



**OFFICE OF THE HOUSE
DEMOCRATIC POLICY COMMITTEE**

REPRESENTATIVE RYAN BIZZARRO, CHAIRMAN

SUBCOMMITTEE ON PROGRESSIVE POLICIES FOR WORKING PEOPLE
REPRESENTATIVE ELIZABETH FIEDLER, CHAIRWOMAN

Virtual Hearing: Toxic Schools

Thursday April 8 | 3 p.m.

Hosted by

State Senator Vincent Hughes | State Representative Elizabeth Fiedler

3 P.M. PANEL 1

Arthur Steinberg, President, *American Federation of Teachers Pennsylvania*
Chief Trustee, *Philadelphia Federation of Teachers Health and Welfare Fund*

Jerry Jordan, President
Philadelphia Federation of Teachers

Jerry Roseman, Director of Environmental Science
Philadelphia Federation of Teachers Health and Welfare Fund

Questions from legislators

3:45 P.M. PANEL 2

Dr. Marsha Gerdes, Senior Psychologist
Children's Hospital of Philadelphia Policy Lab

Attorney Matthew Barrett, Parent Advocate
Scranton Area School District Student

Dr. Mark Holtzman, Superintendent
McKeesport Area School District

Questions from legislators

4:15 P.M. PANEL 3

Rick Bloomingdale, President
PA AFL-CIO

Brendan Lupetin, Partner
Meyers, Evans, Lupetin, and Unatin

Questions from legislators

follow @padempolicy online // www.pahouse.com/policy | [facebook](#) | [twitter](#) | [instagram](#)



AFT Pennsylvania
A Union of Professionals

AFT Pennsylvania
President Arthur Steinberg

*Testimony to the
PA House Democratic Policy Committee
Hearing on Toxic Schools*

Thursday, April 8, 2021 | Virtual

Thank you, Chairman Bizzarro, Vice Chairperson Fiedler, and distinguished members of this committee for allowing me to testify today.

I am Arthur Steinberg, President of AFT Pennsylvania, the Pennsylvania affiliate of the American Federation of Teachers. I am proud to appear today on behalf of our 36,000 members and 61 locals to discuss one of the gravest topics in our Commonwealth, the safety of our schools.

In addition to my role in our statewide union, I am Chief Trustee of the Philadelphia Federation of Teachers Health and Welfare Fund, where I work closely with my two fellow panelists. The work that we, especially Jerry Roseman, have done out of necessity is why we have the quality of the data from Philadelphia Schools presented today.

The COVID-19 pandemic has shed much-needed light on the safety of students, educators, and staff in our school buildings, but this discussion long pre-dates last March.

Due in large part to the efforts of our union and members of the Fund Our Facilities Coalition, of which [at least Rep. Fiedler] is a member, it would be easy for many to assume that toxic schools are just a Philadelphia problem. I am here to tell you in no uncertain terms that this could not be further from the truth.

In January 2020, an elementary school gym in Scranton was closed after damaged asbestos was discovered, and the sink in the nurse's office of another elementary school was turned off due to lead contamination.¹

In 2018, Healthy Schools Pennsylvania released a report concerning radon, water and lead testing, indoor air quality, artificial playing surfaces, cleaning products, construction and renovation projects, and asthma rates, among others from public school districts in Allegheny, Armstrong, Beaver, Butler, Fayette, Greene, Indiana, Lawrence, Washington, and Westmoreland counties. It found that 34% of the districts tested for mold in at least one of their school buildings, and asthma rates in 22 school districts exceed the state average.²

For those of your colleagues who claim to be fiscally responsible, there are long-term economic savings to be had from the abatement of toxins from schools. A 2009 study of the social and economic benefits of lead hazard control suggests that each dollar invested in lead paint hazard control results in a return of \$17-\$221.³ And that's just lead.

¹ <https://www.wnep.com/article/news/local/lackawanna-county/asbestos-unsafe-lead-levels-found-in-scranton-schools/523-55352902-2a7c-4bdc-aa89-e2e6c6aaffe1>

² Buford, M., Holmes, C., Mariko, H., Mehling, M. Naccarati-Chapkis, M. (2018). *The State of Environmental Health in Southwestern Pennsylvania Schools*. Healthy Schools PA: Pittsburgh, PA. [\[Download Here\]](#)

³ Gould, E. (2009). Childhood lead poisoning: conservative estimates of the social and economic benefits of lead hazard control. *Environmental Health Perspectives*, 117(7), 1162-1167. [\[Download Here\]](#)

The Pennsylvania Department of Education published the results of a School Facilities survey in 2014 in which of the nearly twelve hundred school buildings represented, over seventy eight percent of them were built before 1980.⁴ It is assumed that any building constructed prior to 1980 used asbestos-containing materials, and those constructed prior to 1978 used lead-containing materials. And the older the building, the more likely there has been damage or decay that have provided vectors for contact with people.

Air pollution from energy production, like oil and gas extraction, coal mining, and oil refining cause significant economic damages to large swathes of communities across old industrial states like Indiana, Ohio, and Pennsylvania.⁵

And that is to say nothing of the air quality in individual school buildings.

The most glaring issue our team found while preparing for today's testimony is the sheer lack of information and data about toxins in schools across the Commonwealth. While we have done an excellent job in Philadelphia, where PFT is one of two teachers' unions in the nation that employes an environmental scientist, the vast majority of our 500 districts do not collect and/or publicize their issues with toxins in schools.

We hope to work with the members of this committee to build a reporting regime for all Pennsylvania schools, which a robust statewide dashboard and data collection program.

At the end of the day, students, their parents, our educators, and the staff who enter our schools each day have a right to be safe from toxins like lead and asbestos. The first step toward ensuring their safety is building an understanding of the state of each school building in our Commonwealth.

Thank you again for allowing us to offer our thoughts and for holding a hearing on such an important issue. I'll be happy to take any questions you might have.

⁴ <https://aiapa.org/wp-content/uploads/2018/02/School-Facilities-Survey-2014.pdf>

⁵ Jaramillo, P., & Muller, N. (2016). Air pollution emissions and damages from energy production in the US: 2002–2011. *Energy Policy*, 90, 202-211. [\[Download Here\]](#)

*Jerry T. Jordan
President
Philadelphia Federation of Teachers*

*House Democratic Policy Committee
Hearing on Toxic Schools
April 8, 2021*



PHILADELPHIA
FEDERATION of TEACHERS



PHILADELPHIA

FEDERATION of TEACHERS

House Democratic Policy Hearing: Toxic Schools
Jerry Jordan, President, Philadelphia Federation of Teachers
Virtual | Thursday, April 8, 2021 | 3:00PM

Good afternoon. I'm Jerry Jordan, President of the Philadelphia Federation of Teachers. Thank you Representative Fiedler for your remarkable leadership on the toxic schools crisis and your ongoing partnership in our Fund Our Facilities Coalition. Thank you Chairman Bizzarro, Representative Fiedler, and all members of the committee for hosting this important hearing today.

The toxic schools crisis in Philadelphia and across the commonwealth is emblematic of just how profoundly the deep seated, systemically racist underfunding of our schools has impacted our students. Our young people, the majority of whom are Black and brown and experiencing poverty, have had to endure conditions that would never, *ever* be tolerated in wealthier, whiter school districts.

The school facilities crisis is a searing example of this atrocious inequity, and it's exactly why we formed the [Fund Our Facilities Coalition](#) to identify real, workable solutions to the **decades of neglect that have left toxic conditions plaguing our schools.**

- Decades of neglect that led SEIU worker Chris Trakimas to lose his life after a boiler explosion at FS Edmonds.
- Decades of neglect that lead then first grader Dean Pagan to suffer lead poisoning after eating lead paint chips from his desk.
- Decades of neglect that led to a devastating mesothelioma diagnosis for PFT member Lea DiRusso, who spent her career teaching in buildings with known, damaged asbestos.
- Decades of neglect that led Chelsea Mungo, then a fourth grader at Cassidy Elementary, to write to her State Senator and ask why the color of her skin impacted how her school is funded, and shared with him that she feels like she is in prison or a junkyard when she is in what is supposed to be a sacred place of learning.

The Fund Our Facilities Coalition, founded by the PFT and now more than 70 members strong, including many of you, has identified the most critical infrastructure issues that must be addressed. In a moment you will hear from our Environmental Scientist Jerry Roseman, who will outline some of those issues. But let me just say this: for \$200

House Democratic Policy Hearing: Toxic Schools

Jerry Jordan | 4/8/21

P. 2

million dollars, we could remediate the most pressing environmental concerns within more than 225 School District of Philadelphia buildings.

That would include, but is not limited to, electrical upgrades, lead and asbestos remediation and stabilization, ventilation upgrades, and COVID related safety protocol. I am including our Fund Our Facilities Coalition two-pager, as well as our [January 2021 press release which outlines what this \\$200M can achieve](#).

The state has a significant obligation here to ensure that our students have access to a thorough and efficient system of public education. And when students are learning in conditions that can quite literally poison them, we are shirking our collective responsibility.

There is always money for what we prioritize. Always.

And let me just close by saying that \$200M is a floor, not a ceiling. And it must come with significant oversight and community involvement. As a society, we have a very important question in front of us, and it's one that really should be easy for everyone to answer: do our students and educators deserve to work and learn in schools that are healthy and safe?

Thank you for this opportunity, and I look forward to continuing to work with each of you.

Attachments

APPENDIX

*Jerry T. Jordan
President
Philadelphia Federation of Teachers*

*House Democratic Policy Committee
Hearing on Toxic Schools
April 8, 2021*



PHILADELPHIA
FEDERATION of TEACHERS



FUND OUR FACILITIES

IS A COALITION OF ELECTED OFFICIALS, LABOR ORGANIZATIONS AND COMMUNITY GROUPS FOCUSED ON ENSURING CRITICAL INVESTMENT IN OUR SCHOOL FACILITIES.

We are advocating for a commonsense agenda based on the following:

- Every child across the Commonwealth has the right to a quality public education in a school that is safe, healthy, and clean.
- For too long, students across the state have suffered from catastrophic disinvestment in their schools, resulting in physical and environmental hazards in their school buildings.
- As leaders in our communities, we have a moral imperative to work in a unified way to ensure that no child is ever again poisoned in their classroom.
- **NEW, January 2021:** As shameful conditions in school facilities have persisted without comprehensive remediation, facilities needs have increased. Additionally, the onset of the COVID-19 crisis has exacerbated many of the existing needs within buildings, specifically around air quality and ventilation.

New, January 2021: Our Coalition is calling on an immediate investment of \$200 Million to remediate the most pressing environmental concerns within more than 225 School District of Philadelphia buildings.

- More school cleaning and maintenance staff
- Rodent & pest control; asthma control
- Accelerated & expanded lead paint and asbestos stabilization
- Repair of water leaks
- Electrical & lighting upgrades
- Bathroom upgrades
- Window replacement
- NEW, January 2021: COVID related response and upgrades (including air quality)
- Improved strategic planning, data management, collaboration, and quality control efforts

This \$200 million will help ensure Philadelphia's schools are safe, healthy, and clean. It does not negate the need for the billions of dollars needed for a longer-term facilities investment plan.

While this figure is specific to Philadelphia's needs, our Coalition is founded on the principles of equitable access across the state and nation. We are part of a broader nationwide "Fund Our Future" investment agenda for public schools, and we hope that our collective efforts can serve as a model for other cities and states looking for sensible ways to ensure the safety and health of our children.

See Reverse for Coalition Partners | Updated January 2021 | pft.org/FOF

PHILADELPHIA
FEDERATION of TEACHERS

fund our FUTURE

AFT Pennsylvania
A Union of Professionals

City Council
PHILADELPHIA
PHLcouncil.com
Councilman Darrell L. Clarke
Darrell L. Clarke, President

POWER
Cherelle PARKER
COUNCILWOMAN
9TH DISTRICT

CONGRESSMAN
BRENDAN BOYLE

Councilmember (At-Large)
HELEN GYM

PA State Representative
House Democratic Leader
191st District
Joanna McClinton

ELIZABETH FIEDLER
STATE REPRESENTATIVE

MALCOLM KENYATTA
PA STATE REPRESENTATIVE

LABOR UNITED FOR SAFE AND HEALTHY JOBS
PHILAPOSH
Since 1975

THE PUBLIC INTEREST LAW CENTER
PHILADELPHIA CITY COUNCILMEMBER AT-LARGE
DEREK S. GREEN

STATE SENATOR
VINCENT HUGHES
7

REP. DONNA BULLOCK
195th Legislative District
Philadelphia County

Senator SHARIF STREET
Representing the 3rd Senatorial District

PENNSYLVANIA SPOTLIGHT

STATE REPRESENTATIVE
MORGAN CEPHAS

STATE REPRESENTATIVE
DISTRICT 179
JASON DAWKINS

KENDRA BROOKS
COUNCILMEMBER AT-LARGE

PCCY public citizens for children + youth

Katherine Gilmore Richardson
COUNCILMEMBER AT-LARGE

STATE REPRESENTATIVE
DISTRICT 172
KEVIN BOYLE

PENNSYLVANIA AFL-CIO
CHARTERED JUNE 1960

LEANNE KRUEGER
STATE REPRESENTATIVE

ACLU AMERICAN CIVIL LIBERTIES UNION FOUNDATION
Pennsylvania

Christine M. TARTAGLIONE
STATE SENATOR
2nd DISTRICT

PHILADELPHIA COUNCIL
AFL-CIO

STATE SENATOR
NIKIL SAVAL
1

COUNCIL MEMBER
ISAIAH THOMAS

WORKING AMERICA
AFL-CIO

APRI
A. PHILIP RANDOLPH INSTITUTE

JARED SOLOMON
STATE REPRESENTATIVE
PA 202

STATE SENATOR
JOHN KANE
9

KENYATTA JOHNSON
2ND DISTRICT COUNCILMEMBER

state government
ART HAYWOOD
PARTICIPATION IS POWER
Serving the 4th Senatorial District

MARK SQUILLA CITY COUNCILMAN - DISTRICT 1
STATE REP 175th MARY ISAACSON
A STRONG PROGRESSIVE DEMOCRATIC WOMAN.

THE PITTSBURGH FEDERATION OF TEACHERS

REP. KINSEY
201ST LEGISLATIVE DISTRICT

JAMIE GAUTHIER
3RD DISTRICT COUNCILMEMBER

For Our Future PA
Action Fund

STATE REPRESENTATIVE
DISTRICT 188
RICK KRAJEWSKI

STATE REPRESENTATIVE
MARY JO DALEY

Cindy Bass
8th District Councilwoman
City of Philadelphia

STATE REPRESENTATIVE
JOE Ciresi State Representative
146th District
MIKE ZABEL STATE REPRESENTATIVE
163RD LEGISLATIVE DISTRICT

PHILADELPHIA **JOBS WITH JUSTICE**

SEIU 668
Stronger Together

LOCAL 3012
"An Injury to One is an Injury to All"

- Rep. Regina Young
- Rep. Darisha K. Parker
- Rep. Danilo Burgos
- Rep. Ben Sanchez
- Rep. Ed Neilson
- Rep. Liz Hanbidge
- Rep. Amen Brown
- Rep. Carol Hill-Evans
- Rep. Dave Delloso
- Rep. Tina Davis
- Rep. Joe Webster

HEAT & FROST INSULATORS & ALLIED WORKERS
LOCAL 14 PHILA. PA.

STATE REPRESENTATIVE
DISTRICT 200
CHRIS RABB

SENATOR **TIM KEARNEY**
26

TIM BRIGGS
STATE REPRESENTATIVE
PA 149th

BROTHERHOOD OF THE SEA
SIU AFL-CIO

STATE REPRESENTATIVE
JENNIFER O'MARA

PASNAP

LiUNA! Feel the Power
UDC

District Council 88
AFSCME
We Make Pennsylvania Happen

PHILLY HEALTHY SCHOOLS INITIATIVE

Allegheny Labor Federation
Councilmember Curtis Jones

WORKING FAMILIES PARTNERSHIP

STATE REPRESENTATIVE BRIAN JIMS
163RD LEGISLATIVE DISTRICT

Fund Our Facilities Coalition Announces \$200M Demand, Coalition Expansion

January 14, 2021



NEWS RELEASE

Philadelphia Federation of Teachers
Jerry T. Jordan, President



PHILADELPHIA— The [Fund Our Facilities Coalition \(FOF\)](#), established in early 2019 in response to the ongoing facilities crisis in Philadelphia’s public schools, continues to grow and further our demands for safe and healthy schools.

Today, the Coalition released an [updated demand](#) and [member list](#). Newly elected officials outlined their commitment to the Coalition and their decision to immediately join as partners:

Representative Rick Krajewski (HD-188) noted, “I am well aware that I am who I am today because of my education. I am here because I had a safe school to go to and I had teachers who believed in me and invested in my growth. The children in West and Southwest Philadelphia deserve high quality education in safe healthy schools and teachers and staff deserve to be treated with dignity and respect. That is why I support Fund Our Facilities and will fight alongside teachers and students for the right to high quality public education.”

Senator John Kane (SD-9) said, “We can’t have equity without equitable public education. Right now, we have school buildings that are falling apart, that aren’t safe to be in, and we’re expecting students to learn in those conditions. That is unacceptable. I’m proud to stand with my fellow legislators and our partners in calling for additional funding and resources for our schools and our students.”

Senator Nikil Saval (SD-9) said, “A society is only as good as how it cares for its most vulnerable, and I’m proud to be joining this list of elected officials and community organizations coming together to fight on behalf of Philadelphia children. As a parent, I’m committed to ensuring all our children have the quality education they deserve, in spaces that are safe and nurturing for students and teachers alike.”

The Coalition, now more than 70-members strong, began with an immediate ask of \$170M. However, due to years of inaction as well as the onset of the devastating COVID-19 crisis, FOF has developed a \$200 Million demand based on current projections of need.

House Democratic Leader Joanna McClinton (HD191) stated, “Now is the time to fund our facilities in Philadelphia to ensure that when students

finally return to the classroom, the buildings where they are taught are clean, safe, and usable. If we do this, we can increase the chances that our students will have a positive learning experience.”

On the Coalition’s growing footprint and our reassertion of our demands, **PFT President Jerry T. Jordan** said, “Following a year unlike any we’ve ever seen, and on the heels of four years of national devastation, our Coalition’s commitment to advancing an equity agenda is more critical than ever. Our students, educators, and communities deserve nothing less. We are not asking for \$200 Million. We are demanding it. Budgets are always reflections of values and priorities. The question in front of us as a society is do we value the children we serve in the School District of Philadelphia, a majority of whom are students of color and who are experiencing poverty?”

AFT President Randi Weingarten noted, “Our children must feel safe and welcome in their schools and their communities, and our educators have a right to be safe too. That’s why it’s imperative for our local, state and federal officials to do their part to address safety issues like asbestos, broken heat and air conditioning systems, undrinkable water and crumbling infrastructure. The Fund Our Facilities coalition formed to identify real solutions to the enormous facilities issues in our schools, and one thing is clear: we need massive federal investment. The outgoing Trump administration and Republican Senate leadership fell far short when it came to providing real infrastructure investment for our country’s public schools, even as COVID-19 made the needs far worse. As we welcome the Biden-Harris administration, we look forward to working together to prioritize the needs of our nation’s public school buildings.”

Philadelphia is poised to receive hundreds of millions in COVID relief funding, and both city and state budget season will be well underway shortly. It is imperative for our leaders at the District, City, State, and Federal levels to recognize and resolve this critical need.

Our Coalition is calling on an immediate investment of \$200 Million to remediate the most pressing environmental concerns within more than 225 School District of Philadelphia buildings:

- More school cleaning and maintenance staff
- Rodent & pest control; asthma control
- Accelerated & expanded lead paint and asbestos stabilization
- Repair of water leaks
- Electrical & lighting upgrades
- Bathroom upgrades
- Window replacement
- NEW, January 2021: COVID related response and upgrades (including air quality)
- Improved strategic planning, data management, collaboration, and quality control efforts

Founding Coalition Partner **Representative Elizabeth Fiedler (HD184)** outlined the need for \$200M: “From our district in South Philadelphia across the city and state, our educators and children often face the consequences of elected officials’ unwillingness to prioritize their health and safety. This deeply troubling reality continues to unfold in schools across Philadelphia where toxins and dangerous conditions persist. I am proud to be part of the call from within our communities, to fully and fairly fund our schools — and at the top of that list must be fulfilling the Fund Our Facilities’ call for an immediate investment of \$200 million to remediate the most urgent environmental hazards.”

This \$200 million will help ensure Philadelphia’s schools are safe, healthy, and clean. It does not negate the need for the billions of dollars needed for a longer-term facilities investment plan.

Councilmember Helen Gym (At Large) highlighted the need for federal and state investment and said, “An airborne virus that has killed hundreds of thousands of Americans underscores the importance of investing in a meaningful plan to modernize our schools immediately. We need President Joe Biden to fulfill his promise to fund school infrastructure investments. Our state must fund PlanCon which is a statewide school infrastructure program. And our school district must expand its maintenance staff. We must make the physical environment of our schools a top priority at the local, state and federal level.”

Senator Vincent Hughes (SD7) noted the ongoing goals of our Coalition, and stated, “Our children deserve to go to clean, safe 21st century schools and I will continue to fight until we can say that is the case for every schoolchild in the city of Philadelphia. I stand with the Fund Our Facilities Coalition to help make that goal a reality. We must continue to persevere in the efforts to raise awareness for this cause so that we can continue to make positive strides in securing the necessary resources for our schools. The School District has an opportunity right now to perform critical infrastructure work in its facilities – and we need to ensure they have the resources to do that.”

Coalition partners pointed to our moral obligation and doubled down on their commitment to this urgent cause:

Philadelphia Delegation Chair Representative Jason Dawkins (HD179) noted, “Fighting for fair and equitable funding for our school buildings is one of the most important things any of us can do. The children of Philadelphia, and the amazing teachers that educate them, have been forced for too long to learn and work in school in buildings that are toxic and unsafe. I’m proud to stand beside Coalition partners and fight for the funding needed to give our children the education they deserve, one that takes place in a safe and modern learning environment.”

City Council Majority Leader Cherelle Parker (CD9) said, “When the Coalition started two years ago, we were focused on a crisis that was the byproduct of aging and crumbling infrastructure. Covid-19 has increased our challenges exponentially. We must respond by ensuring that the necessary funding is provided to guarantee that the children in the School District of Philadelphia have all they need to become successful adults as we move through this crisis. The public health and safety of our children must be our number one priority. Put in perspective, this is a small ask.”

Councilmember Derek Green (At Large) noted, “As a public school parent and member of this Coalition, I am proud of the work that we have done to address the conditions of our schools. We have raised the alarm that these buildings are in desperate shape, and though the progress we’ve made to date cannot be understated, there is still much more work to do. We need our state government to provide the fair funding that we need so that we can address this crisis.”

Representative Mary Isaacson (HD175) said, “As a vocal member of the Fund Our Facilities Coalition, I will never stop fighting for healthy and safe classrooms for all of our students. This pandemic cannot make us forget the fact that schools filled with lead, asbestos, and environmental hazards put our kids and teachers at risk every day before COVID19 hit. We have a constitutional and moral obligation to do better by our students and make certain they have safe halls and classrooms to return to.”

Pennsylvania AFL-CIO President Rick Bloomingdale said, “No matter where they’re from, every child in Pennsylvania has the right to a quality education in a safe school. It’s time we fund Pennsylvania’s future by creating jobs and building safe schools.”

POWER Interim Executive Director Bishop Dwayne Royster added, “POWER Interfaith’s alliance with the Fund Our Facilities Coalition has bolstered our work to end racial bias in state education funding. As we strive to support Philadelphia schools in meeting the urgent challenges of COVID, Fund Our Facilities provides an open forum for lawmakers and

community advocates to work together so that the city's kids get their fair share of relief funding.”

Representative Malcolm Kenyatta (HD181) said, “We know that the Commonwealth can do so much more to address the toxic classrooms and crumbling school buildings that are all too common for the children of Philadelphia. That’s why I’ve raised my voice in Harrisburg over the past year – and will continue to this year — about the funding needs so passionately highlighted by this coalition and aimed at protecting the health and lives of people in our schools.”

Representative Morgan Cephas (HD192) stated, “Just because children are learning virtually because of COVID-19 doesn’t stop our fight to secure funds to rid their schools of dangerous toxins like lead, mold and asbestos. The fact that plans are underway to replace Cassidy Elementary in Overbrook, which has been considered the worst building in the district, is evidence of our progress. However, there’s still much to be done to ensure all students have a safe learning environment to return to.”

Philadelphia Council AFL-CIO President Patrick J. Eiding said, “The Philadelphia Labor Council has been a part of the Fund Our Facilities coalition since its inception and we will continue our support until ALL children and teachers have a clean and safe environment to learn and grow.

Senator Christine Tartaglione (SD2) said, “Delivering equitable and safe access to public education has always been a fundamental responsibility for public officials of all levels, and long been a difficult challenge. The COVID-19 pandemic has not changed anything in that regard. The district, city, state, and federal government must come together to provide the resources and initiatives that will protect the health of all students, educators, staff, and visitors.”

Representative Leanne Krueger (HD161) said, “Whether students and educators should be forced to learn and work in schools that are dangerous to their physical health is not a geographic question, it is not a political question, it’s a moral question. Pennsylvania has failed for too

long to invest in school infrastructure. As a former member of the PlanCon Advisory Committee, I saw firsthand facilities across the Commonwealth in dire need of capital investment, and joined the Fund Our Facilities Coalition because we need action now.”

Senator Art Haywood (SD4) shared, “The conditions of many public schools are deplorable. The state has a duty to provide school buildings and facilities that work to promote learning. We are failing that test. The work to fund our schools is essential.”

Representative Kevin Boyle (HD172) pointed to the state’s constitutional obligation and noted, “The right to education in a safe and healthy building is a constitutional right. The reality however for far too long is students, teachers, administrators and other staff have been exposed to toxic and dangerous conditions. I joined this coalition to promote fair funding so we can address these unsafe conditions.”

Representative Jennifer O’Mara (HD164) said, “I joined FOF because I believe that in order to receive an adequate education, every student must feel safe within their classroom. A child’s zip code, race or socioeconomic status should never play a role in their future success, or at this point in time, their health and safety.”

Representative Jared Solomon (HD202) noted, “I consider it my duty to ensure all children have the opportunity to thrive and reach their fullest potential, which is why I am a proud member of the Fund Our Facilities Coalition. We have made a lot of progress, but we have more work to do, to ensure that the immediate health and safety concerns our kids face are addressed. If our kids are going to have a shot at academic success they need school buildings that are clean, safe, and vibrant.”

Councilmember Katherine Gilmore Richardson (At Large) said, “As a graduate, former teacher, and now parent in the School District of Philadelphia, it is vitally important that we ensure a safe and healthy environment for our students to learn and grow. We cannot expect our children to excel when we put them in hazardous and poorly maintained environments. This is vitally important as we resume in person learning after COVID-19.”

Representative Joe Hohenstein (HD177) said, “I am a member of the coalition because, simply put, our children are our future. That future should not be constrained by dilapidated, neglected buildings. Rather it should be nurtured and cared for by facilities that challenge and stretch a child’s mind to imagine possibilities.”

Representative Dave Dellosa (HD162) said, “Everyone deserves safe, healthy and clean schools to learn and work in. We cannot fail to do our duty to make the needed investments to improve these buildings.

Councilmember Isaiah Thomas (At Large) stated, “As we prepare to return to in-person education, we have to make sure that our students and faculty are returning to a safe learning environment. It’s not enough to keep them safe from COVID-19 – we have to fund our facilities to keep them safe from pests, lead paint, water damages, outdated electrical and the various outdated infrastructures that Philadelphia schools have become too used to. We can’t return to business (and school) as usual – we need to return safer and better!”

Philadelphia Jobs with Justice Executive Director Devan Spear said, “Through our work to hold wealthy institutions in Philadelphia accountable for what they financially owe our public schools via Payments In Lieu Of Taxes, it has become clear that there must be far greater investment from all revenue sources. Other wealthy institutions as well as the state, and federal governments have an obligation to pay their fair share for safe and healthy facilities.”

Councilmember Cindy Bass (CD8) added, “I am a member of the Fund our Facilities Coalition because for generations, our children and those who care and educate them have been in environments that are not just unkempt but actually toxic and dangerous. Funding from the Commonwealth is required immediately to right this decades-long wrong.”

AFSCME District Council 88 Director Tom Tosti said, “No child should have to go to school with the fear and exposure of what Philadelphia kids face every day. The funding that was part of the new relief Bill should be

released so our schools can start cleaning and fixing what has haunted our parents and children for years.”

For Our Future PA Action Fund Executive Director Ashley

McBride noted, “The COVID-19 vaccines offer teachers, staff and families hope that we will soon get back to everyday life — including a return to in-person learning where we know kids learn best. The return to classrooms, however, makes it more important than ever to ensure that our learning facilities are safe for re-entry. In 2021, as we adjust to the new normal, we need to make sure that includes a definitive plan of action from our city, state and federal leaders to address the dangerous state of too many educational facilities across Pennsylvania.”

