Renovate or Replace?

The case for restoring and reusing older school buildings

The Pennsylvania Department of Education The Pennsylvania School Boards Association

The Pennsylvania Historic Schools Task Force AIA Pennsylvania, A Society of The American Institute of Architects

> Pottstown Middle School Built 1932 / Renovated 2000 Hayes Large / McKissick Architects

Many Older Schools Can be Renovated to 21st Century Standards

By Dr. Gerald Zahorchak Secretary of Education

he location and design of public schools are among the most far-reaching decisions any Pennsylvania community makes. School buildings affect the quality of education, and they play a critical role in a community's development and quality of life.

School construction and renovation is a partnership between the state and local communities, with local school districts leading the decision process about school facilities. Through the Department of Education's PlanCon process, the Commonwealth provides formula-based financial reimbursement for both new school construction and renovation of existing schools. This process was revamped under Governor Rendell's leadership, and as a result, local districts received their first boost in reimbursement rates in nearly 20 years, and now have incentives to reuse existing school facilities and build "green" and cost-efficient buildings.

This brochure is intended to help school boards and communities fully assess their options and to consider their decisions in the context of community revitalization efforts. As school buildings age and educational needs change, school boards may leave behind established schools and build new ones. Sometimes this is appropriate. But there is much to be said for renovating and reusing older neighborhood schools

Older school buildings are significant community assets that should not be discarded without careful evaluation. The educational, health, and community benefits of older schools may be compelling. Older schools located in established neighborhoods offer easy accessibility for students to walk or bike to school, rather than having them be driven by their parents or bused to a school far away. A school's presence often stabilizes and sustains established neighborhoods by facilitating community involvement and providing a center for community activity.

Experience has shown that it's generally less expensive to alter and rehabilitate an existing school rather than build a new one. Of course, many older schools are in poor condition and don't meet current educational needs. The challenge is to determine whether these schools can be rehabilitated efficiently and costeffectively to meet 21st century educational standards.

Many historic school buildings were constructed with materials and workmanship we cannot duplicate today. The Harrisburg School District, for example, is renovating and adding to its 1924 high school. The original structure boasted an elegant exterior graced with limestone columns and carvings, complemented within by spacious hallways and airy classrooms. Creative design is preserving the building's unique character, while transforming it into a state-of-the-art facility with a modern library, science labs, classrooms, and special purpose rooms equipped with nearly 400 computers.

The accompanying page provides an overview of the Plan-Con process for school boards and communities by spelling out what is required (and what is not required) for PDE reimbursement approval.

We hope school boards consider a wide range of factors when exploring the need for new or upgraded facilities. In many cases, our best schools may be the ones we already have.



Harrisburg's 1924 high school is undergoing a \$55 million makeover, including renovations and an addition that will double the size of the facility. Students moved into the newly completed addition in September 2006 and will reoc-

PlanCon Provides Step-by-Step Process for State Reimbursement

very Pennsylvania school district is encouraged by the Department of Education to provide facilities appropriate to a 21st century educational program. If a school district believes a building is inadequate, it has several options. It can build a new school, renovate an existing school, build an addition to and renovate an existing school, or adaptively reuse an existing commercial building as a school. The Commonwealth will reimburse a portion of the cost, provided that the project meets current education standards and applicable construction codes. To be eligible for school construction reimbursement, the cost of a renovation project must also equal at least 20 percent of the cost of an equivalent new school.



cupy the original building in two phases during the renovation process, which will be completed in September 2007. Above, the new library, which includes marble carvings from the original structure, overlooks the football field.

Before submitting a project for reimbursement, a school district must evaluate its educational facilities. This study must describe the condition of all school buildings, assess their abilities to meet current and planned educational requirements, and estimate the costs of necessary upgrades. The report must, of course, be available for public inspection.

A school district's formal application for Commonwealth reimbursement is the Planning and Construction Workbook, commonly called PlanCon. The PlanCon process includes all the necessary forms and procedures needed to (1) document a local school district's planning process; (2) provide justification for a project to the public; (3) ascertain compliance with state laws and regulations; and (4) establish the level of state participation in the cost of the project.

Experience has shown that it's generally less expensive to renovate an existing school than to build a new one. To make this less-costly approach even more attractive to school districts, the Public School Code was amended in 2005 to provide additional state funding for renovation projects. And if a renovation project conforms to the "green" building standards certified by the U.S. Green Building Council or the Green Building Initiative, the reimbursement is even higher.

A properly renovated school, regardless of its original construction date, will normally have the same life span as a new school. In recent years, the Commonwealth has approved renovation projects for schools originally constructed as far back as the early 1900's. Even buildings with wood framing can be rehabilitated to meet applicable construction codes.

It's not uncommon for a school to need major alterations after 20 years, and the Commonwealth's reimbursement program accommodates this expectation. But a waiver is needed for reimbursement on a project involving a school constructed or renovated within the previous 20 years.

There are no acreage requirements for a school or for athletic fields, and the Department of Education makes no recommendations on this. The amount of land needed to support a district's educational and athletic programs is a local school board decision.

This brochure is intended to be a general and informal introduction to the value of older schools. As such, many generalizations are used. Detailed information on Department of Education policies and procedures, including the PlanCon process, can be found on the Department's website at http://www. pde.state.pa.us/.

Renovating Older Schools Can Help Conserve Resources, Revitalize Older Communities

By Dennis Yablonsky

Secretary of Community and Economic Development Chairman, Governor's Economic Development Cabinet

uccessful businesses know that a quality workforce is easier to attract and retain when employees are happy with the quality of their lives outside of work. A vital part of Pennsylvania's strategy to make the commonwealth the perfect place to live and work involves making our cities and towns more livable, while conserving farmland and open space.

For several decades, both the public and private sectors have invested more on developing and promoting growth on the urban fringe rather than reinvesting in our existing cities and towns. While creating some new jobs and assets, these investments often transfer jobs and residents from established communities to sprawling new ones. The result—Pennsylvania's many historic cities and towns have lost population, as hundreds of thousands of acres of farmland and open space have been converted to new development.

Believing that in order to attract businesses and residents, Pennsylvania needs healthy cities and towns as well as thriving suburban and rural areas, Governor Rendell has launched a number of interagency initiatives to help reverse these trends. The Community Action Team led by the Department of Community and Economic Development is an interagency effort to make community-changing investments on a significant scale in our smaller cities and core communities.

Part of this overall strategy and partnership with local government leaders entails maintaining a strong foundation for education. The importance of well performing neighborhood schools to the development potential and quality of life in core communities cannot be overstated.

In an era of intense global competition, Pennsylvania needs to foster sustainable development and make maximum use of our unique resources—our older, often historic, cities and towns and our exceptional natural resources. The creative use of our older school buildings, and the integration of school construction and renovation decisions with communities' economic and community development goals, can help preserve and enhance the quality of our communities, stimulate educational excellence, and provide an anchor for revitalization and economic development.







