



PRESERVATION MATTERS

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Historic Schools: Successes and Case Studies

(Part three of a three-part series on preserving historic schools. This final installment highlights case studies and success stories and the values of these successes to the school's economy, efficiency, and learning environment as well as the value to the community.)

In school years, is 100 really old? Should schools be built with planned obsolescence? Can high performance standards be achieved in historic schools? Is a 50-year-old school historic? Possibly not now, but would it be if it were maintained? Should we build schools to last forever, planning for technology changes and maintaining them to prevent costs associated with rebuilding?

What are High Performance Schools?

Most agree that HPS demonstrate the following characteristics:

- Comfortable, healthy, safe, secure, clean, naturally lit, and in good repair
- Free of environmental hazards (poor air quality, mold, pesticides, contaminants, chemical fumes, heavy metals, asbestos) and free of excessive noise
- Integrate conservation and renewable energy strategies (energy efficient and non-polluting)
- Efficient use of water
- Accommodate learning needs
- Support a rich and varied curriculum
- Capable of meeting changing trends in technology education
- High levels of acoustic, thermal, and visual comfort.

Advocates for replacement schools must defend their positions with the negatives and inadequacies of the existing schools. Generally these begin with not satisfying educational goals, high maintenance expenses, followed by lack of land, the building is too small, it does not allow for adequate technology or equitable accessibility. Rarely do these advocates point out



Historic schools have details that add richness to the educational experience and to their neighborhoods.

that the costs for repairing or upgrading the facility tend to be less than full replacement. What if all costs were equal, would it be a more valuable experience for the community to work with the existing school?

If repairs and upgrades for a school total \$4 million, while replacement costs compare at \$10 million, which would be the wiser choice? If a school can be upgraded for \$6 million less than replacement, that allows \$6 million for upgrades and renovation efforts in other schools. If the school has historical significance, the message provided encourages future considerations to allocate scarce resources (money) on maintenance, ongoing updates, and educational goals. If the school has value as a center of community activity, then it appears as though a common sense decision would please voters and decision-makers.

Prescriptive documents do not exist. Each school is as unique as the community served. School administrators, parents, and community leaders need to work with a full design team to incorporate the features that suit their particular needs. Often planners are advised to identify the top two or three needs as their primary issues of concern and create building timelines to accommodate those and the secondary issues. Budget issues might be best addressed by integrating all of the issues



into the initial package with one designer/architect contracting out the various subprojects to subcontractors and pricing it all within one proposal. Occasionally, architectural features within the school can be salvaged and integrated into the final design, with the exterior remaining intact and the interior being gutted. Total removal of interior walls will allow for complete remediation of hazardous materials issues as well as providing an opportunity to design smaller (but more numerous) classrooms, appropriate ventilation, and improved energy distribution.

Each school needs to be considered on a case-by-case basis.

Too often communities construct new schools only to discover that energy efficiency options were not contemplated. In the haste to build within a certain timeframe the cycle of perpetuating the same problems reappear. Mold develops, air quality and ventilation are not addressed and health-related conditions continue. For the sake of initial savings long-term savings are sacrificed. Reliance on daylighting is often not incorporated into the design, relying upon traditional, inefficient lights. Drafts and poorly constructed windows and vents continue to create pathways for energy loss and pest entry. When post-construction efforts are applied to remedy these oversights, the actual budgetary costs become prohibi-

tive. For these reasons, as well as for preserving the cultural history of an historic school, schools districts have begun to explore restoration, retrofitting, and renovation (the new three R's for school administrators and superintendents). By considering these three R's the three E's begin to make a difference (economics, efficiency, and environment).

Resources within Illinois, as well as in nearby states and nationally, are available to help guide design teams through the process. It is well known that no single individual will have the necessary experience to provide all of the skills and resources required for completing a school renovation project. Successes and failures from schools with similar climates need to be studied. A variety of sources provide case studies.

Illinois Greening Schools (www.greeningschools.org) and the Healthy Schools Campaign (www.healthyschoolscampaign.org) offer links to case studies. The National Trust for Historic Preservation (http://www.nationaltrust.org/issues/schools/index_new.html) and Learning by Design through the American School Board Journal (www.asbj.com) offer some success stories and examples. The U.S. Green Building Council provides LEED certification, including guidelines for existing buildings as well as new buildings.

If your school district states they absolutely need to replace the school, aggressively monitor their efforts to be certain that they identify and integrate "green building" and High Performance School guidelines. If you don't, the new school will be as unhealthy and outdated as the previous school within a short period of time. The goal is to create a healthy, efficient learning environment for students.

If you succeed in preserving the school, additionally be certain the "green building" guidelines are incorporated into the restoration and renovation effort, otherwise, the district will not achieve the desired benefits and will be discouraged from future attempts with other schools. Embrace success and encourage the community in guiding the entire process from the start.

