

An aerial view of a basketball court at night. The court is illuminated with blue and red lights. Several players are visible on the court. Overlaid on the court are glowing motion lines in red and blue, indicating player movement. The text "MEASURES SPEED AND ACCELERATION" is prominently displayed in the center of the image.

MEASURES SPEED AND ACCELERATION

https://www.youtube.com/watch?v=nGuOA_EJ8qk

Aims of today's lecture

- Discuss sporting stadiums and venues
- Understand the different models and concepts behind sporting venues during construction and operation
- Look at technology and how it is advancing, altering and developing new sports



Week 2- Sports venues, past / now / future



<https://www.youtube.com/watch?v=rbcBhQflwM>



Sports Facilities

- Vast diversity of ‘places where we play’. Stadiums, arenas, soccer fields, tennis courts, swimming pools, parks, and much, much more!
- Largest facilities include motor racing tracks with over 150,000 capacity and football/soccer stadiums that can hold in excess of 100,000 spectators
- Note: for this chapter, ‘venue’ is used as a generic term to include all facilities in which sport is played
- Venues often will be hosting both sports events and other entertainment shows, such as concerts, conventions, religious meetings, and more

Attendance at
venues:

Indianapolis
Motor Speedway

210, 000



Alternative Venues now being used



Boston
Red Sox
Ski Jump



Basketball
on a US air
craft
carrier

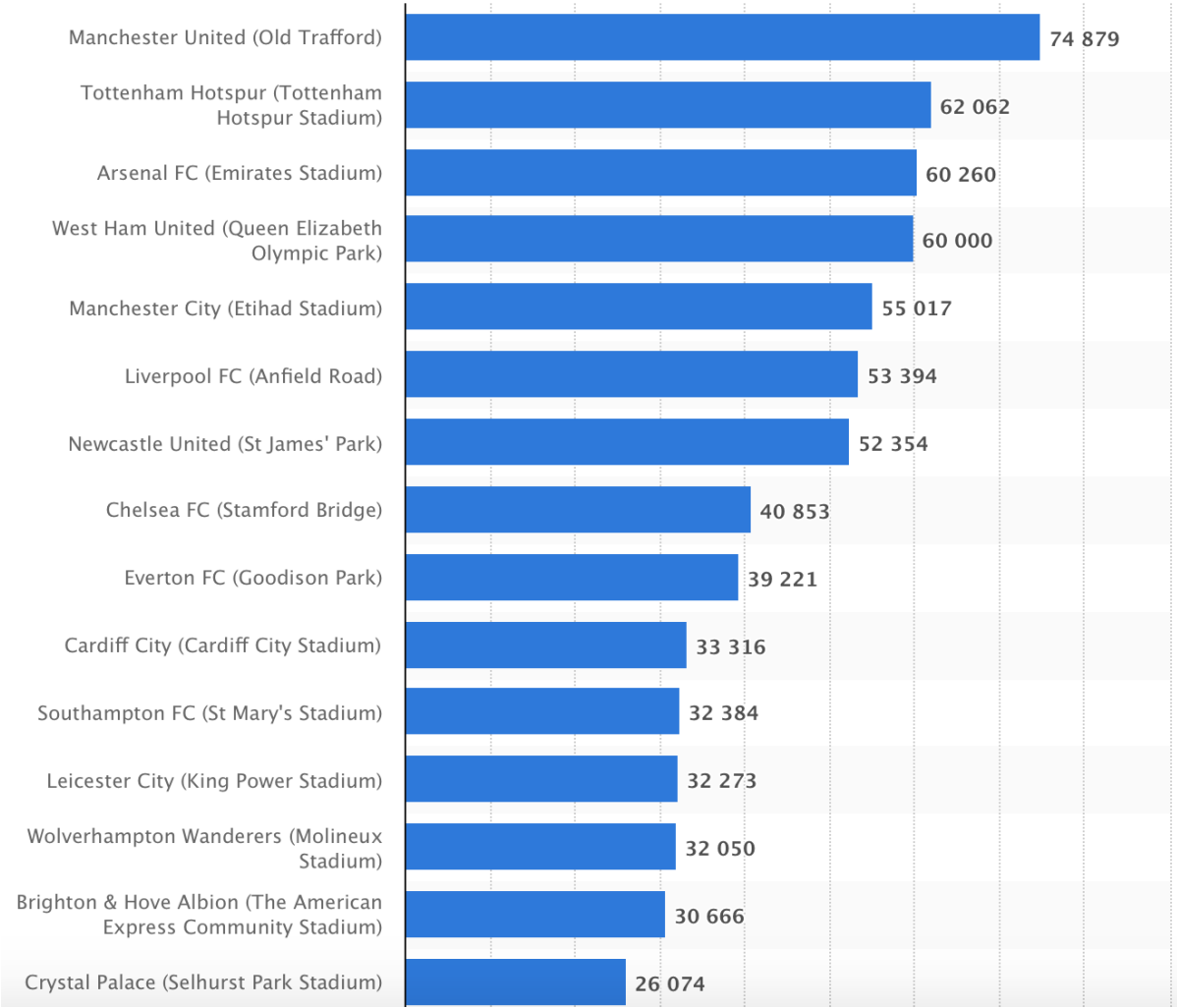
Tennis
on a
helipad
Dubai



Biggest Stadiums in The World By Capacity

Rank	Stadium	Capacity	Location
1	Rungrado 1st of May Stadium	114,000	Pyongyang, North Korea
2	Michigan Stadium	107,601	Ann Arbor, Michigan, US
3	Beaver Stadium	106,572	State College, Pennsylvania, US
4	Ohio Stadium	104,944	Columbus, Ohio, US
5	Kyle Field	102,733	College Station, Texas, US
6	Neyland Stadium	102,455	Knoxville, Tennessee, US
7	Tiger Stadium	102,321	Baton Rouge, Louisiana, US
8	Bryant–Denny Stadium	101,821	Tuscaloosa, Alabama, US
