



GSAPP Columbia University Fall 2014
Advanced Studio V, Section 005

Habitable Bridge – Project Brief
Mega-cityfication/Habitable Superbridge:
A Vision for Manhattan's Future

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Among the cities of the world, Manhattan has established its position as a Global Mega City. It is safe to assume that New York City will grow substantially in the next 50 years. While the city has been growing vertically, this studio will explore horizontal growth—connecting Manhattan to the neighbouring boroughs through a habitable “Superbridge.” Rather than functioning simply to connect two points for vehicular or pedestrian traffic, the bridge can act as a “super infrastructure”—to host residential, commercial, industrial, cultural, recreational, or religious spaces. The bridge will be connecting, intensifying, and possibly activating two very different neighborhoods.

Background and Context:

The habitable bridge as an occurrence and a result of urban densification in old European cities, has been the subject of conceptual inquiry for many recent and contemporary architects. Yet, it was not often recognized as a typology of a building in its own right, in that, rarely there were made any attempts to rethink the habitable bridge as a spatial construct that is more than the sum of its constituent elements. Is it simply an infrastructure that is colonized by the architectural program found in our cities? In our time, what does it mean to think of a structure that fuses e.g. programs of habitation and transportation, while bridging across an obstacle, two or perhaps more than two unconnected places?

In Europe, habitable bridges were common between the 12th and 17th century. These functioned as multi-programmed structures, hosting markets, homes and sometimes even chapels. Concentrations of economic or societal transactions closer/across the bridges would catalyze a range of program-occurrences densely packed on and around these bridges. Hence, the habitable bridge would reflect the complexity of dense urbanization of that period.

Currently, urban densification is observed as ubiquitous tendency around the globe, accompanied by the concentration of resources in cities. New York City and Manhattan as an established archetype of a dense urbanization is also expected to be included in this growth.

Manhattan as a place that is most connected globally is not connected well enough to its immediate neighborhood. In fact, the most recent large scale infrastructural intervention linking Manhattan to its boroughs was in 1950, with the accomplishment of the Battery Park Tunnel. In recent years, there have been several project activating the river frontage of Manhattan, but there has been no attempt to connect urban fabric on a large scale.

NYC and Manhattan, where the ideas of connection, densification and diversity are defining contextual characters, where the streams of natural and man-made affairs can create any number of obstacles, becomes a unique location to exercise this typology.

Studio Summary:

The studio will be tasked to select a location for the Superbridge, define the suggested program, and design a bridge; which will aim to effect on Manhattan's identity locally and globally.

Studio Research trips:

Each student will be tasked to research the existing urban fabric on the river front, analyze the infrastructural system connecting them, and develop a strategy to connect them. We will use data collected by the City of New York to develop a master planning methodology to inform the design for the Superbridge.

Studio Project:

The goal will be to develop a Superbridge: establishing new neighborhoods, enhancing the existing neighborhoods, and setting an example as a social, cultural, fiscal, and environmental sustainable design.

Taking the DNA from each side, the students will create a new fabric for the bridge.

The Superbridge will/can offer recreational, educational, and cultural facilities to all five boroughs. Special consideration will be given to environmental issues.

Site:

Students will select their own location for the Superbridge. The bridge will have to connect to Manhattan and while being infrastructural, the bridge does not have to solely serve as means of transportation. The students will select and establish the program for the Superbridge. It will be encouraged to think of the bridge as a mini-city, setting an example as a net zero self sufficient environment with a focus on social, fiscal, cultural, and environmental sustainability.

Phase 1: 2 weeks

In the first phase of the studio, we will dive directly into developing a master plan for a new habitable bridge typology. This methodology will equip the studio to create a new, perhaps ideal, urban DNA. We will look at the relationship between urban planning tools such as FAR, building height, street width, setbacks, etc., and the urban landscapes these create. We will visualize, concretize and test the results of different permutations of these rules with digital models and rapid prototyped physical models and animations. We will question the standard urban planning tools and, when necessary, create new tools and methodologies for ordering urban fabric and to formalize an architectural platform for a “bridge city”.

Phase 2: 2 weeks

The studio will come together and collaborate on a single set of integrated planning concepts that form a cohesive master-planning proposal, with an emphasis on conceptual clarity and specific goals. This proposal will take abstract ideas for the previous phase and test them. Zoning, infrastructure, new traffic patterns and models, and connectivity to the two riverfronts will be organized and defined in preparation for the final phase.

Phase 3: 10 weeks

In the third phase of the studio, we will break up the bridge into smaller parcels and the focus will be the implementation of goals developed in the first two phases at an architectural scale. The designs will be somewhere between the scale of a neighborhood and a building. They will be developed in detail and goals will be tested against the specifics of the site and context. Again, modeling and animations will be used to simulate and analyze the architectural proposal.

The emphasis will be on the creation of a fully developed architectural scheme. We will invite environmental, civil, and structural engineering consultants, as well as representatives from large New York real estate developers (The RELATED Company), shopping mall operators (Westfield), and housing experts (HP New York).

Program: Phase 1 & 2:

The ambition is to design a Superbridge, which will become the home, workplace, and recreational place to millions of people. Using the above tools, the task will be to hyper-program the bridge and to curate a society with varying income levels, multiple religions, and opposing political beliefs. It will create a symbiosis between work and recreational spaces, between cultural and educational facilities, and between environmentally sustainable models and smart building systems. Diverse programming will be fundamental to its sustainable long-term development, while being situated in the Hudson or East River.

Schedule:

2 weeks abstract programming and massing
 2 weeks developing structural/transport/social/environmental/etc. goals
 2 weeks placement of program and massing.

Midterm Review (outlining findings, goals/ massing model studies)

4 weeks design: designing a typology and "building"
 2 weeks final presentation preparation
 Final Review (animations, models, renderings & floor plans)

Studio Research List:

- Population growth
- Development Strategies
- Mobility
- Community engagement & incremental growth
- Cultural, religious and social cohesion
- Spatial DNA of community and city
- Economic stability & asset mapping
- Global exchanges and tourism
- Availability and access to public space
- Urban narratives and memory
- Changing demographics and immigration
- New technologies and associated livelihoods
- Infrastructure and economic inter-dependence
- Waste management
- Climate and ecology, especially flooding protection

Planning Considerations:

- What is the relationship between Manhattan and the neighboring boroughs?
- How can existing urban fabric change, if connected to new urban fabric?
- How can we gather, document, and analyze a city's spatial, cultural, social, economic, and political DNA and manipulated it through addition and connection?
- Using this DNA, how can we enhance the found potential, and isolate the gaps in function without destroying the DNA itself?
- What possibilities exist for Manhattan? Can the transformation of Manhattan provide models for other countries?

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