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## Buildings that go modular: Some assembly required

**BY SCOTT DENNE**  
SPECIAL TO THE JOURNAL

In 2002 Action for Boston Community Development Inc. wanted a new building for its head-start program. The lowest bid on the project was \$1.8 million — a little beyond the organization's reach.

ABCD looked for an alternative solution. They found one, and in 2003 the new building was completed at a cost of \$1.4 million.

The building was built out of state by Pennsylvania-based NRB Inc. in 12 separate modules, shipped to the site on Bradshaw Street in Dorchester and assembled.

"We shopped around and felt that we could get the same results by going with a modular construction," said Richard Alvord, principal of Richard C. Alvord Architects in Cambridge, who designed ABCD's head-start building.

The term "modular construction" has long been associated with temporary trailers, such as those that form the outline of many overcrowded schools. But now its proponents are marketing permanent modular construction as a legitimate competitor to traditional construction.

The modular building on Bradshaw Street is no temporary trailer. It is built to last with a steel and concrete frame. It is also aesthetically appealing. It is a two-story building containing almost 10,000 square feet of space with sloping gable roofs made to match the Victorian style of its neighbors, per the neighborhood standards set by the Boston Redevelopment Authority.

Proponents are cautious about touting a lower price tag as a major advantage of modular construction, because it is not always the case. But in Massachusetts, where labor costs are high, a building constructed elsewhere often costs less than one built on-site.

Modular dealers point to a condensed construction time as one of the biggest selling points for modular buildings. Often the construction time of these projects is less than a normal construction job since the site preparation can be done while the building is being built.

Although it is true that some buildings can be built in a few months, sometimes they are held up

by state building inspectors, who must inspect any modular building before it can be shipped to the commonwealth. This was the case with the ABCD building, which was held up for eight months by building inspectors.

In 2003, Lincoln High School in Lincoln, R.I., was filled to 103 percent of its capacity. The town approved a measure to build a new middle school to alleviate some of the overcrowding from the high school.

The town also approved a measure to construct a temporary structure to help reduce class sizes in the interim. In just 90 days Triumph Leasing Corp., a modular dealer in Littleton, installed a 10-classroom building with a 50-foot hallway leading to the main school building. When the construction project was over the school district was so impressed with the quality of the building that they decided to keep it as a permanent fixture.

"When you set the thermostat to 72 degrees it actually was 72 degrees," said Angelo Mencucci, director of non-instructional operations for the Lincoln School Department.

Modular structures have just as much potential for quality as traditional constructions, said Michael Smith, architect and president of Equus Design Group in Belmont. But owners should be very selective when it comes time to choose a modular building company, he said.

Modular constructions have the potential to be built stronger than traditional structures because they are not exposed to the elements in the early stages of their construction. Weather elements are some of the most destructive influences on a building in progress, said Alvord. "Moisture kills buildings."

Sometimes modular construction is uniquely suited to the job site. This was certainly the case when Triumph Leasing completed a mammography center for Cambridge Hospital in October.

The 14 modules that would eventually make up the 4,300-square-foot mammography center had to be lifted up by a crane over a four-story building and placed on the building site, which is surrounded on all four sides by pre-existing buildings. Only 3 inches separate the wall of the mammography center and the adjacent building,

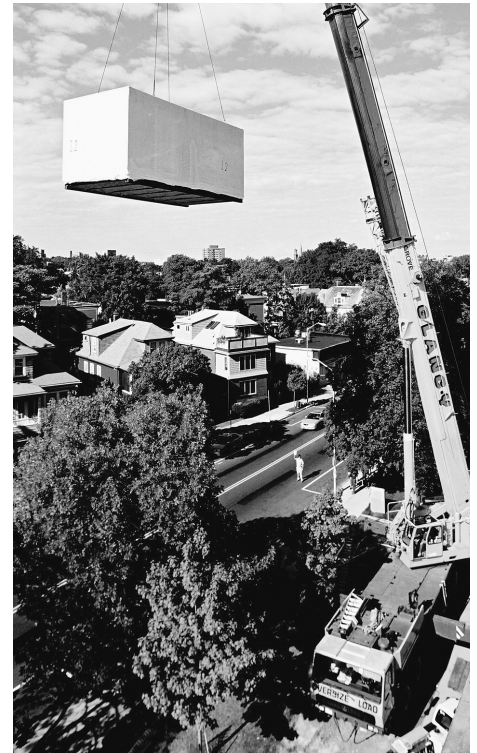


PHOTO COURTESY OF TRIUMPH MODULAR

**Modules for Cambridge Hospital's new mammography center get lifted over the existing hospital building and put into place.**

with less than a foot of space to spare on the opposite side of the center.

For the Cambridge Hospital modular construction was the only option for building in such a tight space, said David Farmer, facilities architect for Cambridge Health Alliance, the hospital's umbrella organization.

The project had a \$1.2 million price tag and took 10 months to complete, despite being slowed down by some soil problems that were not related to the modular construction of the building. The mammography center connects to and "looks just like the main hospital. Finishes, colors — they all tie into the hospital scheme," said Farmer.

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