2021 STATE OF OUR SCHOOLS

AMERICA'S PK-12 PUBLIC SCHOOL FACILITIES

21ST CENTURY SCHOOL FUND | Improving Public School Facilities for All Children

INTERNATIONAL WELL BUILDING INSTITUTE™

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ACKNOWLEDGEMENTS

There are many people and entities who have contributed to this report. The analysis and any errors are those of the authors alone, but the authors would like to acknowledge the people and entities without which this report would not have been possible.

The 2021 State of our Schools Report would not have been possible without the data collection, compilation and public reporting of the finance surveys of the U.S. Census of Governments done on behalf of the National Center for Education Statistics (NCES), or the non-fiscal Common Core Data (CCD) collected and shared by NCES. Local school district staff complete the annual chore of responding to these surveys and we are grateful that they have done so.

A missing piece of data in the national CCD and fiscal data collection is the square footage area of the buildings that operating and capital expenditures support. For this data, we thank the state officials who have shared this with us. In working through analytic models, reviewing research and finding case studies, we would like to extend a special thanks to:

- Jeff Vincent, PhD, Director, Public Infrastructure Initiatives, Center for Cities + Schools, University of California, Berkeley
- Anisa Heming, Director of the Center for Green Schools, U.S. Green Building Council

We acknowledge our industry partners, who know that like maintenance, operations and capital construction—doing this report is real work and costs money. For their generous support toward improving our nation's public school facilities by financially contributing to this report's success, we thank:

- Carrier
- Delos
- Honeywell
- SGS Galson
- Trane
- Johnson Controls, Inc.
- U.S. Department of Energy
- Cooperative Strategies

We also want to thank our more than two dozen supporting organizations who are sharing this report with their communities. The research, data, and analysis in the 2021 State of our Schools Report is meant to inform local, state and national action. It is a part of a much bigger context that depends on civic, labor, education, health, and sustainability stakeholders to incorporate it into their perspectives and priorities.

Finally, we acknowledge the hard work and dedication of the following individuals who spent the many hours to develop and move this report into final production:

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As the global leader of healthy, safe, sustainable and intelligent building and cold chain solutions, Carrier innovates to address the planet's most complex challenges, delivering solutions that matter for people and our planet. Through its Healthy Buildings Program, Carrier is optimizing built environments in ways that improve operational efficiency, positively impact occupants and inspire confidence. From ventilation and air filtration technologies to controls, touchless and fire safety products, Carrier is working with school districts across the U.S. to improve indoor environments for students and staff.

Improved indoor environments can also improve thinking and research has shown the potential impact of healthy schools to be great. As we look to keep students healthy and safe, school districts must harness opportunities to drive overall student health, performance and productivity through healthy building strategies. Retrofits, modernizations and upgrades must be done with student health and safety as a top priority, while being smart about costs, budgets and future requirements. Carrier's experts are here to help – starting with assessments across various aspects of a building. For more information, visit our page dedicated to K-12 solutions and services or follow Carrier on social media at @Carrier.

Delos has been committed to improving health and well-being in indoor spaces for nearly a decade, backed by extensive research and collaborations with world-class institutions including Mayo Clinic and Cleveland Clinic. While schools have always been a priority, the company has sharpened its focus on classroom health and safety since the start of the COVID-19 pandemic in an effort to help children, faculty and staff safely return to school.

Delos has been selected by many of the nation's largest school districts, including New York City, Chicago, Miami-Dade and Baltimore, to provide its "Delos powered by Intellipure" air purification units in response to COVID-19. The company has already provided over 150,000 units to schools across the country, along with evidence-based recommendations on necessary measures for safer school reopening, particularly as it relates to indoor air quality.

Paul Scialla, Delos Founder and CEO and Founder of the International WELL Building Institute, recently testified at the Committees on Education and Health council hearing regarding New York City public school reopening. This testimony underscored the importance of minimizing airborne viral load and the role it can play in schools reopening safely, with the hope of helping enable a safe, effective return to in-person learning for students and faculty.

Cooperative Strategies is a national education consulting firm supporting K-12+ strategic planning and operations. We are a tight knit team with backgrounds in school facility management, educational planning, demography, teaching, finance, GIS, capital planning, and community engagement. Our experienced team members include former state department of education leaders; school superintendents, teachers, and administrators; Association for Learning Environments members; Recognized Educational Facility Planners; and MSRB Series 50 Municipal Advisor Representatives.

Our integrative model—Assess, Plan, Fund, Build—merges demographic information, conditional needs, educational goals, and funding ability to provide states and districts with a holistic perspective of their needs.

Whatever the project, our goal is consistent: equitable access to high-quality learning environments for every student every day.

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Honeywell Building Technologies (HBT) is transforming the way every building operates to help improve the quality of life. We are a leading building controls company with operations in more than 75 countries supported by a global channel partner network. Commercial building owners and operators use our hardware, software and analytics to help create safe, efficient and productive facilities. Our solutions and services are used in more than 10 million buildings worldwide. Honeywell works with schools nationwide to help create healthier, safer, more efficient and more equitable learning environments.

SGS

SGS – When you need to be sure.

That isn't just a tagline but rather the way we feel about what we can offer in our communities, with 93,000 employees in 2,600 offices around the world.

When it comes to our children, nothing could be more important. We are leading the charge in offering relevant data for the health, comfort and safety of students, faculty, administrators, and parents while providing critical environmental data to manage building sustainability in schools across our nation. After all, being able to offer services like air quality monitoring around schools affected by neighboring wildfires, or water and inside air observation and analysis in aging educational facilities is a small price to pay for the safety of those working or learning there.

Our SGS EDGE, including SmartSense monitoring, combines analytical lab data to sensor technology ranging from air, water, and physical comfort sensors to advanced auto sampling technology - all unified into a data management system with simple user interfaces and selected alerts. It's about providing you with real-time information for your environmental, health and infrastructure needs.

SGS is on the leading EDGE, can come to where you are and is here to help.

TRANE

Trane® – by Trane Technologies (NYSE: TT), a global climate innovator – is a long-standing educational partner with more than a century of expertise. Trane works with school administrators, facility managers and district leaders to develop building improvement solutions that set schools up for lasting success. We create healthier, more comfortable learning environments, improved energy efficiency and operating costs, as well as infrastructure and facility improvements to help safeguard the learning environment, keep schools open and future-proof school buildings. Through Wellsphere™, our holistic approach to building wellness, Trane surrounds administrators with a coordinated team of experts in indoor air quality, thermal comfort, lighting, acoustics and building controls. We assess each school's unique conditions, mitigate building risks and manage indoor environmental quality and infrastructure performance to help schools make the most of their funding and support student and staff well-being.

Trane support for education extends beyond innovative solutions. From our interactive BTU Crew™ STEM curriculum; to our proud sponsorship of NC3; to our Sustainable Futures citizenship strategy focused on enhancing learning environments and providing pathways to green and STEM careers among underrepresented populations, Trane's educational offerings help address learning loss, prepare students for a bright future and build the workforce of tomorrow. www.trane.com/k12

SILVER

Johnson Controls

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UNIVERSITY OF CALIFORNIA BERKELEY

THE CENTER FOR GREEN SCHOOLS

THANK YOU TO OUR SUPPORTING ORGANIZATIONS

ASSOCIATION FOR LEARNING ENVIRONMENTS
Enhancing the Educational Experience

Children & Nature Network

GREEN SEAL

National Association of Federally Impacted Schools

AASA
THE SCHOOL SUPERINTENDENTS ASSOCIATION

EARTHDAY.ORG

GREEN SCHOOLS NATIONAL NETWORK

NATIONAL RURAL EDUCATION ASSOCIATION
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AIR EQUIPMENT COMPANY
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ELC EDUCATION LAW CENTER

HEALTHY SCHOOLS CAMPAIGN

NLC NATIONAL LEAGUE OF CITIES
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National Association of Secondary School Principals

WOMEN for a Healthy ENVIRONMENT
Healthy Schools

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FOREWORD

During my 15 years at the helm of the Robert Wood Johnson Foundation, we embraced the challenge of pioneering a culture of health, and we knew that we had to find and deliver on solutions that would benefit our schools. More than any other institution in this country, schools underwrite the American promise of equal opportunity and fuel American innovation and progress.

At the height of the civil rights movement, activists fighting to create a more just society put school desegregation at the heart of their efforts. And when Sputnik first launched into orbit, sparking fears that America would lose the space race, we rose to the challenge by rejuvenating our scientific curriculum to launch us into the future. Given the importance of education, it's startling how little attention is paid to where the education of our children is carried out: the classrooms where future poets and politicians learn to read and the labs where budding scientists conduct their first experiments, the cafeterias where they eat and the playgrounds where they meet.

The quality of our educational facilities impacts the quality of American education. Studies show that the physical environment in which kids learn affects everything from student behavior and truancy rates to memory and academic achievement. Heating and cooling systems, air quality and filtration, acoustics and general maintenance all make a huge difference to student health and performance.

Of course, students aren't the only ones spending their days in school buildings. Facilities matter to America's educators, too, and have been shown to impact teacher retention. School administrators, custodians, staff and volunteers also deserve to work in safe, comfortable environments. Given the important role that schools play as community hubs, the quality of their buildings truly touches everyone. Because of their size and ubiquity, public school campuses serve as everything from emergency shelters during natural disasters to polling places on Election Day. Most recently, they have been essential strongholds in the fight against COVID-19, with many serving as testing locations and vaccination centers.

As the 2021 State of our Schools shows, students from low-income, minority and rural families are most likely to attend underfunded school facilities. With the success of future generations at stake, state-of-the-art buildings should be the norm. We cannot achieve true health equity for our youth in decaying schools, and yet when it comes to updating our educational infrastructure, the U.S. is lagging behind – with our children paying the price.

It has never been more important to understand the state of our schools, and this timely report highlights different opportunities to improve not only buildings but the educational experiences of millions of American students. As we work towards a future where all students flourish in learning environments that nurture healthy minds and bodies, the imperative is clear. We must seize this chance to once again invest in our national engine of opportunity and progress.

RISA LAVIZZO-MOUREY
President Emerita and former CEO of the
Robert Wood Johnson Foundation

A NATIONAL CALL TO ACTION

As we release this 2021 State of our Schools, there is much uncertainty. The pandemic shock has yet to be fully absorbed into our public or private systems. The SARS-COV-2 pandemic has abruptly disrupted public education as we know it. In spring of 2020, school buildings sat empty as nearly all the nation's 55 million children, teachers and staff pivoted to remote learning. The far more virulent Delta variant of the virus has taken hold and is posing serious challenges for families and districts as public schools reopen for the 2021-2022 school year.

Three aspects of public education and school facilities are in sharp focus from the pandemic:

- ***Education is a social enterprise*** that depends on buildings and grounds where staff, students and community come together.
- ***The economy depends on universal elementary and secondary public education for*** workforce participation and productivity.
- ***Longstanding deficiencies in public school facilities pose health risks*** for students, staff, and families, particularly in low wealth communities.

Today, through this report, we are issuing a national call to action because, quite simply, the state of our schools is a national emergency, one that compromises the precious opportunity of all our children and the very future of American prosperity.

In 2016, when the U.S. Green Building Council's (USGBC) Center for Green Schools published the last State of our Schools, the report found a $46 billion annual gap in the level of funding for the maintenance, operation and periodic capital improvements needed for good stewardship of its schools.[i] Unfortunately, five years later, we have found that this gap has increased to a staggering $85 billion every single year. This is the case despite the significant efforts that communities are making to provide safe, healthy and adequate public school facilities.

The evidence is clear. No matter how good the curriculum, the teachers or administrators, we can't achieve world-class education with crumbling school facilities. Yet that is where we are. Every national, state, and local policymaker should know the extent of this massive underinvestment and its all-pervasive, cascading effects on the health and education of students, teachers, staff, and our communities.

Photo credit: Jerry Roseman

This report analyzes public data to help policymakers at all levels of government make better, more informed decisions about our public school facilities. We offer a vision forward based on the scale and importance of this essential infrastructure, and the need to confront facilities inequities head-on.

Despite the size of the challenge, we are convinced that with civic, governmental and industry partnerships this nation can make significant progress toward closing facilities funding gaps. A program of federal investments and assistance to build state capacity and support the high need districts has the potential to improve education, health, and the environment in rural, town, suburban and urban communities throughout the nation.

Together, we can develop new solutions, deploy systemic remedies and rally around sound public policy to address deficient and inequitable conditions in our nation's public school facilities.

MARY FILARDO
Executive Director

21st Century School Fund

RACHEL HODGDON
President & CEO

International WELL Building Institute

JUAN MIRELES
2021 President, Board of Directors

National Council on School Facilities

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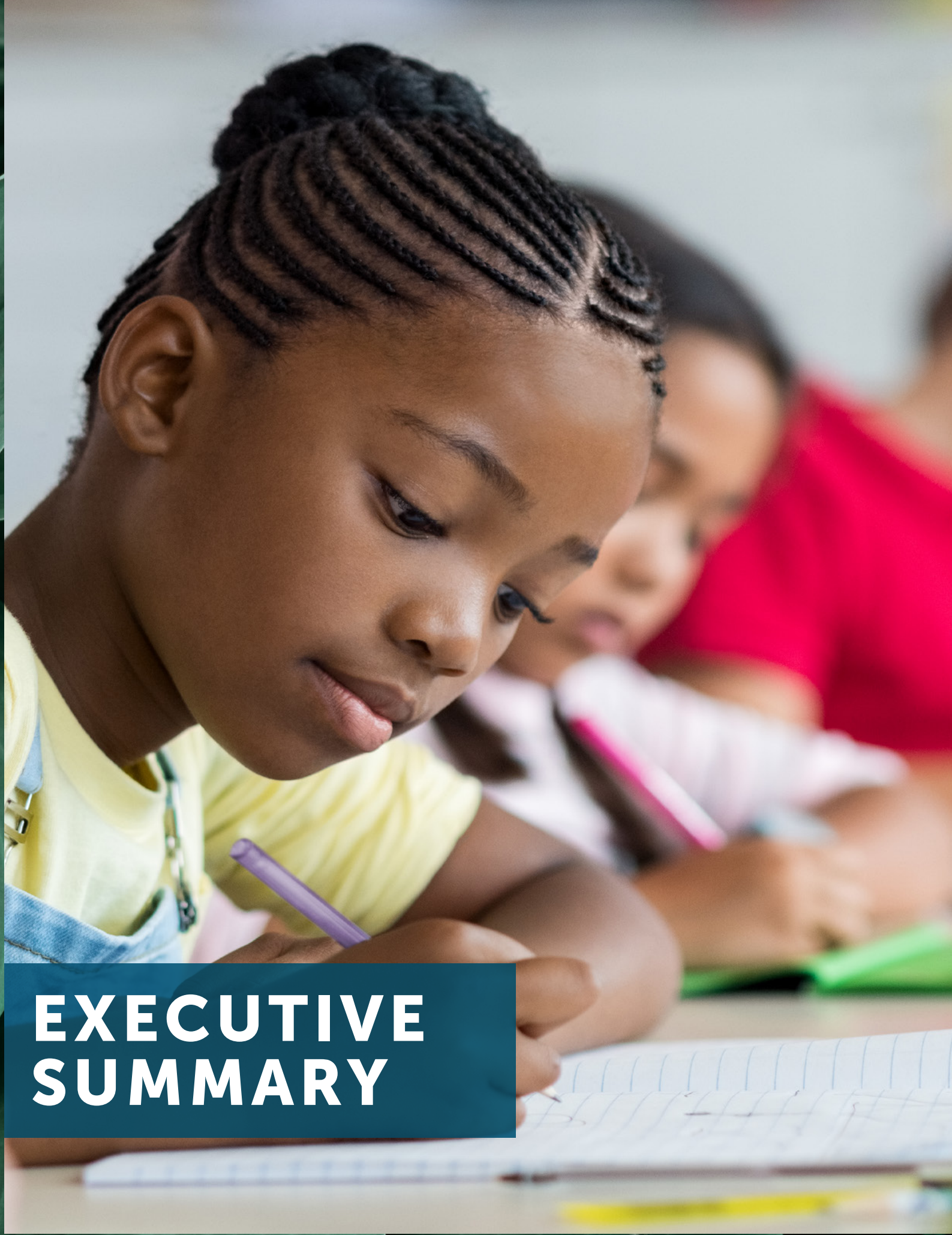


EXECUTIVE SUMMARY

THE IMPORTANCE AND SCALE OF PUBLIC SCHOOL FACILITY INFRASTRUCTURE: QUALITY SCHOOLS BUILD HEALTHIER SOCIETIES

School facilities have a direct impact on student learning, student and staff health, and community vitality. However, too many students attend school facilities that fall short of providing 21st century learning environments because essential maintenance and capital improvements are chronically underfunded.

- ***Educational equity:*** When facilities are healthy, safe and educationally suitable, students (as well as teachers and staff) perform better and are better prepared for post-secondary education and the workforce.
- ***Health***: With more than one-sixth of the entire U.S. population inside PK–12 public school buildings each weekday, school facilities have a major impact on the health and performance of students and staff alike.
- ***Sustainability***: Modernizing and replacing old public schools will enable communities to conserve undeveloped land, energy and water, reduce carbon emissions, and in the face of climate change, protect lives and reduce the level of relief funding needed following disasters.
- ***Jobs***: There is major work to be done to modernize, retrofit and build public schools and grounds, particularly in low wealth urban, suburban, town and rural communities. Taking up this work will create and provide good jobs, helping strengthen and revitalize the economies of struggling communities.

A LOOMING CRISIS WITH THE NATION'S PUBLIC SCHOOL FACILITIES: THE NATION'S SCHOOL FACILITIES FUNDING GAP HAS INCREASED TO $85 BILLION A YEAR

The 2021 State of Our Schools Report uses the best available school district fiscal data about U.S. elementary and secondary (Pre-kindergarten through 12th grade) to analyze the state of our public school facilities. The report finds that the gap between expenditures and good stewardship of buildings and grounds is growing significantly. It estimates that our nation is now underinvesting in school buildings and grounds by $85 billion each year, up an inflation adjusted $25 billion a year since 2016.

In 2016, the annual PK-12 school facility infrastructure gap stood at $46 billion ($60 billion in 2020$) according to the 2016 State of our Schools Report. In this year's study, we find that the school facilities annual funding gap has reached $85 billion a year, up $25 billion since 2016.

Underinvestment in capital renewals of existing public schools as well as chronic underfunding of maintenance and repairs sadly remains the rule rather than the exception. This trend has worsened even as school buildings age. In 2012, the average age of the nation's public schools was 44 years, which means that 1968 was the year the average school was built—and they are toward the end of their expected and useful lives, and need to be replaced or fully modernized.

The age and neglect of major building systems take a toll. In 2020 the U.S. Government Accountability Office (GAO) found that 41 percent of districts required HVAC systems upgrades or replacements in at least half of their schools. In addition, 20 to 35 percent of all school districts had serious deficiencies in at least half of their roofing, lighting or safety and security systems.

Old buildings, that haven't been well-maintained or modernized create poor conditions for teaching and learning. Poor public school infrastructure creates barriers to education, health, sustainability and the vitality of communities.

MASSIVE & CHRONIC UNDERINVESTMENT: FACILITIES MAINTENANCE, OPERATIONS AND CONSTRUCTION ALL FALL SHORT

Across the nation, local school districts have worked hard to deliver healthy, safe and suitable public school facilities. They support ongoing operations and maintenance of facilities in their annual operating budgets and they invest in buildings and grounds construction and capital improvements in their capital budgets. On average, districts have been spending about $110.1 billion every year on maintenance, operations and capital construction, but this is falling further and further short, leaving school districts ill-equipped to provide adequate and equitable school facilities.

- Annually, U.S. public school districts spent an average of $56 billion on their facilities maintenance and operations, **leaving a M&O gap of $27.6 billion**.
- Annually, U.S. public school districts spent an average of $54.1 billion on capital improvements from FY09-19 in 2020$, **leaving a capital investment gap of $57.4 billion.**
- U.S. public school districts **spent an estimated $51 billion from FY09-19 on new school construction** to respond to enrollment growth.

INEQUITY IN CAPITAL IMPROVEMENTS: FACILITIES' SHORTFALLS ARE NOT EQUALLY SHARED

When we compare the funding for school districts through the lenses of socioeconomic status, race, ethnicity and location, the disparities are startling. A great deal of variation can be found across and within different states, but it is clear from national patterns that inequity is hard-wired into public education infrastructure.

If a district has a high number of economically disadvantaged students, the district will have spent less per school than districts with lower numbers of economically disadvantaged students.

- Low poverty districts (<33 percent economically disadvantaged students) spent an average of **$5.2 million per school for school construction** from FY09-18, while high poverty districts (>65 percent economically disadvantaged students) only averaged **$3.8 million per school**. High poverty districts had 37 percent less invested in their school facilities improvements than low poverty districts.
- Medium poverty districts (33-65 percent disadvantaged students) didn't fare much better than the high poverty districts. Their districts spent, an average of $4 million a school over the same ten years.
- **Rural districts serving high poverty public schools have funded capital improvements at almost half the level of the national average—$2.3 million on average per school compared to $4.3 million per school**.
- Hispanic/Latino, African American, and Native American students are represented disproportionately in high poverty districts, where the schools (on average) have had the lowest levels of investment.
- Urban districts have higher levels of average capital investment per school, making clear what is well established in the field—that doing the same work in urban markets, and in their older schools, costs more.

EDUCATIONAL FACILITIES STEWARDSHIP: THE RESPONSIBILITIES FOR FUNDING SKEWS LOCAL

In the U.S., elementary and secondary school facilities are the second largest infrastructure capital outlay behind highways. However, unlike transportation, which has most of its capital costs paid from federal and state sources, local school districts bear the heaviest responsibilities for school construction capital funding.

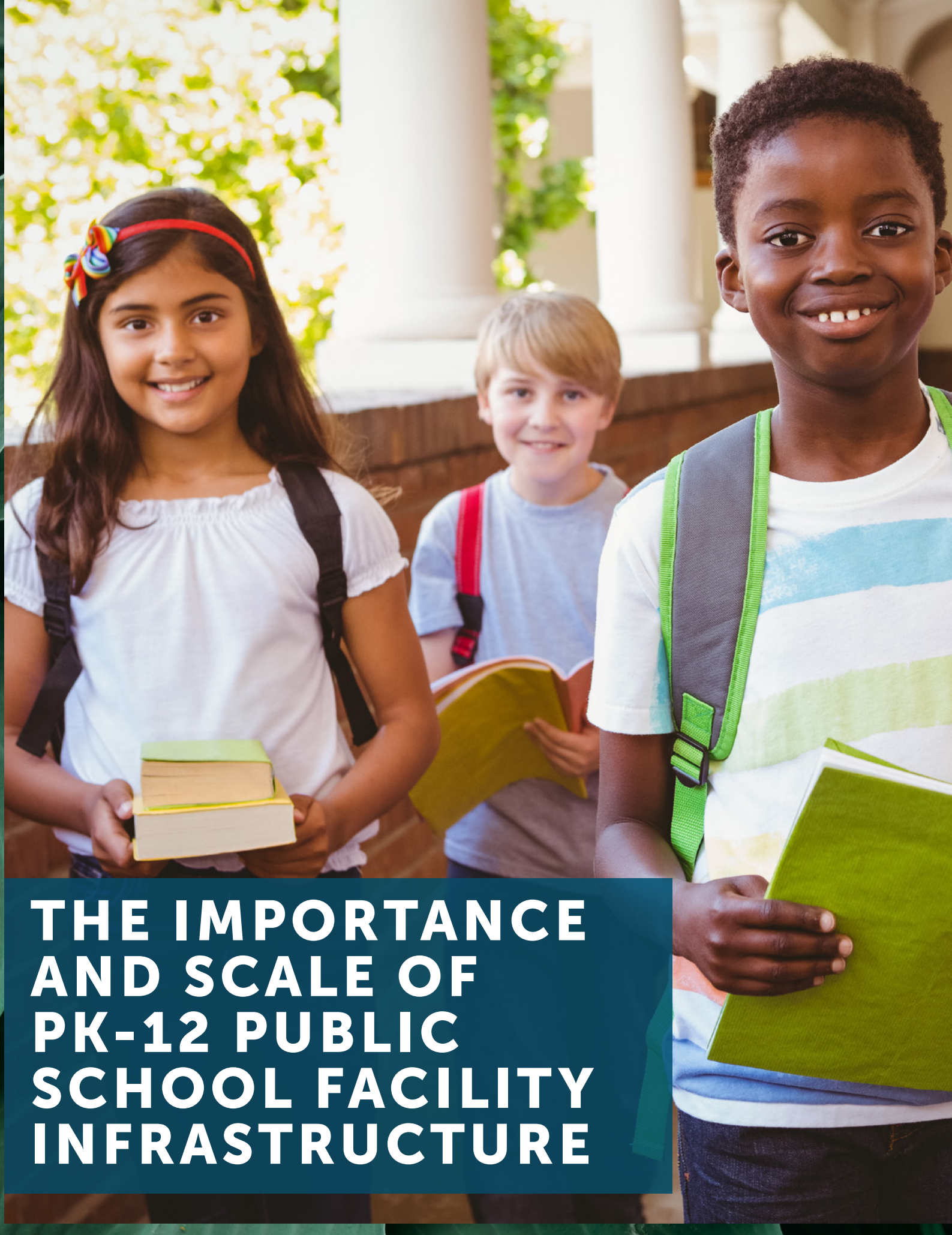
- **Local school districts paid 77 percent** of the costs for PK–12 capital projects during the years FY09-19.
- **States paid 22 percent to districts** for capital outlay and debt service. State support, however, is highly variable, ranging from 11 states paying nothing to 8 states paying over 50 percent of district level capital costs.
- Public school districts received slightly more than **1 percent from federal funds, about $7.1 billion** in 2020$ during FY09-19 for school construction.
- Local districts held **$486 billion in long-term debt** at the end of fiscal year 2019, a national average of slightly over $11,000 per student.
- **School districts paid $20 billion in FY2019 for interest on their long-term debt**—an annual amount that is $4 billion higher than the entirety of U.S. Department of Education Title I funding for disadvantaged students.

