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What about the Schools?

Factors Contributing to Expanded State Investment in School Facilities

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IDRA José A. Cárdenas School Finance Fellows Program

The José A. Cárdenas School Finance Fellows Program was established by IDRA to honor the memory of IDRA founder, Dr. José Angel Cárdenas. The goal of the program is to engage the nation's most promising researchers in investigating school finance solutions that secure equity and excellence for all public school students. Under the leadership of Dr. María "Cuca" Robledo Montecel, IDRA President & CEO, the José A. Cárdenas School Finance Fellows Program focuses on and funds school finance research that builds cross-disciplinary and inter-sector perspectives on equity.

Dr. Cárdenas was actively involved in the school finance reform efforts since the early days of the Rodríguez vs. San Antonio ISD litigation when he was superintendent of Edgewood ISD. Following the 1973 U.S. Supreme Court reversal of the Rodríguez decision that found the Texas system of school finance unconstitutional, he resigned from Edgewood ISD to establish IDRA to advocate for school finance reform and improved educational opportunities for all children. He led decades-long efforts to achieve school finance equity and was instrumental in the Edgewood court cases. His research, articles and books provided a blueprint for those interested in bringing about future reform in schools and other social institutions.

In the foreword of Dr. Cárdenas' book, Texas School Finance Reform: An IDRA Perspective, Dr. James A. Kelly stated: "He worked hard, he played hard. And in doing so, never lost sight of his goal. Because, for José, school finance reform was never really an end in itself. It remained a means to a larger end: to improve teaching and learning for all children; in particular, to improve the life chances of the poor and dispossessed."

2016 IDRA José A. Cárdenas School Finance Fellow – Marialena Rivera, Ph.D.

Dr. Marialena Rivera is an assistant professor of education and community leadership at Texas State University College of Education. She earned her Ph.D. at the University of California, Berkeley's Graduate School of Education in education policy. Her mixed methods research focuses on the politics of education policy, educational equity and access, educational privatization, school finance, and school leadership for school improvement. She studied government and business administration as an undergraduate at the University of Texas at Austin and earned a master of science for teachers at Pace University while teaching middle school in the Bronx, New York, and a master of public policy from the Goldman School of Public Policy at the University of California, Berkeley.

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Abstract

Purpose: Through case studies of five states with varying facilities policies, this study examines the factors contributing to expanded state investment in equitable public school facilities and how those factors can be leveraged to encourage states that make minimal investments to expand their support for facilities funding.

Methods: Data collection consisted of a literature review of existing research on educational facilities taxation mechanisms, spending practices, and public debt policies; case study data collection included policy document analysis and 44 interviews with school finance and facilities experts, including researchers, lawyers, consultants, practitioners, and state level staffers. Five case study states included Texas, Wyoming, New Jersey, Massachusetts, and Ohio. The conceptual framework utilized the lenses of critical policy analysis and fiscal sociology.

Findings: The *Equity Investment Typology* categorizes 11 factors that contribute to expanded state investment in equitable public school facilities based on the extent to which they promote equitable investment. Factors are broken down into three categories: state spending, taxation, and public debt. Applying the typology to the five case study states revealed that states with various constraints and policy preferences have taken different policy pathways to expand their investment in educational facilities and maintenance. Wyoming and Massachusetts emerged as states with more equitable facilities funding systems. Best practices include conducting frequent statewide facilities inventories; distributing state aid based on a comprehensive set of factors, including local ability to pay and facilities needs; relying on a diversity of revenue sources, collecting taxes statewide, rather than solely from disparate local tax bases; providing state programs for debt payment assistance; and relying at least partially on pay-as-you-go funding mechanisms for facilities.

Implications: Examining state facilities policies revealed important insights about how policies promoting equity have developed in certain states and points to opportunities to improve equitable access to facilities for students in other places. Currently, the quality of a child's school building is directly related to the decisions their state's policymakers have made in the past. While wealthy communities have the ability to adequately maintain their facilities, persistent patterns of racial and socioeconomic segregation have long-lasting implications for equitable infrastructure investment, particularly when funding is still tied to local property wealth in most states. Facilities advocates should push for federal funding for educational facilities as an integral part of national investment in infrastructure as well as for policy changes at the state level that include adequate and equitable state investment in facilities construction and maintenance.

Keywords: education policy, equity, school finance, facilities, case studies, empirical paper

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Factors Contributing to Expanded State Investment in School Facilities

"I do not naively believe that the more equitable distribution of funds will automatically lead to the improved performance of students in the low wealth districts... On the other hand, it is impossible to bring about education reform in the absence of adequate financial resources. The financial reform effort must move hand-in-hand with the educational reform effort."

– José A. Cárdenas, Texas School Finance Reform – An IDRA Perspective, 1997, p. 362

"At its heart, school facility quality is a matter of equity, and responsible planning for the future requires that we have better information about the condition of our nation's schools... The dearth of official data and standards for our nation's public school infrastructure has left communities and states working largely on their own to plan for and provide high-quality facilities."

– Mary Filardo, State of Our Schools, 2016, p. 2

"Our education system, legally desegregated more than a half century ago, is ever more segregated by wealth and income, and often again by race. Ten million students in America's poorest communities—and millions more African American, Latino, Asian American, Pacific Islander, American Indian and Alaska Native students who are not poor—are having their lives unjustly and irredeemably blighted by a system that consigns them to the lowest-performing teachers, the most run-down facilities, and academic expectations and opportunities considerably lower than what we expect of other students. These vestiges of segregation, discrimination and inequality are unfinished business for our nation."

– The Equity and Excellence Commission, 2013, p. 13

Introduction

Why Focus on Equity and School Facilities?

This study examines the factors contributing to expanded state investment in equitable public school facilities and how those factors can be leveraged to encourage states that make minimal investments to expand their support for facilities funding. Since the Supreme Court of the United States reversed the District Court's decision in the *San Antonio Independent School District v. Rodríguez* case in 1973, states across the country have been left to battle individually for equitable and adequate school finance systems. State legislatures and courts have engaged in decades of subsequent school finance reforms, attempting to improve education funding systems nationwide (Baker & Green, 2008). These efforts have yielded mixed results, however. Although some attention to student needs has led to an increase in per pupil expenditures over the last century, inequitable and inadequate funding persists. Over time, school finance litigation has shifted from equity claims focusing on equalizing schooling inputs, to adequacy claims questioning whether schools have adequate resources to reach state standards. Sciarra, Bell, & Kenyon (2006) found, "Increasingly, these 'adequacy' suits center on claims of unsafe and therefore, educationally inadequate facilities in low-income school districts" (p. 3). While some state lawsuits address educational facilities as part of a comprehensive school finance challenge, as in New Jersey, Ohio, and Wyoming for example, other state lawsuits focus more exclusively on educational facilities, as in Arizona, Idaho, and California for example (Sciarra, Bell, & Kenyon, 2006).

While adequacy of facilities spending should remain at the fore of state conversations about educational investment, so too should equity. The practice of allocating inadequate dollars inequitably was the subject of a recent "Dear Colleague" letter from the U.S. Department of Education's Office for Civil Rights (2014), which noted:

> The physical spaces where our children are educated are also important resources that influence the learning and development of all students, yet many of our Nation's schools have fallen into disrepair. Too often, school districts with higher enrollments of students of color invest thousands of dollars less per student in their facilities than those districts with predominantly White enrollments. (p. 4)

Inequitable investment tied to race and class is not a new problem. The General Accountability Office[1] conducted a study of educational facilities in 1996, and determined that low-income and minority students suffered disproportionately from poor indoor air quality. One decade later, Filardo, Vincent, Sung, & Stein (2006) found that schools in low wealth zip codes had one third of the funding for educational facilities as schools in high wealth zip codes. A decade later, the Office for Civil Rights (2014) noted the "chronic and widespread racial disparities in access" to educational resources, including facilities (p. 2).

