

Designers Lighting Forum

TRANSCENDING THE BOWL: STADIUM LIGHTING BEYOND THE FIELD

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material of construction or any method or manner of handling, using, distributing, or dealing in any material or product.

Questions related to specific materials, methods, and services will be addressed at the conclusion of this presentation.

Learning Objectives

At the end of the this course, participants will be able to:

1. Identify the evolution of program elements included in the design of sports venues and stadiums.
2. Describe how new lighting technology can define what it means to be at one venue versus another.
3. Apply new lighting strategies and techniques to create dynamic environments in response to flexible program requirements.
4. Evaluate budget to determine appropriate solutions based on balancing the clients' desires with construction feasibility.

CONCESSION CUISINE



GAMEDAY GIVEAWAYS



STANDING IN A LINE...

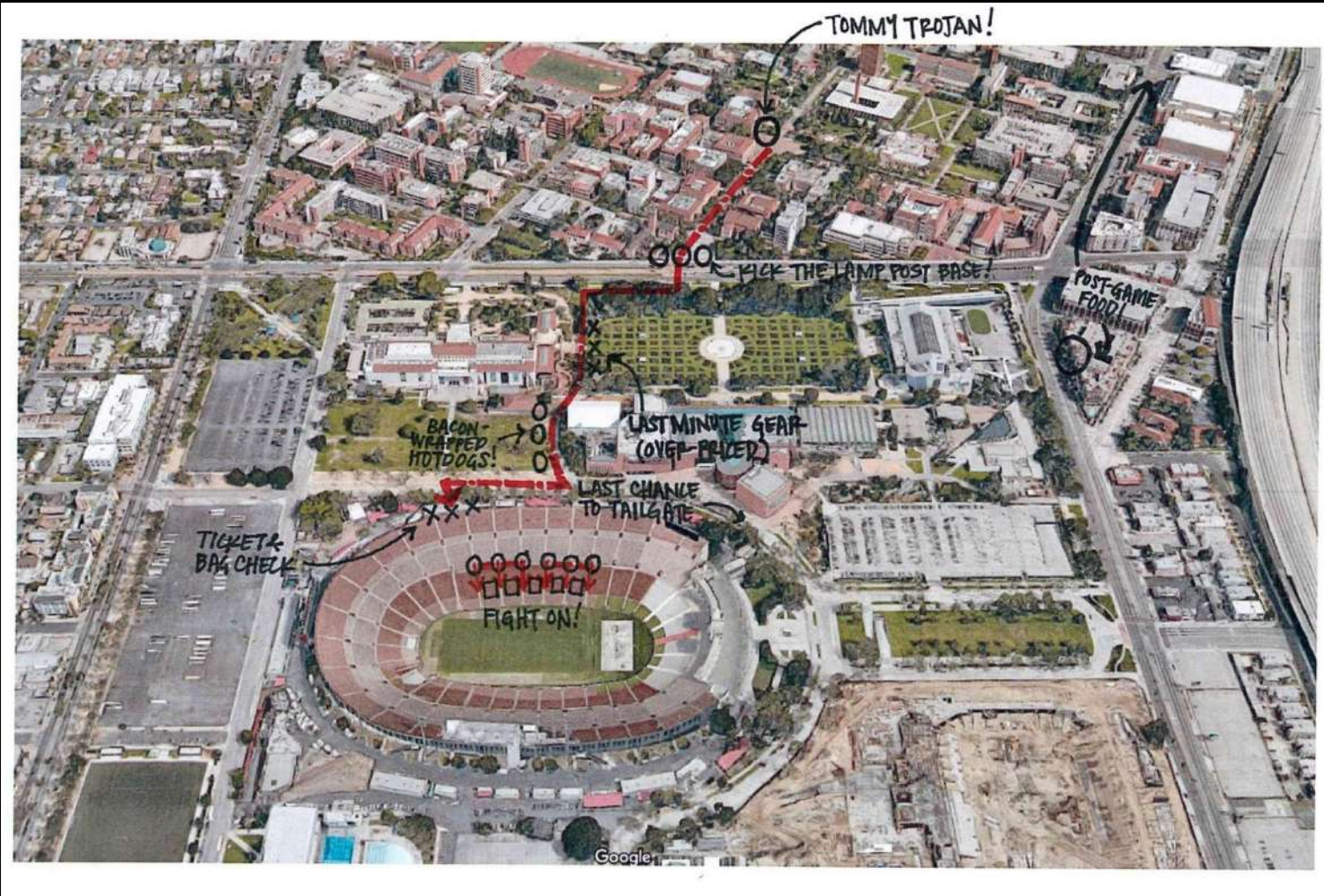


...OR AT YOUR SEAT IN THE BOWL!