PRIORITY ACTIONS: SYSTEMIC REFORMS ARE NEEDED TO ENSURE SCHOOLS CAN BE MODERNIZED FOR ALL CHILDREN

The COVID-19 pandemic shined a light on public school facilities. With this light, we see that deferring maintenance and repairs and neglecting capital investments creates an education infrastructure deficit. The infrastructure debt deficit grew even with district facilities spending and capital investment of $110 billion a year. When aging public school facilities are not replaced or modernized, then makes the gap grow shortfalls for the nation's public school facilities increases, reaching $85 billion a year in 2021.

Making up an $85 billion a year gap is daunting. Business as usual will not make it go away, and even increasing funding alone will not remedy the structural inequities and shortcomings of our nation's public education infrastructure. Modernizing our public school infrastructure for all students and communities will take a vision, resolve, and a local, state, and federal partnership.

But the benefits of reforms for a smarter and fairer system will be great. A smarter system of facilities planning and management could reduce the annual need for capital investment by 1 percent of CRV, or nearly $28 billion (2020$) every year. Additionally, energy management, including a net zero energy strategy for new and modernized facilities could save at least 25 percent of the cost of utilities—about $3 billion a year. But this progress against our growing deficit will not happen without systemic policy changes. Most importantly, a smarter and fairer system for our nation's public school facilities will deliver healthy, safe, educationally inspiring, sustainable and resilient places for our communities.



THE IMPORTANCE AND SCALE OF PK-12 PUBLIC SCHOOL FACILITY INFRASTRUCTURE

INTRODUCTION

The 2021 State of our Schools Report is the most recent major report on PK-12 public school facilities led by the 21st Century School Fund. In 2006, "Growth and Disparity: A Decade of U.S. Public School Construction" examined whether low-income and minority students were benefiting from the strong economy and capital investments being made in public school facilities from 1994 to 2003. In 2016, "State of our Schools: America's K-12 Facilities" examined 20 years of school district spending and investment from 1994 to 2013 and compared this to education industry funding levels needed to deliver healthy, safe, educationally suitable, and environmentally sustainable buildings and grounds.

Now the State of our Schools 2021 builds upon and refines our understanding of the stewardship of our nation's public school facilities. It provides an overview of research on the impact and importance of public school facilities to education, health, the environment, communities and resiliency. It analyzes facilities spending and investment in the years from FY09 following the great recession to FY2019. Since there is still no national data on the physical condition of our nation's PK-12 public school facilities by state or district to answer these questions, this analysis uses national fiscal data on public school district facility expenditures and debt to shed light on public school district facilities conditions.

The report looks at the nation and states, but also analyzes district level inequities in our nation's public school facilities. This analysis includes data for all regular PK-12 public school districts in every state, and now includes data and estimates for the District of Columbia, Puerto Rico, the Bureau of Indian Education schools, and Outlying Areas.

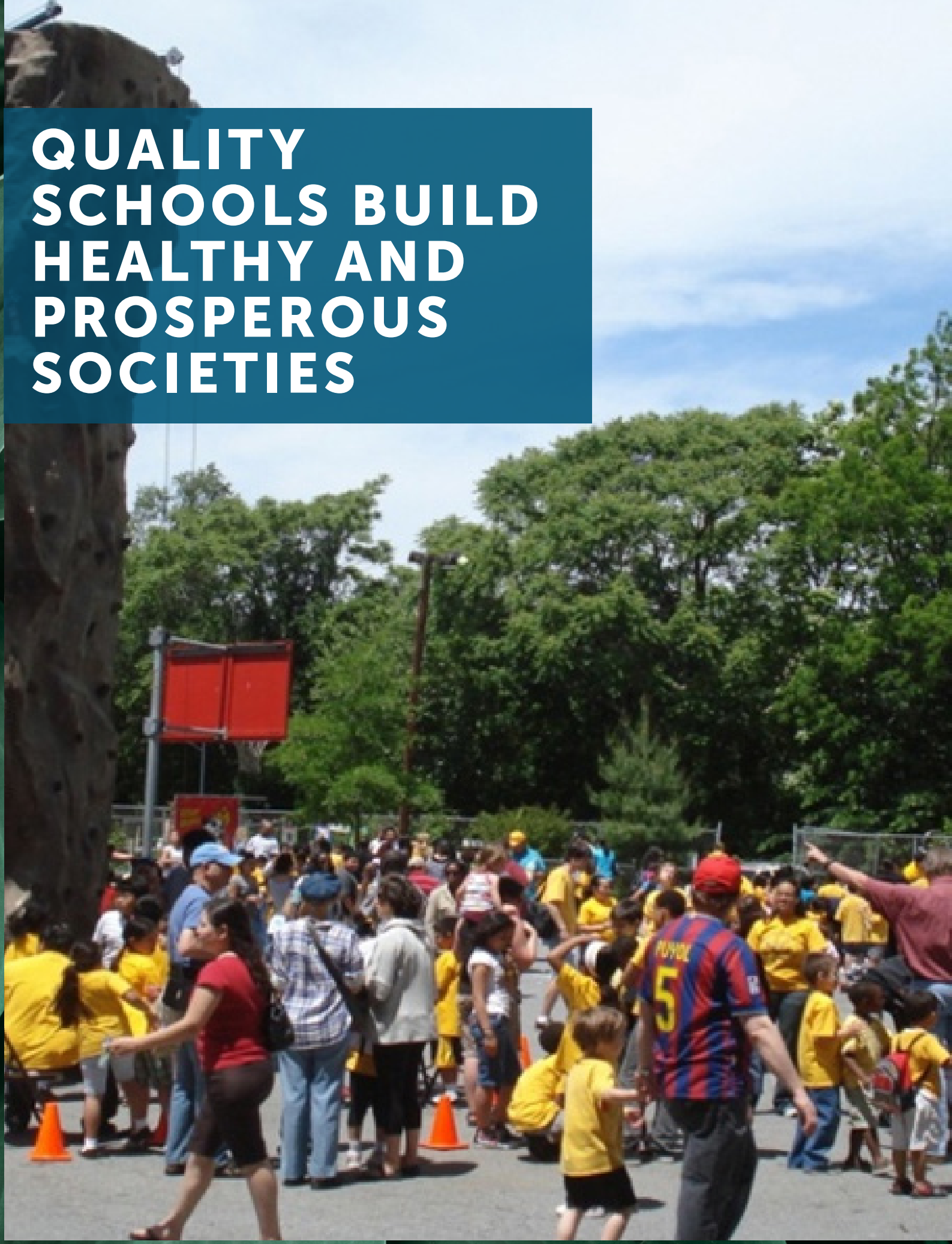
The U.S. has developed a nationwide physical infrastructure of public school buildings and grounds to support our elementary and secondary public education system. This report uses national, state, and district data and information to help communities and decision makers understand:

- **The level of funding we need to ensure all of our children can attend modern public school facilities?**
- **What districts, states and the federal government are doing to meet the challenges of our aged and inequitable public school buildings and grounds.**
- **How well local, state and federal governments meeting their responsibilities to provide all children with healthy, safe, educationally suitable, environmentally sustainable and resilient public school facilities.**

To address these questions, this report uses national and state date and information to help communities and decision makers understand 1) the level of funding needed for good facilities; 2) what is being done by districts, states and the federal government to meet the challenges of our aged and inequitable buildings and grounds; and 3) how these efforts measure up to the needs.

The report also provides specific recommendations on how to make progress, not just with funding, but through system reforms to get better results with resources already available.

QUALITY SCHOOLS BUILD HEALTHY AND PROSPEROUS SOCIETIES



"Infrastructure services, such as mobility; safe and reliable sources of water; sustainable development; knowledge creation and transfer; and personal security; are critical determinants of a society's current and future well-being. High quality infrastructure helps businesses compete for expanded economic opportunities in a globalizing world. It also protects our environment from the threats of climate change and natural and man-made hazards and creates a socially cohesive and high quality of life."

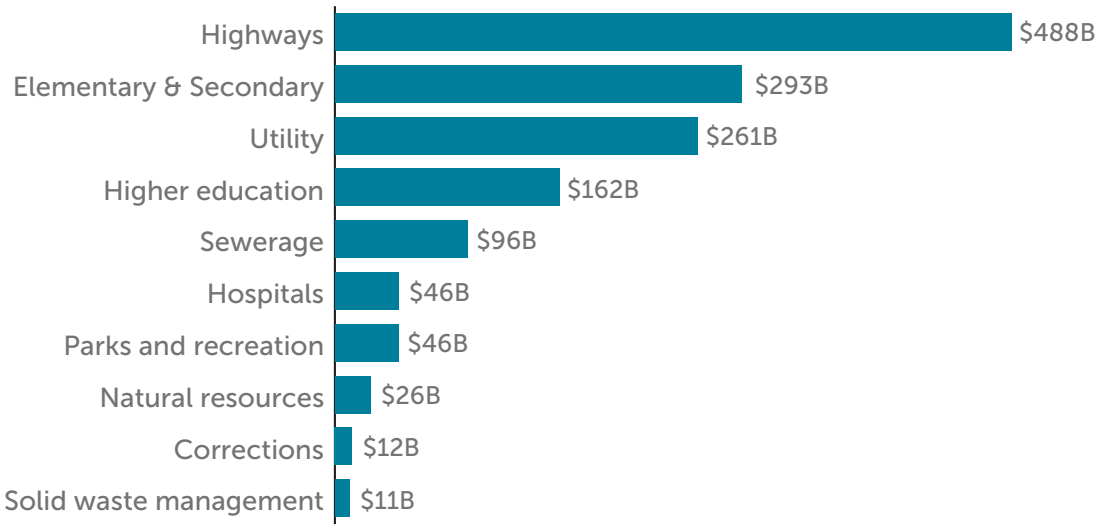
-David E. Dowall, and Robin Reid in White Paper on the California Infrastructure Initiative, March 2008

Public education is critical to a peaceful and prosperous nation. Our system of free and universal public education supports knowledge creation and transfer. The nation's elementary and secondary public school buildings and grounds are where children learn and are socialized to live in civil society. Each school day, nearly one-sixth of the U.S. population spends their day in a public school building.

As an essential part of the nation's public infrastructure, elementary and secondary public education is the 2nd largest sector for state and local construction capital outlay, after highways.

CHART 1: Elementary and Secondary Education is the 2nd Largest Infrastructure Sector for State and Local Capital Outlay

State and Local Government Total Capital Outlay by Sector for FY14-18



Data Source: *F-13 State Fiscal Survey of U.S. Census of Governments FY2014-2018, in actual $.*

QUALITY EDUCATION

Public school facilities that are well planned, designed, built, operated and maintained have an outsized positive impact on education, health, the natural environment and our communities.

A growing body of research documents the relationship between the design and condition of public school facilities and educational outcomes. At the most basic level, classrooms suited to early childhood education expand young minds; buildings with ramps and bathrooms with handrails make learning more accessible; and campuses with art rooms, science labs, technology centers, gyms and outdoor facilities enrich education quality. As studies show, design and condition matter.[ii] [iii]

Students are better able to focus on their lessons and retain information in above-standard school buildings. They perform up to 17 percent better on academic assessments than students in sub-standard buildings, even controlling for socioeconomic status. The impact is particularly pronounced among younger students, whose progress in reading, writing and math has been shown to vary significantly based on their physical environment, including elements like temperature, classroom layout and building design.[iv]

Better acoustics, lighting and air quality all support better educational outcomes. Beyond the classroom, ensuring that children in critical stages of development spend the majority of their days in safe, secure and comfortable spaces with fresh air to breathe, clean water to drink and ample natural light to set them up for social and emotional success.[v]

On the other hand, students grow listless in stuffy classrooms, while distracting sights and sounds can make it hard for them to concentrate.[vi] A Harvard T.H. Chan School of Public Health study found that a difference in outdoor temperature has a a big impact on performance. The study showed students in New York City were 12.3 percent more likely to fail an exam on a 90°F day versus a 75°F day.[vii] And when dusty hallways or damp air exacerbates respiratory issues and makes students sick, they are more likely to miss school and less likely to learn. [viii]

The same goes for teachers. Modern classrooms, labs and auditoriums enable educators to deliver quality instruction that is more engaging to students and bolsters teacher retention rates. Conversely, work environments that threaten teachers' health mean more sick days and substitute teachers, and in the long run affect attrition, contributing to promising professionals leaving the schools

HEALTHY CHILDREN AND TEACHERS

When educators and students are healthy, they are more engaged in teaching and learning. The quality of the school facilities where they spend long hours each day is intimately related to their health and well-being.[x] Numerous studies detail the significant impact that school design and conditions have on children's physical and mental health.[xi] For instance, poor air quality irritates eyes and worsens asthma, a leading cause of absenteeism.[xii] Windowless, artificially-lit classrooms interfere with adolescent hormone production, elevating stress levels.[xiii] Conversely, well maintained playgrounds and gyms entice children to be more physically active, combating childhood obesity and improving cardiovascular health.[xiv] In addition, campus features such as outdoor classrooms and mindfulness centers can improve students' focus and help them regulate emotions.[xv]

A growing body of research also indicates that the school a child attends is a "social determinant of health"—a non-medical contributor to overall well-being, alongside other factors like economic stability and family life.[xvi] Schools with forward-thinking health education policies can instill healthy habits in their students from a young age—so long as they have classrooms equipped to support their lessons, cafeterias equipped to feed them healthy meals and gyms, fields and playgrounds to keep them active. Districts concerned with student safety might enact policies governing school construction and site selection, ensuring children aren't forced to learn near busy streets or polluted areas. These site-related policies can also shift the composition of a school's population and often determine whether districts are de facto segregated or comprised of diverse student bodies that cultivate growth and understanding.[xvii]

One of the important programs provided by schools is the National School Lunch Program, which provides free and low-cost lunches to more than 30 million children. It relies on school cafeterias and lunchrooms across the country to distribute nutritious food. When schools have full kitchens with modern equipment, gardens supplying fresh produce, and on-site composting and recycling, they can go even further in giving students both nutrient-rich meals and a personal connection to sustainable food sources. [xviii]

Photo credit: 21st Century School Fund

Photo credit: 21st Century School Fund

The Farm and Garden program at Sylvia Mendez Elementary School, connects urban children in Berkeley, California to the land. They cultivate plants on a mini-farm and care for small animals like chickens, scattering feed and gathering eggs. In the process, they contribute to nutritious meals and develop a hands-on understanding of plant cycles, composting and more. [xix]

- Contributed by Green Schoolyards America

Thoughtfully designed buildings can also support more on-campus health resources. Spacious nurses' offices and even small clinics make it easier for students to seek care, and welcoming offices for counselors and other specialists can help fight the stigma against mental health treatment for children and their families.

Cincinnati Public Schools offer 25 full-service health centers throughout the district to serve students, families and the community. The centers provide a range of services, from primary care to dental and vision, and they partner with a nonprofit to provide free eyeglasses to uninsured students. Between community contributions and the settlement from a state tobacco lawsuit, the centers are able to guarantee care to all patients, regardless of financial status.

By applying proven building strategies that support health and well-being, and upgrading and maintaining the buildings that house so many resources crucial to young people's development, children can be set on a path to lifelong health that will support them long after they've left the classroom.

VIBRANT COMMUNITIES

In addition to being places of learning, schools function as community hubs. Their playing fields become town gatherings under friday night lights. Their auditoriums host speakers, performances and in some cases even memorial services for local heroes. They are part of the fabric of participatory democracy, where neighborhoods meet and citizens cast their votes.

Thousands of public school campuses play host to supplemental childcare, tutoring and other services provided by nonprofits and community partners. Schools are an essential part of the modern "town square," often located near clinics, libraries, and community and senior centers. This closeness lends itself to joint programming, fostering initiatives like literacy enrichment in classrooms courtesy of a local librarian and a gardening project between students and seniors. In dense urban environments, schools' outdoor playgrounds, athletic fields and amphitheaters provide critical green space. This convening role of school facilities is particularly important in rural communities, where schools act as the commons, bringing far-flung neighbors together through civic and cultural activities. But the public schools as public commons is valuable in all communities—urban, suburban, town and rural— fostering collaborations among diverse ages, races, ethnicities and incomes that knit communities closer together.

And whether it's through community engagement or capital projects, investment in school modernization also strengthens local economies. Indeed, undertaking the sizable maintenance and capital construction projects on backlog around the country will create new opportunities for construction workers and, indirectly, for manufacturers and suppliers as well, bringing good jobs to communities nationwide.[xx] What's more, improvements to educational infrastructure boost the value of local homes.[xxi] And since families want to live and work near high-quality schools, well maintained campuses that foster educational excellence are a draw for residents who then contribute to the economic health and social fabric of their communities.[xxii]

SUSTAINABLE ENVIRONMENTS

Aging schools built without their environmental impact in mind can be significant polluters compromising sustainability and decarbonization goals. In the U.S., 40 percent of primary energy is consumed by buildings – and schools spend roughly $12.5 billion on utility costs every year. xxiii One-fourth of these costs could be saved through improved energy efficiency, "an amount equivalent to the cost of nearly 40 million new textbooks," underscoring how energy efficiency helps create operational savings that school districts can use for other educational purposes.

Sustainable public school buildings conserve potable water, reduce pollution, improve stormwater management, lower energy consumption or off-set it entirely with clean energy. Green schools can also play a vital role in helping the country reach its stated goal of net zero by 2050.[xxiv]

Discovery Elementary School in Arlington, Virginia "was designed to be a zero-energy building, meaning that the amount of energy produced annually by on-site renewable energy sources is equal to the amount of energy used annually." The school is an all-electric building that fully offsets its energy use through the generation of clean, renewable solar power. Utilizing 1,706 roof mounted solar panels, insulated concrete exterior walls with high thermal mass and 100 percent LED lighting, the school is able to "redirect funds that would otherwise be dedicated to energy costs back to the Arlington Public Schools operating budget. As an all-electric building that buys and sells electricity back to the grid, Discovery Elementary School is effectively hedged against inflation. In fact, the higher energy costs rise, the more the savings increase."

— Contributed by the Center for Green Schools at USGBC

These benefits in energy use and student experience often go together. For instance, an educator at Spring Creek Elementary School in State College, Pennsylvania described the campus as "bigger but cozy… bright and warm" thanks to design changes that included a more open floor plan with increased natural light, solar panels on the roof, and local materials to insulate the building and lower heating and cooling costs. The design changes cut the school's energy consumption in half, and just as importantly, created a welcoming, well-lit environment where students feel comfortable, connected and ready to learn.

— Contributed by the Center for Green Schools at USGBC

Crabtree, Rohrbaugh & Associates Architects

They also introduce students to concepts of environmental stewardship, highlight new and innovative technologies, and provide opportunities to foster a lifelong conservation ethic.

Niles North High School Aquatics center emerged [in 2014] as the highest LEED rated high school aquatics center in the U.S. The design decreases energy use by 44 percent and water use by 42 percent compared to a typical facility of similar size. The project includes a new competition 'cold' pool with diving zone, a renovated community 'warm' pool, a new public connecting corridor, locker room renovations, coaches' offices and meeting/storage space. The center benefits community members: it houses feeder programs and swim lessons from park districts and local organizations. The center also serves the district's 2,200 students and 275 student athletes. Swimming is a curricular requirement.

A RESILIENT NATION

As the U.S. population spreads and the impacts of climate change affect more communities, it's no surprise that public schools across the country are increasingly in harm's way. Half of all American schools are located in areas of high flood risk, while nearly one-third are geographically prone to heat waves and tornados.[xxv]

Public school facilities that contribute to the health and resiliency of communities will be located so that they are less vulnerable to extreme weather events. In some cases, this means moving schools out of flood plains or tsunami zones. For the vast majority of schools, it involves modernizing or replacing existing infrastructure so that it meets modern standards for withstanding extreme weather events. [xxvi] Projects undertaken by school districts depend on the risks associated with their locations. In hurricane prone areas, improving resiliency includes replacing windows and roofs so they are better able to withstand high winds; in tornado prone areas, greater resilience involves building safe rooms; and in high-risk wildfire areas, resilience means protecting schools with higher levels of fire-resistant roofs and ventilation systems that filter smoke. [xxvii]

In Port Arthur Independent School District – new schools were designed and built with floodplain protections. This meant raised floors and windows seven feet above the ground to reduce hurricane damage potential, and a special sanitary sewer lift station to ensure that the sewage and wastewater from the schools was taken offsite and did not pollute ground water in the low-lying areas.

In California, in 1933 after the 6.3 magnitude earthquake in Long Beach resulted in 230 school buildings being declared unsafe, The Field Act mandated earthquake resistant construction in all public schools in the state, banning unreinforced masonry buildings, and new standards for withstanding specific levels of lateral forces that are generated from earthquakes.

In addition to sheltering students, public schools' ubiquity and centrality in cities and towns also make them responsible for emergency and disaster response. Public schools can shelter residents fleeing hurricanes or fires and give them refuge in cafeterias and gyms, while aid workers set up command posts and food and aid distribution centers. Of course, schools only work as emergency shelters when they can withstand disaster and remain fully functional. When campuses and buildings are designed for safety, everyone benefits—from first graders to first responders.

This emergency role has come into sharp focus during the pandemic. Schools have been part of the front-line infrastructure in the fight against COVID-19, serving as food distribution centers, childcare locations for first responders, testing centers and vaccination sites.

U.S. Air Force photo/Airman Tristan D. Viglianco

THE CONDITION OF THE NATION'S PUBLIC SCHOOL FACILITIES

Through your lens student photo

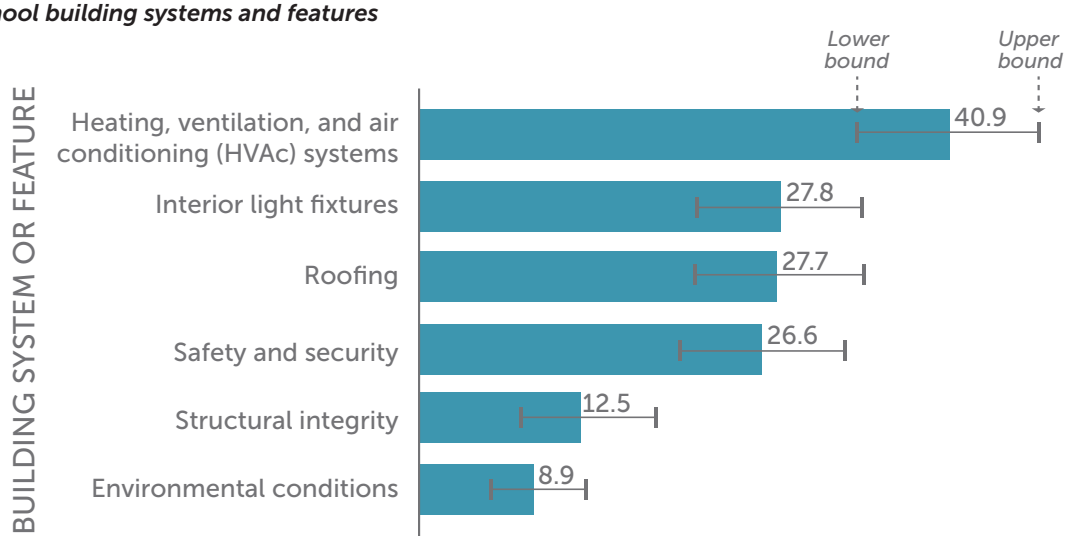
The condition of the nation's public school facilities has recently been elevated into national consciousness by facilities' deficiencies that can put students and staff health at risk for COVID-19. School buildings with poor ventilation and air quality present special risks in the face of a highly contagious airborne virus.[xxviii] Poor indoor air quality has been a barrier to restoring full confidence in returning to in-person schooling.

Deficiencies in the nation's public school facilities have been longstanding. In 1995, when the U.S. last conducted a comprehensive assessment of public school facilities, the Government Accountability Office (GAO) reported that 60 percent of public schools in the U.S. required at least one major building component upgrade or replacement, and a full third of all schools—serving 14 million students—were in a serious state of disrepair.[xxix] The 2016 State of our Schools Report found that nationally, public school districts were underinvesting in their buildings and grounds by a total of $46 billion each year ($60 billion in 2020$).

More recently, a 2020 GAO study found that over half of America's school districts require major upgrades to their school buildings. The most common out-of-date features were schools' HVAC systems, which 41 percent of districts reported as needing an upgrade. Other major problems included roofing, lighting, and safety and security flaws; nearly a quarter of the school districts surveyed said they had widespread issues with all three, as Chart 2, from GAO's report illustrates below. [xxx]

CHART 2: School Districts Report that Major Building Systems or Features are in Poor Condition with Heating, Ventilation, and Air-Conditioning Systems in the Worst Condition

Estimated percentage of public school districts in which at least half the schools need updates or replacements of selected school building systems and features



Thin bars in the chart display the 95 percent confidence interval for each estimate.