[1] *Formerly known as the General Accounting Office*

More recent research has connected inequitable intra- and inter-state facilities investment to state finance policies. Filardo (2016) described: "Because the vast majority of capital construction is funded by local taxpayers, the ability of school districts to pay for major facilities renewals or new construction is tied to the wealth of the community. That reality embeds inequity into a state's school facility conditions, except in the small number of states that have reformed their educational facilities finance policies and practices" (p. 6). Over time, this research has reinforced the importance of the details of state school finance policies.

Increasingly, scholars are also calling attention to the importance of facilities investment for teaching and learning. While scholars still debate the direct effect of facilities spending on student test scores[2], researchers have identified school facility factors that positively affect student learning and academic outcomes, such as design (Tanner, 2000, 2008) temperature, lighting acoustics, age (Earthman, 2012), and air quality (Schneider, 2002). Dozens of recent studies have linked ongoing investment and upkeep of facilities to a number of mediating factors that directly affect students and teachers. Research on investment in educational facilities has confirmed earlier findings (Uline & Tschannen-Moran, 2008) that there were moderate to strong relationships between the quality of facilities and school climate (Uline, Devere Wolsey, Tschannen-Moran, & Lin, 2010) and that school building conditions were linked to test scores, mediated by school climate and student attendance (Maxwell, 2016). Scholars have also examined relationships between physical disorder (e.g., broken windows and poor building conditions), fear, collective efficacy, and social disorder in schools (Plank, Bradshaw, & Young, 2009), pointing to the need for ongoing maintenance. In addition, deficient building conditions have also been found to impact teacher absenteeism (Buckley, Schneider, & Shang, 2005) and student absenteeism (Duran-Narucki, 2008). Other scholars found that "Teachers in satisfactory buildings also have more positive attitudes about their classrooms and how that space influences them and their students" (Earthman & Lemasters, 2009, p. 333), and additional studies have confirmed the effects of facilities on teacher retention (Buckley, Schneider, & Shang, 2005). In one survey study attempting to disentangle student demographics from other characteristics of teaching jobs that are amenable to policy influences, Horng (2009) found that school facilities were more than twice as important to teachers than the student demographic variables

[2] *Some scholars have failed to find a causal relationship between investment in educational facilities and student achievement and therefore question the need for facilities investment as well as the mechanisms for funding facilities. For example, Martorell, Stange, & McFarlin (2015) studied the achievement effects of nearly 1,400 Texas school capital campaigns and found little evidence of improved student achievement, concluding that locally financed school capital campaigns may represent a limited tool for realizing substantial gains in student achievement. Other scholars have pointed out the data limitations involved in such analyses. Davis (2015) noted, "Student outcome data are notoriously noisy, and researchers have had a difficult time showing a statistical correlation between school facilities and student achievement" (p. 10-11). Picus, Marion, Calvo, & Glenn (2005) argued that "very little empirical evidence supports this common belief that high-quality school facilities are a positive factor in student achievement. The lack of evidence results, in part, from the relatively poor knowledge we have about the condition of school facilities across the United States and within each state. Moreover, states that have reasonably good data on school facilities often lack sophisticated student testing systems that could be used to estimate the effect of school facilities on student performance" (p. 72). As another example, Higgins et al., (2005) explained, "The causal chain between environmental change and changes in students' attitudes, behaviours and achievements is a fairly complex one" (p. 6). However, other scholars have found a causal link between investment in physical capital and academic achievement using methods other than regression analysis, such as canonical analysis (Crampton, 2009). Roberts (2009) contrasted conventional measures of school facilities, which use an engineering "property management" perspective, with an educational perspective, which takes the educational purposes of schools into account and found that when engineering measures were used, there was little evidence of a connection to learning outcomes. However, when educators assess school facilities in terms of educational functions, a connection to learning outcomes is apparent (Roberts, 2009, p. 368). Overall, the answer to the question of whether money matters has depended on the scholar's conceptual framework, methods, and their dependent variable of interest (Roberts, 2009).*

when teachers select schools (p. 706), and school facilities were 30 percent more important to teachers than salary (p. 707). Horng (2009) concluded that "previously documented teacher mobility patterns are more likely due to teachers moving away from poor working conditions, such as unclean and unsafe facilities, than to teachers moving away from low-income and non-White students" (p. 709). These studies, and many others, underscore the far-reaching implications of investment—and underinvestment—in educational facilities.

Perhaps most importantly, however, the quality of educational facilities signals to children the extent to which society is willing to adequately invest in them, provide them with access to equitable resources, and ultimately ensure their equal educational opportunity. Despite decades of reform, facilities inequities connected to student and community characteristics remain. There are still open empirical questions around what types of school finance reforms are most beneficial for achieving equitable school facilities. Given the importance of equitable and adequate school facilities for all students, this study asks two primary questions:

1. What factors contribute to expanded state investment in equitable public school facilities?
2. How can those factors be leveraged to encourage states that make minimal investments to expand their support for facilities funding?

This study contributes to our understanding of school finance equity by developing an *Equity Investment Typology* that categorizes factors that contribute to expanded state investment in equitable public school facilities based on the extent to which they promote equitable investment. Factors are broken down into three categories: state spending, taxation, and public debt. This study also includes case studies of five states' facilities policies, making different models of state facilities programs more transparent and highlighting the concrete steps states have taken to support investment in educational facilities. This study recognizes that each state has a distinctive set of political realities, policy histories, and economic constraints. Given these varied state contexts, the case studies make various pathways to equitable investment more transparent so that states that make minimal investments in educational facilities can observe different investment strategies. This report ends with policy recommendations and best practices to help states increase their support for facilities construction and maintenance.

Conceptual Framework

First, this study takes up the notion of equitable facilities as distinct from the definition of simple equity, which has to do with being fair and impartial. For public educational facilities to be equitably provided, funding should be sufficient and reliable enough to provide for high quality, equitable facilities in all school districts, independent of their local ability to pay. Similarly, Building Educational Success Together, a national initiative to improve the quality of school facilities in urban communities, has the following policy objective: To ensure that there are stable and sufficient funds for public school facilities and that they are allocated equitably and efficiently. It is also important to emphasize the difference between adequacy and equity as the terms are often conflated. An equitable system could be inadequate, and an adequate system could be inequitable. For educational facilities to serve as healthy and safe environments, in which the district's desired educational program can be implemented, facilities funding must be sufficient, or above a minimum level to meet industry standards. However, we must also push for an equitable facilities funding environment that allows for educational excellence, in which well-reasoned policies allow school districts to invest in facilities in a way that is not tied to their local wealth.

In this study, I explore factors that contribute to expanded state investment in educational facilities through the conceptual lenses of critical policy analysis and fiscal sociology. Critical policy analysis is a lens commonly used to critique the differences between policy intentions and policy implementation, with regard to equity outcomes. Critical policy analysts examine the origins of policies as well as their accompanying assumptions, considering the social justice implications of policies (Burch, 2009), particularly for disadvantaged populations. To date, there is scant empirical critical policy analysis of facilities policies.

Researchers working in the field of fiscal sociology examine taxation, public debt, and state spending, with a focus on political, social, and cultural context (Martin, Mehrotra & Prasad, 2009). They examine the causes and the effects of fiscal policies for stakeholders, though this field has yet to examine education finance with regard to facilities. The combination of critical policy analysis and fiscal sociology helps examine the factors that contribute to state investment in traditional public school facilities and how they can be used to move states that make minimal investments in supporting facilities funding into expanding their support for facilities construction and maintenance.