WHAT ABOUT THE ACTUAL VENUE?





VENUES BECOME A PART OF THE TRADITION





STADIUMS ARE NOW
SPORTS ENTERTAINMENT DISTRICTS





DESIGNING FOR THE CLIENT, THE TEAM, THE FANS...





THE COMMUNITY!



LET'S GET TO WHY WE'RE ALL GATHERED HERE TODAY...STADIUM LIGHTING!



LIGHT AS...

SKIN/MATERIAL

INFORMATION

WOW FACTOR

STADIUM DESIGN HAS EVOLVED TO BECOME MEMORABLE FOR MORE THAN JUST SPORT



LIGHTING CAN





LIGHTING CAN TRANSFORM





LIGHTING CAN REVEAL





LIGHTING CAN



LIGHTING
CAN

DEFINE

LIGHTING CAN **ENDORSE**





LIGHTING CAN SUPPORT





EARLY FORMS OF PERFORMANCE ART IN SPORTS



INDIVIDUAL PARTICIPATION ENHANCES THE CROWD EXPERIENCE





VENUE



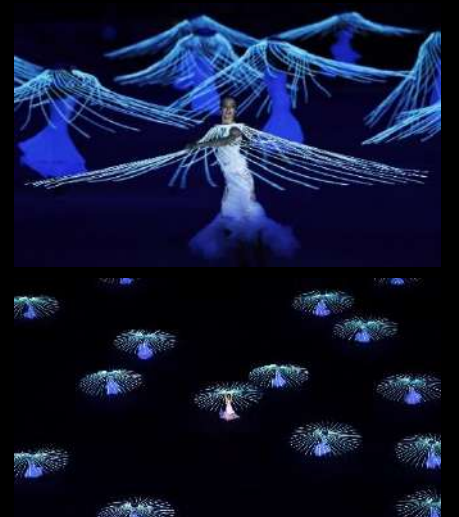
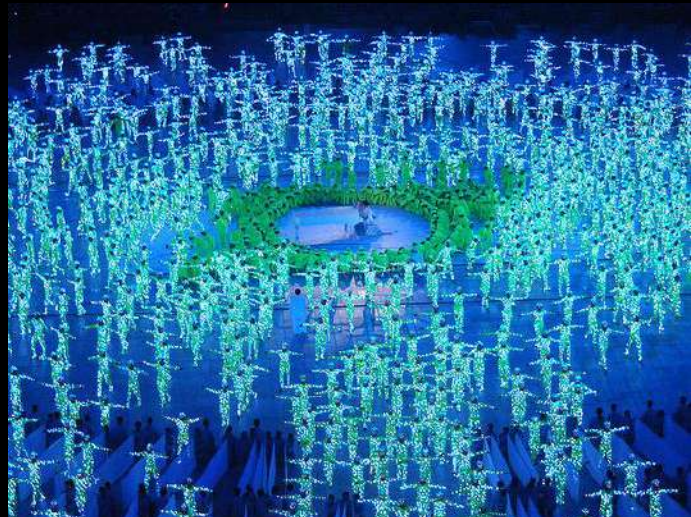
SKY



STAGE



PERFORMER





LIGHT AS...

WAYFINDING

IDENTITY

ALLUREMENT

THE EXPERIENCE IS A JOURNEY AND YOUR SEAT IS THE DESTINATION



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CONCOURSES ARE MORE THAN A RACETRACK AROUND THE FIELD...





THEY'RE A MEANDERING PATH TO YOUR DESTINATION





FEATURE LIGHTING TO SIGNIFY VERY IMPORTANT POINTS OF ARRIVAL





MEET YOU BY THE CONDIMENTS?...