Success Stories Abound

Examples can be taken from new constructions as well as from retrofit con-

structions. Failure and successes can be found for both, and both are educationally valuable. When selecting case studies attempt to locate those that compare in age, size of project (square foot and population), and concerns.

Realistically, most old schools are considered for demolition because of ongoing neglect. Budgetary restraints create an environment conducive for decay. Roofs are not repaired, leaks are overlooked and quick fixes suit the budget more than addressing the actual problem. Water and decay increase at higher rates when leaks continue. These leaks contribute to poor energy efficiency. The list of problems lengthens rapidly once the decay process begins.

Classroom space and size issues prevail as much as decay when deciding to build or restore. Creative restructuring within a school district might solve size problems. Can a former high school serve a middle school population better? Can an elementary school be downsized to become an early childhood school, thus saving the school and allowing it to continue serving the community. Do schools have to always be large? Can they provide for only grades K-3, rather than K-6? Is it possible to build a small grade 4-6 structure elsewhere at half the cost?

Waltham High School (Waltham, Massachusetts), built in 1902, was considered for demolition. Rather than a full demolition, the design solution included removal of two 1930s addition wings and a full renovation of the 1902 building. The wings were replaced with a new 80,000 square-foot wing that included a 400-seat auditorium, gymnasium, cafeteria, and classrooms. The "preservation components included converting the old auditorium into a high-tech media center and reinstalling original friezes, hand-painted murals, and woodwork. Exterior rehabilitation of the old building focused on appropriately repointing and repairing masonry, replacing the original windows with modern insulating windows, and recreating the copper gutters, downspouts, and decorative roof finials."

This high school was converted to a middle school, John W. McDevitt Middle School, with a capacity of 708 students (grades 6-8). The school now has 115,620 square feet with 165 square feet per student. The cost was \$155 per square foot

and the total project cost was \$24.1 million (completed 2003). In addition to the preservation components, they seamlessly integrated technology to accommodate twenty-first century education, computers, and energy-efficient green elements into the design.

Stewart Avenue School (Columbus, Ohio), is located in the German Village Historic District. In 1974 this school was listed on the National Register of Historic Places. "The building has been used continuously as a school since it was constructed (1874). The school became an alternative traditional elementary school [focusing on the basics of education] almost 20 years ago, as a response to a declining school age population in the neighborhood. The Stewart Avenue School has been a significant part of the physical and social fabric of German Village for over a century. The first and most important factor in the preservation of this neighborhood institution was the decision to continue using the school for its originally intended purpose. Maintenance and even replacement of original materials is sometimes necessary in a building as old and well used as Stewart Avenue. Those charged with the care of this building have been able to successfully balance tight public budgets with a concern for the historic integrity of the structure."

The Stewart Avenue School remains an active school within the Columbus Public School District (<http://www.columbus.k12.oh.us/>) A search through CPD's list of elementary schools provided a picture of the school and the opportunities offered through the alternative program. Perhaps districts can consider alternate educational uses for historic schools, allowing them to remain active contributors within the community. They do not need to become either school administrative offices or apartment conversions. The Ohio State Historic Preservation Office has effective programs that help preserve historic schools.

Earl Boyles School (Portland, Oregon), was built in 1950. Although not a significantly historic school, the school still faced the need for replacement or complete renovation. The school's issues were common, it lacked energy efficient design and was incapable of satisfying educational goals that included technology. Technology adjustments incorporated a wireless network. Additional space was provided

with energy efficient construction that included daylighting features. The energy efficiency was achieved by adhering to the state's goals for high performance schools. These are expenses that would have been incurred, regardless of whether they renovated or rebuilt. A point to consider is that changing technology is rapidly making it possible for schools to take advantage of wireless networks within the schools.

The **Appleton (Wisconsin) School District** responded to poor energy efficiency with a relatively simple process. They decided to retrofit the windows in two elementary schools and to take advantage of natural, indirect sunlight. "The school district replaced old fixtures, installed new high reflective ceilings, used high-reflection paints, replaced windows, and installed controls to sense room light levels. The classrooms incorporate two types of windows—clerestory and view windows. Clerestory windows are narrow windows located adjacent to the ceiling; they are the primary source of room light." They painted the rooms in two tones with the upper walls and ceiling in bright white and the lower walls in a light gray, which reduced glare and simultaneously brightened the room and made the daylight more effective. This same process could be applied in the older, darker classrooms frequently found in historic schools. At the same time, light fixtures can benefit from advances in lighting technology that provides lower energy-use bulbs that simulate daylight.

Fortunately, many historic schools have high ceilings, this makes it possible to raise floors allowing for routing of new wiring, plumbing, and heating above the pre-existing floors and under the new floors. By raising the floors, the space to be heated is reduced, additionally improving efficiency.

