJ: Princeton University Press.
- Roy, D. P. (2008). Impact of new minor league baseball stadiums on game attendance. *Sport Marketing Quarterly*, 17, 146–153.
- Ryan, J., & Mahr, J. (2012, June 9). Tribune watchdog: Soccer stadium deal kicks Bridgeview taxpayers in the teeth. *Chicago Tribune*. Retrieved from [http://articles.chicagotribune.com/2012-06-09/news/ct-met-debt-bridgeview-main-20120609\\_1\\_village-owned-stadium-bridgeview-soccer-stadium](http://articles.chicagotribune.com/2012-06-09/news/ct-met-debt-bridgeview-main-20120609_1_village-owned-stadium-bridgeview-soccer-stadium)
- Siegfried, J., & Zimbalist, A. (2006). The economic impact of sports facilities, teams and mega-events. *The Australian Economic Review*, 39, 420–427.
- Watson, J. C., & Krantz, A. J. (2003). Home field advantage: New stadium construction and team performance in professional sports. *Perceptual and Motor Skills*, 97, 794–796.

## Management Whitepaper

# Soccer-Specific Stadiums and Attendance in Major League Soccer: Investigating the Novelty Effect

Adam Love, Andreas N. Kavazis, Alan Morse, Kurt C. Mayer Jr.

## I. Research Problem

The purpose of this study was to investigate the impact of newly constructed soccer-specific stadiums on attendance in Major League Soccer (MLS). Research in numerous professional sport contexts has found that teams tend to experience an increase in attendance after moving into new stadiums. However, the presence of such a “novelty effect” associated with new soccer-specific stadiums has not been previously researched in MLS. The current study, therefore, assessed the impact of soccer-specific stadiums, providing useful information to MLS officials, club personnel, and other stakeholders affected by stadium construction.

## II. Issue

During its first 16 years of existence, Major League Soccer (MLS) grew from a 10-team league in its inaugural year of 1996 to an 18-team league in the 2011 season. Throughout the league’s history, the construction of soccer-specific stadiums has been a key aspect of MLS officials’ development strategy. For example, MLS Commissioner Don Garber, upon taking the job in 1999, referred to the stadium issue as a “massive priority.” Since the 1999 opening of Columbus Crew Stadium in Columbus, Ohio, 10 additional soccer facilities have been built, and by the end of the 2011 season, 12 of the 18 MLS clubs were playing in soccer-specific stadiums (see Table 1 for a complete list of soccer-specific stadiums in MLS).

From research in numerous sport contexts, it appears that one major potential benefit derived from the construction of a new stadium is a “novelty effect” leading to increased attendance. Specifically, previous research has identified the existence of a novelty effect in the National Basketball Association (NBA), National Football League (NFL), National Hockey League (NHL), Major League Baseball (MLB), minor league baseball, and German professional soccer. Numerous factors, of course, may contribute to the presence of such a novelty effect. For example, some of the allure of a new stadium may stem from spectators’ desire to simply experience something fresh and unfamiliar to them. Additionally, venues built throughout the 1970s and 1980s have often been characterized as having bland, undistinguished “cookie-cutter” designs, and the cutting-edge technology and design present in state-of-the art venues may provide an added draw to po-

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tential spectators. In addition to these general factors of attraction, however, there are further reasons to expect that new soccer-specific stadiums might provide a unique appeal in MLS. Namely, for the first time in North America, teams are moving into venues specifically designed to showcase the sport of soccer, which may provide an enhanced level of attraction for spectators. Overall, due to the long-standing emphasis MLS officials place on the construction of soccer-specific stadiums, as well as the presence of a novelty effect in numerous professional sport contexts, the purpose of the current study was to investigate the relationship between newly constructed soccer-specific stadiums and attendance in MLS.

### III. Summary

In all, eight clubs have moved from a multipurpose venue to a soccer-specific stadium during MLS's first 16 seasons of existence. Table 2 provides a comparison of these clubs' attendance averages from their final seasons at multipurpose venues and their initial seasons in soccer-specific stadiums. To assess the presence and duration of a novelty effect, the current study used a statistical test called a "repeated measures *t* test" to compare each club's average regular season attendance during its final season in a multipurpose venue with average attendance during its

initial four seasons in a soccer-specific stadium. Specifically, average attendance during the eight clubs' final seasons in multipurpose venues was 13,555, compared to an average of 17,081 during their first seasons in soccer-specific stadiums, which represents a 25.5% increase. In the clubs' second seasons in soccer-specific stadiums, attendance was 23.7% higher than during their final seasons in multipurpose venues. During their third seasons in soccer-specific stadiums, attendance was 18.7% higher than in the final seasons in multipurpose venues. Notably, results of the repeated measures *t* tests indicated that these increases in attendance were statistically significant. In the clubs' fourth seasons in soccer-specific stadiums, attendance was still 12.9% higher than in their final seasons in multipurpose venues, but this figure ceased to be statistically significant. See Figure 1 for a graphical summary of these comparisons.

