Trends in Stadium Design: A Whole New Game
Christopher R. Lamberth

The Big Picture
It’s not your father’s or mother’s game any more. The adage “take me out to the baseball game” has been redefined in the past 15 years and holds a variety of new meanings for fans. This issue of Implications will focus on the evolution of modern sports facilities in the United States, focusing on trends since 1990. These public assembly facilities—stadiums, arenas, and ballparks—have become entertainment destinations that cater to a wide spectrum of fans and provide flexible opportunities for assembly, sport, recreation, culture, arts, and education.

Today, sports facilities are relied upon to host more and varied events. To do so, more space is being allocated for the tapestry of programming elements necessary to house, support, and stage the event, sometimes exceeding 1,000,000 square feet of useable space. Looking back on the past helps clarify just how far these buildings have progressed.

A Brief History of the Building Type
Although the history of amphitheaters and stadiums dates back centuries, the modern stadium began to take shape in the US towards the end of the 19th century in urban locales such as New York and Chicago. These buildings were originally crowded, smoke-filled, wooden structures without adequate life safety design.

The growth in the nation’s population and the popularity of organized spectator sports created a need for larger, safer, and more permanent places to play. From the early 20th century and into post-WWII America, baseball, basketball, and eventually football became the driving forces in stadium and arena development. The ensuing 30 years saw the progression of concrete and steel structures that featured relatively uniform, basic design and amenities. In the early 1970s specialized, dedicated sports architecture practice took hold of the market.

Brad Mayne, President and CEO of Center Operating Company at the American Airlines Center in Dallas, Texas, observes trends from 25 years of experience, “There are more amenities that allow for greater revenue, more luxury suites, more opportunities for sponsorships—including naming rights, more teams operating the venue...and higher quality finishes within the facility. It’s much better than the concrete and brick concourses of the past.”

The industry continues to change as the major professional ranks complete their
needed buildings, and facilities for community-driven
minor league sports and collegiate athletics emerge.
The facilities of the past 15 years—and especially the
past five years—have begun to showcase premium
amenities, features, finishes, and services that are
competing for discretionary dollars by focusing on
non-game elements.

**Trends in Stadium Design**
Utilitarian designs and finishes are a thing of a past.
The precious 18-to-34 year old demographic and the
sophisticated corporate clientele are accustomed to
deluxe Los Angeles, Las Vegas, New York and Mi-
ami style hotels, night clubs, and restaurants; they
expect that level of experience at sports venues. Al-
though collegiate facilities cater to a different demo-
graphic that is more community-, student-, and fam-
ily-based, they too are incorporating finer elements
into renovated and new facilities to appeal to their
increasingly sophisticated fans. Universities and pro-
fessional franchises alike have utilized annual giving
and sponsorships to increase revenue streams; at the
same time, they have developed facilities that act as
recruiting tools for the savvy student or professional
athlete.

**Site and Surroundings**
The **arrival and experience** at a stadium or arena
site are being fashioned to capture your senses out-
side the front door. The buildings are taking the in-
side outside to make exterior transition spaces act
more like entertainment plazas, pedestrian malls,
and concourses than patios, sidewalks, and parking
lots. While urban settings lend best to this scenar-
io, suburban developments that emulate an urban
context are also proving successful. The trend is the
“CityWalk” effect. CityWalk, the outdoor retail-din-
ing-entertainment destination at Universal Studios,
Hollywood (master planning by The Jerde Partner-
ship) is an open-air, dense, pedestrian, urban retail
center with shops, restaurants, bars, and live music.

Stadiums and arenas complement a mix of residen-
tial, commercial, retail, dining, and entertainment
spaces; the trends are to add these complementary
developments around existing venues and incorpo-
rate them into new venues.

**Getting Around and Getting a Bite to Eat**
Being in a crowded environment can be overwhelm-
ing. Beyond ingress, egress, and life safety issues, **cir-
culation** within sports facilities must flow, promoting
ease of access, even when at capacity. To allow for
sufficient flow, concourses are becoming wider. Al-
lowing an additional 15-20 % of the required code
width can make a world of difference. Also, adding
lobby and entry space allows for a larger queue area
that supports effective security screening.

Having three or more **concourse levels** is now com-
mon for major sports facilities that, fifty years ago,
might have had two. More **vertical circulation** is
being included. Allocating stairs, escalators, and el-
evators for dedicated (not shared) public, private, and
service use is essential to avoiding the congestion and
frustration of moving so many people throughout the
venue. Working closely with a vertical transportation
consultant to manage these issues may even reduce
the original estimated requirements.
Implications

Neil Campbell, Vice President of Ballpark Operation for the Seattle Mariners at Safeco Field, describes changes to common areas; “Larger concourses have made a big difference...as [have] the use of computers...and improved security safeguards. You need room to get to and from concessions and restrooms, which need to be of sufficient size and, above all, clean. The concessions...need to be large enough to provide a sufficient variety of products with adequate points-of-sale, so that lines do not get too long.”