PA Spotlight Executive Director Eric Rosso added, “Philadelphia teachers face unprecedented challenges including being the target of frequent attacks from bad actors who have exacerbated the financial problems within the School District to pad their bottom lines at the expense of our children. PA Spotlight is proud to join this coalition in fighting for them and lend our efforts to hold those bad actors accountable.”

Representative Joe Ciresi (HD146) said, “Access to a quality public education in a safe and healthy learning environment is the right of every student in the Commonwealth, regardless of ZIP code. Our state needs to make this commitment, which is why I support the Fund Our Facilities Coalition’s push to address these historic inequities and underfunding.”

Senator Sharif Street (SD3) added, “Funding of our educational facilities has never been more critical. The disparities in equitable education funding are well documented. The continued divestment has been critical to the development of hazardous learning environments. Lead and asbestos bring risk of respiratory disease compounded by a pandemic that primarily targets the lungs. The Coalition’s 200 Million demand based on current projections of need is only a first step in ensuring that learning is safe and equitable in our Commonwealth.”

Representative Mike Zabel (HD163) agreed and added, “For the legislature, it is morally imperative that we address the health crisis in Philadelphia’s public schools with all the necessary investments.”

Coalition partner Nicole Fuller, Executive Director of PhilaPOSH summarized, “We are a member of this diverse coalition because this is the village that advocates, fights, and supports Philadelphia educators and children.”

AFT Pennsylvania President Arthur G. Steinberg concluded, “Education equity is one of the civil rights issues of our time. As a union, we are proud to play a part in the Coalition in achieving parity across districts in facilities funding. We appreciate that labor, community, and even some non-profit organizations have stepped up in response to this crisis, and together are demanding that all levels of government provide additional and sustainable funding for all aspects of public education. Our work on facilities funding will not be done until every student, educator, and school staff member is safe from toxins in school buildings.”

###

*Jerry Roseman
Director of Environmental Science
Philadelphia Federation of Teachers Health and
Welfare Fund*

*House Democratic Policy Committee
Hearing on Toxic Schools
April 8, 2021*





PHILADELPHIA

FEDERATION of TEACHERS

House Democratic Policy Hearing: Toxic Schools

**Jerry Roseman, Director of Environmental Science, PFT Health and Welfare Fund
Virtual | Thursday, April 8, 2021 | 3:00PM**

Good afternoon. My name is Jerry Roseman and I am the Director of Environmental Science for the PFT. I want to thank Representative Fiedler, Chair Bizzarro, and all of the members of the House Democratic Policy Committee for providing me an opportunity to testify about dangerous and inadequate school conditions in Philadelphia's public schools.

My work on behalf of the PFT has long involved access to school buildings and spaces for the purposes of performing direct and independent inspection and evaluation of environmental hazards and failing facility conditions and documenting the dangers identified.

Although hired by the PFT, I am neither a union employee nor union member and, as a public health environmental science practitioner, I see my primary obligation and duty as protecting the health, safety, and welfare of school staff and students – those who are most directly impacted by toxic and crumbling schools. My role for the PFT is to advise them about, and to advocate for, sustainable, system level improvements.

The conditions I continue to see on a regular and routine basis when I assess schools are distressing and simply have no place in an “adequate” school environment. When I see what people are facing in our school buildings, I often have a hard time believing that those we charge with protecting school students and staff are properly doing the jobs we expect them to do and in the way we expect them to do them.

When I see major construction jobs that have to be shut down because of the serious health impacts associated with the project activities; when we hear about a teacher developing mesothelioma after working for 25-30 years in schools with accessible damaged asbestos insulation materials; and when 10 schools had to shut down, in whole or in part, just between September of 2019, the start of a school year, and March of 2020; and when the pandemic forced the closures of all Philadelphia schools, I wonder how much more we can accept without making substantive change.

Readily accessible asbestos materials and unacceptable exposure conditions continue to exist in many spaces in many of our schools – this should not be. Damaged and flaking lead paint and lead paint chips, dust, and debris is still routinely found on classroom surfaces where children can ingest this toxin. Poorly maintained and malfunctioning heating, ventilation, and air conditioning systems results in mold growth as well as compromising the ability of students and staff to remain in their rooms and schools when catastrophic failures occur. Water damage and leaks from roofs, plumbing and steam heating systems result in major costly and dangerous impacts to students and staff and compromise building equipment supplies and materials. Construction

House Democratic Policy Hearing: Toxic Schools

Jerry Roseman | 4/8/21

P. 2

activities are frequently too poorly controlled allowing project activities to place occupants at unacceptable risks to dust, noise, and sometimes even asbestos exposures.

At the end of my written testimony I have included several photos highlighting what I've seen, documented, and brought to the District's attention on many occasions and, I must say, that the existence of these conditions doesn't easily support District statements about the health and safety of all staff and students being of highest priority (to them)— if that were true, these things I see whenever I assess schools would not be present.

I know that all of you listening here today are aware that this is not the first time these types of conditions have been reported, and that these are not “one-off” types of situations.

About five (5) years ago in 2015 – 2017, the School District contracted with Parsons Environment & Infrastructure Group to perform a comprehensive Facility Condition Assessment in Philadelphia's schools – they did so and found, then, that there was a deferred maintenance backlog of 25 years, \$4.5 billion in outstanding maintenance need, and another \$3-\$4 billion in capital investment required to ensure even basic and adequate schools – needed work didn't occur because needed dollars weren't supplied, and we shouldn't be surprised, therefore, that we are now even further behind.

According to the best and most accepted national data provided information and studies from groups including the 21st Century School Fund, the Center for Green Schools, and the National Council on School Facilities, among others – about 7% of the total infrastructure value of a school portfolio must be spent every year to upgrade, maintain, and ensure buildings are safe and adequate for occupancy. The SDP buildings have been valued at about \$14 bn (by Parsons in 2017) and so Maintenance, Operations, and Capital budgets should, collectively, total as much as \$980 million per year (.07 x \$14 bn), at the minimum, to ensure we have adequately safe, healthy, and educationally effective school buildings. We are lucky when our funding levels for maintenance and operations and for capital programming is even 33% - 50% of that number.

I have said many times that school facility conditions are not the most important element of a great, equitable, and high quality education – that pride of place falls to educators, school leaders and others that are responsible for educating our children. Play spaces, technology, class size, educational materials, and supplies, all of these things are arguably more important as well. But, at least adequate facility conditions are a fundamental and foundational need – the base of a Maslow-type hierarchy – on which all else is built.

If our school infrastructure is failing, then: we are placing the health and safety of our children and staff at risk; the District is compromising educational achievement and

House Democratic Policy Hearing: Toxic Schools

Jerry Roseman | 4/8/21

P. 3

academic opportunity; the District is failing to meet the promises of a socially, racially, and economically just system; the District is eroding public trust and confidence in our public schools; and the District is wasting taxpayer dollars – we have to stop the bleeding and take advantage of a real opportunity to turn this around now by kicking off a sustainable improvement process by engaging in and implementing a participatory data collection and planning effort.

The PFT, and its organizational partners, have long advocated for more money for schools in general and for improving school facility conditions specifically. The PFT has helped organize and support the Fund Our Facilities Coalition and, on their behalf, I have worked to put together plans and priorities for the steps that should be taken to ensure we can engage in sustainable school improvement. The PFT, and other stakeholders, have also tried to work with SDP leaders and managers to develop collaborative plans and efforts but, unfortunately, with much too little success. A change is needed. A change that involves additional financial and human resources, to be sure, but one that also must improve governance, transparency, accountability, and public participation.

As an experienced public health environmental science “expert” practitioner, as a life-long Philadelphia resident and product of the Philadelphia public schools, and as one with a professional, political, and personal commitment to protecting, strengthening, and improving our schools I am proposing the immediate implementation of the following elements:

- **Implement Major Increases in Transparency & Data Sharing** – those of us working with the SDP well know how difficult it can be to get information and data, especially in a timely way, from the District. The District needs to immediately begin a process, in collaboration with its stakeholders, to make all data and information more available and usable.
- **Establish a Real Facilities Environmental Advisory Committee** – following the lead poisoning of Dean Pagan, a 1st grade student at Comly ES, from school-based lead paint exposures, the District agreed to establish a Lead Paint Facilities Advisory Committee including representatives of the PFT, SEIU-32 BJ, CASA, the Philadelphia Healthy Schools Coalition, and other public stakeholders.

That committee met regularly, functioned to review and help improve lead paint assessment processes, worked with the District to develop priorities and approaches for addressing lead paint hazards, and created educational materials and public outreach and communication efforts.

The Lead Paint Committee was a success story and District leaders and managers promised to expand the Committee’s functions and activities to include oversight and

House Democratic Policy Hearing: Toxic Schools

Jerry Roseman | 4/8/21

P. 4

participation related to facility conditions and environmental hazards more broadly, not just those related to lead paint.

Unfortunately, and without warning or discussion, the District decided to create their own Environmental Advisory Committee, using a very different structure that does not allow for, or permit, real oversight, participatory planning, priority setting, or solution development.

The District should live up to its promises and representations and immediately agree to work in collaboration with the Facilities Environmental Advisory Committee as previously agreed.

- **Establish “the ABCs” for Buildings:** We must set “Adequate Building Conditions”—the minimally acceptable environmental health standards that should be met by all of our schools buildings.

- **Address the most critical environmental health threats in our schools** with an action plan to remediate them in the fastest way possible.

- **Develop a “Master Plan” for our schools:** Most large school districts across the country have a Facilities Master Plan to prioritize and ensure schools are healthy and safe. The Philadelphia School District, however, does not. We need to change this.

At the heart of all of these measures is the need to change the District’s long-standing approach of promising transparency, input, and collaboration but failing to follow through on its promises as a way to ensure that stakeholders have a real voice in all of the above and that for each of the listed elements coordinated and cooperative action is taken.

Thank you.

Attachments

APPENDIX

*Jerry Roseman
Director of Environmental Science
Philadelphia Federation of Teachers Health and Welfare Fund*

*House Democratic Policy Committee
Hearing on Toxic Schools
April 8, 2021*



SELECTED PHOTOS (2017 – 2021)

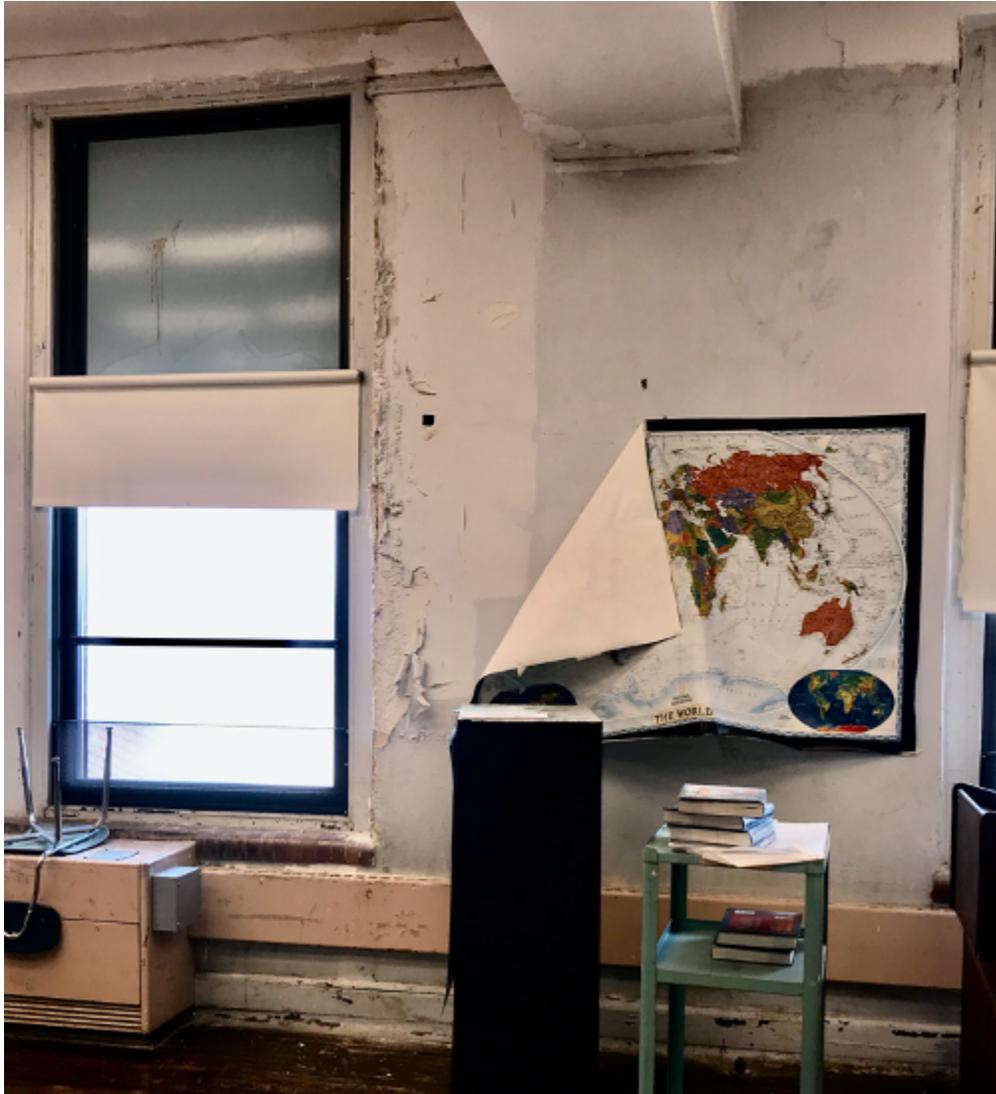


Photo 1-- ES Classroom — Antiquated classroom unit ventilator, damaged/flaking lead paint, and obvious signs - and damage associated with - moisture and water intrusion.



Photo 2 -- ES Classroom — Extreme water damage resulting in severe deterioration of lead paint - flaking with dust and debris on materials



Photo 3 – Occupied “Cafetorium” (gym and lunchroom) — Kids sitting and eating underneath severely damaged lead painted ceiling



Photo 4 – ES Closet — Food and books stored where lead paint is flaking with dust and debris on materials

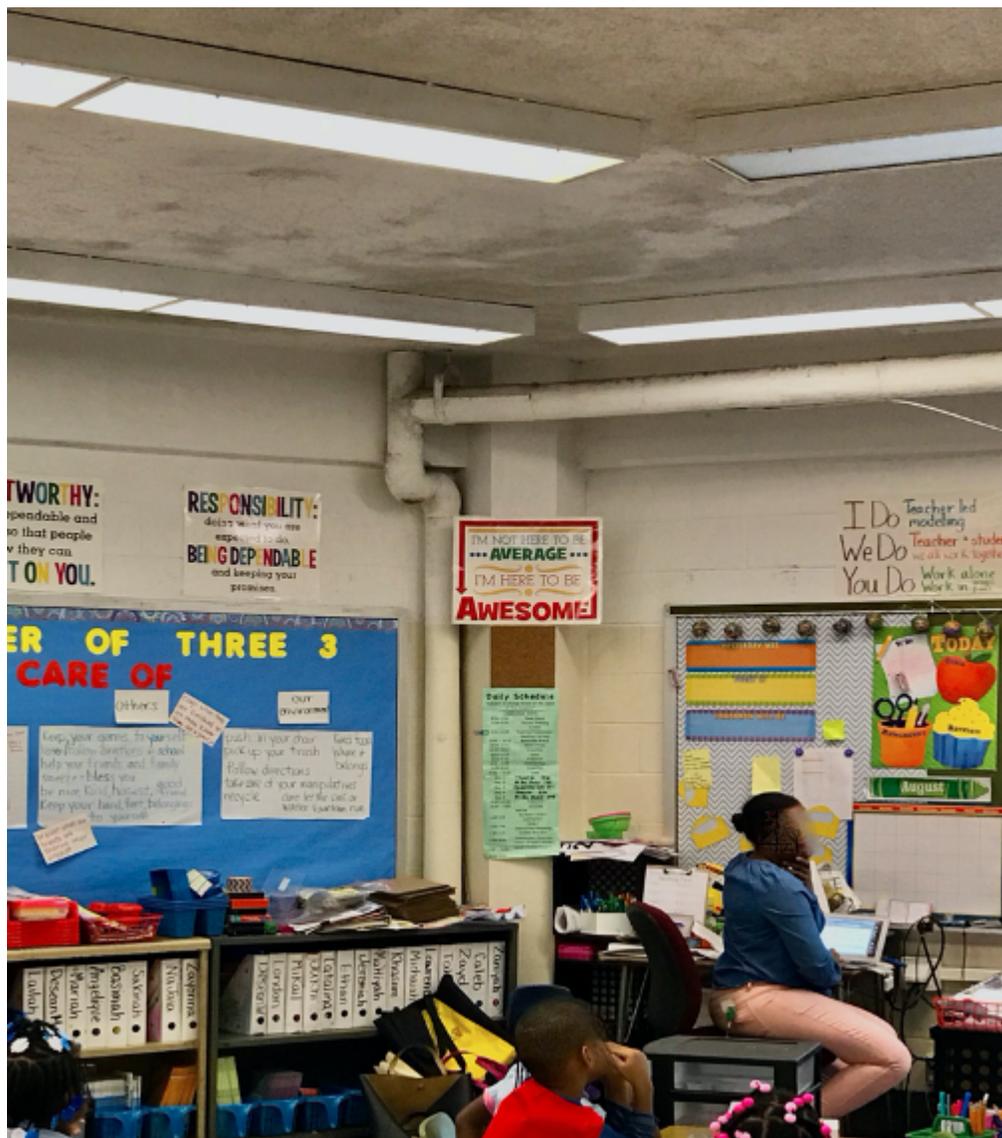


Photo 5 – Mold Growth on Ceiling and Wall of Occupied ES Classroom (close up of above) — According to Classroom Teacher This Condition Had Been Present for Several Months — Associated with HVAC System Problems



Photo 6 – Close up (of photo above) of Mold growth on ceiling



Photo 7 – Mold Growth on Wall of Occupied ES Classroom — According to Classroom Teacher This Condition Had Been Present for Several Months — Associated with HVAC System Problems



Photo 8 - **ES Bathroom** – Mold growing on ceiling and ductwork



Photo 9 – ES Classroom — Repeat flooding from malfunctioning classroom unit ventilator resulting in extensive damage and mold growth to newly installed flooring — the original flooring was replaced for the same reason just a few weeks earlier. An example of what happens if the “root causes” are not addressed and also issues related to inadequate governance, oversight, and management



Photo 11 - ES Library – Newly renovated (needed to be closed down because of a major leak and mold situation)



Photo 12 - ES Library – Newly renovated (needed to be closed down because of a major leak and mold situation).



Photo 13- ES Library – Mold growth and damage to cabinets from ongoing and unrepaired steam leaks



Photo 14 - ES Library – Mold growth on ceiling associated with ongoing and uncontrolled steam leak

Photo 15 – HS —Room 211 [High School English Classroom] – 1st year English teacher described the above conditions as existing for several months [since the beginning of the school year]. The floor tile is an asbestos-containing material



Photo 16 – ES – Classroom Unit Ventilator - Typical *inside* condition of the CUVs [dirty, rusted, leaking, & deteriorated with mold & bacterial slime]



Photo 16 – Boys Bathroom (ES) — Filthy conditions - leaking on floor and ceiling - deteriorated/damaged and missing insulation on piping presenting a burn hazard from very hot heating pipes



Photo 18 – Bathroom — Accessible, damaged asbestos insulation between urinal and sink — this condition is present in multiple locations



Photo 19 – Bathroom (close-up of above) — Showing damage to asbestos insulation

Impact of environmental toxins in schools on learning

Testimony Prepared By:

Marsha Gerdes, PhD

Child Psychologist, Department of Child and Adolescent Psychiatry and
Behavioral Sciences

Senior Psychologist, Policy Lab

Children's Hospital of Philadelphia

House Democratic Policy Committee

Thursday, April 8, 2021, at 3 pm

PolicyLab

My name is Marsha Gerdes and I serve as a child psychologist in the Department of Child and Adolescent Psychiatry and Behavioral Sciences at the Children's Hospital of Philadelphia (CHOP) and as a Senior Psychologist at CHOP PolicyLab.

On behalf of PolicyLab, I'd like to thank the House Democratic Policy Committee, Representatives Elizabeth Fiedler and Vincent Hughes for initiating this discussion about the current state of toxins in schools and inviting me to testify today.

At PolicyLab at CHOP, we share your concerns about the effects of exposure to environmental toxins on children's health and development. We are all looking forward to the day when children are back in school in person following the COVID-19 pandemic, and now is the time to ensure that those schools are healthy environments for them and school staff.

I was asked specifically to speak to the impact of toxins on learning. My primary clinical experience has been with young children who have been exposed to lead at home, and I've seen the impact of lead on learning and on social-emotional skills and behavior. I am also speaking to you to relate my review of the scientific literature that has examined the associations between a wider range of environmental exposures and learning problems.

I will frame my remarks around what I see as the 2 main types of impacts of toxins on learning, which are the associations with:

- Neurodevelopmental disorders, and;
- Health impacts that lead to frequent school absences.

There are also long-term health issues that are important to consider. These include increased risk for cancers such as from exposure to asbestos or radon. In addition, when pregnant women are exposed, including school staff and adolescent females, their infants may suffer from low birthweight, kidney damage, and decreased immune function.

Before I share more on the impacts of toxins on learning, let's put school environmental toxins in context.

- The relationship of a single exposure to an outcome is often complex. In the multiple exposure-multi effects (MEME) model, researchers stress that a single environmental agent may contribute to multiple outcomes, or a single outcome may be affected by multiple environmental factors. Thus we often cannot draw a single line between degree of exposure and a learning problem.
- Our knowledge of the impact is often limited and research on exposure is challenging. Our best understanding comes from large studies done in single countries or states, and these findings vary depending whether exposure is sampled from the environment such as in water or from biologic samples such as blood. Despite the difficulty of drawing a direct causal link between a specific exposure to toxins and a specific health outcome, there is ample evidence that environmental conditions can cause harm to children, both from direct exposure and through prenatal exposure.

- Many children will experience multiple exposures. We know that school is not the only place of exposure. For some children their exposure is multiplied – at school, in the outside air of the neighborhood and at home. The impact of environmental exposures can be cumulative.
- In general, younger children are the most vulnerable to exposures. They can consume more per pound of their body weight and have reduced capacity to expel chemicals from their body.
- Women who are pregnant or expect to be pregnant also carry a vulnerability to increased risk for their unborn child. Environmental exposures for adolescent females and for female school staff are thus also a significant concern.

I now want to walk you through some toxins that may exist in the school environment and what we know of their effects on neurodevelopmental disorders.

Neurodevelopmental Disorders

Heavy Metal exposures –

Lead (Pb), Arsenic (As), and Mercury (Hg) are all known risk factors. These agents have the ability to interfere with neurotransmitter receptors in the brain. The highest risk of impact is through in utero exposure. Later exposures may increase risk especially for those with multiple exposures.

Lead – Exposure to lead can affect almost every organ and system in the body. Lead exposure most commonly occurs through paint, through dust, and through water exposed to lead pipes. Research now shows that no level of lead exposure is safe. Children ages birth to 6 (preschool through first grade) are the most vulnerable. Elevations of lead in the blood have been associated with decreases in cognitive functioning as measured both by IQ scores and academic testing. Associations have also been documented with behavioral issues including inattention, impulsivity, aggression and hyperactivity. In fact, 1 in 5 cases of ADHD have been associated with lead exposure.

Arsenic– Arsenic can be found in water. Many studies looking at the impact of arsenic on learning have been done in other countries where population wide exposures were more effectively tracked. The findings are mixed with some studies showing reductions of approximately 5–6 points in both Full Scale IQ ($p < 0.01$) and most Index scores (Perceptual Reasoning, Working Memory, Verbal Comprehension, all p 's < 0.05) and other studies showing little impact. While much is still unknown about critical windows of exposure, the impact of cumulative exposure, dose related impact and co-exposure, there is ample data to support concern about the neurodevelopmental impact of arsenic.

Mercury - The impact of mercury has been primarily documented in children who were exposed in utero. For those children, the impact has been seen in general intelligence and also in language skills, attention and memory. A dose-related

impact has been found with higher doses in utero associated with more significant delays and intellectual disability.

The specific toxins I have described today do not reflect all potential exposures in school settings.

Health impacts leading to frequent school absences

I will now shift to discussing the impacts of environmental exposures on school absences. Asthma is the most common illness among schoolchildren, and there are several environmental factors that can trigger it. While mold, dust mites and cockroaches are the most commonly identified environmental risks, other toxins such as air pollutants including nitrogen dioxide, pesticides and plasticizers can also play a role. Schools work hard to support children with asthma through the provision of medication, monitoring for symptoms and providing supports through learning activities during absences. However, trips to the doctor, absences and difficulty breathing still interfere with a child's ability to fully participate in school. Asthma is one of the leading causes of school absences. Children with chronic asthma are more than three times as likely to have ten or more absences per year than their peers.

Before I conclude I want to mention an additional potential impact of environmental toxins. While the biologic impact and impact on learning is of prime importance, the emotional impact of environmental toxins is worthy of consideration. Research completed by Harvard T.H. Chan School of Public Health and research reviewing the impact of the Flint water crisis suggest that awareness of children and adults of health risks and health worries can have negative psychological impacts and lead to anxiety. We know that anxiety does interfere with learning.

In conclusion, while the precise impact of many environmental toxins on children's development and ability to learn is not fully known, we know enough to consider this a call to action. I turn to the other experts and leaders at this meeting to describe how to best take action and start the remediation. I urge you to consider the toxins not only in K-12 schools but also to find some way to reach out to the fragmented system of childcare and early childhood education centers across the commonwealth to ensure those centers are also safe environments.

Again, I thank the members of this committee for allowing me to testify. I look forward to answering any questions you may have. Thank you.

References

1. Indoor Environmental Contaminants in Schools. Environmental Protection Agency. Accessed 6 April 2021. www.epa.gov/iaq-schools/indoor-environmental-contaminants-schools
2. What are PCBs? Washington State Department of Health. Accessed 6 April 2021. www.doh.wa.gov/youandyourfamily/healthyhome/contaminants/pcbs
3. Wasserman, G.A., Liu, X., LoIacono, N.J. *et al.* A cross-sectional study of well water arsenic and child IQ in Maine schoolchildren. *Environ Health* **13**, 23 (2014). <https://doi.org/10.1186/1476-069X-13-23>

4. Schmeer, K. K., & Yoon, A. J. (2016). Home sweet home? Home physical environment and inflammation in children. *Social science research*, 60, 236–248.
<https://doi.org/10.1016/j.ssresearch.2016.04.001>
5. Nilsen, F. M., Ruiz, J., & Tulve, N. S. (2020). A Meta-Analysis of Stressors from the Total Environment Associated with Children's General Cognitive Ability. *International journal of environmental research and public health*, 17(15), 5451.
<https://doi.org/10.3390/ijerph17155451>
6. Wasserman GA, Liu X, Parvez F, Ahsan H, Factor-Litvak P, van Geen A, Slavkovich V, LoIacono N, Levy D, Cheng ZY, Graziano JH: Water arsenic exposure and intellectual function in 6-year-old children in Araidhazar, Bangladesh. *Environ Health Perspect*. 2006, 115: 1
7. Woodruff, T.J, Axelrod, D.A., et al. Trends in environmentally related childhood illnesses. *Pediatrics*, 2004, 113, (4)
8. Bellinger, D. Inorganic arsenic exposure and children's neurodevelopment: A review of the evidence. *Toxics*, 2013, 1,2-17. <https://doi:10.3390/toxics 1010002>
9. Kyle, A.D, Woodruff, T.J. et al. Integrated assessment of environment and health: america's children and the environment. *Environmental Health perspectives*, 2006, 114 (3); 447-451.
10. AAP COUNCIL ON ENVIRONMENTAL HEALTH. Prevention of Childhood Lead Toxicity. *Pediatrics*. 2016;138(1):e20161493
11. Leading Health Conditions Impacting Student Attendance. National Collaboration on Education + Health. Accessed 6 April 2021. <https://www.attendanceworks.org/wp-content/uploads/2017/10/School-Health-and-Attendance-Chart.pdf>
12. Cuthbertson CA, Newkirk C, Ilardo J, Loveridge S, Skidmore M. Angry, Scared, and Unsure: Mental Health Consequences of Contaminated Water in Flint, Michigan. *J Urban Health*. 2016 Dec; 93(6): 899-908.