POCKET NEIGHBORHOODS PROVIDE SPECTATORS WITH INTIMATE ENVIRONMENT TO CHEER ON TEAM





NEW YORK CENTRAL BAR, GRAND HYATT NY



RETAIL LIGHTING BASICS: TROFFERS, HIGHBAYS, & TRACKHEADS





SPECIALTY LIGHTING TO ADVERTISE TEAM BRANDS & TRADEMARKS OF THE GAME



STADIUM DINING & FLEX SPACE LIGHTING ON A BUDGET?



DOWNLIGHTS FOR DAYS!





USE OF LAYERED ARCHITECTURAL LIGHTING TO CREATE A UNIQUE EXPERIENCE





USE OF CUSTOM LIGHTING & COLOR-CHANGING LEDS TO ELEVATE A PREMIUM EXPERIENCE





USE OF INTEGRATED DETAILS & DECORATIVE LIGHTING TO ENHANCE A PRESTIGIOUS EXPERIENCE





LE BERNARDIN





AND NOW I'M OFF TO FIND MY SEAT...
ANYONE ELSE IN SECTION 349?



TODAY'S SUITES ARE INSPIRED BY HIGH-END RESIDENTIAL AND HOSPITALITY PRECEDENTS



AND DELIVERED ON A BUDGET





MIMICKING THE COMFORT OF ONE'S OWN HOME



LIGHTING CAN BE...

SENSUAL

CAPTIVATING

ICONIC

'THE STADIUM IS A BUILDING THAT BRINGS TOGETHER PEOPLE OF ALL AGES, ALL CULTURES, ALL RELIGIONS.

THE ONLY OTHER THING THAT COMES CLOSE TO THAT IS AN AIRPORT.'

SINGLE-USE STRUCTURES IN THE MIDST OF ASPHALT JUNGLES...



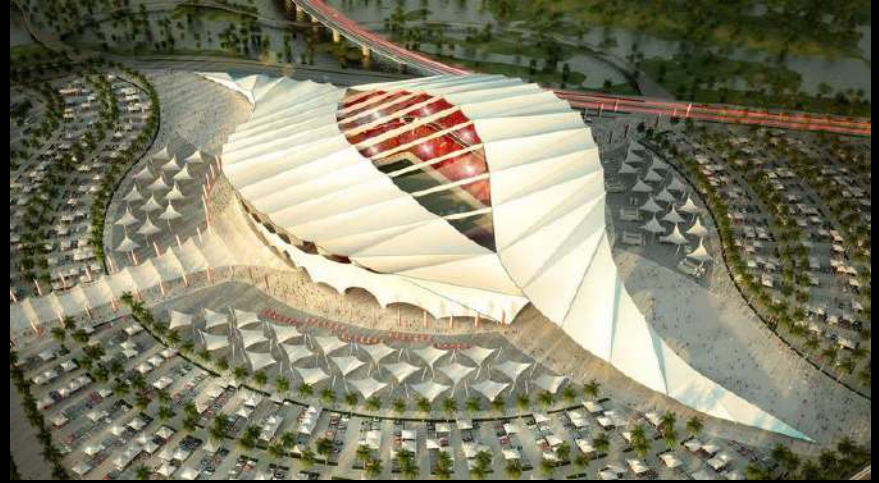
...TURN TO RUINS OVER TIME



TODAY'S STADIUMS AND VENUES ARE WOVEN INTO OUR URBAN FABRIC

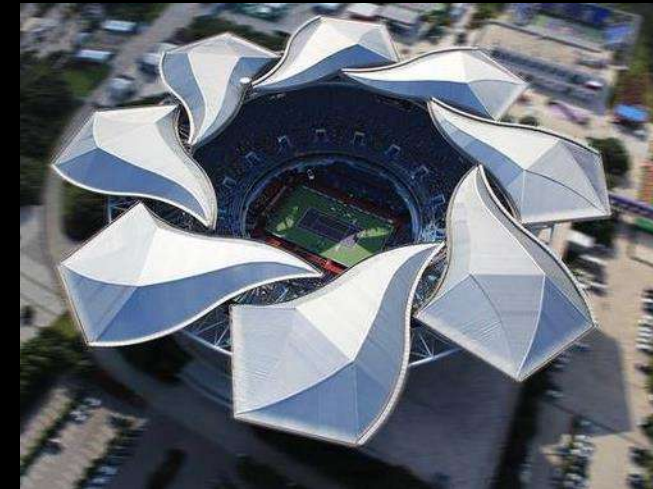
THE EXCEPTION BEING **LAMBEAU FIELD**





ARCHITECTURAL DESIGN INSPIRED BY NATURAL ENVIRONMENT AND ECOSYSTEMS





STEWARDS OF COMMUNAL LEADERSHIP THROUGH USE OF SUSTAINABLE MATERIALS AND ADVANCED TECHNOLOGY





WHEN USING BRIGHT LIGHTS TO CREATE CITY ICONS GOES TOO FAR

WHERE DO WE GO FROM HERE?

