

South Bay Stadiums: *Politics and Planning, Architecture and Engineering*

How will these projects benefit the community?

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Stanford Splash, Spring 2012

Comparitive Discussion

- Will the proposed new stadiums bring to South Bay residents actual benefits?
- How will these projects be financed?
- Will the proposed use of public resources prevent any alternate beneficial uses?
- How do South Bay young people see these projects affecting their future?

New 49ers Stadium, Santa Clara



Source: San Francisco 49ers, renderings by HNTB

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New MLB (A's) Stadium, San Jose



Cisco Field San Jose



Cisco Field Baseball Experience



Cisco Field San Jose--Athletics



Alternate stadium site in Oakland



Oakland: does it compare to San Jose?



San Jose -- at new Ballpark



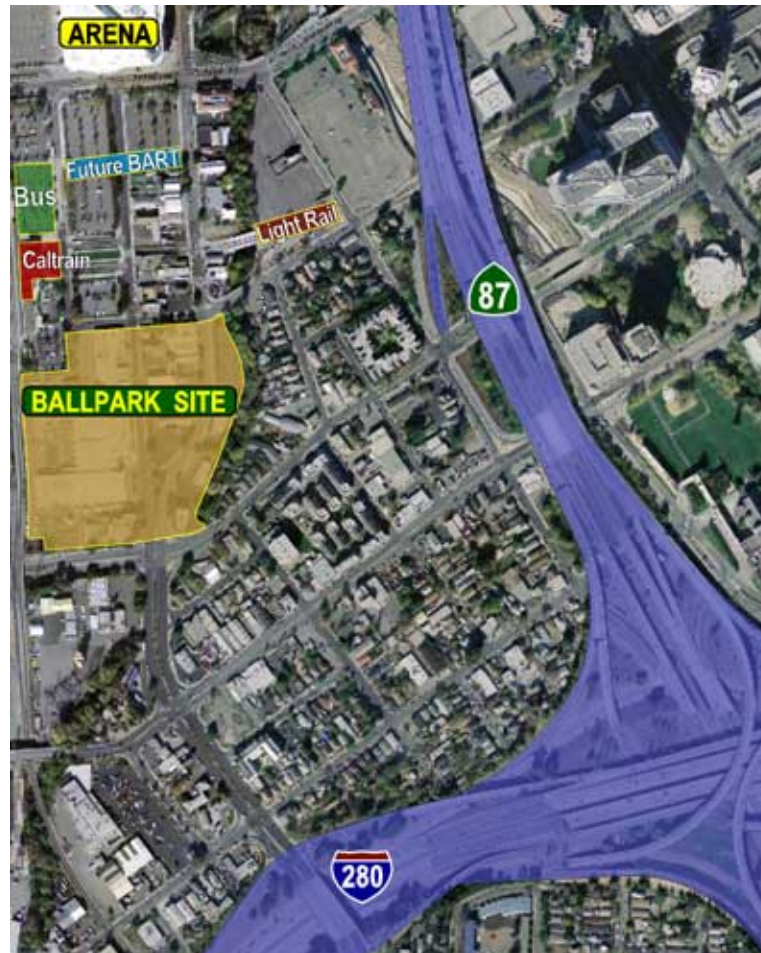
Aerial View, Cisco Field



Comparable Stadium, Downtown San Diego (Petco Park)



Cisco Field Location(note transit)



Cisco Field Location—MLB Stadium



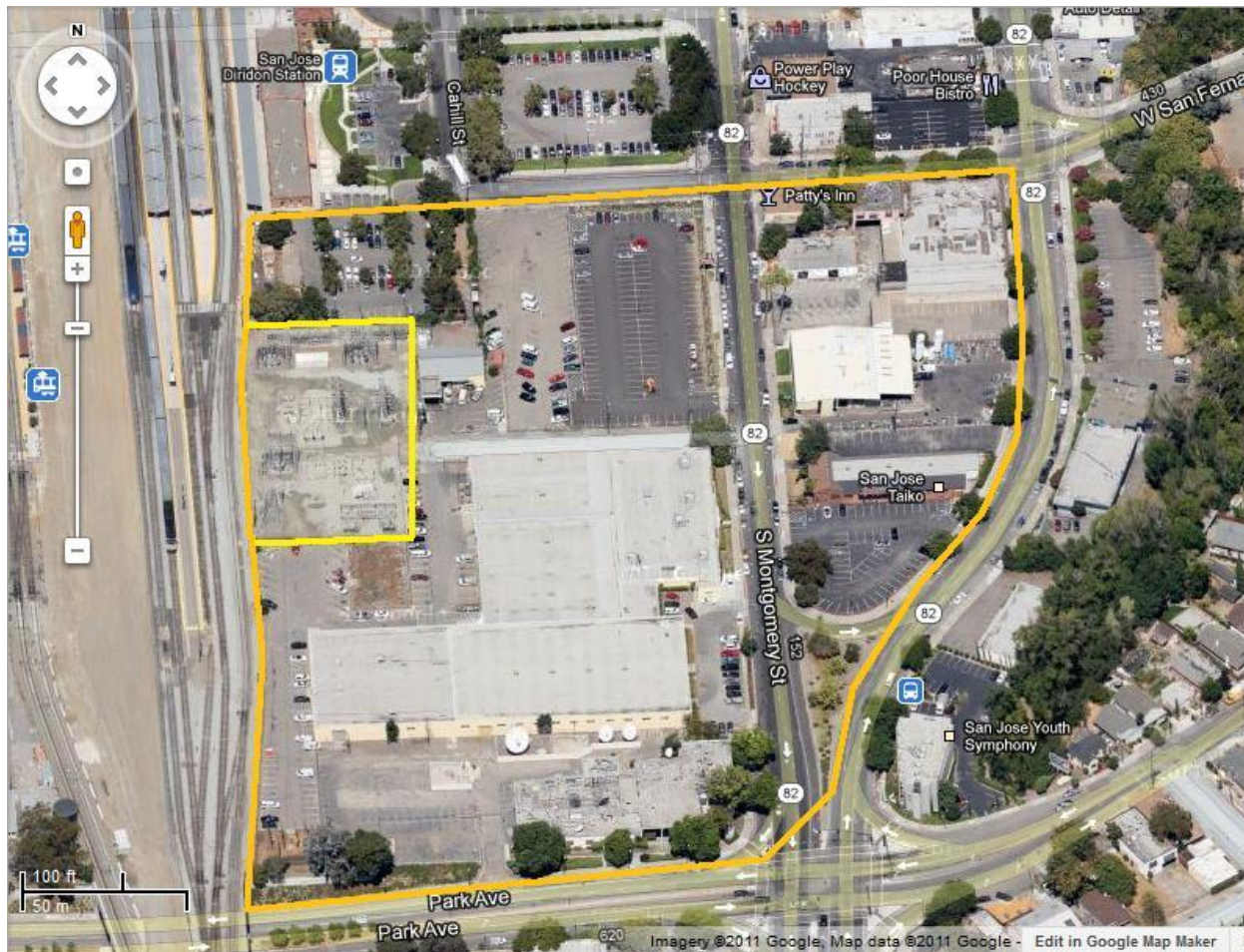
Site schematic – downtown San Jose



New stadium –San Jose



Stadium site @(e) PGE Station



Alternate Location in Fremont –much different than downtown San Jose



Location at Fremont Drag Strip for Major League Baseball Stadium



Projection of new Santa Clara Stadium



49ers Stadium Location



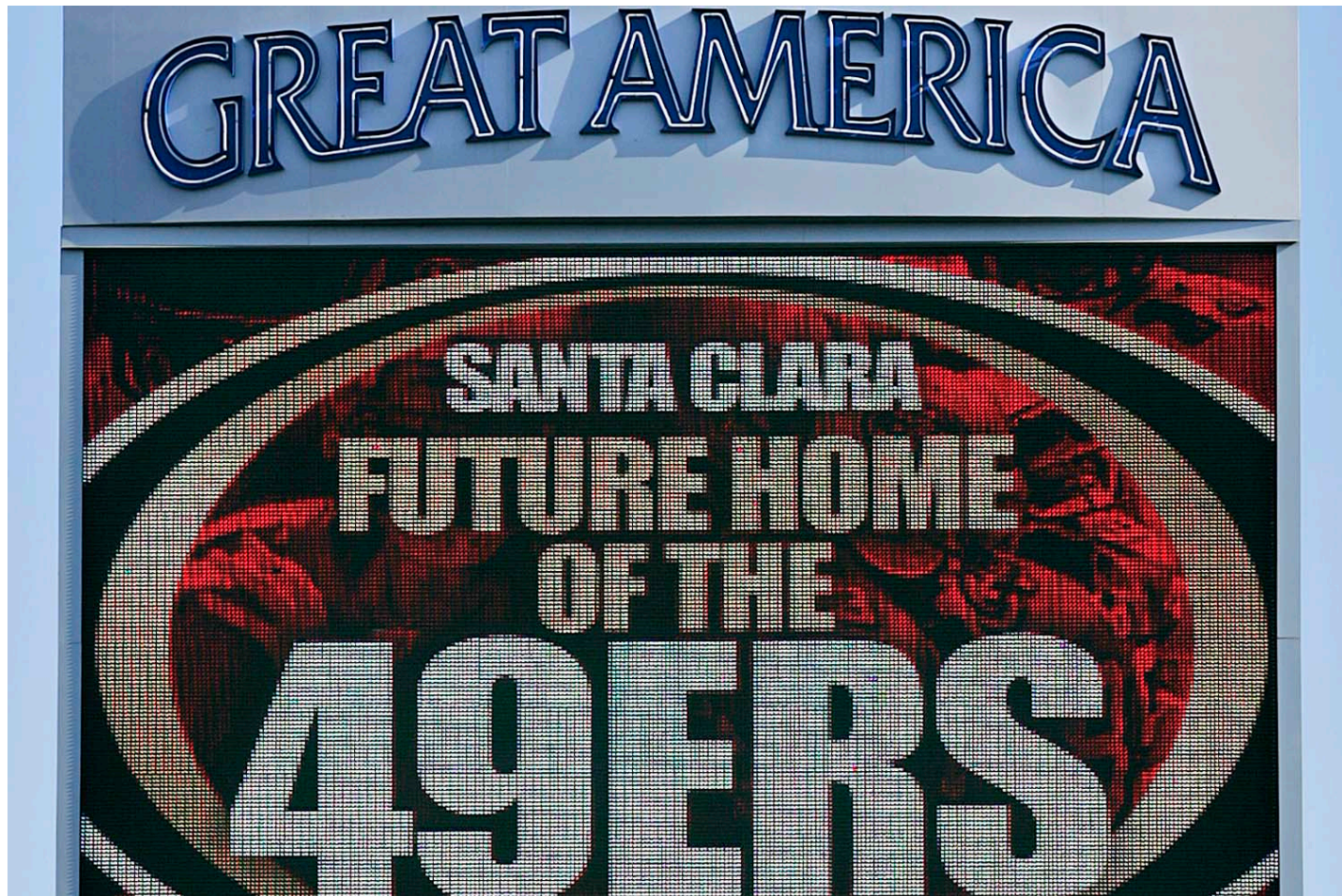
49ers Stadium Location



Sources: ESRI, TeleAtlas

The Chronicle

New Facility at existing Park



Existing Candlestick Park



Electrical Failure at 49ers game during nationally televised program



The whole country watches

- Stadium housing two playoff finalists playing before 65000 people
- Stadium transformer blows and almost all lights go down –emergency exiting hampered
- Game delayed twice for up to 20 minutes
- Stadium is very old, and is surrounded by empty space, with little hope of attracting redevelopment investment.