**TESTIMONY of MATTHEW BARRETT,
Parent of Student at Scranton High School,
Before the PA House Democrats Policy Committee**

I applaud the Committee's work in seeking to ensure the students of Pennsylvania have safe learning environment. Certainly, the current policies of the Commonwealth unfairly benefit suburban districts. Much is needed to be done in funding and resources to enable districts, particularly those in urban centers, to update and remediate their facilities. Schools in urban districts present unique challenges aside from funding as they often serve as anchors for neighborhoods. Many times, school districts are confronted with the lure of building a new "suburban" like school to replace multiple neighborhood schools. Such an approach can often be the easier solution. Generally speaking, such a solution will involve a large tract of land with room for parking. However, the result is students are now bussed from neighborhoods and the older school building becomes blighted or sold for a small amount of money. With the loss of the neighborhood school to which students can walk, some of the neighborhood identity is also lost. Wise investment in older schools can, in essence, be an investment in neighborhoods and cities.

Some would argue that "no amount of investment" can make an old building suitable for 21st century learning. This is demonstrably false. In Scranton, a private high school has been modernized with a 1916 building serving as its anchor. The former Central High School is now Lackawanna College. Several other buildings which have been sold are now used as early learning centers and for other uses. The point is wise investment in even older buildings can be and should be pursued when possible. Certainly, older buildings can present environmental challenges. Surprisingly, environmental concerns are often greater in buildings built in the 50's and 60's when asbestos was very commonly used. Even more recently built buildings with closed air environments present issues, particularly with the COVID-19 crisis. Still, these issues can be overcome. I like many people in Scranton own an older home. Given its age, there is some amount of asbestos in my home and I am certain there are layers of lead paint within the house.

It was not until January 2020 when I first gave any significant thought to asbestos or lead in schools. Years earlier, there was mold concern in a school

my children were attending. The initial reaction of the Scranton School District to that situation was an overreaction which called for displacing the entire student body. Luckily, a calmer approach was developed to close off the problematic areas, extend the school days and shorten the school year. This allowed for a longer period of remediation during the summer months.

The developments in the Northeast Intermediate School where my son was a student in January 2020 proved more difficult for parents and students to solve. On January 29, 2020, the Scranton School District announced it was closing three schools due to environmental concerns. The district contracted for work in the other buildings, but, citing asbestos concerns, kept Northeast Intermediate closed. Everyone knew there was asbestos in the building built in the early 1900's, but was it airborne? The presence of asbestos alone does not make a building unsafe. The standard for asbestos is to manage it in place and remediate when necessary. At a school board meeting held on February 3rd, 2020, parents asked questions as to whether there was airborne asbestos, but no answer was provided. Despite not knowing if there was airborne asbestos, a plan was quickly announced to relocate the entire student population -900 students-to two other schools. Students missed approximately 7 days of school during the relocation process. Ultimately, they were placed into two other schools causing overcrowding and inadequate educational services. The students of NEIS would not return to their school as the entire district went virtual on March 13, 2020 due to COVID-19. My son received in-person instruction for 13 days in February, 2020; 10 days in March 2020; and has received none since March 13, 2020. That is 23 days of in-person instruction in the last 410 days.

In the weeks following the closure of NEIS, the district hired contractors to assess the building for asbestos. What started due to concerns about some flaking plaster/paint in a classroom on the third floor causing the entire school to be closed, resulted in testing of plaster walls and ceiling throughout the school—no asbestos. The contractor did find some asbestos in floor tiles and acoustic ceiling tiles in isolated areas, but still it did not perform air studies. Finally, on March 9, 2020, the Scranton School District announced that air tests were completed on February 25, 2020—almost a month after the school was closed. Those test revealed that “no sample results identified asbestos fibers above detectable limits.” The District also revealed that “[S]ubsequent to inspections, ACM in friable form, has been identified in the ventilation systems.” Please recall, the school was closed due to flaking and

falling plaster on the third floor and the justification given for keeping the school closed prior to COVID was asbestos containing material found in the bowels of the ventilation systems which might someday break loose and become airborne, but had not yet.

Scranton School District's handling of the 2020 asbestos "crisis" at the Northeast Intermediate School should serve as a cautionary tale. Most everyone agrees that consistency in education is important and the displacement of 900 students, mid-year, did not provide consistency. It is my impression that school districts, particularly underfunded ones, are poorly equipped to deal with the management of environmental issues. Giving District officials the benefit of the doubt, at best, they were caught flat footed and lacked the capacity to properly assess the situation. This was so, despite the fact that the Scranton School District is a district in financial recovery as designated by the Department of Education. Pennsylvania Statute 24 P.S. 6-622-A makes clear that "the Commonwealth shall ensure the delivery of effective educational services to all students in a district in recovery. . . ." The PDE appointed a recovery officer to the district in February 2019. The recovery officer had presented her plan to the district in July 2019. In the preparation of her report, she was assisted by PFM Consulting Group, LLC. The Recovery Plan itself is 216 pages. The term "asbestos" appears one time in the Scranton School District Recovery Plan with regard to pipe coverings coincidentally in the basement of the NEIS building. The word lead appears twice with regard to lead paint on fencing. The Recovery Plan was a district wide analysis which included "a facilities study that identified critical building repair issues." Even with the resources of the Commonwealth available to the students of Scranton, there was no coherent plan to ensure the delivery of effective education.

Another complicating factor is the Commonwealth of Pennsylvania Attorney General has filed criminal charges against the former Superintendent of the Scranton School District, the former Chief Operations Officer and the former Head of Maintenance of the Scranton School District for "failing to protect their students from lead and asbestos exposure." While the courts will be the forum to resolve those particular charges, the charges themselves will have impacts on districts across the state. School district officials will now be left to question whether they will be subjected to criminal charges if they poorly managed asbestos and lead condition in their schools. Could they be charged for ventilation issues in the age of COVID? Wouldn't it be easier to

close the school “out of an abundance of caution”? But when a school closes, the education stops.

Any proposed legislative solution with funding and other resources should include a funded mandate that school districts themselves have the capacity to manage environmental issues. Such capacity may be in the form of specifically well credentialed in-house personnel or paid consultants. Any such consultants should not be in the remediation business itself. There must be bidding requirements must be established and followed. Liability protection for consultants may be necessary, otherwise a stalemate is created where consultants are hesitant to give the all clear and districts lack the political will to reopen schools which were closed for environmental concerns. Districts are primarily in the business of education not property management and with COVID, we have seen the inability of some districts to provide in-person instruction due to ventilation concerns. Currently, the Scranton School District has provided 3 days (today being the 3rd) of in-person instruction for students in grades K-2 since last March. The remaining grades are scheduled to begin hybrid instruction in the coming weeks. The closing of NEIS and the entire Scranton School District for over a year has proven it is much easier to close a school than to reopen one.

Districts like Scranton have been historically underfunded. Despite even the clear language of the recovery statute, the Commonwealth has failed to ensure the delivery of educational services to the students of Scranton, a district in recovery. The students are the ones who are not being served. Additional statues with no bite and no dedicated funding will not solve these problems.

April 8, 2021

Failing Public School Infrastructure and Air Quality

McKeesport Area School District

Superintendent

Mark P. Holtzman Ed. D

McKeesport Area School District is a larger urban school district in Western PA approximately 15 miles southeast of the city of Pittsburgh. McKeesport has been regularly recognized as the most dangerous city in PA according to violent crimes per capita statistics. Fortunately, we have an outstanding school system that makes decisions solely based on what is in the best interest of children. We do not make excuses and focus on doing more with less. Our 72 million dollar budget is ravished by charter school tuition, retirement contributions and debt service responsibilities. Capital projects and funds to complete those projects do not exist as we act financially responsible to meet the needs of our unique population. Approximately 28% of the student body in the MASD has special needs. Our district managed to remain open and provide in-person instruction, five days a week, for the entire 2020-2021 school year. Our teachers' union, school board and district leadership worked fearlessly to safely open schools because we projected the challenges virtual learning would bring to an impoverished community with many struggling learners. Our schools are likely the safest and most used facilities in the McKeesport Area. Many of our community organizations, youth sports, religious groups and other stakeholders use our facilities six to seven days a week.

Founders' Hall Middle School, within the McKeesport Area School District, has approximately 800 students and has an extensive foundation issue that will begin to compromise the safety of the building if not repaired soon. The project is estimated to cost over 3 million dollars to address areas of need. Furthermore, due to the moisture entering the building daily, the air quality becomes an issue during times of high humidity. The moisture and humidity makes a breeding ground for mold. Over \$25,000 a year is spent on air quality in this building, including renting dehumidifiers to keep mold from growing in classrooms throughout the building. Teachers are expected to teach and engage students over noisy dehumidifiers. Details below explain the obvious issues with the middle school foundation.

Foundation challenges at Founders' Hall Middle School:

1. Visible standing water in low areas, 2" to 12" deep.
2. Water leaking through exterior walls through cracked foundation walls and window wells.
3. The storm water management system appears to be inadequate, and more importantly, not low enough. The drainage field is roughly 2.5' above basement level. In a gravity system, this means that there is nowhere for the water to go.
4. The downspouts on the gymnasium dump directly onto the sidewalk or ground next to the building.
5. Sidewalks slope, in most areas, toward the building - directing water into the building.
6. Windowsills are leaking and allowing moisture penetration.
7. At least one, maybe more, drainage pipe(s) are damaged.
8. Visible structural damage at the foundation.

9. The track drainage field overflows onto the rear parking lot, which ultimately drains into the storm water management system of Founders.

Rectifying these issues will require extensive excavation along the North and East sides of the building. Fourteen windows will need to be removed and replaced with masonry. The foundation will require patching and repairs. The foundation will need to be waterproofed. French drains will need to be installed along the building. A new mechanical storm water management system will need to be installed in order to mechanically pump water away from the building. Drains will need to be jetted, and concrete sidewalks and slabs replaced or repaired. Concrete beams in the basement will require repair and reinforcement. New downspouts will be required on a portion of the building. Finally, the ground will need to be backfilled and graded away from the building.

As was mentioned, this is a major project, which will require a multi-million dollar investment on the behalf of MASD.

Facts about K-12 facilities:

1. The average US K-12 school is over 40 years old.
2. The average US school district is carrying more than \$11,000 per student in deferred maintenance costs.
3. The U.S. EPA (2011) has estimated that more than 60,000 schools (i.e., 46% of U.S. public schools) have environmental conditions that contribute to poor Indoor Environmental Quality.

The crisis of public school facilities inadequacy and inequity is caused by structural limitations in our underlying political and administrative systems for facilities stewardship. The facilities policies, practices, and funding of local, state, and federal authorities are outdated and underdeveloped. To ensure all school districts can provide adequate and equitable public school facilities, they need modern PK–12 facilities systems. The six basic elements of modern and effective public PK–12 facilities systems are: governance and decision making, funding, management, planning, data and information, and **accountability**. (Filardo, Mary and Jeffrey M. Vincent. 2017. *Adequate & Equitable U.S. PK–12 Infrastructure: Priority Actions for Systemic Reform*. Washington, D.C.: 21st Century School Fund, Center for Cities + Schools, National Council on School Facilities, and Center for Green Schools.)

Predicting the impact the pandemic will have on student learning is challenging. We will continue to uncover the learning loss and address student needs realizing safe and solid school settings are essential to attempt to close a growing achievement gap. Our children often have limited resources at home and poverty promotes more challenges. Therefore, we must give ALL children what they need and deserve in our public schools. McKeesport Area School District is committed to improving student growth and achievement through high expectations and providing the best possible facilities to our families and students. Failing school facilities due to lack of educational funding in urban school districts has a strong correlation leading back to inequity in schools. The lack of the necessary resources to educate children living in poverty continues to impact struggling learners. The achievement gap will continue to grow unless the disparity between school districts is addressed with strong policy that supports our students of color. A quality educational experience should not be determined based on the child's zip code.

Attachments...

1. *Foundations For Student Success: How School Buildings Influence Student Health, Thinking and Performance* highlights that school buildings are the foundation to student success.

2. *A report from the Planning for PK-12 School Infrastructure National Initiative* highlights the need for an adequate and equitable funding formula for infrastructure upgrades.
3. *Covid-19 and Student Learning in the United States: The Hurt Could Last a Lifetime* addresses concerns about the growth of the achievement gap between white students and students with black and Hispanic heritage.



Adequate & Equitable U.S. PK-12 Infrastructure

PRIORITY ACTIONS FOR SYSTEMIC REFORM

*A report from the Planning for PK-12
School Infrastructure National Initiative*



LEADERSHIP TEAM



Mary Filardo, Executive Director
21csf.org

21st Century School Fund is dedicated to building the public will and capacity to modernize public schools so they support high quality education and community revitalization. 21CSF's advances this mission with research, advocacy, innovation and facilitation of civic and public sector networks of organizations and officials dedicated to a country where every child learns in an educationally appropriate, healthy and safe school that serves as a community anchor and is built and maintained in an environmentally and fiscally responsible manner.



Jeff Vincent, Deputy Director
citiesandschools.berkeley.edu

The Center for Cities + Schools in the Institute of Urban and Regional Development at the University of California, Berkeley works to create opportunity-rich places where young people can be successful in and out of school. CC+S conducts policy research, engages youth in urban planning, and cultivates collaboration between city and school leaders to strengthen all communities by harnessing the potential of urban planning to close the opportunity gap and improve education.



Joe Da Silva, 2017 President
facilitiescouncil.org

The National Council on School Facilities supports states in their varied roles and responsibilities for the delivery of safe, healthy, and educationally appropriate public school facilities that are sustainable and fiscally sound. This organization is founded on guiding principles which reflect the changing nature of the demands on today's schools and the need for educational facility infrastructure to support these demands.



Anisa Heming, Director
centerforgreenschools.org

The Center for Green Schools at the U.S. Green Building Council believes that everyone, from the kindergartener entering the classroom to the Ph.D. student researching in a lab, should have the opportunity to attend schools that sustain the world they live in, enhance their health and well-being, and prepare them for 21st century careers. The Center works with school decision makers, community volunteers, and thought leaders in the public and private sectors to drive progress at the intersection of sustainability, education, public health, and the built environment.

ACKNOWLEDGMENTS

The leadership team would like to thank the many state facilities officials and individuals from across the country who contributed their time and insights to this process. We also appreciate the financial support provided by the W.K. Kellogg Foundation.

Suggested Citation: Filardo, Mary and Jeffrey M. Vincent. 2017. Adequate & Equitable U.S. PK-12 Infrastructure: Priority Actions for Systemic Reform. Washington, D.C.: 21st Century School Fund, Center for Cities + Schools, National Council on School Facilities, and Center for Green Schools.

Cover images: Shutterstock; Jerry Roseman; Shutterstock

TABLE OF CONTENTS

Executive Summary	1
The Power of Public Place: PK-12 School Facilities Infrastructure	6
Public School Facilities Have Broad Impacts.....	6
America’s PK-12 School Infrastructure Crisis	8
Underlying Causes of the PK-12 Infrastructure Crisis.....	8
P4si Initiative: A National Partnership for Systemic Reform	10
P4si Phase 1: Research and Engagement Process.....	11
55 Priority Actions for Systemic PK-12 Infrastructure Reform	12
1. Facilities Governance and Decision Making.....	12
2. Operating and Capital Facilities Funding.....	15
3. Facilities Management.....	17
4. Educational Facilities Planning.....	20
5. Facilities Data and Information.....	22
6. Accountability.....	23
P4si Initiative Phase 2: Implementing Systemic Reforms	26
Appendix A: Process and Engagement Methods	27
Six National Working Groups of Cross-Sector Experts.....	28
25 State Facility Officials Provide Input.....	30
Experts Convene: Mapping Equity into PK-12 Infrastructure National Summit.....	30
Appendix B: Working Group and State Official Participants	31
Endnotes	33

EXECUTIVE SUMMARY

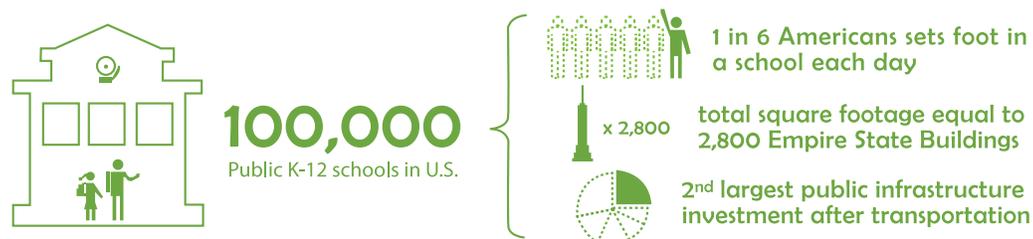
America's PK-12 School Infrastructure Crisis

Our country's elementary and secondary (PK-12) public school infrastructure is in crisis. Every day, millions of children in the U.S. attend public school in unhealthy, unsafe, educationally inadequate, environmentally unsustainable, and financially inefficient facilities. Deteriorated and neglected public school facilities can be found throughout the nation, but the most egregious school facility conditions are in low-wealth school districts and in neighborhoods serving children from low-income families.

The Power of Public Place: PK-12 School Facilities Infrastructure

Nearly 50 million children and another 6 million teachers and other adults — 1/6th of the U.S. population — are in public school buildings every school day. Our public school facilities have broad impacts on children and communities: student, staff, and community health; school quality and academic achievement; economic development; and environment and natural resources. Just as roads and bridges are necessary for mobility, school buildings and grounds are necessary for education. Both transportation and education infrastructures are vital to our democracy and cornerstones of economic strength. We need effective and efficient systems to ensure responsible stewardship of our PK-12 public school infrastructure.

Because of the scale of our public education infrastructure and their broad impacts, America experiences enormous consequences for the deficiencies and disparities in school facility conditions.



The crisis of public school facilities inadequacy and inequity is caused by structural limitations in our underlying political and administrative systems for facilities stewardship. The facilities policies, practices, and funding of local, state, and federal authorities are outdated and underdeveloped. To ensure all school districts can provide adequate and equitable public school facilities, they need modern PK-12 facilities systems. The six basic elements of modern and effective public PK-12 facilities systems are: governance and decision making, funding, management, planning, data and information, and accountability.



The priority actions identified through our national planning process are designed to develop and support the essentials for modern PK-12 public infrastructure stewardship.

P4si Initiative: A National Partnership for Systemic Reform

With much at stake, national leaders came together to formulate a *systems-based* plan to address the PK-12 infrastructure crisis. The 21st Century School Fund (21CSF) and the University of California-Berkeley's Center for Cities + Schools (CC+S), in partnership with the National Council on School Facilities and the Center for Green Schools at the U.S. Green Building Council, launched the *Planning for PK-12 Infrastructure Initiative* (P4si Initiative) in 2016.



Civic



Governmental



Building Industry



Public Finance



Labor



University

In Phase 1 of the P4si Initiative (Fall 2016), a research team from 21CSF and CC+S facilitated a structured national engagement process to identify the challenges to adequacy and equity in PK-12 infrastructure and to propose system reforms. Our process garnered input from 85 leaders from 33 states and the District of Columbia who represented a diverse group of non-profit advocacy leaders, local and state officials, researchers, building industry professionals, labor advocates, and finance experts.

Priority Actions for Systemic PK-12 Infrastructure Reform

There are 55 priority actions identified to address the systemic problems of delivering adequate and equitable public school facilities. These priority actions will support the essentials of a comprehensive local, state, and federal system for adequate and equitable PK-12 infrastructure. They were synthesized and selected from 200 solution ideas generated through our process and are considered to have the greatest potential for development, replication, and scaling.

P4si Initiative Phase 2: Implementing Systemic Reforms

Phase 2 of the P4si Initiative will move the 55 priority actions forward to achieve a paradigm shift in our PK-12 public infrastructure systems. We are working to secure public and private investments to advance the systems reforms identified in these priority actions. This is ambitious work. However, we have seen that when there is a shared responsibility for adequacy and equity amongst the civic, government, and private sectors, our public school places can be transformative. And only with this joint responsibility for facilities that promote the educational success of our children, can our communities ultimately thrive.

Convene
leadersDefine
problemsIdentify
impactsTheorize
causesGenerate solution
ideasPrioritize
actions

Essentials for Modern PK-12 Public Infrastructure Stewardship

Governance and decision making

- Well-developed codes, policies, and regulations that articulate and designate the local, state, and federal roles and responsibilities for PK-12 facilities
- Defined and transparent systems for public reviews and approvals
- Compensatory systems for allocating facilities funding to low-wealth and disenfranchised communities

Facilities funding

- Dedicated, stable, and adequate revenues for capital funding
- Dedicated, stable, and adequate operating funding for facilities operations, maintenance and repairs
- The capacity and authority to leverage public assets and private equity to generate new capital for local district facilities
- Low cost credit and reasonable fees for local district borrowing
- State and federal capital funds to supplement local effort and need

Facilities management

- Adequate funding with clear priorities
- Local school district and state government mission statements and strategic plans that include school facilities
- Well trained and experienced facility managers and labor personnel, with adequate compensation
- Technology tools that support facilities management and maintenance functions
- Systems and protocols for open communication between the many stakeholders associated with and affected by school facilities

Facilities planning

- Robust public engagement
- Mandates, standards, guidance, and funding for regular operations, maintenance, capital, and educational facilities master planning
- Training and support of district staff for effectively engaging a broad set of local stakeholders
- School district authority, requirements, and resources for planning across other affected public agencies, regions, and sectors

Data and information

- Standardized and relevant facilities data collection at federal, state, and local levels
- Public access to facilities data and information
- Timely analysis of facilities data and information to inform decisions
- Integration of facilities data and information with other school, community, and fiscal data and information

Facilities accountability

- Standards for facility planning, management, and equity
- Standards for design, condition, utilization, and location of public school facilities
- Meaningful metrics that can be used for comparisons across schools, districts, and states
- Consequences for school districts whose facilities management practices result in unhealthy and/or unsafe conditions for occupants
- Consequences for school districts and contractors whose practices contribute to waste, fraud, or abuse of public funds

55 Priority Actions For Systemic Reform

GOVERNANCE AND DECISION MAKING

1. Establish local education and municipal policies to ensure effective delivery of public school facilities
2. Establish a facilities office in each state department of education or as an independent state agency
3. Guide state facilities decisions with an independent advisory committee
4. Provide state financial, technical, and training assistance to local school districts
5. Establish state policies to support local government inter-agency capital planning and development
6. Develop model legal contracts for innovative PK-12 infrastructure partnerships
7. Establish a facilities office in the U.S. Department of Education, with a strategic national focus on equity
8. Support PK-12 facilities research, guidance and technical assistance in all relevant federal agencies
9. Establish local policies to guide fair and efficient facilities decision-making and approval processes

OPERATING AND CAPITAL FACILITIES FUNDING

10. Create and maintain a dedicated maintenance fund for routine and preventive maintenance
11. Incorporate better systems for using “pay-as-you-go” funding for capital renewals
12. Reduce state legal barriers that limit local school districts from raising local revenue
13. Enact state legislation to provide school districts the flexibility to raise revenue from sources other than property tax
14. Establish dedicated state revenue streams for repayment of PK-12 capital improvement bonds
15. Facilitate partnerships between school districts and community colleges and universities
16. Establish a federal-state partnership with a PK-12 infrastructure “revolving fund”
17. Ensure Every Student Succeeds Act (ESSA) permits states the flexibility to allow and regulate local district securitization of up to 10% of their federal Title I Funds for major repairs
18. Incorporate public school infrastructure in any federal infrastructure initiative
19. Establish federal programs to fund states for capital construction for PK-12 infrastructure

FACILITIES MANAGEMENT

20. Incorporate the values and vision for adequate and equitable school buildings and grounds into the school district’s mission, vision, and strategic plans
21. Establish regular lines of communication between school district program/curriculum staff and facilities staff
22. Provide relevant building condition system data to facilities maintenance and operations personnel
23. Establish a regular maintenance and operations reporting system for facilities personnel
24. Provide adequate staff training and ongoing technical support for facilities staff
25. Develop facility lifecycle costing templates, methods, and standards for school district management
26. Adopt standard processes for capital project management that is documented in a procedures guide
27. Establish a clear 1-2 page “project charter agreement” for every capital project
28. Require a web-based project management information system
29. Conduct facilities workshops for parents and community members about facilities planning and decision making
30. Adequately staff state facilities offices for their data management, planning, technical assistance, and oversight responsibilities

FACILITIES PLANNING

31. Require every district to have an up-to-date five-year master facilities plan guided by public engagement and available online
32. Include school district facilities master plan requirements for the outdoor space on school campuses
33. Establish a school district facilities planning office or designee responsible for community and school engagement
34. Prepare annual districtwide maintenance, repair, and energy management plans and schedules
35. Coordinate school district and school specific facility capital and maintenance plans
36. Define and disseminate benchmarks for local PK-12 facilities planning
37. Provide technical assistance and tools for school districts on community and civic engagement best practices

DATA AND INFORMATION

38. Train and educate school administrators, school boards, and other stakeholders on the importance of facility planning
39. Require local, state, and federal facility data collection and sharing
40. Structure school district facility information systems to facilitate the aggregation and use of cross-functional data
41. Structure school district facility data systems to link to other local government data systems
42. Maintain a publicly accessible state facilities inventory of school district buildings, grounds, and other district owned land or facilities
43. Include basic data on public school facilities in the Common Core of Data of the National Center for Education Statistics
44. Use software tools and services that facilitate data collection, aggregation, and sharing
45. Build a shared and open data portal of facilities research, information, data, and case studies
46. Conduct a national “state of the field” analysis of local and state data collection on PK-12 facilities

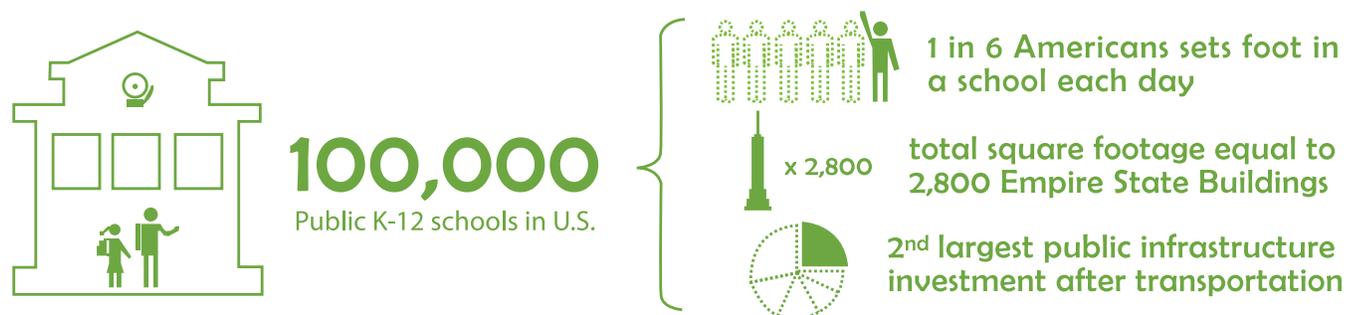
ACCOUNTABILITY

47. Establish standards for decision making on school facilities plans and projects
48. Adopt design and building performance standards and performance indicators
49. Conduct regular statewide assessments of PK-12 school facilities
50. Require third party commissioning of new schools and newly renovated building systems
51. Conduct regular inspections of school facilities for health and safety
52. Conduct process, budget, and quality monitoring and audits of school construction, major renovation and systems renewal projects
53. Share school-level facilities data and assessment findings in real time with school-level staff
54. Develop a Facility Quality Index that utilizes facilities data and school and education data
55. Translate building industry and academic research for facilities practitioners

THE POWER OF PUBLIC PLACE

PK-12 School Facilities Infrastructure

The transfer of knowledge from one generation to another through education is an essential social responsibility requiring substantial facilities infrastructure. Nearly 50 million children and another 6 million teachers and other adults — 1/6th of the U.S. population — are in public school buildings every school day. Nationally, our public school districts are responsible for an estimated 7.5 billion gross square feet of buildings and 2 million acres of school grounds. Just as roads and bridges are necessary for mobility, school buildings and grounds are necessary for education. Both transportation and education infrastructures are vital to our democracy and cornerstones of economic strength. We need effective and efficient systems to ensure responsible stewardship of our PK-12 public school infrastructure.



Public School Facilities Have Broad Impacts

Because of the importance of public education and the effects of school locations, design, and condition on children and communities, it is imperative that our public school facilities are healthy, safe, educationally appropriate, environmentally sustainable, and community-accessible, no matter the wealth of families or community.

Student, Staff, and Community Health

Properly planned, designed, and maintained school facilities promote the health and well-being of children and adults in schools. Well-planned and designed schools increase safety by being easier to supervise and monitor, both internally and against outside intruders. Schools that make their indoor and outdoor facilities available to communities after school hours for physical activity and other health-promoting community activities support community well-being.¹ Researchers at the Harvard School of Public Health recently wrote, the evidence is unambiguous — school buildings impact student health, thinking, and performance.² Exposures to mold, poor ventilation, uncomfortable temperatures, inadequate lighting, overcrowding, and excessive noise can harm students' health and contribute to absenteeism.³ The EPA estimates that 46% of schools in the U.S. have environmental conditions that lead to poor indoor air quality.⁴ Children, with their developing bodies, have sensitivities and vulnerabilities to such conditions — much more so than adults. Children are especially vulnerable to the harm of the many “legacy toxics” (such as lead, asbestos, PCBs, and others) found in schools built before the 1970s. The vast underinvestment in maintenance, repair, toxic substances removal, and upgrades of our PK-12 infrastructure exacerbates these negative conditions.