Literature Review

Over time, educational reformers have touted the importance of school facilities for learners—from Horace Mann's "common school" to John Dewey's "laboratory school" to the Gates Foundation's push for "small schools" (Fuller et al., 2009). Since the 1970s, educational researchers have attempted to study school facilities themselves (Weinstein, 1979). This research is situated within larger bodies of literature on school finance and resource inequities. Scholars have written extensively on school finance reforms and their implications for equity. The broader research on school finance reforms has examined the efficacy of various reform permutations, contrasting systems that focused on equality, equity, or adequacy (Baker & Elmer, 2009); traced the roles of courts and legislatures in the finance reform process (Rebell, 2009); and highlighted the long-term impacts of reforms for various life outcomes in addition to educational outcomes (Jackson, Johnson, & Persico, 2014). These systems, as well as our understanding of their impacts, are continually evolving as states across the country challenge, re-evaluate, and restructure the way they fund education.

As Baker (2014) explained, "Conceptions of equity in school finance have evolved over the decades, and so too have funding formula mechanisms for improving equity and methods for evaluating those efforts" (Baker, 2014, p. 7), with the most significant change being the shift from evaluating equity in terms of the total dollars spent on education to a focus on adequacy, or providing children with the resources they need to achieve common educational outcomes (Baker, 2014; Baker & Green, 2008). Though some scholars still question the relevance of money for educational outcomes, the consensus in the literature is that funding matters and that school finance reforms can improve educational outcomes. As Baker (2014) described, "A significant body of literature has now shown the positive effects of equity and adequacy improvements of the prior 40+ years of school finance reform" (p. 25).

Unfortunately, there is much less research on facilities equity and adequacy. While school facilities had been included in 32 state lawsuits as of 2009 (Duncombe & Wang, 2009), many of those lawsuits did not focus exclusively on equity and adequacy of capital outlay for educational facilities (Filardo, 2010). We do know that court-driven policy reforms have an impact on facilities spending. For example, Filardo et al. (2006) found that while most states increased their funding for school facilities during the last decade, the states with successful court cases that challenged school facility inequities spent, on average, an additional $158 per student annually. "In spite of these numerous lawsuits, many states still provide little or no funding for infrastructure. Unlike the rush of many state legislatures to change state funding for basic program needs after *Serrano* in 1971, there has been no rush to change state funding for infrastructure" (Sielke, 2001, p. 654).

Given the importance of educational facilities for teaching and learning, scholars have estimated the costs of providing and maintaining educational facilities. The U.S. Department of Education estimated in 1999 that it would cost $127 billion to improve America's schools to good operating condition (Lewis et al., 2000). More recently, the American Society of Civil Engineers evaluated the country's infrastructure needs, reporting, "School facilities experts estimate that today's necessary renovations and maintenance

of the nation's school facilities could cost $270 billion or more" (2013, p. 2). The 21st Century School Fund and the U.S. Green Building Council (Filardo, 2016) used industry standards adapted to K-12 school facilities and estimated that the country should spend approximately "$145 billion per year to maintain, operate, and renew facilities so that they provide healthy and safe 21st century learning environments for all children" (Filardo, 2016, p. 4), and found that we are currently underspending as a nation. Clearly, there is a need for many states to revisit the way they fund educational facilities. To better understand education policies and the factors that affect state investment in areas such as school construction and maintenance, this review analyzes the extant literature on taxation, state spending, and public debt policies, particularly as they relate to educational facilities.

Taxation Mechanisms and Sources of Funding for Educational Facilities

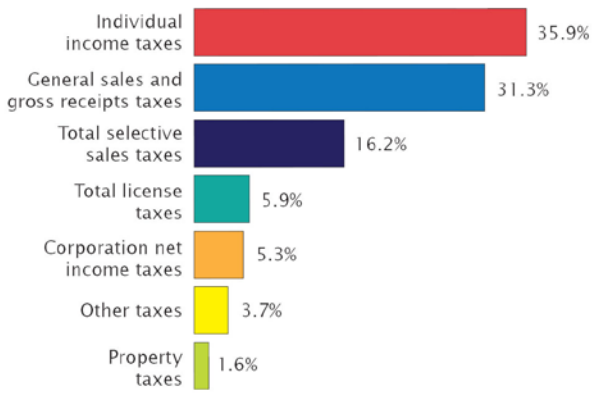
Academic literature and government reports have analyzed taxation mechanisms for decades and generate interest from the public and private sectors. School finance experts have described taxes as an "obligation to make payment based on an economic activity" (Monk, 1990) or a system of transferring money from the private sector to the public sector of the economy (Brimley, Verstegen, & Garfield, 2012). To the public, "The term *tax* serves as a firm reminder to people that they have been given personal and mandatory responsibility to divert a certain amount of their wealth—past, present, or future—to become part of the revenue required by institutions and units of government performing public services" (Brimley, Verstegen, & Garfield, 2012, p. 113). The extent to which a tax system is judged to be "good" depends upon a person's perspective and preferences. Brimley, Verstegen, & Garfield, (2012) explain that a good tax system considers fairness or equity, adequacy, low costs of collection, neutrality, and predictability. "Interest in the incidence of taxes stems, in part, from the desire to know how various taxes are distributed across those with different abilities to pay" (Monk, 1990, p. 153). While some would argue that those who benefit from a government service should pay (benefit principle), others argue that a fair tax system is based on the ability of the taxpayer to pay the tax. This ability is broken down into arguments over whether ability should be tied to annual income or longer-term wealth. Others argue that the fairest taxes are consumption-based, such as a sales tax.

A related consideration is the extent to which taxes are considered *regressive* versus *progressive*. According to the Internal Revenue Service, regressive taxes cause "lower-income people to pay a larger share of their income than wealthier people pay" (Internal Revenue Service, 2016). Examples include taxes and fees that require individuals to pay the same amount, regardless of their income, such as user fees and taxes on tobacco, alcohol, and gasoline. Progressive taxes are those that take income into account, so that wealthier people pay an equal or larger share of their income in taxes than lower-income individuals.

The ability of states to provide adequate and equitable funding for any function is fundamentally tied to the states' taxation mechanisms and sources of revenue. States vary considerably in where they get their state tax revenue (see Figure 1). For example, in 2014, Texas, a state that does not collect a statewide property tax or individual state income tax, generated 83 percent of its tax revenue from general sales tax (U Lee, Pome, Beleacov, Pyon, & Park, 2015). When that value is broken down, 59 percent of tax revenue came from general sales/gross receipts and 24 percent from selective sales/receipts. An additional 6 percent came from license taxes. Across the 50 states, categories of selective sales and gross receipts taxes include: alcoholic beverages, amusements, insurance premiums, motor fuels, pari-mutuels, public

utilities, tobacco products, and other selective sales and gross receipts taxes. These taxes can also be referred to as *sumptuary* taxes. In Wyoming, 39 percent of state tax revenue was collected in the "other taxes," category and represents *severance* taxes, which are imposed when natural resources are extracted. Wyoming's boom in natural resources accounts for the relatively high per capita state tax revenues. (See Table 1 for the share of state tax revenue by source for this study's case study states.) In addition, states vary considerably in the amount they collect per capita. According to FiveThirtyEight's analysis of U.S. Census Bureau data, the amount these states raised per capita ranged "from $1,700 per person in New Hampshire to more than $8,000 per person in North Dakota" (Casselman & McCann, 2015).[3]

Figure 1: **Total State Government Tax Collections by Category**



Note: Detail does not sum to total due to rounding.
Source: U.S. Census Bureau, Annual Survey of State Government Tax Collections. <www.census.gov/govs/statetax>

Note: From "State government tax collections summary report: 2014 Economy-wide statistics brief: Public sector," by Lee, Pome, Beleacov, Pyon, & Park, 2015, U.S. Census Bureau, Retrieved from http://www2.census.gov/govs/statetax/G14-STC-Final.pdf