49ers Steelers Game Dec. 2011



Proposed New 49ers Stadium



New Stadium at Santa Clara



New Stadium Experience



Game Day experience



New Stadium site -- Great America



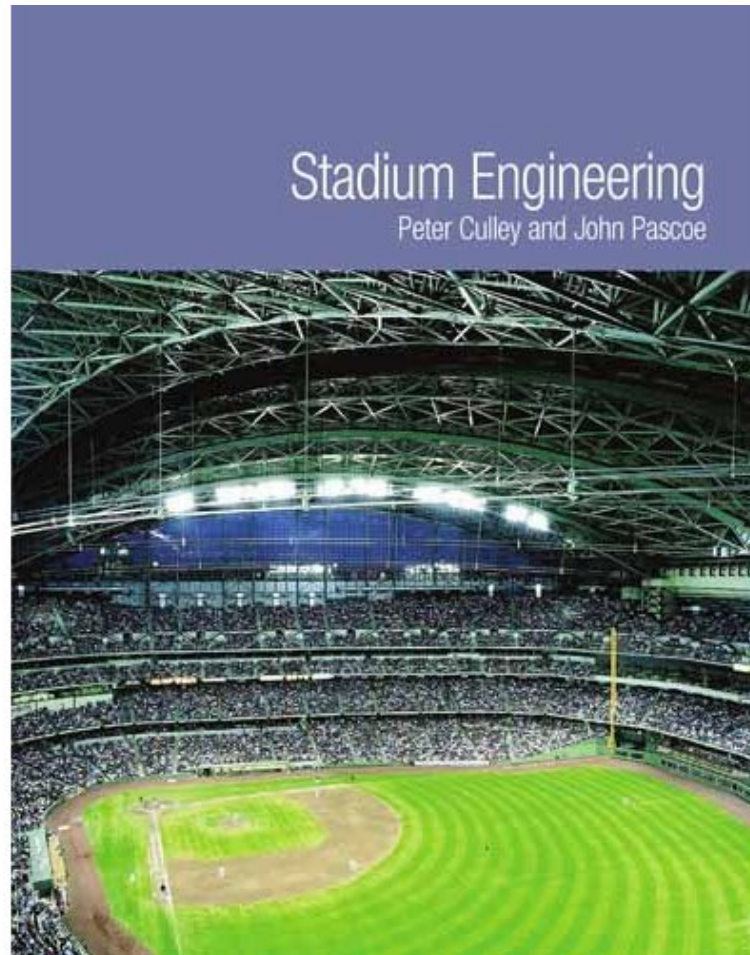
Architect's Model – New Stadium



Engineering Stadiums

- The role of the professional engineer in fulfilling architectural goals and community benefits of major projects like this
- How engineers communicate and interact with the planning and construction process
- The role of engineering students and how young people can participate
- How these issues can be best presented to high school students to interest them

Textbook on Stadium Engineering



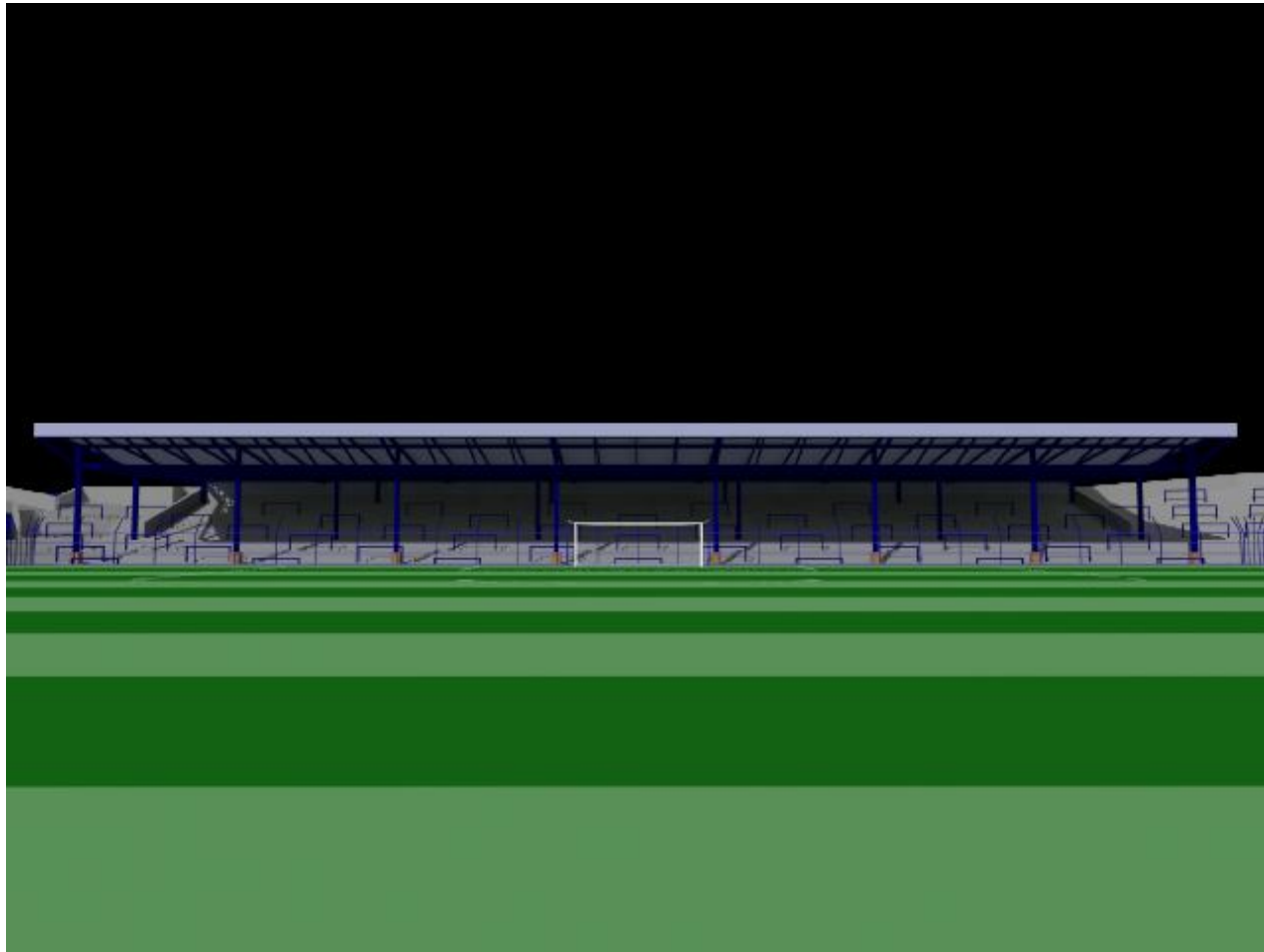
Engineering Model of a baseball facility- note the design criteria and how it impacts structural issues



An example of a stadium project –note
the challenges to the engineer



Early stadium concept –based on railroad terminal design



Engineer gives public program at major stadium in Dallas



Vancouver Public Program by Civil Engineers about new stadium

The Department of Civil Engineering and Buckland & Taylor Ltd. present

BC PLACE STADIUM: Engineering the World's Largest Cable Supported Retractable Roof



Wednesday, January 12
1:00pm - 2:00pm

Location:
KAIS 2020/2030
2332 Main Mall

New BC Place Roof Rendering
Image courtesy of USA Shade & Fabrication Structures

A special presentation by

Dr. Peter Taylor, P. Eng., Co-founder and Principal of Buckland & Taylor Ltd. A renowned engineer and expert on cable-supported and other large bridges, Dr. Taylor designed some of the world's longest cable-stayed and conveyor bridges. He also introduced many techniques that are now standard practice in the construction and rehabilitation of these structures.

&

Michael Schmaus, P. Eng., Project Engineer and Quality Manager for the Stadium Roof Project, is experienced in the design of cable-stayed bridges and the structural analysis and rehabilitation of steel and concrete bridges.

The new roof will transform BC Place into a year-round, open-air venue and will create a new architectural signature for British Columbia. The new retractable cable-supported roof has a maximum span of 261 m, making it the largest in the world. Buckland & Taylor Ltd., a world class Vancouver-based structural engineering firm, is providing engineering services during construction of this exciting project. Here is your opportunity to learn about it.

Pizza and pop will follow the seminar

At 4 p.m., student winners of the writing contest will join the guided tour of the BC Place Stadium construction site supported by Buckland & Taylor Ltd.

usc engineering
supporting

Historical presentation of the engineering community



SMU Drawing –developed by the students of the engineering dept.



