Honorable Mention

Urban Business Hotel

Submitted by:
WATG

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School of Architecture and Interior Design
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:core:

:Urban Business Hotel of 2055:

:Preliminary concept(s):

Society is immersed in a myriad of techno-social processes and interchanges that augment our physical environment by adapting to our needs. Architecture's reciprocation of these adaptations remains comparatively unnoticeable. Buildings, for the most part today remain static. This project seeks to develop a synthesis between current architectural kinematics and aspects of emerging technologies from other fields of exploration to create responsive kinetic systems. An architecture in which surfaces and structures move according to the way humans do. An architecture that is capable of adapting to our changing needs and those of technology.

Motion is an inherent condition of many systems that allow a successful adaptation to changing conditions of the environment to its user. A functional response in architecture implicates the juxtaposition of response, environment, user, and form. Kinetic expression applied to architecture is conceived directly through the physical motion of form, surface and/or structure. Understanding these conditions influences proposals for a new generation of responsive architectural spaces that react to the needs of their users, but more importantly, to the needs of the hotel. The hotel may optimize the internal environments and never be left with unused space. Marketability and profitability of the hotel increase, while production and leisure of the trendiest business guests is maximized.

In this "Age of Technology", architecture must learn how to exhibit temporality through longevity, just as other industries do. Responsive kinetic systems may provide an answer for the future of the resort urban business hotel.

:Journey {Spatial optimization}:

Guests and corporations book via the Internet. Various guest and business requirements are entered into a computer database that controls all of "core's" infrastructural systems. Requested guest criteria are scheduled preparing the hotel's

advanced computer systems to optimize public and private spatial output through guest input. The hotel benefits the most from this optimization. Compression, expansion and displacement of public space via “kinetic public volumes” and “kinetic private room partitions” permits the hotel to reduce volume and energy costs of unoccupied volumes, but also allows the increase of volumetric capabilities of over occupied volumes when the hotel is at its busiest.

:Application:

The business corporation of 2055 requires highly flexible conference and meeting spaces, which can adapt to changes within scheduled programs or activities. With the technological advance of virtual connectivity, human-to-human contact will be an ever more essential tool in which to negotiate global and multi-orbital business transactions. Large corporations need to physically connect with satellite offices thus requiring business hotels of the future that offer varied levels of infrastructure which cater to the specific needs of these businesses and their subgroups.

The business professional of the future will not only require, but already be accustomed to virtual and physical environments that are responsive to their individual needs. Point to point travel service, private room needs, physical activity, and entertainment are inclusive elements that need to be interconnected through a varied spectrum of private and public spatial juxtapositions. Guest trajectories throughout the vertical hotel influence spatial transitions and juxtapositions.

: **master of architecture thesis:** responsive kinetic systems

: **committee chairs :**
Michael McInturf & Jay Chatterjee
: **programs :** Maya, Rhino, AutoCAD, Illustrator, Photoshop, In-Design, I - Movie
: **thesis research :**
responsive kinetic systems
» Motion conceived form[s]; Peter Eisenman, Bernard Tschumi, Greg Lynn and others
» Kinetic architecture; Santiago Calatrava, Chuck Hoberman, MIT Kinetic Design Group, AADRL
» Adaptable & experiential environments; Mark Goulthorpe (dECOI), Kas Oosterhuis (ONL), Brett Steele & Patrik Schumacher (AADRL)
: **thesis design project :**
» Competition - Hospitality Transformed: Resort Hotels in 2055 (1st place, grand prize, with two 2007 exhibitions - see CV)
» Urban business hotel of 2055
» Site: Manhattan - Madison Square Park
» 4 design awards (see CV)

:FRONT DESK:
:CONCIERGE:
:BUSINESS:
:FITNESS:
:SPA:
:ENTERTAINMENT:
:ROOM SERVICE:
:HOUSKEEPING:
:COMMUNICATIONS:
:YOUR ITINERARY:
:MEETINGS/EVENTS:
:SHOP:
:NEW YORK CITY:
:GLOBE:
:ORBIT:

:C O R E:·· [CO]RPORATE [R]ESORT [E]XPERIENCE ··

225 FIFTH AVENUE, NEW YORK, NY ·· MADISON SQUARE PARK ··

: graduate work - thesis (2005-2006) :

Urban Business Hotel 2055 »

Business trends 2055 »

+ highly temporal society
+ increase in global networking (anticipated ·· multi-orbital)
+ increase in corporate satellite offices
+ increase in home working employees

= need for multifunctional “place(s)” and ”space(s)” in which
corportations can descend upon for monthly, quarterly, and annual meetings or conferences.

