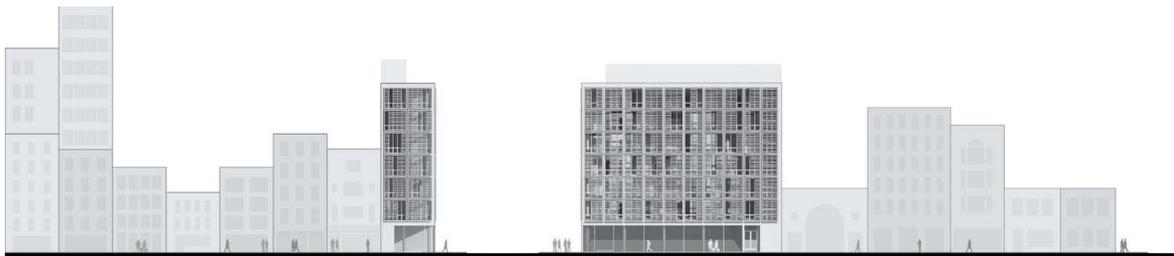

Bowery Micro-Housing: An Affordable Housing Prototype for Manhattan's Lower East Side

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Like many cities during the early years of this century, New York City experienced a boom in new construction of ultra-expensive, sprawling, luxury apartments. During this time, the balance of contemporary architectural discourse on housing in the city shifted almost exclusively toward the high-end condominium market. The current situation, however, provides an opportunity for architects, planners, and developers to refocus on the growing need for affordable housing in urban centers like Manhattan.

Bowery Micro-Housing is proposed as a speculative prototype to help restart this dialogue, providing an example of high-performance affordable housing on an underutilized site on the Bowery in lower Manhattan, New York City. In this project, affordability means small but well-designed units with low operating costs due to efficient use of solar shading, thermal mass, and natural ventilation. A key feature is the custom adaptive building skin, which can be fine-tuned by the individual user to seasonal and diurnal changes, optimizing the performance of the building in daily use and over its entire life cycle.



Bowery Micro-Housing

An affordable housing prototype for Manhattan's Lower East Side



View from corner of Bowery and Delancey



Adaptive skin on south elevation



View looking east from Delancey

1 Concept

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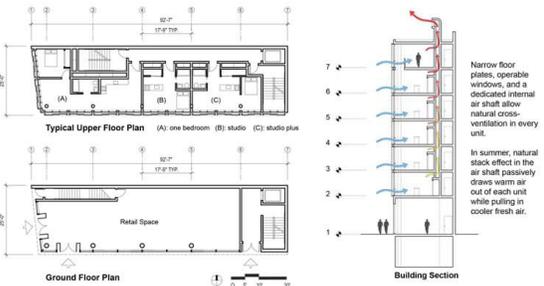
2 Site Strategies

The site selected for this project is located at the prominent intersection of Delancey Street and the Bowery, on the border between Chinatown and the Lower East Side in Manhattan.

The character of the Bowery has recently undergone a slow but dramatic transformation, with the construction of taller, high-end condominium buildings, in concert with an influx of art galleries and institutions. One result has been a significant rise in rents, making it increasingly difficult for low-income residents to find affordable housing in the neighborhood.

The proposed project, **Bowery Micro-Housing**, is intended to provide an alternative to the evolving problem of affordable housing in this neighborhood and contribute to the larger goal of maintaining social and economic diversity on the Bowery.

The proposal utilizes the maximum allowable F.A.R., with six stories of "micro-apartments" above ground-floor retail, which occupies the corner and stretches along the full street frontage of the site to maintain continuity with the commercial context. With its broad dimension facing south, this site provides an ideal opportunity to implement passive solar strategies and capture views that will directly benefit future occupants.



3 Spatial Organization

Goals: Maximize each apartment's access to views, natural light, and air.

The spatial organization of the building follows the contextual cue of stacking residential units above a ground floor retail space. The retail entrance occurs at the busy corner, while the residents' entry is placed at the east end, away from the corner. Units include studios and one-bedroom apartments, ranging from 275 to 575 square feet each. Circulation is kept to the rear of the building so that each unit has a southern exposure and views. Running parallel to the corridor is an air shaft, which acts as a solar chimney, allowing natural cross-ventilation in every unit.

4 Building Skin: Light & Air

Goals: Energy efficiency and user adjustability

This project provides a building skin which achieves **exemplary performance** with a high degree of **user-adaptability** while remaining economically feasible. **Passive solar strategies** have guided the design of a high-performance operable window wall utilizing triple-pane insulating glass, with a system of external sunshade panels, manually adjustable by each individual user. Compared to the typical developer choices, slightly higher upfront construction costs will yield **long-term economic benefits** for the occupants of the building over time, through quality construction and decreased reliance on traditional mechanical/electrical heating, cooling, and lighting.