Purdue University engineering students at their stadium



Amabella Lambincio -Engineering student who worked on the Yankee Stadium Project



Engineering Students interacting at Construction site



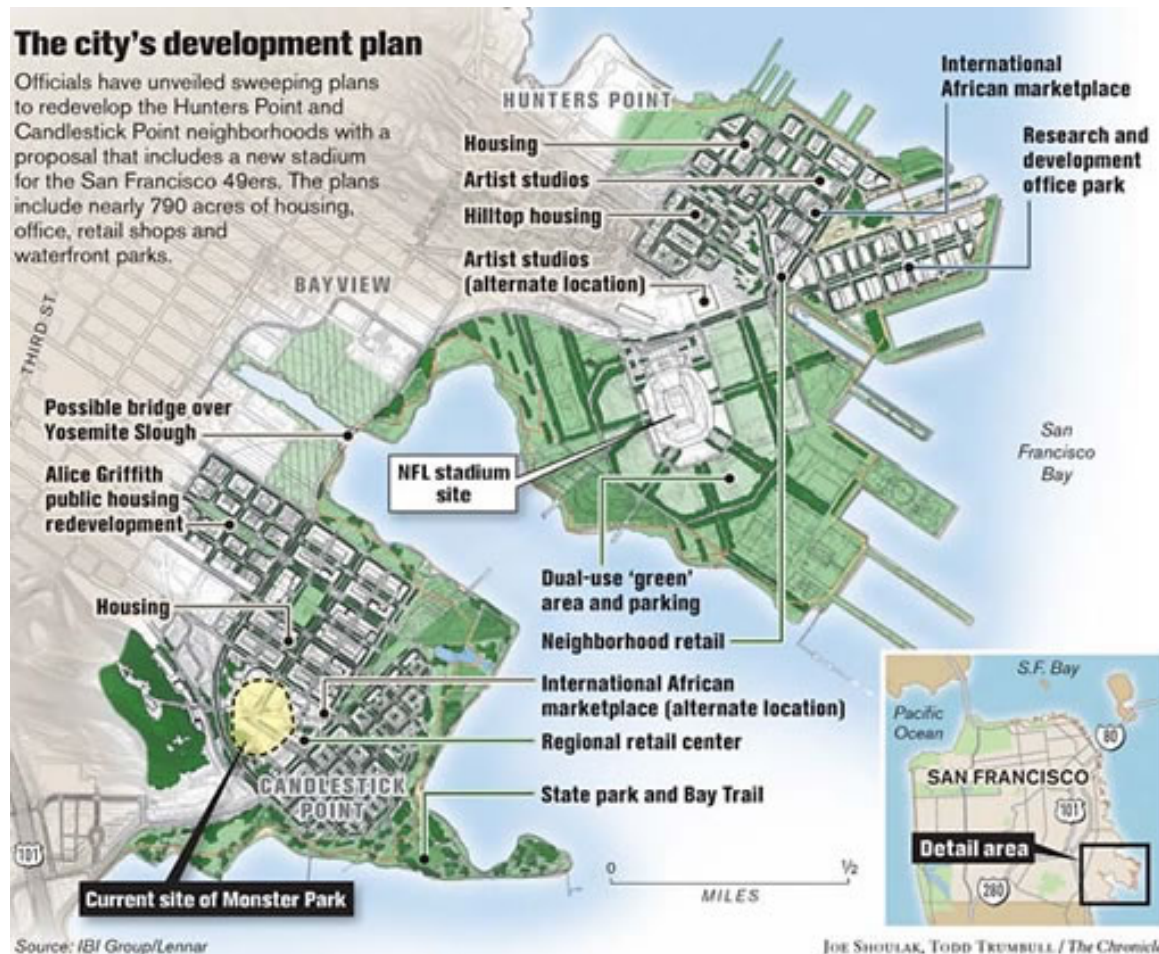
New Stadium - rendering



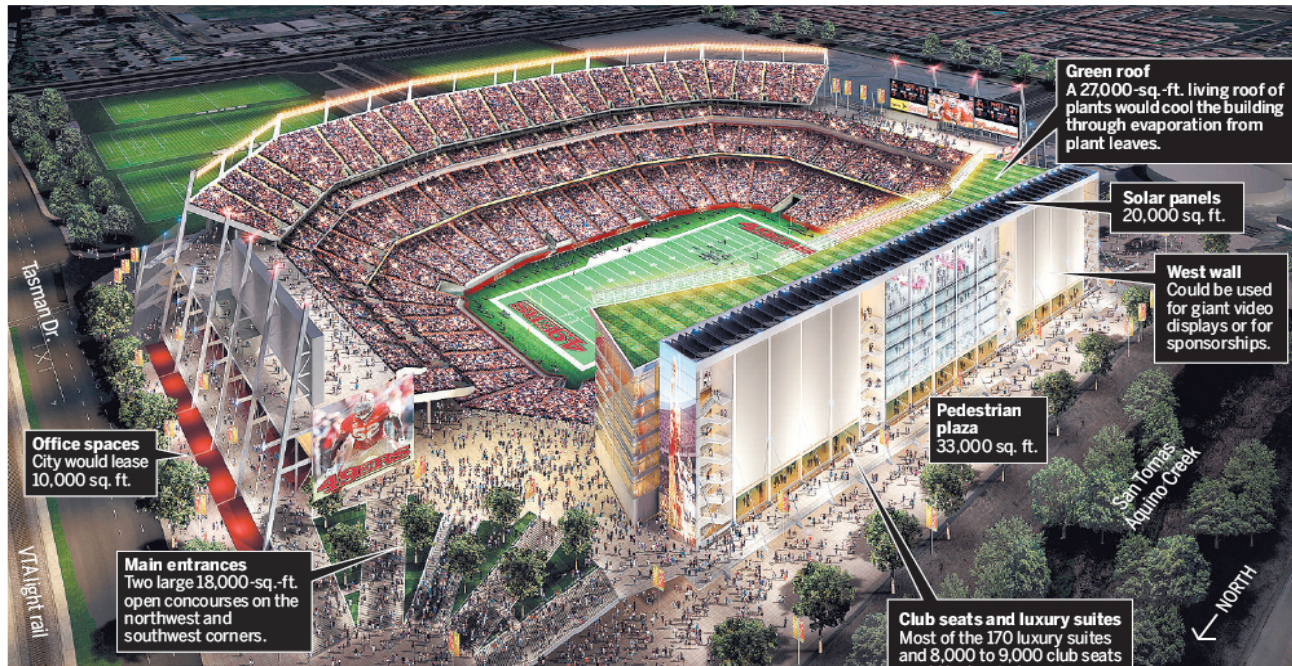
Stadium Location at Great America



Possible SF Alternate Location



Presentation Schematic



Source: San Francisco 49ers, renderings by HNTB

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Possible shared use facility



Global Landmark for South Bay



Stadium Interior Architecture



Candlestick Park, San Francisco



New stadium amenities



Comparison Study– San Francisco

- Convert Basically abandoned China Basin Port to new stadium for SF Giants Baseball Team
- Convert essentially underutilized Rail yards to vibrant new Mission Bay Redevelopment, now hosting UCSF Campus and major Bio-tech facilities
- Both of these inspire serious redevelopment housing projects.