TOP: Since 1928, neighborhood children have walked to Williamsport's Cochran Elementary School, which was renovated and expanded in 2001.

ABOVE: Neighborhood schools help keep Pennsylvania towns healthy and vibrant. Franklin has two small elementary schools within walking distance of its charming main street. LEFT: Troy Area High School has been a Bradford County landmark since its construction in 1924. The school, which was placed on the National Register of Historic Places in 2001, is currently undergoing major renovations that include replacing 1970s windows and doors with new ones that will match the originals.

Keystone Principles

n important interagency initiative is the adoption by Governor Rendell's Economic Development Cabinet of the Keystone Principles and Criteria for Growth, Investment and Resource Conservation. The Principles are goal statements that reflect the cooperating state agencies' aims for sustainable development. The specific criteria are designed to be used across state agencies to guide the investment of agency funds and to evaluate applications for grants and loans to municipal and private applicants. A number of the Principles and their specific implementing criteria apply to decisions about neighborhood schools, such as:

- PRINCIPLE: Redevelop first. CRITERIA: Project is located in a core community; Project supports the rehabilitation and use of existing buildings, including schools and historic buildings.
- PRINCIPLE: Use existing infrastructure-roads, water and sewer lines. CRITERIA: Project is located within ¹/₂ mile of existing or planned public transit. Project uses/improves existing water and sewer service. Renovation and reuse of neighborhood schools frequently meets these objectives.
- PRINCIPLE: Concentrate development. Foster creation of well-designed development and walkable, bikeable neighborhoods that offer healthy life style opportunities. CRITERIA: Project serves mixed use development; project takes advantage of sidewalks or connected walkways, bikeways and greenways that make walking or biking to school a healthy and safe choice.
- PRINCIPLE: Increase job opportunities. CRITERIA: Renovating schools and historic buildings creates local jobs in urban communities.
- PRINCIPLE: Foster sustainable businesses. CRITERIA: Construct and promote green buildings and infrastructure that use land, energy, water and materials efficiently. Existing buildings are often excellent candidates for renovation as "green" buildings. Using an existing building avoids the need to consume energy and natural resources to fabricate new materials and put them in place.
- PRINCIPLE: Plan regionally and implement locally. Locating schools in or close to population centers contributes to the health of core communities, reduces the need for busing, and conserves rural lands for rural uses.

Well-Constructed Buildings Can Last Indefinitely With Systematic Renovations

By David Anstrand Architect, Board Member, Council of Educational Facility Planners International

s America rediscovers the merits of walkable communities, recommended guidelines for the location and design of schools are changing. More and more, school districts are encouraged to renovate and expand existing structures rather than build new schools on virgin fields.

Nothing is more representative of this thinking than the Council of Educational Facility Planners International. For nearly 85 years, this non-profit organization of professional school planners has promulgated standards that many state and local school agencies have adopted.

Consistent with America's suburban culture, the Council until recently encouraged school districts to build new schools on spacious grounds. Three years ago, concerned about the unintended consequences of this policy—suburban sprawl—the Council broadened its perspective. Booklets published by the Council jointly with the U.S. Environmental Protection Agency and the National Park Service make these points:

- Keeping schools in older neighborhoods is inherently better for the environment because it takes advantage of existing infrastructure and public transportation.
- Compact building design preserves land.
- Rehabilitating older buildings reduces the need to manufacture new steel and other building materials.
- Historic school buildings can usually be renovated to state-of-the-art educational standards at less cost than new construction.

The belief that buildings "wear out" is common but wrong. Of course, building elements like roofs, doors, windows and mechanical systems wear out and need to be replaced, but the foundation, walls and floors of a well-built school may never need to be replaced. A well-constructed school building can last indefinitely with good maintenance and a major renovation every 20 to 30 years.

The chronological age of a school is no indicator of its construction quality. Most schools built between 1900 and 1940, for example, are masonry bearing structures that rely on massive walls to provide structural stability. Many were overdesigned in load-bearing capacity by today's structural standards. Most of these older schools are easier and less costly to renovate than schools built in the postwar suburban era, when cheap materials and inferior construction techniques became common.



Photo: Tom Hylton; Architect: Beers and Hoffmc

Creative design can transform outdated spaces to meet today's educational needs. For example, many historic elementary schools feature cloakrooms in every classroom; removing the cloakroom wall expands the classroom. Alternately, removing two walls between three small classrooms creates two with ample space for today's learning activities and computers. Undersized gymnasiums and cafeterias can be reprogrammed as libraries or large group instruction rooms or subdivided for other uses. A new addition can house a modern gymnasium and cafeteria.

Most older schools are well-suited for renovation as "green" buildings. Their compact, multi-story layout is more efficient to heat in the winter and cool in the summer than sprawling onestory buildings. High ceilings provide plenty of room for wiring, ductwork, and piping. Large window openings provide plenty of natural daylight. Contemporary high performance glazing captures plenty of sunlight but retains interior heat.





Bethlehem's 1923 Liberty High School was built for the ages. New windows to match the originals were recently installed as part of a \$65 million renovation project, which also includes a new 50,000 square foot student activity center. Classes will be in session during most of the construction project. The brick and limestone building, an adaptation of the Adams style of architecture, would be cost-prohibitive to replicate today.

OPPOSITE PAGE: The original high ceilings in Lebanon's 1924 Henry Houck Elementary School, like those in most early 20th century schools, allow plenty of room for new piping and ductwork. When completed, the ductwork will be hidden above a new ceiling.

The Manheim Township School District in Lancaster County has renovated four historic schools as "green" buildings. In addition to well-insulated roofs, energy-efficient light fixtures and natural daylighting, the schools employ geo-thermal groundsource heat pumps to provide individual heating and cooling in every classroom. One of these schools was the first geo-thermal heat pump-equipped public school in Pennsylvania. It consumes about 30 percent less energy than the district-wide average.

Handicapped access and code compliance are issues that frequently arise. Creative design and engineering can usually address them. To comply with the Americans with Disabilities Act, an elevator in a new addition to an older school can be combined with ramps to create accessible routes throughout the building.

All Pennsylvania schools are subject to the Uniform Construction Code, which was adopted statewide in 2003. This code features special provisions for existing buildings, including compliance alternatives for historic buildings. These allow architects and code officials to overcome technical deficiencies. For example, a sprinkler system is a highly effective means of suppressing fire that can and should be installed in any school, including historic schools.

Most older schools contain asbestos. It can—and must—be addressed during the renovation process. But it also must be dealt with if a building is to be demolished.

Housing students during a school renovation is a challenge, but options abound. Some districts can reassign students temporarily to other school buildings. A vacant parochial school might be available. Many churches have excellent classrooms that can be leased on a short-term basis. Many school districts arrange for the most disruptive renovation work to be done during the summer and segregate students from work areas during the school year. The Houck Elementary School in Lebanon was recently renovated on this basis.