A+ School Quality and Academic Achievement

School facilities impact the delivery of education. Poor or substandard school buildings and grounds negatively affect the health of children and adults in schools, which in turn negatively affects their performance.⁵ Studies find significant correlations between poor structural, conditional, and aesthetic attributes of school buildings and low student learning and achievement.⁶ Schools without major maintenance backlogs have higher average daily attendance and lower dropout rates.⁷ Good facility conditions can also help reduce teacher turnover.⁸ Poor school facility conditions can also be a barrier to the basic delivery of education and to the implementation of any school reform.⁹ Today's school facilities need the physical elements essential to modern education, such as science labs, technology, and special education spaces. But school facilities that have not been modernized often lack these important educational spaces.

↑ Economic Development

Modern, high-quality PK-12 infrastructure strengthens communities in many ways. Facility modernizing programs increase local property values, boost school enrollments, and help rebuild confidence in struggling school districts. A major school renovation program in New Haven, Connecticut resulted in increased test scores, raised housing values, and increased enrollment.¹⁰ The work associated with managing PK-12 infrastructure involves thousands of contracts and millions of jobs, which boosts local economies. Collectively, America's school districts spend about \$100 billion per year on their facilities — in facility operations, maintenance, repair, renovation, and capital construction (including minor and major renovations and building entirely new school buildings) activities.¹¹ For every billion dollars invested in capital construction, there are an estimated 6,664 direct construction jobs, and another 11,121 indirect or induced jobs created. These contracts and jobs can especially benefit lower-wealth communities — providing an important co-benefit to school facilities improvement.¹²



Image credit: Jeff Vincent

🌲 Environment and Natural Resources

The massive scale of our public school district facility infrastructure has a major impact on the environment. Public schools include an estimated 2 million acres of land and 7.5 billion gross square feet of space¹³ — about half the building square footage of the entire commercial building sector in the U.S.¹⁴ Half of our school buildings are at least 50 years old. Buildings use 70% of U.S. electricity and generate 40% of carbon emissions. With current technology, buildings can be regenerative for the environment — or can, at the very least, reduce negative impacts. Retrofits, retro-commissioning, and proper energy management save taxpayer dollars by lowering school district utility expenditures. The U.S. Department of Energy reports that energy improvements to the nation's existing buildings could save 30% *overall*.¹⁵ Improvements to school facilities can also be engineered to generate energy as net zero energy schools, treat waste water, and retain storm water to improve our nation's water. Environmentally sustainable school facilities can also be used as science teaching tools and help students gain stewardship knowledge.

AMERICA'S PK-12 SCHOOL INFRASTRUCTURE CRISIS

Our country's elementary and secondary (PK-12) public school infrastructure is in crisis. Every day, millions of children in the U.S. attend public school in unhealthy, unsafe, educationally inadequate, environmentally unsustainable, and financially inefficient facilities.¹⁶ In addition, many school districts that have added new public schools to meet growing enrollments report that they cannot provide the routine and preventive maintenance necessary to keep these facilities in good repair.¹⁷ This is a run-to-fail approach with high costs for our future.

Deteriorated and neglected public school facilities can be found throughout the nation, but the most egregious school facility conditions are in low-wealth school districts and in neighborhoods serving children from low income families.¹⁸ Substandard public school facilities are problems shared by many rural areas and older urban centers. Fortunately, not all communities fall short. Many districts can, and do, provide inspiring school facilities for their children and communities. But the pervasive inequities between school districts remains a major challenge — sometimes leading to state-level court action to force remedies.¹⁹ In 2014, the U.S. Department of Education's Office for Civil Rights instructed states to remedy the disparities in public school facilities.²⁰ Because of the scale of our public education infrastructure and their broad impacts, America experiences enormous consequences for these disparities in school facility conditions, which harm the health and academic achievement of children.

Underlying Causes of the PK-12 Infrastructure Crisis

The crisis of public school facilities inadequacy and inequity is caused by limitations in our underlying political and administrative systems for facilities stewardship. All school districts have the same basic responsibilities for their facilities: facilities planning, design, and construction as well as responsibilities for the ongoing operations, maintenance, and repairs. However, the facilities policies, practices, and funding of local, state, and federal authorities are outdated and underdeveloped. In order to ensure all school districts can provide adequate and equitable public school facilities, all six elements of an effective PK-12 facilities system need to be developed and supported.²¹

Six Elements of Effective PK-12 Facilities Systems

- | | |
|--|------------------------------------|
| 1. Facilities governance and decision making | 4. Educational facilities planning |
| 2. Facilities operating and capital funding | 5. Facilities data and information |
| 3. Facilities management | 6. Public accountability |

Providing adequate and equitable teaching and learning environments for 1/6th of the entire U.S. population is complex and demands special knowledge, skill, authority, and resources. There are both technical and political factors that make progress toward responsible systems of stewardship for our public school facilities challenging. On the technical side, the built environment of schools serves many functions and require interdisciplinary skill sets. School facilities and their components have also been changing dramatically with advances in building-

related technology and new understandings of health-related effects of indoor environments. On the political side, the length of time for planning, design, and construction is multi-year and longer than many political and administrative tenures. Building deterioration also does not happen overnight. The reality of these long timeframes makes facility improvements a lower priority and easier to put off. Additionally, educators are often unfamiliar with facilities management and do not know how to leverage the effective stewardship of buildings and grounds into their school improvement strategies.

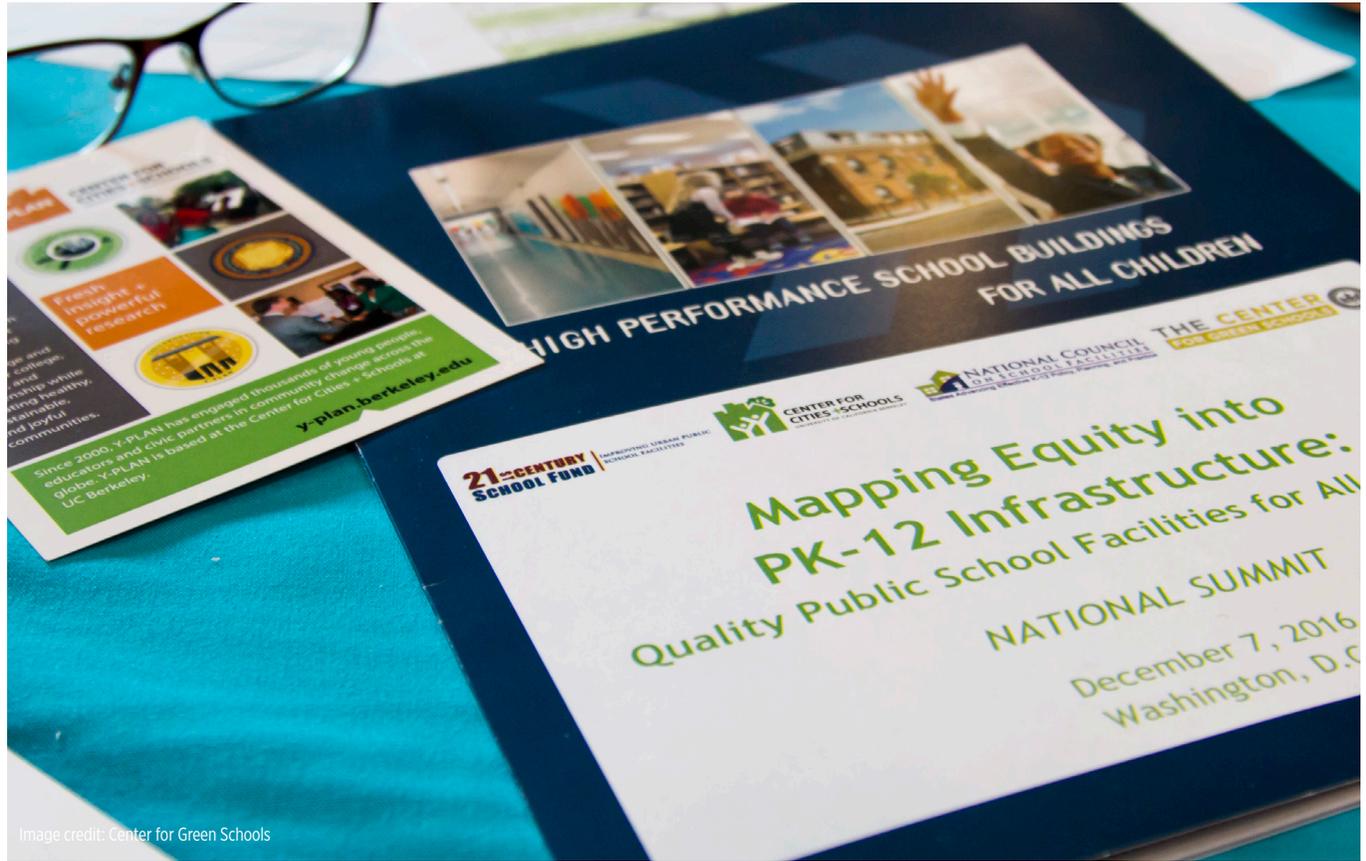


Image credit: Center for Green Schools

P4si INITIATIVE

A National Partnership for Systemic Reform

With much at stake, national leaders have come together to formulate a *systems-based* plan to address the PK-12 infrastructure crisis. The 21st Century School Fund (21CSF) and the University of California-Berkeley's Center for Cities + Schools (CC+S), in partnership with the National Council on School Facilities (NCSF) and the Center for Green Schools (CGS) at the U.S. Green Building Council, launched the *Planning for PK-12 Infrastructure Initiative* (P4si Initiative) in 2016.

This Leadership Team set an ambitious goal for the P4si initiative: accelerate efforts to reform and improve the PK-12 infrastructure systems to deliver healthy, safe, educationally appropriate, environmentally sustainable, and community accessible public school buildings and grounds for all children, no matter the wealth of their family or community.

Phase 1 builds on the deep experience our organizations have in improving public school facilities and our recent research findings on the state of the field. In 2016, 21CSF, NCSF, and CGS released *State of Our Schools: America's K-12 Facilities*, a national report that quantified the widespread structural funding deficit in our public school infrastructure.²² In 2015, CC+S released *Going it Alone: Can California's K-12 School Districts Adequately and Equitably Fund School Facilities?*, a study using a similar approach that looks deeper at school facility spending in California.²³ What these two studies document is the underlying and ongoing structural pattern of both inequitable investment and underinvestment in our PK-12 infrastructure that harms student health and achievement — and is sadly familiar to many students, teachers, and communities.

Building off these research findings and our collective decades-long work to improve public school facilities, our four organizations embarked on Phase I of the P4si Initiative to develop a comprehensive plan to reform the systems for delivering adequate and equitable public school infrastructure.

GUIDING PRINCIPLES

- Environments for children require special features, management and oversight
- Adequate and appropriate school facilities are essential to equitable access to educational opportunities
- Public governance and civic engagement in public K-12 school facilities is essential for public trust and support

P4si Phase 1 Research and Engagement Process

For Phase 1 of the P4si Initiative (Fall 2016), a research team from 21CSF and CC+S facilitated a structured national engagement process to identify the challenges to adequacy and equity in PK-12 infrastructure and to propose system reforms needed. Our process garnered input from 85 leaders from 33 states and the District of Columbia who represent a diverse group of non-profit advocacy leaders, local and state officials, researchers, industry professionals, labor advocates, and finance experts.



Civic



Governmental



Building Industry



Public Finance



Labor



University

Participants' engagement and input focused on four objectives: a) defining the *problems* in school facilities specific to the essential elements; b) identifying the negative *impacts* of these problems; c) theorizing about the underlying causes of the problems; and d) generating systemic solutions that address the underlying causes of the problems identified. Through this process, we developed detailed problem analyses for each essential element and generated more than 200 solution ideas to support modern systems for good stewardship of public school facilities.



Convene
leaders



Define
problems



Identify
impacts



Theorize
causes



Generate solution
ideas



Prioritize
actions

Next, over 3 days of facilitated meetings in Washington, D.C. in December 2016, these leaders worked together to prioritize the solutions identified. The research team synthesized the results into the findings in this report — descriptions of the basic elements of effective systems and 55 Priority Actions for reforming local, state and federal policies and practices. (Appendix A describes our mixed-method research and engagement strategy and Appendix B lists the participants.)

55 PRIORITY ACTIONS

for Systemic PK-12 Infrastructure Reform

The 55 priority actions were identified to address the systemic problems with delivering adequate and equitable public school facilities. They include proposals for policy and practice reforms at the local, state, and federal levels. These priorities have implications for stakeholders from civic, governmental, labor, academic, and private sectors. Prioritized from the 200 solution ideas generated through our process, these 55 priority actions have the greatest potential for development, replication, and scaling to improve the systems for adequacy and equity of our PK-12 infrastructure.

1. Facilities Governance and Decision Making

The Problem: A disjointed patchwork of local, state, and federal roles and responsibilities governs the conditions, funding, and oversight of public school facilities. This fragmented system of governance and accountability leaves most local school districts with the sole responsibility for their school facilities, even when they do not have the resources to be responsible stewards of these assets. It also means that there is little accountability and neither the public nor the private sector stakeholders have recourse for poor decisions made locally. As a result, public confidence in management and taxpayer willingness to support bonds or appropriations for public school facilities are frequently low.

It doesn't have to be this way.

When there is a system of governance for PK-12 public school facilities with clearly defined local, state, and federal responsibilities: the public is more willing to support facilities requirements; more contractors will want to participate in public sector work; low-wealth urban and rural communities no longer bear the funding burden on their own; and the quality of school facilities is likely to be more equitable across jurisdictions. Paramount to the success of our vision and the rationale for our recommendations for governance and decision making is understanding that providing adequate PK-12 school facilities for all children is a *shared responsibility*—with different, but important roles for local, state, and the federal governments.



Washington, DC: A. Kiger Savoy Elementary School built 1968, fully modernized 2009.
Image credit: 21st Century School Fund, Bowie Gridley Architects

PRIORITY ACTIONS — FACILITIES GOVERNANCE AND DECISION MAKING

1. **Establish local education and municipal policies** that support an effective system for delivery of public school facilities, to include policy associated with facilities data collection and sharing, planning, governance and decision making, management, funding and accountability.
2. **Establish a facilities office in each state department of education or as an independent state agency with capacity to set** facilities standards, collect facilities data, and provide financial, technical, and training support to local districts.
3. **Guide state facilities decisions with an independent advisory committee** of individuals with health, education, environmental and finance backgrounds as well as end user stakeholders.
4. **Provide state financial, technical, and training assistance to local school districts on facility planning tasks.** Important tasks include facility assessments, enrollment projections, facilities master planning, and joint use development and management.
5. **Establish state policies/guidelines to inter-agency and regional capital planning and development.** Enable joint development opportunities that combine other compatible municipal service delivery sites (e.g., libraries, senior centers, etc.) with schools.
6. **Develop model legal contracts for innovative PK-12 infrastructure partnerships.** Priority model contracts might include those in support of inter-agency development, pay for success, energy or other performance contracting, and public-private joint development partnerships.
7. **Establish a facilities office in the U.S. Department of Education,** with a strategic national focus on school facilities that collects basic facilities inventory data, supports research, helps define minimum facilities standards, and communicates effective practice.
8. **Support research, guidance, and technical assistance on public school facilities in other federal agencies,** including the Environmental Protection Agency, the Department of Energy, the Department of Agriculture, the Department of Housing and Urban Development, and the Federal Emergency Management Assistance department.
9. **Establish local policies to guide fair and efficient facilities decision-making** and approval processes that require both school and community engagement as well as transparency regarding: planning, financing, design, procurements and contracts, school consolidations and closings, attendance zones, and student assignment.

Shared Responsibility: Local, State, and Federal

The education of our children is both an intensely personal responsibility and a public one. While parents have responsibility for the health, safety, education, and future success of their children, so too do the community, the state, and the nation. Control of our more than 14,000 public districts by local school boards has long been a hallmark trait of the U.S. public education system.

Local school districts hold the direct responsibility for the delivery and management of public school facilities. However, while every school district aims to provide its children with a good education, the local capacity to deliver adequate facilities varies widely from school district to school district. The result is that school facilities conditions in some communities are unhealthy,

unsafe, and educationally substandard, while they are inspiring and meet all modern health and safety standards in others. This structural disparity necessitates redefining and realigning local, state, and federal interests, roles, and responsibilities in order to provide adequate and equitable facilities for all children. Ensuring local control of our public school facilities should not mean that districts have to shoulder all responsibility for facilities alone.²⁴

State Interests, Roles, and Responsibilities

While local school districts have the day-to-day responsibility for managing their facilities, states often play important roles in supporting local school districts with their facility responsibilities. However, there is tremendous variation in how states express their interests in the adequate and equitable provision of public school buildings and grounds. For example, 12 states provided zero capital funding for PK–12 facilities in the years 1994–2013. In these states, the responsibility was entirely local, with little-to-no state involvement. The other 38 states provided varying levels of capital funding each year to local school districts, ranging from 2% to 100% of capital expenditures as reported by local school districts.

In total, for the years 1994 to 2013, local school districts in the U.S. raised 82% of their capital outlay locally, while state governments contributed 18% and the federal government contributed almost no resources.²⁵

Funding Sources of U.S. Public K–12 School Construction Capital Outlay: Fiscal Years 1994–2013



Source: Filardo, M. 2016. State of Our Schools: America's PK–12 Facilities 2016. Washington, D.C.: 21st Century School Fund, National Council on School Facilities and Center for Green Schools. Data source: Local Education Agency (School District) Finance Survey (F-33) published by National Center for Education Statistics (NCES) in the Common Core of Data (CCD), 1994–2013.

Our national experts and leaders identified state governments as critical to ensuring adequate and equitable public school facilities across school districts and communities. For many states, the responsibility for adequacy and equity in public education is grounded in their state constitution. In nearly half of the states, courts have had to clarify that school facility conditions do indeed fall under the domain of state responsibility.²⁶ However, this state responsibility varies tremendously in policy and practice.²⁷

Key state responsibilities for school facilities adequacy include: collecting facilities data and information, adopting standards, monitoring facilities conditions, providing technical assistance to districts, training facilities personnel, and helping to fund school capital construction. A state role is essential to ensuring that facility disparities do not undermine the achievement of specific groups of students.²⁸ Another important state role can be to encourage, support, and require connections among state health, education, environment, transportation, and economic development agencies.²⁹

An Appropriate Federal Role

Our national experts and leaders did not think that our system of local control of public education and state responsibilities should mean that local school districts are left to shoulder the cost of their facility infrastructure alone. Rather, a system of shared responsibility for all aspects of good stewardship is needed by local, state, and federal entities. With this shared

responsibility, all school districts, regardless of size or wealth, rural or urban, can provide equal educational opportunities for students.

Federal funding of PK-12 infrastructure is needed to help the communities with the greatest facility-related burdens and the least ability to meet those needs. There are districts and states with insufficient financial resources to address accumulated facility deficiencies and legacy hazards, such as lead in paint and plumbing; asbestos in flooring, walls and ceilings; and PCBs in lighting and caulk. Other states and districts have been overwhelmed by enrollment growth and thus neglected the renovation of their existing school facilities.

A defined federal PK-12 infrastructure funding program targeted to the worst buildings and the highest need students and communities could help leverage additional local, state, and even private funding for school facility planning and investment. In addition, federal data collection and research could help bring much needed knowledge and increased professionalism into the PK-12 infrastructure field. The federal interest in supporting PK-12 facilities is tied both to the nation's overall interest in the well-established benefits that education brings to our nation's democracy and prosperity as well as to the jobs and fiscal efficiencies that responsible stewardship of public infrastructure creates.

Governance and decision making essentials

- Well-developed codes, policies, and regulations that articulate and designate the local, state, and federal roles and responsibilities for PK-12 facilities
- Defined and transparent systems for public reviews and approvals
- Compensatory systems for allocating facilities funding to low-wealth and disenfranchised communities

2. Operating and Capital Facilities Funding

The Problem: Our system for funding public school infrastructure leaves millions of children and teachers in unhealthy, unsafe, and obsolete public school facilities. The levels of capital financing and annual operating funding from local revenues are unstable and inadequate in all but the wealthiest school districts. Deferred maintenance and delayed capital renewals and new construction means that school districts frequently end up overspending from their operating budget on facility emergencies, utilities, and repairs. Doing so unnecessarily takes money from other areas of educational delivery. Thus, without adequate capital investment in facilities, many districts simply cannot provide the quality of learning environments that children need. At the same time, insufficient funding for routine and preventive maintenance and minor repairs, means that facilities systems and components do not last as long as they are supposed to. Inadequate funding for public school infrastructure falls heaviest on small school districts serving low-wealth communities with aging buildings and high-need populations, be they in rural areas, towns, cities, or in our older suburbs.

It doesn't have to be this way.

When school districts have adequate and stable capital funding, they can provide healthy, safe, educationally appropriate facilities for their community. They make their facilities environmentally sustainable and accessible to community members for civic use. Districts are less likely to overspend on emergencies, utilities, and repairs from their operating budgets. Adequate and

stable facilities funding enables district and contract personnel to responsibly operate and maintain the teaching and learning environments in the school buildings and grounds.

PRIORITY ACTIONS — OPERATING AND CAPITAL FACILITIES FUNDING

- 10. Create and maintain a dedicated maintenance fund** in each state to ensure school districts do the necessary routine and preventive maintenance for healthy and safe environments in schools.
- 11. Incorporate better systems for using “pay-as-you-go”** funding for capital renewals to reduce the overall costs of facilities by eliminating financing and debt costs associated with a portion of a district’s capital projects.
- 12. Reduce legal barriers in state law that limit local school districts from raising local revenue** from bonds (e.g., debt limits that are too low to allow for adequate facilities capital investment, high voter approval thresholds for local bond referenda, etc.).
- 13. Enact state legislation to provide local school districts the flexibility to raise revenue** from sources other than property tax.
- 14. Establish dedicated state revenue streams** to ensure the repayment of long term bonds that finance PK-12 capital improvement projects and new construction.
- 15. Facilitate partnerships between school districts and community colleges and universities** to leverage multiple uses on their properties, raise revenue, and increase capacity for PK-12 facilities construction and management.
- 16. Establish a federal-state partnership** with a PK-12 infrastructure “revolving fund”—such as with bond banks—that gives priority and technical assistance to low wealth school districts.
- 17. Ensure that the federal Every Student Succeeds Act (ESSA) permits states the flexibility to allow and regulate local district securitization of up to 10% of their federal Title I Funds** for major repairs and major maintenance of their facilities.
- 18. Incorporate public school infrastructure in any federal infrastructure initiative** and ensure that a portion of federal infrastructure resources are dedicated toward low-wealth and high-need public education infrastructure.
- 19. Establish federal programs to fund states PK-12 facilities modernization and new construction capital projects** to ensure low-wealth communities with high-need facilities can make their facilities healthy, safe, educationally appropriate, and environmentally sustainable.

Inadequate and Inequitable Funding and Conditions

The U.S. has a major and ongoing annual structural deficit in PK-12 infrastructure investment. We do not spend nearly enough to ensure that all our school facilities are healthy, safe, in good repair, and properly support the educational program. Each year, about \$100 billion in public dollars is spent for maintenance, operations, repair, and capital construction of the nation's public K-12 school infrastructure. Yet, there is a *\$46 billion annual gap* between what is spent each year and what should be spent each year to meet modern industry standards for responsible facilities stewardship.³⁰

Not every community is suffering with substandard school facilities. There are millions of children across the country in state-of-the-art facilities. However, deficiencies and substandard conditions exist in many districts that leave students and school personnel at risk for adverse health and education outcomes. The districts with blighted public school infrastructure, who have not been able to make needed capital investments in their facilities, are paying more for energy, emergencies, maintenance and repairs. The reliance of districts on their property tax base as their sole source of school infrastructure funding restricts what they can accomplish and exacerbates inequities.

Facilities funding essentials

- Dedicated, stable, and adequate revenues for capital funding
- Dedicated, stable, and adequate operating funding for facilities operations, maintenance and repairs
- The staff capacity and authority to leverage public assets and private equity to generate new capital for local district facilities
- Low cost credit and reasonable fees for local district borrowing
- State and federal capital funds to supplement local effort and need

3. Facilities Management

The Problem: While inadequate facilities funding is a major problem, many school districts across the county do not optimize the facility investment resources they do have. Districts too often neglect routine and preventive maintenance, which then backlogs and becomes more expensive over time. Management of capital construction projects often suffers from under-supported and/or untrained staff. At the state level, when departments of education have facilities offices, they are routinely under-staffed for the levels of responsibility required to support local school districts. This particularly affects the very small and the highly-burdened school districts. At the federal level, there is only one staff person associated with our nation's public school facilities—the person charged with management of the Green Ribbon Schools Program. The root of these staffing challenges stems from the fact that stewardship for adequate and equitable facilities is seldom explicit in the vision and mission of public education at the local, state, or federal levels.

It doesn't have to be this way.

When school districts incorporate facilities standards into their educational vision and mission; and when school facilities managers have the authority, expertise, and resources to anticipate and address challenges; then the full value of facilities investments is realized. A proper, non-crisis management approach allows for limited resources to be aligned to the greatest needs and highest priorities.

Our current PK-12 facilities management system needs increased levels of support to meet the complexities and challenges it faces. There are endless management responsibilities for housing students and staff. The priority management actions developed by our working group experts are proposed to increase the value and effects of the extensive work already being done by local school district staff.

PRIORITY ACTIONS — FACILITIES MANAGEMENT

- 20. Incorporate the values and vision for adequate and equitable school buildings and grounds** into the school district’s mission, vision, and strategic plans.
- 21. Establish regular lines of communication between school district program/curriculum staff and facilities departments** so that they may collaboratively plan and manage physical learning environments in ways that enhance teachers’ instructional effectiveness and student performance.
- 22. Provide relevant building condition/system data to facilities maintenance and operations personnel** to better enable them to effectively schedule and implement maintenance, repairs, and improvements.
- 23. Establish a regular maintenance and operations reporting system** for facilities personnel to capture specific problems faced in successfully operating and managing newly-designed and in-place systems.
- 24. Provide adequate maintenance staff training and ongoing technical support** for the operations, maintenance, and repair of “high tech” building system components, and assess the sophistication of new buildings systems and components before purchase, to make sure they can be properly maintained.
- 25. Develop facility lifecycle costing templates, methods, and standards** for school district management.
- 26. Adopt a standard process for capital project management** that is documented in a procedures guide with an appropriate timeline allowing for real-time transparency and accountability throughout the process.
- 27. Establish a clear 1-2 page “project charter agreement” for every capital project.** A Project Charter broadly but clearly defines the project quality, scope, guiding principles, major project phases, primary and secondary objectives, completion dates and key milestones, as well as project costs, other constraints, assumptions and concerns. The charter should be developed through consensus, subject to authorized change, and be signed by the responsible parties.
- 28. Require a web-based project management information system** to support facilities planning, design, and construction; coordinate and streamline approvals; ensure transparency; and improve communications in real-time among diverse parties and stakeholders. The system helps to organize all documents and provides reports on all levels, including project cost forecasting, scheduling, and change orders.
- 29. Conduct facilities workshops aimed at parents and community members** about facilities planning and decision making.
- 30. Adequately staff state facilities offices** for their data management, planning, technical assistance, and oversight responsibilities.

Balancing Public and Private Sector Facilities Services

Unlike instruction, which is largely provided by public school districts and their staffs, much of the management and delivery of the nation's 100,000 public school facilities-related services are contracted out to private firms. School district business officials often find themselves managing a mixture of public employees—custodians, building engineers, and repair workers—and multiple private contractors. Like instruction, school facilities operations and maintenance is usually provided by in-house staff of custodians, building engineers, and repair workers organized by school district supervisors and managers. However, these functions are far more likely to be contracted out by districts than they were 10 years ago. As building services, systems, and facilities management become more technically complex, many school districts contract out basic functions like cleaning, energy management, HVAC servicing, minor repairs, and pest control, rather than invest in training and support for in-house personnel.

Nearly all school districts contract out design, engineering, and construction of facilities. Increasingly, even the management of the capital construction programs themselves are outsourced to private construction management firms. Procurement laws and regulations are changing to allow new types of contracts, such as design/build, performance contracts, pay-for-success, and construction management at-risk. But the school district is ultimately responsible to the public for the quality, scope, schedule, and cost of their capital projects. School district procurement and capital project managers need the support, experience, authority, and pay comparable to the contractors they must oversee.