Overview of China Basin



New Locations for UCSF Departments



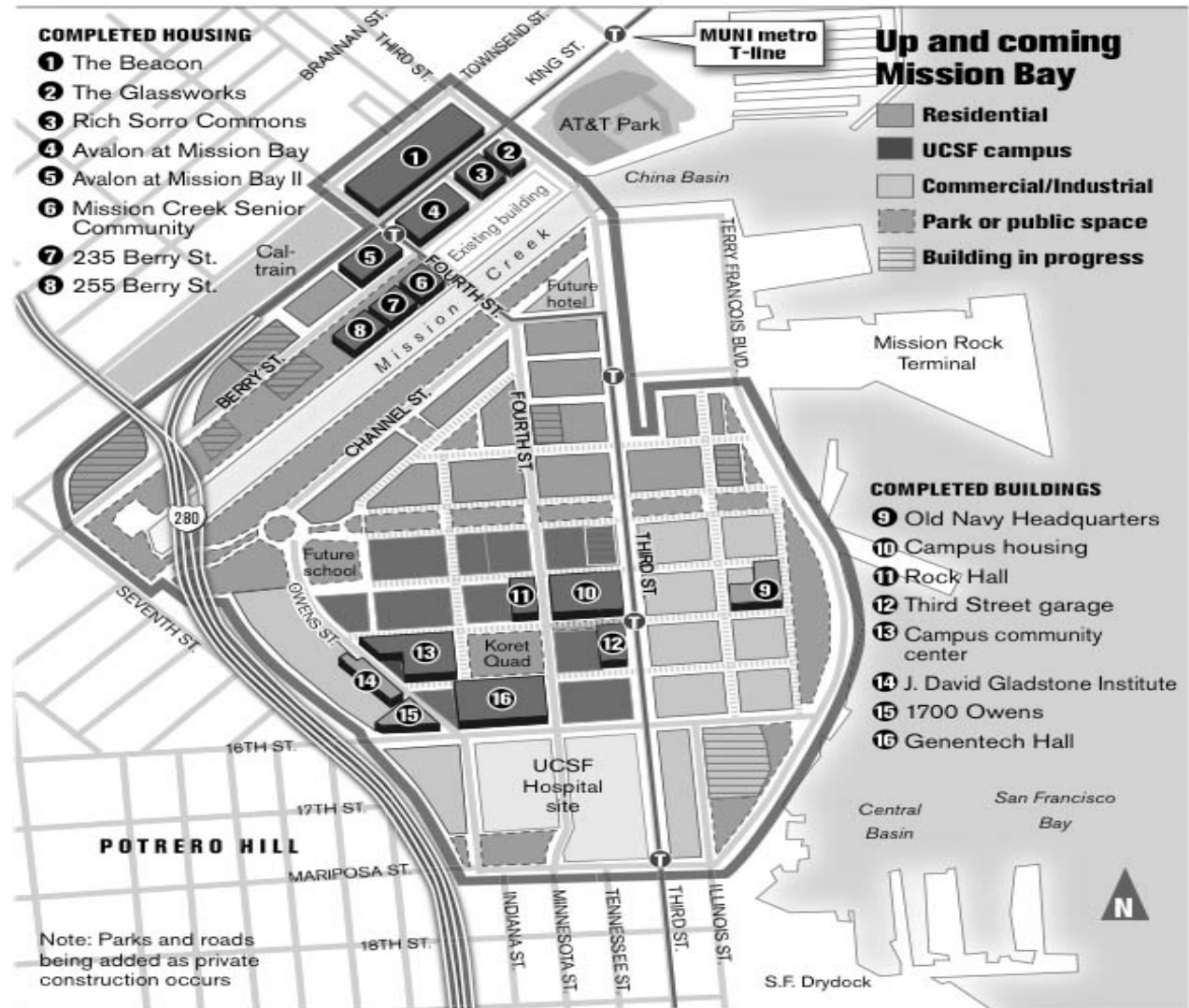
AT&T Park –SF Giants



Mission Bay Redevelopment Sites



Progress in Redevelopment Zone



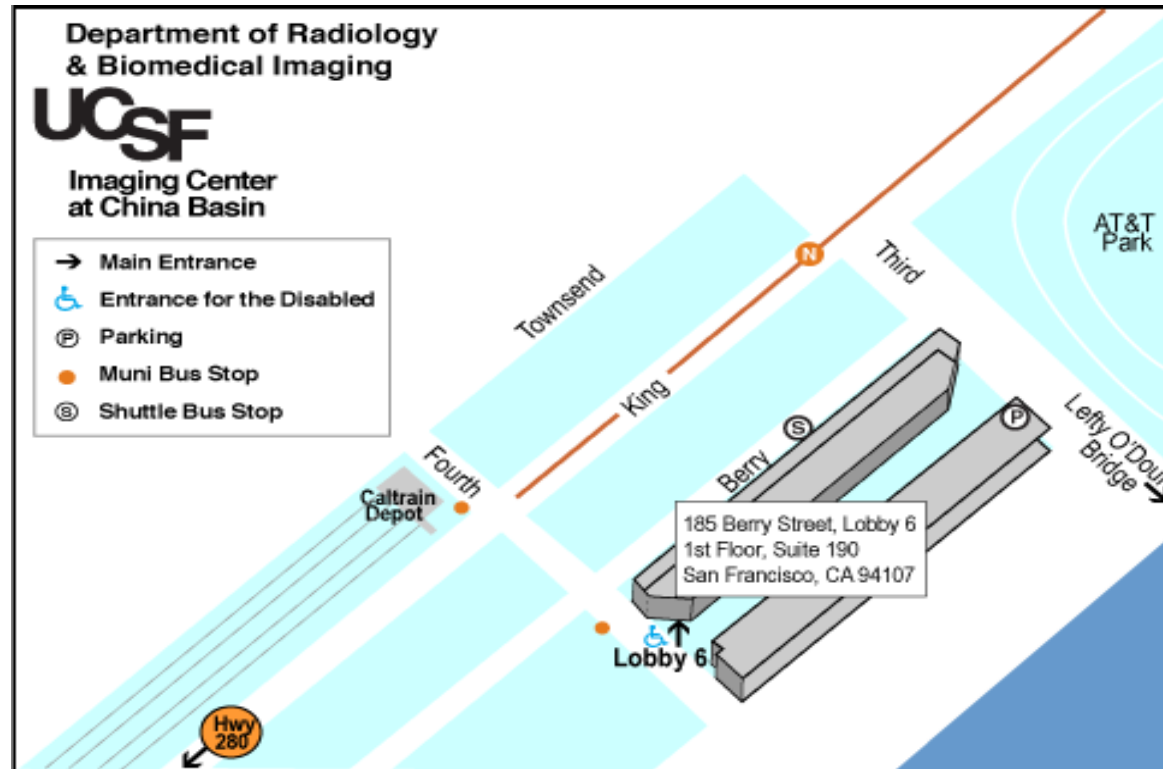
Source: SF Redevelopment Authority

JOHN BLANCHARD / The Chronicle

South Beach San Francisco



New Radiology Center--UCSF

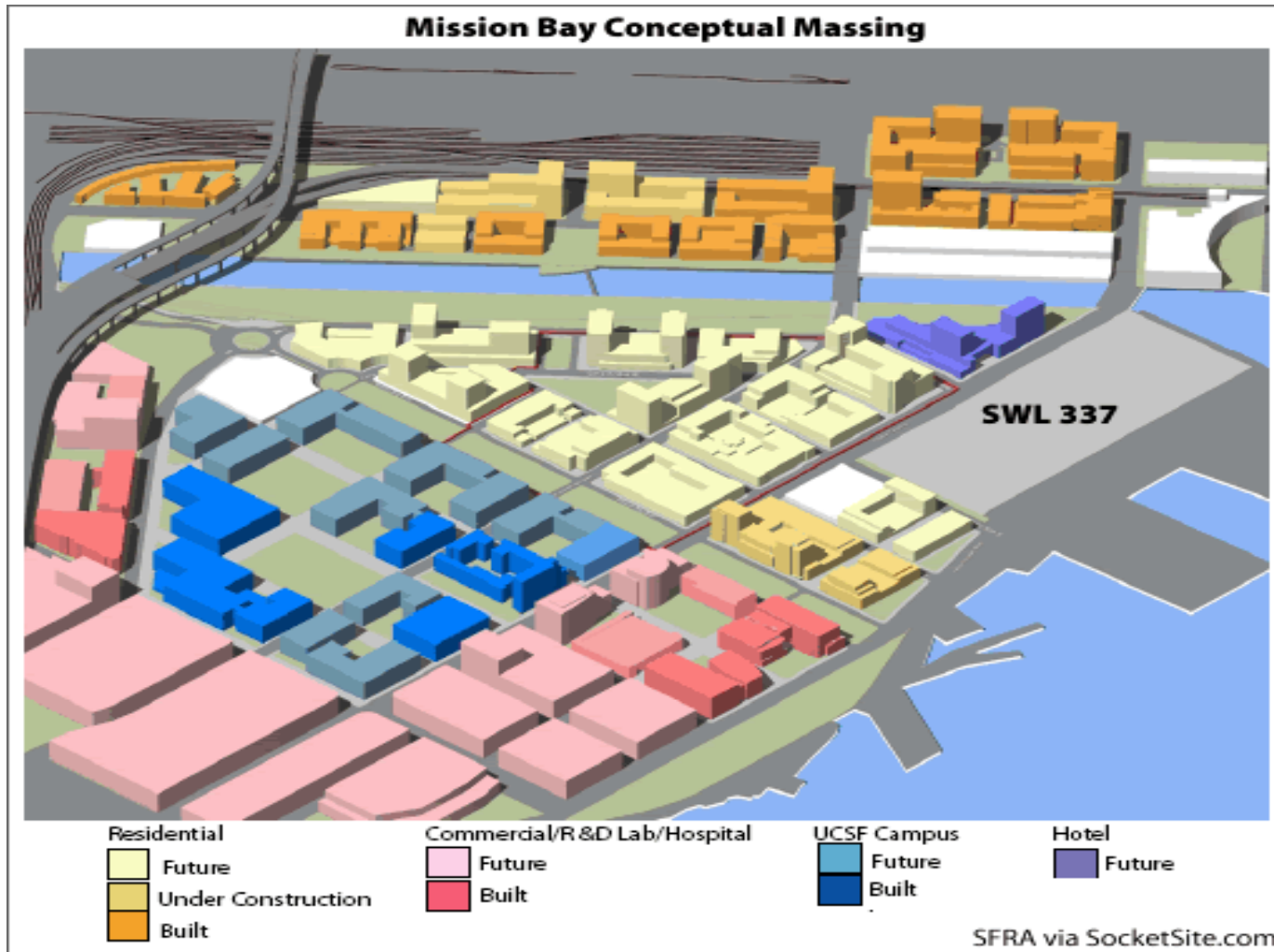


New UCSF Campus at Mission Bay



UCSF

City Planning Document -



Mission Bay Redevelopment



Area of China Basin Port



Stadium Fits to Previous site



South Bay Political Issues

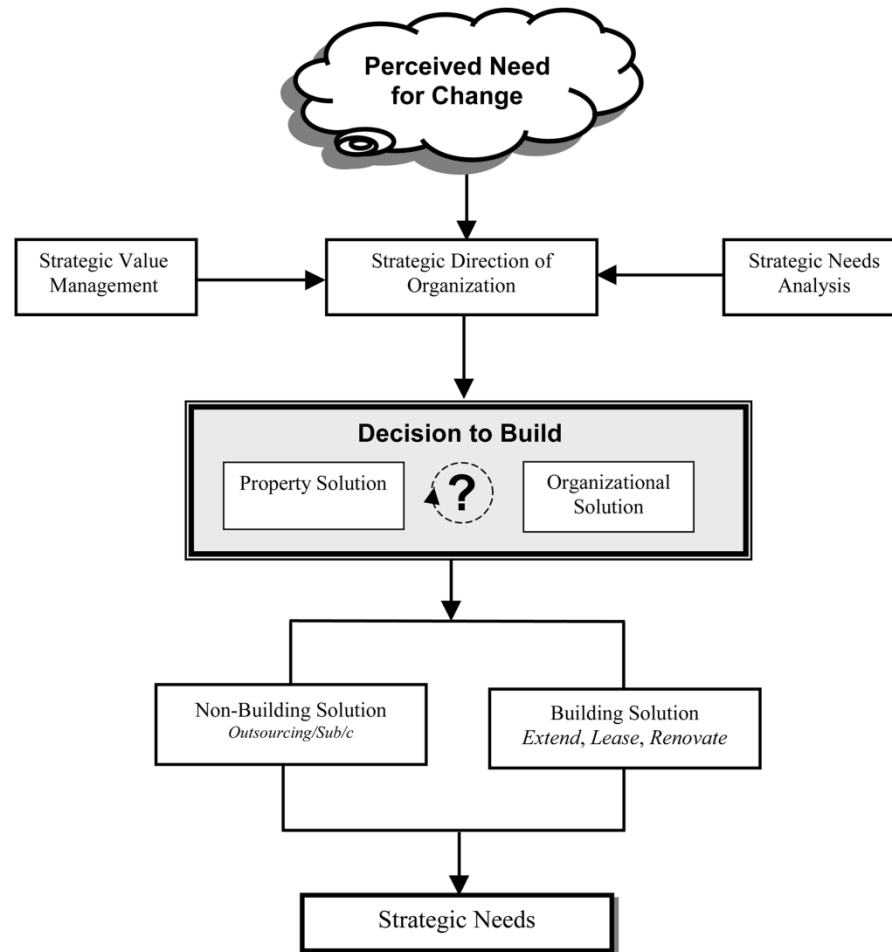
- 49ers have existing facility at Santa Clara site
- Great America location is zoned for this kind of use and space is available
- Santa Clara and San Jose have good working relationships – both stadiums have some private financing and great marketing
- South Bay has world class corporate presence
- Facility like this will give South Bay great PR