Business responsive needs 2055 »

The “base” office becomes an item of nostalgia. The manifestation of the “satellite” office becomes more prevelant, it becomes smaller, more individual and more diverse locations develop. These new, less-physical connections and more virtual associations will require places and spaces in which corporations can physcially connect with the their employees and clients.

The business corporation of 2055 requires highly flexible conference and meeting spaces which can seemlessly adapt to immediate changes within scheduled programs and activities.

The urban business hotel :C O R E: as a base for these operations provides the ultimate temporal setting for these negotiations.

The journey begins with the booking process. Guests and
corporations book via the internet. Various guest and business requirements are entered into a computer database that controls all of :C O R E:('s) infrastructural systems.

» Requested guest criteria are scheduled preparing the hotel’s advanced computer systems to optimize public and private spatial output through guest input.

» The hotel benefits the most from this optimization. Compression, expansion and displacement of public space via “kinetic public volumes” and “kinetic private room partitions” permits the hotel to reduce volume and energy costs of unoccupied volumes, but also allows the increase of volumetric capabilities of over occupied volumes when the hotel is at its busiest.

:C O R E: [CO]RPORATE [R]ESORT [E]XPERIENCE

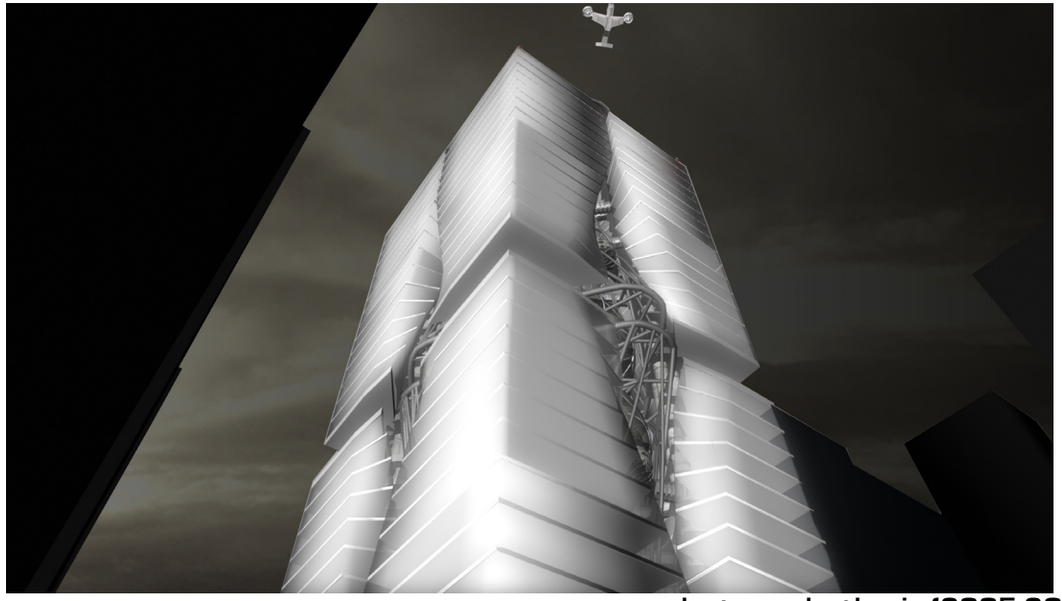
An urban resort destination for hypertasking corporate jet-setters.

A hotel that optimizes public and private environments according to guest trajectories - continuously adapting unused space for those who live to work.

