

Relocatable Classroom Fact Sheet

The Modular Building Institute estimates that there are approximately 300,000 relocatable classrooms (RCs) in use in the United States today. About half of those classrooms are owned by school districts while the other half are owned by modular leasing companies.

While the average age of RCs owned by school systems varies, with many facilities exceeding twenty years, the average age of RCs owned and leased by an industry leasing company is generally less than ten years.

RCs constructed to newer building codes are generally more energy efficient and durable than older units that have been relocated multiple times.

In March 2014, the National Center for Educational Statistics published a report titled: **"Condition of America's Public School Facilities: 2012-2013."**

The report survey **1,800** school districts and found that **31%** of all schools utilized "portable" classrooms (relocatable, temporary). The study further segmented the data by region, school size, condition of schools, and various enrollment categories.

Not surprisingly, schools with higher enrollments utilized RCs at a higher rate than the national average, with 43% of schools over 600 students using these facilities.

Schools in urban areas with higher student enrollments utilize RCs to a greater extent than rural and smaller schools. As such, schools with higher minority populations tend to use these classrooms more than the national average. Schools with 50%+ minority enrollment reported using relocatables in 45% of schools, vs. the national overall average of 31%.

The full report can be found here:

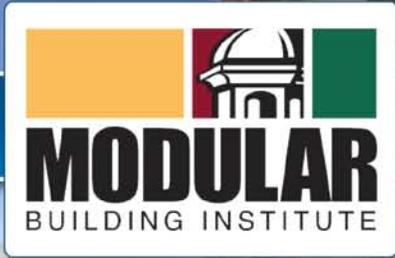
<http://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=2014022>

Modular Building Institute has supported the improvement of design and performance of relocatable classrooms by sharing free resources and best practices such as:

Relocatable classrooms, unlike recreational vehicles or mobile homes, are built to the same local building codes as traditional classrooms. But building codes provide the minimum acceptable requirements. Schools have the option to acquire more energy efficient, durable relocatable classrooms that exceed the minimum building code requirements.

Schools often acquire the minimally acceptable code compliant classroom due to cost constraints, intending to use the classrooms for a temporary basis. Often these temporary classrooms become permanent fixtures on campuses with some still in use 20, 30 or even 40 years later. MBI recommends that school districts match the product with the need and consider leasing relocatable classrooms if the need is truly 1-5 years, and consider building additions or renovations if greater. MBI members can provide high performing modular classroom additions with minimal site interruptions.

If properly maintained and with occasional capital improvements (such as roofing and hvac systems) relocatable classrooms can be expected to have a useful life of 20 years or more. However, classrooms built prior to 1990 are not as energy efficient, quiet, or accommodating as classrooms built to more recent codes. Schools should have a process to "phase out" any relocatable classroom in its inventory over twenty years old.



Indoor Air Quality:

All school buildings use similar construction and furnishing materials, so the types of chemicals present in the indoor air are not likely to be much different for relocatable versus permanent classrooms. The most comprehensive study conducted on indoor air quality in relocatable classrooms was a report by the California Air Resources Board and the California Department of Health Services in November 2004.

This report, "Environmental Health Conditions in California's Portable Classrooms" analyzed various indoor air quality issues at 384 randomly selected schools. For each school, the facility manager and three teachers (two from portables and one from a traditional classroom) were asked to complete a detailed questionnaire about the aspects of the classroom. Additionally sampling tubes were sent to two thirds of those schools for deployment in the three classrooms.

The following excerpts are taken directly from the report:

- ✓ Both portable and traditional classrooms were found to have some environmental conditions that need improvement. However, the most serious problems occur only in a small percent of classrooms.
- ✓ **Improved operation and maintenance would go a long way to address many of the problems identified.**
- ✓ State relocatable classrooms have always met or exceeded construction codes in effect at the time of approval. Additionally, they comply with ASHRAE standards for temperature control.
- ✓ Sixty percent of teachers in portables indicated they turn off ventilation systems at times due to excess noise. Overall, the HVAC systems delivered adequate outdoor air and total airflows **when operated properly, so design capacity did not appear to be a common problem in this study.**

Steps MBI has taken to improve the performance of relocatable classrooms:

Sponsored a student design competition and an open design competition requiring participants to design the relocatable classroom of the future. Over 60 entries were received, with scholarships and prize money awarded by MBI.

Partnered with the Acoustical Society of America to develop a new ANSI standard for improving acoustics in relocatable classrooms.

Endorses and promotes the Collaborative for High Performance Schools (CHPS) "High Performance Relocatable Classroom Program"



New high performance modular classroom – first place in MBI's 2014 Awards of Distinction: Green Building Category.

Other public resources include:

From the U.S. Environmental Protection Agency's Indoor Air Quality Reference Guide:

<http://1.usa.gov/1swkbB8>

From the Collaborative for High Performance Schools (CHPS): <http://www.chps.net/dev/Drupal/node/41>