Point-of-Sale (POS) distribution ratios were designed to reduce wait times and keep lines moving. Typical POS distribution is one location for every five linear feet of counter space, with typical POS-to-patron ratios at 1:120 and 1:250. (The greater allotment is found in the more populated areas such as the main concourse verses the upper decks.) These ratios are almost double those used 20 or more years ago. Competent food service consultants who specialize in public assembly facilities can help define required space all the way down to equipment selection. Additionally, locating video monitors that simulcast the event at points-of-sale reduces the annoyance of waiting in line.

The fare being offered at a typical concession stand has also expanded beyond the staple hot dog and beer. Regional and international influences can be found in almost any market. For example, fans are finding sushi, stir fry, fish tacos, and burritos as easily as hot dogs or hamburgers in venues on the West Coast. Exclusive or private club and suite levels offer even finer fare. The variety, prices, and profit margins of all food service generate revenue and impact the game experience.

The “Hit It Here Cafe” in Safeco Field, Columbus Nationwide Arena

The In-Game Experience

Tom Folk, senior director of operations at Miller Park for the Milwaukee Brewers, looks back on his 26 years of stadium management and observes that fans are willing to pay for the sense of being at the game, which is becoming more important than the game itself, “Group areas where people can mingle enhance the non-game aspect for the guest and make the overall experience of actually attending the game unique for them.” Glenn Yaeger, president and general manager of the Triple-A Nashville Sounds, agrees, “The social aspect is so big that people leave at the end of the game without even knowing the score.”

The variety of amenities and services supplied to the more sophisticated and demanding fan allows varied ticket prices for a spectrum of seating environment options. Folk adds that fans also seem “open to the latest trend of ‘all-inclusive’ pricing...(admission, parking, food and beverage covered by one ticket), as long as the quality is there and there are less hassles through the process.”
RoseAnn Martinez, Director of Event Services at the AT&T Center in San Antonio, Texas points out, “Customers have shifted from mere event-observers to multi-taskers...They have a higher sense of entitlement, requiring a spectrum of ticket options and packages, [which results in] higher maintenance on building and franchise staffs.”

Seating Environments and Amenities
Fifty years ago facilities had limited seating types, amenities, and services. Seating bowls had simple, linear, mostly symmetrical layouts. Seats were made of wood and metal, and often provided a 16-to-18 inch wide seating space on a continuous bench without a seat back. Accessibility was not considered; suites were virtually non-existent; food fare was simple; lines were long; and in-seat vendors (i.e., hawkers) were everywhere. Quality sightlines, unobstructed views, comfortable seating or premium seating were not paramount design elements—they are today.

Preferred seat locations—close to the action with optimum vantage points and sight lines—will always command the highest ticket price. Many facility operators cite the 80-20 rule; 80% of the revenue comes from 20% of the attendees. The 20% attendees are sitting in the premium seats, buying premium food and beverages, and, arguably, paying premium prices.

Sports facility design today offers a number of seating environments that have evolved into a variety of small “neighborhoods”. Suites, club levels, and additional seating tiers, decks, and levels were added in the 1960s and 1970s, pushing seating further out, up, and away from the event floor. This creation of a mixture of seating choices at every level and location led to flexible, tiered ticket pricing, with the best seats and the best amenities garnering the highest prices.

Most of today’s fans are familiar with the luxury/private suite concept; a standard suites holds 10-16 persons with fixed seats in a living room environment accessed from a separate, dedicated concourse. Suites typically also include a drink rail, bar stools, a buffet, and a kitchenette area. A combination of television monitors, dedicated phone lines, computers with Internet access, and wireless hot spots are now standard features. Recent trends include replacing full-size refrigerators with smaller under-counter units, and ice makers with portable ice troughs fed by food service staff. Restrooms are also being removed from the suite environment and centralized to improve cleanliness, odor control, and cost savings in construction and maintenance.
What fans may not be familiar with are the new expansive club lounges, fine dining, loge seating, bunker suites or lounges, and field or courtside suites. Most of these amenities are accessible from club and suite levels only.

- Nightclub style bars provide hip, lounge style environments for people to stay close to the action or escape in the atmosphere. Full service sit-down restaurants, build-your-own buffets, and stand-alone dessert carts offer premium menu selections.
- The loge seat concept, growing in popularity, takes the suite out of the suite and into the bowl, including comfortable office style chairs, a dining counter top for in-seat food service, dedicated televisions, and sometimes a small refrigerator.
- Bunker suites and lounges have no view into the seating bowl or event floor, but afford a large environment that provides all of the finishes, amenities, and services of a suite or lounge.
- Courtside and field suites, like the ones at Seattle’s Quest Field, are suites placed right down in the front row, bringing the fans even closer to the action.

Advancements in audio/visual technology are evident in the prolific video boards, scoreboards, and ribbon board systems ringing a seating bowl with high resolution clarity and concert-level sound quality. These technologies have the capacity to pay for themselves through creative advertising whereby portions of an entire facility can be wrapped and branded with a sponsor’s message at the push of a button. For major facilities, material and installation budgets for these audio/visual elements are equivalent to the building’s entire electrical material and installation budgets (in the neighborhood of tens of millions of dollars).