Data Source: *GAO analysis of August to October 2019 school district survey data, GAO-20-494.*

For school districts to consistently provide public school facilities that are healthy, safe, educationally suitable, environmentally sustainable and resilient requires work. It requires management, labor, materials, supplies, tools, knowledge and equipment. It costs money. If school districts have not paid for this work at close to the levels recommended for good stewardship of facilities maintenance or operations and for capital investment, then important work was not done and facilities deficiencies accumulated. This is the basic logic behind using fiscal data to understand the condition of our nation's

Photo credit: Jerry Roseman

STANDARDS FOR GOOD PK-12 FACILITIES STEWARDSHIP

School district responsibilities for public school buildings and grounds fall into two categories:

1. Maintenance and operations: regular and routine facilities maintenance and operations, including cleaning, groundskeeping, preventive maintenance, minor repairs, utilities and building security and is funded from the annual operating budget.

2. School Construction Capital Outlay: periodic major facilities projects that involve planning, design, construction, renovation, retrofitting, and replacing of buildings, and building systems, components, and features, as well as site acquisition, site improvements, and new construction, and is funded from a multi-year capital budget, and usually financed with bonds.

The benchmarks for levels of spending and investment for PK-12 educational facilities standards are based on the current replacement value (CRV) of the buildings. The current replacement value is the total building area multiplied by the cost of new construction. In the U.S., there is 8.1 billion gross square feet and a national average cost of new construction of $343 per square foot. Thus, the CRV of all U.S. public school facility infrastructure is $2.79 trillion, as shown in Table 1.

TABLE 1: The Nation's Public School Building Infrastructure is 8.1 billion Gross Square Footage with a 2020 Replacement Value of $2.79 Trillion

Factors that Establish the 2020 Current Replacement Value (CRV) of the Nation's PK-12 Public School Building Inventory

2020 Bldg Area (GSF)	Avg New Construction Cost per GSF	Current Replacement Value (CRV)
8.1 billion	$343	$2.79 trillion

Data Source: *See Appendix A: Facilities Inventory, for U.S. states, District of Columbia, Bureau of Indian Education, and Outlying Area detail.*

The benchmarks in Table 2 are based on industry experience for maintenance and operation costs, and in this case, are adjusted for its application to public school facilities. Typically, the M&O benchmark is 2 percent of CRV. This report uses 3 percent because the data reported by school districts for their M&O includes spending for building security and utilities outside the normal definition for M&O, which can add about another third to the cost of M&O.

The benchmarks for capital investments are based on the expected depreciation of facilities. A 2 percent CRV means that the facility is expected to be fully depreciated over 50 years. In fact, the structure, components, systems, finishes etc. depreciate at different rates. Their rate of depreciation depends on the quality and type of construction, climate, maintenance, operations, and intensity of use. This report uses a 4 percent CRV for school construction capital investments which includes capital renewals, alterations, and the accumulated deferred maintenance in so many schools, as is defined in Table 2.

TABLE 2: A funding level at 7% of current replacement value (CRV) will ensure healthy, safe, educationally suitable, and environmentally sustainable facilities for all students.

Funding Benchmarks for Good Stewardship Standards for PK-12 Educational Facilities [xxxi]

Facilities Work	Benchmarks	Includes Work for:
ANNUAL OPERATING BUDGET		
Maintenance & Operations	3% CRV	Cleaning, grounds keeping, routine and preventive maintenance, minor repairs, utilities and security
MULTI-YEAR CAPITAL BUDGET		
Capital Renewals	2% CRV	Replacing systems, components, furniture, fixtures and equipment for life cycle and functional deficiencies of buildings and site
Alterations	1% CRV	Altering buildings and site for education, environmental, site and resiliency design deficiencies
Deferred Maintenance	1% CRV	Increased costs associated with large accumulation of deferred maintenance of facilities late in life cycle

To understand whether districts are meeting the standards for good stewardship of their public school facilities requires benchmarks to measure how close or far facilities managers are from meeting the standards. Ideally, basic school facility information on age, condition, design, and utilization would be nationally available to provide definite measures. Even without this, a great deal about the condition of facilities can be known from analyzing facilities fiscal data. In this section, benchmarks for levels of facilities funding are applied to inform the research questions of this report:

- ***What level of funding is needed to make sure all children attend modern public school facilities?***
- ***What are districts, states and the federal government spending on facilities maintenance and operations, and investing in public school buildings and grounds?***
- ***How well are districts and states meeting their fiscal responsibilities to provide all children with healthy, safe, educationally suitable, environmentally sustainable and resilient public school facilities?***

PK-12 FACILITIES DEFICIENCIES ARE GROWING

The nation's public school districts reported spending a combined annual average of $110 billion of their operating and capital budgets on facilities from fiscal year 2017 to 2019. However, educational facilities standards for good stewardship funding levels for PK-12 facilities for 2020 is $195 billion per year. This annual spending and investment gap leaves students, teachers and communities in facilities with a combined annual operating and capital budget shortfall of **$85 billion,** as is illustrated in Chart 3 below.

CHART 3: School Districts Need to Increase Operating and Capital Expenditures by $85 Billion a Year to Meet Educational Facilities Standards for Good Stewardship

Annual average level of spending for maintenance & operations FY17-19 in actual $$. Annual average levels of school construction capital outlay expenditures for FY09-FY19 adjusted with the Turner Construction Index to 2020$.
Data Source: *See Appendix C: M&O and Capital Standards, Expenditures and Gaps*

The reasons for the increase in the investment gap from $46 billion in 2016 to $85 billion in 2020 can be understood by looking at the factors that make up the gap:

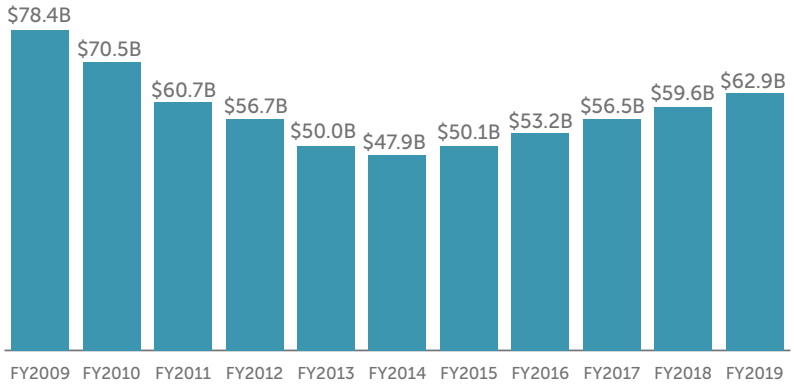
- ***Cost of school construction is up*** from a national average of $262 per gross square foot to $343 in 2020.
- ***The building inventory being studied has increased by 600 million gross square feet of space, from 7.5 billion in 2016 to 8.1 billion GSF in 2020***. This analysis includes public school buildings from the District of Columbia, Puerto Rico, the Bureau of Indian Education and Outlying Areas of American Samoa, Guam, the Northern Marianas and the U.S. Virgin Islands; new construction in states with growing enrollments; and an increase of 110 million GSF for California's square footage based on geospatial analysis of every school campus.[xxxii]
- ***Facilities expenditures declined sharply after the great recession.*** In analyzing school district spending following the great recession, from fiscal years 2009 to 2019. The capital investments fell to a low in fiscal year 2014, before rising back to a level still below the 20-year average of the period from FY1994-2013.

Chart 3 shows a dramatic decline in capital investments following the great recession, and the slow climb that has not returned this level of investment to pre-recession levels.

Chart 4 shows a dramatic decline in capital investments following the great recession, and the slow climb that has not returned this level of investment to pre-recession levels.

CHART 4 School District School Construction Capital Investments Dropped Dramatically Following the Great Recession FY2009-2019 (2020$)

U.S. School Construction Annual Average Capital Outlay Expenditures FY2009-2019 in 2020$



Data Source: *F-33 School District Fiscal Survey, U.S. Census of Governments, FY 2009-2019, data field F12 for school construction capital outlay, inflation adjusted with the Turner Construction Index.*

TYPES OF DEFICIENCIES THAT ACCUMULATE IN SCHOOL FACILITIES [xxxiii]

Life-Cycle Deficiencies exist when a system, component, finish, fixture, or piece of installed equipment Is old-in technical terms, "used beyond it's recommended life." It may work, but because it is old, it is at high risk for failure, and likely to create an emergency. This is far more costly than replacing old components or systems before they fail.

Maintenance (Functional) Deficiencies exist when a system, component, finish, fixture, or piece of equipment is nonfunction or operates at suboptimal levels – even if it is within it's expected life. Commissioning is expensive but most existing installed mechanical systems are not operating at over 80% efficiency. Several buildings with new systems were failing on Thermal Comfort alone without factoring efficiency. This is due to failed installations that required recommissioning to correct. Recommissioning alone will reduce the carbon footprint.

Site Deficiencies can result from problems with the location or design of the facility and of the conditions on the site. Location and design site deficiencies could be an overcrowded school, or a school located in a noisy location. Site condition deficiencies include such items as unsafe student drop-off areas, inadequate tree cover in outdoor play areas, and deteriorated fencing, retaining walls, sidewalks, or blacktop.

Education Design Deficiencies occur when the facility design, furniture, fixtures, and equipment do not properly support the school's educational program or other priorities needed by the school. For examples, there are educational deficiencies when early childhood classrooms have no student toilets within the classrooms, when science labs have no running water, or when band rooms have no acoustical treatment or places for instrument storage.

Environmental Deficiencies reflect the ways that location, design, construction, and operations contribute to the environmental impact of a school. For example, deficiencies may arise from the vehicular miles generate by the location of a school, the level of unrecycled refuse generate on site, the energy and water consumption from school operations, and the environmental impact of construction practices.

Resiliency Deficiencies involve both site and building elements. Assessments for natural and human threats and the resiliency needed for both will identify design and operational deficiencies associated with managing risks associated with extreme weather and extreme human behaviors. Deficiencies may be found in the siting of the school, on the wind durability or windows or roofs, on the reliability of the school public address system, or of other life-safety systems and protocols.

FACILITIES MAINTENANCE AND OPERATIONS IN OUR NATION'S PUBLIC SCHOOLS

School buildings and grounds require continuous maintenance to be healthy, safe and operationally efficient. Using 3 percent of the facilities' current replacement value (CRV) on annual facilities maintenance and operations of plant, districts can meet good stewardship standards for cleaning, grounds keeping, routine and preventive maintenance, minor repairs, energy management, and cover the costs of utilities and building security. See Appendix B: M&O and Capital Investment Data and Appendix C: M&O and Capital Standards, Expenditures and Gaps for state by state data on district facilities spending and investments.

For fiscal years 2017-2019, school districts spent an annual average of $56 billion on maintenance and operations of plant (see Table 3). This total equals about 8.9 percent of their total education spending. However, based on a 3 percent CRV standard for maintenance and operations, nationally districts should be spending about $84 billion on M&O each year. To meet this standard means an increase of district operating funding for facilities maintenance and operations of about $27.6 billion a year, an increase of $570 per student, or in terms of building space, an increase of $3.40 per gross square foot.

TABLE 3: Compared to the 3% CRV M&O Budget Benchmark, the Nation's Public School Districts Under-Fund Annual Maintenance and Operations by $27.6 billion every year.

Annual Average M&O Standard for Funding Good Stewardship, Actual Expenditures, and Projected Gap

U.S. states, D.C., Puerto Rico, Bureau of Indian Education and Outlying Areas	Total	Per Student (2018-19)	Per Gross Square Ft
Standard: 3% of CRV for Annual M&O	$83,580,086,572	$1,726	$10.30
Expenditures: Annual Average FY2017-19	$55,996,526,107	$1,156	$6.90
Gap: Annual Shortfall for M&O	**$27,583,560,465**	**$570**	**$3.40**

Data Source: *See Data Sources and Methods and Appendix C: M&O and Capital Standards, Expenditures and Gaps.*

Utilities are about 22 percent of school district maintenance and operation costs—about $12.5 billion per year in fiscal year 2018.[xxxiv] These "fixed" costs can be changed by targeting "net zero energy use" at each education facility. This achieves two goals. The first is allowing districts to assign more financial resources to learning. The second benefit is shrinking the carbon footprint of that school. This reduces the pressure on the energy grid and power plants.

The under-investment in school facilities maintenance and operations of $27.6 billion per year negatively affects the daily lives of students, teachers and other staff. However, closing the gap for M&O comes with strong returns. By fully funding maintenance and operations, school environments will be healthier and safer, and utility costs can be reduced. In addition, with adequate preventive and routine maintenance and repairs, the useful lives of building systems, components and equipment can be extended, resulting in millions of dollars saved in future capital costs.

Meeting higher standards for M&O stewardship would support an estimated 319,321 new jobs in schools across the nation. These good green jobs would include custodians, grounds keepers, building engineers, energy managers, facilities planners, health and safety officers, and building trades specialists.[xxxv]

CAPITAL INVESTMENTS IN PUBLIC EDUCATION FACILITIES INFRASTRUCTURE

All facilities deteriorate with time and use. Major building systems, components, furniture, fixtures and equipment need upgrades and replacement. Without this, the health, safety, educational suitability, and environmental sustainability and resilience of the schools eventually fail. Older generations of schools need modernization (and sometimes replacement) to meet current standards and codes as well as to support modern educational and community programs and services. School districts need periodic large capital investments for these critical capital projects. Table 4 provides a snapshot of the needs, efforts and shortfall of the nation's school construction capital investments in total, by student and by gross square foot of building space.

For all school districts to ensure that their existing schools have the renewals and alterations, and accelerate the reduction of deferred maintenance and elimination of legacy toxics in their aged facilities, they should invest 4 percent of their CRV on school construction capital investment - totaling **$111 billion** per year nationally.

From FY2009 to FY2019, the U.S. states, Washington, D.C., Puerto Rico, Bureau of Indian Education and Outlying Areas school districts invested an annual average of $54 billion (2020$) into public school construction. PK-12 capital outlay is the second largest user of state and local capital outlay after highways. Even so, this level of investment leaves an annual capital investment gap of more than $57 billion. Almost $1,200 per student more capital investment is needed to ensure all students are in modern facilities.

TABLE 4: Compared to the 4% CRV Capital Budget Benchmark, the Nation's Public School Districts Under-Fund capital renewals, alterations, and deferred major maintenance by $57.3 billion every year.

Annual Average Capital Investment Standard for Good Stewardship, Actual Expenditures, and Projected Gap

U.S. states, D.C., Puerto Rico, Bureau of Indian Education and Outlying Areas	Total	Per Student (2018-19)	Per Gross Square Ft
Standard: 4% of CRV for Annual Facilities Capital Investment	$111,440,115,430	$2,301	$13.73
Expenditures: Annual Average FY09-19 (2020$)*	$54,125,232,442	$1,118	$6.67
Gap: Annual Shortfall for Facilities Capital Investment	**$57,314,882,988**	**$1,184**	**$7.06**

Data Source: *See Data Methods and Appendix C: M&O and Capital Standards, Expenditures and Gaps.*

[5] In high states with high enrollment growth, we subtracted an estimate for new school construction expenditures from actual expenditures to establish a gap based on levels of capital investment on existing facilities.

With chronic underfunding of capital needs, building and site deficiencies accumulate. Facility deficiencies have negative effects on human health and safety, the quality of the educational experience, working conditions for teachers and other school staff, and a depressive effect on the vitality of communities.

Eliminating the annual capital investment gap will bring all public schools into the 21st century. This will benefit health, education, the environment, community well-being and resiliency, as documented in the Quality Schools Build Healthy and Prosperous Societies section of this report.

Closing the nation's capital construction gap will support an additional 941,952 direct, indirect and induced jobs. Modernizing our nation's public school facilities will require men and women trained in construction, manufacturing, architecture, project management, information technology and each of the building trades. School construction requires a host of new green jobs to plan, design, engineer, and construction more resilient and sustainable buildings and grounds. This work will drive the engines of local economies, as people focused on rebuilding our schools support the jobs of others.[xxxvi]

Photo credit: 21st Century School Fund

PUBLIC SCHOOL FACILITIES ARE NOT EQUITABLE

Photo credit: Through your lens - student photo

In this section the report examines district level data on facilities spending and investments by income of students, race of students and the locale codes of the school districts. The equity analysis uses the average per school spending of regular school districts to understand the variation between districts.

Some students are in state-of-the-art public school facilities that make the news and impress us with their brilliance and beauty. However, other students – primarily in high poverty districts and often children of color in distressed communities – attend school in deteriorated and substandard facilities.

Inequitable school facility conditions have persisted over decades but have been largely ignored and are often hidden. In 1991, education scholar Jonathan Kozol published *Savage Inequalities*, a searing indictment of America's public education system that highlighted just how little had changed since the *1954 Brown v. Board of Education* decision, when the deplorable condition of school facilities for African American students was key evidence of the harm done by *de jure* segregation. [xxxvii]

The 1995 GAO report found that children of color and low-income students disproportionately attended under-resourced schools, where educational environments were the least conducive to learning.[xxxviii] In 2006, the education equity collaborative, Building Educational Success Together (BEST), published a landmark report analyzing access to healthy, safe and educationally suitable public school facilities across the country. The report found gross disparities in the levels of capital investment, with billions of public dollars flowing unequally and exacerbating the educational divide between rich and poor.[xxxix] Affluent school districts spent nearly three times as much on building improvements as their lower-income counterparts. How they spent their facilities funding was just as significant as how much they spent. Schools serving low-income students were more likely to need the money for harm-reduction, such as removing asbestos or repairing a roof. Well-resourced schools, on the other hand, spent on amenities to actively enhance the student experience, such as performing arts centers.

There are schools today in comparably poor conditions. But too often, facility deficiencies become a crisis and before the public pays attention. The following are just a few examples of public schools in crisis, due to poor facilities conditions:

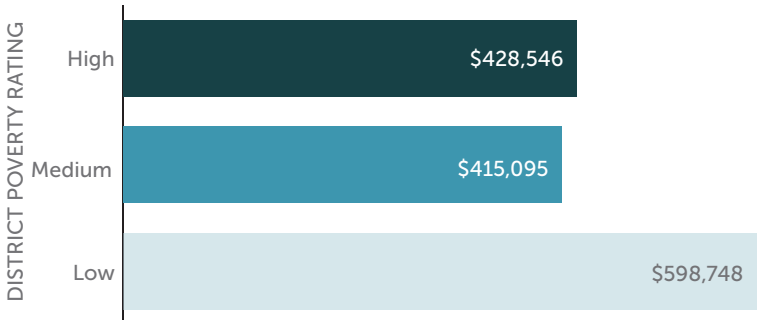
- In Flint, Michigan, photos of "do not drink" placards over high school drinking fountains hit front pages during the city's water crisis, as the threat of lead exposure loomed large.[xl]
- In Broward County, Florida, mold-infested school buildings made the news after the teachers union spoke out and educators were exhausting their sick days, even leaving the district and teaching altogether, because the air quality caused so many health problems.[xli]
- Philadelphia newspapers declared theirs a "Toxic City," reporting on lead paint, cancer-causing asbestos and other toxins being poorly managed throughout their schools.[xlii]
- Across the country, media outlets have covered school closures, as school buildings ill-equipped to deal with extreme heat,[xliii] extreme cold[xliv] and natural disasters were forced to shut down.[xlv]

The majority of our nation's public schools need not be shuttered, but they operate with deficiencies and inadequacies that pose unnecessary health, safety and education risks to children and staff. Additionally, public schools contribute to environmental degradation, with poor storm-water management and over-use of fossil fuels. Public school facilities are often vulnerable to weather hazards, rather than able to mitigate their effects on communities.

DISPARITY IN FACILITIES SPENDING AND INVESTMENT BY FAMILY INCOME

CHART 5: Low Poverty Districts Spent Nearly $200,000 a year more Per School on Annual Maintenance and Operations than High and Medium Poverty Districts

Annual Average M&O Spending per School by % Economically Disadvantaged Students FY16-18



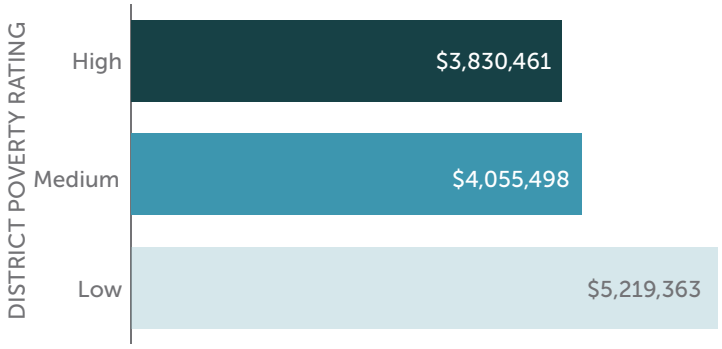
Note: *High poverty >65% economically disadvantaged students; Medium poverty 33-65%; Low poverty <33%, using Free/ Reduced Lunch or direct certification measures by school from NCES Common Core school level data.*

Data Source: *S F-33 School District Fiscal Survey, U.S. Census of Governments, data field V40, in actual $ annual average for FY17-19.*

Examining spending data from 13,483 public school districts across the country tells the same unacceptable story: districts with the highest need students continue to see the lowest funding levels when it comes to maintenance and operations spending and school construction capital investments, as is shown in Charts 5 and 6.

CHART 6: High Poverty Districts Spent 37% less Per School on Capital Investments than Low Poverty Districts, but Medium Poverty Districts fared little better than High Poverty Districts.

10 Years of School District Construction per School by % Economically Disadvantaged Students FY09-18



Note: *High poverty >65% economically disadvantaged students; Medium poverty 33-65%; Low poverty <33%, using Free/ Reduced Lunch or direct certification measures by school from NCES Common Core school level data.*

Data Source: *F-33 School District Fiscal Survey, U.S. Census of Governments, school construction capital outlay, NCES data field F12, inflation adjusted with the Turner Construction Index.*

able 5 organizes districts, schools and students by poverty levels, as well as the average M&O spending and Capital investments averaged by school in the districts. Students in low poverty districts, with fewer than one-third of their students eligible for free or reduced priced lunch or that are directly certified as economically disadvantaged, attended schools where the average amount of operating expenditures for the maintenance and operations of their facilities was about $600,000 for fiscal year 2018, as documented in Chart 5. These students are in schools that spend on average 27 percent more than the national average for their operations and maintenance of plant.

With chronic underfunding of capital needs, building and site deficiencies accumulate. Facility deficiencies have negative effects on human health and safety, the quality of the educational experience, working conditions for teachers and other school staff, and a depressive effect on the vitality of communities.

TABLE 5: Per school construction capital outlay and per school M&O annual expenditures are lowest in high poverty districts.

PK-12 Public Education Facilities Expenditures by 2017-18 Districts, Schools, and Enrollment

	Low Poverty	Medium Poverty	High Poverty	Total/Avg
2017-2018 ELEMENTARY & SECONDARY EDUCATION				
# of Districts	3,784	6,597	3,102	13,483
# of Public Schools	21,258	43,496	28,008	92,762
Enrollment	11,958,297	21,790,502	14,624,282	48,373,081
SCHOOL CONSTRUCTION CAPITAL OUTLAY TOTAL FOR FY09-18				
Total Expenditures (2020$)	$140,872,613,977	$238,577,425,794	$188,684,542,817	$568,134,582,588
Per School, District Average	$5,219,363	$4,055,498	$3,830,461	$4,330,362
M&O ANNUAL AVG FY16-18				
Total Annual Expenditures	$13,518,411,667	$22,287,812,333	$17,950,255,000	$53,756,479,000
Per School, District Average	$598,748	$415,095	$428,546	$469,731

Note: *High poverty >65% economically disadvantaged students; Medium poverty 33-65%; Low poverty <33%.*

Data Source: *Income data from Common Core Data, NCES. F-33 School District Fiscal Survey, U.S. Census of Governments, school construction capital outlay, NCES data field F12, FY09-18, inflation adjusted with the Turner Construction Index: M&O data field V40. See Appendix A: Facilities Inventory; Appendix B: M&O Spending and Capital Investment Data; and Appendix D: Equity, for state level detail.*

Students in low poverty districts had 27 percent more for M&O, and 37 percent more school construction capital outlay than the high poverty districts, can be calculated from Table 5.

Photo credit: Through your lens - student photo

This means the public schools in low poverty districts will likely be clean, have well-kept school grounds and operate as they were designed and engineered to operate. Due to the greater capital investments, they are also likely to be more modern and educationally aligned to support teacher and student success.

It is striking that the medium poverty districts, with 33-65 percent of students from economically disadvantaged families, are far closer to the profile of high poverty district than they are to low poverty districts. This reveals that the deficiencies in public school facilities are widespread and that the D+ award by the American Society of Engineers to public school infrastructure, is warranted.[xlvi]

Economically disadvantaged students disproportionately attend schools that have not had the dollars for necessary facilities maintenance, operations or modernizations (charts 3 and 4). This means they are learning in classrooms lacking air conditioning or eating lunch in an outdated cafeteria that doubles as a gym, attending schools with pest problems, legacy toxics, and without educational enhancements and supports that retain teachers or students in schools.

DISPARITY IN CAPITAL INVESTMENT BY RACE AND FAMILY INCOME

Native American, Black and Hispanic children are disproportionately represented in schools with lower facilities investments and maintenance and operations spending. Table 6 illustrates that Black, Hispanic and Native American students are over-represented in high poverty school districts. In the U.S. in the 2017-18 school year, a total of 27 percent of all elementary and secondary school students identified as of Hispanic origin, but in the high poverty districts, 46 percent of students were Hispanic. Likewise, 15 percent of elementary and secondary students identified as Black or African American, but 22 percent were in high poverty districts, whereas of all elementary and secondary students in regular public schools, 48 percent identified as white, but 69 percent were in low poverty school districts and only 22 percent of white students were in high poverty school districts.