Even vacant commercial space can be used. When Lancaster's new McCaskey East High School had to be closed for a year for emergency repairs, students were relocated to vacant conference rooms in a downtown hotel, two vacant bank buildings, and vacant space in an office park. The students did so well in the smaller settings that one of the "satellite schools" remained open even after repairs were completed in the McCaskey building.

In cases where schools lack space for recreation facilities, a district can use nearby parks and athletic fields. The Palmerton Elementary School, for example, uses the nearby Palmerton Municipal Park as its playground. Reading High School, which is landlocked, shares a new football stadium with nearby Albright College. The stadium, jointly owned and financed, is a better facility than either institution could have provided alone.

Harrisburg's new SciTech High School lacks an auditorium and gymnasium. Its students hold their assemblies at the Whitaker Center across the street. Boys use the downtown YMCA for physical education and girls are enrolled in the nearby Curves.

Renovating an older school may not be as simple as buying virgin land and starting from scratch. But with careful thought and planning, a school district can provide an outstanding educational facility for its students and promote the social, environmental and economic health of the community at the same time.

Design Professionals Can Help School Boards Meet Educational and Community Needs

By John R. Hill, AIA, 2007 President, AIA Pennsylvania, and Vern McKissick, AIA AIA Pennsylvania, A Society of The American Institute of Architects

hen considering the need for a new or renovated facility, school boards would be well-served to look beyond the physical appearance and condition of their existing buildings. Investing valuable time in the search for new building sites may prematurely focus the board's attention on "bricks-and-mortar" issues which may be better addressed at a later time with a design professional.

Instead, board members and administrators should start by considering their educational programming needs. How do they want their school buildings to function? A design professional can help a school district make that determination by interviewing the staff, parent-teacher associations, and community members.

Next, school boards should consider their facilities in the context of the larger community. They should work with local planning commissions to assess demographic trends and the community's plan for growth. In urban areas, a school can often help stabilize a neighborhood or contribute to revitalization efforts. In rural areas, where school districts often comprise several municipalities, the district may be the only entity that can bring these municipalities together to reach common goals. School boards should keep in mind that the location of a school powerfully influences where development will occur.

Once educational programming needs and community development objectives are determined, a design professional should apply those objectives to existing facilities and help the board determine if new ones are needed. It is generally more cost-effective to renovate existing buildings than build new, but doing so will require creative thinking and flexible approaches. For example, many historic elementary schools have been needlessly discarded because the cafeteria was in the basement or the gymnasium was too small. But these existing spaces can be wonderful for other uses like libraries or art rooms. New cafeterias and gymnasiums can be incorporated in an addition to the existing building.

Likewise, retaining the best features of older buildings, like classrooms with ample natural daylight, can be achieved by using creative solutions to keep big windows and high ceilings. Because of security issues, the original entrance to a school may



When Bedford High School was renovated in 1996, a "farm" of 32 rented modulars was placed on the parking lot for seven months. Students returned to the 1931 building in phases, as work on various sections of the building was completed.



Although the original entrance to the Media Elementary School, top, is no longer used, it remains an integral part of the historic integrity of the school, parts of which were built in 1915, 1929 and 1951. The main entrance was moved to the side during major renovations in 1994.

need to become a ceremonial entrance. A new entrance can ensure visitors go through the main office to enter the building.

Although existing schools are usually located in well-established sites with existing utilities and infrastructure, it is likely there will be considerable car traffic for a short period in the mornings and afternoons, especially on bad-weather days. School districts and local municipalities need to recognize some traffic congestion is inevitable. Non-conventional solutions such as an internal circulation loop may be needed. But creative solutions are more likely to succeed than trying to impose a suburban solution in an older neighborhood by clearing a large site or moving a school out of town altogether.

Even school directors who favor new construction may find it is easier to garner community support for renovating older buildings. For example, Hazleton recently considered building a new middle school against considerable community opposition. But when converting Hazleton's abandoned old high school into an elementary/middle school was proposed, everyone came together to support restoring a community landmark. Recently, a thousand people packed the gymnasium for a rededication of the building, which locals proudly call the "Castle."

Although renovations are more difficult for staff than new construction, school districts can spare themselves many headaches by hiring additional staff and reassigning job responsibilities to ensure problems can be handled as they arise. School boards, administration and staff will need to be flexible, especially if the building is going to remain open during renovations.

When the 700-student Bedford High School was recently renovated, a "farm" of 32 modulars was created on the parking lot for seven months, gradually opening up pieces of the renovated building during the school year: the gymnasium first, then the cafeteria, and finally the library. In Bedford's case, it was less expensive to compress the schedule and move the kids completely out. Other districts have scheduled critical activities and work in common areas during summer breaks and then isolated portions of the building undergoing renovations during the school year. Of course, it is critical to maintain a safe environment for students and staff throughout the construction process.

School boards should be prepared to pay design professionals more for renovating an existing building than constructing a new school, because renovations involve more planning, research, and coordination. Boards should budget more for contingencies. In the end, experience has shown, it's still likely to cost less for renovations than new construction.

The Pennsylvania chapter of the American Institute of Architects provides a directory of architects in different parts of the state on its website, www.aiapa.org. School board members should also visit older schools that have been renovated. They may be surprised to learn how well a 1920s school can function in the 21st century, and how much value it can add to the community.





A century ago, public schools were seen as tangible elements of civic pride, built with the finest materials and highest level of craftsmanship the community could afford. Many were memorialized in postcards as community landmarks. Two proud historic schools still serving their communities are Pittsburgh's 1916 Schenley High School, left, and the 1912 West Philadelphia High School, top of page.

Public Schools Form an Essential Part of Pennsylvania's Architectural Heritage

By Barbara Franco, Executive Director, Pennsylvania Historical and Museum Commission and Mindy Higgins, Executive Director, Preservation Pennsylvania

istoric schools are among the most important buildings in Pennsylvania. They are often the focal point of a neighborhood or community, built to a level of detail and craftsmanship rarely found in other buildings. They reflect community pride. And more than any other building, historic schools embody a shared experience for generations of residents.

Historic schools across Pennsylvania's landscape are many and varied. Their presence spans centuries, reflecting the evolution of state education policy and funding. The location of historic school buildings also reflect, or were influenced by, community development and settlement patterns.

If a school district is experiencing declining enrollment, an alternative to closing a school is to consider adding other public services to existing school buildings—combining community services with educational functions.

The decision-making process of whether to renovate or replace should involve considerable public input as well as address community needs. School boards should work closely with their local governments, planning departments, and preservation organizations to ensure that these irreplaceable buildings are given the utmost consideration before a decision is finalized. Steps that should be taken include:

- Completing a feasibility study to explore all alternatives.
- Holding public meetings to better understand community needs.
- Integrating school district planning with planning for other community services.
- Contacting the Bureau for Historic Preservation to have the school evaluated for National Register eligibility.