Facilities management essentials

- Adequate funding with clear priorities
- Local school district and state government mission statements and strategic plans that include school facilities
- Well trained and experienced facility managers and labor personnel, with adequate compensation
- Technology tools that support facilities management and maintenance functions
- Systems and protocols for open communication between the many stakeholders associated with and affected by school facilities



Images credit: Concordia, LLC

4. Educational Facilities Planning

The Problem: School districts often do not do nearly enough planning for their facilities. Without adequate plans, school districts can only react to facilities problems rather than anticipate them and mitigate them in a timely fashion. As a result, districts pay more to operate facilities and for their capital improvements or new construction. A lack of planning also means that facilities decisions are overly politicized, and often facilities spending is inequitable. Spending on poorly planned school facilities causes communities to lose important benefits that could have been realized through their investments.

It doesn't have to be this way.

School district educational facilities planning enables districts and communities to align their resources to their needs. It also provides an opportunity to create a shared vision for the future, not just of a school building, but of a community. Additionally, when facilities plans are developed in partnership with a broad and diverse set of school and community stakeholders, districts often find innovative ways to meet their programmatic and building needs. Authentic community engagement in school facility planning can also be a catalyst for social capital and increase community participation in local schools.

PRIORITY ACTIONS — EDUCATIONAL FACILITIES PLANNING

- 31. Require every district to have an up-to-date five-year master facilities plan** guided by public engagement and available online.
- 32. Include school district facilities master plan requirements for the outdoor space on school campuses** that will support experiential education; physical activity, athletics and outdoor play; environmental design; and public use.
- 33. Establish a school district facilities planning office or designee** responsible for community and school engagement.
- 34. Prepare annual districtwide maintenance, repair, and energy management plans** and schedules that are realistic, holistic, and have been developed with stakeholders and contractors.
- 35. Coordinate school district and school specific facility capital and maintenance plans,** ensuring that school building users, custodians, engineers, and capital planning staff engage in coordinated planning on a regular basis.
- 36. Define and disseminate benchmarks for local PK-12 facilities planning** that focuses on procedural requirements, stakeholder engagement, data analysis, decision-making processes, and transparency.
- 37. Provide technical assistance and tools for school districts on community and civic engagement** best practices.
- 38. Train and educate school administrators, school boards, and other stakeholders on the importance of facility planning** and how to run a community engagement process with the right mix of community and technical input.

Planning Results in High Value for Least Cost

High quality — and even adequate — school infrastructure does not just happen; it must be planned. Based on extensive experience in the field, there was strong consensus among our participants that educational facilities planning for operations, maintenance, and capital projects provides high value at low cost. Facility planning processes cost a small fraction of an overall facility operating or capital budget but can have profoundly positive effects on maintenance, operations, and the quality of design and construction.

However, low-wealth and high-need school districts and communities often inadequately plan or neglect the planning process altogether. Instead, they respond to the facility problems immediately in front of them, rather than working with their stakeholders to step back and acknowledge, understand, communicate, and take responsibility for the conditions their community is faced with.

There is always demand and need for building improvements. However, when community planning processes are a regular part of a school district's facility program, scarce funds can be more readily directed to the highest needs.

Facilities planning essentials

- Robust public engagement
- Mandates, standards, guidance, and funding for regular operations, maintenance, capital, and educational facilities master planning
- Training and support of district staff for effectively engaging a broad set of local stakeholders
- School district authority, requirements, and resources for planning across other affected public agencies, regions, and sectors



Images credit: 21st Century School Fund

5. Facilities Data and Information

The Problem: Facilities data collection, quality, analysis, and access fall drastically short in many school districts, most states, and nationally. The result is a poorly informed public, overly politicized facilities planning and decision making, inefficient management, little accountability for facilities conditions, and insufficient research to understand the health, education, and community impacts of PK-12 infrastructure.

It doesn't have to be this way.

Open access to facilities data fosters a better-informed public and helps keep public and private sectors accountable for facilities conditions. When states and local communities have access to quality data and informed analyses, facility plans are better informed and less politicized. The public and private sectors can be held accountable for facilities conditions, and communities can better understand the health, education, and community impacts of their PK-12 infrastructure investments.



Image credit: Shutterstock

PRIORITY ACTIONS — FACILITIES DATA AND INFORMATION

- 39. Require local, state, and federal facility data collection and sharing**, appropriate to their roles and responsibilities.
- 40. Structure school district facility information systems to facilitate the aggregation and use of cross-functional data** (including user surveys) to increase the power of collected information.
- 41. Structure school district facility data systems to be linked with other local government data systems** on parks, land use, community development, etc.
- 42. Maintain a publicly accessible state facilities inventory of school district buildings, grounds, and other district owned land or facilities** that is integrated with state department of education school-level data and other public agency data, such as health, open space, energy use, and public safety.
- 43. Include basic data on public school facilities in the Common Core of Data** of the National Center for Education Statistics.
- 44. Use software tools and services** that facilitate the collection, aggregation, availability, and sharing of consistent and relevant data on school facilities from local school districts. Important elements include consistent data configuration, common data definitions, and standardized categorization, as well as better technology protocols for data configuration and communication between different information systems.
- 45. Build a shared and open data portal that captures research, information, data, and case studies of effective school facilities policy and practice** for the different contexts of schools, communities, school districts, and states.
- 46. Conduct a national “state of the field” analysis of local and state data collection on PK-12 facilities.** Study should aim to identify national best practices, useful technical tools, and data schema.

Facilities Data and Transparency is in the Critical Path of Progress

Effective educational facility planning, management, and accountability cannot be done without good data and information. The participation of knowledgeable stakeholders is essential to sound planning. Stakeholders who are armed with high quality data and information will develop better plans, make better decisions, and provide better oversight with data, than they can without it. A critical management responsibility is to set priorities. These day-to-day choices that allocate scarce labor and materials will fall short without timely, appropriate data. There can also be no real accountability without the public and officials responsible for oversight having access to data and analysis of facilities conditions and equity.

Data and information essentials

- Standardized and relevant facilities data collection at federal, state, and local levels
- Public access to facilities data and information
- Timely analysis of facilities data and information to inform decisions
- Integration of facilities data and information with other school, community, and fiscal data and information

6. Accountability

The Problem: Without systems for accountability that include enforcement: public trust in school district facilities management is low; inequities and inefficiencies are often unidentified or can be ignored; and waste, fraud, and abuse are hard to prevent. But of even greater concern, there are no agencies with specific monitoring and enforcement responsibilities for protecting children from health hazards found in their school environments.³¹

It doesn't have to be this way.

When local, state, and federal entities have standards for school siting, design, construction and maintenance it is possible to assess the adequacy and equity of school buildings and grounds. With internal controls and external oversight of school facilities management, the district is better able to manage the balance of private and public interests. When facilities are a part of the overall education accountability framework, resource allocation of operating funds will be better informed. With enforcement policies and resources for incentives and deterrents, districts will secure needed focus for good stewardship of their public school infrastructure.



Image credit: Gainesville Area Chamber of Commerce

PRIORITY ACTIONS — ACCOUNTABILITY

- 47. Establish standards for decision making** on school facilities plans and projects to ensure transparency and community engagement with consequences for not following required protocols and standards.
- 48. Adopt design and building performance standards and performance indicators** for aspects of the building that concern educational adequacy, including how the building supports teachers' instructional effectiveness and students' learning, well-being, and academic performance.
- 49. Conduct regular statewide assessments of PK-12 school facilities**, including for maintenance and operations, minimum design standards, condition, and utilization using standardized key performance indicators, and make the assessments publicly available.
- 50. Require third party commissioning of new schools and newly renovated building systems** to ensure systems work as promised and staff are trained to operate and maintain them to operate as they were designed.
- 51. Conduct regular inspections of school facilities for health and safety requirements** against a statewide checklist/inventory of all available data on school facility conditions to understand immediate environmental health hazards.
- 52. Conduct process, budget, and quality monitoring and audits** of school construction, major renovation and systems renewal projects to ensure compliance with facilities standards, good procurement practice, and fiscal responsibility.
- 53. Share school-level facilities data and assessment findings in real time with school-level staff** (e.g., principals, teachers, and building engineers) so that school-level personnel can verify problems identified and track progress toward remedies.
- 54. Develop the framework and metrics for a Facility Quality Index** that brings facilities data and school/education data together. An FQI should use key indicators, measures, and benchmarks of facilities quality, including for both conditions of the buildings and grounds and the ways in which these facilities support educational programs and related activities.
- 55. Make relevant building industry and academic research available to practitioners so that** they can apply current knowledge and effective practices to their responsibilities for health, safety, efficiency and equity.

Paying Attention Helps Districts Meet Adequacy and Equity Challenges

The physical condition of public school facilities is not integrated into local, state, or federal public school accountability systems. Thus, too little attention is paid to anticipating and planning for buildings and grounds. Instead, precious time and money is wasted reacting to facility emergencies and deficiencies, belatedly responding to enrollment growth and decline, and missing the need and opportunities for redesign and reuse. The local, state, and federal policies necessary for preventing these problems are simply too often not in place.

Facilities accountability essentials

- Standards for facility planning, management, and equity
- Standards for design, condition, utilization, and location of public school facilities
- Meaningful metrics that can be used for comparisons across schools, districts, and states
- Consequences for school districts whose facilities management practices result in unhealthy and/or unsafe conditions for occupants
- Consequences for school districts and contractors whose practices contribute to waste, fraud, or abuse of public funds



Image credit: Shutterstock

P4SI INITIATIVE PHASE 2

Implementing Systemic Reforms

Remedying the widespread inadequacies and inequities in PK-12 infrastructure will not be easy. Effective stewardship of our public school facilities is complicated and technical. It is also legitimately political. The good news is that Phase 1 of the P4si Initiative created a road map for systemic PK-12 infrastructure reform that will deliver adequate and equitable public school facilities for all children. Precisely which priority actions are necessary for each community, school district, or state will vary. But the main highways are the same. These are: appropriate local, state and federal governance and funding; effective facilities planning and management; and relevant facilities data and information supporting public accountability.

Phase 2 of the P4si Initiative is working to secure public and private investments to accelerate progress toward systems for adequate and equitable PK-12 infrastructure. Specifically, the P4si Initiative is seeking partners and investors to move the 55 priority actions forward and help:

- **Raise awareness** of the nexus between school facilities infrastructure and: education quality, health and health equity, community investment, the environment, and social justice.
- **Expand local, state and national networks, coalitions, and collaborations** to advance the priority actions developed from this engagement process.
- **Create information systems** for comparable data and metrics to better advocate for, manage, and understand public school infrastructure and its impacts on society.
- **Conduct policy, legal, finance, and governance feasibility studies** on implementing specific priority actions.
- **Provide technical assistance** to districts, states, and the federal government on implementing priority actions.
- **Research** the complexities of our public school places and how to achieve greater effectiveness, efficiency, and equity in public school facilities delivery.
- **Advocate for appropriate federal and state roles** for ensuring all children have access to adequate public school buildings and grounds.
- **Support constituency building and communications of civic sector groups** advocating for adequacy and equity in public school buildings and grounds.

The 21st Century School Fund, Center for Cities + Schools, National Council on School Facilities, and Center for Green Schools are committed to providing national leadership for Phase 2. We will continue our work on the technical and political challenges and opportunities that this roadmap provides. We will work to expand the community of experts and community leaders dedicated to creating and supporting systems of responsible public facilities stewardship.

This is ambitious work. However, we have seen from our experience and research, that our public school places are essential cornerstones for public education and community strength.

APPENDIX A

Process and Engagement Methods

The 21st Century School Fund (21CSF) and the University of California-Berkeley's Center for Cities + Schools (CC+S), in partnership with the National Council on School Facilities (NCSF) and the Center for Green Schools (CGS) at the U.S. Green Building Council, launched the national *Planning for PK-12 Infrastructure: Adequate Public School Facilities for All Children* initiative in 2016 to counter the forces of inadequacy and inequality in public school facilities across the country.

Phase 1 builds on the deep experience our organizations have in improving public school facilities and our recent research findings on the state of the field. In 2016, 21CSF, NCSF, and CGS released *State of Our Schools: America's K-12 Facilities*, a national report that quantified the widespread structural funding deficit in our public school infrastructure.³² The study looked at 20 years of PK-12 public school facilities spending by states, comparing past levels of spending to minimum investment standards to meet modern standards for adequate and equitable public school facilities. In 2015, CC+S released *Going it Alone: Can California's K-12 School Districts Adequately and Equitably Fund School Facilities?*, a study using a similar approach that looks deeper at school facility spending in California.³³ Again, we found a dramatic trend of statewide underinvestment in school facilities. We also found significant facility investment inequities from school district to school district across the state. What these two studies document is the ongoing structural pattern of both inequitable investment and underinvestment in our PK-12 infrastructure that harms student health and achievement—and is sadly familiar to many students, teachers, and communities.

Building off these research findings and our collective decades-long work to improve public school facilities, our four organizations came together to develop a comprehensive plan for strategic, pro-active solutions. Our leadership team is focused on understanding the challenges to adequate and equitable school facilities and identifying solutions to remedy these deficiencies. The organizing framework for our analytic approach was the six essential elements of PK-12 facilities stewardship systems, as identified by previous research: *Governance and Decision Making; Funding; Maintenance, Operations and Capital Management; Data and Information Management; Educational Facilities Planning; and Accountability*.³⁴



Led by a research and facilitation team from 21CSF and CC+S, our Phase 1 research and engagement process utilized a mixed-method strategy involving six national expert working groups and three days of structured in-person discussion and feedback among working groups and state officials, as described below. Utilizing Delphi method techniques, we garnered input from 85 leaders from 33 states and the District of Columbia who represented a diverse group of non-profit advocacy leaders, local and state officials, researchers, industry professionals, labor advocates, and finance experts.

Six National Working Groups of Cross-Sector Experts

Using elements of the “Delphi” method, a facilitated group technique was used to structure the collection and distillation of knowledge through multiple rounds of feedback and engagement with participants. A diverse group of national experts with a wide range of experiences and knowledge in the field participated in the process. A Delphi approach is especially useful when there is limited or incomplete knowledge of an issue and policy or practice solutions to challenges are being sought, as is the case in the PK-12 facility infrastructure field.³⁵

During the Fall of 2016, 60 non-profit advocacy leaders, local and state officials, researchers, industry professionals, labor advocates, and finance experts were recruited nationally to form working groups organized around the six essential elements of PK-12 facilities stewardship systems noted above. Recruitment for the working groups drew upon the extensive national networks of the Leadership Team. Working group members were also asked to submit nominations for potential additional working group members. Each working group included civic sector education, health, environment and equity advocates; local and state public officials; private building-industry professionals (including architects, construction managers, engineers and facilities data system managers); public and private finance and legal experts; labor representatives; and academic researchers. (See Working Group participant list in Appendix B.)



Civic



Governmental



Building Industry



Public Finance



Labor



University

Working group members participated in a highly-structured four-month process of four rounds of feedback, facilitated by staff from 21CSF and CC+S. The feedback from participants was structured into four tasks: a) articulating the *problems* in school facilities specific to the working group topic (e.g., funding, planning, accountability, etc.); b) identifying the negative *impacts* of these problems; c) describing the underlying causes of the problems; and d) generating solutions to the problems that address the causes. Participants were encouraged to be creative in generating “solution ideas,” which could be policy reforms, practice innovations, information technology tools, investment strategies, etc. Throughout the process, the research and facilitation team conducted detailed content analysis of the feedback received, then consolidated, synthesized, and refined the findings for the next round of review from participants.

Structured event #1: For each working group, a 30 minute conference call webinar was conducted (three hours total). On these, the research facilitators described the objectives and gave a process overview.

- Problem statements draft #1: 21CSF and CC+S prepared a short list of statements on the problems, impacts, and causes for each of the elements of the PK-12 infrastructure system and emailed this information in a Microsoft Word document to working group participants to review, edit, and expand upon based on their experience and expert opinions. Participants emailed their feedback on the problem statements in track changes to 21CSF and CC+S.

Structured event #2: 21CSF and CC+S facilitated a 1 hour conference call webinar for each of the six working groups to present and discuss the feedback on the problem statements (six hours total). Each participant was given 3-5 minutes to verbally summarize his/her thoughts and suggested edits, with group discussion following. Each webinar was recorded and transcribed.

- Problem statements draft #2: Written and verbal feedback was then consolidated and analyzed by 21CSF and CC+S for each working group and 21CSF and CC+S revised the problem statements, impact statements, and causes statements.
- The facilitators then emailed the revised document back to the members in the corresponding working group for review and edit.
- Solution ideas draft #1: Working group participants were additionally instructed to generate a list of “solution ideas” to address the problems identified in the first round and to provide examples of where these ideas may already be implemented.

Structured event #3: 21CSF and CC+S facilitated a third conference call webinar for each working group, lasting 1.5 hours (nine hours total). On this call, the facilitators presented and reviewed the revisions and participants were each given 5 minutes to summarize his/her thoughts and suggested edits on draft #2 of the problem statement and on their proposed solution ideas. These webinars were recorded and transcribed.

- Solutions framework and solutions draft #1: 21CSF and CC+S used the written and verbal feedback of participants to analyze, consolidate, and revise them into a framework for solutions and the first list of solution ideas. The facilitators then emailed the revised document back to the members in the corresponding working group for review and edit. They were instructed to review all revisions but to focus their feedback on editing and expanding the list of “solution ideas” and providing real-world examples of the solutions ideas. Participants emailed their feedback in track changes to the facilitators.

Structured event #4: 21CSF and CC+S facilitated a fourth conference call webinar for each working group, lasting 2 hours (twelve hours total). On this call, the facilitators presented the solutions framework and list of solution ideas, reviewed the revisions and each participant was given 5–7 minutes to summarize his/her thoughts, make suggested edits, and explain and elaborate on solution ideas. The webinars were recorded and transcribed.

- Solutions framework and ideas draft #2: 21CSF and CC+S conducted an in-depth analysis of the feedback from all participants in each working group. A database of solution ideas and examples and comments was created. In total, 400 solution ideas were generated across the working groups. Duplicative or repetitive solution ideas were consolidated and revised.
- Solution framework and ideas draft #3: 21CSF and CC+S prepared a draft documentation of the findings from each working group that included the problem statement, list of impacts, list of causes, and a list of solutions ideas with examples.
- Draft Summary Report: *Mapping Equity into PK-12 Infrastructure: Quality School Facilities for All Children, Draft Report*. 21CSF and CC+S consolidated and synthesized the problem analysis, solutions framework, and list of proposed actions from each working group into a DRAFT Summary Report. The report also contained an overview of the process, rationale, and a consolidation and synthesis of the 400 solution ideas by 21CSF and CC+S down to 200 proposed actions. (Report available at <http://citiesandschools.berkeley.edu/school-facilities>.)
- The facilitators then emailed a PDF of the summary report to all working group participants, prior to the in-person meetings in December, 2016.

25 State Facility Officials Provide Input

The 200 proposals generated by the working groups were reviewed by state school facility officials at the Annual Meeting of the National Council on School Facilities (NCSF), December 5-6th, 2016 in Washington, D.C. Facilitated by the National Council on School Facilities, the 21st Century School Fund, and the Center for Cities + Schools, state facilities officials from 25 states spent two days discussing, assessing, and scoring the findings and proposals generated by the working groups.³⁶ State officials were given copies of the report, *Mapping Equity into PK-12 Infrastructure: Quality School Facilities for All Children, Draft Report* and worksheets listing all 200 solution ideas generated through the working group process. NCSF participants individually scored each state, federal, and national proposed action along four criteria: potential to positively affect the *condition* of school facilities; potential to positively affect the *equity of access* to adequate public school facilities; potential to positively affect the *affordability* of delivering adequate public school facilities; and the perceived *difficulty* to implement. The results were compiled, tabulated, and analyzed by the research team. (See state facility official participant list in Appendix B.)

Experts Convene: Mapping Equity into PK-12 Infrastructure National Summit

On December 7th, 2016, the 60 working group members and 9 state facility officials from the NCSF convened at the Thurgood Marshall Center in Washington, D.C. for the **Mapping Equity into PK-12 Infrastructure National Summit**.

At the summit, 21CSF and CC+S facilitated another structured process for expert feedback and input. National Summit participants were divided into eight cross-sector groups. These groups mixed up members from working groups. Groups were given copies of the report, *Mapping Equity into PK-12 Infrastructure: Quality School Facilities for All Children, Draft Report* and worksheets listing all 200 solution ideas generated through the working group process. Each summit group had a facilitator, and was asked to arrive at group consensus on 5–7 priority proposed actions that they believed would have the greatest potential to remedy inadequacy and inequity in the PK-12 infrastructure sector and are most able to be replicated, developed, and scaled. Each group had a 1 hour discussion, to review local proposed actions, state proposed actions and federal and national proposed actions. For each level of community — local, state and federal — each group identified priority solutions, and then presented their consensus findings to the larger group. The research team audio recorded the group presentations for transcription.

Following the December meetings, the research team conducted a detailed content analysis of all material generated from the process — working group findings, NCSF participant scoring, and the summit group priority recommendations. Triangulating these data, the 21CSF and CC+S synthesized and refined the problem analyses, solution ideas, and priority actions generated through the process for this report. A draft of this report was emailed to participants for comments and comments were incorporated into this report.

APPENDIX B

Working Group and State Official Participants

Governance & Decision Making Working Group

- Pam Attardo, Historic Preservation Officer, Lewis & Clark County (Montana)
- Violet W. Brown, Senior Educational Program Director, Office of Educational Facilities, Florida Department of Education
- Lee Dulgeroff, Chief Facilities Planning and Construction Officer, San Diego Unified School District
- Kate Gordon, Chair, Citizen's Oversight Board, California Proposition 39
- David Lever, former Executive Director, Maryland Public School Construction Program
- Scott Newell, Senior Director, Cooperative Strategies/ Dolinka Group (Colorado)
- Bernard E. Piaia, Jr., Director, Office of School Facilities, New Jersey Department of Education
- Cynthia Uline, Professor Emeritus, Educational Leadership, San Diego State University

Funding Working Group

- Nancy Brune, Director, Kenny Guinn Center for Policy Priorities (Nevada)
- Rick Gross, CEO, BW Realty Advisors
- Vincent Hughes, Senator, State of Pennsylvania
- Rocky Query, CEO, Query Associates
- Lori Raineri, President, Government Financial Strategies Inc.
- Marialena Rivera, Assistant Professor, Texas State University
- Mike Rowland, Facilities Services Director, Georgia Department of Education
- David Sciarra, Executive Director, New Jersey Education Law Center
- William Volker, President, Efficiency Energy, LLC

Management Working Group

- John Dale, Chair, Committee on Architecture for Education, AIA; Principal and Pre K-12 Studio Leader, HED
- Bob Gorrell, Director, New Mexico Public School Facilities Authority
- Martin Knott, President, Knott Mechanical and Wye River Technologies
- Frank Patinella, Senior Education Advocate, American Civil Liberties Union (Maryland)
- Tom Rogér, Vice President, Finger Lakes & Central NY, Gilbane Building Company
- Jerry Roseman, Director of Environmental Science & Occupational Safety & Health for the Philadelphia Federation of Teachers Health & Welfare Fund & Union
- Bill Savidge, Former Engineering Officer, West Contra Costa Unified School District & Former Chief Executive Office, California State Allocation Board
- Don Ulrich, Assistant Superintendent, Facilities Services, Clovis Unified School District (California)
- Jim Wilson, CEO/President, JFW Inc, Project Management

Planning Working Group

- Darryl Alexander, Director of Health, Safety and Well-being, American Federation of Teachers
- Ariel Bierbaum, Assistant Professor, Urban Studies and Planning Program, School of Architecture, Planning and Preservation, University of Maryland
- Steven Bingler, CEO, Concordia, LLC
- Shirl Buss, Y-PLAN Creative Director, Center for Cities + Schools, UC Berkeley
- Sharon Danks, CEO, Green Schoolyards America
- Bill DeJong, Co-founder at Schools for the Children of the World, Senior Advisor DeJong-Richter
- Melanie Drerup, Director of Planning, Ohio Facilities Commission
- David Knotts, Executive Director of Capital Programs, Fulton County Schools (Georgia)
- Jacqueline Leavy, Advisor to the Chicago Educational Facilities Master Planning Task Force
- Jeanne Schultz, Executive Director, Hawaii Institute of Public Affairs

- Peggy Shepard, Executive Director, West Harlem Environmental Action
- Perry Taylor, Director of Facilities, Alabama Department of Education

- Krisztina Tokes, Director of Planning, Los Angeles Unified School District

Data & Information Working Group

- Jason Bocarro, Associate Professor, North Carolina State University, College of Natural Resources
- Lettie Boggs, Chief Executive Officer, Colbi Technologies
- Scott Brown, Director of Facilities, Maine Department of Education
- W.T. “Dusty” Duncan, Facilities Director, Marion School District (Arkansas)

- Lee Prevost, Strategic VP, SchoolDude.com
- Dan Rademacher, Executive Director, GreenInfo Network
- Jerry Roseman, Director of Environmental Science & Occupational Safety & Health for the Philadelphia Federation of Teachers Health & Welfare Fund & Union
- Jim Whittaker, President, Facilities Engineering Associates, Inc.

Accountability Working Group

- Brooks Allen, Vice President, Policy & Legal Affairs, Common Sense (California)
- Claire Barnett, Director, Healthy Schools Network
- Phoebe Beierle, Center for Green Schools at USGBC
- Sarah Hains, Research Facilitator, Chicago Teachers Union

- Juan Mireles, Director, School Facilities and Transportation Services Division, California Department of Education
- Kathy Patterson, Auditor, District of Columbia
- Mike Pickens, Director of Facilities, West Virginia Department of Education
- David Walrath, President/Legislative Advocate, Murdoch, Walrath, & Holmes (California)

State Officials Providing Input on Priorities at the NCSF Annual Meeting 2016

- Tim Mearig, Facilities Manager, Alaska Dept. of Education & Early Development
- Perry Taylor, State Architect and Director of Facilities, Alabama State Dept. of Education*
- Brad Montgomery, Director, Public School Academic Facilities & Transportation, Arkansas Dept. of Education
- Paul Bakalis, Executive Director, Arizona School Facilities Board
- Juan Mireles, Director, School Facilities and Transportation Services Division, California Dept. of Education*
- Jim Owens, Director, Div. of Public School Capital Construction, Colorado Dept. of Education
- Konstantinos Diamantis, Director, Office of School Construction Grants & Review, Connecticut Dept. of Administrative Services
- James Pennewell, Capital Projects, Delaware Dept. of Education
- Violet Brown, Senior Education Program Director, Florida Dept. of Education*
- Mike Rowland, Director of Facilities Services, Georgia Dept. of Education*
- Gary Schwartz, School Facilities Consultant, Iowa Dept. of Education
- Barbara Bice, School Facilities Branch Chief, Maryland State Dept. of Education

- Scott Brown, Director of School Facility Programs, Maine Dept. of Education*
- Ken Phelps, Lead School Planning Consultant, North Carolina Dept. of Public Instruction
- Amy Clark, Administrator of School Safety & Facility Management, New Hampshire Dept. of Education
- Bernard Piaia, Director of Facilities, New Jersey Dept. of Education
- Robert Gorrell, Director, New Mexico Public School Facilities Authority*
- Rosanne Groff, Interim Director of Facilities, New York State Education Dept.
- Melanie Drerup, K-12 Planning Manager, Ohio Facilities Construction Commission*
- Michael Elliott, State School Fund Coordinator, Oregon Dept. of Education
- Joseph da Silva, School Construction Coordinator, Rhode Island Dept. of Education
- Jenefer Youngfield, School Construction Inspection Specialist, Utah Dept. of Education
- Michael Pickens, Executive Director, West Virginia Dept. of Education*
- Delbert McOmie, Director, Wyoming State Construction Dept.