TABLE 6: Minority Students are Over Represented in High Poverty Schools where Capital Investments are Lowest

10 Years of District School Construction Capital Outlay Averaged by School and Poverty Level of District

U.S. states & D.C. (Excludes P.R., BIE and Outlaying Areas)		Low Poverty	Medium Poverty	High Poverty	Total/Avg
Average School Capital Investment - FY09-18		$5,219,363	$4,055,498	**$3,830,461**	$4,330,362
Elementary and Secondary Enrollment 2017-2018		11,958,297	21,790,502	**14,624,282**	48,373,081
% OF ENROLLMENT BY RACE/ETHNICITY	American Indian/Alaska Native Students	0.4%	0.9%	**1.6%**	1.0%
	Asian, Native Hawaiian, and Pacific Islander Students	8%	5%	**5%**	6%
	Black or African American Students	6%	14%	**23%**	15%
	Hispanic Students	12%	22%	**46%**	27%
	Two or More Races Students	4%	4%	**3%**	4%
	White Students	69%	54%	**22%**	48%

Note: *High poverty >65% economically disadvantaged students; Medium poverty 33-65%; Low poverty <33%.*

Data Source: *Demographic and income data from Common Core Data, NCES. F-33 School District Fiscal Survey, U.S. Census of Governments, school construction capital outlay, NCES data field F12, FY09-18, inflation adjusted with the Turner Construction Index. See Appendix D: Equity for state level detail.*

Nationally, the gap findings and the distribution data suggest that the 12 million students in low poverty districts are likely to be in adequate facilities, but that the other 36 million students suffer mediocre to poor conditions in their public schools.

DISPARITY IN CAPITAL INVESTMENT BY LOCALE AND FAMILY INCOME

Where students live also affects the level of investments in public school facilities. As is illustrated in Table 7, rural school districts have spent, on average, less than half the spending in city or suburban districts.

Photo credit: Through your lens - student photo

Spending patterns need to be looked at in context. For example, when looking at M&O per student, the rural spending is the highest, but when evaluating it per school, it is the lowest. Low enrollment schools have higher costs per student, but often have substantial building space to operate, maintain or modernize. In another example of the need to further examine equity data in context. Urban labor costs tend to be the highest. This can confound the comparisons because when the same work costs more in urban locations, then spending levels will mask some of the variation in what deficiencies are accumulating or being remedied, and judgements using fiscal modeling to reflect actual conditions will be incorrect.[xlvii]

However, the contrast between what is being spent in rural and town districts and their city and suburban counterparts is so extreme, that this finding, combined with known challenges of rural districts, emphasizes the structural challenges in facilities funding in our nation's public schools. In every income group, rural school districts have had on average, lower maintenance and operations spending and capital investments per school than any other geographic area, as is shown in Table 7.

TABLE 7: Rural School Districts have the Lowest Capital Investments and M&O Spending at Every Income Level

Capital Investment Averaged by District School and Family Income and Locale FY2009-2018 (2020$)

	2017-2018 Elementary and Secondary Education			School Construction Capital Outlay FY09-18		M&O Annual Avg FY16-18	
	Districts	Public Schools	Enrollment	Total Expenditures (2020$)	Per School, District Average	Total Annual Expenditures	Per School, District Average
LOW POVERTY							
Total	3,784	21,258	11,958,297	$140,872,613,977	$5,219,363	$13,518,411,667	$635,921
City	148	2,470	1,484,308	$21,130,687,970	$8,268,786	$1,526,357,333	$617,958
Suburb	1,573	12,300	8,120,734	$89,170,257,002	$6,764,537	$9,400,464,000	$764,265
Town	388	1,723	729,498	$9,521,367,563	$5,724,305	$768,748,000	$446,168
Rural	1,675	4,765	1,623,757	$21,050,301,442	$3,381,875	$1,822,842,333	$382,548
MEDIUM POVERTY							
Total	6,597	43,496	21,790,502	$238,577,425,794	$4,055,498	$22,287,812,333	$512,411
City	342	9,402	5,524,913	$70,757,907,747	$6,902,721	$5,600,609,333	$595,683
Suburb	1,071	14,055	9,091,500	$93,930,411,006	$6,363,151	$9,188,400,333	$653,746
Town	1,376	7,310	3,010,967	$33,095,398,413	$4,507,624	$3,118,844,667	$426,655
Rural	3,808	12,729	4,163,122	$40,793,708,628	$2,987,385	$4,379,958,000	$344,093
HIGH POVERTY							
Total	3,102	28,008	14,624,282	$188,684,542,817	$3,830,461	$17,950,255,000	$640,897
City	323	12,748	7,584,749	$115,893,066,129	$6,420,902	$9,904,997,333	$776,984
Suburb	514	5,960	3,686,431	$40,400,631,355	$6,463,548	$4,476,811,333	$751,143
Town	676	3,834	1,648,235	$16,444,393,244	$4,180,742	$1,711,345,333	$446,360
Rural	1589	5,466	1,704,867	$15,946,452,089	$2,303,142	$1,857,101,000	$339,755

Data Source: *Income and locale data from Common Core Data, NCES. F-33 School District Fiscal Survey, U.S. Census of Governments, school construction capital outlay, NCES data field F12, FY09-18, inflation adjusted with the Turner Construction Index; NCES data field V40. See Appendix D: Equity for state level detail.*

School districts across the country have worked hard to deliver healthy, safe and educationally suitable public school facilities. However, the gaps between good stewardship standards for maintenance and operations and capital improvements and the current levels of expenditures for maintenance and operations and capital improvements is growing. Closing these gaps is necessary to ensure that all of the nation's public schools meet modern standards for health, safety, education suitability, and environmental sustainability and resiliency.

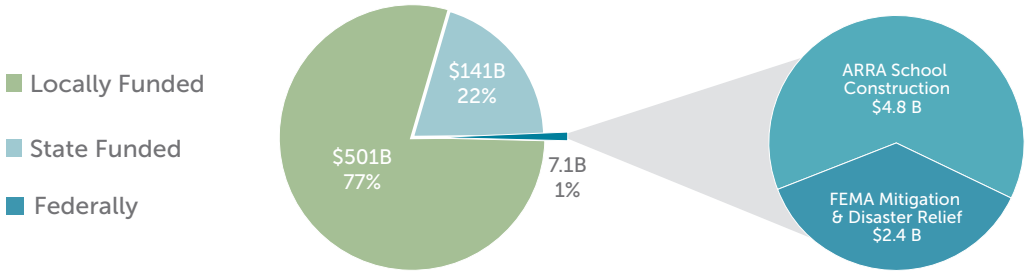
PUBLIC SCHOOL FACILITIES STEWARDSHIP

Photo credit: 21st Century School Fund

Good stewardship of public school facilities requires stable and sufficient funding, but it also requires good data, ongoing stakeholder planning, sound governance and decision-making processes, effective management, and regular oversight and accountability.[xlviii] On the instructional side of public schooling there is a well-developed local, state, and federal partnership for educational programming, research, data, accountability and funding. However, facilities operations and capital management are not a part of the state and federal education partnership. This is illustrated by how the capital construction responsibilities of school districts are funded. On average, for the general operating expenditures of public education, local districts pay for 45 percent, the state pays for 45 percent, and the federal government contributes 10 percent.[xlix] On the other hand, for capital school construction outlay, on average, local districts paid 77 percent, the states paid 22 percent, and the federal government paid just a bit more than 1% from fiscal years 2009 to 2019.

CHART 7: Local School Districts Fund most of the Nation's School Construction Capital Outlay—Creating the Structure for Inequitable Facilities Conditions

Eleven years of capital investments by source of funds FY09-19 in billions (2020$)



Data Source: *U.S. Census of Governments F-33 Fiscal Survey: data fields C11 (adjusted for Ohio, New York, and Oregon), school construction capital outlay data field F12, and HE2 data field for capital outlay from American Recovery and Reinvestment Act (ARRA); and Public Assistance and Mitigation funds from FEMA.gov FY2009-2019.*

SCHOOL DISTRICT ROLES AND RESPONSIBILITIES

The responsibility for the delivery of healthy, safe and educationally adequate public school facilities primarily sits with local school districts. School districts, no matter their size, are responsible for maintenance and operations of facilities and for deciding on and managing capital improvement projects for schools, administrative and operational facilities. Since the median size of the nation's nearly 14,000 regular school districts is only 962 students in 2018-19, and only 931 districts had enrollments of over 10,000 students, operating a long term capital program can be hard to manage.

School districts are responsible for determining what level of their operating budgets will go to maintenance and operations, and they are responsible for raising revenue to build and modernize their facilities. As is clear from the low level of average capital outlay by schools in rural districts described in Table 7 in the previous section, these small districts with low enrollments combined with low wealth of district residents can make good stewardship of public school facilities extremely difficult or even impossible. Low wealth and small districts do not have sufficient revenue from local property or sales tax, or other sources of revenue to finance enough borrowing to address their accumulated deficiencies from aged infrastructure.

School districts held $486 billion in long-term debt at the end of fiscal year 2019, amounting to $11,016 per student. (Appendix E)

School districts paid $110 billion over the 11 years from fiscal years 2009-2019 for PK–12 capital projects, almost entirely (77 percent) with local funds. To do this, districts that could afford to do so borrowed to finance the cost of school construction capital investments. Most of this debt was for school construction or for purchase of land and other buildings. Local districts paid $20 billion in FY2019 from their operating budgets for interest on their long-term debt. Interest payments of school districts were nearly $4 billion more than public schools received in Title I funding for disadvantaged students from the U.S. Department of Education in 2019.

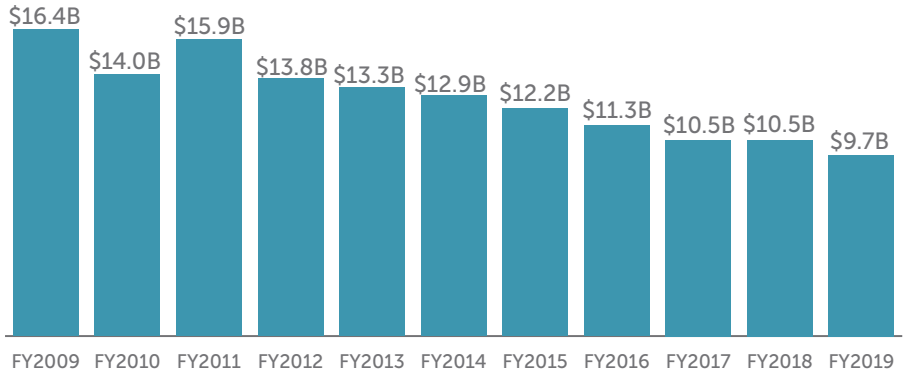
STATE CAPACITY FOR PUBLIC SCHOOL FACILITIES AID AND TECHNICAL ASSISTANCE

State level roles and responsibilities for public school facilities are a complex patchwork. State capacity for facilities funding, data management, planning, accountability and technical assistance vary widely from state to state. In every state, except Hawaii, local districts have the operational responsibilities for managing their inventory of public facilities, but states are increasingly developing capacity for funding and technical assistance.

States contributed a total of nearly $141 billion for capital outlay and debt service to school districts over the fiscal years 2009-2019. This represented only 22 percent of total school construction capital outlay. However, as Chart 8 reveals, the level of funding from states has fallen.

CHART 8: State Support to Local School Districts for Capital Projects and Debt Service has Steadily Declined

State funds paid to districts for capital projects and debt service FY2009-19 (2020$)



Data Source: *F-33 School District Fiscal Survey, U.S. Census of Governments, data field C11, inflation adjusted with the Turner Construction Index, corrections for Ohio, New York, and Oregon, where Districts did not report state building aid.*

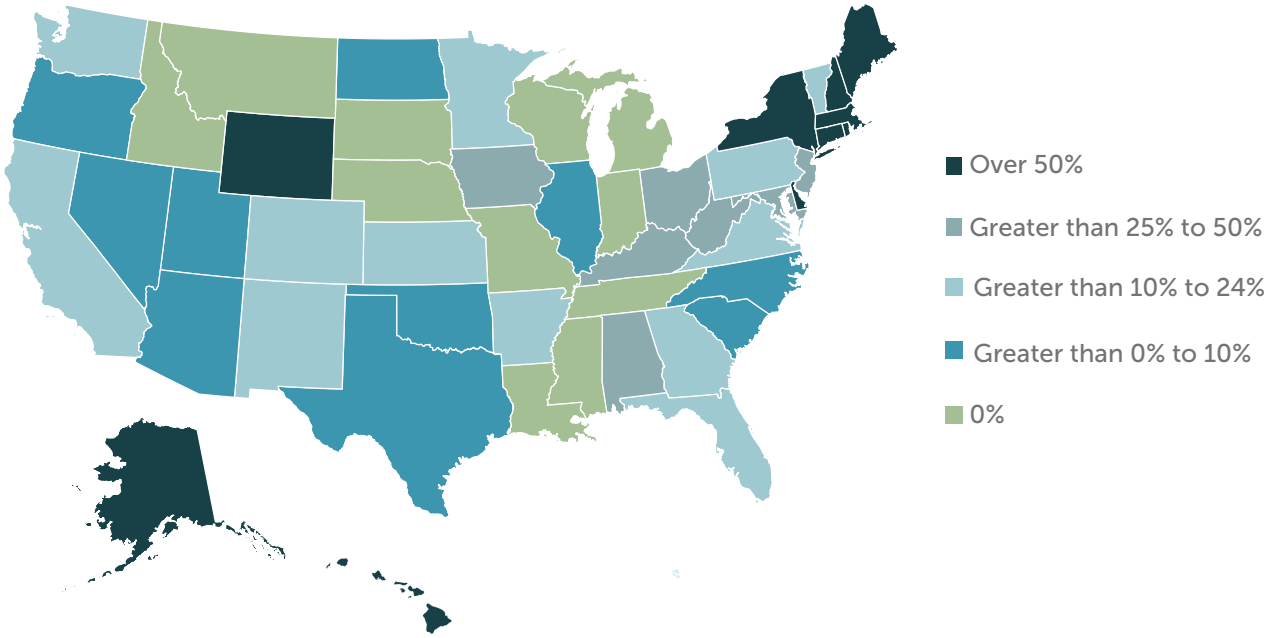

Photo credit: Jerry Roseman

The reduction in state funding is another contributing factor to the increased facilities M&O and investment gap. State funding is also a critically important way that structural inequities in school facilities conditions are alleviated. High poverty districts, often in rural areas, have sued their states seeking adequate and equitable funding.[i] Successful cases in Wyoming, New Mexico, New Jersey, Arkansas, West Virginia, Arizona, California and Kentucky have resulted in increased state capacity and funding assistance for high poverty public school facilities. In other states, like Ohio, Massachusetts, Rhode Island and Oregon, political pressure, rather than the courts, brought states to the table to address public school facility inadequacies and inequities. States like Alaska, Hawaii and Delaware have long traditions of state support for public school facilities.

Map 1 identifies the level of state funding dedicated to school facilities capital investments. Thirty- four state departments of education fund some level of local district school facilities improvements or debt service. Six states (Massachusetts, Ohio, New Mexico, Wyoming, West Virginia and recently Hawaii) have separate public authorities with responsibilities for funding public school construction projects. However, 11 state departments of education had neither a separate authority nor provided funds to school districts specifically for school construction or debt service from fiscal year 2009 to 2019.

MAP 1: Only eight states provide 50% or more to local districts for school construction capital outlay and debt service, and there are eleven states that provide districts no dedicated construction funding or debt service.

Levels of State Contribution to District School Construction Capital Outlay FY09-19



Data Source: *U.S. Census of Governments F-33 Fiscal Survey: data field C11 – State Revenue for Capital Outlay and Debt Service, (adjusted for Ohio, New York, and Oregon). See Appendix E: Source of Capital Funds for School Construction Capital Outlay FY2009-2019 in 2020$.*

FEDERAL INTEREST IN PK-12 PUBLIC EDUCATION INFRASTRUCTURE

A prominent missing partner at the table for elementary and secondary public education infrastructure is the U.S. Department of Education.[li] With no federal legislative program to address the educational facilities' needs of low wealth and high need school districts, the U.S. Department of Education has not integrated issues related to the built environment of schools into its school improvement and equity strategies. To date, there is no dedicated program or office in the U.S. Department of Education that has staffing and technical capacity to provide support to states or districts on school facilities data, research or best practice.

There is no data collected on public school facilities specifically by the National Center for Education Statistics (NCES), which is why we have only fiscal data to use as nationally comparable data to try to understand public school facilities conditions and equity. The Institute for Education Sciences has funded little research on the impact of school facilities on learning, teaching, student or teacher mental or physical health, or inequity in education. A tiny bright spot in the U.S. Department of Education is the Green Ribbon Schools (ED-GRS), which is an unfunded recognition award for states, districts, schools, or institutions of higher education meant to inspire environmental sustainability practices.

The Government Accountability Office (GAO) and the National Center for Education Statistics have done occasional surveys and studies on our nation's public school facilities, but these are not released on a consistent basis.

There is an array of federal agencies with minor programs affecting public school facilities. These are catalogued in a 2015 Congressional Research Service Report.[lii] As the report acknowledges, "the largest federal contributions are indirect—the forgone revenue attributable to the exemption of interest on state and local governmental bonds used for school construction, modernization, renovation, and repair; and other tax credits." There are some direct grants for schools with high populations of students who are Alaska Natives, Native Hawaiians, American Indians, children of military parents and individuals with disabilities.

The most substantial sources of funding for public school district facilities from fiscal year 2009 to 2019 were from the Federal Emergency Management Agency (FEMA) and from the 2009 American Recovery and Reinvestment Act (ARRA). The FEMA and ARRA funds were situational rather than ongoing. FEMA funds were for mitigation and disaster relief and ARRA funding represented a one-time payment in a time of economic hardship.

Federal funding for public school facilities was only about 1.3% of school districts' school construction capital outlay from fiscal year 2009 to 2019—about $7.1 billion 2020$. The ARRA funding was not dedicated to facilities; rather, facilities were identified as an allowable beneficiary within the larger Education Stabilization Funding that was provided to school districts and states. Only about 5 percent of the ARRA funds were used for school construction. However, there were eight states that used more than $150 million of their American Recovery and Reinvestment Act funding for capital outlay. These are listed in Table 8.

TABLE 8: Eight States Used over $150 Million of their Federal ARRA Funds for Capital Outlay

Federal FY09-14 ARRA Funds for Capital Outlay (2020$)

State	Federal ARRA Funds for Capital Outlay (20202$)
Arkansas	$429,337,163
Florida	$1,288,441,236
Illinois	$223,202,461
Indiana	$303,209,996
Mississippi	$150,907,380
Pennsylvania	$174,946,269
Texas	$418,109,705
Virginia	$200,447,889

Photo credit. Through your lens - student photo

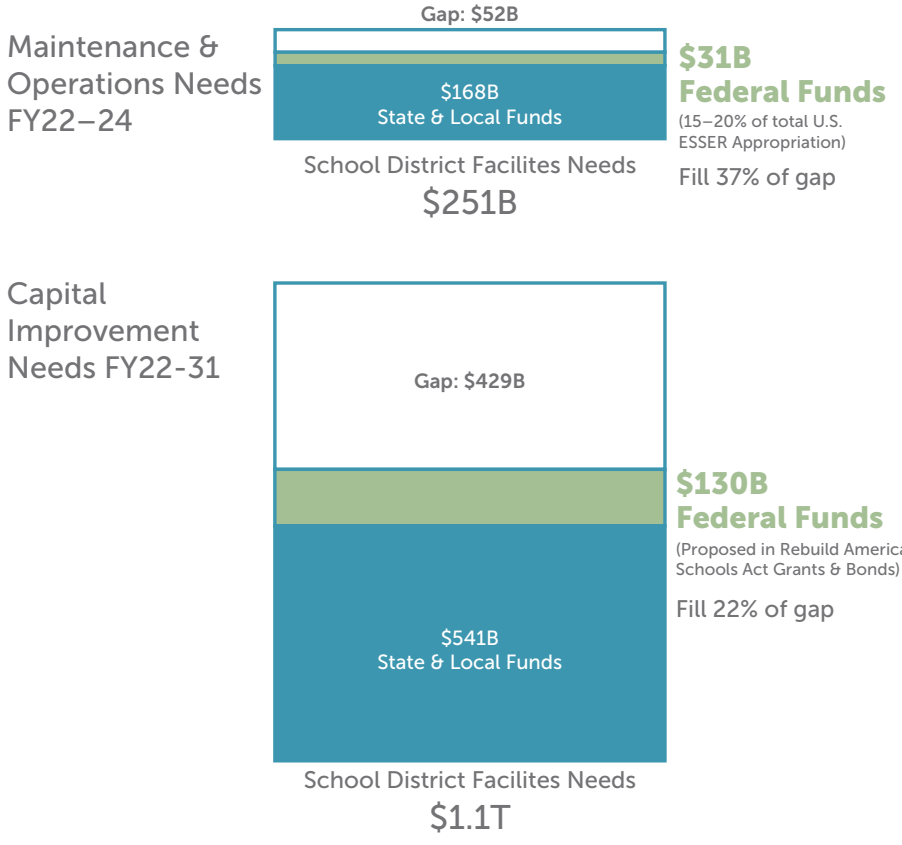
Elementary and Secondary School Emergency Relief (ESSER) funds appropriated by the U.S. Congress in 2020 and 2021 help address the costs associated with operating public schools during a pandemic. ESSER funds also provide an important opportunity to begin to address the inadequacies and inequities in America's public school buildings and grounds. Table 8 shows what federal funds can do to meet the nation's maintenance, operations and modernization needs and close the facilities spending and investment gaps.

PK-12 public school district recipients of ESSER funds apply $31 billion of their relief funding toward the $251 billion needed for three years of annual maintenance and operations, facilities maintenance and operations, then public school districts could reduce the three year $83 billion M&O gap by 37%. Closing the maintenance and operations gap will be a critical step toward making schools healthier and safer. This still leaves $52 billion of critical maintenance and operations unfunded — $17.3 billion each year — but will make a measurable difference in school districts' ability to provide health and safe facilities during the pandemic.

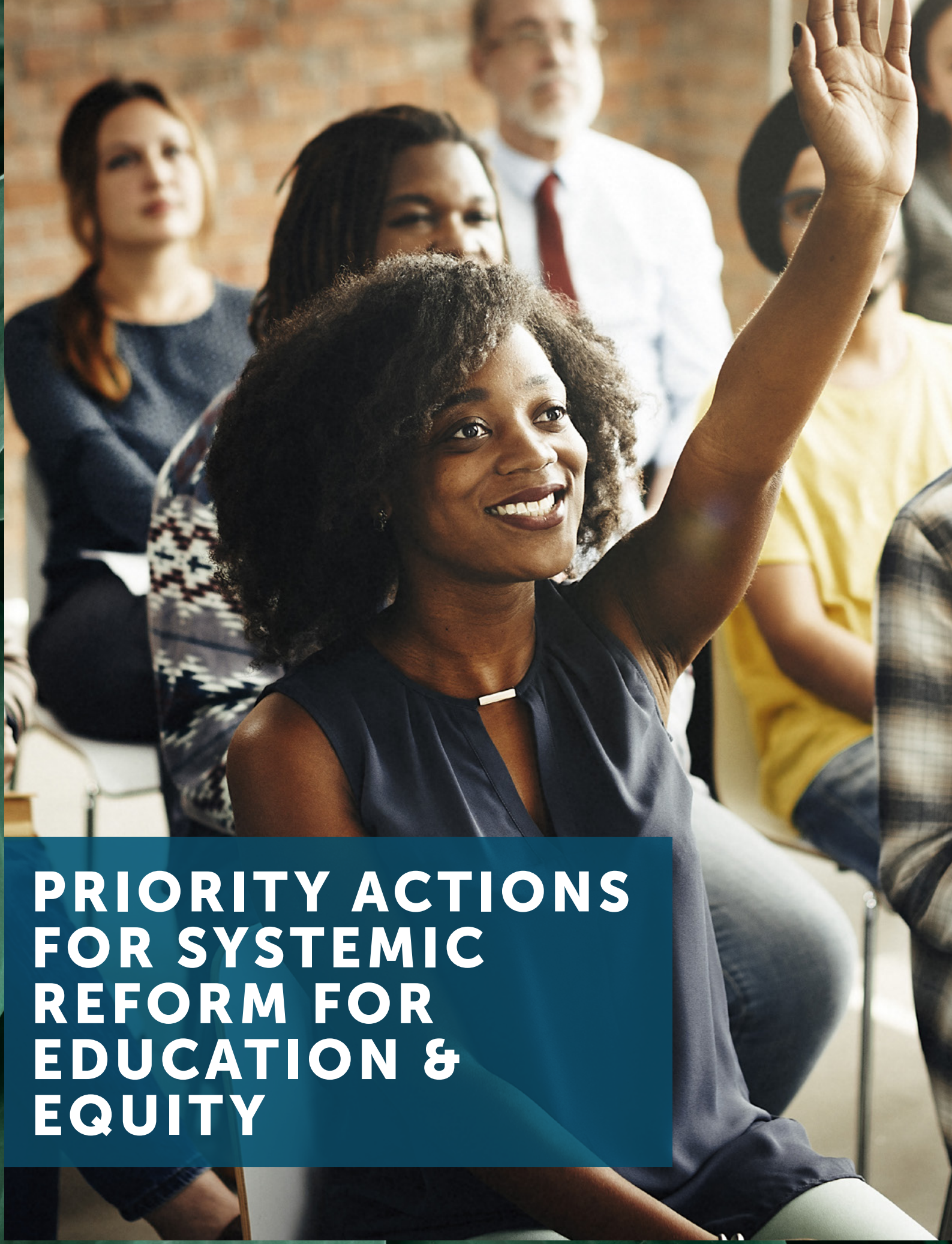
If federal funding at the levels envisioned under the Rebuild America's School Infrastructure Act were provided to states, the District of Columbia, Bureau of Indian Education Schools, Puerto Rico, and Outlying Areas, then there would be nearly $130 billion toward the $1.1 trillion ten year needs to modernize and replace obsolete schools and systems in the nation's public schools. A federal program to address the gross disparities in capacity of districts to modernize their schools could close the national ten year FY22-31 capital investment gap of $573 billion by 22 percent.

