

VERTICAL HUTONG



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A new housing typology translates climate-resilient strategies from indigenous settlements to the scale of high-rise, urban housing.

From the semi-private courtyards ventilating Beijing's hutongs to the shared walls minimizing solar heat gain in North African medinas, NOA has catalogued the spatial and ecological performance of vernacular settlements that achieve high degrees of environmental comfort without relying on artificial heating and cooling. Each Vertical Hutong deploys a different composite system of passive design that is specific to climate and context: for hot-humid cities, ventilated courtyards and wind towers cascade throughout porous towers; for hot-arid cities, shared walls and stepped terraces weave into dense towers. In both scenarios, the floor plate of each apartment is expanded by 30% to accommodate exterior gardens. Collectively, the vertical gardens stimulate natural ventilation and passive air-conditioning. Since a tree canopy reflects 55% of solar heat, scaled-up, urban forests

could reduce perceived temperatures by two to six degrees Celsius.

Empirical results from the Rocky Mountain Institute and Ecodistrict Protocol support the conclusion that to meaningfully implement sustainable development, architects need to do so at the scale of the neighborhood or "collective form." Results are insufficient at the scale of a building, and at the scale of the city, too politically complicated for architects to implement. A Vertical Hutong, therefore, requires multiple, aggregated towers in order to push the conception of an apartment building toward that of a vertical neighborhood. In other words, an example of "landform building," which Stan Allen suggests, "no longer occupy a given site but instead, construct the site itself." It is an inter-scalar approach, which maximizes the efficacy of design strategies, while remaining grounded in the realities of professional constraints. Through clustered housing and collective form, Vertical Hutong presents a new locus between the scales of architecture and urbanism.

PROJECT

30 floor residential tower

SIZE

9,000 m² (96,875 ft²)

CLIENT

Confidential

LOCATION

Various, China

STATUS

Commission, concept, unbuilt

KEY PERSON

Dana AIMathkoor, Andrew Heid, Li Jin, Naifei Liu, Gaby San Roman Bustinza, Trendelina Salihu



1. Aerial view. 2. View from street. 3. Aerial view.