Table 1: Share of State Tax Revenue by Source

Government	Property Taxes	Sales and Gross Receipts Taxes	License Taxes	Income Taxes	Other Taxes
United States	0.02	0.48	0.06	0.41	0.04
Massachusetts	0.00	0.31	0.04	0.61	0.03
New Jersey	0.00	0.43	0.05	0.48	0.04
Ohio	0.00	0.58	0.11	0.31	0.00
Texas	0.00	0.83	0.06	0.00	0.11
Wyoming	0.13	0.41	0.07	0.00	0.39

Note: From "2014 Annual Survey of State Government Tax Collections," by U.S. Census Bureau, Retrieved from http://factfinder.census.gov

To fund public education, most states use a combination of income, sales, and property taxes. According to Brimley, Verstegen, & Garfield (2012), taxes for education nationwide come from state and local taxes

[3] *Case study state per capita tax revenue: Texas (2.0k), Massachusetts (3.7k), New Jersey (3.3k), Ohio (2.3k), and Wyoming (3.9k).*

from property (30 percent), sales taxes (23.5 percent), selective taxes (11 percent), income taxes (22.6 percent), corporate income taxes (4.7 percent), and licenses and other fees, or privilege taxes (8.2 percent). State variations in tax revenues affect the ability of individual states to fund public education, including educational facilities, and the next section examines a primary method of funding public education: the local property tax.

Inequity of the local property tax

Despite decades of school finance litigation and legislative reforms, most states remain stubbornly tied to the local property tax for educational funding in general. As one study of inequitable educational funding lamented:

> These days, when we ask "the inhabitants in general" to help pay for their schools, we usually start with local property taxes. That's nothing new. The property tax is an old idea, older than America itself. The problem with a school funding system that relies so heavily on local property taxes is straightforward: Property values vary a lot from neighborhood to neighborhood, district to district. And with them, tax revenues. (Turner et al., 2016)

School finance experts have long criticized the limitations of this source of revenue. "There is little direct involvement between school administrators and sales and incomes taxes, but administration of the property tax often directly concerns school administrators. It is a highly visible tax that is closely associated with school support. Moreover, it is a controversial tax that is regarded in some quarters as one of the most inequitable and undesirable taxes available" (Monk, 1990, p. 140).

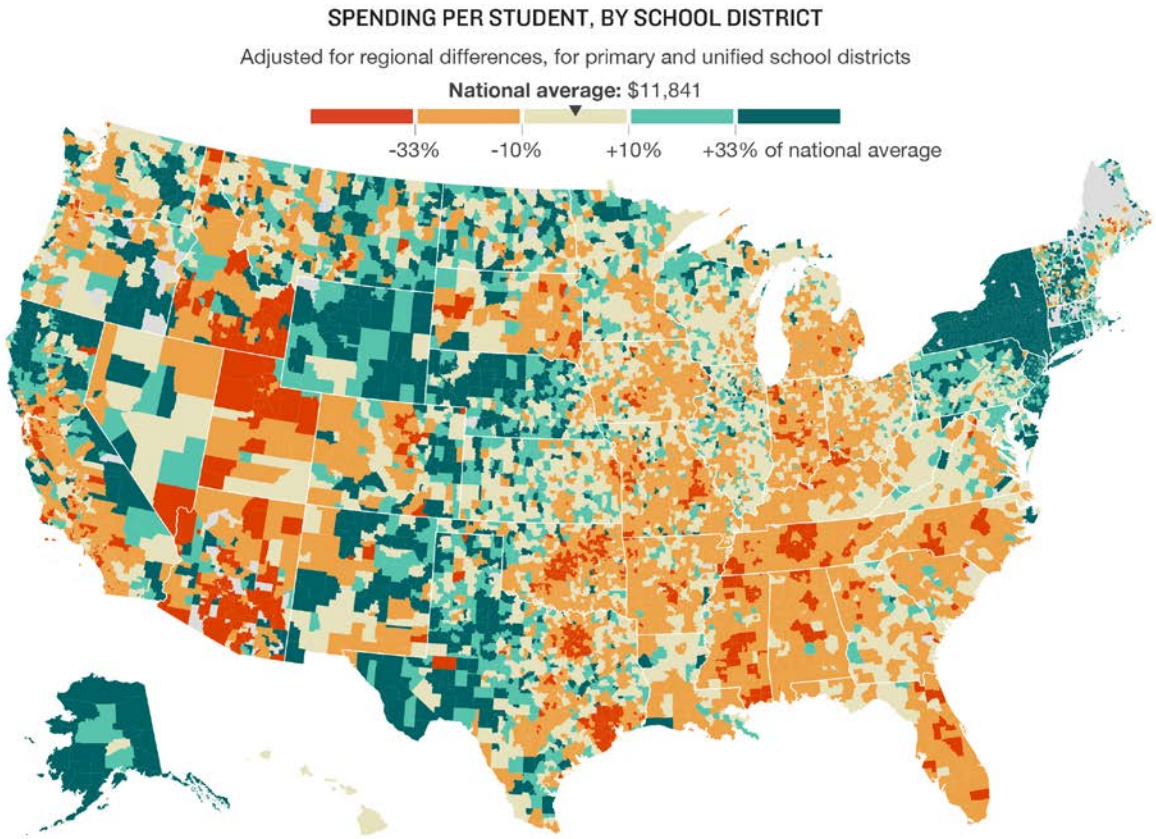
One issue is with the way property values are assessed. Calculating the value of the tax base is not a straightforward process, and assessing the value of property is arguably more of an art than a science. "Assessors are appointed or elected in various ways and their training levels vary substantially. A common proposal for reform is to remove the assessing process from the local level and to institute state-administered assessing programs" in order to reduce variation in fractional assessment (Monk, 1990, p. 160). Exclusions from the tax base and fractional assessment can lead to uneven valuations between communities, which directly impact the amount a community can borrow through bonding to fund educational facilities.

As taxes on property are a major source of local revenue, competition for local tax dollar is becoming increasingly more severe (Brimley, Verstegen, & Garfield, 2012). Due to the fact that in many states, public schools and city governments must use the same property tax base to obtain revenue for operations, many local taxpayers' claims of being overtaxes are likely accurate. Also, the prevalence of "white flight" in certain communities has eroded the tax base in many urban areas.

Disparate assessed valuations of property wealth between large and small; rural, urban, and suburban; and industrial and farming communities limit the ability of local property taxes to serve as an equitable source of revenue for educational facilities. Additionally, school districts experiencing rapid enrollment growth struggle to finance construction when relying primarily on local property taxes. Furthermore, because not everyone pays a property tax, a system based on local property taxes means that not all citizens share the costs of funding school facilities. While complete reliance on local funding for financing current educational expenditures "was eliminated in most states in the early part of this century, with the

advent of state grants of various kinds to local districts...financing the building of school buildings has not yet made such progress; such financing is still almost completely a local responsibility" (Burrup, Brimley, & Garfield, 1988, p. 337). In addition, local school districts have little if any control over the taxation mechanisms their state uses. If a state remains tied to local property taxes, there is little local school districts can do.