CHART 9: Federal funding for PK-12 public school facilities can help districts address significant immediate facilities deficiencies exacerbated by pandemic conditions and build state and local capacity to eliminate longstanding deficiencies that will improve school facilities for generations.

***What If?** Scenarios for Dedicating ESSER Funds to M&O and Securing Federal Capital Improvement Funds*



***Data Source:** See Appendix C: M&O and Capital Standards, Expenditures and Gaps; State of our Schools 2021 proposal for dedicating $31 billion from COVID funding for M&O gap; and $130 billion proposal from Rebuild America's School Infrastructure Act.*

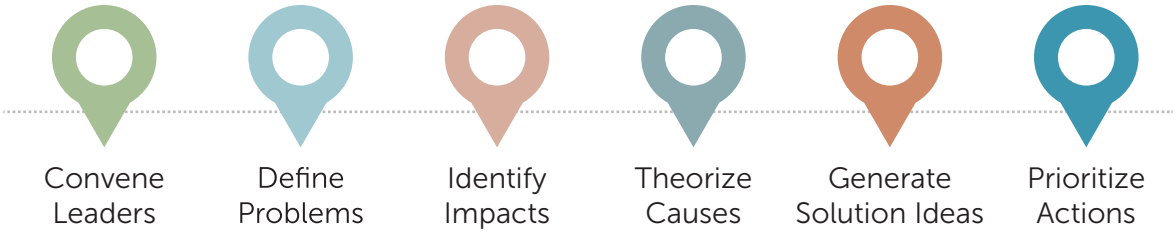


PRIORITY ACTIONS FOR SYSTEMIC REFORM FOR EDUCATION & EQUITY

The COVID-19 pandemic exemplified what has been a chronic and growing problem of public school districts—substandard school facilities. With this context, we see that letting buildings and grounds deteriorate by deferring maintenance and neglecting capital investments creates an education infrastructure deficit. This has grown even with district spending and investment of over $110 billion a year. But like other types of debt, not paying it down, actually makes it grow. The gap between needs and efforts grew from $46 billion a year in 2016 to $85 billion a year in 2021.

Making up an $85 billion a year gap is daunting. Business as usual will not make it go away, and even increasing funding alone, will not remedy the structural inequities and shortcomings of our nation's public education infrastructure. **Modernizing our public school infrastructure for all students and communities will take a vision, resolve, and local, state, and federal systemic reforms. But the benefits of reforms for a smarter and fairer system will be great**. A smarter system of facilities planning and management could reduce the annual need for capital investment by 1 percent of CRV or nearly $28 billion (2020$) every year. Additionally, energy management, including a net zero energy strategy in new and modernized schools, could save at least 25 percent of the cost of utilities—about $3 billion a year. But progress against our growing deficit will not happen without systemic policy changes at the local, state, and federal levels.

Following the release of the 2016 State of our Schools Report, a research team from the 21st Century School Fund and the Center for Cities + Schools at the University of California, Berkeley facilitated a national engagement process to identify the challenges to adequate and equitable PK–12 infrastructure and to propose system reforms.



This process garnered input from 85 individuals from 33 states and the District of Columbia who represented a diverse group of nonprofit advocacy leaders, local and state officials, researchers, building industry professionals, labor advocates and finance experts. Through a year-long engagement they identified the essentials for modern PK-12 infrastructure stewardship, as well as fifty-five priority actions required for implementation. [liii] The priority actions included local, state and federal recommendations divided into six areas:

1. Public governance and decision making
2. Facilities operating and capital funding
3. Facilities management
4. Facilities planning
5. Facilities data and information management
6. Accountability

PUBLIC GOVERNANCE AND DECISION MAKING

The intensely local nature of our public school district governance provides a foundation for our democracy because it engages community members in civic responsibilities and exemplifies democratic processes at a local scale. However it also means that income, race, and location inequities are structured into public school districts, and that there are half of our nearly 14,000 school districts with less than 1,000 students. Each district is seeking information and doing the same work to try to figure out health guidance and operational changes on their own. Priority system reforms to support leadership and governance reforms:

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 an office in the U.S. Department of Education, with a strategic national focus on facilities adequacy and 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

FACILITIES OPERATING AND CAPITAL FUNDING

This report shows that districts are struggling with a substantial shortfall in funding for annual maintenance and operations—nationally districts have a M&O funding gap at a level of about $27.6 billion each year. Additionally, to modernize our current inventory of facilities, districts would also have to bridge the annual gap of $57.4 billion for capital investments. This cannot be done without a local, state and federal partnership. **Priority system reforms to address facilities funding gaps**:

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 states have 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

Managing public school capital planning, financing, design and construction has grown more complex over the decades, with the COVID-19 pandemic adding new challenges and responsibilities. At the district level, most districts are small and do not maintain capital planning, budgeting, financing or management capacity in their districts. Even in large school districts, these functions are typically under-staffed, under-paid and under-resourced compared to facilities management in the private sector. This makes it difficult to secure and r experienced professional facilities staff. **Priority system reforms to improve 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

EDUCATIONAL FACILITIES PLANNING

The vision, resolve and roadmap essential to modernizing our crumbling public school facilities can only come from a planning process that engages a broad community of inside and outside stakeholders and technicians. Modernizing this essential infrastructure for climate change, public health, equity and education quality will not happen without specific plans to advance these ends. **Priority system reforms to engage diverse stakeholders in 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
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
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
38. Train and educate school administrators, school boards and other stakeholders on the importance of facility planning

FACILITIES DATA AND INFORMATION MANAGEMENT

The critical planning, management, sound decision making and accountability needed for districts, states, and the nation's $2.79 trillion worth of public school assets which house nearly 55 million of our children, youth and adults daily, can't be done without relevant, up-to-date and open data and information about public school facilities. **Priority system reforms to inform the public and decision makers on public school facilities:**

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

In all work of value and public interest, ensuring that policy makers and practitioners can be held accountable is critical. The delivery of healthy, safe, educationally suitable, environmentally sustainable and resilient public school facilities that are equitable and affordable is a serious challenge, but one which can be more readily attained with modern standards, systems to monitor public and private actors, and authorities able to enforce public objectives. **Priority system reforms for accountability to assure policy and practice align to public interests**:

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. Make relevant building industry and academic research available to school facilities practitioners

CONCLUSION

As students return to school this fall, the world continues to grapple with the catastrophic impacts of COVID-19. The pandemic has disrupted continuity of education, widened disparities in academic achievement, and taken the lives of students, teachers and staff. When they enter their classrooms, it is likely they enter spaces that suffer from long-standing deferred maintenance and modernization needs, spaces that have seen few meaningful health and safety improvements since the start of the pandemic.

Our school facility infrastructure is instrumental to the success of the next generation of Americans. Where our children learn has a profound and tangible impact on the quality of their education, which is why average annual spending and investment for our schools is so important. Despite local districts and states doing their best to adequately support and fund the nation's elementary and secondary public school facilities, the needed investment continues to fall short. Indeed, more and more districts are falling further and further behind. In aggregate, the nation's investment gap in PK-12 public school facility infrastructure has reached $85 billion per year, jeopardizing a quality education for millions of children.

There are substantial inequities in how districts carry the burden of this $85 billion gap. The disparities are found by community wealth, by student race or ethnicity, and by the geographic context of districts. School districts with the most students in need bear far more of the burden, and therefore suffer many more negative impacts associated with poor facilities. In fact, high poverty districts averaged $1.4 million less spent per school for school construction improvements over a ten year period than low poverty districts.

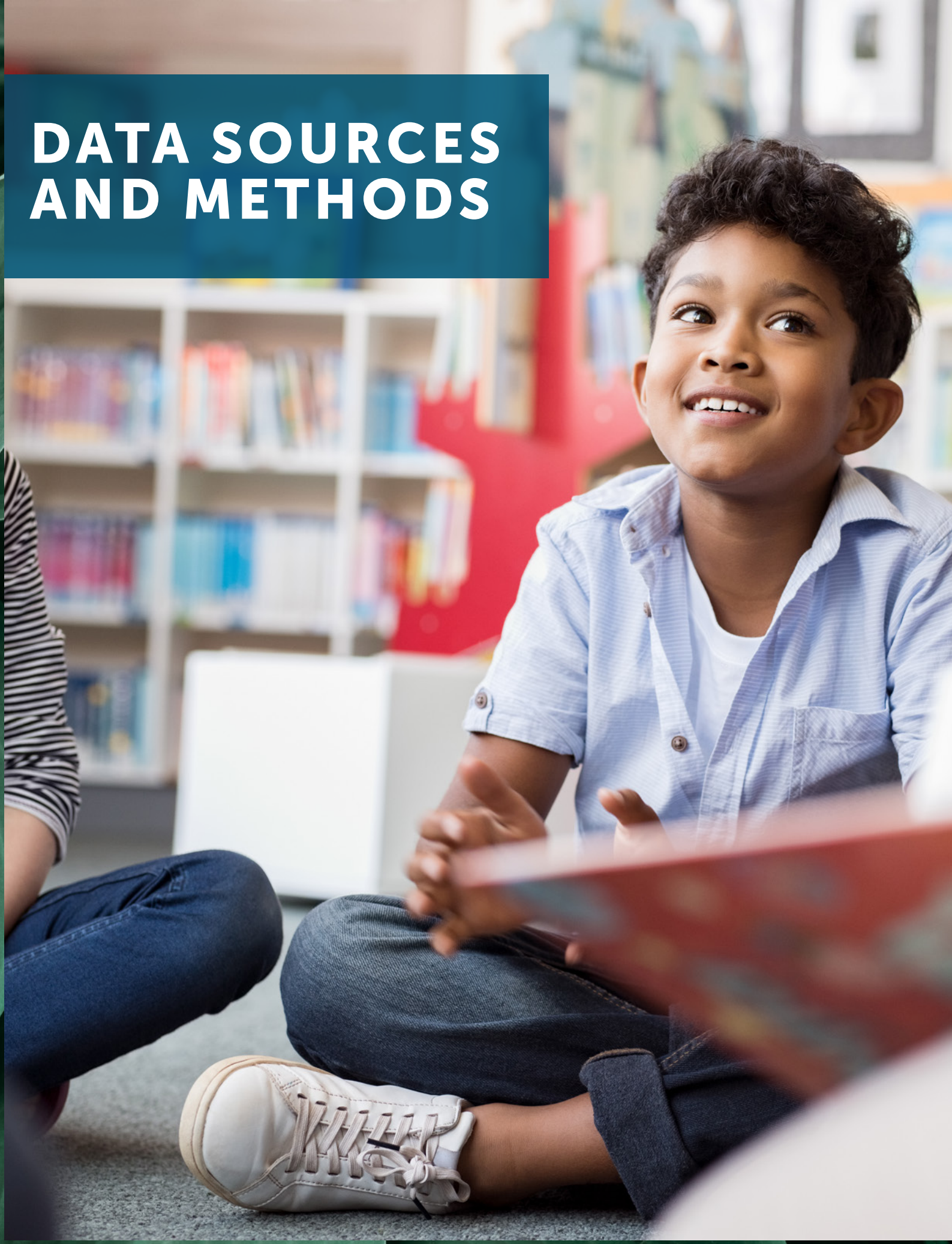
Closing the gaps in facilities funding is a critical step to ensure that all of the nation's public schools meet modern standards for health, safety and educational suitability, as well as environmental sustainability and resiliency. Increasing M&O capabilities creates healthier environments and reduces the costs for future capital investment by extending the life of building systems. Timely capital investments increase educational opportunities for students and communities and reduce the financial and environmental costs to operating and maintaining schools.

As we strive to achieve shared goals for educational equity, child and occupant health, environmental sustainability and resilience, we know that states and the federal government can do much more to prioritize school buildings and grounds. State support for school facilities is uneven from state to state and not always equitably distributed, and except for disasters, federal assistance for our nation's public school facilities is minimal. Of the school facility investments that were made from FY09-19, localities paid 77 percent of the costs, while states paid 22 percent. The federal government provided for a mere 1 percent of costs.

Our school facility infrastructure is facing a national emergency: such severe and routine underinvestment is eroding the country's ability to provide quality student education in a safe, healthy and sustainable setting.

While some progress is being made on the systemic reforms proposed in this report, much more needs to be done and with greater urgency. We can start with the recommendations included in this report as a roadmap. Ultimately, it requires all levels of government working with their communities and their technical advisors to adopt ambitious and intentional plans and policies to close the investment gap and address the deep-rooted disparities in facilities' conditions and quality found by income, race and locale. We hope that this report will serve as both a wakeup call and a call to action: that those who read this report respond as though the future of our children and our country depends on it. In our eyes, they do.

DATA SOURCES AND METHODS



Without state or national databases on the conditions and qualities of public school facilities, analyzing fiscal data serves as a reliable proxy for facility conditions. Where there is severe underinvestment, severely deficient facilities are likely to exist. In this report, we use a standards-based framework to understand the adequacy and equity of investment. This report depends on an innovative compilation of key data from a variety of sources. The state level summation of all data used in this report is included in the Appendices and is available as a separate state profile report at www.StateofourSchools2021.org. We welcome input from the field on improving our framework and analytic approach.

Appendix A uses National Center of Education Statistics (NCES) common core data for basic school district statistics. The National Council on School Facilities (NCSF) surveyed states on building and site inventory sizes and the cost of new construction to establish the current replacement value (CRV) estimates.

Twenty-seven states reported building inventory sizes. For states that did not report their building and site inventory size – and their enrollment increased between 2009 and 2019 – we estimated an increase to their gross square footage. The increase was based on the gross square footage number used in the 2016 State of Our Schools Report, plus 80 percent of the enrollment growth multiplied by their 2016 average GSF per student. Where there was no data from the 2016 report (Puerto Rico, Bureau of Indian Education and Outlaying Areas) we estimated the GSF per student based on comparable states and multiplied this GSF per student by their 2017-18 enrollment. If the state did not report their building and site inventory size – and their enrollment decreased or did not change – we used the state's gross square footage as reported in the 2016 State of Our Schools Report.

Twenty states provided their statewide average cost for new school construction. For the states that did not report, we used the state's average cost of new school construction from the 2016 State of Our Schools Report, adjusted to 2020 dollars using the Turner Building Cost Index.[liv]

The **fiscal spending and investment data (Appendix B: M&O Spending And Capital Investment Data)** is from the U.S. Census of Governments F-33 Annual Fiscal Survey of school districts. The U.S. Census does not recognize charter education agencies as governmental entities, so they are excluded from the analysis.[lv] Fiscal data is for actual expenditures, not budgets, and includes local school district annual revenues and expenditures, including those for capital outlay and for maintenance and operations of plant.

The F-33 also includes enrollments, which can differ slightly from inventory data from NCES common core of data.

The **gap analysis data (Appendix C: M&O and Capital Standards, Expenditures and Gaps)** uses spending and investment benchmarks common for building industry standards that have been adjusted for use in PK-12 education facilities analysis. For example, 2 percent of current replacement value (CRV) is a well-accepted benchmark for annual maintenance a facility. However, because the education data used to examine facilities maintenance includes maintenance, as well as utilities and building security, the benchmark used for this analysis is 3 percent.

For the **equity analysis (Appendix D: Equity)** we use free and reduced priced lunch and direct certification student data for fiscal year 2018 from the Public Elementary/Secondary Universe Survey published by the NCES's Common Core of Data. [lvi] Direct certification is another means of identifying students from economically disadvantaged families. It is termed "direct" certification because families do not have to apply for the free or reduced lunch program but are reported to the district as economically disadvantaged because of their participation in other public income or food subsidy programs. Family income data were captured at the school level and combined to obtain district level data. New York City geographic districts were consolidated into one NYC school district for the equity analysis. The equity analysis was only possible for fiscal years 2009-2018 since the student family income data was not available for fiscal year 2019.

For data on the **sources of funds (Appendix E: Source of Capital Funds for School Construction Capital Outlay FY2009-2019 (2020$))** we used fiscal data on state revenue for capital outlay and debt service from the F-33 survey, however, we made adjustments to this for Ohio, New York and Oregon, as districts did not report their building aid in their F-33 forms. To catalogue federal contributions to school construction, we used OpenFEMA datasets to calculate FEMA funding for school districts for 2009 to 2019. Reporting on school facilities spending from the American Recovery and Reinvestment Act was obtained from NCES, as it was collected on the F-33 fiscal survey for fiscal years 2009 to 2014. There are other small amounts of federal funds, such as school construction from Impact Aid, that are not captured here.

All school and district level data were summarized and analyzed at the district, then state, and finally national basis. State data profiles were created and incorporate the unique context of facilities spending and investment in each state as well as other factors that vary by state (e.g., cost of construction and school district square footage). State offices that oversee and/or report on school facilities were each given the opportunity to review the data and offer input and corrections. Many state directors provided valuable insight to both the national picture and the state profiles, but they are not responsible for the quality of the district reported data, or the analysis by the researchers. Data used in this analysis is available at stateofourschools2021.org.

State Name	# Districts	# Schools	Gross Sq Ft	Enrollment	GSF per	Current Replacement Value (CRV)	New Construction per GSF
Alabama	140	1,526	140,993,000	739,118	191	$35,248,250,000	$250
Alaska	53	479	25,382,165	130,963	194	$10,939,713,115	$431
American Samoa	1	29	1,316,616	11,064	119	$995,361,696	$756
Arizona	242	1,786	130,719,462	934,585	140	$46,983,711,910	$359
Arkansas	234	994	105,135,928	476,638	221	$21,027,185,600	$200
Bureau of Indian	1	174	6,381,076	43,706	146	$2,112,136,156	$331
California	1,064	9,076	730,076,629	5,692,421	128	$378,004,475,431	$518
Colorado	183	1,660	131,542,568	889,886	148	$57,569,604,885	$438
Connecticut	174	999	118,000,000	486,809	242	$54,927,052,843	$465
Delaware	19	202	19,689,436	122,319	161	$8,276,060,634	$420
District of	1	114	12,089,288	49,065	246	$7,253,572,800	$600
Florida	67	3,523	466,018,616	2,827,129	165	$118,834,747,080	$255
Georgia	180	2,223	256,546,921	1,735,266	148	$53,197,569,539	$207
Guam	1	41	3,536,561	29,719	119	$2,673,640,116	$756
Hawaii	1	256	21,500,000	181,278	119	$16,254,000,000	$756
Idaho	117	683	45,577,864	289,262	158	$15,952,252,400	$350
Illinois	947	4,203	359,500,000	1,951,960	184	$94,900,786,992	$264
Indiana	294	1,813	180,101,372	1,001,668	180	$49,312,836,262	$274
Iowa	333	1,314	93,456,175	514,833	182	$31,952,666,233	$342
Kansas	286	1,305	83,269,672	497,469	167	$23,018,401,970	$276
Kentucky	173	1,534	115,771,824	677,653	171	$28,936,279,825	$250
Louisiana	76	1,225	119,806,944	638,377	188	$31,811,219,642	$266
Maine	256	587	30,975,309	177,592	174	$12,235,247,055	$395
Maryland	24	1,369	140,594,554	896,423	157	$55,113,065,168	$392
Massachusetts	326	1,770	181,418,729	901,844	201	$87,026,564,301	$480
Michigan	542	3,353	310,766,544	1,310,029	237	$84,723,203,909	$273
Minnesota	371	2,307	168,100,780	823,418	204	$59,837,153,649	$356
Mississippi	146	1,049	85,602,542	469,061	182	$18,990,316,261	$222
Missouri	518	2,357	158,016,744	887,660	178	$43,492,720,767	$275
Montana	405	823	28,847,273	147,311	196	$8,783,964,935	$304
Nebraska	244	1,081	62,373,373	325,984	191	$17,167,723,031	$275
Nevada	18	640	55,074,876	448,546	123	$19,709,960,462	$358
New Hampshire	180	458	33,458,644	169,795	197	$15,574,446,670	$465
New Jersey	586	2,485	196,524,675	1,345,089	146	$95,901,840,324	$488
New Mexico	89	785	63,492,128	318,845	199	$19,555,575,424	$308
New York	726	4,504	433,000,000	2,551,010	170	$230,242,159,624	$532
North Carolina	121	2,472	241,084,520	1,440,547	167	$60,271,130,000	$250
North Dakota	178	531	26,252,176	113,802	231	$7,993,760,570	$304
Northern Marianas	1	31	1,196,188	10,052	119	$904,318,128	$756
Ohio	619	3,247	416,650,897	1,583,056	263	$118,803,836,771	$285
Oklahoma	513	1,746	116,452,301	660,161	176	$30,787,296,628	$264
Oregon	177	1,124	104,457,702	580,846	180	$41,783,080,800	$400
Pennsylvania	573	2,789	328,551,007	1,568,685	209	$115,249,910,758	$351
Puerto Rico	1	846	36,566,558	307,282	119	$40,223,213,800	$1,100
Rhode Island	36	285	24,112,691	133,091	181	$12,273,359,719	$509
South Carolina	96	1,187	123,005,375	750,563	164	$30,611,813,669	$249
South Dakota	149	697	25,139,886	138,648	181	$7,655,069,410	$304
Tennessee	147	1,747	172,298,484	1,005,049	171	$49,449,664,908	$287
Texas	1,025	8,173	672,893,412	5,119,954	131	$177,897,464,426	$264
U.S. Virgin Islands	2	26	3,000,000	10,718	280	$3,300,000,000	$1,100
Utah	41	927	91,718,069	598,470	153	$24,855,596,699	$271
Vermont	261	312	17,471,718	85,011	206	$8,132,796,422	$465
Virginia	194	2,107	201,141,252	1,289,176	156	$64,566,341,892	$321
Washington	299	2,433	152,227,982	1,123,224	136	$64,392,436,386	$423
West Virginia	55	721	42,062,732	267,976	157	$12,745,007,796	$303
Wisconsin	425	2,022	178,414,015	849,956	210	$47,097,720,261	$264
Wyoming	48	358	25,600,000	93,734	273	$8,473,600,000	$331
Total/Average	**13,979**	**92,508**	**8,114,955,253**	**48,423,796**	**168**	**$2,786,002,885,750**	**$343**

State Name	Total Education Expenditures FY17-19 Annual Average (actual $)	M&O Expenditures FY17-19 Annual Average (actual $)	M&O as % of Total Education Expenditures	M&O Annual Average $ per 18-19 Student	M&O Annual Average$ per GSF
Alabama	$7,247,423,667	$688,199,667	9.5%	$931	$4.88
Alaska	$2,377,300,667	$268,085,000	11.3%	$2,047	$10.56
American Samoa	$42,281,263	$2,735,970	6.5%	$247	$2.08
Arizona	$7,764,102,667	$915,229,333	11.8%	$979	$7.00
Arkansas	$4,866,933,333	$473,253,667	9.7%	$993	$4.50
Bureau of Indian Education	$0	$44,667,532		$1,022	$7.00
California	$77,592,271,000	$7,093,476,333	9.1%	$1,246	$9.72
Colorado	$9,204,171,000	$848,820,000	9.2%	$954	$6.45
Connecticut	$10,353,758,333	$817,178,333	7.9%	$1,679	$6.93
Delaware	$1,925,875,333	$189,723,667	9.9%	$1,551	$9.64
District of Columbia	$1,156,443,333	$84,496,000	7.3%	$1,722	$6.99
Florida	$26,327,227,667	$2,575,898,667	9.8%	$911	$5.53
Georgia	$18,720,341,667	$1,398,777,000	7.5%	$806	$5.45
Guam	$298,234,155	$36,986,173	12.4%	$1,245	$10.46
Hawaii	$2,760,237,000	$286,630,667	10.4%	$1,581	$13.33
Idaho	$2,198,293,333	$207,374,000	9.4%	$717	$4.55
Illinois	$31,606,950,333	$2,213,632,000	7.0%	$1,134	$6.16
Indiana	$10,282,031,000	$1,091,569,000	10.6%	$1,090	$6.06
Iowa	$5,992,884,667	$506,196,667	8.4%	$983	$5.42
Kansas	$5,716,004,667	$525,967,333	9.2%	$1,057	$6.32
Kentucky	$7,379,006,000	$573,946,667	7.8%	$847	$4.96
Louisiana	$7,415,349,000	$736,301,333	9.9%	$1,153	$6.15
Maine	$2,604,095,667	$267,734,667	10.3%	$1,508	$8.64
Maryland	$13,306,081,667	$1,176,537,333	8.8%	$1,312	$8.37
Massachusetts	$16,661,702,000	$1,342,541,000	8.1%	$1,489	$7.40
Michigan	$16,292,146,000	$1,364,485,000	8.4%	$1,042	$4.39
Minnesota	$10,681,068,000	$734,433,000	6.9%	$892	$4.37
Mississippi	$4,280,309,333	$439,415,667	10.3%	$937	$5.13
Missouri	$9,691,081,000	$961,431,000	9.9%	$1,083	$6.08
Montana	$1,716,428,000	$169,745,333	9.9%	$1,152	$5.88
Nebraska	$4,103,370,000	$360,767,000	8.8%	$1,107	$5.78
Nevada	$4,159,138,333	$388,686,333	9.3%	$867	$7.06
New Hampshire	$2,904,101,000	$238,368,667	8.2%	$1,404	$7.12
New Jersey	$27,955,875,000	$2,620,639,000	9.4%	$1,948	$13.33
New Mexico	$3,150,040,333	$345,786,000	11.0%	$1,084	$5.45
New York	$65,711,679,333	$5,257,762,667	8.0%	$2,061	$12.14
North Carolina	$13,680,128,667	$1,129,707,333	8.3%	$784	$4.69
North Dakota	$1,547,304,333	$133,484,667	8.6%	$1,173	$5.08
Northern Marianas	$91,006,805	$6,865,805	7.5%	$683	$5.74
Ohio	$21,687,997,667	$1,805,681,333	8.3%	$1,141	$4.33
Oklahoma	$5,657,317,667	$604,002,333	10.7%	$915	$5.19
Oregon	$7,116,655,667	$538,623,333	7.6%	$927	$5.16
Pennsylvania	$27,937,335,000	$2,364,959,333	8.5%	$1,508	$7.20
Puerto Rico	$2,471,565,316	$408,651,463	16.5%	$1,330	$11.18
Rhode Island	$2,305,712,667	$169,309,333	7.3%	$1,272	$7.02
South Carolina	$8,229,753,667	$804,181,000	9.8%	$1,071	$6.54
South Dakota	$1,395,623,000	$143,070,000	10.3%	$1,032	$5.69
Tennessee	$9,553,516,000	$774,585,000	8.1%	$771	$4.50
Texas	$49,026,986,667	$5,145,951,333	10.5%	$1,005	$7.65
U.S. Virgin Islands	$169,373,581	$5,451,831	3.2%	$509	$1.82
Utah	$4,512,789,000	$415,417,333	9.2%	$694	$4.53
Vermont	$1,755,511,667	$133,925,000	7.6%	$1,575	$7.67
Virginia	$15,790,472,667	$1,410,202,000	8.9%	$1,094	$7.01
Washington	$14,503,515,667	$1,188,683,667	8.2%	$1,058	$7.81
West Virginia	$3,156,481,667	$311,368,000	9.9%	$1,162	$7.40
Wisconsin	$10,521,932,333	$1,102,484,667	10.5%	$1,297	$6.18
Wyoming	$1,533,589,333	$152,443,667	9.9%	$1,626	$5.95
Grand Total	**$627,088,804,786**	**$55,996,526,107**	**8.9%**	**$1,156**	**$6.90**