**Also working group members.*

ENDNOTES

1. Vincent, J.M. 2014. Joint Use of Public Schools: A Framework for Promoting Healthy Communities. *Journal of Planning Education and Research* 34(2): 153-168.
2. Allen, J.G. et al. 2017. Foundations for Student Success: How School Buildings Influence Student Health, Thinking and Performance. Cambridge, MA: Harvard T.H. Chan School of Public Health, Harvard Center for Health and the Global Environment. <http://schools.forhealth.org>
3. Fisk, W.J. et al. 2016. Significance of the School Physical Environment—A Commentary. *Journal of School Health* 86(7): 483-487.
4. U.S. Environmental Protection Agency. 2011. Report of the Indoor Environment Workgroup on Indoor Environment. Children's Health Protection Advisory Committee. Washington, DC: US EPA. https://www.epa.gov/sites/production/files/2014-05/documents/chpac_indoor_air_report.pdf.
5. Uline, C. and Tschannen-Moran, M. 2008. The Walls Speak: The Interplay of Quality Facilities, School Climate, and Student Achievement. *Journal of Educational Administration* 46(1): 55-73.
6. Maxwell, L.E. 2016. School building condition, social climate, student attendance and academic achievement: A mediation model. *Journal of Environmental Psychology* 46: 206-216.
7. Branham, D. 2004. The wise man builds his house upon the rock: The effects of inadequate school building infrastructure on student attendance. *Social Science Quarterly* 85(5): 1112-1128.
8. Buckley, J. et al. 2005. Fix it & they might stay: School facility quality and teacher retention in Washington, D.C. *Teachers College Press* 107: 1107-1123.
9. United States Department of Education, Office For Civil Rights 2014. "Dear Colleague Letter: Resource Comparability." Washington, DC: US ED. <https://www2.ed.gov/about/offices/list/ocr/letters/colleague-resourcecomp-201410.pdf>.
10. Neilson, C. A., and Zimmerman, S. D. 2014. The effect of school construction on test scores, school enrollment, and home prices. *Journal of Public Economics* 120: 18-31.
11. Filardo, M. 2016. State of Our Schools: America's PK-12 Facilities 2016. Washington, D.C.: 21st Century School Fund, National Council on School Facilities and Center for Green Schools. <http://centerforgreenschools.org/state-our-schools>.
12. Bivens, J. and H. Blair. 2016. A Public Investment Agenda. Washington, DC: Economic Policy Institute. <http://www.epi.org/files/pdf/117041.pdf>.
13. Filardo, M. 2016. State of Our Schools: America's PK-12 Facilities 2016. Washington, D.C.: 21st Century School Fund, National Council on School Facilities and Center for Green Schools. <http://centerforgreenschools.org/state-our-schools>.
14. Filardo, M. 2008. Good Buildings, Better Schools: An Economic Stimulus Opportunity with Long-Term Benefits, Briefing Paper #216. Washington, DC: Economic Policy Institute. <http://www.gpn.org/bp216/bp216.pdf>.
15. U.S. Environmental Protection Agency. 2014. Energy Savings Plus Health: Indoor Air Quality Guidelines for School Building Upgrades. Washington, DC: U.S. EPA. https://www.epa.gov/sites/production/files/2014-10/documents/energy_savings_plus_health_guideline.pdf.
16. The U.S Department of Education reports that more than half of U.S. schools have inadequate structural facilities, which may directly affect children's health, including poor lighting, acoustics, temperature regulation, or air quality (Alexander, D., and Lewis, L. 2014. Condition of America's Public School Facilities: 2012-13 (NCES 2014-022). U.S. Department of Education. Washington, DC: National Center for Education Statistics); The American Society of Civil Engineers gives our public K-12 infrastructure a grade of "D+" in their 2017 Infrastructure Report Card (<http://www.infrastructurereportcard.org/cat-item/schools/>).
17. Council of Great City Schools. 2014. Reversing the Cycle of Deterioration in the Nation's Public School Buildings. Washington, DC: Council of Great City Schools. <https://www.cgcs.org/cms/lib/DC00001581/Centricity/Domain/87/FacilitiesReport2014.pdf>.
18. Alexander, D. and Lewis, L. 2014. Condition of America's Public School Facilities: 2012-13 (NCES 2014-022). U.S. Department of Education. Washington, DC: National Center for Education Statistics; Filardo, M. et al. 2006. Growth and Disparity: A Decade of U.S. Public School Construction. Washington, DC: Building Educational Success Together. http://citiesandschools.berkeley.edu/reports/BEST_2006_GrowthandDisparity_final.pdf.
19. Sciarra, D.G., Bell, K.L., and Kenyon, S. 2006. Safe and Adequate: Using Litigation to Address Inadequate K-12 School Facilities. Newark: New Jersey Education Law Center. http://www.edlawcenter.org/assets/files/pdfs/publications/Safe_and_Adequate.pdf.
20. United States Department of Education, Office For Civil Rights. 2014. "Dear Colleague Letter: Resource Comparability." Washington, DC: US ED. <https://www2.ed.gov/about/offices/list/ocr/letters/colleague-resourcecomp-201410.pdf>.
21. 21st Century School Fund, Scientex Corporation, and the World Bank. 1999. Public School Capital Improvement Programs: Basic Elements and Best Practices. Washington, DC: 21csf. <http://www.21csf.org/csf-home/publications/publicschools/PublicSchoolCapitalImprovementPrograms.pdf>.
22. See: <http://centerforgreenschools.org/state-our-schools>.
23. Vincent, J.M., and Jain, L.S. 2015. Going it Alone: Can California's K-12 School Districts Adequately and Equitably Fund School Facilities? Policy Research Working Paper. Berkeley: Center for Cities + Schools, University of California. http://citiesandschools.berkeley.edu/uploads/Vincent_Jain_2015_Going_it_Alone_final.pdf.
24. Vincent, J.M., and Jain, L.S. 2015. Going it Alone: Can California's K-12 School Districts Adequately and Equitably Fund School Facilities? Policy Research Working Paper. Berkeley: Center for Cities + Schools, University of California. http://citiesandschools.berkeley.edu/uploads/Vincent_Jain_2015_Going_it_Alone_final.pdf.
25. Filardo, M. 2016. State of Our Schools: America's PK-12 Facilities 2016. Washington, D.C.: 21st Century School Fund, National Council on School Facilities and Center for Green Schools. <http://centerforgreenschools.org/state-our-schools>.
26. Sciarra, D.G., Bell, K.L., and Kenyon, S. 2006. Safe and Adequate: Using Litigation to Address Inadequate K-12 School Facilities. Newark: New Jersey Education Law Center. http://www.edlawcenter.org/assets/files/pdfs/publications/Safe_and_Adequate.pdf.
27. Vincent, J.M. 2016. Building Accountability: A Review of State Standards and Requirements for K-12 Public School Facility Planning and Design. Berkeley: Center for Cities + Schools, University of California. http://citiesandschools.berkeley.edu/uploads/Vincent_2016_K12_facility_state_standards.pdf.
28. Rivera, M. 2017. What about the Schools? Factors Contributing to Expanded State Investment in School Facilities. San Antonio, TX: Intercultural Development Research Association. <http://www.idra.org/wp-content/uploads/2017/04/IDRA-School-Facilities-Report-by-Dr-Marialena-Rivera-2017.pdf>.

29. Vincent, J.M. 2012. California's K-12 Educational Infrastructure Investments: Leveraging the State's Role for Quality School Facilities in Sustainable Communities. Center for Cities + Schools, University of California. <http://citiesandschools.berkeley.edu/reports/CCS2012CAK12facilities.pdf>.
30. Filardo, M. 2016. State of Our Schools: America's PK-12 Facilities 2016. Washington, D.C.: 21st Century School Fund, National Council on School Facilities and Center for Green Schools. <http://centerforgreenschools.org/state-our-schools>.
31. Paulson, J.A. and Barnett, C.L. 2016. Public Health Stops at the School House Door. *Environmental Health Perspectives* 124(10): A171-A175.
32. Filardo, M. 2016. State of Our Schools: America's PK-12 Facilities 2016. Washington, D.C.: 21st Century School Fund, National Council on School Facilities and Center for Green Schools. <http://centerforgreenschools.org/state-our-schools>.
33. Vincent, J.M., and Jain, L.S. 2015. Going it Alone: Can California's K-12 School Districts Adequately and Equitably Fund School Facilities? Policy Research Working Paper. Berkeley: Center for Cities + Schools, University of California. http://citiesandschools.berkeley.edu/uploads/Vincent__Jain_2015_Going_it_Alone_final.pdf.
34. 21st Century School Fund, Scientex Corporation, and the World Bank. 1999. Basic Elements of a Well-Managed K-12 Capital Improvement Program. Washington, DC: 21csf; U.S. General Accounting Office. 1998. Leading Practices in Capital Decision-Making (GAO/AIMD-99-32). Washington, DC: US GAO.
35. Okoli, C. and Pawlowski, S.D. 2004. The Delphi method as a research tool: an example, design considerations and applications. *Information & Management* 42:15-29.
36. Summary of the 2016 NCSF Annual Meeting: <http://www.facilitiescouncil.org/ncsf%2Dhome/Events.asp>.

By Emma Dorn, [Bryan Hancock](#), [Jimmy Sarakatsannis](#), and Ellen Viruleg

New evidence shows that the shutdowns caused by COVID-19 could exacerbate existing achievement gaps.

DOWNLOADS

[↓ Article \(PDF-605KB\)](#)

The US education system was not built to deal with extended shutdowns like those imposed by the COVID-19 pandemic. Teachers, administrators, and parents have worked hard to keep learning alive; nevertheless, these efforts are not likely to provide the quality of education that's delivered in the classroom.

Even more troubling is the context: the persistent achievement disparities across income levels and between white students and students of black and Hispanic heritage. School shutdowns could not only cause disproportionate learning losses for these

students—compounding existing gaps—but also lead more of them to drop out. This could have long-term effects on these children’s long-term economic well-being and on the US economy as a whole.

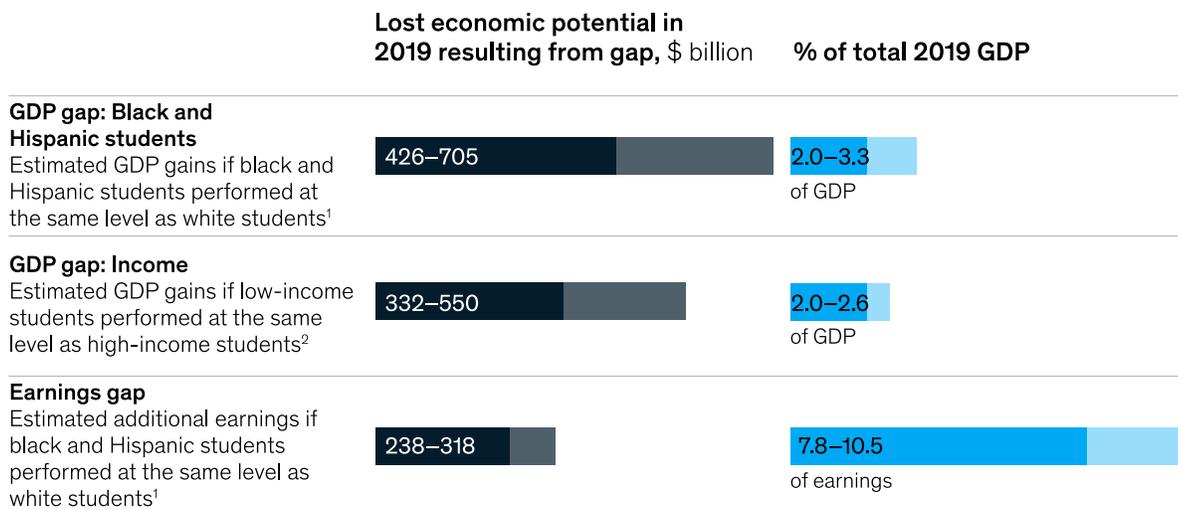
Despite the enormous attention devoted to the achievement gap, it has remained a stubborn feature of the US education system. In 2009, [we estimated that the gap between white students and black and Hispanic ones](#) deprived the US economy of \$310 billion to \$525 billion a year in productivity, equivalent to 2 to 4 percent of GDP. The achievement gap between high- and low-income students was even larger, at \$400 billion to \$670 billion, 3 to 5 percent of GDP.^[1] Although we calculate these two gaps separately, we recognize that black and Hispanic students are also more likely to live in poverty. Yet poverty alone cannot account for the [gaps in educational performance](#). Together, they were the equivalent of a permanent economic recession.

Unfortunately, the past decade has seen little progress in narrowing these disparities. The average black or Hispanic student remains roughly two years behind the average white one, and low-income students continue to be underrepresented among top performers.^[2]

We estimate that if the black and Hispanic student-achievement gap had been closed in 2009, today’s US GDP would have been \$426 billion to \$705 billion higher.^[3] If the income-achievement gap had been closed, we estimate that US GDP would have been \$332 billion to \$550 billion higher (Exhibit 1).

Exhibit 1

The US economy would be significantly larger in 2019 if it had closed achievement gaps in 2009.



¹NAEP 8th-grade math score: comparison of average scores of black and Hispanic students with white students.
²NAEP 8th-grade math score: comparison between low-income (eligible for free lunch) students and high-income students.

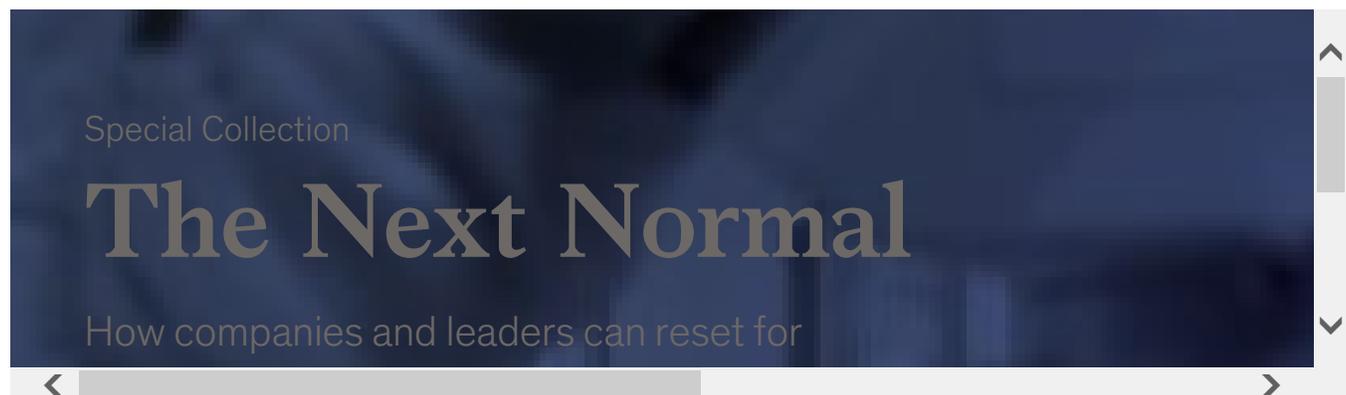


These estimates were made before schools closed and the transition to remote learning began, sometimes chaotically. In this article, we explore the possible long-term damage of COVID-19–related school closures on low-income, black, and Hispanic Americans, and on the US economy.

Learning loss and school closures

To that end, we created statistical models to estimate the potential impact of school closures on learning. The models were based on academic studies of the effectiveness of remote learning relative to traditional classroom instruction for three different kinds of students. We then evaluated this information in the context of three different [epidemiological scenarios](#).

How much learning students lose during school closures varies significantly by access to remote learning, the quality of remote instruction, home support, and the degree of engagement. For simplicity's sake, we have grouped high-school students into three archetypes. First, there are students who experience average-quality remote learning; this group continues to progress, but at a slower pace than if they had remained in school.^[4] Second, some students are getting lower-quality remote learning; they are generally stagnating at their current grade levels. Then there are students who are not getting any instruction at all; they are probably losing significant ground. Finally, some students drop out of high school altogether.



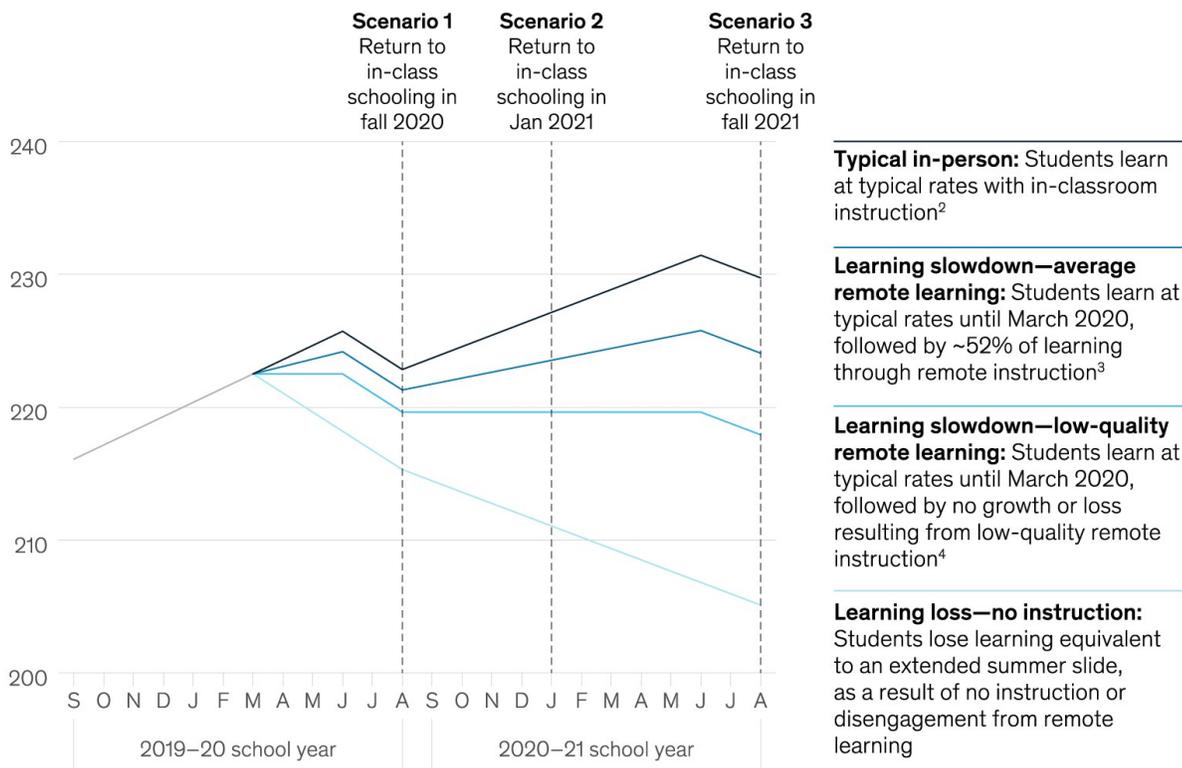
We also modeled three epidemiological scenarios. In the first—"virus contained"—in-class instruction resumes in fall 2020. In the second—"virus resurgence"—school closures and part-time schedules continue intermittently through the 2020–21 school year, and in-school instruction does not fully resume before January 2021.^[5] In the third scenario—"pandemic escalation"—the virus is not controlled until vaccines are available, and schools operate remotely for the entire 2020–21 school year.

In our second scenario (in-class instruction does not resume until January 2021), we estimate that students who remain enrolled could lose three to four months of learning if they receive average remote instruction, seven to 11 months with lower-quality remote instruction, and 12 to 14 months if they do not receive any instruction at all (Exhibit 2).

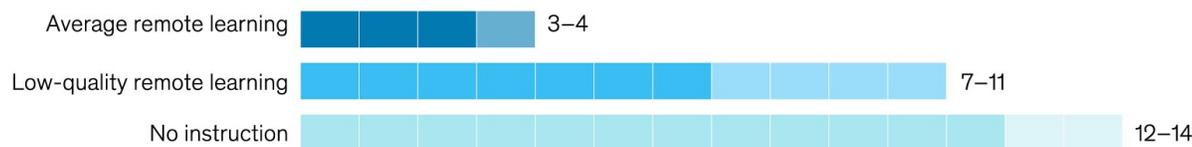
Exhibit 2

In all three scenarios, students are at risk for significant learning loss.

Projected 6th-grade math performance, example, NWEA¹ RIT Scores



Average months of learning lost in scenario 2 compared with typical in-classroom learning



¹NWEA is a K-12 assessment provider serving over 9,500 schools across the US; their RIT scores are a standardized scaled score that measures student performance and progress.

²Normal school year growth rates estimated using NWEA data.

³52% assumed growth for high-quality instruction.

⁴0% assumed average growth for low-quality instruction. Rates of learning loss may differ by student groups.

Source: Megan Kuhfeld, Dennis Condrón, and Doug Downey, *When does inequality grow?*, 2019; Center for Research on Education Outcomes, Online Charter Schools Study, 2015



Although students at the best full-time virtual schools can do as well as or better than those at traditional ones,^[6] most studies have found that full-time online learning does not deliver the academic results of in-class instruction.^[7] Moreover, in 28 states,^[8] with around 48 percent of K–12 students, distance learning has not been mandated.^[9] As a result, many students may not receive any instruction until schools reopen. Even in places where distance learning is compulsory, significant numbers of students appear to be unaccounted for.^[10] In short, the hastily assembled online education currently available is likely to be both less effective, in general, than traditional schooling and to reach fewer students as well.

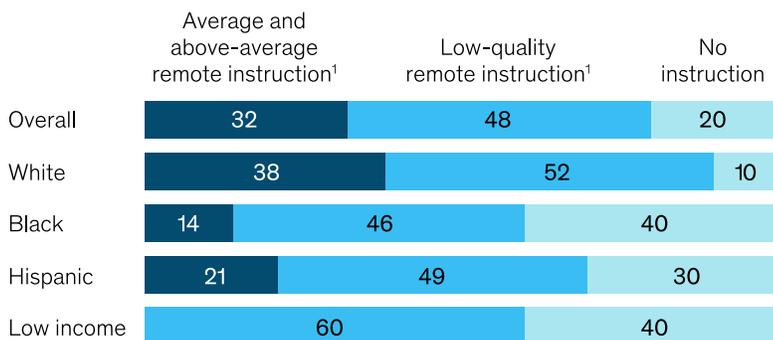
Likely effects on low-income, black, and Hispanic students

Learning loss will probably be greatest among low-income, black, and Hispanic students. Lower-income students are less likely to have access to high-quality remote learning or to a conducive learning environment, such as a quiet space with minimal distractions, devices they do not need to share, high-speed internet, and parental academic supervision.^[11] Data from Curriculum Associates, creators of the i-Ready digital-instruction and -assessment software, suggest that only 60 percent of low-income students are regularly logging into online instruction; 90 percent of high-income students do. Engagement rates are also lagging behind in schools serving predominantly black and Hispanic students; just 60 to 70 percent are logging in regularly (Exhibit 3).^[12]

Exhibit 3

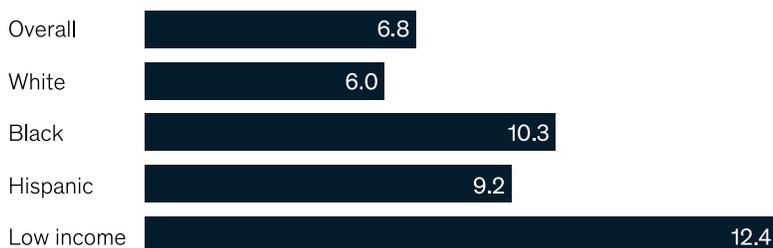
Learning loss will probably be greater for low-income, black, and Hispanic students.

Quality level of remote instruction, % of K–12 students



Black, Hispanic, and low-income students are at higher risk of not receiving remote instruction of average or above-average quality ...

Average months of learning lost in scenario 2 compared with typical in-classroom learning²



... and the result is learning loss from student disengagement and/or lack of access

¹Estimates based on income quintiles, with assumption that top 2 income quintiles receive high-quality instruction.

²Includes 0,05 standard deviation reduction for black, Hispanic, and low-income students to account for recession impacts (~1 month of additional lost learning). Source: US Census 2018



These variations translate directly into greater learning loss.^[13] The average loss in our middle epidemiological scenario is seven months. But black students may fall behind by 10.3 months, Hispanic students by 9.2 months, and low-income students by more than a year. We estimate that this would exacerbate existing achievement gaps by 15 to 20 percent.

In addition to learning loss, COVID-19 closures will probably increase high-school drop-out rates (currently 6.5 percent for Hispanic, 5.5 percent for black, and 3.9 percent for white students, respectively). The virus is disrupting many of the supports that can help vulnerable kids stay in school: academic engagement and achievement, strong relationships with caring adults, and supportive home environments. In normal circumstances, students who miss more than ten days of school are 36 percent more likely to drop out.^[14] In the wake of school closures following natural disasters, such as Hurricane Katrina (2005) and Hurricane Maria (2017), 14 to 20 percent of students never returned to school.^[15] We estimate that an additional 2 to 9 percent of high-school students could drop out as a result of the coronavirus and associated school closures—232,000 ninth-to-11th graders (in the mildest scenario) to 1.1 million (in the worst one).^[16]

In addition to the negative effects of learning loss and drop-out rates, other, harder to quantify factors could exacerbate the situation: for example, the crisis is likely to cause social and emotional disruption by increasing social isolation and creating anxiety over the possibility that parents may lose jobs and loved ones could fall ill. Milestones such as graduation ceremonies have been canceled, along with sports and other extracurricular events. These challenges can reduce academic motivation and hurt academic performance and general levels of engagement.^[17]

The loss of learning may also extend beyond the pandemic. Given the economic damage, state budgets are already stressed. Cuts to K–12 education are likely to hit low-income and racial- and ethnic-minority students disproportionately, and that could further widen the achievement gap.^[18]

The economic impact of learning loss and dropping out

These effects—learning loss and higher dropout rates—are not likely to be temporary shocks easily erased in the next academic year. On the contrary, we believe that they may translate into long-term harm for individuals and society.

Using the middle (virus resurgence) epidemiological scenario, in which large-scale in-class instruction does not resume until January 2021, we estimated the economic impact of the learning disruption. (The results would, of course, be worse in the third scenario and better in the first.) All told, we estimate that the average K–12 student in the United States could lose \$61,000 to \$82,000 in lifetime earnings (in constant 2020 dollars), or the equivalent of a year of full-time work, solely as a result of COVID-19–related learning losses. These costs are significant—and worse for black and Hispanic Americans. While we estimate that white students would earn \$1,348 a year less (a 1.6 percent reduction) over a 40-year working life, the figure is \$2,186 a year (a 3.3 percent reduction) for black students and \$1,809 (3.0 percent) for Hispanic ones.

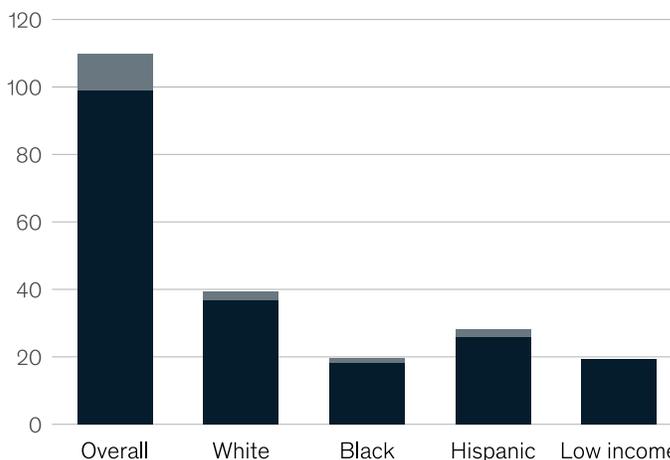
This translates into an estimated impact of \$110 billion annual earnings across the entire current K–12 cohort^[19] (Exhibit 4). Of that sum, \$98.8 billion would be associated with loss of learning and the rest (\$11.2 billion) with the increase in the number of high-school dropouts. This is not just an economic issue. Multiple studies have linked greater educational attainment to improved health, reduced crime and incarceration levels, and increased political participation.

Exhibit 4

Loss of learning leads to loss of earning.

Average annualized earnings loss, scenario 2, \$ billion

- Dropout
- Learning loss



Estimated effect of learning loss

	Overall	White	Black	Hispanic	Low income
Number of students affected, million	55.3	27.1	8.3	14.3	11.8
Average annual earnings lost, \$	1,785	1,348	2,186	1,809	1,642
Average lifetime earnings lost, % ¹	2.2	1.6	3.3	3.0	4.0

Estimated effect of higher number of dropouts

	Overall	White	Black	Hispanic	Low income
Average number of high-school dropouts, thousand	648	263	114	233	NA
Average annual earnings lost, \$ ²	17,218	10,951	11,879	9,280	NA
Average lifetime earnings lost, % ¹	21.2	13.2	18.1	15.2	NA

¹Assumes 40-year work life with average salary in 2020 dollars, using 2% inflation and 4.4% wage growth rate, average estimate.

²Individual earnings on average over a career of 40 years.

Source: Bureau of Labor Statistics; Brookings Institute; National Center for Education Statistics; National Center for Children in Poverty



The damage to individuals is consequential, but the consequences could go deeper: the United States as a whole could suffer measurable harm. With lower levels of learning and higher numbers of drop-outs, students affected by COVID-19 will probably be less skilled and therefore less productive than students from generations that did not experience a similar gap in learning.^[20] Furthermore, if other countries mitigate the impact of lost

learning and the United States does not, this will harm US competitiveness. By 2040, most of the current K–12 cohort will be in the workforce. We estimate a GDP loss of \$173 billion to \$271 billion a year—a 0.8 to 1.3 percent hit (Exhibit 5). [21]

Exhibit 5

The educational losses caused by COVID-19 could hurt long-term GDP growth.

Estimated impact, by scenario

	Learning loss, months	Number of additional high-school drop-outs, thousand	GDP loss by 2040, \$ billion	Annual earnings loss, \$ billion
Scenario 1: In-classroom instruction ¹ resumes by fall 2020	3.1	232	80–125	44–57
Scenario 2: In-classroom instruction ¹ resumes by Jan 2021	6.8	648	173–271	96–124
Scenario 3: In-classroom instruction ¹ resumes by fall 2021	12.4	1,100	306–483	169–221

¹Or instruction as effective as in-classroom instruction.



A call to action

These numbers are sobering—but they are not inevitable. If the United States acts quickly and effectively, it may avoid the worst possible outcomes. But if there is a delay or a lack of commitment, COVID-19 could end up worsening existing inequities.