THE STADIUM OF TOMORROW

We asked Populous, an architecture firm that designs stadiums around the world, to envision the stadium of the future. The firm came up with a venue that incorporates current technology pushed to the extreme—with some creative leaps—but that also serves the same purpose as those built almost 3,000 years ago: allowing people to experience a astounding athletic feat together.

A SELF-SUFFICIENT ECOSYSTEM

Sustainable technologies have not been used on such a large scale in a stadium before. The stadium roof provides more than enough space for solar and wind power, with enough room left for water collection and a rooftop garden. Guests contribute as well. Their food waste is recycled into fuel and compost.

Wind turbines

Wind turbines can generate much of the power that the stadium needs because the stadium uses energy-saving technologies such as LED lights.

Photovoltaic roof panels

Drums collect rainwater to use for flushing toilets and watering plants, but not for drinking... a treatment plant would use too much energy.

Vegetable garden

A rooftop garden provides a tranquil escape from the stadium below, as well as ingredients for on-site restaurants.



Transportation drone

Retractable roof

The fabric roof folds like an accordion to open the field to the audience or extend retractable players from the stands.

Solar power

Cells in the roof contain photovoltaic panels, which shed to absorb sunlight and provide shade to fans.

INTERACTIVE FAN EXPERIENCE

Opening and closing ceremonies at the Olympics already involve the audience in the spectacle by providing LED lights for the crowd to brandish at key moments. In the stadium of the future, fans share their emotions through LED clothing or even experience what the players are feeling.

Augmented reality

A large hologram with the score and statistics over the field, while small screens are at each seat.

Smart stadium seating

Fans in LED jerseys might feel the heat (or cold) of a favorite player or light up in colors to reflect the mood of the game.

AUTOMATED AMENITIES

Customers avoid the long lines at refreshment stands—and the hassle of hauling a ballpark vendor—by ordering food and drink to be delivered by drone to their seats. Fans in mobile wearable pods have their food and drink served by robots docking into the pod; trashbots take their garbage away.

Biography pods

Electromagnetic pods near the field allow fans to see more than just the game, allowing to experience more, see from anywhere they like.

Drone delivery

Loaded by robots, drone deliver (smooth, hot dogs, and Crustea). Just, among other refreshments, to your seat.

CONNECTING THE STADIUM

Towers connect locals to the progress of the game by pulsating with colors that vary depending on the crowd's reaction. For those who prefer to play rather than watch, small fields and courts open to the public are located within the stadium.

Viewing platforms

Tower holders watch the game from towers overlooking the stadium while enjoying an elevated lounge party.

A MULTIPURPOSE STADIUM

Modern stadiums require a massive investment. To make that investment worthwhile, planners design them to be useful year-round for multiple sports and other events. The stadium of the future is versatile, hosting water sports like sailing, for instance, and even offering places to live within the complex itself.

Water sports observation seating

Field jets

Water water stadium access

Reusable water storage

DIGITAL INFRASTRUCTURE

The stadium's artificial interactive technologies—holograms, drones, sensors on players and fans—require a lot of computer power. An on-site server farm is necessary, one that stadium's built even a decade ago, and will need to take into account.

Adaptive seating

Seats can move back and forth to allow for different size fields of play, depending on the sport.

RETHINKING THE PLAYING FIELD

The surface of the field changes textures and materials for different sports. It may artificial turf for football, grass for soccer or wood for basketball. The lines marking the area of play are projected onto the field, allowing the field to vary in size and shape.

Viewing pods

A see-through field view or underground viewing area allows fans to watch the game from below.

TRANSPORTATION

Some spectators arrive at a station within the stadium via a high-speed train or monorail. Others are delivered by drone directly to their seats. Fans willing to pay extra travel through an underwater tube for an aquarium-like experience (for sale).