49ers Rep addresses local agency



Lacy Atkins / The Chronicle

How to brainstorm decision making

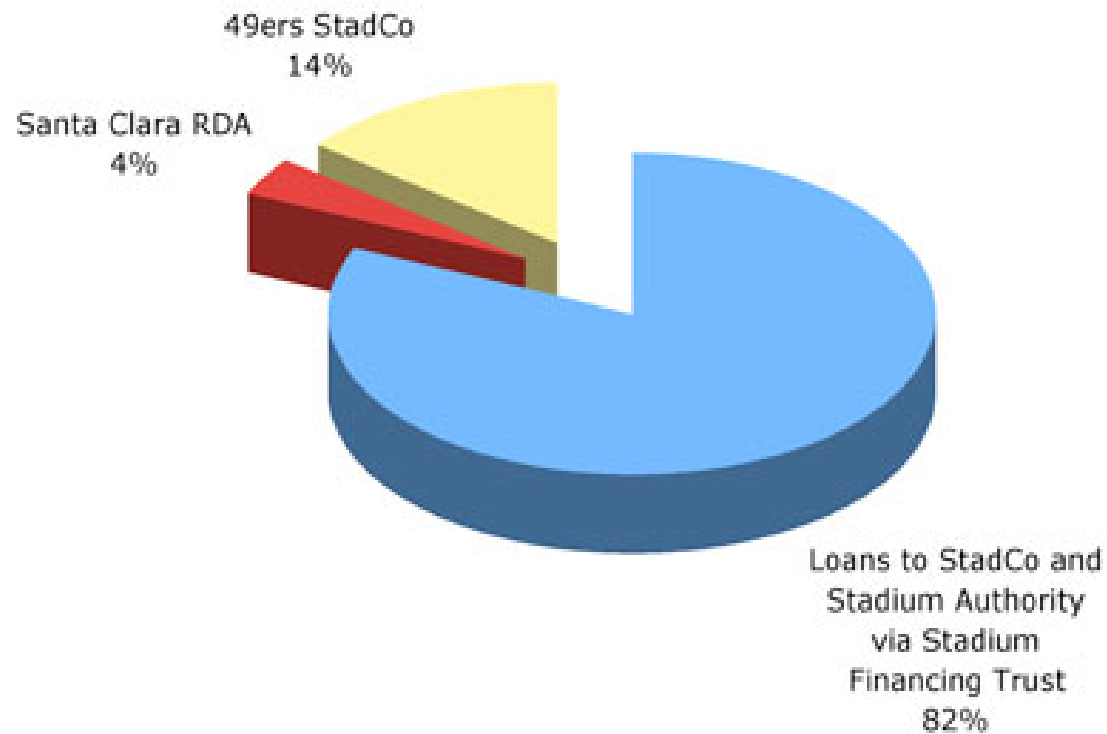


Political Outreach at Local Government

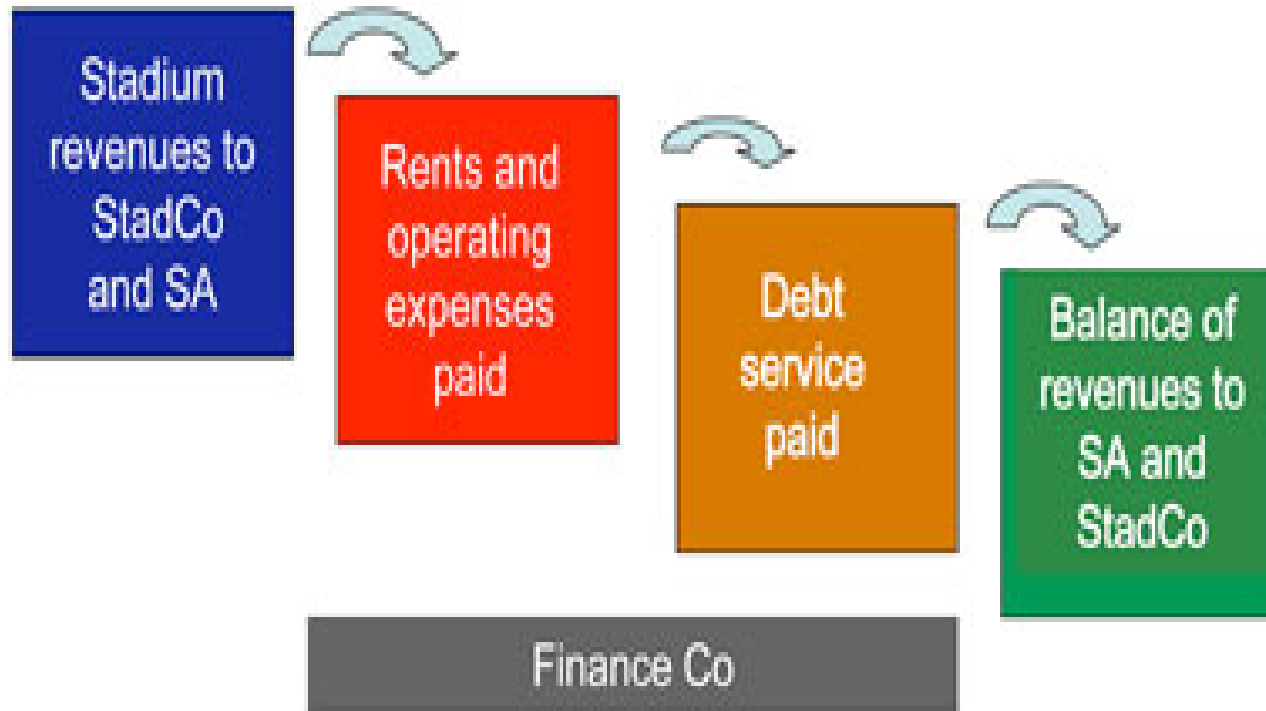


Stadium Financing

Santa Clara Football Stadium Financing



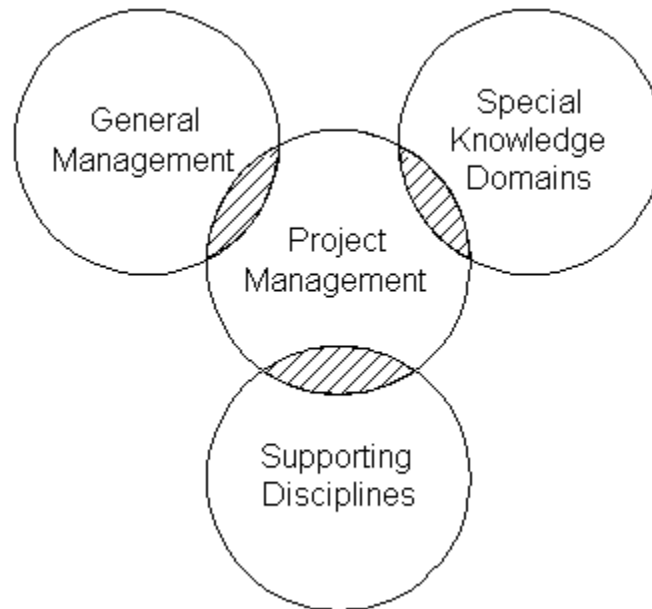
Financial Team for Project



The construction process begins

- Early site work and public relations
- Planning for the logistics of the site development
- Assembling the construction team: managers, inspectors, and builders
- Team building to meet challenges and overcome adversity

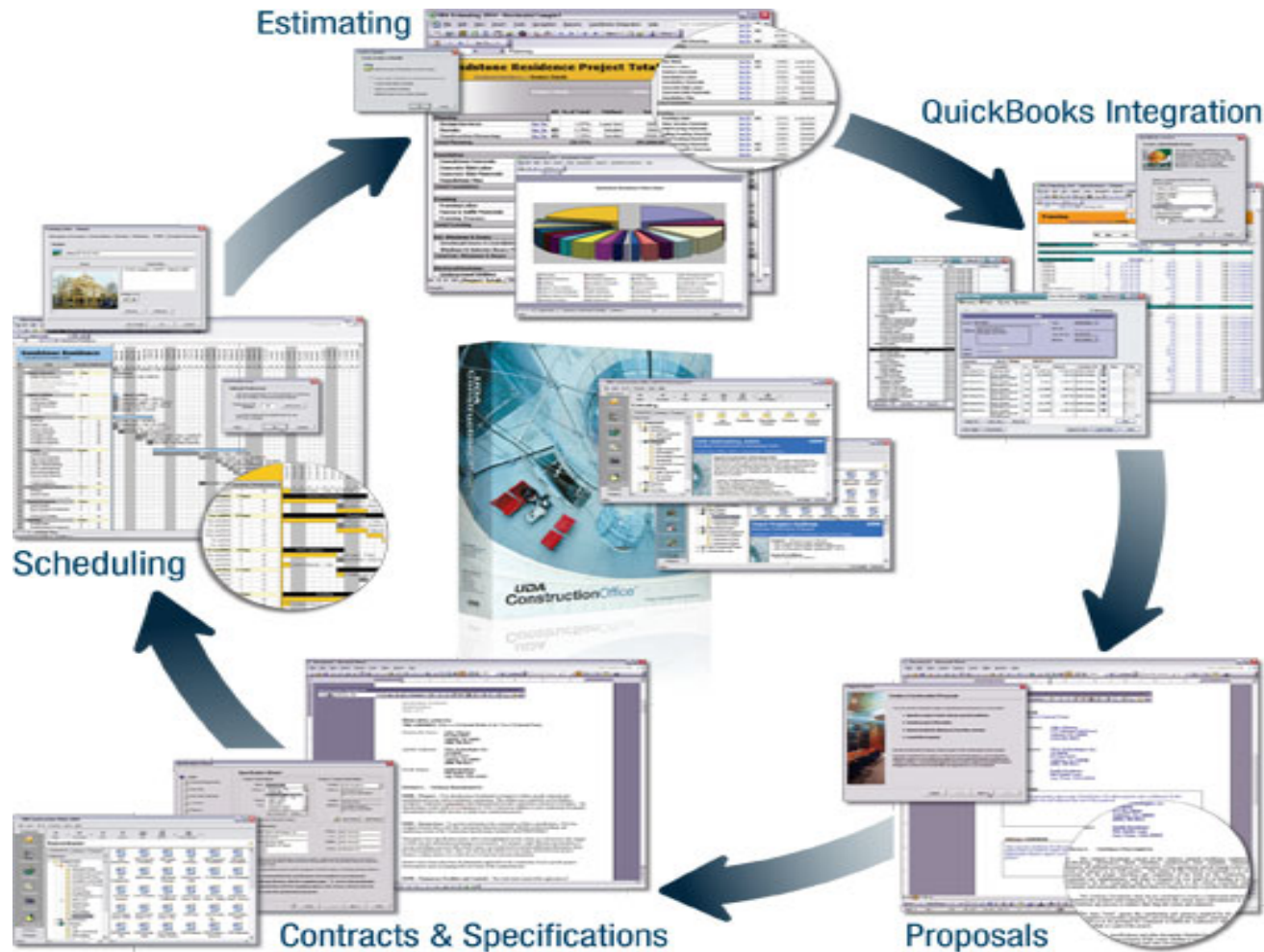
Role of Project Manager –the leadership core who will build the project