The Pennsylvania Historical and Museum Commission offers grant opportunities that can help defray the expense of these studies and planning activities. To learn more about our grant programs, please visit: http://www.phmc.state.pa.us.

Educate Yourself About Historic Schools

s the result of a 2006 special initiative to recognize, honor, protect and encourage the continued use of the commonwealth's historic schools, the Pennsylvania Historical and Museum Commission developed a number of web-based, practical resources to assist school boards when they are faced with the decision of whether to renovate or replace a historic school building. A statewide survey of historic schools is underway, as well as a history of the development of public schooling in Pennsylvania from the colonial period through the mid-20th century. This study will help facilitate the nomination of historic school buildings to the National Register of Historic Places. We invite you to visit this site at: http://www.phmc.state.pa.us/bhp/schools.asp. Currently, Pennsylvania has about 350 schools or former schools listed in the National Register, but there are hundreds of historic schools that have never been surveyed.

Pennsylvania does not stand alone in its efforts to save community schools. In 2000, the National Trust for Historic Preservation placed historic neighborhood schools on the list of the nation's 11 Most Endangered Places. A National Trust publication, "Why Johnny Can't Walk to School: Historic Neighborhood Schools in the Age of Sprawl" highlights reforms needed to protect America's historic schools from being needlessly abandoned. We believe these resources will help you make informed decisions about renovation or replacement of your local school building.

Historic School Buildings May Qualify For Listing On The National Register

any historic school buildings more than 50 years old may be eligible for listing in the National Register of Historic Places. The National Register is the nation's official list of properties recognized for their significance in American history, architecture, archaeology, engineering, and culture. A school building may be eligible for listing in the National Register if it:

- Reflects important developments in the history of educational philosophy and practice.
- Is directly associated with a person important in the field of education and directly reflects how the person was significant.
- It has distinctive architectural style, design, engineering, and landscape features demonstrating the important trends in school design and construction.
- It retains architectural integrity.

Permission of the property owner is not necessary for consideration of a building's National Register eligibility, but listing a private property in the National Register does require owner consent. National Register listing does not place obligations on private property owners, nor does it place restrictions on the use, treatment, or disposition of private property. National Register listing does not lead to public acquisition of property, nor does it require public access to property. In Pennsylvania, properties are nominated to the National Register by the Bureau for Historic Preservation. To learn more about the National Register process in Pennsylvania, please visit: http://www.phmc. state.pa.us/bhp/nr_process.pdf.

The listing of a historic school in the National Register, or an opinion by the Bureau for Historic Preservation that a school is eligible for the National Register, does not restrict a school district from demolishing or altering the school building in any way. However, in the event that federal or state funding, licenses, or permits are needed for a school construction project, school districts utilizing federal or state assistance must consult with the Bureau for Historic Preservation under the National Historic Preservation Act and the Pennsylvania History Code. The Department of Education strongly encourages school districts to retain school buildings that are eligible for or listed in the National Register.



The Coatesville School District's East Fallowfield School enrolls about 300 children in grades K-5. The 1939 school was named a National Blue Ribbon School of Excellence in 2002.

Small Schools Can Make Ideal Neighborhood Schools

By Dr. Phillip Diller

Assistant Professor, Educational Leadership and Policy Principal, Luhrs University Elementary School Shippensburg University of Pennsylvania

owering costs through economies of scale: That's the principle reason advanced for displacing small neighborhood schools with huge schools on the urban fringe. Having one centralized school saves money because you don't duplicate services and facilities. You can pare down the staff. You need only one library and one gymnasium.

But what looks good on paper may not work nearly as well in real life. Consider this example from corporate America. A team of experts examined America's best-run companies and came to this startling conclusion (reported in the book, "In Search of Excellence" by Thomas Peters and Robert Waterman): "Regardless of industry, it seems that more than 500 or so people under one roof causes substantial and unanticipated problems. More significant, even for the cost-oriented companies, small is not only more innovative but also more productive."

If adults work best in small, comprehensible groups, what about children and youth? Most educators agree that small class size promotes learning. Less well known is the abundance of educational literature showing that students—especially those from low-income families—perform much better in small schools.

Although educators differ on the ideal size for a school, the National Association of Elementary School Principals recommends elementary schools should house from 300 to 500 students. The National Association of Secondary School Principals recommends that high schools should be broken into units of no more than 600 students.





A review of more than 100 studies on school size in 2001 by researcher Kathleen Cotton showed:

- Students in small schools have better attitudes toward school and higher attendance rates. They do better in standardized tests.
- Students in small schools are more likely to participate in extra curricular activities.
- There are fewer discipline problems in small schools.
- The level of parental participation—and parental satisfaction—is higher in small schools.
- Students feel safer and more secure in small schools because they are well known by their teachers and their peers.
- Teachers experience more job satisfaction because they know their students better and have more opportunities for multi-age instruction and team teaching.

Moreover, it's not clear that large schools really are less expensive to operate, if only because they actually need larger support staffs, not smaller.

Consider too the basis of these cost analyses. Studies of schools

Children enjoy lunch in the First District Elementary School, one of three historic neighborhood schools in Meadville. Each of the K-6 schools enrolls 300 or fewer pupils.

With fewer than 150 children in grades K-5, the Grace B. Luhrs Elementary School encourages a close relationship among teachers, parents and children. The school is affiliated with both Shippensburg University and the Shippensburg Area School District.

in places as diverse as New York City and Nebraska show that small schools are less expensive in terms of "cost per student who eventually graduates" rather than simply "cost per student enrolled." That's because the drop-out rate is higher in large schools.

Schools with more grade levels also perform better. The more years a student attends the same school, the better known he or she will become to the principal and faculty. Parents have more time to form a bond with the school, especially if they have more than one child enrolled. A K-5 school with 500 students will perform like a much smaller school than one of equal size housing just 4th and 5th graders. And, as researcher Craig Howley reports, "Every transition from one narrowly configured school to another seems to disrupt the social structure in which learning takes place, lowering achievement and participation for many students."

Small schools with many grade levels make ideal neighborhood schools. Families know their children will attend a nearby school for many years. The school lends a sense of permanence to the neighborhood and helps keep it healthy. But above all, it can be a superior place to learn.

Neighborhood Schools Can Help Keep Older Communities Vibrant

By Jeri E. Stumpf

President, Jeri E. Stumpf and Associates Inc. Retired Director, Urban Affairs Committee, Pennsylvania House of Representatives

eighborhood schools help keep older urban areas vibrant.

How do I know this? For more than 35 years, I've researched urban revitalization practices across the country. I've worked with economic development specialists, elected state and local officials, and private developers whose goal is revitalizing Pennsylvania's cities and boroughs. I've even arranged tours of model communities for Pennsylvania legislators and organized hearings at the Capitol in which state and national experts testified on the problems and potential of our cities and towns.

Traditional towns appeal to two distinct groups of homebuyers: baby boomers and young families with children. Why? Price, amenities, and the "value added" by neighborhood schools.