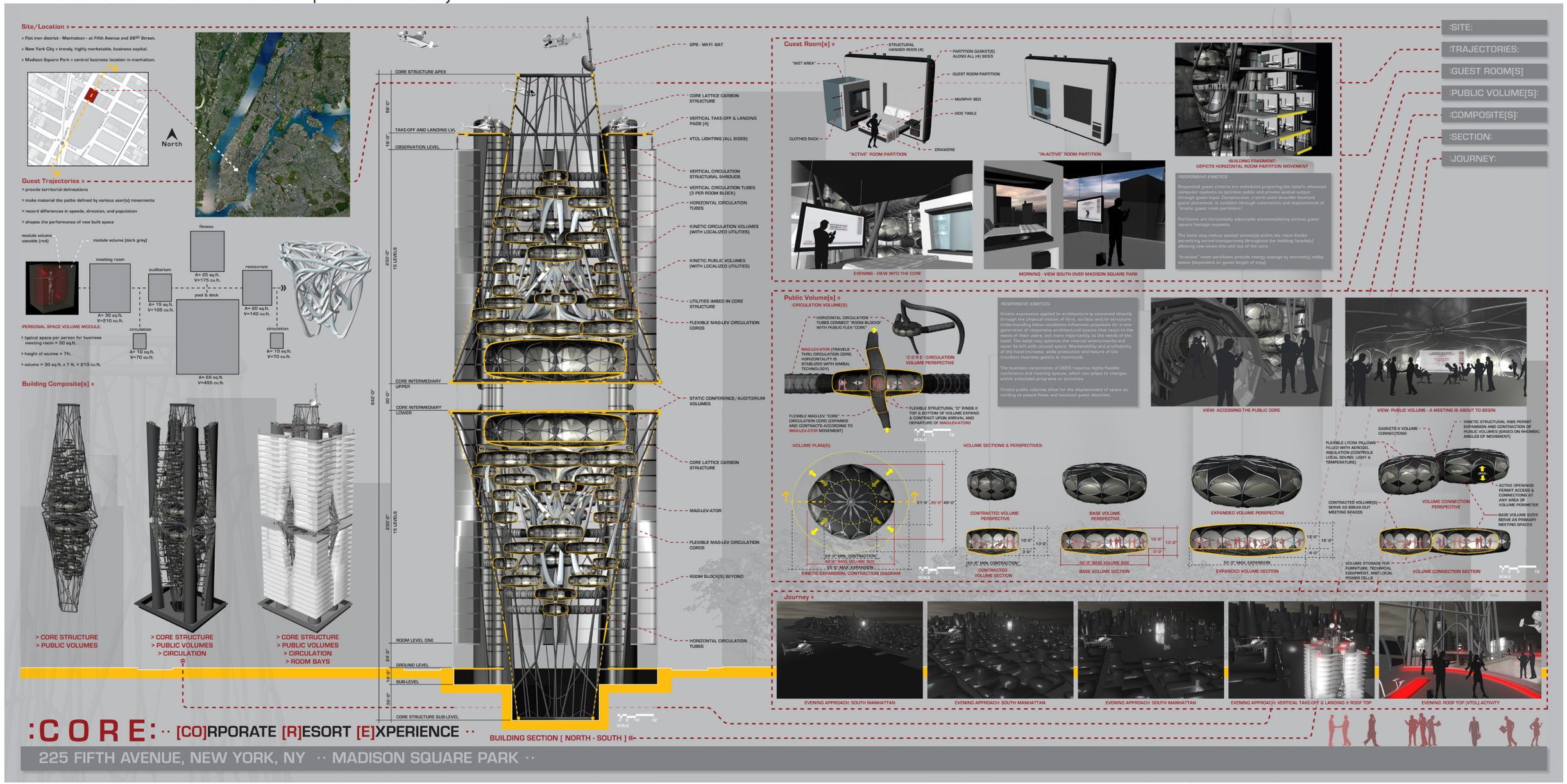
Marketability and profitability of the hotel increase, while production and leisure of the trendiest business guests are maximized.