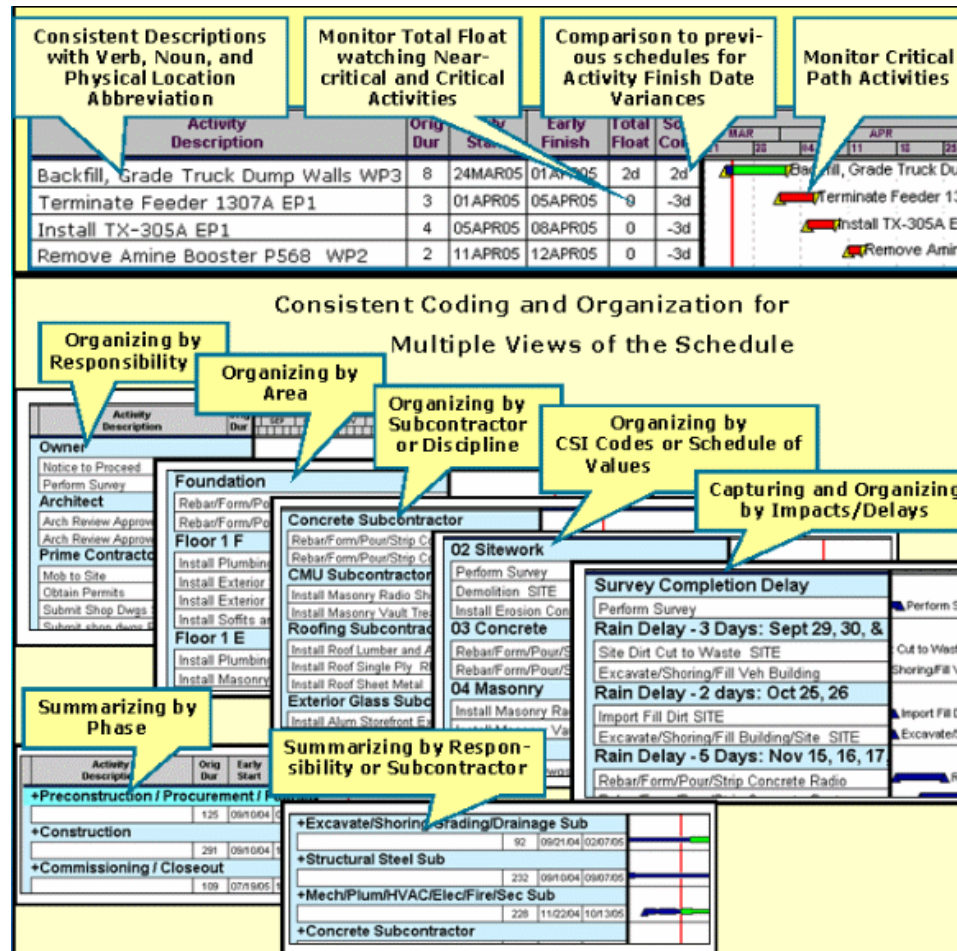
Early Site Work at New Stadium



Construction Management Schematic



Organizing a Mega Project



Day to Day Project Leadership



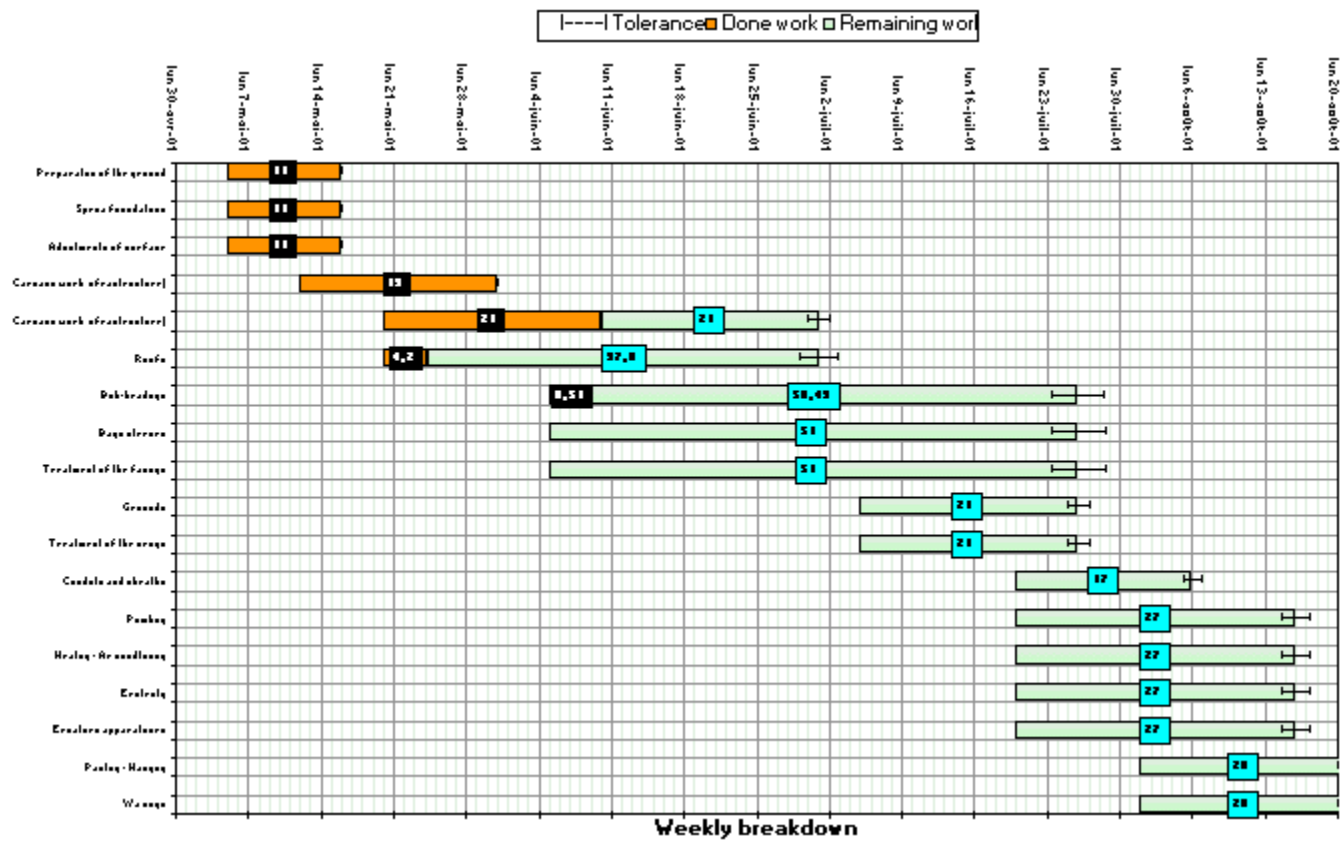
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Sample: Problem Solving - Delays



Eight main delay causes (Delay factors) in the Dungquat refinery project of Vietnam

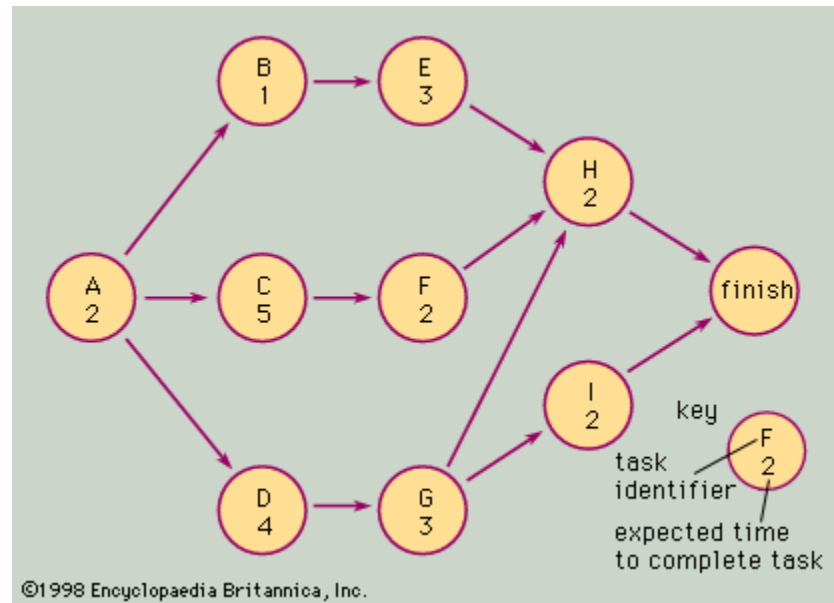
Weekly analysis tool



Specific Task Scheduling

AUTOPLANNING			Month number -->		151617181920212223242526272829303112345678910111213141516171819202122232425262728293031																															
			Week number -->																																	
Menu Autoplanning		1	Work estimated			samdimlunmarmonvenzamsatdimlun																														

