



PEB Exchange, Programme on Educational Building 2000/05

New York's School  
for the Physical City:  
Architectural Design  
Concerns

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<https://dx.doi.org/10.1787/847605837358>

# PROJECTS

## NEW YORK'S SCHOOL FOR THE PHYSICAL CITY: ARCHITECTURAL DESIGN CONCERNS

A typical New York City public school has certain characteristics: a free-standing or semi-attached building with institutional interiors located in a primarily residential neighbourhood, housing a large student body – perhaps in the area of 2 000 to 3 000 students at the high school level; presumably designed by school officials and architects with little, if any, input from the teachers, administrators and students.

The School for the Physical City possesses none of these characteristics. It was built in an office building in the central business district of Manhattan for 500 students, in grades 7 through 12, who use the city's infrastructure as a vehicle for studying traditional academic disciplines. It is one of the new, small theme schools inaugurated in 1993/94 by the New York City (NYC) Board of Education with support from four non-profit organisations, initiated under the New Visions School Programme by the federal government.

The Board of Education leased the space from a commercial real estate developer on a ready-for-occupancy basis. According to Carmi Bee, FAIA, Principal-in-Charge of the architectural firm RKT&B, "The project called upon RKT&B's experience in two areas: the planning and design of educational facilities and the adaptive reuse of existing buildings. The key challenge was to place a 1990s experimental school within the envelope of a 1920s office building." The process involved the close collaboration of the NYC Board of Education, the NYC Fund for Public Education, the school administrators and teachers, the sponsors – including The Cooper Union and Outward Bound USA – and the architect.

The school occupies approximately 5 500 square metres on the first five floors of the building at 325 Park Avenue South. The commercial location reinforces a growing trend in city planning philosophies which leans toward the creation of mixed-use facilities and districts. It is an important addition to a number of historically significant spaces and buildings in the area, among which are Madison Square Park, the New York State Appellate Court building, the Metropolitan Life building and the Sixty-ninth Regiment Armoury on Lexington Avenue. Close to public transportation, it is easily accessible for students from all parts of the city. Its central location

facilitates the use of the city's resources as a learning laboratory. The school uses the city as an annex for learning about structures and building systems; the 1993/94 curriculum included a course entitled "Watering the Big Apple," which focused on the city's public works – bridges, tunnels, parks and water systems.

The School for the Physical City was conceived as an environment in which students can observe the various components that make up a building. The interior design includes elements that relate directly to the theme of the school, using vibrant colours that relate to school functions. Other ideas guiding the design concern orientation within the building, contextual relationships and the use of symbolic elements that reflect the urban infrastructure. To give form to these ideas, elements of the building structure – columns, pipes and ducts – are left exposed in the majority of the spaces. Building columns are painted in a vibrant green to call attention to their locations from floor to floor, pipes are painted blue and ducts are painted in a variety of colours. Small viewing panels allow students to see into spaces containing heating, ventilation and air-conditioning equipment.



Exposed pipes and ducts, as in this workshop, increase student awareness of building design.

The School for the Physical City is organised vertically, with functions spread over five floors. The plan is arranged so that the largest common spaces, including the multipurpose rooms, administrative offices and cafeteria, are located on the two lower floors. The upper three floors contain classrooms, laboratories, an audio-visual centre, a workshop and an art room.

One of the main challenges of the design was to find ways in which to orient students as they move through the five floors. This was achieved through a series of



design elements. In the main lobby, two lines inscribed on the floor at a right angle announce a more literal idea of orientation: the east-west, north-south axes. A thin red line points toward true north, veering off at an angle of 29 degrees from the city's street grid. At the centre of this symbolic compass is a real manhole cover, which indicates grade (or ground level) and serves as a sign of the school's theme.

The compass is repeated throughout the building, at points where the hallways change direction. The use of the compass also recognises the contribution made to this venture by Outward Bound USA, whose objective is to help students find their way in life through expeditionary-learning principles and the exploration of ideas.

The security station in the lobby, constructed of structural-steel elements, is conceived as a miniature building frame. This element reflects a major structural material used in buildings and recalls the contribution of the inventor Peter Cooper who manufactured the first metal structural beams for buildings and founded The Cooper Union, one of the school's sponsors.

Located on each floor, in proximity to the main stair and the elevator, is another form of orientation map: the architectural plan, or working drawing, for that floor. The drawing not only assists in finding one's way, but also serves as a lesson in how to relate an abstract, two-dimensional representation to an actual, three dimensional space. Next to each map are vertical height indicators marking how many feet and meters a particular floor is above street level.

Doors and room signs are colour-coded according to function. A tile doormat in a corresponding colour at each room's entrance serves as a symbolic threshold to the space.

Among the school's major design elements is a telecommunications system made possible through a grant from a major corporation and designed with the assistance of the sponsors and noted educational institutions. The system is connected to the Internet and World Wide Web, and provides internal e-mail as well as school-wide and home-to-school communication capabilities.

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