Many Illinois case studies can be found through a variety of sources including the National Trust for Historic Preservation. The **Evergreen Academy School** in Chicago was built in 1895. Over the years the school suffered considerable deterioration and contained high levels of hazardous materials, a frequently occurring problem in older schools. Considerations were to close the building because of the asbestos and lead. The school was temporarily closed for 18 months. During this time Chicago Public Schools considered demolition. The school was inadequate in

many ways. It did not provide kitchen facilities sufficient to serve students, electrical and mechanical systems were outdated, and was woefully insufficient for supporting technological advances and energy efficient designs.

The renovation occurred in part because of public support. Renovation included reducing the sizes of classrooms, therefore providing an increase in classrooms. The interior was essentially gutted to remove hazardous materials and to allow updates for technology and wiring. The school received state-of-the-art technology, science labs, and computer labs. Accessibility issues were eliminated through the complete gutting. An elevator was installed as were new air ducts, a sprinkler system, and asbestos abatement was complete. The total renovation cost for this building of 50,000 square feet was less than \$10 million, which was considerably less than building a new school.

Case studies create opportunities, they provide options that make the impossible seem possible. Most administrators and architects involved in these projects proudly share experiences. For a fee these resources might be willing to visit your school and present their stories to district administrators and parents. The possibilities to preserve historic schools are infinite. Reality for your school might include preserving a legacy and creating a stimulating, healthy, environment for students, today and in the future.

Resources

Learning by Design 2005, John W. McDevitt Middle School, <http://www.asbj.com/lbd/2005/projects/john-w-mcdevitt-ms.pdf>

Ohio Historic Preservation Office, *Preserving Historic School Buildings*. <http://www.ohio-history.org/resource/histpres/toolbox/schools.html>

Earl Boyles Elementary School, Design 2005, A Lesson in Excellence, <http://www.asbj.com/lbd/2005/projects/earl-boyles-es.pdf>

Appleton School District Case Study, Daylighting Collaborative, http://www.daylighting.org/pubs/appleton_case_study.pdf

Evergreen Academy, Chicago, Illinois, Historic Schools Success Stories, National Trust for Historic Preservation, http://www.nationaltrust.org/issues/schools/success/EvergreenAcademy_IL.pdf

Helpful Web sites:

**indicates case studies as well as valuable guidelines.*

Links from several sites listed below also identify many other resources for achieving high performance schools within the framework of either a new construction or a restoration/renovation. Look for #.

American School Board Journal#, <http://www.asbj.com/>
Chicago: Carl Schurz High School
http://www.nationaltrust.org/issues/schools/success/CarlSchurz_IL.pdf

Chicago: William H. Ray Elementary School,
<http://www.nationaltrust.org/issues/schools/success/WilliamHRay.pdf>

Chicago: The Shakespeare School
http://www.nationaltrust.org/issues/schools/success/Shakespeare_IL.pdf

Daylighting Collaborative,
<http://www.daylighting.org/>
Evansville, Indiana: Benjamin Bosse High School

http://www.nationaltrust.org/issues/schools/success/BosseHS_IN.pdf

Greening Schools**, <http://www.greeningschools.org>

Healthy Schools Campaign**,
<http://www.healthyschoolscampaign.org>
Historic Neighborhood Schools Success Stories*

<http://www.nationaltrust.org/issues/schools/studies.html>

Kentucky's Historic Schools Initiative*
http://www.state.ky.us/agencies/khc/historic_schools.htm

Learning By Design, Links to PDF Files of This Year's Projects*
<http://www.asbj.com/lbd/2005/projects.html>

National Clearinghouse for Educational Facilities#, <http://www.edfacilities.org/>
Preserving Historic Schools*, **Ohio Historic Preservation Office***
<http://www.ohiohistory.org/resource/histpres/toolbox/schoolarticle.html>

US Green Building Council#,
<http://www.usgbc.org>

This article was written by Carol Knepp, PACA Board Member, educator, and education specialist/coordinator of Greening Schools (www.greeningschools.org), with the Illinois Waste Management and Research Center, and former director of a nature preserve in Texas. She spends much of her free time restoring and renovating an 1896 house in Central Illinois.

25th Anniversary Banquet and Annual Membership Meeting

The PACA Board of Directors cordially invites all members and friends to a celebration of 25 years of historic preservation efforts in east central Illinois. The banquet will open with a wine and appetizer reception at 5 pm, followed by a semi-buffet dinner, catered by Classic Events, at 6 pm. After dinner there will be a short business meeting for the presentation of the 2006 budget and election of three members to the Board of Directors. Michael Jackson, Chief Architect, Preservation Services, Illinois Historic Preservation Agency, will speak at 7 pm on "Sustaining Design: Lessons from the Past."