9	Darrell K Royal–Texas Memorial Stadium	100,119	Austin, Texas, US
10	Melbourne Cricket Ground (MCG)	100,024	Melbourne, Victoria, Australia

11	Camp Nou	99,354	Barcelona, Spain
12	Soccer City	94,736	Johannesburg, South Africa
13	Sanford Stadium	92,746	Athens, Georgia, US
14	Rose Bowl	92,542	Pasadena, California, US
15	Cotton Bowl Stadium	92,100	Dallas, Texas, US
16	Wembley Stadium	90,000	London, England, UK
17	Ben Hill Griffin Stadium	88,548	Gainesville, Florida, US
18	Jordan–Hare Stadium	87,451	Auburn, Alabama, US
19	Bukit Jalil National Stadium	87,411	Kuala Lumpur, Malaysia
20	Estadio Azteca	87,000	Mexico City, Mexico





Largest NFL Football Stadiums

Rank	Stadium	Capacity	Location
1	Los Angeles Memorial Coliseum	93,607	Los Angeles, California
2	MetLife Stadium	82,500	East Rutherford, New Jersey
3	FedExField	82,000	Landover, Maryland
4	Lambeau Field	81,435	Green Bay, Wisconsin
5	AT&T Stadium	80,000	Arlington, Texas
6	Mercedes-Benz Superdome	76,468	New Orleans, Louisiana
7	Arrowhead Stadium	76,416	Kansas City, Missouri
8	Sports Authority Field at Mile High	76,125	Denver, Colorado
9	Bank of America Stadium	75,419	Charlotte, North Carolina
10	NRG Stadium	72,220	Houston, Texas

Why a reduction in capacity?

Demand Side

- High levels of expectations of the 'in venue experience,' including such technology, food and beverage options/service, concessions, cleanliness, and ease of entry/exist to the venue.
- Growing demand for higher levels of security by governments and leagues as well as higher expectations by fans.

Supply Side

- Growing trend for new venues to focus on high levels of technology and service offerings for users.
- Types of offerings include the scoreboard/screens, web access, apps to allow for social media based replays, ticketing systems, improved concessions (quality and choice), safety, and more.

Stakeholder View

A smart venue manager focuses on coalitions and partnerships with other stakeholders (see next slide)

In a venue, one group often takes on a number of the different stakeholder roles, including:

Often a venue manager is dealing with many partnerships across many stakeholders

In the new venue building context, this is even more pronounced

Venue owner as venue operator

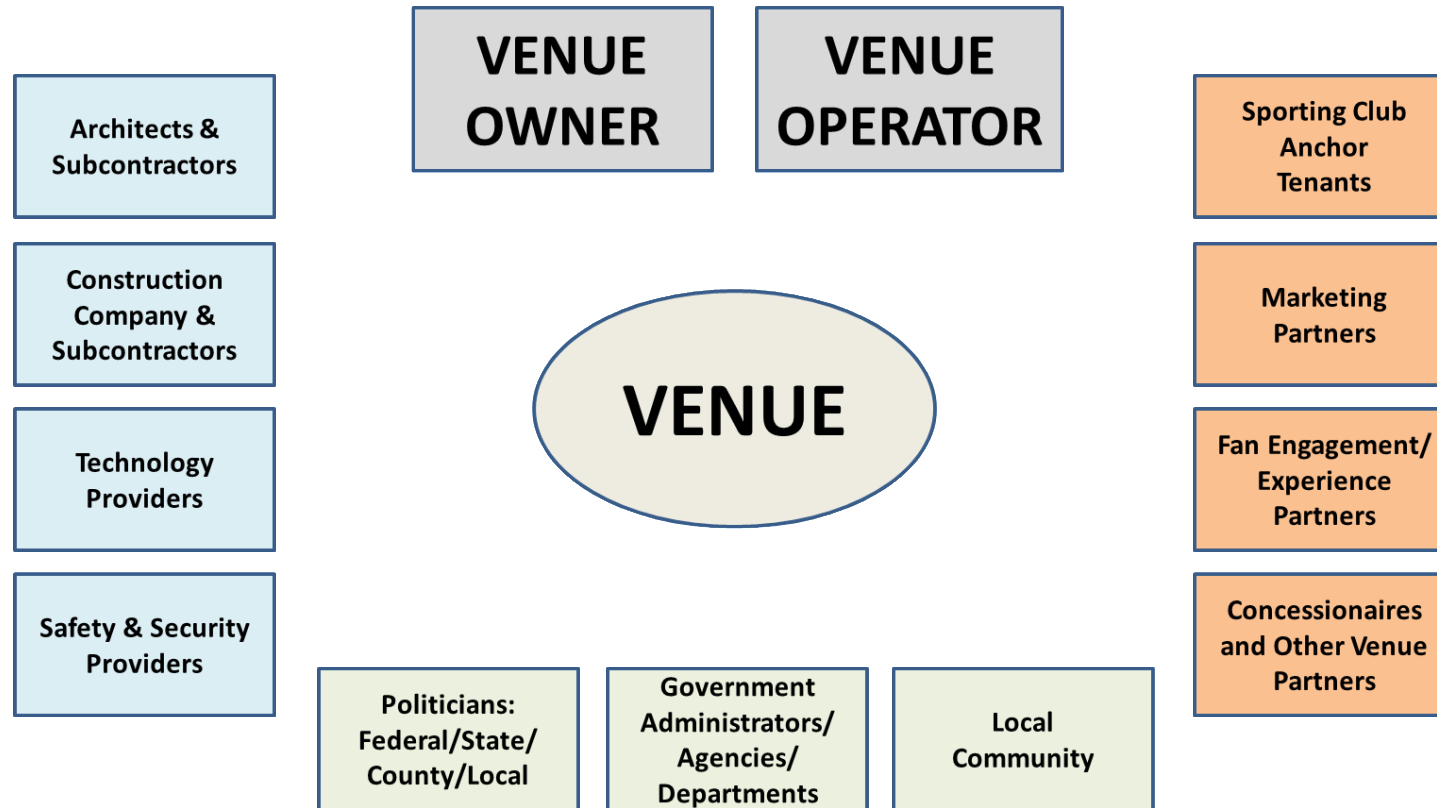
Venue anchor tenant also as venue operator



Building Community Support

- In proposals for new venues, it is vital to achieve the support of the local community
- In the proposal stage for new venues, one must anticipate that at least one group will contest the building of a new venue
- Grounds for opposing a new venue proposal are multi-faceted, including:
 - Opposition to any public funding
 - Opposition due to potential traffic congestion
 - Opposition due to potential disruption of existing community
 - Opposition due to high levels of noise

**ILLUSTRATIVE STAKEHOLDER ROLES IN
VENUE BUILDING AND MANAGEMENT**



Venue Building Partners: Examples from Recent Constructions

Venue	Architect	General Contractor	Project Manager
Levi's Stadium: SF 49ers (NFL) - 2014	It NTB	Turner Construction/ Devcon Construction	Hatheway Consulting
MetLife Stadium: NY Giants/Jets (NFL) – 2010	Populous	Skanska	Hammes
AT&T Stadium: Dallas Cowboys (NFL) – 2009	HKS	Manhattan/Rayco	BlueStar
Marlins Park Miami Marlins (MLB) - 2012	Populous	MARS	International Facilities
Yankee Stadium: NY Yankees (MLB) - 2009	Populous	Turner Construction	Tishman Speyer
Citi Field: NY Mets (MLB) – 2009	Populous	Hunt/Bovis Land Lease	-

Venue Building Partners: Examples from Recent Constructions (continued)

Venue	Architect	General Contractor	Project Manager
Barclay's Center: Brooklyn Nets (NBA) – 2012	AECOM	Hunt Construction	Forest City Ratner
Amway Center (NBA) – 2010	Populous	Hunt Construction	Turner Construction
Consol Energy Center: Pittsburgh Penguins (NHL) – 2010	Populous	Hunt Construction	ICON
Prudential Center: New Jersey Devils (NHL) – 2007	Populous	Gibane	ICON
Avaya Stadium: San Jose Earthquakes (MLS) – 2015	HOK/360	Devcon Construction	-

Uncertainty, Risk, and Negotiation Astuteness

- Ability to deal with
 - Cost over-runs
 - Delays and timeline issues
 - Contract negotiations
 - Revenue sharing
 - Cost sharing
- Ability to deal with 'changes' during construction, a frequent source of cost overruns, or time overruns
- Ability to deal with 'political interference' during both planning and construction phases

The background of the slide is a photograph of the interior of the Tottenham Hotspur Stadium. It shows the green football pitch in the foreground, the tiered seating areas, and the large, illuminated advertising boards at the top of the stands. The stadium's retractable roof is visible at the very top.