Both groups recognize they can get considerably more housing for less money in an older neighborhood. Families with young children get larger bedrooms and back yards for the kids to play in. "Boomers" find smaller lots mean less grass to mow and snow to shovel. Both groups are attracted by the unique architectural features of historic homes, unavailable in newer suburban housing.

Older people want to retire to communities like the ones in which they grew up. They remember knowing their neighbors and many of the people they saw while walking to school. They dislike the lack of personal interaction in suburbia and yearn for the friendly faces and "hellos" they experienced daily as young people. For them, seeing children walking to school brings a reassuring sense of community.

Families with children like having other families with children living nearby. A neighborhood school allows their children to walk to school with their siblings and playmates. It means PTA



meetings, parent-teacher conferences, and other school activities are closer and more convenient. Most schools have a playground or open field where kids can play after school hours and during the summer. Many schools are activity centers, where adults play basketball outdoors or in the gym and where local programs can be conducted.

The presence of a neighborhood school functions much like a major retail store in a shopping center or mall; it is the anchor that attracts and retains the other stores. An abandoned school, much like a closed and abandoned store or factory building, adversely affects a community's morale even more than the loss of jobs. A closed building soon begins to deteriorate, and that adversely impacts the values of neighboring homes. People looking to buy a home in the neighborhood get the feeling that nobody cares.

On the other hand, a thriving elementary school, with lots of pedestrian activity surrounding it, says that people care about their neighborhood and take pride in their community. Although the feelings evoked may be intangible, the benefits —high property values, safe streets, stable taxes—are significant and unmistakable.

Proud kindergartners pose for their parents on their first day of school at the 1913 Francis A. March Elementary School in the College Hill neighborhood of Easton. The school was named for a professor at Lafayette College, located just a few blocks from the school.







Neighborhood schools help create the feeling of community shown at the York Halloween Parade. York has six walkable neighborhood schools, three of which date to the early 20th century.



Children enjoy recess in the Palmerton Borough Park across the street from the 1924 S.S. Palmer Elementary School, originally built as Palmerton High School. The school is within walking distance of every home in Palmerton.

Walking to School Helps Young People Develop Healthy Habits that Will Serve Them for A Lifetime

By Dr. Calvin B. Johnson Secretary of Health

nless current trends are reversed, many experts believe, our current generation of young people will be the first in history to have a shorter lifespan than their parents. Although there are many contributing factors to this new reality, two that stand out are the availability of junk food and the lack of exercise and physical activity. Both of these factors lead toward obesity and a substantially increased risk of heart disease, diabetes, stroke, arthritis, and other chronic ailments. Today, one child in six is obese, triple the rate of the previous generation. A third of our school-aged children are overweight or at risk of becoming overweight.

As part of the Commonwealth's efforts to deal with the epidemic of obesity, the Pennsylvania Nutrition and Physical Activity Plan was developed by the Department of Health and the Pennsylvania Advocates for Nutrition and Activity (PANA). PANA is a statewide coalition funded by the Department consisting of schools, state agencies, and civic groups that work to improve nutrition and physical activity statewide through policy and environment interventions that encourage young people to

Photo: DuBois Courier-Express / Paul A. Wilson



For five years, the Brockway Area Elementary School has conducted a "Walking School Bus" program in which children across the borough are "picked up" by adults at various locations along Main Street and walked to school. Often, a local celebrity leads the walk. Here, Jefferson County Judge John H. Foradora, center facing camera, "drives" the Walking Bus.



Dr. Calvin B. Johnson, Secretary of Health, speaks at the annual Walk to School Day at the Central Dauphin School District's Mountain View Elementary School.

eat healthy foods and exercise daily.

One of the most basic ways for young people to keep fit is walking. In 1970, about half of all American children walked to school. Now only about 15 percent walk or bike to school. Although school physical education programs help children stay fit, the fact is children could get most of the daily exercise they need just by walking 15 or 20 minutes to and from school. And they would develop a healthy habit to serve them for a lifetime.

To further the concept of walking to school, PANA conducts a statewide "Walk to School Day" in which hundreds of children, supervised by parents and other adults, walk to schools all across the commonwealth, many for the first time in their lives. Some schools, like the Brockway Area Elementary School in Jefferson County, conduct regular "walking school bus" programs in which students are "picked up" at stops in the community and supervised as they walk in a group to their school. The Department will continue to highlight and recognize schools that encourage physical activity, especially those that incorporate walking to school.

In addition to the efforts of PANA, the Department of Health works closely with its sister agencies—Transportation, Community and Economic Development, Agriculture, Education and Conservation and Natural Resources—to identify strategies to address childhood obesity. One example is the establishment of



Volunteer groups like Mechanicsburg Safe Routes to School encourage municipalities to improve sidewalks and crosswalks to make it safer for children to walk to school. Sally Holbert, left, a community planner leading the group, crosses Main Street in Mechanicsburg with her family.

the Safe Routes to Schools Program by the Department of Transportation, awarding grants to local municipalities to provide sidewalks and bike trails so more children can walk or bike to school.

The administration has recognized the value of schools centered in the community, not only for their community enhancements and economic impacts, but for the health and well-being of the citizens, young and old, that reside in those communities. An investment in current infrastructure will pay huge dividends to the community in the long term.

Physical fitness and nutritional programs in our schools are essential to curb adolescent obesity. But where we place our schools is also vitally important. School districts can assist with efforts to address childhood obesity by keeping walkable neighborhood schools, by locating new schools in established neighborhoods with sidewalks, and by working with local municipalities to create routes allowing more children to walk to school.

The tremendous societal harm that childhood obesity portends will not become evident for another decade or two. But we cannot afford to wait. We must act now. Childhood obesity is a health problem that can be prevented and treated. Through our work with schools, families and health care providers, we are making progress to ensure that every child in Pennsylvania is better able to lead a healthy lifestyle.



Highmark Blue Shield uses posters like this one to point out the negative impacts of childhood obesity. The insurer has joined with health groups across the Commonwealth to encourage children to get more daily exercise.

Walkable Neighborhood Schools Foster A Healthy Transportation System

By Allen D. Biehler Secretary of Transportation

ennsylvania is at a crossroads: We can keep spreading our development out across our ever-diminishing green fields, as we've done for the last 50 years, or rethink the value of towns and cities that make life in our commonwealth so enjoyable.

In our rush to put space between us and our neighbors, we're flocking to the countryside and trading lush landscapes for acres and acres of macadam. At the same time, we're leaving assets behind in our municipalities that we can ill afford to waste.

Some numbers make my point:

- From 1982 to 1997, Pennsylvania saw a 1.4 percent increase in population, but a 41 percent increase in developed land. We're not growing, just going somewhere else, usually the Pennsylvania countryside.
- From 1982 to 2001, we saw a 61 percent increase in the number of miles driven each day and a 43 percent increase in the number of vehicles registered with the Pennsylvania Department of Transportation.