Figure 2



Note: From "Why America's Schools Have a Money Problem," by Turner, Khrais, Lloyd, Olgin, Isensee, Vevea, & Carsen (2016, April 18). National Public Radio, Retrieved from http://www.npr.org/2016/04/18/474256366/why-americas-schools-have-a-money-problem

Burrup, Brimley, & Garfield (1988) explained that, while local communities were historically able to finance school construction and maintenance through local property taxes, rising building costs over time, a higher percentage of students attending school, and less favorable changes in assessed value of taxable property per child, led to school building problems nearing the end of the 20th century (Burrup, Brimley, & Garfield, 1988). Given these changes over time Burrup, Brimley, & Garfield (1988) argued that, "there is no defense for the traditional method of financing school facilities by relying completely on a regressive and unfair local property tax when more equitable tax sources are available at the state level" (p. 336). Local property taxes are also politically problematic. Cárdenas (1997) confirmed the increasing deficiencies of the local property tax over time for educational facilities:

> The cost of facilities has skyrocketed. School building features for the handicapped, special populations and special programs have similarly increased the cost of school

> construction in excess of local property tax yields. The school tax competes with a proliferation of new taxing entities such as rival authorities, health districts, soil conservation districts, community colleges, higher education authorities, and the development of utilities. City and county governments depend on the property tax to meet an increased demand for police and fire protection as well as public housing, welfare, rehabilitation, incarceration, literacy and the arts, to name just a few. It is not surprising that the "taxpayers revolt" has focused on the commonly excessive, and always regressive, local property tax. (p. 260)

As taxpayers across the country resisted taxes in the late 1970s and 1980s, local finances tightened (Donahue, 1989). One such tax revolt was California's Proposition 13, an early neoliberal voter initiative that dramatically reduced that state's ability to collect property taxes, though the source of the fuel for the tax revolt is disputed. Martin (2008) argued that we must distinguish between the backlash to the welfare state and the tax revolt, noting that state officials caused the tax revolt by professionalizing the tax collection system and doing away with informal tax privileges taxpayers were enjoying, such as the systematic undervaluation of property. Others asserted that tax revolts were fueled by a public that had become wary of a growing welfare state and the notion that the "haves" should pay taxes to benefit the "have-nots."

Brimley, Verstegen, & Garfield (2012) explained, "The revolt has been directed particularly against the abuses and unfairness of the property tax. Described by many as the most regressive, oppressive, and inequitable tax of all, it has lost much of its traditional popularity as a source of revenue for schools" (p. 128).

Edsall & Edsall (1992) connected the backlash to race arguing:

> The twin issues of race and taxes have created a new, ideologically coherent coalition by pitting taxpayers against tax recipients, by pitting the advocates of meritocracy against proponents of special preference, by pitting the private sector against the public sector, by pitting those in the labor force against the jobless, and by pitting those who bear many of the costs of federal intervention against those whose struggle for equality has been advanced by interventionist government policies. (p. 3)

State laws requiring local voters to authorize tax increases to fund school facilities often forces school bond measures to compete with other, non-school ballot measures for taxpayers' attention and approval, resulting in a system where conservative or otherwise tax-averse areas are less likely to pass bonds, limiting certain school districts' abilities to improve their school buildings. As Rothstein (2014) described in his analysis of Ferguson, Missouri, these dynamics are interwoven with patterns of residential segregation, influenced by not only White flight, but also discriminatory government zoning policies and practices. Consequently, poor and rich districts often map onto racial and socioeconomic inequalities that get magnified in the inability of "poor" districts to provide for their students (Rothstein, 2014). The research demonstrates that policies determining taxation mechanisms as sources of funding have far-reaching social, political, and economic consequences.

Tax caps and limits

One result of the taxpayer revolts of the 1970s and 1980s was the creation of additional policies limiting governments' abilities to tax above certain amounts, particularly for certain members of the public. State-imposed tax rate restrictions make property tax difficult to use as a revenue source. These policies were purportedly legislated to protect beleaguered taxpayers, and "many school districts are still struggling to raise adequate local revenues with state limitation on tax levies" (Brimley, Verstegen, & Garfield, 2012, p. 127). As Brimley, Verstegen, & Garfield (2012) explained, there are various policies that work to "provide relief" for property tax payers, including: circuit breakers, which assure that property taxes of people with low incomes don't go over certain amount; homestead exemptions, which lower the assessed valuation of a person's primary residence; tax deferral programs for elderly or disabled; and reverse mortgages, which allow mortgage to be liquidated into series of cash payments while the owner continues to occupy the home. However, these mechanisms are not always well-regarded (Monk, 1990).

Diversity

An important consideration is the extent to which states diversify their revenue sources. Brimley, Verstegen, & Garfield (2012) have argued that education finance will need to depend on diverse sources of revenue, particularly during economic fluctuations and changes in interest rates over time. For example, while it might be inexpensive to borrow in the current low interest rate climate, as interest rates rise, states will want to turn away from bond financing to other revenue sources. With regard to facilities, "by 1998-1999 many states were using combinations of funding mechanisms to provide for infrastructure needs" (Sielke, 2001, p. 657), though states vary in the extent to which they diversify their facilities funding sources.

Distribution of State Facility Funding and Aid

Once tax revenues are collected, state school finance policies dictate how state and local funds are spent. School finance research, practices, and policies are typically bifurcated (Timar, 2006) into *operational funding*, which covers recurring costs of education including teachers, administrators, books, materials, utilities and cleaning, and *capital funding*, which is used to cover assets with a multi-year life, such as new construction of buildings, facility additions, and the purchase of equipment (Filardo, Cheng, Allen, Bar, & Ulsoy, 2010). Brimley, Verstegen, & Garfield (2012) describe capital funds as covering fixed assets, equipment, construction projects, and purchase of property. When scholars study and write about education finance reforms and policymakers address education finance, they often focus on the operations side. While funding for school facilities varies extensively from state to state, facilities funding equity is a less studied and less understood aspect of school finance reform.

Burrup, Brimley, & Garfield (1988) analyzed state involvement in school facilities funding over time, reporting that as early as 1927, states began assisting school districts with debt services costs, and by 1965, 80 percent of states provided some assistance to school districts for financing educational facilities and paying debt service (Burrap, Brimley, & Garfield, 1988). Commenting on the bifurcation of current operational funding and capital funding, the authors noted: "One of the strong traditions that began to develop early in school finance history was that capital outlay costs were of local concern only, in spite of strong and almost universal acceptance of state responsibility for education. The soundness of this position is open to serious debate, but the general acceptance of this local responsibility, and the almost complete indifference on the part of state governments, is a matter of open record" (p. 336). They

reiterated that "it is unfair, discriminatory, and certainly unjustified for the state to provide equalization funds for ongoing school programs and at the same time do virtually nothing to provide proper facilities in which to house those programs" (Burrap, Brimley, & Garfield, 1988, p. 357). Over time, states have spent money on educational facilities through a variety of programs. As of the late 1980s:

> Only a few states include capital outlays as a part of the foundation program. Flat grants, incentive funds (such as matching funds or reorganization grants), emergency grants-in-aid, special grants to financially feeble districts, repayable loans, building authorities, and equalized foundation grants are the main ways used to allocate state funds to local districts for financing capital outlays. (Burrap, Brimley, & Garfield, 1988, p. 353)

Today, states spend money for educational facilities in a variety of ways other than direct grants or reimbursements, including "information, standards and technical assistance on school design and construction. Other states offer credit enhancement for local school districts, essentially co-signing the loan, so the local district secures a better interest rate and other improved borrowing terms" (Filardo et al., 2010, p. 2). The level of state investment in educational facilities is typically defined in two ways: (1) percent of capital funding coming from the state through building aid programs, and (2) overall dollar amount spent by the state. While these are important measures to examine, they do not explain the varied levels and types of potential state investment in educational facilities. Duncombe & Wang (2009) found, "State funding for school facilities is an understudied area. Further investigation is necessary to distinguish the effects of state building-aid programs from other factors on the equality of capital-outlay distribution across districts" (p. 346).