It is therefore urgent to intervene immediately to support vulnerable students. Many students will continue to take advantage of free learning resources, but school systems must also think creatively about how to encourage ongoing learning over the summer.

Initiatives might include expanding existing summer-school programs, working with agencies that run summer camps and youth programs so that they add academics to their activities, and enlisting corporations to identify and train volunteer tutors. Tennessee, for example, is recruiting 1,000 college students to tutor kids falling behind. New York will be conducting remote summer school for 177,700 students (compared with 44,000 in 2019). Some districts are making digital summer learning available (though optional) to all students.

The necessity of continued remote learning cannot be an excuse for inaction or indifference. There are examples of high-quality online education, and reaching this level should be the general expectation. While no one knows exactly what level of in-class learning will be possible for the 2020–21 school year, many students will probably need to stay home for at least part of it. Educators need to use the summer to learn how to make instruction more effective, whatever the scenario.

Achieving this goal will make it necessary to provide teachers with resources that show them how they can make virtual engagement and instruction effective and to train them in remote-learning best practices. It will also be necessary to work with parents to help create a good learning environment at home, to call upon social and mental-health services so that students can cope with the pandemic's stresses, and to ensure that all students have the infrastructure (such as laptops, tablets, and good broadband) needed for remote learning.

As a blend of remote and in-classroom learning becomes possible, more flexible staffing models will be required, along with a clear understanding of which activities to prioritize for in-classroom instruction, identification of the students who most need it, and the flexibility to switch between different teaching methods. And all this must be done while school systems keep the most vulnerable students top of mind. That may require investment—something that cannot be taken for granted if state and local government budgets are cut.

The US academic-achievement gap was first identified in 1966. Its persistence is troubling. The possibility that COVID-19 could make it worse deserves focused attention. The achievement gap costs the United States hundreds of billions of dollars—and also exacts a long-term cost in social cohesion. This is a moment—and a challenge—that calls for urgency and energy.

1. For both 2009 and 2019, we use \$25,000 in annual income (in 2009 constant dollars) as the cutoff between low and high income.
2. Erik Hanushek, Paul E. Peterson, Laura M. Talpey, and Ludger Woessmann. *Long-run Trends in the U.S. SES-Achievement Gap*, NBER Working Paper No. 26764, National Bureau of Economic Research, February 2020; S. F. Reardon, “The widening academic achievement gap between the rich and the poor: New evidence and possible explanations,” in Greg Duncan and Richard Murnane (Eds.), *Whither Opportunity? Rising Inequality and the Uncertain Life Chances of Low-Income Children*, New York: Russell Sage Foundation, 2011.
3. The learning gap has remained almost the same between 2007 (the year of the latest data when we published our 2009 report) and 2019. Black students scored, on average, 31 points lower than white students did on eighth-grade National Assessment of Education Progress (NAEP) math assessments in 2007; in 2019 they scored 32 points lower. Hispanic students scored, on average, 26 points lower than white students did on eighth-grade NAEP math assessments in 2007; in 2019 they scored 24 points lower. The increase in dollar values is the result of an increase in proportion of black and Hispanic people in the workforce and higher GDP base value in 2019.
4. High-quality remote-learning programs are typically the result careful planning and deliberate approaches—which were not typical of the COVID-19 transition.
5. For simplicity’s sake, we have equated this with schools restarting as normal in January 2021, even though the reality is more likely to be a patchwork of different actions.
6. There is evidence from online-learning providers’ internal, peer-reviewed research that some virtual-learning experiences can achieve parity with brick-and-mortar experiences for students, especially those who were struggling academically.
7. See, for example the 2015 Online Charter School Study of the Center for Research on Education Outcomes (CREDO), credo.stanford.edu.
8. Alaska, Arkansas, Colorado, Connecticut, Georgia, Hawaii, Illinois, Iowa, Kansas, Kentucky, Louisiana, Maine, Maryland, Massachusetts, Missouri, Montana, New Jersey, New York, North Carolina, Ohio, Rhode Island, South Carolina, South Dakota, Tennessee, Utah, Virginia, West Virginia, and Wisconsin.
9. *Politics K–12*, “Coronavirus and learnings: What’s happening in each state,” blog entry by

Education Week staff, April 3, 2020, blogs.edweek.org.

10. The Curriculum Associates analysis of anonymized data on usage from March to May 2020 of i-Ready software (a personalized learning system typically used as supplemental instruction by classroom teachers), curriculumassociates.com.

11. Many parents continue to work full-time outside their homes, so their children may not have an adult at home to supervise their learning; Brooke Auxier and Monica Anderson, “As schools close due to the coronavirus, some U.S. students face a digital ‘homework gap,’” Fact Tank, March 16, 2020, pewresearch.org. Many white-collar workers, however, are able to work remotely and thus provide at least some supervision. Dana Goldstein, Adam Popescu, and Nikole Hannah-Jones, “As school moves online, many students stay logged out,” *New York Times*, April 6, 2020, nytimes.com. Also, one in ten public school students in New York City lives in shelter housing, which can mean several children sharing a single room; Anna North, “The shift to online learning could worsen educational inequality,” *Vox*, April 9, 2020, vox.com.

12. The Curriculum Associates analysis of anonymized data on usage from March to May 2020 of i-Ready software (a personalized learning system typically used as supplemental instruction by classroom teachers), percentage of log-ins as a portion of pre-closure rates on a weekly basis, curriculumassociates.com.

13. To gauge the proportion of students that may fall into our three learning archetypes by race or ethnicity and by income level, we integrated multiple sources of information, including national surveys of teachers and data on student log-in patterns by race or ethnicity and income estimates to generate the plausibility of the type of instruction that students may receive given the income quintiles of their families. Specifically, “No instruction” estimates based on Curriculum Associates data and press reporting, including Mark Lieberman, “Taking attendance during Coronavirus closures: Is it even worth it?,” *Education Week*, May 27, 2020, edweek.org; and Howard Blume and Sonali Kohli, “15,000 LA high-school students are AWOL online, 40,000 fail to check in daily amid coronavirus closures,” *Los Angeles Times*, March 30, 2020, latimes.com. High- and low-quality instruction estimates are based on US Census income quintiles (Income Data Tables, US Census Bureau, 2019, census.gov), with the assumption that top two income quintiles receive higher-quality instruction.

14. *Research brief: Chronic absenteeism*, Utah Education Policy Center, University of Utah, 2012, uepc.utah.edu.

15. “Declining Enrollment, Shuttered Schools,” *Education Week*, September 19, 2018, edweek.org; “Legacy of Katrina: The Impact of a Flawed Recovery on Vulnerable Children of the Gulf Coast,” National Center for Disaster Preparedness, Children’s Health Fund, 2010.

16. To create these estimates, we compared data on the effects on drop-out rates resulting from extended school absences, online-only instruction (which can disrupt engagement and student–teacher relationships), and natural disasters. We focus on grades 9 to 11, as many school districts have relaxed testing and other graduation requirements for current 12th-grade students.

17. Leah Lessard and Hannah Schacter, “Why the coronavirus crisis hits teenagers particularly hard: Developmental scientists explain,” *Education Week*, April 15, 2020, edweek.org.
18. During the 2008 recession, annual academic gains in US counties that suffered the largest shocks to employment fell 25 percent from prerecession levels. These districts disproportionately served poor and black Americans. K. Shores, K and M. P. Steinberg, *Schooling During the Great Recession: Patterns of School Spending and Student Achievement Using Population Data*, 2019.
19. Using projected learning loss onto the National Assessment of Education Progress and its relationship with the country’s GDP and earnings. In addition, in all calculations below, we have accounted for the effects of an economic recession on academic outcomes.
20. Similar effects have been noted for other generations that experienced major learning disruptions. For example, several studies have shown long-term earnings implications for students whose learning was disrupted during World War II.
21. Using Hanushek and Woessman 2008 methodology to map national per capita growth associated with decrease in academic achievement, then adding additional impact of COVID drop-outs on GDP.
-

ABOUT THE AUTHOR(S)

Emma Dorn is the global Education Practice manager in McKinsey’s Silicon Valley office. **Bryan Hancock** and **Jimmy Sarakatsannis** are partners in the Washington, DC, office, and **Ellen Viruleg** is a senior adviser based in Providence, Rhode Island.

The authors wish to thank Priyanka Agrawal, Justice Tention-Palmer, and Josh Williams for their contributions to this article.

This article was edited by Cait Murphy, a senior editor in the New York office.

[Talk to us](#)

TESTIMONY
OF
RICHARD W. BLOOMINGDALE, PRESIDENT
PENNSYLVANIA AFL-CIO
ON
TOXINS AND CONTAMINANTS IN SCHOOLS
FOR THE
PENNSYLVANIA HOUSE DEMOCRATIC POLICY COMMITTEE
HONORABLE RYAN BIZZARRO, CHAIRMAN
REPRESENTATIVE ELIZABETH FIEDLER

APRIL 8, 2021

HARRISBURG, PA

Richard W. Bloomingdale
President
Pennsylvania AFL-CIO
600 North Second Street
Harrisburg, PA 17101
(717) 231 -2841

Good morning Chairman Bizzarro, Representative Fiedler, and members of the House Democratic Policy Committee. My name is Rick Bloomingdale, and I am the President of the Pennsylvania AFL-CIO. I am here today on behalf of our affiliated labor organizations and the 700,000 working members that we represent.

Thank you for the opportunity to present testimony to you today regarding toxins and contaminants in schools, and the impact that rehabilitating our facilities would have on the creation of good, quality jobs. It is a fundamental right of all students, educators, and staff to work in an environment that is safe – and we have the highly skilled labor to ensure that the jobs we face in doing so are done right.

It is no secret that there are a lot of schools across the Commonwealth that are struggling to maintain a healthy environment for those working inside these buildings. For far too long, students across the state have suffered from catastrophic disinvestment in their schools, resulting in physical and environmental hazards in their facilities. As shameful conditions in school facilities have persisted without comprehensive remediation, facilities' needs have continued to increase. COVID-19 has only exacerbated many of the existing needs within buildings, specifically around air quality and ventilation.

The American Society of Civil Engineers in their most recent report gives Pennsylvania's overall school infrastructure a "C-". Statewide, schools are annually spending nearly \$500 million less than the recommended standard for public school facility operation and maintenance each year. Meanwhile, Pennsylvania's school funding debt is double the national average – the second highest in the country. The ASCE's grade takes into consideration general investments made over the past few years, but highlights the dire need for more funding and focus on

condition, as well as on-going maintenance and operation of facilities needed for school infrastructure to be considered fit for the future.

While the Commonwealth remains a leader in the construction of energy efficient school facilities, many of our schools are struggling – leaving some of our most vulnerable communities susceptible to dangerous toxins and contaminants like lead, asbestos, and mold. According to the American Society of Civil Engineers, this means that over the next six years, in order for the Commonwealth to maintain the current condition and capacity of school infrastructure, schools would need to spend an additional \$1.8 billion annually on K-12 facilities.

Furthermore, PA law requires each political subdivision to maintain an emergency plan with the assistance of PEMA, designating many schools as emergency shelters in the event of a natural disaster. Facing a lack of Public Sector OSHA regulations, public employees that work in these facilities are exempt from the standard workplace protections that are provided to others through OSHA – leaving them to work in dangerous positions with little support or recourse. Many schools have been forced to put band aid fixes on infrastructural issues that need major repairs. While lead and asbestos have been slowly addressed over past decades, the general abundance of it within our older school buildings – from floor tiles, to ceilings, and walls – tied with a lack of proper filtration has created life-threateningly hazardous conditions within too many of our schools. Children have experienced lead poisoning, and some educators and staff are showing the fatal and irreversible impact that asbestos leaves behind.

This is also an equity issue. It's no coincidence that these conditions largely impact children living in communities disproportionately impacted by poverty, weighing an additionally large burden on children of color. Your zip code and socioeconomic status should never play a role in the quality of education and child receives, and it most definitely should not define

whether your child is exposed to toxic materials that can irreparably harm them. It also shouldn't determine whether your workplace is safe. Unfortunately, through Pennsylvania's regressive school funding system, children and their educators and staff are left behind in some of our most economically disadvantaged communities. This is not just an issue regarding education and retention – it is a dire situation to their health and safety. Every child in Pennsylvania has the right to a quality education in a safe school. We need to make a greater emphasis in addressing the long-standing inequalities that poorer districts face with the aging school facilities. It's time we fund Pennsylvania's future by creating jobs and building safe schools.

\$4.5 billion dollars have been delegated towards Pennsylvania schools from COVID relief funding, and the President's Infrastructure plan calls on Congress to invest \$100 billion to upgrade and build new public schools, through \$50 billion in direct grants and an additional \$50 billion leveraged through bonds across the nation. Additionally, this plan calls for Congress to provide \$100 billion to expand broadband internet access and \$45 billion to replace lead pipes around the country, which would reduce lead exposure in 400,000 schools and child-care facilities.

These funds are intended be invested toward making sure our schools are healthy places of learning for our kids, and safer working environments for teachers and other education professionals. While it's imperative that we tackle the dangerous health issues including lead, asbestos, and mold – it is also imperative that a focus on improving indoor conditions such as air quality and ventilation, updated and functioning heating and cooling systems, and remediating structural issues so that band aid fixes don't become economically and environmentally debilitating. The President's investments in clean energy and infrastructure while calling for prevailing wages and requiring transportation investments to meet existing labor protections, can

help establish stronger workforce development by supporting local hires so that federal investments can support statewide initiatives to create good jobs and pathways to the middle class.

We know the work that needs done to ensure that every child across the Commonwealth has the right to a quality education in a school that is safe, healthy, and clean. No child, educator, or staff member should ever be poisoned from the environment that they've come to learn or work in. The impact that adequate federal and state funding can have on the health, safety, and well-being of our communities is astronomical.

While the endeavor to safely remediate our schools is large, it is imperative that we do everything we can to effectively address it. In doing so, we are not only creating acceptable work environments for our children and staff – we are creating jobs that can help sustain our communities. Through the addition of more school cleaning and maintenance staff, taking steps to address pest control, implementing better climate control and air filtration systems, improving electrical and general facility upgrades, and properly and permanently removing dangerous materials like asbestos, the investment in building up safer schools reaches well beyond the classroom.

Every student deserves a fighting chance at a quality education in a safe environment, and school employees deserve to right to a workplace without the potential of negative long term health effects. The roles our schools play are irreplaceable across the nation and here at home. Remediation of toxins and contaminants in schools should not be up for debate, it should be the baseline. With properly allocating the funding Pennsylvania receives, we must invest in the future of our children, educators, and staff – now is the time to do this right. We have the skilled labor to ensure that goo paying jobs can stabilize our school facilities in need. By making this

much needed investment, we are also helping to stabilize our local economies, our environmental impact, and our children's' futures for years to come. Thank you.

Thank you to the Chairman and members of the House Democratic Policy Committee for inviting me to testify today on this important topic. My name is Brendan Lupetin and I am an attorney with Meyers Evans Lupetin & Unatin in Pittsburgh, Pennsylvania. My firm has firsthand experience in dealing with cases where toxins were found in schools. I appreciate the opportunity to discuss how students and families were impacted and the legal details of the case.

Unacceptable Lead and Copper Levels in the Water at Summit Elementary School

In January 2017, the parents, students and staff of Summit Elementary School were shocked to learn that the school's drinking water, for some time, had been contaminated with excessive levels of lead and copper. Before diving into the case-specific details of this debacle, it is helpful to revisit the significance of adolescent lead exposure, how it occurs and simple steps that can prevent it from happening.

What is lead?

Lead is a naturally occurring bluish-gray metal found in all parts of our environment. Much of it comes from human activities including burning fossil fuels, mining, and manufacturing.

Lead, which in sufficient amounts is toxic to humans, is found in many different materials and to this day, can still be found in lead-based paint, batteries, ammunition, and a variety of metal products such as solder and pipes. Because of the grave impact lead exposure has had on public health significant steps have been taken over the past several decades that has significantly reduced the amount of lead found in gasoline, paints ceramic products, caulking, and pipe solder. As a result, the amount of lead in the average American's blood is much less now than it was 40 or 50 years ago.

But because it is still so prevalent in society lead remains a major public health concern. Children are especially vulnerable to the deleterious effects of lead. It is well recognized that exposure to lead above recommended levels may lead to delays in normal physical and mental development in young children, compromise attention span, and contribute to hearing and learning abilities in children. Long-term exposure to lead above recommended levels may result in a variety of much more devastating health conditions. Presently, one of the most common sources of lead exposure in children is drinking water.

Where and how does lead get into drinking water?

Lead rarely occurs naturally in water; it usually gets into the water from the delivery system. Plumbing and pipes are the main contributor to high lead levels in tap water. Other sources include parts of the water delivery system such as lead solder used to join copper pipes, brass in faucets, coolers, and valves. Private wells more than 20 years old may contain lead in the "packer" element that is used to help seal the well above the well screen. Some brands of older submersible pumps used in wells may also contain leaded-brass components. But corrosion of pipes and fixture parts that deliver water from wells is the most common culprit contributing to dangerous levels of lead and other contaminants in drinking water.

How can we prevent exposure to lead in drinking water?

Unlike our exposure to lead from paint and metal products which are more difficult ameliorate, water is much easier to control and manage from the standpoint of lead exposure. This is because water can be easily tested for lead and other harmful heavy metals. If excessive levels of lead or heavy metals are discovered in drinking water it is possible to prevent the public from drinking it and correct the problem causing the contamination.

For private wells, the well and pump can be checked for potential lead sources. A licensed well water contractor can help determine if any of the well components are a source of lead. If a source of lead is identified it can generally be replaced or fixed. Alternatively, or additionally, a variety of water treatment methods exist such as reverse osmosis, distillation, and carbon filters specially designed to remove lead.

As a starting point, however, water sources that provide drinking water to children should be checked to regularly to prevent chronic exposure to our society's most vulnerable population. And ultimately, it costs money to conduct such testing and to fix any problems that are discovered.

The Lead and Copper found in Summit Elementary School's Drinking Water

Summit Elementary School, part of the Butler Area school district (BASD), serves roughly 250 students annually in grades Kindergarten through 4th.

During the summer of 2016, the BASD performed tests on Summit Elementary School's water supply by an independent testing company. At that time, the School's water was supplied by two wells located on the property.

In late August 2016, the District received the test results which indicated both lead and copper levels exceeding acceptable water standards. The lead levels found in Summit Elementary's water supply, as shown in the below grid, far exceeded the threshold of 15 parts per billion recognized by the Pennsylvania Department of Environmental Protection as acceptable.

Test Date: 8/15/2016	Level in Parts per Billions	Test Date: 8/29/2016	Level in Parts per Billions
Sample #1	13	Sample #1	55
Sample #2	45	Sample #2	18
Sample #3	25	Sample #3	34
Sample #4	39	Sample #4	32
Sample #5	35	Sample #5	41

In response to the test results, the District Maintenance Director contacted the Pennsylvania Department of Environmental Protection (DEP) to review its obligations.

On September 27, 2017, the DEP outlined the District's responsibilities under the Pennsylvania Lead and Copper Rules (LCR). Summit Elementary School's responsibilities at that point under the LCR were significant. Specifically, the DEP required the School to complete the following steps before the students could resume using the school's water:

1. Collect two additional sets of water quality parameter ("WQP") samples (on different days) at 10 sites in the distribution system and at each entry point. In accordance with Pa. Code, these samples were required to be analyzed by an accredited lab or an appropriately certified operator.
2. Monitor the source water for both Lead and Copper at all entry points to the distribution system in accordance with Pa. Code within six months of the date the action level was first known to have been exceeded.
3. Complete a corrosion control treatment ("CCT") feasibility study and submit the study to DEP.
4. Develop a public education program required to be delivered to the parents of the students, and all faculty and staff.
5. Submit a letter to DEP describing the public education activities within 10 days of completion.
6. Install CCT facilities to address the cause of the problem.
7. Following installation of the CCT facilities submit a request to DEP for optimal WQP designation.

Though the District was responsible for proper and timely remediation in accordance with DEP protocol, the matter was delegated to a Maintenance Director who was tasked with addressing all of the DEP's requirement per the LCR.

For reasons unknown and despite the knowledge by certain District employees of exceedingly high levels of lead and copper in the Summit Elementary's drinking water system, the District's remediation responsibilities were not timely completed. Worse yet, as is alleged in a class action complaint filed in the Court of Common Pleas of Butler County, Pennsylvania, the Summit Elementary School student body was unwittingly allowed to and did ingest drinking water that contained excessive levels of lead and copper.

Regrettably, BASD's above-referenced maintenance supervisor subsequently charged with endangering the welfare of children, recklessly endangering another person and disorderly conduct.

Summit Elementary was ultimately closed in January 2017 after more information became public about the long-standing elevated lead and copper levels in the drinking water. Its approximately 250 students began attending the formerly shuttered Broad Street Elementary in Butler.

Two other school district administrators, including the school's superintendent, resigned amid the disclosure of the water contamination and lack of remedial efforts.

In January 2017, the District contracted with Gannett Fleming to investigate the elevated lead and copper levels in Summit Elementary School's drinking water to determine the cause of the problem and a fix, therefore.

The investigation determined that the elevated levels of lead and copper in the water were due to the aggressive nature of the water supply, specifically a low pH level of water in the well, which caused lead and copper compounds to be released from the piping materials and plumbing fixtures into the potable water. Resultantly, the District was recommended to use alternative water supplies for the school.

In March 2017, the District's School Board voted to do away with well water and contract with Pennsylvania American Water Company, a water utility, to handle the school's drinking water needs. Summit Elementary reopened in January of 2018.

As a result of an approximately 4-to-5-month period of time during which Summit Elementary's students were permitted to drink the contaminated water, the District offered free blood testing to students, faculty, and staff to help determine whether anyone had developed dangerous lead levels in their blood. Ultimately, at least 242 individuals submitted to lead level blood tests. It is unknown at this time whether any individuals demonstrated dangerously elevated levels of lead in their blood.

Conclusion

Ultimately, this entire incident could have been prevented by simply responding to the August 2016 water test results which revealed elevated levels of lead and copper in the school's drinking water. Had the District simply done in late August 2016 what it ultimately did in early 2017 – responding to the DEP's action plan, securing a corrosion control treatment feasibility study, and switched to an alternative water supply - the student body, staff and teachers would have been spared months of exposure to contaminated drinking water and the resultant need for blood testing.

Schools are wise to test their water supplies and systems annually, look to the DEP for guidance, and promptly respond to and implement any remedial measures necessary to keep their students and staff safe.



State Funding to Ensure Safe and Healthy School Facilities: Lessons for Pennsylvania

Mark Duffy and David Lapp
OCTOBER 2020

Introduction

Long before closures due to the coronavirus pandemic, many Pennsylvania schools faced a different health crisis: **unsafe facilities**. Crumbling buildings, asbestos, lead, and other school facility health and safety risks plague many schools across Pennsylvania, particularly in low-income districts and those that enroll a high percentage of Black and Latinx students. Protesters recently drew a connection between systemic racism and these on-going school facility safety hazards.ⁱ

These problems are not exclusive to Pennsylvania.ⁱⁱ But the Commonwealth's failure to provide adequate facilities funding has created what Pennsylvania school administrators and school business officials have called a "growing disparity between those school districts that can address vital school construction, renovation or maintenance needs and those that cannot."ⁱⁱⁱ

In this brief we (1) examine available evidence related to the condition of Pennsylvania's school facilities, (2) review past, current, and proposed policies related to how the state funds emergency facilities expenses, and (3) discuss how other states provide for emergency school facilities funding. Our main findings are as follows:

- Statewide data on the condition of school facilities is limited, but evidence suggests serious and widespread health and safety problems.
- Limits on state funding for school maintenance and on new applications for reimbursements have left many school districts unable to address their construction needs.
- If funded, Pennsylvania's Maintenance Project Grant Program would be similar to programs in neighboring states.
- Several of Pennsylvania's neighboring states base the local share of school facilities maintenance costs, at least in part, on the wealth of the local district.

Below we discuss each finding in more detail and provide recommendations for how Pennsylvania can improve current funding policy to ensure safe and healthy school facilities and address disparities in district capacity to do so.

Finding 1: Statewide data on the condition of school facilities is limited, but evidence suggests serious and widespread health and safety problems.

Pennsylvania does not have a statewide repository or regular public reporting on the overall physical condition of school buildings. Of immediate concern due to the coronavirus, there is no statewide data related to building ventilation. However, federal and state laws do require, under limited circumstances, that school districts report data on the known existence of asbestos and lead.

Asbestos

Under regulations based on the federal Asbestos Hazard Emergency Response Act (AHERA), public school districts and non-profit schools must:

- conduct an inspection to determine whether asbestos-containing materials are present and then re-inspect asbestos-containing material in each school every three years;
- develop, maintain, and update an asbestos management plan and keep a copy at the school; and
- provide yearly notification to parent, teacher, and employee organizations on the availability of the school's asbestos management plan and any asbestos-related actions taken or planned in the school.^{iv}

The School District of Philadelphia publicly reports its AHERA inspection reports for each school.^v A similar inventory of school building conditions does not exist statewide.^{vi} However, in a 2014 school facilities study required under Act 59 of 2013, PDE collected data on 1,194 of the roughly 3,100 public school buildings in the Commonwealth and found that 66% of school buildings were constructed before 1970, making it likely that they contain asbestos.^{vii}

The 2015-16 inspection in Philadelphia found that more than 80 percent of schools had damaged asbestos.^{viii} This is important because under federal law, school districts are required to repair or remove damaged material “in a timely manner”.^{ix} Ten Philadelphia schools were still identified and closed due to damaged asbestos during the 2019-20 academic year alone.^x In November 2019, the School District of Philadelphia put forth a \$12 million plan to accelerate asbestos abatement,^{xi} and later indicated it was using school closures related to COVID-19 as an opportunity to resume asbestos abatement activities earlier than planned.^{xii} Meanwhile, last year several school buildings were also closed in other Pennsylvania school districts due to both asbestos and lead contamination.^{xiii}

Lead

Under Pennsylvania Act 39 of 2018, “school entities”^{xiv} are encouraged, *but not required*, to annually test for lead levels in the drinking water of any facility where children attend school.^{xv} Beginning in the 2018-19 school year and every year thereafter, if a test finds elevated lead

levels, it must be reported to the Pennsylvania Department of Education (PDE) and posted on PDE’s website. School entities must implement a plan to address the lead if results exceed the U.S. Environmental Protection Agency’s national primary drinking water standard of 15 parts per billion. If a school entity chooses not to test for lead levels, then the school entity must “discuss lead issues in the school facilities” at a public meeting once a year.^{xvi}

Under this law, only a small fraction of schools in the state have been tested.^{xvii} Still, during the 2018-19 school year, more than *100 school buildings in 32 Pennsylvania school districts* were found to have drinking water with unsafe levels of lead. These schools are located in rural, suburban, and urban areas all across the state.

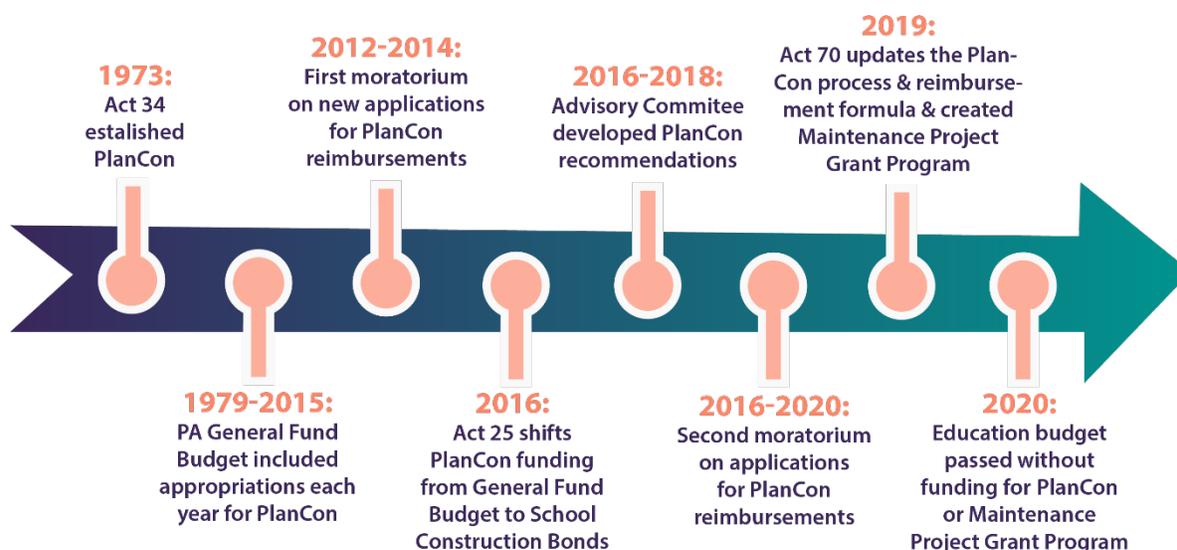
Recommendation 1

Require all school entities and Pennsylvania as a whole to: 1) publicly report the federally mandated asbestos inspection findings and 2) test for and publicly report on lead levels in drinking water on a regular basis. It is critical for the Commonwealth to understand the degree to which damaged asbestos and the presence of lead in drinking water are putting the health of educators and students at risk. If limited testing found unsafe levels of lead in more than 100 school buildings in 32 school districts across the state then it is likely that wider testing would reveal problems in other school districts. Policymakers should follow the recommendations of the [Planning for PK–12 School Infrastructure National Initiative](#) that call for “standardized and relevant facilities data collection at the federal, state, and local levels; public access to facilities data and information; and timely analysis of facilities data and information to inform decisions.”^{xviii}

Finding 2: Limits on state funding for school maintenance and on new applications for reimbursements have left school districts unable to address their construction needs.