Decisions have consequences. Choosing to scatter across the landscape doesn't mean we want isolation. We're still on the move. Hence, the demand for new highways—to link where we live with where we work or seek entertainment—remains high.

In 2006, I chaired a Transportation Funding and Reform Commission created by Gov. Rendell to assess the state's transportation needs. We found that a third of Pennsylvania's 21,000 miles of secondary highways are in "poor" condition, and the state has twice as many structurally deficient bridges as the national average. We currently spend close to \$3 billion a year for road



maintenance and construction, and nearly \$1 billion on our mass transit system. Yet the Transportation Commission found we will need another \$1.7 billion to maintain and improve our highway and mass transit systems.

We can't continue to grow in the sprawling way we have in recent decades. We need to cut down on excess driving by living and working in closer proximity. We should maximize our resources by reusing land and facilities in our older cities, boroughs and townships.

Walkable neighborhood schools are an important part of sustaining existing resources. We now bus more than 75 percent of our public school students at an annual cost of more than \$1 billion. Our school buses travel more than 381 million miles a year, contributing to traffic congestion, putting wear and tear on our highways, and polluting our air.

To encourage more walking and bicycling in Pennsylvania, PennDOT has committed more than \$200 million to local mu-



Too Much Busing

Pennsylvania spends more than \$1 billion each year busing children to school. Altogether, school buses travel more than 381 million miles annually in the commonwealth. nto: Tom Hyltu



nicipalities in the last three years for new sidewalks and biking trails as part of our Home Town Streets and Safe Routes to School program. For example, Springettsbury Township in York County received \$426,000 for sidewalks around East York Elementary School and St. John's Lutheran Church School, allowing students to walk there rather than being bused.

Pennsylvanians don't typically think of walking or bicycle riding as transportation, but it's actually the most energy-efficient and environmentally friendly form of mobility that exists. Pedestrians and bicyclists take up far less space than cars. They don't burn fossil fuels, and they don't wear down the travel surface. Huge parking lots aren't required. Walking and bicycling is healthy exercise, and it promotes the human interaction that's the very essence of life.

Walking to school also gives young people a sense of freedom and responsibility, and quality time with friends. The earlier we can make walking a daily habit, the better.

ABOVE: Transportation Secretary Allen Biehler walks with students to Camp Hill's Hoover Elementary School to promote PennDOT's Safe Routes to School Program. Virtually all public school children walk to school in Camp Hill.

OPPOSITE PAGE: An overflowing bike rack testifies to the popularity of students biking to Camp Hill High School.



Old Buildings Can Be 'Green' Buildings

By Kathleen McGinty Secretary of Environmental Protection

arlier this year, Gov. Rendell announced an ambitious plan – the Energy Independence Strategy - to save Pennsylvanians \$10 billion over ten years by reducing energy consumption and seeking alternative forms of energy. Because heating and cooling buildings accounts for 39 percent of the energy used in the United States, school districts can save tax dollars and help the environment by reducing energy consumption in their buildings.

A recent amendment to the school code gives an extra state subsidy to school districts for "green" buildings – those that receive a silver, gold, or platinum certification from the United States Green Building Council's rating system, called Leadership in Energy and Environmental Design (LEED). In addition, High Performance Green Schools Planning Grants help defray costs associated with "green" design and are awarded to schools built to a minimum silver LEED standard. Last year, eight school districts were awarded \$200,000 in planning and design grants.

But a "green" school doesn't have to be a new school. In fact, the No. 1 principle of green building design is to renovate and recycle existing buildings. A "green" building is one whose construction and operation ensures the healthiest possible environment and makes the most efficient and least disruptive use of land, water, energy and resources. Older schools usually boast numerous features that can help them meet the five principles of building "green":

- 1. Sustainable site design. Make the most efficient use of existing buildings and associated infrastructure. Utilize existing mass transit systems and make schools pedestrian and bike friendly.
- 2. Water Quality and Conservation. Reduce impervious services by keeping the building footprint and parking areas as small as possible. Because average buildings account for 12 percent of the nation's potable water systems, designs that minimize the use of water by using low-flow plumbing fixtures can have a major environmental impact.
- 3. Energy and Environment. Design buildings and windows to maximize use of controlled daylighting and solar gains. Maximize insulation. Older schools with big windows were usually designed to capture maximum daylight, and their high ceilings provide ample space for insulation.
- 4. IndoorEnvironmental Quality. Maximize the use of operable windows and natural ventilation. High performance windows and state-of-the-art heating, ventilating and air





St. Stephen's Episcopal School, a K-8 private school in downtown Harrisburg, more than doubled its classroom space by converting a 1928 parking garage behind the church, above, into an addition with classrooms, restrooms, cafeteria, and administrative offices. With recycled building materials, energy-efficient lights, and an innovative heat-exchange system, the school and adjacent 1826 church became the first of its kind in the nation to receive a silver LEED rating from the U.S. Green Building Council.

conditioning systems provide year-round energy savings while helping to provide better indoor air quality.

5. Materials and Resources. Reduce the amount of waste generated during construction. Demolishing a building can produce 20 to 30 times as much debris as new construction. New construction accounts for 136 million tons of construction and demolition waste per year in the U.S. and 40 percent of raw material usage globally. Renovating makes maximum use of existing materials. Renovations require more ingenuity and labor than new construction, but human creativity and our abundant labor force is perhaps Pennsylvania's most valuable renewable resource.

School boards do more than provide a formal education for children and adults. They influence the way their community thinks and how it grows. Renovating and reusing existing schools, building to LEED Existing Building Standards, and reducing urban sprawl whenever possible can help set an outstanding example of resource conservation and sustainable development.



The John Henry Neff School, originally constructed in 1929 as the Manheim Township High School, was the first public school in Pennsylvania to employ geothermal heat pumps when it was renovated and enlarged in 1996.

Manheim Township School District Goes 'Green' with Historic Schools

he Manheim Township School District in Lancaster County has demonstrated its commitment to the environment by renovating three historic schools as "green" buildings. The schools emphasize natural daylighting with high performance windows and energy-efficient light fixtures.

In addition to well-insulated roofs, the schools employ ground source heat pumps to provide individual heating and cooling in each classroom. The renovations brought a decline in energy consumption, and made the maximum use existing resources.



Each classroom in the three schools has its own heat pump in a closet for individual heating and cooling.



The 1929 Brecht Elementary School was renovated and enlarged in 2000.



The 1936 Schaeffer Elementary School was renovated and enlarged in 2002.