Three current Board members are slated for election during the Annual Meeting portion of the celebration: Catherine Barbercheck, Susan Frobish, and Kathleen Jones. Nominations will be taken from the floor. A short discussion about future plans for the Francis and Abbie Solon House will also be presented. During the reception and dinner, silent slide shows highlighting past PACA projects and events will be projected. Other displays relating to the past 25 years will be available for perusal.

The celebration will be Sunday, March 19 from 5:00 until 8:00 in Latzer Hall at the YMCA of the University of Illinois, 1001 South Wright Street, Champaign. Parking is available on the street or in the parking lot of Phi Beta Phi Sorority, 1005 South Wright Street. The cost for the event is \$35.00 per person. Please reserve your space by calling PACA at 359-7222 or by e-mail at pacaexdir@insightbb.com.

Traditional Building Exhibition and Conference

April 5-8, Chicago's Navy Pier

The *Traditional Building Exhibition and Conference* (formerly known as the Restoration & Renovation Show) is the only national trade show and conference for old house owners, architects, contractors, developers, building owners and craftsmen who work in historic restoration, renovation, and traditionally-inspired new design and construction.

At the conference you will: Learn about 20th-century materials and building styles- Beaux Arts, International Style, Modernism, Arts & Crafts, Prairie Style, Bauhaus, Bungalows, and Lustron houses; Uncover creative ways to maintain, restore and rehabilitate; Hear about the rich legacy of Chicago's famed architects and efforts to preserve their work; and Discover how historic preservation is transforming the face of the 20th-century metropolis for the 21st century through adaptive re-use, sympathetic infill, and the creation of new zoning ordinances.

This year's event will showcase more than 200 exhibitors of hard-to-find products and services and offer over 75 educational seminars, workshops and tours covering a wide array of topics and product segments, including commercial, institutional, public, and residential building.

Visit hundreds of exhibitors and suppliers of historically accurate products and services you won't see anywhere else! Choose from over 85 world-class seminars, workshops, panel discussions and tours.

Exhibit Hall Hours:
Thursday April 6 11:30am-5:30pm
Friday April 7 11:30am-5:30pm
Saturday April 8 10:30am-4:00pm

Whether you deal with office buildings, government-owned facilities, college or industrial campuses, churches or schools, or hospitality or retail space, *Traditional Building Exhibition and Conference* is a "must attend" event for building owners and managers. It is the only trade event that focuses exclusively on the redevelopment, reuse and rehabilitation of existing buildings and new construction that is historically inspired.

Call for Papers

Proposals for individual papers or panels on any aspect of Illinois' history, culture, politics, geography, literature, and archaeology are requested for the *Conference on Illinois History*. The Conference welcomes submissions from professional and avocational historians, graduate students, and those engaged in the study of Illinois history at libraries, historic sites, museums, and historical societies.

Each proposal should include a summary of the topic and a one-page resume of the participant. The summary should specify the major primary and secondary sources used in the research. March 10 is the deadline for submission. Send proposals to Thomas F. Schwarz, State Historian, Illinois Historic Preservation Agency, Abraham Lincoln Presidential Library, 112 North Sixth Street, Springfield, IL 62701. Information is available at 217.782.2118, tom_schwarz@ihpa.state.il.us, or www.illinois-history.gov/conference.htm.

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Heritage Award Nominations

Send in your nominations for the 2006 Heritage Awards to PACA, P.O. Box 2575, Champaign, IL 61825. Self-nominations are encouraged.

Save the Date

PACA 25th Anniversary Celebration Dinner and Presentation

Sunday, March 19, 2006
5:00-8:00 pm

Latzer Hall
YMCA of the University of Illinois
1001 S. Wright Street, Champaign

New & Renewing Memberships

(received since the last newsletter)

Charter Members (1981-1983)

Antje & Edward Kolodziej
Sharon J. Rapp
Elizabeth & George Miley
Patricia Miller
William Youngerman
Ruth Youngerman

Fantastic Supporters (Over Twenty Year Members)

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Peckham Family
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Brad & Julie LaPayne
Bert Barickman
Barbara Horner
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One to Four Year Members

Jim & Pam Sisco
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Nicole Swiss
George & Cindy Weisiger
Alice Jean Steele
Elizabeth Davis
Tari & Sam Bricker
Dannie Otto
Mr. & Mrs. Nathaniel Jones
Tim & Sara Ingram
Mary Hays

New Members

Kathy Keeley & Thom Van der Doeff
Joy & P.T. Prud'homme
Dwayne & Gayle Grider
Joe Camfield
Jennifer Jordan

Remember to check your mailing label for your membership renewal date. The date shown indicates when you last renewed; membership runs for one year from that date.

Preservation Matters: newsletter of the
Preservation and Conservation Association
P.O. Box 2575, Station A, Champaign, IL 61825

Catherine Barbercheck, President
Robert Nemeth, Vice-President
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and Architecture of Champaign County**