> The limited research comparing state school facilities policies has drawn distinctions between various state school finance reforms and the implications for facilities equity. This work is primarily conducted by policy organizations, including university research centers, national think tanks, and other local, independent research organizations. Government entities also produce their own reports or commission independent centers to conduct research on shifting school facilities policies in their states. Less frequently, academic researchers have published articles comparing state facilities policies (Davis, 2015; Duncombe & Wang, 2009; Sciarra, Bell, & Kenyon, 2006; Vincent & Monkkonen, 2010). Comparative facilities policy research is practical given that, on the whole in the United States, educational facilities policies vary widely. As Uline (1997) explained "We have not adopted any form of standard national school architecture, in fact or in spirit" (p. 197). As a result, school facilities from state to state are dramatically variable.

The 21st Century School Fund used U.S. census data to examine how much capital outlay each state expended on educational facilities, surveying each state to determine the breakdown of expenditures by local versus state sources. They found that the "average state share of spending on capital outlay for construction and land and building acquisition for the years 2005 to 2008 was 30 percent" (Filardo et al., 2010, p. 2). Filardo and colleagues (2010) reported that the range of state contributions for capital outlay costs varies from 100 percent in Hawaii to 0 percent in 11 states, with 14 states providing less than 20 percent of costs incurred by local school districts, 12 states paying between 20 percent and 50 percent, and 13 states and Washington, D.C., contributing over 50 percent. More recent estimates suggest that, while states contribute an average of 45 percent for school district's annual operating costs, the average state share for facilities is closer to 18 percent (Filardo, 2016). (See Appendix B).

In one of the few studies looking at facilities spending across all 50 states, Duncombe & Wang (2009) analyzed state spending through building-aid programs. They used data from the National Center for Educational Statistics (NCES) to investigate the relationship between types of state capital-aid formulas and inequality in capital outlays. They found that states offer three main types of programs to school districts: (1) credit enhancements, such as aid-intercept mechanisms; (2) state loan programs aimed at reducing the borrowing costs for school districts by, for example, providing a general obligation loan guarantee as a mechanism for lowering district-interest costs; and (3) various types of building-aid programs where states reimburse a portion of debt-service payments as part of a capital aid program. "We find significant variation across states in the equity of the capital-finance systems, and some evidence that lump-sum project grants are associated with greater equity" (Duncombe & Wang, 2009, p. 325). Overall, they argued that state policies on building-aid formulas affected the level of inequality in capital investments. While this work moves our understanding forward, it focuses primarily on the dollars spent on capital outlay, not other factors that contribute to facilities equity.

Several recent studies focused on school facilities in a small number of states. Davis (2015) analyzed school facilities policies in Ohio and Michigan, using two relatively similar states with very different policies to study the impacts of policies on the distribution of school and community resources to school districts. In Ohio, school facilities litigation prompted the creation of the Ohio School Facilities Commission. Davis (2015) found that Ohio does "appear to have a more equitable distribution of capital facilities" than Michigan, a state with weak state support for school construction (p. 3). The study's findings indicated "the allocations in both states went, on average, to districts above the mean on a number of measures of community resources, educational inputs, and student outcomes" (Davis, 2015, p. 4), indicating a need for both states to address equity further in their facilities investments.

In another study, Ingle, Johnson, Givens, & Rampelt (2013) looked at the relationship between district characteristics, district finances, levy characteristics, and campaign expenditures in Ohio and found that while campaign spending was related to bond passage, the types of expenditures were insignificant for the most part. Sanders (2009) studied an alternative to bonds, looking at factors that helped predict outcomes of the Special Purpose Local Option Sales Tax (SPLOST) elections to fund school facilities in Georgia, and explained that "the unpopularity of property taxes and the perceived fairness of the sales tax made the SPLOST a popular method for financing needed capital projects in Georgia-a state with 159 counties and 21 city-school districts" (p. 269). This work reinforces the idea that different funding mechanisms are preferred in different states, given each state's individual political preferences, policy history, and economic constraints. However, Georgia's taxation mechanism has been criticized for being inequitable "because only those areas with a sizable retail base, mostly metropolitan suburban areas, can garner substantial sums of money while more rural areas are penalized because they usually have few retail businesses" (p. 657-660). It is clear from the research that variations in facilities policies impact facilities outcomes, thus potentially implicating educational outcomes.

While there is no national database rating public school facilities quality, scholars and governmental entities have worked recently to make national spending amounts and trends more transparent. According to data from the U.S. Census if Governments, as published by the National Center for Education Statistics (NCES), school districts spent $58.5 billion in capital outlay, including construction and land and building acquisition, and reported $369.4 billion in long-term capital debt (Filardo, Cheng, Allen, Bar, & Ulsoy, 2010). Private organizations also track facilities spending. McGraw Hill School Construction reported that, since 1999, "an average of 80 percent of capital outlay has been spent on new

construction and additions, with 20 percent spent on alterations or improvements to existing buildings." Analyzing this data on capital spending levels and disparity over time is a critical first step toward a broader understanding of facilities equity.

Scholars have also tried to draw attention to the issue of routine and deferred maintenance. School districts have an estimated $271 billion of deferred building and grounds maintenance in their schools, excluding administrative facilities, with an average of $4,883 per student (21st Century School Fund). As Roberts (2009) explained, "The lack of adequate investment ensures that the inevitable process of continued facility deterioration will continue" (p. 368). In a study investigating state facilities standards (specifically educational space, minimum essential facilities, indoor human comfort/environmental quality, school site size, planning process, maintenance, and charter schools) in 10 case study states, Vincent (2016) found that only two states reported that they required minimum facilities maintenance spending levels, though six of the 10 states used maintenance investment effort or facility condition as a criterion for receiving state funds for facilities. Vincent (2016) noted: "Trends in inadequate annual maintenance investment on existing school facilities, for example, was of central concern among many of the state directors. This topic has importance for fiscal efficiencies, children's health, educational achievement, and other state interests" (p. 22).

Other studies have attempted to understand the extent to which facilities financing processes impact educational facilities outcomes. Scholars have linked state spending to other social, political, and economic factors, such as race and prejudice:

> The reasons why inadequate facilities are more commonly found in minority communities include the unprecedented and tremendous growth of communities with large number of immigrants, the failure of an aging, predominantly White voting population to support school building in inner cities, and outright discrimination. (Roos, 1998, p. 43)

Scholars have also examined other economic and political issues related to education facilities bonds, including the sequence of decisions facing school district officials in the bond issuing process (Harris & Munley, 2002), political factors associated with bond passage (Bowers, Metzger, & Militello, 2010; Hickey, Linn, & Vaughn, 2008; Sanders, 2009), strategies for school boards working to pass bonds (Milder, 2011; Stover, 2012), or the logistics of planning for construction costs (Vincent & McKoy, 2008). Much of this work is directed at practitioners, particularly school board members and district administrators, interested in raising funds for their school districts' facilities (Bowers & Lee, 2013; Piele & Hall, 1973). Linking spending to economic trends, Filardo (2016) described: "Annual capital construction spending nationally increased from $26 billion in 1994 to a high of $60 billion in 2009. After a relatively stable period from 2003 through 2009, capital construction spending declined by almost 40 percent from 2009 to 2013 as a result of the Great Recession of 2008. Because capital construction is largely financed by local school districts, the poor lending climate and reluctance to burden taxpayers after the recession had a striking impact on spending. This drastic decline in school construction is greater than the decrease in overall education spending since the recession" (p. 16).