NATIONAL GEOGRAPHIC

ANDREW HARRIS AND BOB LANGRISH FOR NATIONAL GEOGRAPHIC

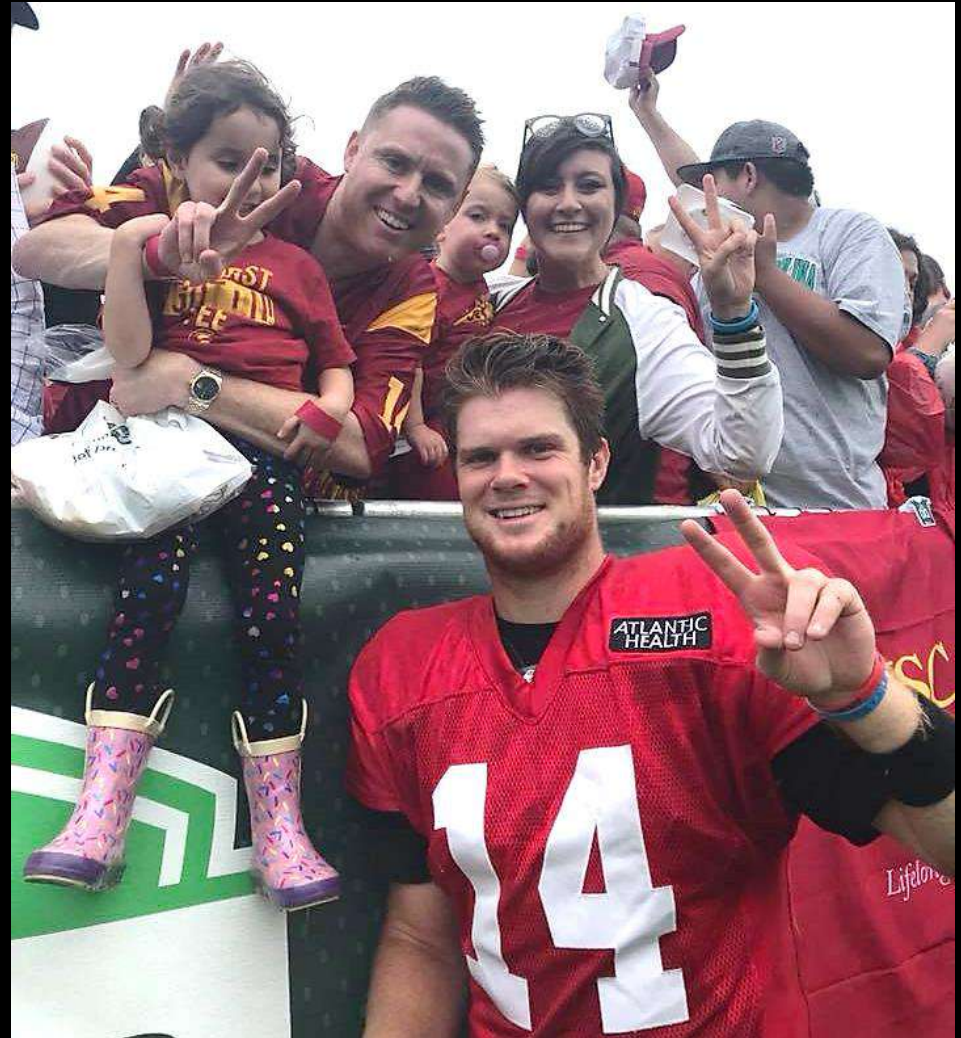
PHOTOGRAPH BY ANDREW HARRIS FOR NATIONAL GEOGRAPHIC

ILLUSTRATION BY BOB LANGRISH FOR NATIONAL GEOGRAPHIC

IMAGE COURTESY OF POPULOUS



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RISE UP!

COME ON YOU SPURS!

FIGHT

ON!





This concludes The American Institute of Architects Continuing
Education Systems Course



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A wide-angle, low-angle shot of a large stadium at dusk or dawn. The sky is a deep blue, and the stadium lights are on, creating a bright glow. The field is visible in the foreground, with yard lines and the number '50' clearly marked. The stands are filled with spectators, though they are somewhat blurred.

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