(below) view looking up through the core

(below) view looking up from corner of 5th avenue and 26th street



: **master of architecture thesis:** responsive kinetic systems



: graduate work - thesis (2005-2006) :

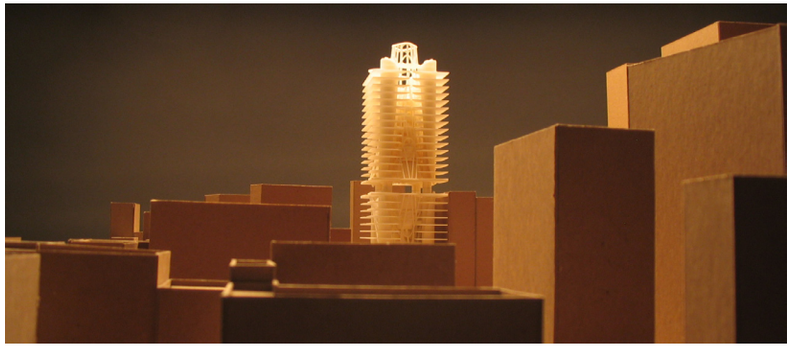
: master of architecture thesis: responsive kinetic systems

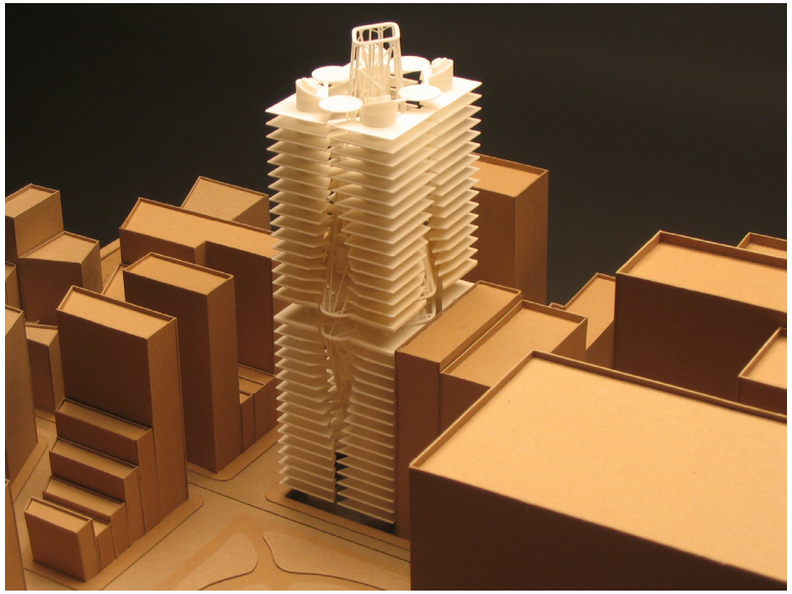
: site model (1"= 40'-0") :