Security, Technology, and Back of House

Technology also enables more amenities and services. Will Lofdahl, Director of New Mexico State University’s Pan American Center in Las Cruces, New Mexico, notes, “There are now means of mechanically tilting the lower level of seating to provide better sightlines between various events types that are staged in a facility. TVs are everywhere, hanging on the walls throughout the building and even...embedded into the floor of the concourses...The bottom line is comfort and convenience.”

Plenty of what you don’t see is just as important as what you do. In today’s age of heightened security and energy efficiency awareness, building systems are being integrated to provide smarter, safer, and more efficient buildings. Though many of these efforts rely on new technologies, facility staff awareness and training are crucial to their success.

Designed efficiencies support new uses for sports facilities. “Efficiencies in building design—the retractable seating solutions, conversion equipment, et cetera—are all better, lighter, and more durable...buildings are no longer just for sports. They are now competing with convention centers and hotels as flat floor space [and] expo or trade options. Every day is a potential booking day,” says Martinez.
Centralized, computer-run monitoring, control, and access systems have components placed about building perimeters, parking lots, points of entry, concourses, seating environments, and other back of house areas. More space is being dedicated for command centers for building systems. Area lighting and climate control, often zoned to turn off services to unoccupied areas, are controlled by local sensors that feed data to command centers and make adjustments automatically. Hard key entry is being supplemented or replaced by magnetic-, bar-, and key-coded devices.

New designs allot greater space for storage, staging, and marshalling, all of which are critical for accommodating television broadcast trucks, live show equipment trucks (which can include from 5-10 semi trucks with 53-foot trailers), and general service traffic. These areas are in constant flux. "An increase in electrical power and related space for larger quantity of media trucks, equipment, cabling, and media staff is seen across the board. The media areas have defiantly evolved into the digital age with more data and electrical outlets (for laptop computers and digital cameras)...the old 'darkroom' has pretty much become a storeroom," says Folk.

Teams and support staff are officing more frequently within the facility, occupying anywhere from 15,000 to 50,000 square feet. Laundry rooms and sophisticated food service areas are now common components of the sport facility program. Multiple locker rooms for multiple tenants (including training and conditioning facilities and expandable performer dressing rooms) surpass the old home and visitor locker spaces.

Campbell describes the locker rooms as, "no longer just a room with lockers and a shower room. New ones rival what you would find in a fine house [with] added workout equipment, medical facilities, and a commercial kitchen." Components of the modern "locker room" may include expansive well-appointed carpeted areas with ergonomic, executive-style chairs and oversized, natural wood lockers that have built-in personal electronics. They may also house video coaching rooms, coaches’ offices, meeting rooms, media interview rooms, practice areas, strength conditioning rooms for weightlifting and cardio exercises, athletic training rooms for taping, stretching, treatment and therapy, and living-room-style lounges with full kitchens and dining space.

"You’ll find player parking with dedicated hallways for exclusive use [by] players, family lounges for VIP guests, special gates for car entry, [and] proximity-controlled areas to keep [the] weight room, training room, locker room, [and] shower room all behind the same access point," says Martinez.

Conclusions
Modern sports facilities have evolved dramatically in the United States over the past 15 years, most noticeably in the last five. Multiple layers of amenities and services driven by the latest technologies provide enough distractions that fans can easily get lost in the experience. Design features and systems are being built into everything seen, touched, smelled, tasted, or heard. More space is being added to meet expanding building programs. Today’s more sophisticated fan wants to be entertained with non-game elements; the game itself has become only a part of the entire experience.
Implications

About the Author:
Christopher Lamberth, Associate AIA, is the sports business development manager for 360 Architecture based in Kansas City, Missouri with offices in Columbus, Ohio and San Francisco. His focus is on planning and design of professional and collegiate sports facilities including arenas, stadiums, ballparks and training centers. With a background in architecture, engineering, and construction, Chris holds a degree in Architectural Engineering from California State University at Fullerton. He is active in various trade organizations, serves on the Stadium Committee for the International Association of Assembly Managers (IAAM), and contributes to VenuesToday, Facility Manager, and PanStadia magazines.

Recommended Reading
—www.ballparks.com (A comprehensive guide to MLB, NBA, NHL, and NFL facilities created by Munsey, P., & Suppes, C.)

Related Research Summaries
InformeDesign has many Research Summaries about stadium design and other, pertinent, related topics. This knowledge will be valuable to you as you consider your next design solution and is worth sharing with your clients and collaborators.

“ADA Concerns in Assembly Spaces of Public Buildings”—Journal of Architectural & Planning Research
“Stage and Auditorium Lighting”—Journal of the Illuminating Engineering Society
“The Role of Technology in Building Maintenance”—Facilities

Photos Courtesy Of:
360 Architecture

The Mission
The Mission of InformeDesign is to facilitate designers’ use of current, research-based information as a decision-making tool in the design process, thereby integrating research and practice.

Created by:
UNIVERSITY OF MINNESOTA
Sponsored by:
© 2002, 2005 by the Regents of the University of Minnesota.