Many Existing Buildings—Sturdy, Spacious, Often Distinctive—Can Be Adaptively Reused As Schools

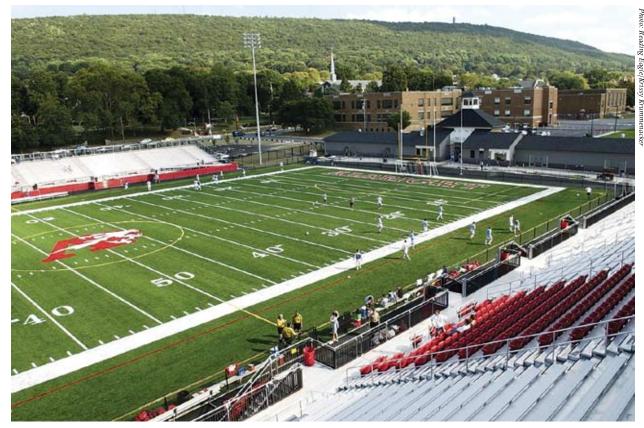
n recent decades, as jobs and residents have migrated from Pennsylvania's cities and towns, scores of magnificent buildings have been abandoned or relegated to marginal uses. These structures are often strategically located in existing population centers, within walking distance of hundreds of homes, where open land for new buildings is scarce. With vision and creativity, many of these structures – warehouses, offices, even hospitals – can be adaptively reused as schools.

Reusing existing buildings makes optimum use of community resources. It saves energy and protects the environment. It improves neighborhoods by reclaiming neglected structures as community centerpieces. It is usually less expensive than new construction and takes less time to complete.

Another way to optimize resources is to share facilities. Auditoriums, gymnasiums, libraries, stadiums and parks are major investments that can be shared by school districts, municipalities, colleges, and other institutions for their highest and best community use.







Albright College's new Shirk Stadium, jointly financed and operated with the Reading School District, provides a better athletic facility than either institution could have provided alone.



ABOVE: The Harrisburg School District's new SciTech High School, serving 500 students in downtown Harrisburg, was created by renovating and adaptively reusing the former Harrisburg YWCA, which itself was created by combining and renovating three stores.

RIGHT: The Lancaster School District converted an 1850s cotton warehouse into the Carter and MacRae Elementary School for 500 pupils. Located in the heart of Lancaster, the school is within walking distance of its students.



Mount Lebanon Achieves Academic Excellence, Retains Character With Renovated Neighborhood Schools

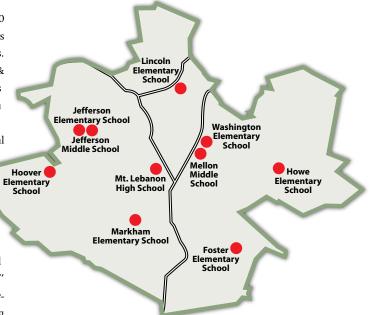
he Mount Lebanon School District, serving 33,000 residents in a pre-war suburb of Pittsburgh, ranks among Pennsylvania's top performing districts. According to a recent analysis by Standard & Poor's, Mount Lebanon is one of 29 Pennsylvania districts whose students consistently exceed statistical expectations in reading and math tests.

The district has not needed new schools to attain educational excellence. Instead, it has carefully maintained and systematically renovated its 10 schools, most of which date from the 1920s and 1930s. Two years ago, the district finished renovating the last of its seven elementary schools. Now it is planning major renovations and new construction at its 1928 high school.

"The school board recognizes its schools are well built and represent a significant investment made by earlier generations," said architect Rob Pillar, AIA, whose firm, Burt Hill, has overseen the renovation of many Mount Lebanon schools during the last decade. "The schools are part of the fabric of the community. The parents like that kids can walk to school, and the district has benefited from not having to bus children, which is a substantial cost savings."

Each elementary school was reconfigured to place the offices of the secretary and principal by the front door for safety and security. The schools are code-compliant, energy efficient, and meet the standards of the Americans with Disabilities Act, including a new elevator in each building. Cloakrooms were removed to enlarge classrooms and replaced by lockers in hallways. Each classroom can now accommodate small group learning and state-of-the-art technology. Health suites were expanded. Yet each school's distinctive characteristics were retained whenever possible.

For example, the 1921 Washington Elementary School has retained its wooden classroom floors and most of its terrazzo tile in the hallways. The chandelier and library mural at the Lincoln



Mount Lebanon's small neighborhood schools are strategically located throughout the district to promote walking. Only special needs students are bused.

School were saved.

The district also saved millions of dollars for the new schools it didn't have to build. Architect Pillar estimates the renovated schools cost about 70 percent of the price of new construction, and the district didn't have to acquire new acreage in a township where land prices are "phenomenal." Perhaps most important, Pillar said, Mount Lebanon has "kept its focus on neighborhoods and community character. It's a wonderful place to bring up children."

School	Grades	Enrollment	Built	Acres	Renovated	Renovation cost	Per square foot
Washington Elementary School	K-5	338	1921	3	2005	\$9 million	\$112
Lincoln Elementary School	K-5	396	1924	3.5	2004	\$7 million	\$81
Howe Elementary School	K-5	362	1928	7	2003	\$7 million	\$82
Markham Elementary School	K-5	339	1928	6	2004	\$7.1 million	\$100
Foster Elementary School	K-5	284	1940	5	2003	\$6 million	\$76
Jefferson Elementary School	K-5	284	1950	18*	2004	\$7 million	\$84
Hoover Elementary School	K-5	239	1963	6	2005	\$9 million	\$86
Mellon Middle School	6-8	711	1937	4.5	1998	\$8.5 million	\$68
Jefferson Middle School	6-8	633	1958	18*	1998	\$5.4 million	\$81
Mt. Lebanon High School	9-12	1,908	1928, 1930 1955, 1972	26	Planning stages		

RIGHT: Classrooms were enlarged at the Washington Elementary School to accommodate group learning and a wall of computers. The original wood floors were retained and refinished to lend warmth and charm to the room.

BELOW: New pillars add character to the hallways at the Washington School. Lockers were added to allow the removal of cloakrooms in newly expanded classrooms.







ABOVE: Like Mount Lebanon's other six elementary schools, the 1928 Julia Ward Howe Elementary School is the focal point of a neighborhood with its own distinct personality.

BELOW: The Washington Elementary School has been a neighborhood landmark since 1921. It received a blue ribbon award for academic excellence from the U.S. Department of Education in 2005.



Hazleton Area School District Saves Its 'Castle' From The Wrecking Ball

assionate community involvement has saved the former Hazleton High School from the wrecking ball and paved the way for its reincarnation earlier this year as the Hazle Elementary/Middle School.

The 1926 school, known as "the Castle on the Hill" because of its turrets and other Collegiate Gothic elements, was closed in June 1998 and slated to be demolished for a new school. An auction was conducted in which its oak doors, built-in cabinets, brass chandeliers and other fixtures were extracted and carted away.

But after a rally called by citizens determined to save the school, then-Hazleton Mayor Michael Marsicano refused to issue a demolition permit. "A lot of people loved that school," said Gilbert Degenhart, a 1947 graduate who championed keeping the building during his four years on the Hazleton Area School Board. "After the mayor held up demolition, we had volunteers – we called them the Castle keepers – who patched the roof, cleaned up trash, and checked the building every day to make

sure it was secure." One Castle keeper even obtained the original auditorium doors and chandeliers so they could eventually be reinstalled.