Pennsylvania’s established approach to reimbursing school district expenditures for school construction is known as [PlanCon](#), or the Planning and Construction Workbook. When it was originally established under Act 34 of 1973^{xix}, PlanCon was designed to fund construction and reconstruction projects; maintenance or emergency facilities projects were not reimbursable.^{xx} As outlined in Figure 1, that changed with an amendment to PlanCon in 2019 called the Maintenance Project Grant Program. Since the 1979-80 fiscal year, the Commonwealth has spent approximately \$8.1 billion from the General Fund on school facilities, whether through the construction of new facilities or the expansion and renovation of existing facilities.^{xxi}

Figure 1. PlanCon Timeline



The following details the milestones and related issues outlined in the timeline above:

- Moratoriums on new PlanCon applications and a reliance on bonds to eliminate the backlog of existing projects:** From 2012 to 2014 and again from 2016 until the present, the state has issued moratoriums on accepting new applications for school construction reimbursements through PlanCon.^{xxii} In 2012, Governor Corbett declared a moratorium on PlanCon when he slashed education budgets.^{xxiii} After about two years the moratorium was lifted, but was reinstated in 2016 under the Wolf Administration.^{xxiv} In the same year, the state also began relying on school construction bonds to *provide reimbursements to eliminate the backlog of existing PlanCon projects*, without funding any new construction. Act 25 of 2016 authorized the Commonwealth Financing Authority (CFA) to issue up to \$2.5 billion in school construction bonds.^{xxv} A total of just over \$1.5 billion of the \$2.5 billion authorized has been issued. The CFA has projected that the remaining \$1 billion will be issued in early 2021.^{xxvi} The PlanCon funding sources and levels are outlined in Table 1 below.

Table 1. Funding sources and levels for PlanCon

Funding Source	Years	Total Amount
Annual PA General Fund Budget Appropriations	1979-2015 ^{xxvii}	\$8.1 Billion
CFA School Construction Bonds for Pre-existing Projects	2016-2025 ^{xxviii}	\$2.5 Billion

- Adopting recommendations of the bipartisan PlanCon advisory committee:** In 2016, the state also appointed a PA Public School Building Construction and Reconstruction Advisory Committee to review and make recommendations for how to improve PlanCon. The Committee issued over two dozen recommendations in 2018.^{xxix} In 2019, many of the Committee’s recommendations were adopted with the passage of Senate Bill 700 (Act 70), including streamlining the state approval process for school

construction and reconstruction reimbursements and establishing the Maintenance Project Grant Program (MPGP).^{xxx}

- **The Maintenance Project Grant Program (MPGP):** Under Act 70,^{xxxii} school entities can be reimbursed up to \$1 million for school construction projects related to roof repairs and replacement, heating, ventilation and air conditioning equipment, plumbing systems, health and safety upgrades and emergencies, as well as other maintenance issues.^{xxxiii} The MPGP is to be funded from a set-aside equal to 25 percent of the appropriation for school building projects annually. However, the legislature has not provided new funding for the PlanCon reimbursement process or the MPGP since Act 70 was passed and the moratorium on accepting new school projects for reimbursement has continued.^{xxxiii}
- **Flat funding for education and an on-going moratorium on PlanCon:** In January, in his original 2020-21 budget proposal, Governor Wolf proposed \$1 billion of new state funding just for lead and asbestos testing and remediation. The funding would have been available by repurposing existing funding streams. However, in the wake of COVID-19, momentum for this proposal waned and Pennsylvania’s entire education budget was flat funded for the 2020-21 school year. The moratorium on new PlanCon applications, and by association on the MPGP, was continued for another year.

Even before the 2016-2020 moratorium was in place, **school districts in Pennsylvania had some of the highest long-term debt in the country as a result of construction costs.** As shown in Figure 2, at the end of 2013, districts nationwide reported a total of \$409 billion in long-term debt, largely from capital spending on facilities. The national average debt per student was \$8,465. Pennsylvania’s average school construction debt per student was \$15,638, the second-highest of any state and nearly double the national average.^{xxxiv}

Figure 2. National vs. Pennsylvania average school construction debt per student: 2013



Further, according to the Pennsylvania School Boards Association’s 2020 State of Education survey, **50 percent of the more than 320 school districts that participated in the survey reported postponing a school construction or renovation project due to the lack of state reimbursement funding.** More than 37 percent of school districts said that they would use funds from a proposed increase in Basic Education Funding (BEF) to help pay for building maintenance and renovations.^{xxxv} However, this year there was no increase to the BEF or any state education funding.

Recommendation 2

End the moratorium on new applications for construction and reconstruction project reimbursements and provide funding through the General Fund. While the issuance of bonds was an important step to address the backlog of projects, critical new construction projects across Pennsylvania are being postponed due to a lack of consistent state funding. Many of these projects would address necessary upgrades to school facilities to ensure the health and safety of students and educators. State assistance with construction costs will also help to alleviate the heavy burden of long-term debt among school districts and free up other resources to address emergency facilities issues.

Finding 3: If funded, Pennsylvania’s Maintenance Project Grant Program would be similar to programs in other states.

If funded, the MPPG would be comparable to promising programs in Pennsylvania’s six neighboring states that help school districts with the cost of school construction projects targeted at addressing health and safety issues. Table 2 lists the common repair and maintenance projects eligible under the MPPG and similar programs in neighboring states.

Table 2. Repair and maintenance projects in Pennsylvania and neighboring states

State Facilities Funding Programs to ensure Healthy Schools		Common Eligible Projects Listed in State Statute and/or Regulation				
		Building Structures (e.g., Roof, Windows)	Electrical Systems	Health and Safety/ Hazardous Material Removal (e.g., Asbestos, Lead)	Heating, Cooling and/or Ventilation Systems	Water Systems and Plumbing
Delaware: Minor Capital Improvement (MSI) Program		●	●	●	●	●
Maryland: Healthy School Facility Fund (HSFF)		●		●	●	●
New Jersey	SDA Emergent Projects (Emergent)	●	●		●	●
	Regular Operating District Grants (ROD)	●	●	●	●	●
	Securing Our Children’s Future Water Infrastructure Grants			●		●
New York	Building Aid for Construction Emergency			●		
	School Asbestos Hazard Grant Program			●		
Ohio: Exceptional Needs Program (ENP)		●	●	●	●	
West Virginia: Major Improvement Program (MIP) Grant				●		
Pennsylvania: Maintenance Project Grant Program (MPPG)		●		●	●	●

Pennsylvania’s neighbors have developed and funded programs that support repair and maintenance costs related to lead, asbestos, and other potential health risks. For example:

- **Delaware** sets aside Minor Capital Improvement funding each year for school building maintenance and improvements that cost less than \$750,000, with the exception of roof repair.^{xxxvi}
- **Maryland’s** Healthy School Facility Fund (HSFF) provides grants to public schools for capital projects that will improve the health of school facilities. Grants are prioritized to projects that correct issues posing an immediate life, safety, or health threat.^{xxxvii} Under Senate Bill 611, \$30 million must be allocated for FY 2020 and 2021 for the HSFF.^{xxxviii}
- **New Jersey’s** School Development Authority (SDA) has two programs to address school facility issues:
 - 1) **Emergent Projects** are those deemed necessary in the highest needs districts (SDA Districts)^{xxxix} due to potential health and safety issues; and
 - 2) **Regular Operating District Grants** are for school facilities projects that include health and safety issues such as hazardous material abatement (e.g., radon, lead, asbestos).^{xl} In 2018, expenditures were \$18.1 million for Emergent projects and \$93.7 million for ROD grants; however, all bond financing for school construction projects approved by the New Jersey Legislature has been spent or committed.^{xli}

In addition, the **Securing Our Children’s Future Bond Act (2018)** provided \$100 million in grant funding for eligible work to remediate water contamination in public school districts in New Jersey.^{xlii}

- In **New York**, the Building Aid and School Asbestos Hazard Grant programs provide funding to support schools that are addressing issues such as asbestos.^{xliii}
- **Ohio’s** Exceptional Needs Program (ENP) provides funding to school districts with a compelling need for immediate classroom facilities assistance. Qualifying districts receive state funds to address critical health and safety needs due to inadequate facilities.^{xliv} In FY 2019, the ENP dispersed \$15.6 million.^{xlv}
- In **West Virginia**, the Major Improvement Program (MIP) Grant addresses major improvements in existing facilities that are not fundable through the local maintenance budgets. MIP Grant awards range from at least \$50,000 to a high of \$1,000,000, and provide funding based on several criteria, including whether the project addresses “critical health and safety needs.”^{xlvi} In June 2019, there were \$4.9 million in awards made by the SBA for MIP grants.

Similar to programs in many neighboring states, Pennsylvania’s new MPGP created under the 2019 amendment to PlanCon is designed to provide grants to school districts for repair and maintenance projects related to health and safety. As schools work to keep students and staff safe from COVID-19, it is important to note that the MPGP would fund grants to improve *ventilation systems*. Under Act 70, “no grant award for a maintenance project may exceed \$1,000,000.”^{xlvii} Unlike in neighboring states, however, the MPGP has not received state funding.

Recommendation 3

Provide stable and dedicated funding for the Maintenance Project Grant Program.

In addition to funding new applications to PlanCon generally, the state needs to provide specific funding for the Maintenance Project Grant Program under Act 70 so that school districts can address needed updates and repairs to school infrastructure. All of Pennsylvania's neighbors have established and funded similar programs to specifically address facility issues that make a school unhealthy. Potential funding for this program could come from changes to the remaining \$1 billion bond issuance projected to come from the Commonwealth Financing Authority in 2021. Under Act 25 of 2016, the funds are for projects already in the PlanCon pipeline; the legislation would need to be amended so that at least a portion of the funds could be used to address projects that would fall under the Maintenance Project Grant Program.

Finding 4: Several of Pennsylvania's neighboring states base the local share of school facilities maintenance costs, at least in part, on the wealth of the local district.

A 2015 study found that low-wealth districts spend a higher proportion of their total education dollars on the repair of their facilities than high wealth districts. It is also more difficult for low-wealth districts to borrow the capital to invest in facility upgrades, often requiring them to use their operating budgets for necessary repairs.^{xlviii} This reduces the resources available for instruction in those low-wealth districts.

While the new PlanCon application process and reimbursement formula as revised under Act 70 includes the calculation of a "wealth factor", it does not apply to the MPPG. Under the MPPG, all Pennsylvania school districts must provide a *50 percent match for each grant awarded*, regardless of the availability of local resources, unless the secretary determines the project is an emergency, in which case no matching funds are required.^{xlix} However, Maryland, New York and Ohio take a different approach. To ensure equitable funding across school districts, they base the state and local share of school facilities projects in part on local wealth:

- In **New York**, the state share of the allowable expense for any given district is "wealth equalized", meaning it is calculated on a sliding scale based on the district's property value per pupil in relation to the state average. A school district receives aid based on the lesser amount of either the maximum cost allowance or the actual construction cost.^l
- The state share of project funding is set three years at a time for each district in **Maryland**, based on factors related to local wealth. Statute sets the minimum funding for any project at 50 percent of eligible costs, but the state share is higher in lower-wealth districts.^{li}
- School districts in **Ohio** are ranked according to a combination of their property value per pupil and the income of the district's residents. The district wealth rankings establish priority for state assistance and determine the state share of funding that each district will receive. For example, a district at the 10th percentile in local wealth will pay a local share of 10 percent of its facilities needs and receive 90 percent of the funding from the state.^{lii}

In Pennsylvania, the bipartisan PA Public School Building Construction and Reconstruction Advisory Committee, which operated from 2016-2018, also recommended use of a local wealth

metric to determine the local share of construction and maintenance funding.^{liii} However, the state legislature did not adopt that recommendation in the 2019 amendments to PlanCon.

Recommendation 4

Determine the local share of funding for the Maintenance Project Grant Program based, at least in part, on local wealth. Under the Maintenance Project Grant Program in Act 70, a “school entity shall provide a 50 percent match for each grant awarded” and “no matching funds shall be required for a project that is determined by the secretary to be an emergency.” The state should instead apply the wealth factor included in the PlanCon application process to the MPPG or develop a separate distribution formula for this grant program that includes measures of local wealth and a sliding scale for the state and local share. This could be based on the existing state Basic Education Funding Formula, which already includes a median household income index and a local effort capacity index. A number of other states also provide examples of processes that Pennsylvania could draw from, including the neighboring states mentioned above.

Closing Thoughts

With the passage of Act 70 and the inclusion of the Maintenance Project Grant Program, Pennsylvania already has the mechanisms in place to help ensure the health and safety of our school facilities. However, the state does not require regular and complete reporting on the conditions of schools; it has not adequately funded either PlanCon or MPPG in recent years; and even if funded, the MPPG would not utilize a formula that equitably distributes dollars. To address these issues, Pennsylvania could:

1. Require *all* school entities and Pennsylvania as a whole to: 1) publicly report the federally mandated asbestos inspection findings and 2) test for and publicly report on lead levels in drinking water on a regular basis.
2. End the moratorium on new applications for construction and reconstruction project reimbursements and provide funding through the General Fund.
3. Provide stable and dedicated funding for the Maintenance Project Grant Program.
4. Determine the local share of funding for the Maintenance Project Grant Program based, at least in part, on local wealth.

Local districts have a responsibility to ensure that the school buildings our children attend provide a safe environment for teaching and learning, but many districts are struggling to meet that responsibility on their own. The new threat of COVID-19 underscores the urgency for the Commonwealth to do its part. The recommendations above can help policymakers ensure that all school districts have the resources to keep school facilities safe and healthy now and in the years to come.

Endnotes

ⁱ “Educators Protest Racism, Health Hazards in Philly Schools,” The Philadelphia Public School Notebook, June 11, 2020, <https://thenotebook.org/articles/2020/06/10/educators-protest-asbestos-over-policing-in-philly-schools/>.

ⁱⁱ As far back as 1996, a national report by the Government Accountability Office (GAO) found that schools are in “unsatisfactory physical and environmental condition” and are “concentrated in central cities and serve large populations of poor or minority students.” Valerie Strauss, “Perspective | Too Many of America’s Public Schools Are Crumbling — Literally. Here’s One Plan to Fix Them.,” *Washington Post*, accessed October 13, 2020, <https://www.washingtonpost.com/education/2019/03/05/too-many-americas-public-schools-are-crumbling-literally-heres-one-plan-fix-them/>.; In 2011 the United States Environmental Protection Agency estimated that more than 60,000 schools (6%) had environmental conditions that contribute to poor indoor air quality, including pollution, mold, pests, pesticides, radon, asbestos, and lead, among others factors:

Erika Eitland et al., “Harvard Schools For Health Foundations for Student Success” (Harvard School of Public Health), accessed October 13, 2020, https://forhealth.org/Harvard.Schools_For_Health.Foundations_for_Student_Success.pdf.; Children’s Health Protection Advisory Committee, “Report of the Indoor Environment Workgroup on Indoor Environment” (Environmental Protection Agency, November 17, 2011), https://www.epa.gov/sites/production/files/2014-05/documents/chpac_indoor_air_report.pdf.; A recent GAO report published in June 2020 found that about half of districts nationwide needed to update or replace multiple systems like heating, ventilation, air conditioning, and plumbing. U. S. Government Accountability Office, “K-12 Education: School Districts Frequently Identified Multiple Building Systems Needing Updates or Replacement,” no. GAO-20-494 (June 4, 2020), <https://www.gao.gov/products/GAO-20-494>.

ⁱⁱⁱ Pennsylvania Association of School Business Officials, “PASBO-PASA School District Budget Report” (Pennsylvania: Pennsylvania Association of School Administrators, January 2020), <https://www.pasbo.org/Files/pasbo-pasa-school-district-budget-report-jan-2020.pdf>.

^{iv} OCSPP US EPA, “Asbestos and School Buildings,” Other Policies and Guidance, US EPA, March 6, 2013, <https://www.epa.gov/asbestos/asbestos-and-school-buildings>.

^v School District of Philadelphia, “Asbestos – Capital Programs,” *AHERA Inspections* (blog), August 4, 2020, <https://www.philasd.org/capitalprograms/programsservices/environmental/ahera/>.

^{vi} <https://www.inquirer.com/philly/education/lawmakers-call-for-restarting-pa-school-construction-program-20180523.html>; this lack of statewide monitoring and reporting of asbestos hazards in schools is not uncommon nationally (see <https://www.markey.senate.gov/imo/media/doc/2015-12-Markey-Asbestos-Report-Final.pdf>).

^{vii} PSBCRAC, “Public School Building Construction and Reconstruction Advisory Committee,” May 23, 2018, <http://pasenategop.com/plancon/wp-content/uploads/sites/81/2018/05/final-report-052318.pdf>.

^{viii} Wendy Ruderman Purcell Barbara Laker, Dylan, “Dangerous Asbestos Levels Could Pose Risks to Students, Teachers in Philadelphia Schools,” <https://www.inquirer.com/news/inq/asbestos-testing-mesothelioma-cancer-philadelphia-schools-toxic-city-20180510.html>.

^{ix} “Asbestos.” Code of Federal Regulations, title 40, § 736. https://www.epa.gov/sites/production/files/documents/2003pt763_o.pdf

^x “Philly School Asbestos Tracker: What’s Closed and What’s Open,” *Billy Penn* (blog), accessed October 13, 2020, <https://billypenn.com/2020/02/19/philly-school-asbestos-problem-whats-closed-whats-open-and-whats-being-done/>.

^{xi} Avi Wolfman-Arent, “Amid Parent Backlash, Philly Schools Unveil \$12 Million Asbestos Plan,” *WHYY* (blog), November 19, 2019, <https://whyy.org/articles/amid-parent-backlash-philly-schools-unveil-12-million-asbestos-plan/>.

^{xii} Mike DeNardo, “Crews to Resume Asbestos Removal with Philly Schools Closed,” *KYW*, April 17, 2020, <https://www.radio.com/kywnewsradio/articles/news/crews-to-resume-asbestos-removal-with-philly-schools-closed>.

^{xiii} Stacy Lange, “Asbestos, Unsafe Lead Levels Found in Scranton Schools,” *WNEP*, wneep.com, January 28, 2020, <https://www.wnep.com/article/news/local/lackawanna-county/asbestos-unsafe-lead-levels-found-in-scranton-schools/523-55352902-2a7c-4bdc-aa89-e2e6c6aaffe1>.; Sarah Hofius Hall, “With Little Oversight, Asbestos Issues Challenge Pa. Schools,” *Wilkes-Barre Citizens’ Voice*, February 16, 2020,

https://www.citizensvoice.com/news/with-little-oversight-asbestos-issues-challenge-pa-schools/collection_758a1b07-6b07-578f-8331-f44856e37010.html.

xiv "School entity" shall mean a school district, intermediate unit, joint school, area vocational-technical school, charter school, regional charter school or cyber charter school.

xv "2018 Act 39," Pub. L. No. 2018–39, § 39, 241 Public School Code of 1949 (2018),

<https://www.legis.state.pa.us/cfdocs/legis/li/uconsCheck.cfm?yr=2018&sessInd=0&act=39>.

xvi Department of Education, "Lead in Drinking Water," Department of Education, accessed October 13, 2020, <https://www.education.pa.gov:443/Schools/safeschools/resources/Pages/Lead-in-Drinking-Water.aspx>.

xvii Elizabeth Hardison, Pennsylvania Capital-Star January 12, and 2020, "Map: 100 Pa. Schools Found Lead in Their Drinking Water. Here's How They Responded.," *Pennsylvania Capital-Star* (blog), January 12, 2020, <https://www.penncapital-star.com/education/map-100-pa-schools-found-lead-in-their-drinking-water-heres-how-they-responded/>.

xviii "Adequate & Equitable U.S. PK-12 Infrastructure Executive Summary" (Planning for PK-12 School Infrastructure National Initiative, June 2017),

<https://centerforgreenschools.org/sites/default/files/resource-files/pk12-infrastructure-priority-actions-report-executive-summary.pdf>.

xix PSBCRAC, "Public School Building Construction and Reconstruction Advisory Committee," May 23, 2018, <http://pasenategop.com/plancon/wp-content/uploads/sites/81/2018/05/final-report-052318.pdf>.

xx Ibid.

xxi Ibid.

xxii Mary Niederberger, "Many Pennsylvania School Districts Wait for Millions in State Reimbursements," *Pittsburgh Post-Gazette*, July 24, 2014, [https://www.post-gazette.com/local/south/2014/07/24/Many-Pennsylvania-school-districts-wait-for-millions-in-state-reimbursements/stories/201407240003](https://www.post-gazette.com/local/south/2014/07/24/Many-Pennsylvania-school-districts-wait-for-millions-in-state-reimbursements/stories/201407240003;);

xxiii Jessica Schladebeck, "Budget Squabbles Could Cost Schools PlanCon Payments," *York Dispatch*, February 16, 2016, <https://www.yorkdispatch.com/story/news/2016/02/16/budget-squabbles-could-cost-schools-plancon-payments/80455180/>.

xxiv Pennsylvania School Board Association, "Priority Issue: School Construction Funding and PlanCon Process" (Pennsylvania School Board Association), accessed October 13, 2020, <https://www.psba.org/wp-content/uploads/2019/04/PlanCon-Leave-Behind.pdf>.

xxv Joe Markosek, "PlanCon Primer" (House Appropriations Committee, October 20, 2016),

https://www.houseappropriations.com/files/Documents/PlanCon_BP_101916.pdf.

xxvi Interview.

xxvii There was no funding in FY 2015-16 or 2016-17, but a smaller funding amount was appropriated in 2017-18: PSBCRAC, "Public School Building Construction and Reconstruction Advisory Committee," May 23, 2018, <http://pasenategop.com/plancon/wp-content/uploads/sites/81/2018/05/final-report-052318.pdf>.

xxviii Under Act 25 of 2016, no PlanCon bonds (except refunding bonds) may be issued after June 30, 2025: Joe Markosek, "PlanCon Primer" (House Appropriations Committee, October 20, 2016),

https://www.houseappropriations.com/files/Documents/PlanCon_BP_101916.pdf.

xxix PSBCRAC, "Public School Building Construction and Reconstruction Advisory Committee," May 23, 2018, <http://pasenategop.com/plancon/wp-content/uploads/sites/81/2018/05/final-report-052318.pdf>

xxx "2018 Act 39," Pub. L. No. 2018–39, § 39, 241 Public School Code of 1949 (2018),

<https://www.legis.state.pa.us/cfdocs/legis/li/uconsCheck.cfm?yr=2018&sessInd=0&act=39>.

xxxi "Senate Bill No. 700," Pub. L. No. 700, 14 30 (2019),

<https://www.legis.state.pa.us/CFDOCS/Legis/PN/Public/btCheck.cfm?txtType=PDF&sessYr=2019&sessInd=0&billBody=S&billTyp=B&billNbr=0700&pn=1074>.

xxxii Emergency is defined in Act 70 as "a deficiency in a school building that prohibits the school building or a portion of the building from being occupied."

xxxiii See 2020-21 Enacted Budget (Interim), signed by Governor Tom Wolf, May 29, 2020) "General Fund Tracking Run," accessed October 13, 2020,

<https://www.budget.pa.gov/PublicationsAndReports/CommonwealthBudget/Documents/2020-21%20Enacted%20Budget/2020-21%20Interim%20Web%20Track.pdf>.

xxxiv "State of Our Schools: America's K-12 Facilities," accessed October 13, 2020,

<https://files.eric.ed.gov/fulltext/ED581630.pdf>.

xxxv "Publications and Reports 2020 State of Education," Joomag, accessed October 13, 2020,

<http://publications.psba.org/publications-and-reports-2020-state-of-education/0201117001588172444>.



- xxxvi “405 Minor Capital Improvement Program,” accessed October 13, 2020, <https://regulations.delaware.gov/AdminCode/title14/400/405.shtml>.; “Minor Capital Improvements,” 29 § 7528, accessed October 13, 2020, <https://casetext.com/statute/delaware-code/title-29-state-government/chapter-75-school-construction-capital-improvements/section-7528-minor-capital-improvements>.
- xxxvii Interagency Commission on School Construction, “Healthy School Facility Fund Administrative Procedures Guide,” May 23, 2019, <http://www.pscp.state.md.us/programs/HSFF/IAC-APG-116-Healthy%20School%20Facility%20Fund.pdf>.
- xxxviii Ibid.
- xxxix Formerly known as “Abbott districts,” these are the 31 poorest areas of New Jersey as determined by the state Supreme Court. The courts determined that the state must provide 100 percent funding for all school renovation and construction projects in those districts.
- xl New Jersey Department of Education, “Overview of Grant Program for School Facilities Projects in Regular Operating Districts,” accessed October 13, 2020, <https://www.nj.gov/education/archive/facilities/projectapplication/rod/overview.pdf>.
- xli Education Law Center, “Time to Replenish Funding for New Jersey’s School Construction Program,” May 10, 2018, <https://edlawcenter.org/news/archives/school-facilities/time-to-replenish-funding-for-new-jersey%E2%80%99s-school-construction-program.html>.
- xlii Itunu Balogun, “Securing Our Children’s Future Bond Act School Security Grant Outreach – Fact Sheet,” June 6, 2019, 5.
- xliii “Section 155.16 School Asbestos Hazard Grant Program,” accessed October 13, 2020, http://www.p12.nysed.gov/facplan/Laws_Regs/8NYCRR155.htm#_155_16_SchlAsbestosHazardGrantProgram.
- xliv Ohio Facilities Construction Commission, “Exceptional Needs Program Guidelines,” May 2019, <https://ofcc.ohio.gov/Portals/o/PL-16%20ENP%20Program%20Guidelines%20%200510%20Rev.pdf?ver=2019-07-03-125017-363>.
- xlv Ohio Facilities Construction Commission, “Annual Report FY 2019,” accessed October 13, 2020, https://ofcc.ohio.gov/Portals/o/Documents/Resources/Publications/Annual%20Reports/Annual%20Report_2019_Final_Rev_062420.pdf?ver=2020-06-24-082046-383.
- xlvi School Building Authority of West Virginia, “WV School Building Authority,” accessed October 13, 2020, <https://sba.wv.gov/grantawards/Pages/MIP-Grants.aspx>.
- xlvii “2019 Act 70,” Pub. L. No. 70, § 70, 417 (2019), <https://www.legis.state.pa.us/cfdocs/legis/li/uconsCheck.cfm?yr=2019&sessInd=0&act=70>.
- xlviii “State of Our Schools: America’s K-12 Facilities,” accessed October 13, 2020, <https://files.eric.ed.gov/fulltext/ED581630.pdf>.
- xlix Matching funds are not required for a project that is determined to be an emergency.
- ¹ The State Aid Work Group, “School District Responses to Building Aid Incentives,” New York State Education Department Research Monograph, April 2002, http://www.oms.nysed.gov/faru/Articles/FacilitiesRN_FINAL.htm.
- li Interagency Commission on School Construction, “Healthy School Facility Fund Administrative Procedures Guide,” May 23, 2019, <http://www.pscp.state.md.us/programs/HSFF/IAC-APG-116-Healthy%20School%20Facility%20Fund.pdf>.
- lii Ohio Facilities Construction Commission, “Priority Order of Assistance Policy,” October 2019, <https://ofcc.ohio.gov/Portals/o/Documents/Resources/Policies/PL-08%20Priority%20Order%20of%20Assistance%2011.6.19.pdf?ver=2019-11-06-090840-973>.
- liii PSBCRAC, “Public School Building Construction and Reconstruction Advisory Committee,” May 23, 2018, <http://pasenategop.com/plancon/wp-content/uploads/sites/81/2018/05/final-report-052318.pdf>.

Acknowledgements

RFA is grateful to The Heinz Endowments and the William Penn Foundation for generous support of the Pennsylvania Clearinghouse for Education Research (PACER) project. The opinions expressed in this report are those of the authors and do not necessarily reflect the views of the funders.

The authors gratefully acknowledge the contributions of Andrew Christ, John Callahan, and Brett Schaeffer. The Pennsylvania Department of Education reviewed the content in the context of accurately representing the Department's policies and processes. Thank you to the many members of the RFA team who contributed to this report, including Cyril Cherian, Samantha Slade, and Kate Shaw, as well as intern Kelly Qian.