State Name	Total (FY09-FY19) School Construction $ Capital Outlay (2020$)	Estimate for School Construction $ Capital Outlay for New Schools FY09-19	Total FY09-19 School Construction $ Capital Outlay Adjusted Down for NEW Schools	Annual Average of School Construction $ Capital outlay FY09-FY19 (2020$)
Alabama	$7,863,600,990	$0	$7,863,600,990	$714,872,817
Alaska	$2,097,620,256	$48,582,708	$2,049,037,548	$190,692,751
American Samoa	$90,465,497	$0	$90,465,497	$9,046,550
Arizona	$8,110,343,785	$0	$8,110,343,785	$737,303,980
Arkansas	$5,187,172,937	$78,172,896	$5,109,000,041	$471,561,176
Bureau of Indian Education	$350,959,180	$0	$350,959,180	$31,905,380
California	$94,448,526,122	$0	$94,448,526,122	$8,586,229,647
Colorado	$9,907,986,965	$4,027,438,582	$5,880,548,383	$900,726,088
Connecticut	$7,056,135,316	$0	$7,056,135,316	$641,466,847
Delaware	$2,165,718,348	$298,514,372	$1,867,203,976	$196,883,486
District of Columbia	$4,389,746,337	$559,884,458	$3,829,861,879	$399,067,849
Florida	$23,017,388,874	$6,861,987,878	$16,155,400,996	$2,092,489,898
Georgia	$21,814,809,538	$2,101,040,134	$19,713,769,404	$1,983,164,503
Guam	$621,298,655	$0	$621,298,655	$62,129,866
Hawaii	$1,923,903,285	$129,115,282	$1,794,788,003	$174,900,299
Idaho	$916,051,568	$940,209,086	-$24,157,518	$83,277,415
Illinois	$24,563,033,607	$0	$24,563,033,607	$2,233,003,055
Indiana	$6,548,361,129	$0	$6,548,361,129	$595,305,557
Iowa	$9,046,860,862	$1,354,189,834	$7,692,671,028	$822,441,897
Kansas	$8,831,705,669	$1,000,342,606	$7,831,363,063	$802,882,334
Kentucky	$7,919,316,900	$266,281,771	$7,653,035,129	$719,937,900
Louisiana	$8,365,013,661	$0	$8,365,013,661	$760,455,787
Maine	$1,274,424,333	$0	$1,274,424,333	$115,856,758
Maryland	$13,384,751,783	$2,589,190,127	$10,795,561,656	$1,216,795,617
Massachusetts	$13,651,756,906	$0	$13,651,756,906	$1,241,068,810
Michigan	$11,196,098,035	$0	$11,196,098,035	$1,017,827,094
Minnesota	$15,392,881,880	$1,313,103,954	$14,079,777,926	$1,399,352,898
Mississippi	$2,979,644,475	$0	$2,979,644,475	$270,876,770
Missouri	$9,034,633,250	$0	$9,034,633,250	$821,330,295
Montana	$1,680,533,180	$263,749,711	$1,416,783,469	$152,775,744
Nebraska	$3,614,551,837	$1,425,012,015	$2,189,539,822	$328,595,622
Nevada	$4,339,316,760	$617,330,870	$3,721,985,890	$394,483,342
New Hampshire	$1,236,240,432	$0	$1,236,240,432	$112,385,494
New Jersey	$13,174,834,684	$0	$13,174,834,684	$1,197,712,244
New Mexico	$5,382,334,661	$0	$5,382,334,661	$489,303,151
New York	$60,710,432,322	$0	$60,710,432,322	$5,519,130,211
North Carolina	$11,391,369,459	$0	$11,391,369,459	$1,035,579,042
North Dakota	$2,129,480,597	$1,076,511,634	$1,052,968,963	$193,589,145
Northern Marianas	$13,465,154	$0	$13,465,154	$1,346,515
Ohio	$23,560,960,319	$0	$23,560,960,319	$2,141,905,484
Oklahoma	$5,114,231,641	$582,465,520	$4,531,766,121	$464,930,149
Oregon	$8,319,512,966	$1,157,863,648	$7,161,649,318	$756,319,361
Pennsylvania	$21,276,149,567	$0	$21,276,149,567	$1,934,195,415
Puerto Rico	$1,636,821,253	$0	$1,636,821,253	$163,682,125
Rhode Island	$228,706,720	$0	$228,706,720	$20,791,520
South Carolina	$11,554,486,352	$1,183,519,376	$10,370,966,976	$1,050,407,850
South Dakota	$2,072,576,610	$531,097,770	$1,541,478,840	$188,416,055
Tennessee	$5,644,445,945	$1,321,151,906	$4,323,294,039	$513,131,450
Texas	$91,294,070,505	$13,140,875,627	$78,153,194,878	$8,299,460,955
U.S. Virgin Islands	$10,913,107	$0	$10,913,107	$1,091,311
Utah	$5,911,067,240	$2,194,113,709	$3,716,953,531	$537,369,749
Vermont	$406,026,555	$0	$406,026,555	$36,911,505
Virginia	$8,813,260,275	$2,167,770,010	$6,645,490,265	$801,205,480
Washington	$22,195,728,269	$4,004,582,785	$18,191,145,484	$2,017,793,479
West Virginia	$2,208,307,416	$0	$2,208,307,416	$200,755,220
Wisconsin	$7,639,092,090	$0	$7,639,092,090	$694,462,917
Wyoming	$3,155,426,856	$489,102,838	$2,666,324,018	$286,856,987
Grand Total	**$646,864,552,916**	**$51,723,201,109**	**$595,141,351,807**	**$58,827,440,844**

State Name	3% of CRV for M&O - Annual Standard Benchmark	M&O Expenditures FY17-19 Annual Average (actual $)	M&O Annual Gap	M&O Gap per Student	M&O Gap per GSF
Alabama	$1,057,447,500	$688,199,667	$369,247,833	$500	$2.62
Alaska	$328,191,393	$268,085,000	$60,106,393	$459	$2.37
American Samoa	$29,860,851	$2,735,970	$27,124,881	$2,452	$20.60
Arizona	$1,409,511,357	$915,229,333	$494,282,024	$529	$3.78
Arkansas	$630,815,568	$473,253,667	$157,561,901	$331	$1.50
Bureau of Indian Education	$63,364,085	$44,667,532	$18,696,553	$428	$2.93
California	$11,340,134,263	$7,093,476,333	$4,246,657,930	$746	$5.82
Colorado	$1,727,088,147	$848,820,000	$878,268,147	$987	$6.68
Connecticut	$1,647,811,585	$817,178,333	$830,633,252	$1,706	$7.04
Delaware	$248,281,819	$189,723,667	$58,558,152	$479	$2.97
District of Columbia	$217,607,184	$84,496,000	$133,111,184	$2,713	$11.01
Florida	$3,565,042,412	$2,575,898,667	$989,143,746	$350	$2.12
Georgia	$1,595,927,086	$1,398,777,000	$197,150,086	$114	$0.77
Guam	$80,209,203	$36,986,173	$43,223,030	$1,454	$12.22
Hawaii	$487,620,000	$286,630,667	$200,989,333	$1,109	$9.35
Idaho	$478,567,572	$207,374,000	$271,193,572	$938	$5.95
Illinois	$2,847,023,610	$2,213,632,000	$633,391,610	$324	$1.76
Indiana	$1,479,385,088	$1,091,569,000	$387,816,088	$387	$2.15
Iowa	$958,579,987	$506,196,667	$452,383,320	$879	$4.84
Kansas	$690,552,059	$525,967,333	$164,584,726	$331	$1.98
Kentucky	$868,088,395	$573,946,667	$294,141,728	$434	$2.54
Louisiana	$954,336,589	$736,301,333	$218,035,256	$342	$1.82
Maine	$367,057,412	$267,734,667	$99,322,745	$559	$3.21
Maryland	$1,653,391,955	$1,176,537,333	$476,854,622	$532	$3.39
Massachusetts	$2,610,796,929	$1,342,541,000	$1,268,255,929	$1,406	$6.99
Michigan	$2,541,696,117	$1,364,485,000	$1,177,211,117	$899	$3.79
Minnesota	$1,795,114,609	$734,433,000	$1,060,681,609	$1,288	$6.31
Mississippi	$569,709,488	$439,415,667	$130,293,821	$278	$1.52
Missouri	$1,304,781,623	$961,431,000	$343,350,623	$387	$2.17
Montana	$263,518,948	$169,745,333	$93,773,615	$637	$3.25
Nebraska	$515,031,691	$360,767,000	$154,264,691	$473	$2.47
Nevada	$591,298,814	$388,686,333	$202,612,481	$452	$3.68
New Hampshire	$467,233,400	$238,368,667	$228,864,733	$1,348	$6.84
New Jersey	$2,877,055,210	$2,620,639,000	$256,416,210	$191	$1.30
New Mexico	$586,667,263	$345,786,000	$240,881,263	$755	$3.79
New York	$6,907,264,789	$5,257,762,667	$1,649,502,122	$647	$3.81
North Carolina	$1,808,133,900	$1,129,707,333	$678,426,567	$471	$2.81
North Dakota	$239,812,817	$133,484,667	$106,328,150	$934	$4.05
Northern Marianas	$27,129,544	$6,865,805	$20,263,739	$2,016	$16.94
Ohio	$3,564,115,103	$1,805,681,333	$1,758,433,770	$1,111	$4.22
Oklahoma	$923,618,899	$604,002,333	$319,616,566	$484	$2.74
Oregon	$1,253,492,424	$538,623,333	$714,869,091	$1,231	$6.84
Pennsylvania	$3,457,497,323	$2,364,959,333	$1,092,537,989	$696	$3.33
Puerto Rico	$1,206,696,414	$408,651,463	$798,044,951	$2,597	$21.82
Rhode Island	$368,200,792	$169,309,333	$198,891,458	$1,494	$8.25
South Carolina	$918,354,410	$804,181,000	$114,173,410	$152	$0.93
South Dakota	$229,652,082	$143,070,000	$86,582,082	$624	$3.44
Tennessee	$1,483,489,947	$774,585,000	$708,904,947	$705	$4.11
Texas	$5,336,923,933	$5,145,951,333	$190,972,599	$37	$0.28
U.S. Virgin Islands	$99,000,000	$5,451,831	$93,548,169	$8,728	$31.18
Utah	$745,667,901	$415,417,333	$330,250,568	$552	$3.60
Vermont	$243,983,893	$133,925,000	$110,058,893	$1,295	$6.30
Virginia	$1,936,990,257	$1,410,202,000	$526,788,257	$409	$2.62
Washington	$1,931,773,092	$1,188,683,667	$743,089,425	$662	$4.88
West Virginia	$382,350,234	$311,368,000	$70,982,234	$265	$1.69
Wisconsin	$1,412,931,608	$1,102,484,667	$310,446,941	$365	$1.74
Wyoming	$254,208,000	$152,443,667	$101,764,333	$1,086	$3.98
Grand Total	**$83,580,086,572**	**$55,996,526,107**		**$570**	**$3.40**

State Name	4% of CRV for Capital Investments - Annual Standard Benchmark	Capital Investment FY2009-19 Annual Average (2020$) Adjusted for New Schools	Annual Average Capital Investment Gap (adjusted)	Annual Capital Gap per 18-19 Student	Annual Capital Gap per 2020 GSF
Alabama	$1,409,930,000	$714,872,817	$695,057,183	$940	$4.93
Alaska	$437,588,525	$186,276,141	$251,312,384	$1,919	$9.90
American Samoa	$39,814,468	$9,046,550	$30,767,918	$2,781	$23.37
Arizona	$1,879,348,476	$737,303,980	$1,142,044,496	$1,222	$8.74
Arkansas	$841,087,424	$464,454,549	$376,632,875	$790	$3.58
Bureau of Indian Education	$84,485,446	$31,905,380	$52,580,066	$1,203	$8.24
California	$15,120,179,017	$8,586,229,647	$6,533,949,370	$1,148	$8.95
Colorado	$2,302,784,195	$534,595,308	$1,768,188,888	$1,987	$13.44
Connecticut	$2,197,082,114	$641,466,847	$1,555,615,267	$3,196	$13.18
Delaware	$331,042,425	$169,745,816	$161,296,609	$1,319	$8.19
District of Columbia	$290,142,912	$348,169,262	-$58,026,350	-$1,183	-$4.80
Florida	$4,753,389,883	$1,468,672,818	$3,284,717,065	$1,162	$7.05
Georgia	$2,127,902,782	$1,792,160,855	$335,741,927	$193	$1.31
Guam	$106,945,605	$62,129,866	$44,815,739	$1,508	$12.67
Hawaii	$650,160,000	$163,162,546	$486,997,454	$2,686	$22.65
Idaho	$638,090,096	-$2,196,138	$640,286,234	$2,214	$14.05
Illinois	$3,796,031,480	$2,233,003,055	$1,563,028,424	$801	$4.35
Indiana	$1,972,513,450	$595,305,557	$1,377,207,893	$1,375	$7.65
Iowa	$1,278,106,649	$699,333,730	$578,772,920	$1,124	$6.19
Kansas	$920,736,079	$711,942,097	$208,793,982	$420	$2.51
Kentucky	$1,157,451,193	$695,730,466	$461,720,727	$681	$3.99
Louisiana	$1,272,448,786	$760,455,787	$511,992,998	$802	$4.27
Maine	$489,409,882	$115,856,758	$373,553,125	$2,103	$12.06
Maryland	$2,204,522,607	$981,414,696	$1,223,107,911	$1,364	$8.70
Massachusetts	$3,481,062,572	$1,241,068,810	$2,239,993,762	$2,484	$12.35
Michigan	$3,388,928,156	$1,017,827,094	$2,371,101,062	$1,810	$7.63
Minnesota	$2,393,486,146	$1,279,979,811	$1,113,506,334	$1,352	$6.62
Mississippi	$759,612,650	$270,876,770	$488,735,880	$1,042	$5.71
Missouri	$1,739,708,831	$821,330,295	$918,378,535	$1,035	$5.81
Montana	$351,358,597	$128,798,497	$222,560,100	$1,511	$7.72
Nebraska	$686,708,921	$199,049,075	$487,659,847	$1,496	$7.82
Nevada	$788,398,418	$338,362,354	$450,036,065	$1,003	$8.17
New Hampshire	$622,977,867	$112,385,494	$510,592,373	$3,007	$15.26
New Jersey	$3,836,073,613	$1,197,712,244	$2,638,361,369	$1,961	$13.43
New Mexico	$782,223,017	$489,303,151	$292,919,866	$919	$4.61
New York	$9,209,686,385	$5,519,130,211	$3,690,556,174	$1,447	$8.52
North Carolina	$2,410,845,200	$1,035,579,042	$1,375,266,158	$955	$5.70
North Dakota	$319,750,423	$95,724,451	$224,025,972	$1,969	$8.53
Northern Marianas	$36,172,725	$1,346,515	$34,826,210	$3,465	$29.11
Ohio	$4,752,153,471	$2,141,905,484	$2,610,247,987	$1,649	$6.26
Oklahoma	$1,231,491,865	$411,978,738	$819,513,127	$1,241	$7.04
Oregon	$1,671,323,232	$651,059,029	$1,020,264,203	$1,757	$9.77
Pennsylvania	$4,609,996,430	$1,934,195,415	$2,675,801,015	$1,706	$8.14
Puerto Rico	$1,608,928,552	$163,682,125	$1,445,246,427	$4,703	$39.52
Rhode Island	$490,934,389	$20,791,520	$470,142,869	$3,532	$19.50
South Carolina	$1,224,472,547	$942,815,180	$281,657,367	$375	$2.29
South Dakota	$306,202,776	$140,134,440	$166,068,336	$1,198	$6.61
Tennessee	$1,977,986,596	$393,026,731	$1,584,959,866	$1,577	$9.20
Texas	$7,115,898,577	$7,104,835,898	$11,062,679	$2	$0.02
U.S. Virgin Islands	$132,000,000	$992,101	$131,007,899	$12,223	$43.67
Utah	$994,223,868	$337,904,866	$656,319,001	$1,097	$7.16
Vermont	$325,311,857	$36,911,505	$288,400,352	$3,393	$16.51
Virginia	$2,582,653,676	$604,135,479	$1,978,518,197	$1,535	$9.84
Washington	$2,575,697,455	$1,653,740,499	$921,956,957	$821	$6.06
West Virginia	$509,800,312	$200,755,220	$309,045,092	$1,153	$7.35
Wisconsin	$1,883,908,810	$694,462,917	$1,189,445,893	$1,399	$6.67
Wyoming	$338,944,000	$242,393,093	$96,550,907	$1,030	$3.77
Grand Total	**$111,440,115,430**	**$54,125,232,442**	**$57,314,882,988**	**$1,184**	**$7.06**

States & District by Economically Disadvantaged Students	PK-12 Students 2017-18	Economically Disadvantaged Students 2017-18	% Economically Disadvantaged Students	American Indian/Alaska Native Students	Asian, Native Hawaiian, and Pacific Islander Students	Black or African American Students
Alabama	**742,199**	**414,253**	**59%**	**6,931**	**11,623**	**243,546**
Low	91,430	20,769	21%	247	4,301	14,964
Medium	407,709	214,331	54%	4,151	4,136	90,823
High	243,060	179,153	76%	2,533	3,186	137,759
Alaska	**132,872**	**59,175**	**52%**	**30,415**	**11,699**	**3,866**
Low	29,633	6,782	12%	4,031	1,388	889
Medium	87,435	38,158	47%	11,950	10,257	2,944
High	15,804	14,235	89%	14,434	54	33
Arizona	**914,934**	**490,745**	**56%**	**45,644**	**24,657**	**47,693**
Low	230,658	58,124	10%	3,998	11,704	11,428
Medium	375,304	188,833	52%	15,581	8,348	17,663
High	308,972	243,788	80%	26,065	4,605	18,602
Arkansas	**479,350**	**270,479**	**62%**	**3,049**	**11,423**	**94,996**
Low	45,439	11,156	27%	495	1,828	3,518
Medium	238,435	120,668	52%	1,473	3,834	36,707
High	195,476	138,655	73%	1,081	5,761	54,771
California	**6,124,104**	**3,683,568**	**57%**	**31,824**	**744,201**	**335,423**
Low	917,160	184,125	18%	2,756	231,454	20,532
Medium	2,081,276	1,045,043	50%	12,643	282,559	95,008
High	3,125,668	2,454,400	80%	16,425	230,188	219,883
Colorado	**892,346**	**372,032**	**48%**	**6,355**	**30,614**	**40,928**
Low	420,933	100,683	22%	2,312	18,253	11,834
Medium	271,872	130,355	49%	2,417	5,674	6,914
High	199,541	140,994	74%	1,626	6,687	22,180
Connecticut	**494,842**	**175,192**	**25%**	**1,287**	**26,722**	**58,131**
Low	249,629	33,320	15%	502	16,279	7,341
Medium	167,192	84,360	47%	501	7,935	34,118
High	78,021	57,512	74%	284	2,508	16,672
Delaware	**120,709**	**43,063**	**35%**	**471**	**4,273**	**35,600**
Low	48,318	12,322	24%	189	1,892	13,579
Medium	72,391	30,741	44%	282	2,381	22,021
District of Col.	**47,634**	**20,450**	**43%**	**67**	**1,075**	**28,441**
Medium	47,634	20,450	43%	67	1,075	28,441
Florida	**2,819,101**	**1,617,155**	**57%**	**8,464**	**82,009**	**623,961**
Low	45,027	8,644	14%	64	1,898	3,248
Medium	2,255,617	1,261,299	55%	7,500	73,738	521,352
High	518,457	347,212	72%	900	6,373	99,361
Georgia	**1,733,079**	**1,053,362**	**71%**	**3,351**	**73,634**	**634,509**
Low	173,769	41,752	22%	476	13,593	32,227
Medium	869,876	443,350	52%	1,613	44,791	258,563
High	689,434	568,260	86%	1,262	15,250	343,719

States & District by Economically Disadvantaged Students	PK-12 Students 2017-18	Economically Disadvantaged Students 2017-18	% Economically Disadvantaged Students	American Indian/Alaska Native Students	Asian, Native Hawaiian, and Pacific Islander Students	Black or African American Students
Hawaii	**180,837**	**85,219**	**47%**	**443**	**103,433**	**3,103**
Medium	180,837	85,219	47%	443	103,433	3,103
Idaho	**282,766**	**126,524**	**50%**	**3,242**	**4,319**	**3,081**
Low	48,300	11,954	22%	274	1,153	697
Medium	215,985	99,152	48%	2,240	3,090	2,310
High	18,481	15,418	77%	728	76	74
Illinois	**1,981,999**	**978,735**	**44%**	**5,535**	**102,786**	**331,647**
Low	649,735	121,454	19%	1,442	56,464	31,569
Medium	701,060	348,526	48%	1,921	27,494	74,742
High	631,204	508,755	80%	2,172	18,828	225,336
Indiana	**1,005,947**	**489,921**	**48%**	**1,979**	**25,583**	**114,092**
Low	240,411	54,412	24%	490	9,601	9,760
Medium	510,409	250,736	48%	1,031	7,957	26,748
High	255,127	184,773	76%	458	8,025	77,584
Iowa	**502,878**	**201,621**	**37%**	**1,805**	**14,033**	**30,882**
Low	200,600	45,831	24%	383	4,793	5,328
Medium	255,118	120,794	45%	1,243	5,357	18,407
High	47,160	34,996	71%	179	3,883	7,147
Kansas	**491,326**	**233,625**	**47%**	**4,197**	**14,861**	**33,696**
Low	138,053	29,383	26%	624	6,279	5,374
Medium	221,222	104,545	49%	2,511	3,674	8,635
High	132,051	99,697	71%	1,062	4,908	19,687
Kentucky	**680,806**	**406,250**	**63%**	**839**	**12,978**	**71,813**
Low	17,558	3,189	13%	26	420	330
Medium	476,682	266,909	56%	641	11,617	61,415
High	186,566	136,152	74%	172	941	10,068
Louisiana	**646,716**	**342,968**	**57%**	**4,450**	**10,900**	**261,699**
Low	31,810	6,282	16%	64	402	3,133
Medium	480,917	238,309	52%	3,996	7,833	180,739
High	133,989	98,377	76%	390	2,665	77,827
Maine	**173,038**	**77,590**	**46%**	**1,126**	**2,791**	**6,393**
Low	42,986	9,146	20%	124	1,034	581
Medium	115,222	57,775	50%	891	1,625	3,738
High	14,830	10,669	76%	111	132	2,074
Maryland	**893,284**	**414,967**	**48%**	**2,387**	**60,123**	**301,158**
Low	295,348	77,911	26%	800	21,472	61,387
Medium	377,343	160,849	48%	1,018	33,596	95,708
High	220,593	176,207	92%	569	5,055	144,063