Researchers have also warned of the limitations of comparing state spending policies. As Filardo et al. (2006) explained in an example, "State-by-state comparisons pose a challenge because the cost of construction varies widely across states and even within states...In Texas [for example] the cost of

materials is close to the national average, but labor is often more than 30 percent lower than the national average. This means that some states get more value for the same amount of money" (p. 11). Correlation between spending and quality of facilities can also be misstated and is difficult to compare across states because of state variation in enrollment over time, population density, and the regulatory environment. Vincent & Monkkonen (2010) analyzed state regulation policies to determine the impact of three different regulations on the costs of public school construction using a database of nearly 3,000 schools constructed between 1995- and2004. They found that "states with all three regulations have construction costs that are roughly 30 percent higher than states with none of the three regulations," concluding that "rather than understanding the impacts of individual regulation as contributing to marginal increases in costs for each additional regulation, it is the whole regulatory environment of a place that has complex impacts on costs" (Vincent & Monkkonen, 2010, p. 313). Also, while the state share of facilities spending is important, students can still be in substandard facilities if the overall level of funding is low (Filardo et al., 2010).

Sufficiency of spending

With regard to the sufficiency of spending on educational facilities, there are significant data limitations. "Some states provide funding for infrastructure needs within the basic support program," (Sielke, 2001, p. 655) making it difficult for states to report expenditures for infrastructure. Many state agencies do not keep records of bond issues (Sielke, 2001). Crampton (2001) analyzed school finance legislation across the states in the 1990s and found a growing interest in educational facilities as expressed by the number of bills passed. As a result, many states have made significant investments in educational facilities, Sielke (2001) examined state infrastructure spending in 1993-94 and 1998-99 and found that 12 states more than doubled their funding for educational facilities during that time. However, "There is wide variation among the states on how infrastructure needs are funded, and even within states there may be wide fluctuations in expenditures from year to year" (Sielke, 2001, p. 654). While some states provide a sufficient level of funding to provide for equitable facilities construction and maintenance, most do not.

Spending on technical assistance

Several states provide sophisticated and detailed technical assistance to local school districts. Vincent (2016) conducted state case studies, examining state facilities standards and requirements for K-12 facility planning and design. He found that state facilities departments vary widely in the levels and types of technical assistance offered. California, for example, has 27 staff persons working in educational facilities and provides general guidance for public schools, whereas Florida has 31 staff persons and provides technical support for facilities planning, funding, construction, and operations. Filardo (2010) found that 13 states provide no technical assistance regarding public school facilities. If the state does not provide adequate technical assistance, school districts will turn to private sources to help them navigate the process of planning, designing, constructing, and maintaining educational facilities. This privatization of government services occurs through contracts between school districts across the country with consultants and contractors and comes at a high cost for resource-limited school districts (Rivera, 2016).

Stability

Funds should be stable through economic cycles and allocated predictably. State spending aid varies, with some states providing debt-service grants, state bond guarantees, equalized debt-service grants, loans, and equalized project grants. "The flat grant usually exacerbates inequity since every entity receives the same amount regardless of wealth, but when it is used in combination with other grants, it becomes a

mechanism for providing some funding for everyone (satisfying all constituencies) while the equalizing grant provides for equity" (Sielke, 2001, p. 656-657). Regardless of the mechanism, school districts need to be able to reliably plan for state funding according with the long-range facilities plans. The state's role is critical for stability and reliability. "As we have learned from decades of school finance litigation, equity is dependent on state funding to mitigate variations in local wealth, generally expressed by income or property tax bases" (Sielke, 2001, p. 635).

Public Debt Policies for Educational Facilities

Debt policies are of paramount importance with regard to educational facilities as most school infrastructure is funded through a combination of state and local bonds. While some school districts are able to use pay-as-you-go methods to pay for facilities, the primary method for financing educational facilities is through bonding, which requires school districts to repay debt over time as payments to bond holders. According to Sielke (2001):

> The vast majority, 39 of 50 states, still rely on voter approved bond issues to fund some, if not all, of their infrastructure needs. In fact, 11 of the 12 states that reported no state funding for school infrastructure rely on voter approved bonds as their primary program for funding. Reliance on local bond issues raises equity issues for students and taxpayers alike as bond issues are inextricably tied to property wealth. The amount of property wealth not only limited the size of the bond issue but also places a heavier burden on taxpayers in low wealth districts...School districts must also address taxpayer reluctance to pass bond issues which can raise equity issues. (p. 657)

Bonds are generally sold through competitive bidding. The economic conditions at the time determine the interest rates investors are willing to accept to buy bonds. For investors, bonds are attractive due to exemptions from federal and state income taxes. An advantage of bonding is that "most districts can bond for large enough amounts to meet their building needs, whereas pay-as-you-go financing does not usually provide this opportunity" (Burrup, Brimley, & Garfield, 1988, p. 341). With bonding, the costs are spread out across the generations of citizens (or their children) that will use the facilities. However, when school districts finance school facilities using bonds, they are limited by their ability to raise taxes locally, and they must pay interest on the bonds each year, increasing the total costs of facilities. Existing debt can impact the willingness of voters to support further taxation for school infrastructure. States vary considerably in the level of debt they carry per student:

> The states with the highest amount of debt per student are South Carolina ($16,948), Pennsylvania ($15,638), and Texas ($13,297). In general, states in which local debt is highest are the ones that did not have a state program to help local districts pay for their facilities capital investments. High-wealth districts have the capacity to borrow what they need, and the state averages mask the fact that very wealthy communities can and do borrow at high levels, whereas many low-wealth districts (particularly small, rural districts) cannot borrow at all. (Filardo, 2016, p. 19)

Funding facilities with debt is controversial. Scholars have noted the inconsistencies between operation and capital funding. Deferred payments can result in construction of larger and more elaborate facilities than are needed. Bonding may put the entire burden of school construction costs on payers of property

tax, as opposed to all citizens. Bonding can also get complicated in school districts that require frequent bond issues of varying amounts with varying interest rates. School districts try to keep total interest and principal payments at a stable rate over time, which requires the assistance of financial experts if the districts do not have their own. Brimley, Verstegen, & Garfield (2012) argued that it is a false economy to indebt school districts for long periods of time, with excessive interest costs, adding, "It is paradoxical to provide adequate funds for current expenditures for all districts and then deny some of them good educational programs because low assessed valuations and state-imposed limitations on debt-service maximums limit their fiscal ability to provide satisfactory facilities" (p. 258). Sielke (2001) agreed, stating "Since most states impose debt limits, many local school districts are limited to a fixed percentage of the total property wealth, which can limit the size and standards for infrastructure projects" (p. 657).

Some states have been able to successfully implement pay-as-you-go systems for public educational facilities, which pays for facilities construction month by month as it is occurring. Many states have called for alternatives to traditional debt financing. "In response to court decisions and to meet the demand for new and updated buildings, state legislatures have enacted a variety of programs" (Brimley, Verstegen, & Garfield, 2012, p. 263). Pay-as-you-go financing, while an ideal method, is typically used only in large, wealthy school districts. In some cases, the local board simply assesses a tax levy to cover costs during construction, with no need for interest, bond attorneys, and election costs. Some school districts have been able to use a capital reserve fund, used for the accumulation of tax funds to be held in reserve for future building needs. This type of fund is practiced in a few states and illegal in others.

Debt assistance

Some states assist school districts with paying their debt, once incurred. States can provide equalizing grants for projects or only for debt service (as was the case for six states in 1998-99) (Sielke, 2001). However, the extent to which these programs increase equity depends on whether debt assistance is tied to local wealth and ability to pay.

Credit enhancements

Another issue with bonds has to do with credit ratings. School districts must obtain credit ratings for their bonds, and those with lower credit ratings pay higher interest costs for their debt, thus limiting the dollar value they can raise for construction and modernization. As a result, the system of credit ratings inequitably impacts districts with blemished financial pasts. This is not a new issue. As Burrup, Brimley, & Garfield explained in 1988, "The long-term bonding debts incurred by taxpayers in less wealthy districts are often considerably higher than in wealthier districts because of the more favorable interest rates obtainable on bond issues in the latter" (p. 357). To address this issue, some states allow school districts to use the state's credit rating when issuing debt. This policy assists low wealth districts. Debt limitations also affect school districts' abilities to issue bonds. In order to facilitate local construction of educational facilities, some states have liberalized debt limitations (Burrup, Brimley, & Garfield, 1988).