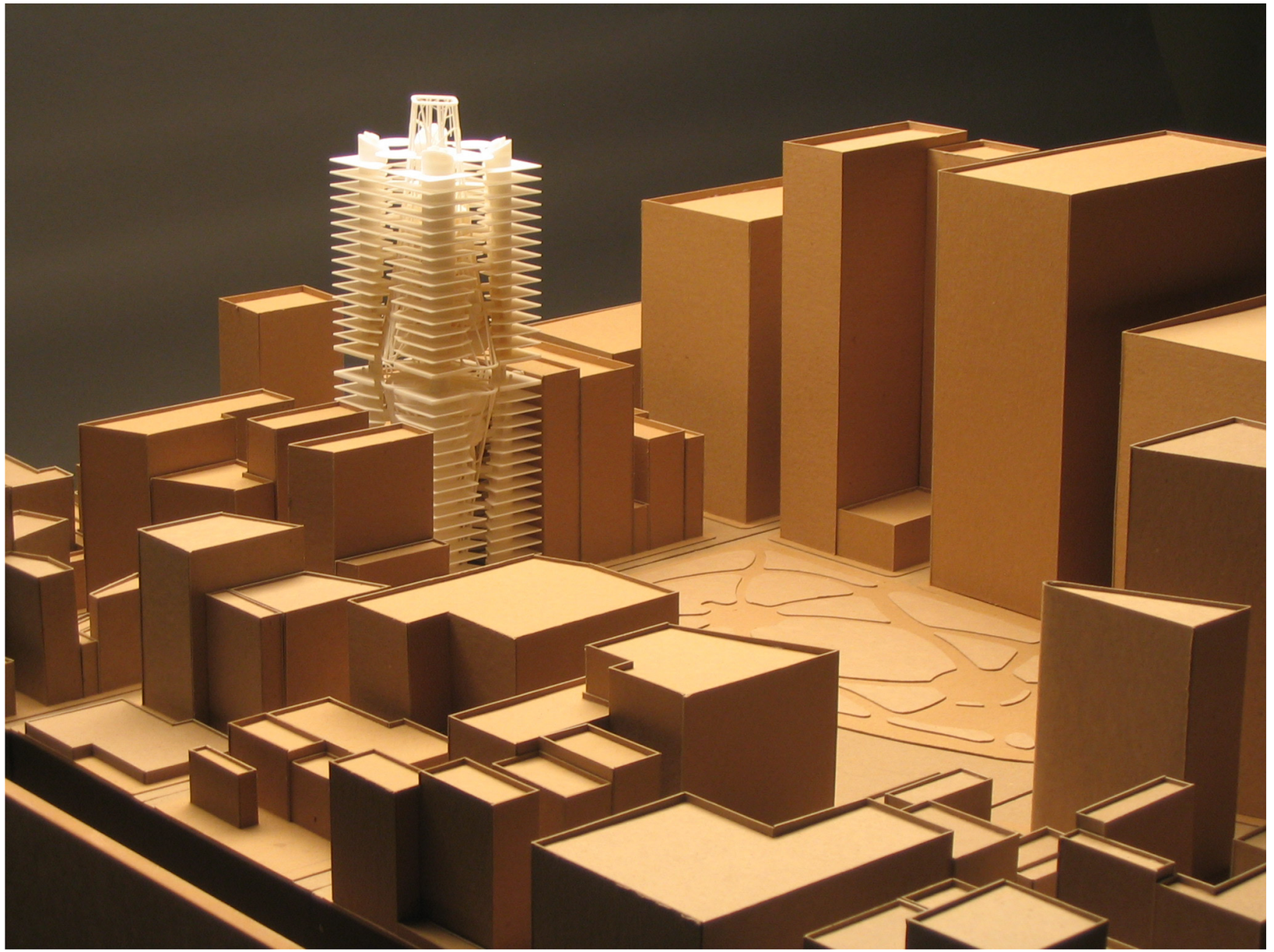
» Madison Square Park; images represent views from the south.

» Site buildings are composed of brown card.

» Core building is an SLS (selective laser sintering) model. The model was virtually created in Maya and Rhino and exported as a stereolithography file for prototyping.







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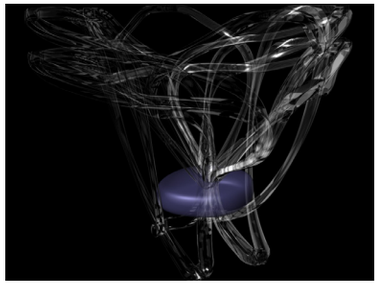
: circulation diagram models (1"= 20'-0") :

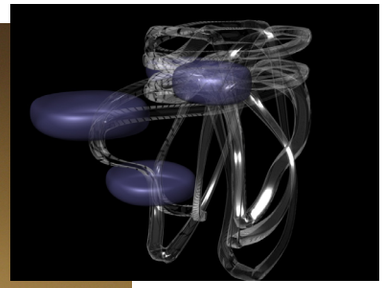
» Typical business guest trajectories are mapped vertically through 3-dimensional space. The models provide circulation through the core of the building, but also serve as diagrams for kinetic volume positioning.