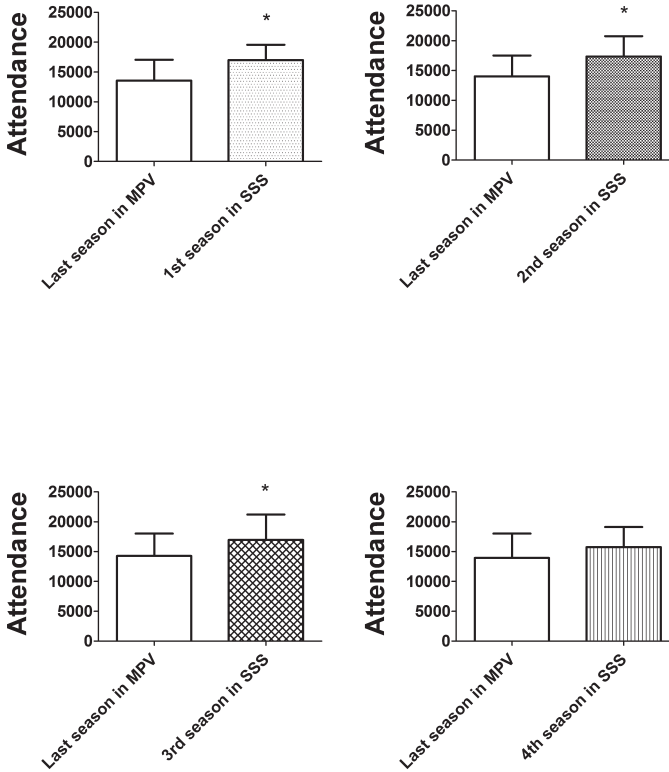
**Table 2**

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FC Dallas	9,087	14,982	15,145	13,023	12,440
Chicago Fire	17,238	14,111	16,490	17,034	14,689
Colorado Rapids	12,055	14,748	13,658	12,330	13,328
Real Salt Lake	15,960	16,375	17,095	17,591	N/A
New York Red Bulls	12,490	18,441	19,749	N/A	N/A
Sporting K.C.	10,287	17,810	N/A	N/A	N/A

#### IV. Analysis

The results of this study suggest that a novelty effect exists for newly constructed soccer-specific stadiums in MLS, and this novelty effect appears to persist for a period of at least 3 years. The existence of such a novelty effect is consistent with previous research that has identified an attendance increase associated with new venues in contexts such as MLB, the NBA, the NFL, the NHL, minor league baseball, and German professional soccer. In this respect, the construction of soccer-specific stadiums in MLS appears to have an impact on attendance that is similar to that having occurred in several other professional sport leagues. Thus, at the surface level, MLS officials' strategy of prioritizing the construction of soccer-specific stadiums appears to have been a success. However, because MLS has been in existence since just 1996, making it much younger than many of the other leagues in which a novelty effect has been observed, we wish to stress that



**Figure 1.** Average attendance during teams' final season in a multipurpose venue (MPV) compared to the first, second, third, and fourth seasons in a soccer-specific stadium (SSS).

\*  $p < 0.05$ .

the findings of the current study should be interpreted as somewhat preliminary. It will be useful to revisit this topic in the years to come to continue evaluating the extent and duration of the novelty effect as well as how it relates to MLS's long-term stability.

In addition, to further assess this topic, it is worth considering the case of Seattle Sounders FC, a club that entered the league in 2009 and plays at CenturyLink Field, a multipurpose venue shared with the Seattle Seahawks of the NFL. Since its debut, the club has led MLS in attendance each year, including an average of 38,496 spectators per match during the 2011 regular season. Thus, despite the attendance gains often associated with soccer-specific stadiums, the success of Seattle casts doubt about whether soccer-specific stadiums are essential to the future of the league. Because a variety of factors can certainly impact attendance, further research is needed to investigate how important the novelty effect and the role of stadiums are compared to other factors that may influence attendance in MLS.

## **V. Implications**

This study serves as an initial effort to assess the impact of soccer-specific stadium construction on attendance in MLS. The results of this research have relevance for a wide range of stakeholders that are potentially impacted by stadium construction, including MLS officials, club personnel, spectators, and the general public. We hope the current study provides a stimulus for further research regarding a variety of issues related to stadium construction and attendance in MLS, including the importance of stadiums compared to other factors that may influence attendance as well as economic and financial issues related to the construction of soccer-specific stadiums.