Sample responsibility assignments



Sample structural drawing model



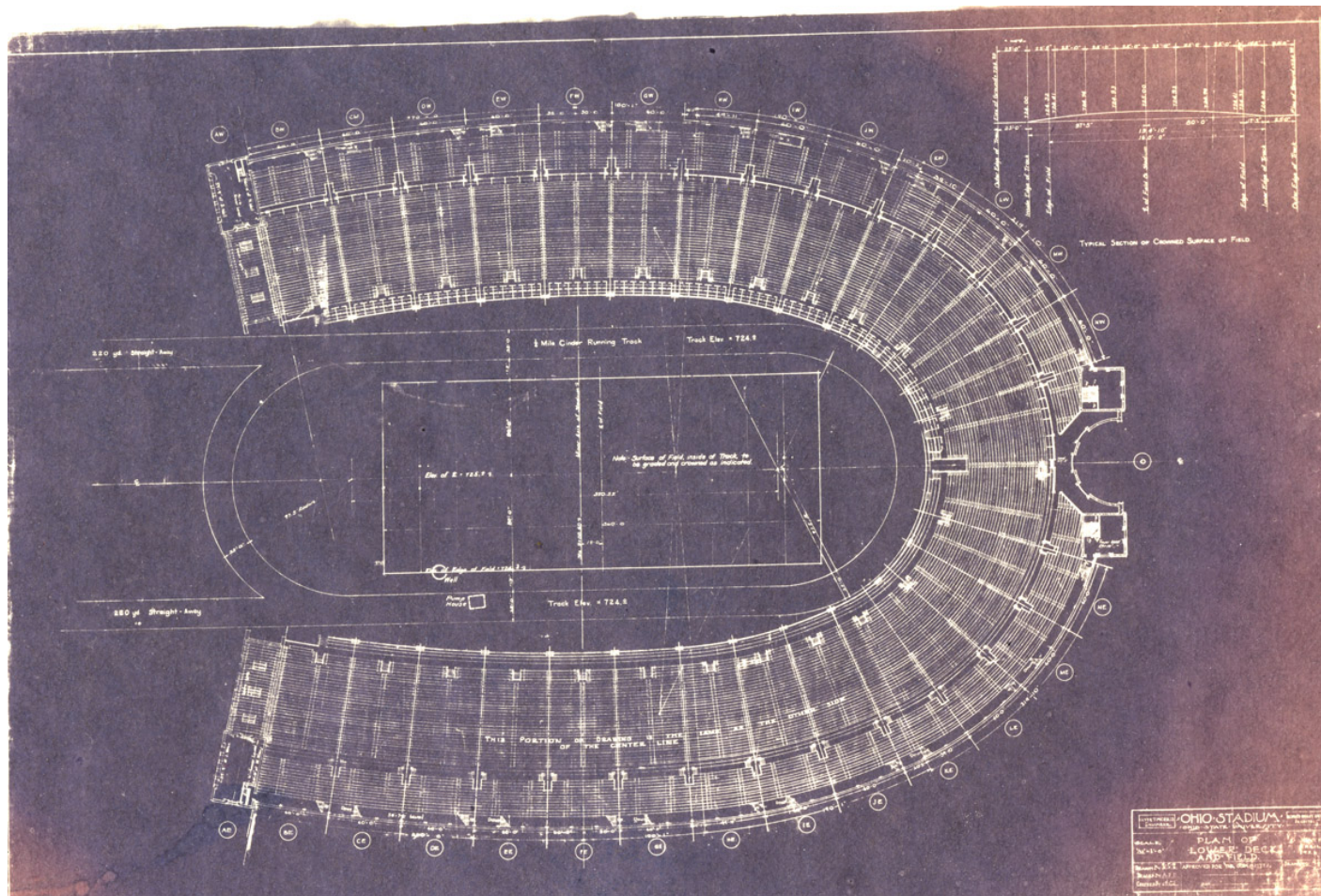
Comparable Structure Comparison



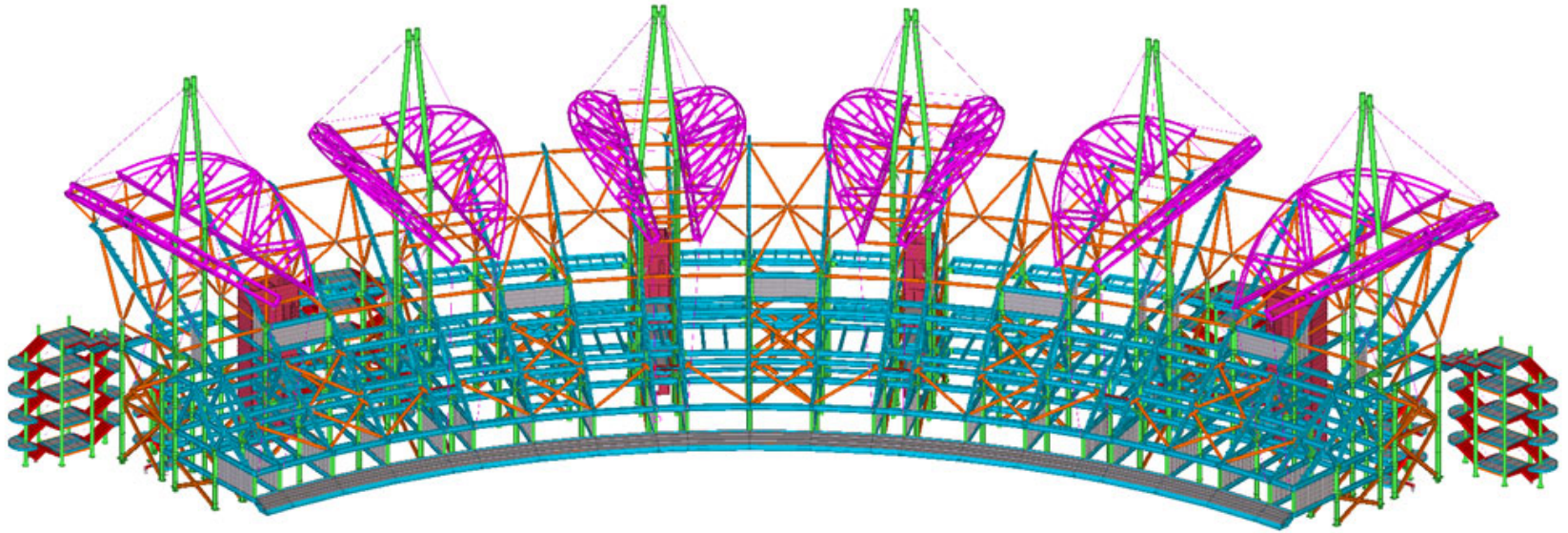
Alternate design proposal



Historic stadium drawing



Structural steel model drawing

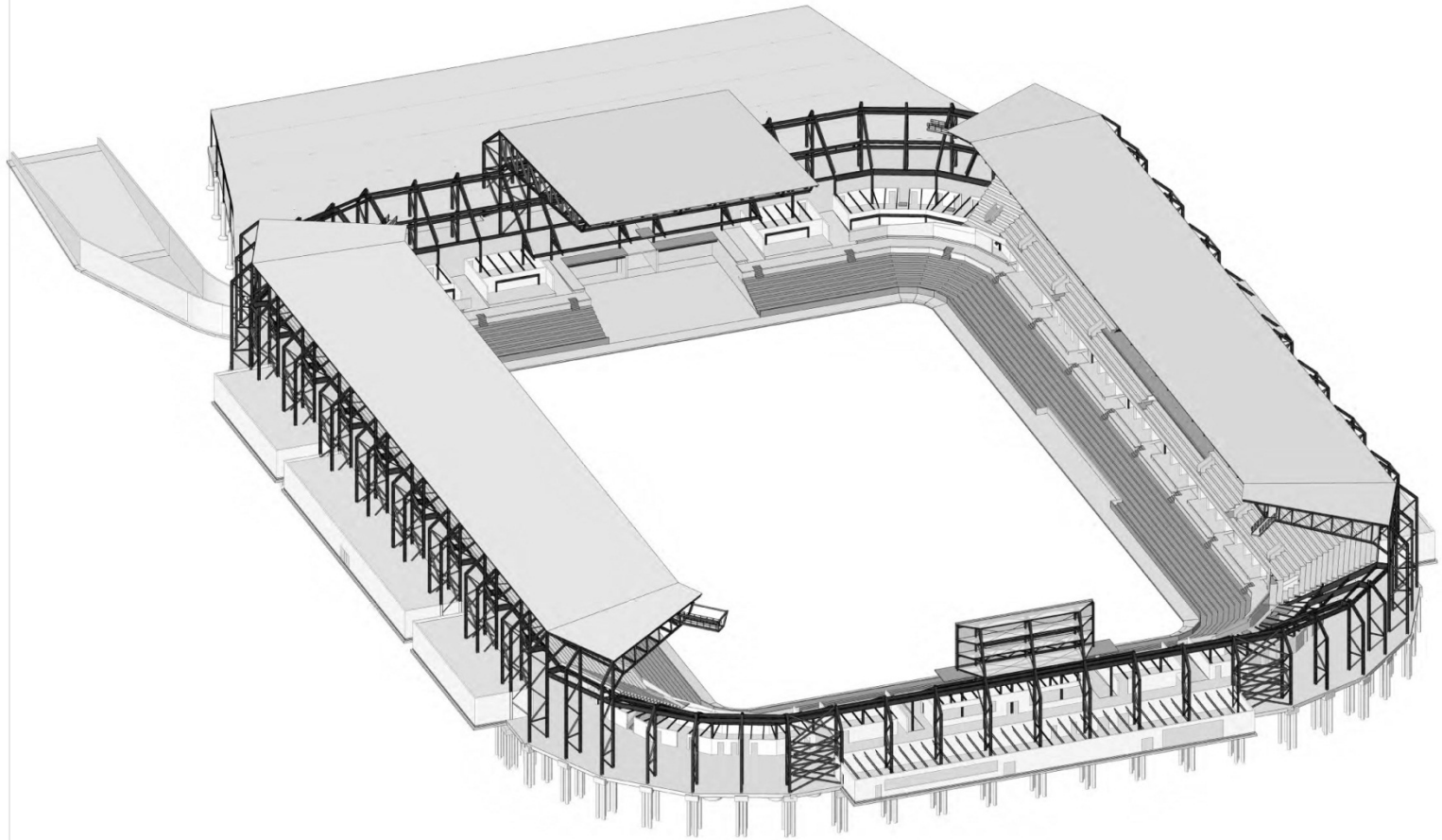


Team building and partnering



This architectural floor plan of the Allianz Arena stadium illustrates the seating arrangement for a match. The pitch is centrally located, with a 'Stage Canopy (Rooftop)' indicated above it. The seating is organized into sections, with numbers indicating the tier or row. The top and bottom tiers are labeled with numbers 1 through 70, while the side tiers are labeled with numbers 1 through 10. The plan also shows various club boxes, including '202 CLUB' and '234 CLUB', and other facilities like 'TV' and 'COMB. BOXES'. The stadium's unique, curved structure is evident in the layout of the seating tiers.