The cost of the Tottenham Hotspur Stadium

Original plan was £400 million

Revised to £750 million

**Now expected to cost over 1
Billion**

Student task

What services are now being offered at sports stadiums to fans to increase spending and to offer an enhanced experience?

Two groups:

List as many as possible-
feedback to the front



Innovation Mindset

- Opportunities for innovation exist everywhere in venue management – technology, processes, building style, architecture, improved fan experience, food & bev, suites, and more
- Top venue management firms and managers are committed to the highest standards of operational excellence, a foundation to innovation





Motivations for New Venues/Renovations

- Increase revenues from existing streams
- Increase revenues from new streams
- Enhance the spectator experience
- Expanded ability to attract new events and a broader spectrum of events
- Pursue related real estate opportunities
- Seek to revitalize a specific geographic area or community
- Bring a current venue up to current industry standards
- Alleviate safety concerns in current venue
- Move to a better financial situation than current venue

Evaluating Construction Cost Comparisons for New Venues

- General upward trend over time due to:
 - Greater complexity of stadiums (e.g., technology requirements, security requirements)
 - General inflation for the costs of key new venue inputs, including materials, labor, and technology
- Variations across estimated construction costs can also be due to:
 - Differences in what is counted (e.g., surrounding road access infrastructure)
 - Differences in management skills in design and construction
 - Differences in political interference in design or construction phase



EXAMPLES OF NEW VENUE CONSTRUCTION SINCE 2000

IN NFL, MLB, NBA, AND NHL LEAGUES

L A: NATIONAL FOOTBALL LEAGUE (NFL)

Year Stadium Opened	Club	Stadium Name	Estimated Construction Cost (\$M)	Capacity (in 2015)
2000	Cincinnati Bengals	Paul Brown Stadium	\$255	65,600
2001	Denver Broncos	Sports Authority Field	\$365	72,000
2002	Houston Texans	NRG Stadium	\$352	69,500
2002	New England Patriots	Gillette Stadium	\$325	68,000
2002	Seattle Seahawks	Century Link Field	\$430	72,000
2003	Chicago Bears	Soldier Field	\$600	61,500
2006	Arizona Cardinals	University of Phoenix Stadium	\$455	63,000
2008	Indianapolis Colts	Lucas Oil Stadium	\$720	63,000
2009	Dallas Cowboys	AT&T Stadium	\$1,300	80,000
2010	NY Giants/NY Jets	MetLife Stadium	\$1,600	82,500
2014	San Francisco 49ers	Levi's Stadium	\$1,300	68,500
Average Capacity				68,600

EXAMPLES OF NEW VENUE CONSTRUCTION SINCE 2000

IN NFL, MLB, NBA, AND NHL LEAGUES

L B: MAJOR LEAGUE BASEBALL (MLB)

Year Ballpark Opened	Club	Ballpark Name	Estimated Construction Cost (\$M)	Capacity (in 2015)
2000	Detroit Tigers	Comerica Park	\$300	40,000
2000	San Francisco Giants	AT&T Park	\$357	40,800
2001	Milwaukee Brewers	Miller Park	\$240	42,500
2003	Cincinnati Reds	Great American Ballpark	\$290	45,000
2004	San Diego Padres	PETCO Park	\$245	42,000
2006	St. Louis Cardinals	Busch Stadium	\$365	46,861
2008	Washington Nationals	Nationals Park	\$611	41,222
2009	NY Mets	Citi Field	\$360	42,500
2009	NY Yankees	Yankee Stadium	\$1,500	52,235
2012	Miami Marlins	Marlins Park	\$634	37,000
Average Capacity				43,012

EXAMPLES OF NEW VENUE CONSTRUCTION SINCE 2000 IN NFL, MLB, NBA, AND NHL LEAGUES

L C: NATIONAL BASKETBALL ASSOCIATION (NBA)

Year Arena/Center Opened	Club	Arena/Center Name	Estimated Construction Cost (\$M)	Capacity (in 2015)
2001	Dallas Mavericks	American Airlines Center	\$2420	19,200
2002	San Antonio Spurs	AT&T Center	\$186	18,500
2003	Houston Rockets	Toyota Center	\$2,235	18,500
2004	Memphis Grizzlies	FedEx Forum	\$250	18,190
2005	Charlotte Bobcats	Time Warner Cable Arena	\$265	19,023
2010	Orlando Magic	Amway Center	\$480	18,600
2012	Brooklyn Nets	Barclays Center	\$1,000	18,000
Average Capacity				18,573