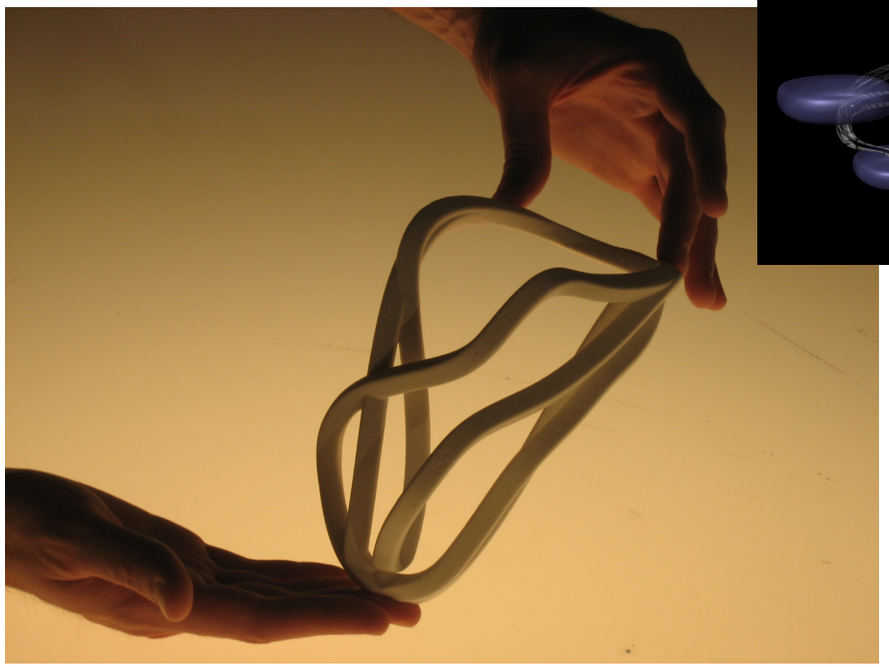
» Models are 3-d printed (gypsum powder with bonding agent). Models were created in Maya and Rhino and exported as stereolithography files for prototyping.

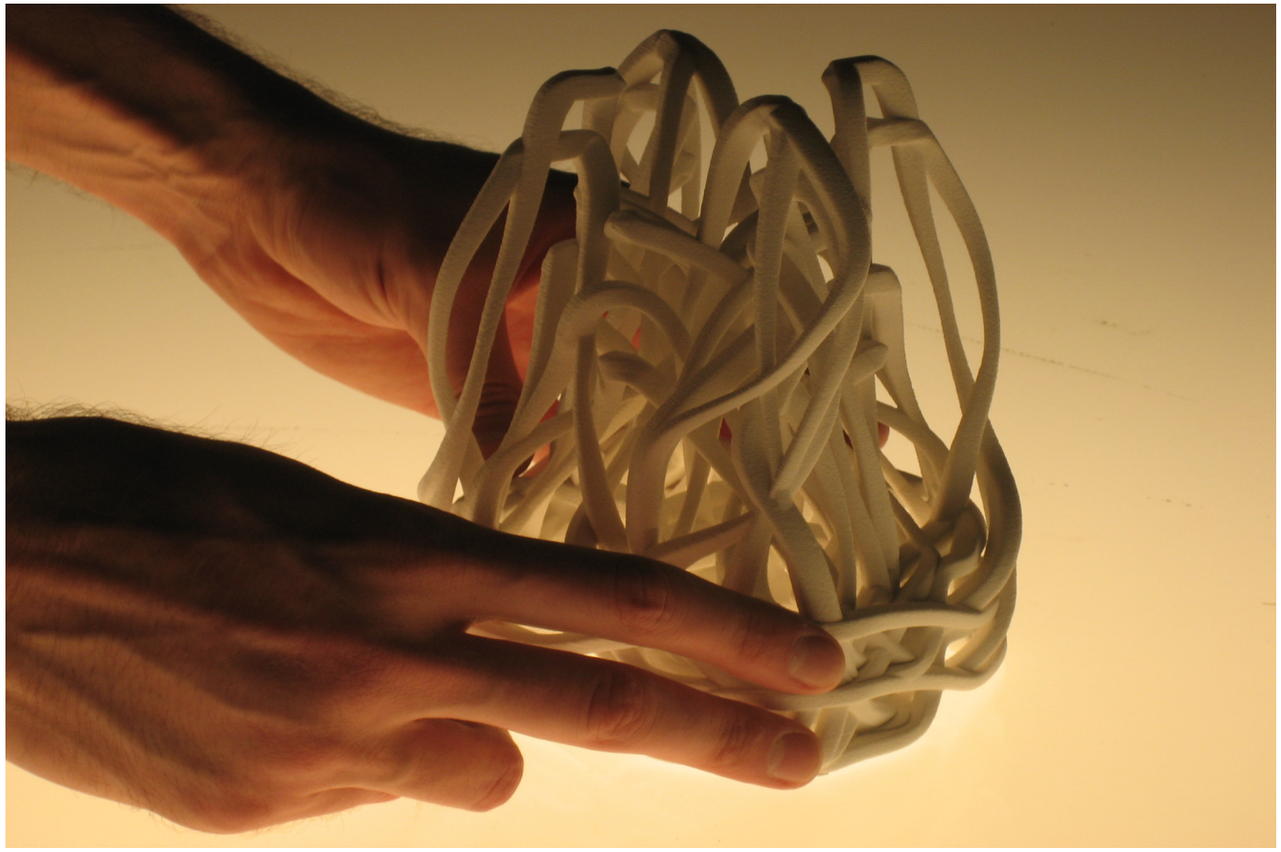
» Single trajectory routes were tested (figure lower left)