In 2003, the school board hired architect Vern McKissick, AIA, to evaluate the building. "It was a fantastic structure," McKissick said. "It was more substantial than anything we would build today. I told the board, I might not be able to renovate the building for less cost than new construction, but I could do it a year faster."

As it turns out, the project cost about \$3.5 million less than a new school of comparable size, even with the cost of rebuilding the turrets that had been removed from the towers flanking the main entrance.

Some 1,000 people packed the newly refurbished gymnasium for the rededication of the school in January. "This is unbelievable. Every brush of paint was worth it," one 1948 graduate told the Hazleton Standard-Speaker. Said another, "I think it's a beautiful monument to the people who graduated here. It's going to be a step forward for the children who follow."

After Thanks to volunteers who loved their alma mater, the original doors and lights were re covered and reinstalled in the main hallway as the building was renovated.

Before

Light fixtures, doors, and cabinets were stripped from the main hallway when the building was slated for demolition.













Some 1,000 people packed the newly renovated gymnasium for rededication ceremonies.

The former cafeteria was remodeled into a new library.

The former Hazleton High School, recently renovated as an elementary/middle school, stands proudly on a hill overlooking the city.

One of the many picturesque classrooms of the refurbished 1926 "Castle."

Photos: Phil Latella



North Penn School Board Preserves Much-loved Neighborhood School In Lansdale



uilt in 1926 on 2.3 acres, the York Avenue Elementary School in Lansdale is the oldest and smallest of the 13 elementary schools in the North Penn School District, which comprises three boroughs and seven townships in Montgomery County. Nearly all the 250 pupils served by the York Avenue School, which houses grades K-6, are walkers.

In 2003, as part of a redistricting plan to address population imbalance, the school district proposed pairing the York Avenue School with the Oak Park Elementary School, a suburban school in an adjacent township that has few walkers. Under the plan, the York Avenue School would have housed kindergarten through second grade, and the Oak Park School would have housed third grade through sixth grade. About half the York Avenue children would have been bused to the new school, and vice versa.

The North Penn School Board conducted a hearing in which scores of parents emphasized the importance of keeping York Avenue as a local neighborhood school. Others wrote letters to the local newspaper. "I don't think I'd be in the borough if not for the school," said one parent. "It is about seeing our schools remain kindergarten through sixth grade so that siblings, mentors and reading partners remain together," wrote another.

The Lansdale Borough Council unanimously passed a resolution requesting the North Penn School Board to retain York Avenue as a K-6 school. Council noted that many families chose Lansdale specifically so their children could walk to a neighborhood school. "From the borough's perspective, this school is es-

Nestled in the heart of a traditional neighborhood, Lansdale's York Avenue Elementary School (outlined by red border) has served four generations of children who have walked to school.



sential to the quality of life of Lansdale," said Borough Manager Lee Mangan.

The school board listened. Although a redistricting plan was implemented, changes were kept to a minimum, and all North Penn elementary schools remain K-6. In January 2007, the school board voted unanimously to authorize \$7 million in additions and renovations at the York Avenue School, including a new library, administrative area, and music and art rooms.

"The school board was open-minded and took our concerns very seriously, " said Kevin Dunigan, a York Avenue parent and member of the Lansdale Planning Commission. "The board recognized the issue wasn't just about numbers, but the vitality of an older neighborhood that is attractive largely because of its historic elementary school."

Image Provided by Pictometry International Corp



The North Penn School Board recently approved \$7 million in additions and renovations to the York Avenue School.

Points to Remember



Acreage

The Pennsylvania Department of Education has no acreage requirements. The amount of land needed to support a district's educational and athletic programs is a local school board decision. For example, many Scranton School District buildings are sited on small parcels. West Scranton High School and its athletic fields, left, cover just 5.3 acres of land, and many Scranton neighborhood elementary schools are located on an acre or less. Walkability is considered more important than spacious grounds.

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Cost

PDE's experience has shown it is generally less expensive to renovate an existing school than build a new one, especially considering the cost of land acquisition and development. Renovations in 2000 to Pottstown's 1932 middle school, right, cost \$108 per square foot, while an addition cost \$136 per square foot.



Lifespan

A well-constructed building can last indefinitely with periodic renovations. Often, a building constructed in the early 1900s may be more solid than those built in the 1950s and 1960s, when inferior materials and construction techniques were common. Renovations and new construction are planned for next year at Allentown's 1916 William Allen High School, left, which will continue its service well into the 21st century.

New addition \$136 sq. ft.

Renovations \$108 sq. ft.



Environment

The "greenest" building is the one you don't have to build. Reusing existing structures makes the most efficient use of land and conserves resources. Their strategic location in established communities makes them more accessible to students and parents. The Reading School District will renovate and rebuild the former St. Joseph's Hospital, right, into a second high school to relieve overcrowding at its 1926 high school. Landmark elements like the 1884 bell tower and chapel will be retained and renovated for new uses.



21st Century Instructional Program

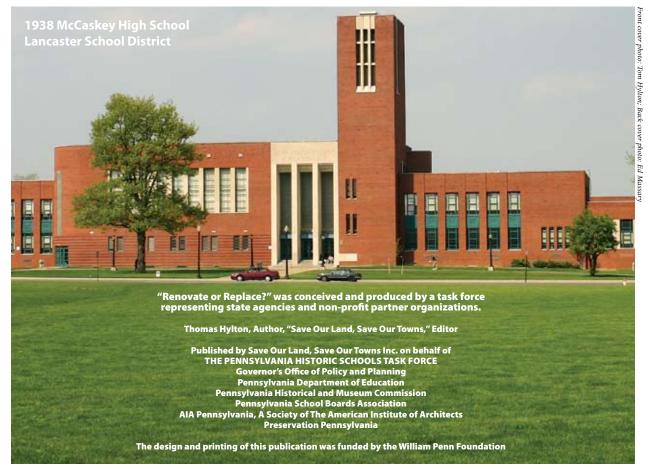
With creativity and flexibility, historic buildings can be renovated to provide a 21st century instructional program for young Pennsylvanians. Outmoded gymnasiums, libraries and cafeterias can be reconfigured for other uses. Modern heating, ventilating, cooling and technology systems can be retrofitted above ceilings or in pipe chases. At right, an old YWCA building in downtown Harrisburg has been transformed into Sci-Tech High , serving 500 students and employing state-of-the-art technology.





Community Character

Historic schools serve as landmarks that give communities a sense of identity and cohesiveness. The 1923 Haverford Middle School, left, was originally built as Haverford's high school and converted when the current high school was built in 1956. Soon the middle school will undergo extensive alterations and renovations so it can continue serving Haverford Township for generations to come.



Andrew Mellon Middle School Mt. Lebanon School District Built 1937 / Renovated 1998 Burt Hill Architects

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