EXAMPLES OF NEW VENUE CONSTRUCTION SINCE 2000 IN NFL, MLB, NBA, AND NHL LEAGUES

PANEL D: NATIONAL HOCKEY LEAGUE (NHL)

Year Arena/Center Opened	Club	Year Arena/Center Opened	Estimated Construction Cost (\$M)	Capacity (in 2015)
2000	Columbus Blue Jackets	Nationwide Arena	\$175	18,137
2000	Minnesota Wild	Xcel Energy Center	\$170	18,064
2001	Dallas Stars	American Airlines Center	\$220	18,000
2003	Arizona Coyotes	Gila River Arena	\$220	17,500
2007	New Jersey Devils	Prudential Center	\$375	17,625
2010	Pittsburgh Penguins	Consolidated Energy Center	\$321	18,087
Average Capacity				17,902



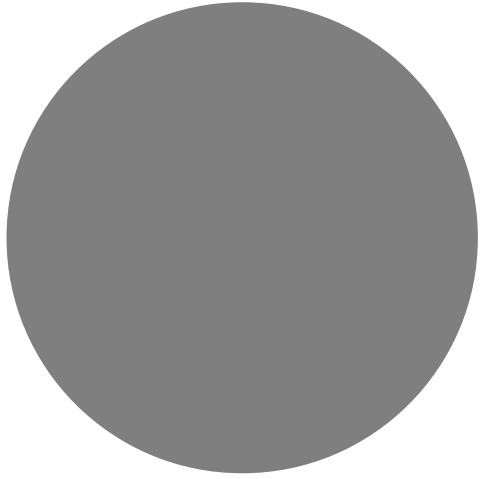
Venue Name Change

Why?

£121 million to build / Liberty – £27 million

Venue Name Change Examples

Reason for Change	Example	Teams
Non-Renewal	Formerly: McAfee Coliseum Now: O.Co Coliseum	Oakland Raiders Oakland A's
Financial Problems/ Bankruptcy	Formerly: CMGI Field Now: Gillette Stadium	New England Patriots New England Revolution
Acquisition of Company with Naming Rights	Formerly: Pacific Bell Park; SBC Park Now: AT&T Park	San Francisco Giants
Early Exit due to Change in Strategy	Formerly: Scotiabank Place Now: Canadian Tire Centre	Ottawa Senators
Early Exit due to Anchor Tenant Ownership Change	Formerly: HP Pavilion Now: SAP Center	San Jose Sharks



Alice- Question of
sport

Reducing New Venue Financing Costs

Four major approaches

1. Reduce total venue construction cost (i.e., smaller size, simpler design, less expensive building location, etc.)
2. Back-ending cash payments for construction costs (i.e., contracts that allow for later payments for costs)
3. Front-end cash payments from future revenue streams of the new venue (i.e., contracts with advances on future payment streams)
4. Front-end cash from sale of seat licenses



Venue economics = capacity * average capacity use per event * number of events * average revenue per seat – cost of delivering events and maintaining the venue.

STARTERS

CHEF'S SOUP OF THE DAY (V) Homemade soup served with bread	£4.50
CHEESE HASSELBACK (V) Sliced baked potato filled to the brim with melted cheese	£5.75
Add tuna	£6.50
Add bacon	£6.50
Add beans (V)	£6.50
OUR FAMOUS RED CAFÉ STICKY CHICKEN Selection of wings, drumsticks & thighs, tossed in a seasoned crumb coating & lightly fried until crispy in a sticky sauce	£6.50
11" CHEESY GARLIC BREAD (V) Large oven baked garlic pizza topped with melted cheese	£6.00
HOMEMADE NACHOS (V) Homemade tortilla chips topped with melted cheese, served with jalapeños, salsa, guacamole & sour cream	£6.00

ADD CHILLI BEEF FOR £1.50

MAINS

THE UNITED MIXED GRILL 14oz meat feast - sirloin steak, gammon, chicken, Cumberland sausage served with a fried egg, mushrooms, grilled cherry tomatoes, onion rings & chunky chips	£17.50
SIRLOIN STEAK 14oz sirloin steak served with mushrooms, onion rings & chunky chips	£11.00
GAMMON, EGG, PINEAPPLE & CHIPS 6oz gammon steak served with double egg, pineapple, grilled cherry tomatoes & chunky chips	£12.00
BBQ CHICKEN & BACON MELT Char-grilled BBQ chicken breast, layered with cheddar cheese & streaky bacon served with dressed rocket, crispy onion rings & chunky chips	£13.00
TRADITIONAL FISH & CHIPS Beer battered cod, chunky chips, mushy peas & homemade tartan sauce	£13.50
MEDITERRANEAN VEGETABLE PASTA (V) Sun-dried tomatoes, aubergine, courgette, each accompanied with a choice of red onion or red pepper	£10.00