» Composite trajectory routes (figures right) provided departure for design progress.









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: public core kinetic volumes (1/8"= 1'-0") :

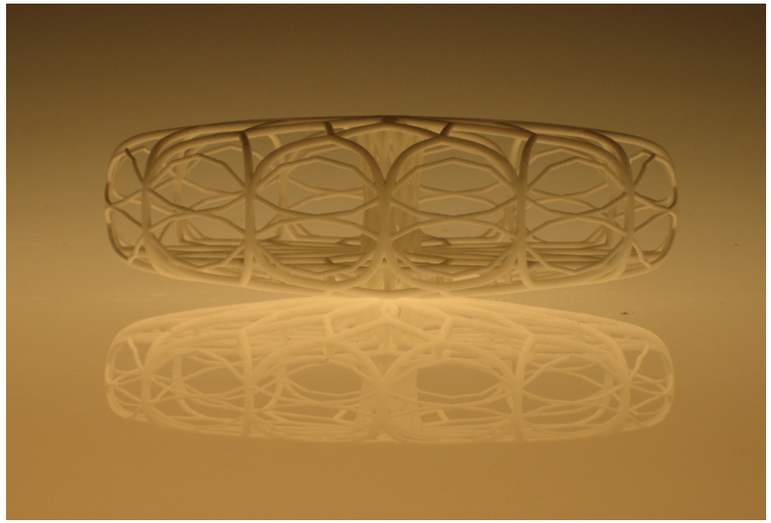
» Models (figures upper right) are SLS (selective laser sintering). They were created in Maya and Rhino and exported as stereolithography files for prototyping

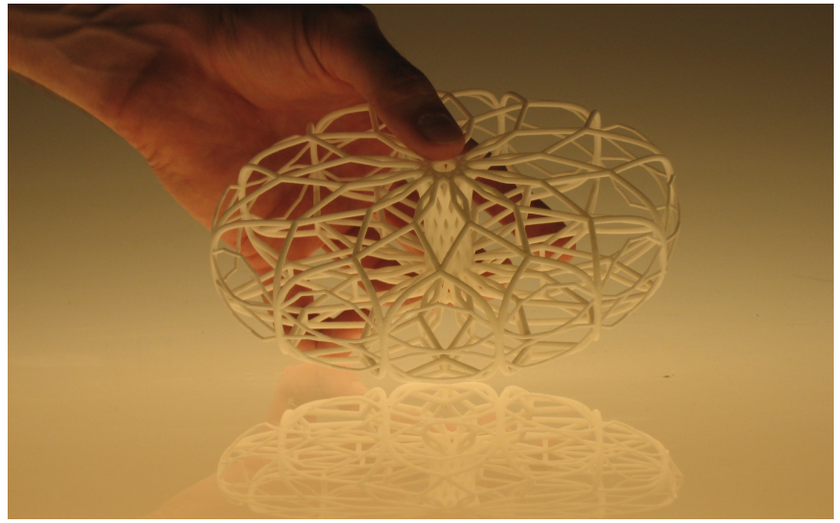
» The kinetic volumes contract and expand 1/3 of their original (base) size, accomodating varied group sizes.

» Structural carbon-based lattices are based on rhombic angles of movement.

» Structural joints are detailed with festo fluidic muscles permiting expansion and contraction of volumes.

» The kinetic core structure(s) provide gothic-like tracery at all scales, as single entities or group composites





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