WTC

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The Dream

• Post World War II sentiments
  – Increased trade
  – Bigger is better
  – Driven by leaps and bounds in banking, insurance and economies as a whole

• A center for world trade
  – Originally supposed to bring together companies associated with trade.
  – Steamship companies
  – Freight forwarders
  – Customs brokers
  – Scrapped in favor of modernizing ports

Minoro Yamasaki

• In 1962 Yamasaki was chosen as chief architect.
• After a hundred plus designs he came up with twin towers
  – Scared of heights which lead him to design narrow window slits so that one would feel safer when looking out.
  – Initially supposed to be 80-90 stories tall
  – Public relations groups thought it would be better for image to make it the tallest building in the world.
  – Yamasaki wanted to cut no corners and was fearful that the budget would not allow him to keep extravagant features and also make the buildings taller
• Budget was increased to accommodate taller building and very little was scaled back

A Dream Revisited

• David Rockefeller
  – 1958 billion dollar plan
  • Spend $1 billion to create futuropolis in east Manhattan
  • Nelson Rockefeller is governor of NY
  • Turned to port authority to fund and build
  • Austin Tobin was central point of control of revitalizing Manhattan
  • Port Authority took over NJ railroad on west side of Manhattan.
  • WTC was moved to Radio Row on the west side
  • Businesses fought but were bought out

Building the World Trade Center

1960 – 1974

Difficulties Starting

• Port Authority is bistate organization
• When proposal presented to NY and NJ officials, NJ decided that the WTC promised little advantage to its citizens
• Project revived after Port Authority developed the PATH for NJ
Public Opinion

- WTC announced in 1964
- Critics raved at first
- Opinions soured by 1966 due to underlying political controversy and changing design ideas
- Negative opinions continued well into the 1980s

Construction Problems

- Special cranes had to be imported to erect the huge towers
- Excavating the foundations became a problem: ran into Hudson River about 70 ft. down
- Slurry-trench system used to create “Bathtub”

Engineering Advancements

- Two advancements in technology made the World trade center possible
  - The elevator
    - Yamada’s advanced elevator design allowed for the WTC to reach the height that it did
    - Skeptics thought it would not work, but it was faster than a regular elevator would have been
  - Steel Skeleton Frame
    - New innovative steel skeleton
    - Most of the weight was supported along the elevator shafts
    - Outside frame provided rigidity
    - Very redundant structure
    - Allowed for immense open office space

The Site

- The site saw two major problems during its lifetime.
  - First the existing subway system which went through the middle of the site needed to be kept in service
    - Solution:
      - The subway was left in an elevated tunnel that the entire foundation was built around
  - Second after the first bombing in 1993 there was fear that the missing floors in the foundation took away enough rigidity that the foundation would cave in on itself
    - Solution:
      - The debris was excavated at breakneck speed with an army of construction workers and the entire project was finished within 20 days of the bombing

September 11, 2001 – The Aftermath

- 2823 people killed; 42% identified
- 16 acres & 13 million s.f. of Office Space destroyed
- $650 million to clean-up; initial estimate was $2 billion
- 1.8 tons of debris
- 4 construction firms

Cleaning Up the Mess
New Beginnings

- Estimated cost to rebuild: $26-29 Billion
- $2 million Towers of Light commemorate WTC for 6 months.
- International Design Competition; LMDC in charge.
- Studio Daniel Libeskind winner