ADD CHICKEN FOR £3.00 OR ADD SALMON FOR £4.00

SALADS

CLASSIC CAESAR Lettuce, croutons, anchovies, baked egg & parmesan shavings	£8.50
HOUSE SALAD (V) Crisp mixed lettuce, cherry tomatoes, cucumber, pepper, onion, boiled egg & croutons	£8.00

PIZZA

MARGARITA PIZZA (V) Oven baked thin crust pizza topped with our classic tomato sauce, mozzarella cheese & fresh basil	£10.00
VEGETABLE PIZZA (V) Oven baked thin crust pizza with peppers, mushroom & red onion	£11.50
SPICY CHICKEN PIZZA Oven baked thin crust pizza with cajun chicken, pepperoni & jalapeños	£12.00

HOT DRINKS

ESPRESSO	£2.70
LATTE	£3.00
CAPPUCCINO	£3.00
AMERICANO	£2.70
DECAF AMERICANO	£2.50
HOT CHOCOLATE	£2.80
ADD CREAM & MARSHMALLOWS FOR 50P	
MOCHACINO	£3.00
ENCHILITA TEA	£2.50
LAVENDER TEA	£2.75

RED CAFÉ
Supported by 

SANDWICHES

ALL SERVED WITH A CHOICE OF CHUNKY CHIPS OR SALAD

CAJUN CHICKEN WRAP Stir-fried chicken pieces, mixed peppers & onions in a cajun salsa served with a tortilla wrap	£12.00
TRIPLE DECKER CLUB Char-grilled chicken breast, crispy bacon, lettuce, tomato, mayonnaise served on toasted bloomer bread	£12.00
TUNA CIABATTA Tuna mayonnaise served on an open toasted ciabatta bun with cucumber & lettuce	£11.00

UPGRADE TO SWEET POTATO FRIES FOR £1.50

BURGERS

ALL SERVED WITH A CHOICE OF CHUNKY CHIPS OR SALAD

THE DOUBLE Two traditional beef burgers served on a seeded bun with tomato relish, salad & dill pickle	£13.50
ADD CHEESE OR BACON FOR £1.00 OR BOTH FOR £1.50	
TENNESSEE FRIED CHICKEN Chunky fillet pieces marinated in buttermilk, lightly fried until crispy served with peri peri mayonnaise & lettuce	£13.75
HARISSA LAMB BURGER 6oz harissa lamb burger served on a flatbread with tzatziki, shredded lettuce, onion & feta	£14.50
FALAFEL & SPINACH BURGER (V) Falafel & spinach burger served with halloumi, tomato chutney, rocket & dill pickle	£12.50

SIDES

SWEET POTATO FRIES	£4.00
CAJUN ONION RINGS	£3.25
SIDE SALAD	£3.25
CHUNKY CHIPS	£3.25

BREAKFAST MENU AVAILABLE FROM: 9:00am - 11:00am

COFFEE BAR OPEN FROM: 9:00am - 4:30pm

RESTAURANT OPEN FROM: 11:00am - 4:00pm



Generating income
Food and Beverage in stadiums

Student Task

- 20 minute research project
- Design 2 slides to explain the food and beverage offer in a selected stadium. Where possible include prices.
- Group 1- LA Lakers stadium (Staples Centre)
- Group 2- Old Trafford (Manchester United)



An aerial, high-angle photograph of the SAP Center arena at night. The arena is illuminated with blue and purple lights, and the seating bowl is visible. The title "SAP Center" is overlaid in a large, white, outlined font across the center of the image.

SAP Center

SAP Center

Home of the San Jose Sharks of the NHL

Opened in 1993

Owned by the City of San Jose

Operated by San Jose Sports & Entertainment (owners of the San Jose Sharks)

Name Changes

San Jose Arena (1993-2000): no naming rights

Compaq Center (2001-2002)