States & District by Economically Disadvantaged Students	PK-12 Students 2017-18	Economically Disadvantaged Students 2017-18	% Economically Disadvantaged Students	American Indian/Alaska Native Students	Asian, Native Hawaiian, and Pacific Islander Students	Black or African American Students
Massachusetts	**908,467**	**286,250**	**24%**	**1,982**	**64,250**	**72,774**
Low	535,355	85,597	18%	1,119	39,278	19,008
Medium	311,132	155,812	44%	751	23,626	45,876
High	61,980	44,841	71%	112	1,346	7,890
Michigan	**1,325,065**	**631,016**	**53%**	**8,222**	**45,950**	**187,304**
Low	436,466	98,250	23%	1,156	28,290	24,158
Medium	567,744	281,905	51%	5,494	10,287	39,749
High	320,855	250,861	75%	1,572	7,373	123,397
Minnesota	**826,764**	**297,173**	**38%**	**13,347**	**51,880**	**82,218**
Low	399,054	87,181	24%	1,690	19,592	19,688
Medium	373,799	172,416	45%	7,033	19,613	50,064
High	53,911	37,576	74%	4,624	12,675	12,466
Mississippi	**477,113**	**355,197**	**81%**	**1,167**	**5,456**	**231,060**
Low	234	68	29%	1	31	52
Medium	180,798	95,190	55%	327	3,633	49,846
High	296,081	259,939	89%	839	1,792	181,162
Missouri	**885,421**	**442,822**	**56%**	**3,388**	**20,404**	**130,285**
Low	250,409	53,178	23%	593	10,100	19,064
Medium	430,339	216,643	50%	2,105	7,344	29,115
High	204,673	173,001	81%	690	2,960	82,106
Montana	**146,529**	**64,961**	**38%**	**16,304**	**1,454**	**1,261**
Low	46,421	10,038	12%	3,197	466	385
Medium	77,012	34,998	45%	4,576	703	680
High	23,096	19,925	94%	8,531	285	196
Nebraska	**323,391**	**148,340**	**42%**	**4,352**	**9,367**	**21,576**
Low	89,432	17,812	24%	347	2,492	1,970
Medium	159,142	74,004	46%	1,590	3,251	5,347
High	74,817	56,524	81%	2,415	3,624	14,259
Nevada	**447,561**	**275,234**	**43%**	**4,079**	**30,488**	**49,364**
Low	9,243	2,637	22%	298	214	238
Medium	103,718	47,204	48%	2,523	4,270	1,941
High	334,600	225,393	72%	1,258	26,004	47,185
New Hampshire	**170,393**	**46,007**	**25%**	**431**	**5,698**	**3,484**
Low	107,338	17,229	16%	240	3,027	1,058
Medium	62,987	28,721	43%	191	2,671	2,426
High	68	57	84%	-	-	-
New Jersey	**1,320,000**	**483,223**	**27%**	**1,684**	**140,127**	**183,282**
Low	691,096	92,415	13%	824	99,776	41,159
Medium	353,447	168,650	47%	561	27,709	67,966
High	275,457	222,158	79%	299	12,642	74,157

States & District by Economically Disadvantaged Students	PK-12 Students 2017-18	Economically Disadvantaged Students 2017-18	% Economically Disadvantaged Students	American Indian/Alaska Native Students	Asian, Native Hawaiian, and Pacific Islander Students	Black or African American Students
New Mexico	**317,939**	**235,391**	**81%**	**32,751**	**4,014**	**6,103**
Low	3,711	461	12%	73	156	34
Medium	54,425	28,758	54%	1,589	557	1,469
High	259,803	206,172	92%	31,089	3,301	4,600
New York	**2,512,602**	**1,338,848**	**40%**	**17,072**	**251,711**	**374,267**
Low	671,513	122,208	18%	1,047	53,127	27,291
Medium	625,034	305,184	49%	3,910	16,491	48,258
High	1,216,055	911,456	74%	12,115	182,093	298,718
North Carolina	**1,452,109**	**841,313**	**67%**	**18,347**	**50,030**	**367,189**
Low	226,504	72,776	30%	559	18,027	44,166
Medium	890,124	485,505	53%	3,861	28,274	205,032
High	335,481	283,032	89%	13,927	3,729	117,991
North Dakota	**111,719**	**34,834**	**35%**	**9,428**	**2,077**	**5,512**
Low	83,944	21,545	22%	2,700	1,550	4,630
Medium	23,364	9,191	42%	2,651	516	870
High	4,411	4,098	89%	4,077	11	12
Ohio	**1,588,721**	**688,648**	**41%**	**1,857**	**40,913**	**228,921**
Low	639,519	117,676	20%	696	26,584	48,718
Medium	604,489	274,624	45%	637	8,620	42,251
High	344,713	296,348	86%	524	5,709	137,952
Oklahoma	**665,783**	**410,321**	**69%**	**91,680**	**16,135**	**55,144**
Low	65,733	15,247	23%	4,290	2,542	4,085
Medium	302,717	147,281	53%	38,975	8,182	12,653
High	297,333	247,793	85%	48,415	5,411	38,406
Oregon	**567,194**	**270,124**	**48%**	**7,464**	**27,207**	**12,956**
Low	62,421	13,648	12%	458	2,853	721
Medium	427,939	201,938	51%	4,776	19,625	8,947
High	76,834	54,538	72%	2,230	4,729	3,288
Pennsylvania	**1,568,782**	**729,901**	**43%**	**2,328**	**64,391**	**188,748**
Low	611,956	125,324	22%	736	36,143	24,043
Medium	607,137	280,170	45%	974	13,045	50,023
High	349,689	324,407	89%	618	15,203	114,682
Rhode Island	**133,624**	**60,849**	**34%**	**1,013**	**4,770**	**10,978**
Low	60,280	12,999	19%	296	1,674	1,149
Medium	40,932	20,653	52%	347	1,598	4,857
High	32,412	27,197	80%	370	1,498	4,972
South Carolina	**750,411**	**500,836**	**82%**	**2,412**	**12,855**	**255,036**
Low	22,860	4,836	23%	60	993	2,287
Medium	439,069	239,903	55%	1,382	9,098	114,534
High	288,482	256,097	93%	970	2,764	138,215

States & District by Economically Disadvantaged Students	PK-12 Students 2017-18	Economically Disadvantaged Students 2017-18	% Economically Disadvantaged Students	American Indian/Alaska Native Students	Asian, Native Hawaiian, and Pacific Islander Students	Black or African American Students
South Dakota	**137,165**	**51,386**	**38%**	**15,162**	**2,601**	**4,406**
Low	56,852	13,397	24%	1,949	550	744
Medium	72,653	30,525	43%	6,903	2,039	3,654
High	7,660	7,464	95%	6,310	12	8
Tennessee	**1,000,965**	**297,903**	**35%**	**1,648**	**20,889**	**219,228**
Low	538,975	102,804	24%	938	15,733	83,844
Medium	455,784	189,919	41%	704	5,131	134,046
High	6,206	5,180	80%	6	25	1,338
Texas	**5,103,359**	**2,955,920**	**58%**	**19,660**	**230,062**	**628,103**
Low	889,761	202,592	21%	3,531	96,499	76,606
Medium	1,926,872	961,883	52%	8,731	91,258	223,201
High	2,286,726	1,791,445	77%	7,398	42,305	328,296
Utah	**592,601**	**203,426**	**41%**	**6,723**	**18,794**	**8,346**
Low	344,659	80,133	24%	1,176	7,656	3,238
Medium	232,615	110,462	45%	3,755	10,999	4,874
High	15,327	12,831	82%	1,792	139	234
Vermont	**84,334**	**32,171**	**45%**	**127**	**1,799**	**1,767**
Low	30,427	6,487	23%	41	823	522
Medium	50,526	23,225	47%	84	951	1,193
High	3,381	2,459	76%	2	25	52
Virginia	**1,291,239**	**560,281**	**54%**	**3,485**	**92,337**	**288,826**
Low	421,859	110,220	25%	1,380	61,157	41,422
Medium	659,733	287,920	49%	1,596	27,563	144,881
High	209,647	162,141	79%	509	3,617	102,523
Washington	**1,106,546**	**476,031**	**48%**	**13,487**	**97,327**	**47,693**
Low	335,209	72,147	20%	1,737	40,131	6,456
Medium	656,996	317,592	50%	7,539	54,592	39,291
High	114,341	86,292	78%	4,211	2,604	1,946
West Virginia	**272,266**	**150,276**	**58%**	**251**	**1,929**	**11,653**
Medium	243,183	130,393	56%	239	1,854	10,348
High	29,083	19,883	69%	12	75	1,305
Wisconsin	**850,604**	**313,201**	**33%**	**9,587**	**34,748**	**74,651**
Low	388,230	76,597	20%	1,715	13,288	10,179
Medium	377,303	167,886	44%	6,142	15,982	23,510
High	85,071	68,718	81%	1,730	5,478	40,962
Wyoming	**93,647**	**34,732**	**39%**	**3,189**	**903**	**1,036**
Low	22,039	5,506	25%	186	238	159
Medium	69,953	27,699	41%	1,377	665	877
High	1,655	1,527	93%	1,626	-	-
Grand Total	48,373,081	24,773,509	51%	476,488	2,724,303	7,057,829

States & District by Economically Disadvantaged Students	Hispanic Students	Two or More Races Students	White Students	Average M&O Spending per school FY18 Averaged by District FY18	School Construction Capital Investment Outlay per School Averaged by District FY09-18 (2020$)
Alabama	**58,800**	**16,619**	**404,680**	**$409,682**	**$4,670,695**
Low	6,354	2,829	62,735	$705,189	$9,374,874
Medium	32,040	10,025	266,534	$407,670	$4,968,681
High	20,406	3,765	75,411	$338,591	$3,082,053
Alaska	**8,868**	**14,797**	**63,227**	**$445,551**	**$3,396,354**
Low	1,976	3,844	17,505	$354,735	$1,422,275
Medium	6,840	10,413	45,031	$401,468	$1,694,529
High	52	540	691	$560,215	$6,520,873
Arizona	**431,735**	**26,905**	**338,300**	**$421,338**	**$3,211,435**
Low	59,020	8,741	135,767	$249,113	$2,168,404
Medium	160,799	12,464	160,449	$492,663	$4,355,641
High	211,916	5,700	42,084	$456,115	$2,964,648
Arkansas	**63,020**	**12,428**	**294,434**	**$408,199**	**$3,796,134**
Low	4,129	1,832	33,637	$591,172	$5,412,142
Medium	26,802	5,705	163,914	$411,793	$4,344,860
High	32,089	4,891	96,883	$391,501	$3,204,302
California	**3,322,510**	**268,399**	**1,411,742**	**$512,004**	**$5,762,126**
Low	192,015	70,524	399,879	$603,109	$8,514,041
Medium	919,376	114,312	648,832	$450,515	$5,142,894
High	2,211,119	83,563	363,031	$530,802	$5,160,819
Colorado	**299,011**	**37,431**	**478,007**	**$283,669**	**$4,121,397**
Low	83,803	20,156	284,575	$352,085	$4,134,813
Medium	98,848	10,163	147,856	$258,506	$3,565,247
High	116,360	7,112	45,576	$280,449	$5,805,908
Connecticut	**120,060**	**16,322**	**272,320**	**$813,164**	**$3,907,104**
Low	23,061	7,843	194,603	$826,830	$2,963,760
Medium	56,628	5,827	62,183	$732,625	$6,037,722
High	40,371	2,652	15,534	$932,273	$8,028,675
Delaware	**21,867**	**4,679**	**53,819**	**$1,081,314**	**$16,044,659**
Low	5,044	1,697	25,917	$1,362,356	$20,504,969
Medium	16,823	2,982	27,902	$828,376	$12,030,380
District of Col.	**9,815**	**1,127**	**7,109**	**$667,470**	**$35,649,279**
Medium	9,815	1,127	7,109	$667,470	$35,649,279
Florida	**934,923**	**98,578**	**1,071,166**	**$454,032**	**$4,052,178**
Low	5,841	1,265	32,711	$559,464	$4,143,318
Medium	624,391	89,699	938,937	$473,685	$4,502,944
High	304,691	7,614	99,518	$380,668	$2,660,315
Georgia	**273,008**	**63,068**	**685,509**	**$502,013**	**$7,258,860**
Low	20,773	6,970	99,730	$568,481	$10,137,574
Medium	155,528	34,346	375,035	$557,479	$7,735,307
High	96,707	21,752	210,744	$466,121	$6,719,771

States & District by Economically Disadvantaged Students	Hispanic Students	Two or More Races Students	White Students	Average M&O Spending per school FY18 Averaged by District FY18	School Construction Capital Investment Outlay per School Averaged by District FY09-18 (2020$)
Hawaii	**25,721**	**26,049**	**22,088**	**$944,091**	**$5,669,968**
Medium	25,721	26,049	22,088	$944,091	$5,669,968
Idaho	**52,598**	**7,581**	**211,945**	**$225,698**	**$807,729**
Low	4,636	1,844	39,696	$186,661	$787,477
Medium	38,975	5,384	163,986	$236,635	$837,614
High	8,987	353	8,263	$205,024	$684,019
Illinois	**519,987**	**69,228**	**952,816**	**$616,728**	**$5,692,499**
Low	86,024	24,289	449,947	$924,781	$8,687,419
Medium	160,209	29,281	407,413	$466,629	$4,397,648
High	273,754	15,658	95,456	$496,584	$3,951,337
Indiana	**119,529**	**48,879**	**695,885**	**$557,472**	**$2,475,926**
Low	16,047	9,688	194,825	$618,083	$2,704,889
Medium	44,461	21,475	408,737	$518,153	$2,361,976
High	59,021	17,716	92,323	$688,155	$2,780,312
Iowa	**54,444**	**20,036**	**381,678**	**$285,054**	**$4,657,048**
Low	9,624	6,594	173,878	$294,956	$5,699,380
Medium	28,822	10,996	190,293	$275,446	$3,951,681
High	15,998	2,446	17,507	$319,327	$3,572,713
Kansas	**96,461**	**25,573**	**315,691**	**$293,287**	**$3,908,054**
Low	13,619	6,027	106,130	$337,714	$6,297,144
Medium	28,571	11,660	165,669	$271,347	$3,357,264
High	54,271	7,886	43,892	$358,248	$3,531,620
Kentucky	**45,791**	**26,508**	**522,877**	**$370,469**	**$4,674,075**
Low	964	576	15,242	$581,402	$9,212,913
Medium	36,994	20,313	345,702	$379,390	$4,763,139
High	7,833	5,619	161,933	$349,625	$4,342,795
Louisiana	**45,135**	**16,704**	**307,828**	**$556,329**	**$6,112,345**
Low	1,913	347	25,951	$954,534	$5,651,883
Medium	35,843	14,469	238,037	$545,575	$6,273,550
High	7,379	1,888	43,840	$490,804	$5,897,044
Maine	**3,896**	**4,372**	**154,460**	**$367,459**	**$1,152,744**
Low	825	950	39,472	$464,779	$2,380,798
Medium	2,720	2,972	103,276	$339,488	$806,565
High	351	450	11,712	$324,074	$565,305
Maryland	**155,331**	**40,737**	**333,548**	**$715,138**	**$6,527,616**
Low	33,414	17,536	160,739	$813,648	$8,394,741
Medium	69,025	20,297	157,699	$685,823	$5,554,612
High	52,892	2,904	15,110	$606,065	$5,712,374

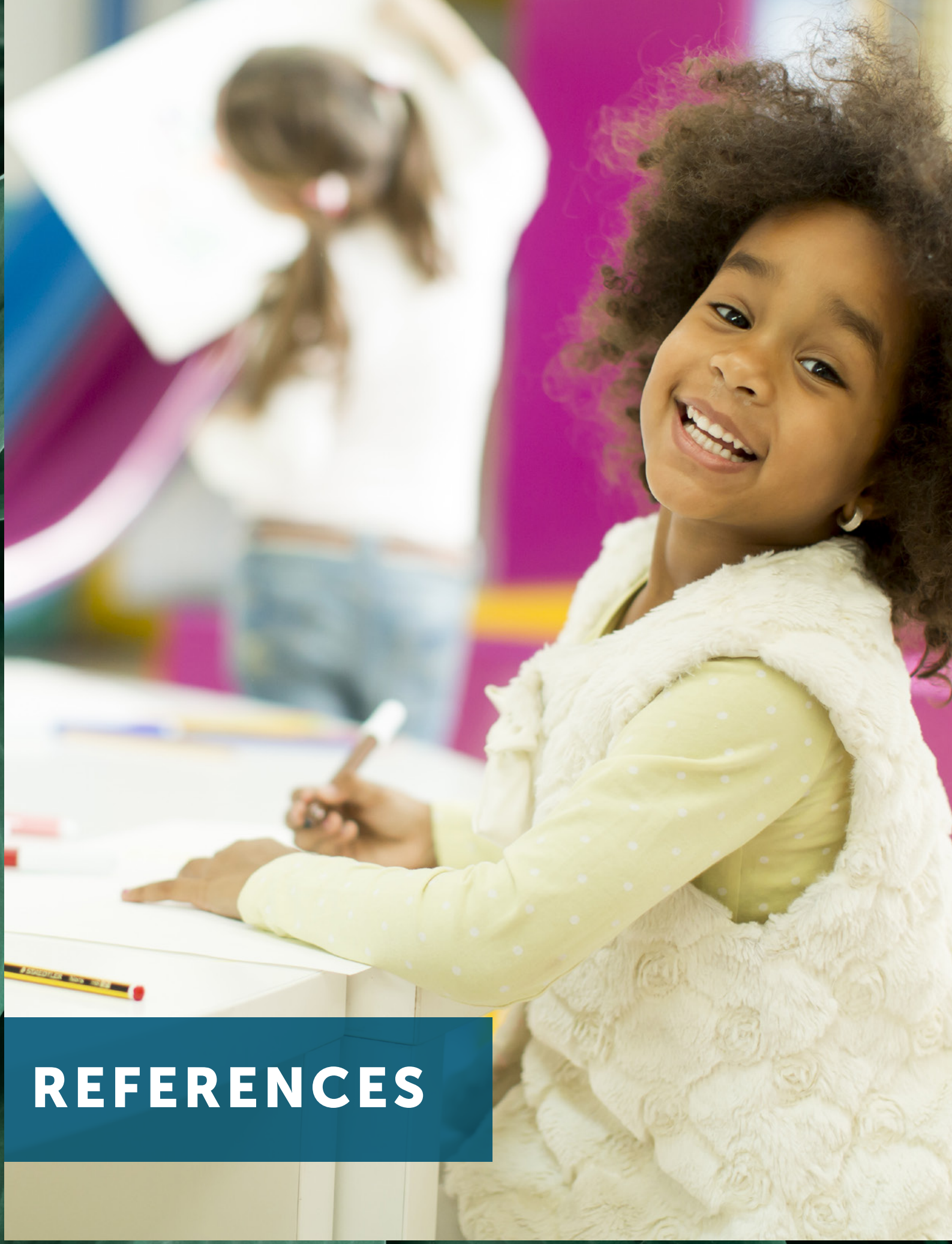
States & District by Economically Disadvantaged Students	Hispanic Students	Two or More Races Students	White Students	Average M&O Spending per school FY18 Averaged by District FY18	School Construction Capital Investment Outlay per School Averaged by District FY09-18 (2020$)
Massachusetts	**176,233**	**33,091**	**559,928**	**$848,466**	**$2,287,796**
Low	33,319	19,543	423,009	$813,644	$2,447,066
Medium	107,881	11,440	121,429	$980,077	$1,712,664
High	35,033	2,108	15,490	$746,507	$2,441,090
Michigan	**101,378**	**51,988**	**930,223**	**$328,427**	**$2,284,458**
Low	21,513	16,808	344,541	$433,991	$3,685,508
Medium	35,560	20,520	456,134	$312,036	$2,216,614
High	44,305	14,660	129,548	$296,740	$1,565,435
Minnesota	**75,990**	**39,156**	**564,173**	**$280,559**	**$5,185,120**
Low	22,319	16,371	319,394	$324,617	$6,854,747
Medium	44,657	19,457	232,975	$256,097	$4,265,602
High	9,014	3,328	11,804	$231,717	$3,250,819
Mississippi	**17,912**	**10,245**	**211,273**	**$387,163**	**$2,177,260**
Low	4	6	140	$232,667	$0
Medium	7,398	5,362	114,232	$444,125	$3,916,841
High	10,510	4,877	96,901	$371,895	$1,688,508
Missouri	**54,428**	**34,997**	**641,919**	**$267,205**	**$2,091,428**
Low	12,064	10,810	197,778	$438,708	$4,696,375
Medium	23,472	17,720	350,583	$249,113	$1,998,608
High	18,892	6,467	93,558	$244,416	$1,356,759
Montana	**6,833**	**5,356**	**115,320**	**$188,606**	**$1,534,538**
Low	2,103	1,212	39,058	$168,715	$1,961,991
Medium	3,923	3,504	63,625	$209,702	$1,184,780
High	807	640	12,637	$195,722	$1,151,221
Nebraska	**60,795**	**12,238**	**215,063**	**$234,742**	**$2,140,214**
Low	5,438	2,461	76,724	$246,169	$2,687,488
Medium	24,633	6,502	117,819	$223,277	$1,848,303
High	30,724	3,275	20,520	$311,898	$2,859,851
Nevada	**194,747**	**27,481**	**141,402**	**$337,941**	**$2,913,999**
Low	1,959	451	6,083	$336,200	$4,677,620
Medium	38,481	5,251	51,252	$310,292	$1,676,998
High	154,307	21,779	84,067	$494,366	$5,308,454
New Hampshire	**9,673**	**5,611**	**145,496**	**$456,397**	**$1,886,658**
Low	3,116	3,018	96,879	$511,083	$1,795,010
Medium	6,556	2,587	48,556	$346,699	$2,111,197
High	1	6	61	$200,000	$200,285
New Jersey	**366,697**	**26,553**	**601,657**	**$971,284**	**$5,216,378**
Low	78,255	16,849	454,233	$948,114	$4,767,451
Medium	125,550	7,824	123,837	$898,639	$5,533,088
High	162,892	1,880	23,587	$1,363,282	$7,604,986

States & District by Economically Disadvantaged Students	Hispanic Students	Two or More Races Students	White Students	Average M&O Spending per school FY18 Averaged by District FY18	School Construction Capital Investment Outlay per School Averaged by District FY09-18 (2020$)
New Mexico	**196,238**	**6,018**	**72,815**	**$318,828**	**$3,746,178**
Low	1,214	108	2,126	$686,042	$10,164,877
Medium	29,912	1,371	19,527	$269,812	$3,663,008
High	165,112	4,539	51,162	$330,523	$3,676,858
New York	**665,910**	**61,435**	**1,142,207**	**$833,132**	**$7,740,046**
Low	80,254	17,350	492,444	$1,074,210	$6,655,473
Medium	89,376	21,468	445,531	$673,039	$8,260,474
High	496,280	22,617	204,232	$985,585	$8,664,591
North Carolina	**261,224**	**61,404**	**693,915**	**$400,398**	**$2,387,651**
Low	39,403	8,888	115,461	$483,927	$3,919,077
Medium	165,587	36,402	450,968	$413,647	$2,982,302
High	56,234	16,114	127,486	$373,407	$1,447,713
North Dakota	**5,526**	**2,732**	**86,444**	**$188,215**	**$2,394,515**
Low	4,091	2,386	68,587	$205,747	$2,933,973
Medium	1,394	322	17,611	$159,095	$2,035,823
High	41	24	246	$194,771	$513,984
Ohio	**88,178**	**80,759**	**1,148,093**	**$467,499**	**$6,019,979**
Low	26,356	26,516	510,649	$469,943	$6,063,904
Medium	28,911	27,948	496,122	$438,112	$5,714,829
High	32,911	26,295	141,322	$564,557	$6,974,390
Oklahoma	**111,852**	**63,981**	**326,991**	**$245,454**	**$1,283,234**
Low	6,221	5,554	43,041	$343,325	$4,367,734
Medium	36,511	30,488	175,908	$278,168	$1,688,072
High	69,120	27,939	108,042	$214,148	$756,800
Oregon	**131,413**	**34,832**	**353,322**	**$325,783**	**$3,433,705**
Low	8,304	4,191	45,894	$222,808	$2,844,604
Medium	94,385	26,858	273,348	$353,893	$3,814,610
High	28,724	3,783	34,080	$348,984	$2,941,859
Pennsylvania	**171,701**	**61,302**	**1,080,312**	**$738,078**	**$6,461,087**
Low	31,781	18,999	500,254	$828,116	$8,419,179
Medium	50,913	20,775	471,407	$666,533	$5,230,745
High	89,007	21,528	108,651	$804,183	$6,526,285
Rhode Island	**31,657**	**5,575**	**79,631**	**$600,321**	**$802,543**
Low	3,744	1,870	51,547	$594,808	$1,095,128
Medium	8,904	2,302	22,924	$674,555	$339,505
High	19,009	1,403	5,160	$430,631	$247,235
South Carolina	**71,437**	**30,681**	**377,893**	**$561,643**	**$6,167,431**
Low	1,803	1,029	16,688	$841,721	$22,663,166
Medium	50,692	20,004	243,267	$717,112	$10,464,632
High	18,942	9,648	117,938	$496,812	$4,078,742

