PROGRAM

2002 ARTS FEASIBILITY STUDY

ARTS CENTER PROGRAM NEEDS
2002 ART FEASIBILITY STUDY

THEATER SPACES

1000 SEAT THEATER
300 SEAT FLEX THEATER
100 SEAT MULTIPURPOSE ROOM

PARKING NEEDS

500 PARKING SPACES
COSTS FOR A PAC

THEATER SPACES

AVERAGE $325 PER FT² (2002 STUDY)
AVERAGE $347 PER FT² (APPROX.
2013 COST SIMILAR VENUE ESTIMATE)

PARKING NEEDS

AVERAGE $60 PER FT² (APPROX. 2013
COST FOR BOSTON AREA)
NEEDS FOR AN ARTS CENTER

THEATER NEEDS

SOUND SEPARATION BETWEEN THEATER SPACES
FLEXIBLE USAGES (ABILITY TO CHANGE REVERB TIME)
AMPLE BACK OF HOUSE VS. AUDIENCE SPACE

CIRCULATION

CARS VS. PEDESTRIAN ACCESS
DELIVERY ACCESS TO BACKSTAGE FOR THEATERS
SUFFICIENT EMERGENCY EXITS
NEEDS FOR AN ARTS CENTER

Highly reflective surfaces lengthen the reverberation time.

- 8.5 s Notre Dame. Dramatic for the big pipe organ, but don't make a speech.
- 5.5 s "Muddy", severe loss of articulation, can't understand speech.
  - Good news: Fuller, richer musical sound. The organist would like it.
  - Bad news: Some loss of articulation, more difficulty understanding speech.

For a general purpose auditorium for both speech and music:

- 1.5 to 2.5 seconds

Absorbing surfaces shorten the reverberation time.

- 1 s Good news: Clearer articulation of speech. Desirable for lecture halls, speech only.
  - Bad news: Loss of richness and fullness, not a desirable place for music.
- .3 s "Dead" sound, difficulty hearing in back, loss of bass in back.
- 0 s No reverberation gives pure inverse square law behavior.
KEEFE AUDITORIUM

LONG THIN THEATERS HAVE GOOD ACOUSTIC PROPERTIES

VISIBILITY IN A LONG THEATER IS SIMILAR TO KEEFE WHICH MOST WOULD CONSIDER A VISUALLY COMFORTABLE SPACE
HISTORICAL ANALYSIS

ARTS AND CULTURE VENUES

HISTORY OF SPRING STREET SITE
Fig. 11 Cultural / Gathering Spaces, Current and Historical

STATE THEATER / STAR CINEMA
SITE ANALYSIS

HEIGHT STUDY

PROGRAM TO SITE ANALYSIS

PARKING ANALYSIS
SITE
29,984 FT²
CURRENTLY HAS 90 PARKING SPACES

PROGRAM OPTIONS

500 PARKING SPACES
5 STORIES

OR

100 PARKING SPACES*
1000 SEAT THEATER
300 SEAT FLEX THEATER
100 SEAT MULTIPURPOSE ROOM
BACK OF HOUSE / CIRCULATION

* USE EXISTING PARKING OPTIONS
NASHUA PERFORMING ARTS CENTER

PARkInG PLAn

PROXIMITY

1/8 MILE
LESS THAN
4 MIN WALK

SITE

G

G
DESIGN DRAWINGS

SITE PLAN

PLANS/SECTIONS

FACADE/ARCHWAY PRECEDENTS

RENDERINGS

MODEL IMAGES
PARKING GARAGE

HISTORY OF GARAGES THAT CAN BE AESTHETICALLY PLEASING

GARAGE TO HAVE BAFFLED FACADE (WHITE) AS SHOWN ON THE RIGHT WITH SIMILAR FACADE ON LARGE THEATER
ARCHWAY

PROVIDE CONNECTION TO MAIN STREET WHICH IS BOTH CONTEMPORARY AND HISTORIC IN NATURE

USE WHITE PAINTED METAL

DESIGN-WISE, CREATE A SERIES OF BAFFLES TO MATCH THE PARKING GARAGE STYLE PAIRED WITH LED LIGHTING TO MATCH STYLE OF LARGE THEATER
REVERB TIME ESTIMATE

\[
RT_{60} = (0.16 \text{ s/m}) \frac{V}{S_e} = (0.049 \text{ s/ft}) \frac{V}{S_e}
\]

for dimensions in meters

for dimensions in feet

Modeling a room of

Height \( H = 10.663000 \text{ m} = 35 \text{ ft} \)

Length \( L = 42.976800 \text{ m} = 141 \text{ ft} \)

Width \( W = 19.6596 \text{ m} = 64.5 \text{ ft} \)

with absorption coefficients:

\( a_{\text{walls}} = 0.3 \), \( a_{\text{floor}} = 0.3 \), \( a_{\text{ceiling}} = 0.3 \) for average of \( a_{\text{avg}} = 0.3 \)

gives an effective absorbing area of \( S_e = 997.86706748 \text{ m}^2 = 9772.2 \text{ ft}^2 \)

for a room of volume \( V = 9013.46464593 \text{ m}^3 = 318307.5 \text{ ft}^3 \).

The corresponding reverberation time is \( RT_{60} = 1.5984364 \text{ seconds} \).
COSTS FOR PAC BASED ON FT²

THEATER SPACES

AVERAGE $347 PER FT² X 57,000 FT²=$20 MILLION

PARKING NEEDS

AVERAGE $60 PER FT² X 40,000 FT²=$2.5 MILLION

TOTAL COST ESTIMATE: $22.5 MILLION

COMPARISON TO RENOVATE AND ADD A 500 SEAT THEATER AND 1000 SEAT THEATER TO COURT STREET

$40-47 MILLION (2002 ESTIMATED COST)
THE ART OF POSSIBILITY

NASHUA PERFORMING ARTS CENTER

THE ART OF POSSIBILITY