HP Pavilion (2002-2013): following HP acquisition of Compaq

SAP Center (2013-present): new Sharks owner is co-founder of SAP

NUMBER OF EVENTS PER CALENDAR YEAR – SAP CENTER IN SAN JOSE

8

Year	'02	'03	'04	'05	'06	'07	'08	'09	'10	'11	'12	'13	'14
Sports													
San Jose Sharks (NHL)	52	47	33	21	52	47	54	46	51	52	47	30	46
San Jose SaberCats (Arena Football)	11	10	10	8	10	10	10	-	-	9	9	10	9
San Jose Stealth (NLL Lacrosse)	-	1	9	8	8	8	9	-	-	-	-	-	-
Fight Night at the Tank	4	5	5	5	5	4	4	-	-	-	-	-	-
Dew Action Sports	-	-	-	4	4	0	0	-	-	-	-	-	-
Motorsports Events	3	3	3	-	3	0	0	0	0	0	0	0	3
SAP Open (Tennis)	13	13	13	13	13	13	13	-	-	-	-	-	-
MMA/Other Boxing	-	2	-	2	4	2	4	8	4	3	4	2	1
College Basketball	2	5	5	5	6	8	5	3	8	3	3	5	0
Other Sports	1		1	-	-	7	1	25	16	15	24	19	2
Subtotal	86	86	79	66	105	99	100	82	79	82	87	66	61
Entertainment													
Disney On Ice	18	18	18	18	19	18	19	16	10	11	20	21	21
Other Family Events	20	3	11	8	8	19	19	29	9	16	9	24	17
Concerts	30	30	46	36	32	37	35	19	37	29	30	35	32
Wrestling/WWE	1	3	1	3	1	2	1	2	1	1	2	2	2
Cirque Du Soleil	-	-	-	-	4	0	0	-	-	-	-	-	-
Ringling Bros. Circus	10	9	9	9	10	9	8	0	0	9	9	8	9
Subtotal	79	63	85	74	74	85	82	66	57	66	70	90	81
Other													
City	2	1	5	3	4	1	2	-	-	-	-	-	-
Motivational/Religious	6	3	6	4	4	9	10	-	-	-	-	-	-
Other	5	4	5	2	1	1	2	-	-	-	-	-	-
Subtotal	13	8	16	9	9	11	14	0	0	0	0	0	0
Grand Total	178	157	180	149	188	195	196	148	136	148	157	156	142

*SOURCE: Sharks Sports and Entertainment

<https://www.youtube.com/watch?v=84cwOkwlLCw>



Case Study



David Beckham's Major League Soccer team will be called Club Internacional de Futbol Miami - or Inter Miami CF

Inter Miami will make their MLS debut in 2020



Industry Example: San Jose Earthquakes



Major League Soccer (MLS) Stadium Strategy

- Several prior efforts to build strong soccer leagues in the United States failed (e.g., NASL)
- One reported reason for the failure was teams playing in NFL football stadiums with large capacities (60,000+ seats) that resulted in the appearance of 'empty stadiums' on game days for soccer
- From its beginning in 1996, MLS put a high priority on having clubs play in soccer-specific stadiums (SSS's) rather than larger NFL stadiums to provide better fan experiences

MAJOR LEAGUE SOCCER'S TRANSITION TO SOCCER – SPECIFIC STADIUMS

PANEL A: CLUBS PLAYING IN SOCCER-SPECIFIC STADIUMS IN 2015 (14 CLUBS)

Year Stadium Opened	Club	Year Entered MLS	Stadium Name	Estimated Construction Cost (\$M)	Capacity (in 2015)
1999	Columbus Crew	1996	Mafre Stadium	\$28	22,485
2003	LA Galaxy	1996	StubHub Stadium	\$150	27,000
2005	FC Dallas	1996	Toyota Stadium	\$80	20,300
2006	Chicago Fire	1998	Toyota Stadium	\$98	21,000
2007*	Toronto FC	2007	BMO Field	\$63*	20,000
2007	Colorado Rapids	1996	Dick's Sporting Goods Park	\$131	18,000
2008	Real Salt Lake	2005	Rio Tinto Stadium	\$110	20,000
2010	New York Red Bulls	1996	Red Bull Arena	\$200	25,189
2010	Philadelphia Union	2010	Union Field at Chester	\$120	18,500
2011	Sporting Kansas City	1996	Sporting Park	\$200	18,467
2011*	Portland Timbers	2011	Providence Park	\$83*	20,000
2012	Houston Dynamo	2006	BBVA Compass Stadium	\$95	22,000
2012*	Montreal Impact	2012	Saputo Stadium	\$40*	20,341
2015	San Jose Earthquakes	2008	Avaya Stadium	\$100	18,000
Average Capacity					20,806