States & District by Economically Disadvantaged Students	Hispanic Students	Two or More Races Students	White Students	Average M&O Spending per school FY18 Averaged by District FY18	School Construction Capital Investment Outlay per School Averaged by District FY09-18 (2020$)
South Dakota	**8,182**	**5,452**	**101,362**	**$160,886**	**$2,140,233**
Low	2,227	1,687	49,695	$164,692	$2,380,523
Medium	5,783	3,447	50,827	$150,243	$1,719,651
High	172	318	840	$189,976	$2,778,281
Tennessee	**103,111**	**27,306**	**628,783**	**$369,552**	**$2,158,691**
Low	58,913	16,828	362,719	$397,843	$2,410,078
Medium	44,032	10,369	261,502	$349,211	$2,017,199
High	166	109	4,562	$339,356	$856,890
Texas	**2,650,942**	**116,803**	**1,457,789**	**$405,170**	**$7,096,383**
Low	235,684	31,834	445,607	$450,552	$12,824,849
Medium	815,444	56,102	732,136	$375,955	$6,758,881
High	1,599,814	28,867	280,046	$430,329	$5,915,133
Utah	**101,292**	**15,360**	**442,084**	**$336,573**	**$4,186,834**
Low	43,089	10,601	278,899	$405,386	$5,091,190
Medium	51,906	4,391	156,688	$310,590	$3,731,545
High	6,297	368	6,497	$286,515	$4,515,251
Vermont	**1,734**	**2,996**	**75,911**	**$332,317**	**$771,146**
Low	707	910	27,424	$358,765	$981,404
Medium	965	2,012	45,321	$344,175	$760,180
High	62	74	3,166	$200,784	$423,353
Virginia	**203,039**	**71,508**	**632,044**	**$534,527**	**$1,967,701**
Low	84,027	24,104	209,769	$611,365	$3,995,196
Medium	96,149	38,281	351,263	$538,577	$1,683,222
High	22,863	9,123	71,012	$486,749	$1,510,892
Washington	**257,402**	**88,609**	**602,028**	**$347,056**	**$4,806,600**
Low	42,555	26,645	217,685	$379,058	$7,338,455
Medium	144,312	57,461	353,801	$341,097	$4,108,899
High	70,535	4,503	30,542	$323,459	$3,455,526
West Virginia	**4,821**	**8,379**	**245,227**	**$435,416**	**$2,847,215**
Medium	4,640	7,725	218,371	$449,172	$2,795,134
High	181	654	26,856	$373,514	$3,081,582
Wisconsin	**100,123**	**32,275**	**599,198**	**$441,818**	**$2,945,852**
Low	26,154	12,924	323,968	$519,540	$3,683,540
Medium	50,844	16,874	263,932	$361,139	$2,187,253
High	23,125	2,477	11,298	$595,944	$4,110,857
Wyoming	**12,893**	**2,472**	**73,154**	**$379,808**	**$8,339,934**
Low	2,534	466	18,456	$368,499	$7,254,095
Medium	10,347	2,000	54,687	$366,776	$7,929,087
High	12	6	11	$566,093	$18,102,583
Grand Total	12,905,871	1,872,615	23,324,786	$469,732	$4,330,362

State Name	Long Term Debt $ at End of FY2019	Long Term Local Debt per 18-19 Student	Interest on school system debt FY19	Local Funds Expended for School Construciton Capital Outlay	State Revenue for Capital Outlay or Debt Service
Alabama	$5,976,798,000	$8,086	$177,664,000	$5,317,471,944	$2,493,614,830
Alaska	$1,125,194,000	$8,592	$39,128,000	$75,098,430	$1,988,223,893
American Samoa		$0		$89,410,527	$0
Arizona	$5,799,618,000	$6,206	$223,663,000	$7,528,163,555	$480,145,394
Arkansas	$4,993,393,000	$10,476	$146,691,000	$3,876,280,029	$761,508,525
Bureau of Indian Education		$0		$350,959,180	$0
California	$82,645,844,000	$14,519	$3,145,584,000	$79,553,541,248	$14,757,085,854
Colorado	$10,537,237,000	$11,841	$558,893,000	$5,045,282,854	$1,370,024,259
Connecticut	$2,900,472,000	$5,958	$106,583,000	$1,092,226,628	$5,935,518,784
Delaware	$612,539,000	$5,008	$18,200,000	$532,324,141	$1,528,659,399
District of Columbia	$0	$0	$0	-$6,172,926	$0
Florida	$13,870,311,000	$4,906	$598,455,000	$12,599,458,184	$3,695,458,873
Georgia	$5,051,364,000	$2,911	$224,326,000	$16,967,536,341	$3,006,525,137
Guam		$0		$621,094,421	$0
Hawaii	$0	$0	$0	-$4,265,741	$4,563,948,769
Idaho	$1,582,553,000	$5,471	$64,394,000	-$23,958,390	$0
Illinois	$21,755,318,000	$11,145	$1,057,797,000	$23,638,763,063	$699,363,291
Indiana	$10,099,066,000	$10,082	$381,101,000	$6,243,091,269	$0
Iowa	$4,267,060,000	$8,288	$122,375,000	$4,455,684,534	$3,757,690,313
Kansas	$6,543,876,000	$13,154	$261,186,000	$5,870,748,964	$2,128,086,707
Kentucky	$6,124,625,000	$9,038	$205,559,000	$4,184,555,999	$3,465,254,714
Louisiana	$3,267,228,000	$5,118	$114,681,000	$8,201,513,964	$0
Maine	$1,290,934,000	$7,269	$47,672,000	$0	$1,301,797,323
Maryland	$5,261,242,000	$5,869	$194,409,000	$7,386,286,147	$4,158,045,134
Massachusetts	$5,556,053,000	$6,161	$236,983,000	$5,050,885,784	$8,590,773,122
Michigan	$18,050,895,000	$13,779	$777,622,000	$11,144,496,691	$0
Minnesota	$12,484,646,000	$15,162	$430,081,000	$12,061,866,286	$2,180,188,885
Mississippi	$2,001,567,000	$4,267	$56,023,000	$2,787,168,905	$2,830
Missouri	$8,046,069,000	$9,064	$664,457,000	$8,753,307,134	$0
Montana	$1,508,222,000	$10,238	$48,936,000	$1,409,362,994	$0
Nebraska	$3,288,535,000	$10,088	$110,805,000	$2,159,560,463	$0
Nevada	$3,829,121,000	$8,537	$177,756,000	$3,702,087,046	$11,849,393
New Hampshire	$994,234,000	$5,855	$44,057,000	$601,402,804	$632,301,808
New Jersey	$6,949,077,000	$5,166	$264,843,000	$8,976,588,138	$4,133,175,969
New Mexico	$2,228,293,000	$6,989	$76,527,000	$4,708,147,049	$653,122,321
New York	$27,637,528,000	$10,834	$1,537,324,000	$23,151,291,289	$37,102,053,737
North Carolina	$8,193,308,000	$5,688	$235,855,000	$10,199,978,435	$1,115,630,954
North Dakota	$925,071,000	$8,129	$34,923,000	$999,765,887	$64,585,018
Northern Marianas		$0		-$49,431,705	$0
Ohio	$13,772,709,000	$8,700	$551,897,000	$15,761,139,431	$7,670,771,137
Oklahoma	$2,375,109,000	$3,598	$55,676,000	$4,452,305,179	$4,759,191
Oregon	$9,463,532,000	$16,293	$466,869,000	$6,919,943,222	$260,266,736
Pennsylvania	$24,480,099,000	$15,605	$943,044,000	$16,918,995,733	$4,171,427,373
Puerto Rico		$0		$1,333,179,892	$0
Rhode Island	$960,306,000	$7,215	$36,689,000	$0	$952,723,373
South Carolina	$9,385,784,000	$12,505	$361,005,000	$10,270,113,642	$91,918,595
South Dakota	$1,162,364,000	$8,384	$35,501,000	$1,519,989,457	$0
Tennessee	$6,456,303,000	$6,424	$241,855,000	$4,225,382,788	$0
Texas	$88,065,266,000	$17,200	$3,819,510,000	$70,284,153,167	$8,472,259,924
U.S. Virgin Islands		$0		$8,590,818	$0
Utah	$3,567,732,000	$5,961	$141,240,000	$3,478,955,793	$318,255,600
Vermont	$330,791,000	$3,891	$12,059,000	$318,073,557	$64,225,810
Virginia	$7,527,000,000	$5,839	$206,939,000	$5,772,749,157	$898,523,953
Washington	$15,066,488,000	$13,414	$635,994,000	$15,748,071,991	$2,970,674,517
West Virginia	$318,895,000	$1,190	$11,223,000	$827,176,182	$1,010,838,300
Wisconsin	$7,469,459,000	$8,788	$221,107,000	$7,636,767,348	$0
Wyoming	$49,650,000	$530	$2,037,000	$0	$3,202,809,363
Grand Total	**$485,848,778,000**	**$10,033**	**$20,127,198,000**	**$454,727,158,922**	**$140,664,089,109**

State Name	Total CAP of ARRA $2020	FEMA - Total Hazard Mitigation & Public Assistance (FY 2009 - 2019) in 2020$	Total Federal Funds FY09-19 (2020$)	% Local Funds of School Construction Cap Outlay	% State Funds of School Construction Capital Outlay	Federal share of total sch construction outlay FY09-19 (2020$)
Alabama	$26,546,581	$25,967,635	$52,514,216	68%	32%	1%
Alaska	$25,129,586	$7,387,762	$32,517,348	4%	95%	2%
American Samoa	$0	$1,054,971	$1,054,971	99%	0%	1%
Arizona	$101,932,237	$102,599	$102,034,836	93%	6%	1%
Arkansas	$429,337,163	$60,736,193	$490,073,357	76%	15%	9%
Bureau of Indian Education	$0	$0	$0	100%	0%	0%
California	$107,146,009	$30,753,010	$137,899,020	84%	16%	0%
Colorado	$35,886,426	$1,407,039	$37,293,465	86%	14%	0%
Connecticut	$27,433,350	$956,554	$28,389,904	15%	84%	0%
Delaware	$19,401,864	$229,008	$19,630,872	29%	71%	1%
District of Columbia	$2,882,508	$4,192,833	$7,075,342	0%	100%	0%
Florida	$1,288,441,236	$82,425,298	$1,370,866,534	78%	16%	6%
Georgia	$30,912,734	$1,481,271	$32,394,005	86%	14%	0%
Guam	$0	$204,234	$204,234	100%	0%	0%
Hawaii	$341,910	$4,230,704	$4,572,614	0%	100%	0%
Idaho	$7,550,944	$0	$7,550,944	99%	0%	1%
Illinois	$223,202,461	$1,704,792	$224,907,253	96%	3%	1%
Indiana	$303,209,996	$2,059,864	$305,269,860	95%	0%	5%
Iowa	$18,076,908	$31,046,604	$49,123,512	58%	42%	1%
Kansas	$23,878,939	$59,088,357	$82,967,297	75%	24%	1%
Kentucky	$123,440,044	$467,572	$123,907,616	55%	44%	2%
Louisiana	$13,107,328	$150,392,369	$163,499,697	98%	0%	2%
Maine	$38,465,227	$10,402	$38,475,629	0%	100%	3%
Maryland	$65,767,996	$3,137,528	$68,905,524	68%	31%	1%
Massachusetts	$3,170,216	$6,927,784	$10,098,000	37%	63%	0%
Michigan	$50,482,306	$1,119,038	$51,601,344	100%	0%	0%
Minnesota	$21,998,854	$3,917,760	$25,916,615	86%	14%	0%
Mississippi	$150,907,380	$41,565,360	$192,472,740	94%	0%	6%
Missouri	$67,846,147	$213,479,968	$281,326,116	97%	0%	3%
Montana	$8,738,275	$63,602	$8,801,877	99%	0%	1%
Nebraska	$45,203,722	$4,287,017	$49,490,739	99%	0%	1%
Nevada	$10,688,886	$661,000	$11,349,886	99%	0%	0%
New Hampshire	$2,376,687	$159,133	$2,535,820	49%	51%	0%
New Jersey	$59,315,006	$5,755,571	$65,070,577	68%	31%	0%
New Mexico	$20,973,014	$92,276	$21,065,291	87%	12%	0%
New York	$44,283,987	$412,803,308	$457,087,296	38%	61%	1%
North Carolina	$44,009,021	$31,751,049	$75,760,070	90%	10%	1%
North Dakota	$2,471,147	$40,539,520	$43,010,667	95%	3%	2%
Northern Marianas	$0	$62,896,859	$62,896,859	-367%	0%	467%
Ohio	$128,738,850	$310,901	$129,049,751	67%	33%	1%
Oklahoma	$58,168,215	$26,746,610	$84,914,824	98%	0%	2%
Oregon	$15,117,655	$5,399,673	$20,517,327	97%	3%	0%
Pennsylvania	$174,946,269	$10,780,192	$185,726,461	80%	20%	1%
Puerto Rico	$0	$303,641,361	$303,641,361	81%	0%	19%
Rhode Island	$21,533,937	$525,736	$22,059,672	0%	100%	10%
South Carolina	$17,444,897	$2,999,074	$20,443,971	99%	1%	0%
South Dakota	$28,422,321	$470,967	$28,893,288	99%	0%	1%
Tennessee	$121,168,258	$6,663,613	$127,831,871	98%	0%	2%
Texas	$418,109,705	$301,792,636	$719,902,341	90%	9%	1%
U.S. Virgin Islands	$0	$2,322,290	$2,322,290	79%	0%	21%
Utah	$56,496,073	$3,735,877	$60,231,950	94%	5%	1%
Vermont	$23,005,319	$721,869	$23,727,188	78%	16%	6%
Virginia	$200,447,889	$58,458,871	$258,906,760	87%	10%	3%
Washington	$7,607,694	$2,607,334	$10,215,028	87%	13%	0%
West Virginia	$20,405,907	$349,887,027	$370,292,934	37%	46%	17%
Wisconsin	$141,500	$2,183,242	$2,324,742	100%	0%	0%
Wyoming	$18,844,493	$0	$18,844,493	0%	100%	1%
Grand Total	**$4,755,155,081**	**$2,374,303,117**	**$7,129,458,198**	**77%**	**22%**	**1%**



REFERENCES

i Filardo, Mary. "State of Our Schools: America's K-12 Facilities 2016." Washington, D.C.: 21st Century School Fund, 2016. https://centerforgreenschools.org/state-our-schools.

ii Earthman, Glen. "Expert Report of Glen I. Earthman on Whether the Condition of School Facilities Has an Effect on Student Academic Achievement," n.d. https://decentschools.org/expert_reports/earthman_report.pdf

iii Filardo, Mary, Jeffrey M. Vincent, and Kevin J. Sullivan. "How Crumbling School Facilities Perpetuate Inequality." Kappanonline.Org, April 29, 2019. https://kappanonline.org/how-crumbling-school-facilities-perpetuate-inequality-filardo-vincent-sullivan/.

iv Barrett, P. S., Y. Zhang, F. Davies, and L. C. Barrett. "Clever Classrooms: Summary Report of the HEAD Project." Monograph, February 2015.

v Peterman, Kelli, Theadora Swenson, Takeesha White, Yianice Hernandez, Jaimie Shaff, Monica Ortiz, and Nivea Jackson "Mental Health by Design: Fostering Student Emotional Wellness in New York City High Schools by Improving and Enhancing Built Environments." Journal of Urban Design 5 (September 1, 2018). https://www.urbandesignmentalhealth.com/journal-5---nyc-school-design-for-mental-health.html.

vi Goodman, Joshua, and Michael Hurwitz, Jisung Park, and Jonathan Smith, Heat and Learning, NBER Working Paper No. 24639, May 2018, JEL No. I20,J24,Q5

vii Allen, Joseph and Eitland, Erika. "How School Buildings Influence Student Health, Thinking and Performance," March 22, 2017. https://schools.forhealth.org/wp-content/uploads/2020/02/Schools_ForHealth_UpdatedJan21.pdf

viii Simons, Elinor, Syni-An Hwang, Edward F. Fitzgerald, Christine Kielb, and Shao Lin. "The Impact of School Building Conditions on Student Absenteeism in Upstate New York." American Journal of Public Health 100, no. 9 (September 2010): 1679–86. https://doi.org/10.2105/AJPH.2009.165324.

ix Buckley, Jack, Mark Schneider, and Yi Shang. "The Effects of School Facility Quality on Teacher Retention in Urban School Districts," February 2004, 10.

x Fisk, William J., Jerome A. Paulson, Lloyd J. Kolbe, and Claire L. Barnett. "Significance of the School Physical Environment - A Commentary." Journal of School Health 86, no. 7 (July 2016): 483–87. https://doi.org/10.1111/josh.12400.

xi Baker, Lindsay, and Harvey Bernstein. "The Impact of School Buildings on Student Health and Performance." McGraw-Hill Research Foundation and The Center for Green Schools, February 27, 2012. https://www.centerforgreenschools.org/sites/default/files/resource-files/McGrawHill_ImpactOnHealth.pdf

xii Moonie, Sheniz, David A. Sterling, Larry W. Figgs, and Mario Castro. "The Relationship between School Absence, Academic Performance, and Asthma Status." The Journal of School Health 78, no. 3 (March 2008): 140–48. https://doi.org/10.1111/j.1746-1561.2007.00276.x.

xiii Küller, Rikard, and Carin Lindsten. "Health and Behavior of Children in Classrooms with and without Windows." Journal of Environmental Psychology, no. 12 (1992): 205–17.

xiv Hyndman, Brendon. "The Importance of School Playgrounds for Active, Healthy Students." In Contemporary School Playground Strategies for Healthy Students, 1–12, 2017. https://doi.org/10.1007/978-981-10-4738-1_1

xv Harvey, Deborah J., Louise N. Montgomery, Hannah Harvey, Felix Hall, Alan C. Gange, and Dawn Watling. "Psychological Benefits of a Biodiversity-Focussed Outdoor Learning Program for Primary School Children." Journal of Environmental Psychology 67 (February 1, 2020): 101381. https://doi.org/10.1016/j.jenvp.2019.101381.

xvi Huang, Keng-Yen, Sabrina Cheng, and Rachelle Theise. "School Contexts as Social Determinants of Child Health: Current Practices and Implications for Future Public Health Practice." Public Health Reports 128, no. Suppl 3 (2013): 21–28.

xvii Mickelson, Roslyn Arlin. "The Reciprocal Relationship Between Housing and School Integration," no. 7 (October 2011): 8.

xviii Danks, Sharon Gamson. "ECOLOGY AT THE HEART OF THE SCHOOL." Landscape Architecture 92, no. 1 (2002): 6.

xix Bivens, Josh "The potential macroeconomic benefits from increasing infrastructure investment." Economic Policy Institute, July 18, 2017.

xx Bivens, Josh and Hunter Blair "A public investment agenda that delivers the goods for American workers needs to be long-lived, broad, and subject to democratic oversight." Economic Policy Institute, December 8, 2016

xxi Cellini, Stephanie Riegg, Fernando Ferreira, and Jesse Rothstein. "The Value of School Facility Investments: Evidence from a Dynamic Regression Discontinuity Design *." Quarterly Journal of Economics 125, no. 1 (February 2010): 215–61. https://doi.org/10.1162/qjec.2010.125.1.215.

xxii Goldstein, Adam, and Orestes Hastings. "Buying In: Positional Competition, Schools, Income Inequality, and Housing Consumption." Sociological Science 6 (2019): 416–45. https://doi.org/10.15195/v6.a16

xxiii Working estimate of the 21st Century School Fund, based on U.S. Census of Governments F-33 Fiscal Survey, data item V95, reported in FY18 for 11,500 school districts and estimated for 18,000 districts at $250 per student.

xxiv Horowitz, Annemarie. "How We're Moving to Net-Zero by 2050." Energy.Gov (blog), April 19, 2021. https://www.energy. gov/articles/how-were-moving-net-zero-2050.

xxv Analysis by Center for Cities + Schools, University of California, Berkeley, using school location data from the National Center for Education Statistics, county-level hazard data from the National Center for Disaster Preparedness, at the Earth Institute at Columbia University, excluding Alaska, Hawaii and Puerto Rico, https://ncdp.columbia.edu/library/mapsmapping-projects/us-natural-hazards-index/

xxvi Combs, Susan "Texas Comptroller of Public Accounts," 2014, for a description of the cost implications of floodplain mitigation measures at Port Arthur Independent School District.

xxvii CDC.gov. "Considerations for Planning School-Located Vaccination Clinics | CDC," July 8, 2021. https://www.cdc.gov/accines/covid-19/planning/school-located-clinics.html

xxviii Vincent, Jeffrey M. "Reopening Schools Safely and Equitably Amidst the COVID-19 Pandemic: School Facilities Are Frontline Defense in Reducing Risk. COVID-19 Brief #1." Center for Cities + Schools, University of California, Berkeley, August 2020. https://citiesandschools.berkeley.edu/uploads/CC+S_2020_School_Facilities_COVID_Brief_1.pdf

xxix U.S. General Accounting Office. "School Facilities: Condition of America's Schools - GAO Report." United States General Accounting Office, February 1, 1995. https://www.gao.gov/products/hehs-95-61.

xxx U.S. General Accounting Office. "K-12 Education: School Districts Frequently Identified Multiple Building Systems Needing Updates or Replacement." Washington, D.C.: United States Government Accountability Office, June 4, 2020. https://www.gao.gov/assets/gao-20-494.pdf.

xxxi Benchmarks for good facilities stewardship are based on nationally recognized standards that have been adopted by the National Association of College and University Business Officers (www.nacubo.org), the Association of School Business Officials International (http://asbointl.org/), and APPA: Leadership in Educational Facilities (www.appa.org).

xxxii Square footage data for California schools provided by Jeff Vincent at the Center for Cities + Schools at the University of California, Berkeley.

xxxiii National Forum on Education Statistics. (2018). Forum Guide to Facility Information Management: A Resource for State and Local Education Agencies. (NFES 2018-156). U.S. Department of Education. Washington, DC: National Center for Education Statistics.

xxxiv 21st Century School Fund, working estimate. Based on the U.S. Census of Governments F-33 fiscal survey, data item V95 for utilities and energy service expenditures from NCES education finance tables. 11,223 out of 18,715 (representing 34,678,276 students) reported utilities expenditures. Based on these data, a per student utility estimate was made and applied to the remaining 15,747,735 students to arrive at a working estimate of $12.5 billion for utilities and energy services.

xxxv 21st Century School Fund estimate of facilities maintenance and operation jobs, based on meeting M&O deficiencies using 75% of the M&O gap with labor costs and 25% with materials, supplies and equipment for M&O. One facilities worker costs at estimated at $65,000 per year.

xxxvi Bivens, Josh and Hunter Blair "A public investment agenda that delivers the goods for American workers needs to be long-lived, broad, and subject to democratic oversight." Economic Policy Institute, December 8, 2016.

xxxvii Cornell Law School - Legal Information Institute. "Supreme Court - US Law: BROWN ET AL. v. BOARD OF EDUCATION OF TOPEKA ET AL." Accessed August 26, 2021. https://www.law.cornell.edu/supremecourt/text/347/483/USSC_PRO_347_483_1

xxxviii Ibid xxix

xxxix Filardo, Mary, Jeffrey M. Vincent, Ping Sung, and Travis Stein. "Growth and Disparity: A Decade of U.S. Public School Construction." Washington, D.C.: 21st Century School Fund and Building Education Success Together Collaborative, October 2006. https://bit.ly/38vel0Y

xl Green, Erica L. "Flint's Children Suffer in Class After Years of Drinking the Lead-Poisoned Water." The New York Times, November 6, 2019, sec. U.S. https://www.nytimes.com/2019/11/06/us/politics/flint-michigan-schools.html

xli Broward Teachers Union, "Database: What Broward teachers say about the mold issue in their classrooms." Survey results published https://www.sun-sentinel.com/news/sfl-database-broward-school-mold-complaints-20170830-htmlstory.html, August 31, 2017.

xlii Laker, Barbara, Wendy Ruderman, and Dylan Purcell. "Danger: Learn at Your Own Risk." The Philadelphia Inquirer. May 3, 2018. https://bit.ly/3tcveap

xliii Just, Brooke, "High heat, humidity cause 20 Columbus, Ohio schools to start new year remotely." American School & University, August 26, 2021. https://www.asumag.com/energy/hvac/article/21173441/high-heat-humidity-causes-20-columbus-city-ohio-district-schools-to-start-new-year-remotely

xliv Wood, Pamela and Talia Richman "Baltimore teachers call on city to close all schools amid heating issues." Baltimore Sun, January3, 2018. https://www.baltimoresun.com/maryland/baltimore-city/bs-md-cold-schools-20180103-story.html

xlv Lambert, Diana "Wildfires delay beginning of school year for some rural California schools, some for the second year."EdSource, August 12, 2021. https://edsource.org/2021/wildfires-delay-beginning-of-school-year-for-some-rural-california-schools-some-for-the-second-year/659442

xlvi 2021 Infrastructure Report Card, American Society of Civil Engineers. www.infrastructurereportcard.org

xlvii Rider Levett Bucknall (RLB), "North America Quarterly Construction Cost Report, Second Quarter 2021."

xlviii 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

xlix National Center for Education Statistics. "Digest of Education Statistics, 2019." Accessed August 26, 2021. https://nces.ed.gov/programs/digest/d19/tables/dt19_216.20.asp

l Cheng, Gracye, Steve English, and Mary Filardo "Facilities: Fairness & Effects: Evidence and Recommendations Concerning the Impact of School Facilities on Civil Rights and Student Achievement." A submission to the U.S. Department of Education Excellence & Equity Commission. The Advancement Project and 21st Century School Fund. July 27, 2011.

li Filardo, Mary, written statement on the need for a federal role in public education infrastructure. Delivered to the House Committee on Education and Labor, April 28, 2021. Access through https://www.buildusschools.org/news.

lii Shohfi, Kyle D. "School Construction and Renovation: A Review of Federal Programs and Legislation." Washington, D.C.: Congressional Research Service, August 31, 2020. https://crsreports.congress.gov/product/pdf/R/R41142.

liii 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. Accessed through: https://www.buildusschools.org/resources

liv The Turner Building Cost Index is an industry wide index that factors in labor rates and productivity, material prices and the competitive condition of the marketplace on a nationwide basis. Average Index was used from 2009-2019 for capital construction or revenues.

lv Cornman, S.Q. (2015). Documentation for the NCES School District Finance Survey (F-33), School Year 2012–13 (Fiscal Year 2013), Provisional File Version 1a (NCES 2015-345). National Center for Education Statistics, Institute of Education Sciences, U.S. Department of Education. Washington, DC. http://nces.ed.gov/pubsearch. (pg 1 on inclusion of independent charter school districts).