Sample architectural model



Sample structural steel section



Foundation work at grade



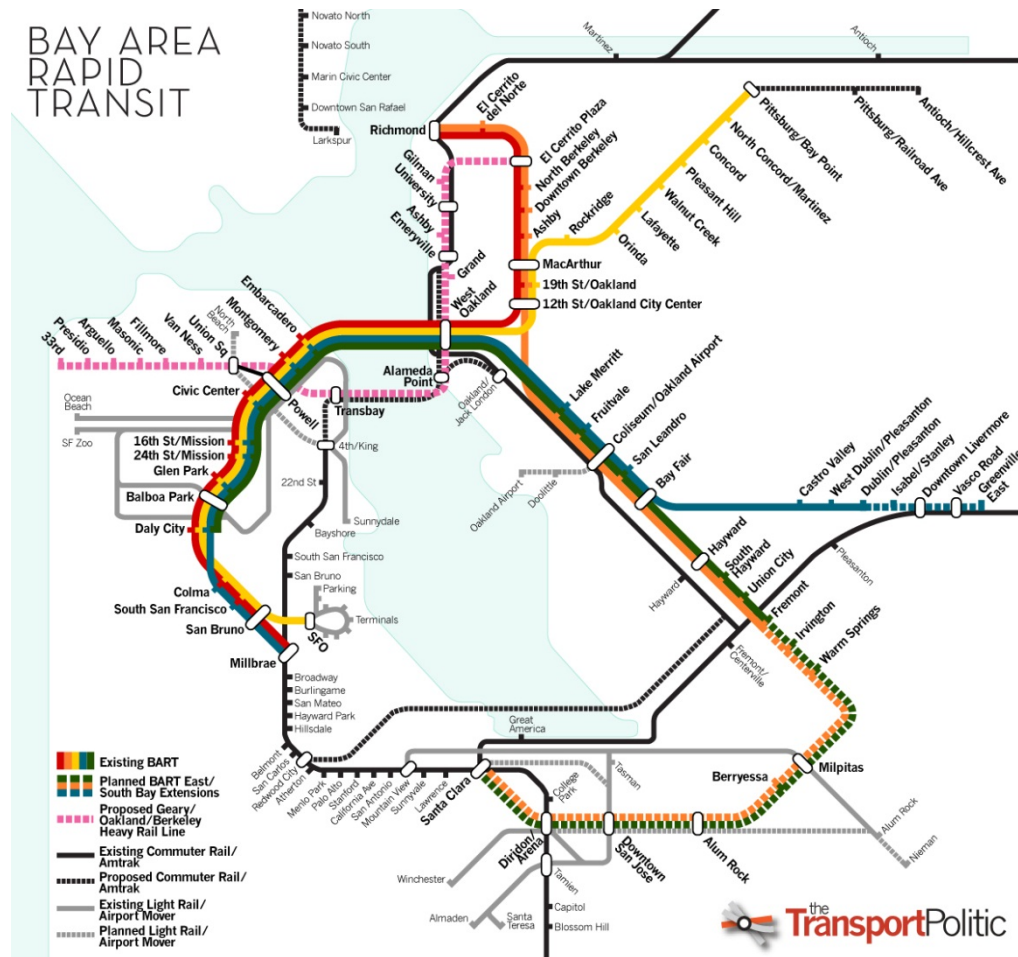
Early sequence of work (sample)



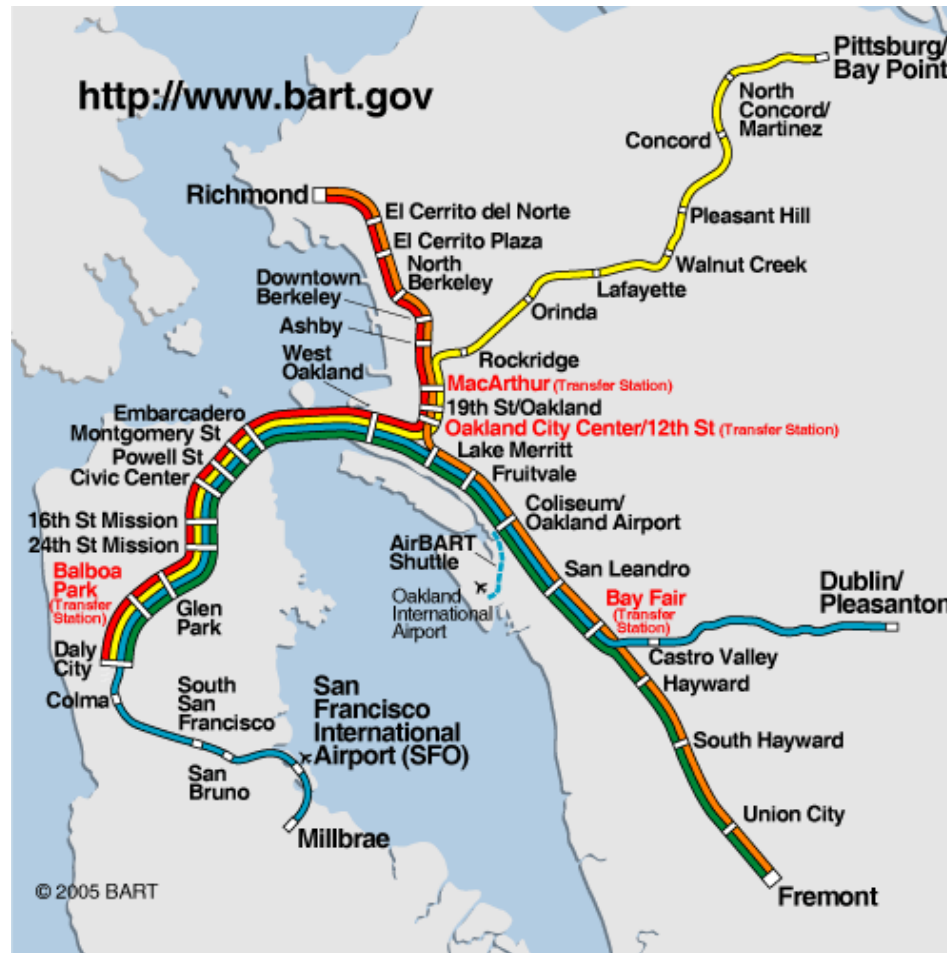
Possible Impacts on Infrastructure – stadiums will bring BART to South Bay

- BART extensions to Santa Clara county line and connection to VTA
- Possible that BART will even come to downtown San Jose
- Stadium projects will attract development that would justify transit expansion
- Bringing transit here will enable a truly unified Bay Area transportation system.

Possible BART to South Bay



Existing BART System



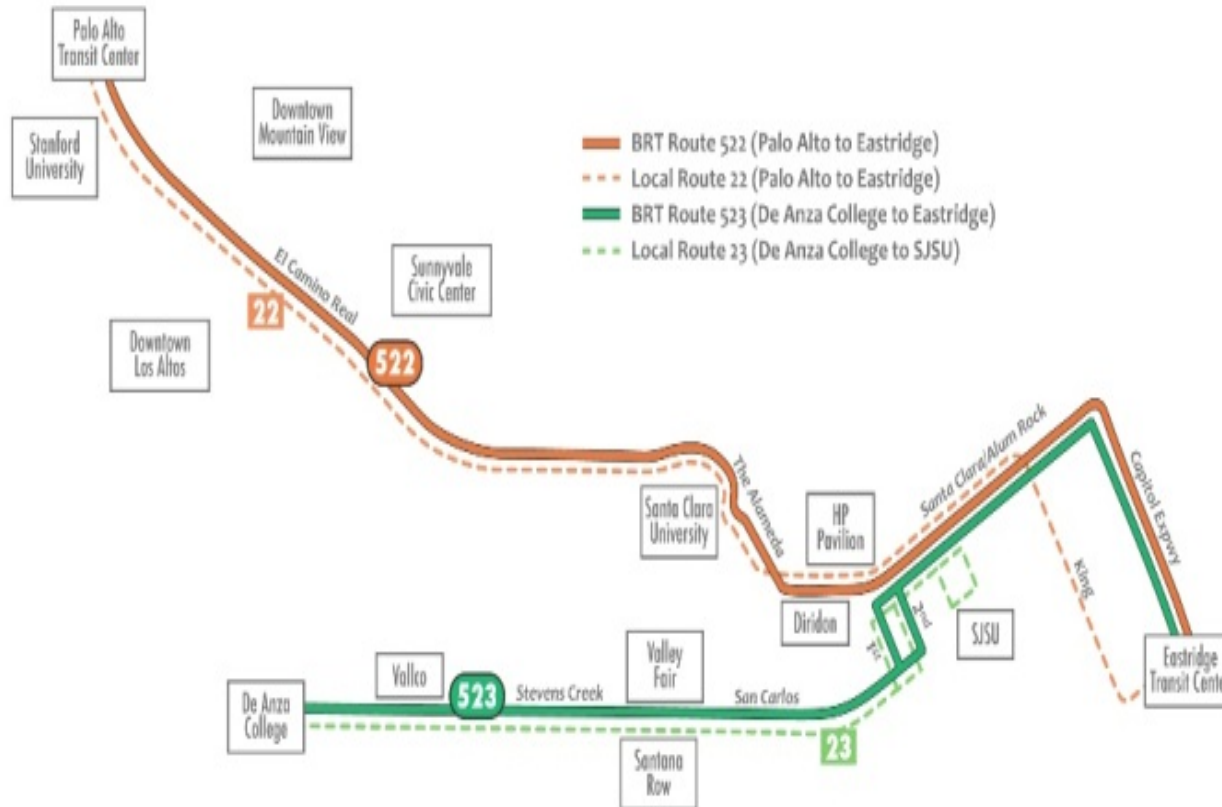
Silicon Valley BART



Alviso Transit



Current South Bay Transit



Proposed BART Expansion



New BART Station



New BART Station



Possible Subway System



California Transit System

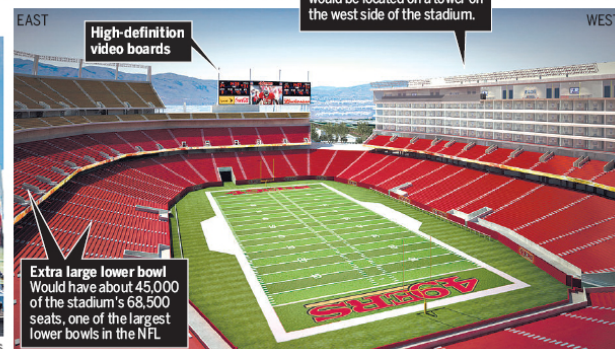


Is this a positive addition for the South Bay Regional Population?



Source: San Francisco 49ers, renderings by HNTB

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Will Major League Baseball benefit San Jose and invigorate a world class downtown center?