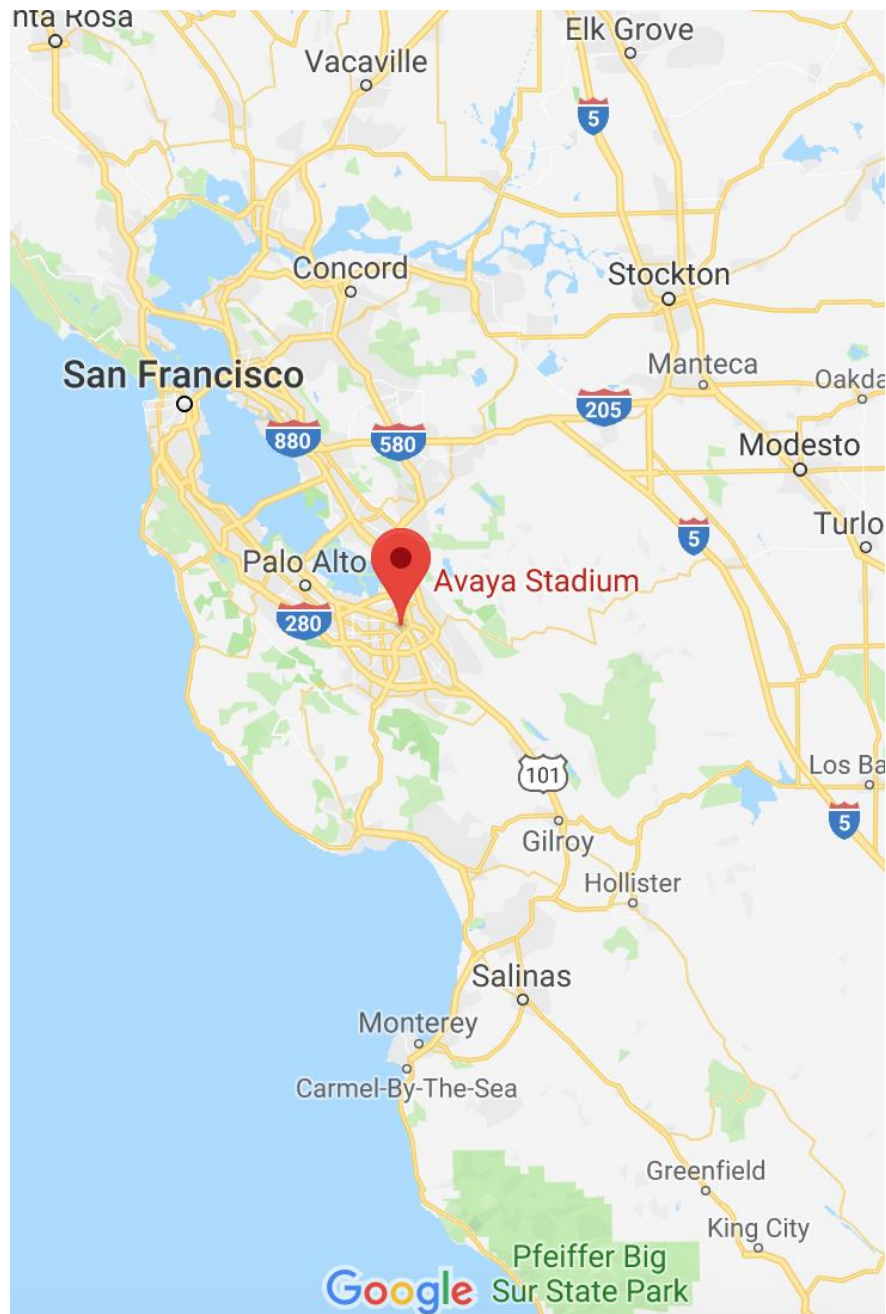
*Renovation cost shown is for renovation construction

MAJOR LEAGUE SOCCER'S TRANSITION TO SOCCER – SPECIFIC STADIUMS

PANEL B: CLUBS PLAYING IN LARGER (TYPICALLY FOOTBALL) STADIUMS IN 2015 (6 CLUBS)

Year Stadium Opened	Club	Year Entered MLS	Stadium Name	Estimated Construction Cost (\$M)	Game Capacity (in 2015)	Full Capacity (in 2015)
1936	Orlando City FC	2015	Citrus Bowl	ND	21,000	61,000
1961	DC United	2006	RFK Stadium	\$24	19,647	68,800
1983	Vancouver Whitecaps	2011	BC Place	\$126	20,000	54,000
2002	NE Revolution	1996	Gillette Stadium	\$325	20,000	68,800
2002	Seattle Sounders	2009	CenturyLink Field	\$430	39,000	67,000
2009	New York FC	2015	Yankee Stadium	\$1,500	27,500	52,325
Average Capacity					27,858	61,988

*SOURCE: Multiple sources including Nihar Naik, RSV Database



San Jose Location

San Jose Earthquakes Journey to Avaya Stadium

- Earthquakes were a foundational MLS club in 1996. They played in an aged football stadium at San Jose State University.
- Club moved to Houston after the 2005 season. 1890 miles away / 4 ½ hour flight
- New club (also Earthquakes) entered MLS in 2008 as an expansion club.
- New club played at Buck Shaw Stadium of Santa Clara University from 2008 to 2014 due to delays in identifying a site for a new stadium and construction challenges.
- Avaya stadium opened in 2015 to “rave reviews” and will host the 2016 MLS All-Star Game.



Why a success?

- Stadium App
- Largest outdoor bar in the North West California
- Children's game area
- Free Wifi everywhere
- Beers from the world offered
- Multiple sports and events have used the stadium- beach volleyball, freeze sports, college, food festivals, concerts.



Any questions?
We should have covered:

- Sporting stadiums and venues
- The different models and concepts behind sporting venues during construction and operation
- Technology and how it is advancing, altering and developing new sports



Next week

- USA College Sports and structures
- Important information that will help with you assignment