Further research on taxation, state spending, and debt policies influencing educational facilities will further allow scholars to evaluate the overall equity of investment in educational facilities.

Methodology

The design of this study is based on the hypothesis that there are multiple pathways states can take to expand their support for and investment in equitable facilities construction and maintenance. While the overall dollar amount that states invest in educational facilities is of critical importance, other factors also contribute to the resulting quality and equity of school facilities as well and merit study. To determine the variety of factors that contributes to state investment in facilities as well as how to move states toward increased investment in equitable school buildings and grounds, this study was conducted in phases.

In the first phase, addressing the first research question, *What factors contribute to expanded state investment in equitable public school facilities?*, I conducted a literature review of existing research on educational facilities and interviewed 17 school finance and facilities experts, including researchers, lawyers, consultants, practitioners, and state level staffers. Through these interviews, I engaged with respondents to define what it means for a state to have equitable facilities as well as to help establish a list of factors that contribute to equitable state investment in school facilities construction and maintenance. In addition to considering the dollar amounts states contribute to local school district facilities construction and maintenance, I also asked respondents about the nuances of state facilities programs, as well as other social, political, and economic factors that affect equitable facilities investment.

I then synthesized the literature and interview data to develop an Equity Investment Typology that categorizes facilities investment factors in the following categories: state spending, taxation, and public debt. The goal of this typological organization is to demonstrate visually not only the primary policies, programs, and practices related to educational facilities, but also to clarify the extent to which policies further equitable investment in facilities.

In the second phase of the study, I conducted case studies of five states' facilities programs to analyze how individual states have expanded their support for traditional public school facilities construction and maintenance in varying ways. Data collection included document analysis, interviews, and surveys. In particular, for each case study state, I reviewed state websites and policy documents to collect data on the state policies, programs, and practices listed in the typology. I also conducted between four and 10 interviews in each state with key policymakers and stakeholders involved in the school facilities industry. Overall, I conducted 44 interviews for this study, ranging between 30 minutes to 90 minutes. In addition, I sent a survey of facilities practices to each state, adapted from the 21st Century School Fund's 2010 State Level School Facility Administration and Financing Survey (see Appendix D). Survey data corresponded with the factors in the Equity Investment Typology. I selected the five case study states purposively, ensuring that states differed in the ways in which they invest in their school facilities. In addition, I based case study selection on the following criteria:

- Geographic representation
- Political party affiliation (Governor, State Senate, and State House of Representatives)
- Factors from research literature: (Filardo, Cheng, Allen, Bar, & Ulsoy, 2010)

  - Average annual spent per student (capital spending)
  - Rank: Average annual spent per student (capital spending)
  - State percent share of capital spending
  - Rank: State percent share
  - Public inventory available
  - Facilities plan
  - Facilities standards
  - State facility entity
  - State staff (number of staff)
  - Technical assistance
  - Facilities court case
  - Funds charters
  - Student population
- Factors from research literature: (Duncombe & Wang, 2009)
  - Type of building aid program

Based on these criteria, I selected Texas, Wyoming, New Jersey, Massachusetts, and Ohio as the five case study states. (See Appendix A for the full case study selection matrix for individual state data). Case study states do not necessarily represent states that are the "gold standard" for investment in educational facilities. In fact, such states do not exist. Instead, each state was selected, at least in part, due to the progress it has made toward equity in one or more aspects of its facilities program.

In the third phase of the study, addressing the second research question, *How can those factors be leveraged to encourage states that make minimal investments to expand their support for facilities funding?*, I applied the typology to the five case study states and discussed best practices in the three typology categories: state spending, taxation, and public debt. I included additional best practices that surfaced throughout data collection, but did not necessarily fit neatly in one of the three categories.

Data analysis was an iterative process. I saved and coded policy documents and interview notes inductively and deductively (Miles, Huberman, & Saldaña, 2014), concentrating on common themes as well as noteworthy outliers. I listened to interview recordings,[4] particularly when notes were unclear. Overall, analysis highlighted how states with various constraints and policy preferences have taken different policy pathways to expand their investment in educational facilities and maintenance.

Limitations

Rather than explain how to best spend facilities dollars once they are acquired, this study addresses the policies that affect whether and to what extent states invest in educational facilities in the first place. In addition, this research examines factors that the state can spend money on that save local school district resources, such as training and technical assistance. For those looking for facilities specifications and school construction information, I would point them to the ample research describing best practices for architectural and siting standards for healthy, safe educational facilities.[5] Areas for future research also include studies more thoroughly disentangling funding for new construction, renovation, modernization,

[4] *Three of the 44 interview respondents declined to be interviewed. For this data, I relied on handwritten notes only.*

[5] *See, for example, Healthy Schools Network. (2016). Towards healthy schools: Reducing risks to children. Albany, New York.*

and maintenance and operations. Given the lack of uniform data on state spending for these categories, the findings included here address these categories separately when possible, but the discussion of these categories is not consistent in each state. Finally, only three of the five states returned their surveys, and the returned surveys were not completed in their entirety. Therefore, survey responses were included in the narrative to supplement other data analysis, though the survey analysis was not consistent across states.

Findings from Phase 1: Equity Investment Typology

The first phase of the study addressed the research question: *What factors contribute to expanded state investment in equitable public school facilities?* Table 2 summarizes the findings in an Equity Investment Typology, which categorizes factors that contribute to expanded state investment in equitable public school facilities based on the extent to which they promote equitable investment. Factors are broken down into three categories: state spending, taxation, and public debt. In each of the three categories, I included the most highly documented and cited factors (specifically, the policies, programs, and practices) from the first phase of data collection. The typology includes descriptions of the range of each policy, ranging from "low" investment in equity to "moderate" to "high." For example, for the factor "state share," I included descriptions ranging from less than 25 percent state share (categorized as low), to 25 percent to 50 percent state share (categorized as moderate), to greater than 50 percent state share (categorized as high). The criteria for "low," "moderate," and "high," were based on the extent to which the factor promotes equitable investment in educational facilities, as determined by data collected in the first phase of the project. "Low," "moderate," and "high," distinctions were also determined relative to one another on a spectrum.

Table 2: Equity Investment Typology

	Low	Moderate	High
State Spending/Aid Policies			
Aid formula/ funding program(s)	Aid formula/funding programs do not consider equity	Aid distributed based on one or two relevant factors	Aid distributed based on comprehensive set of factors, including local ability to pay and facilities need
State share	Less than 25 percent state share	25 percent to 50 percent state share	Greater than 50 percent state share
Adequacy (FY1994-2013 (2014$) annual avg. school-construction capital outlay per 2013 student)	Less than $950 per student	Between $950-$1,200 per student	Greater than $1,200 per student
Technical assistance	State provides little to no technical assistance	State provides some technical assistance for some districts	State provides in depth-technical assistance for all districts
Stability	Revenue sources are inconsistent from year to year	Revenue sources are somewhat stable	Revenue sources are predictable and guaranteed year after year
Taxation Policies (Sources of Funding)			
Tax Caps/Limits	Low tax caps that prevent districts with facilities needs from issuing debt to	High tax caps that typically allow districts to issue debt when necessary	Legislature and local districts have unlimited taxation power to fund

	fund facilities		schools
Diversity of revenue sources	Vast majority of funding comes from one source, such as local property taxes	Funding for facilities comes from two sources	Funding for facilities comes from a variety of sources
Statewide vs. local tax collection	Taxes are collected locally, with little or no redistribution	Taxes are collected both statewide and locally	Taxes for facilities are collected statewide
Public Debt Policies			
Credit enhancements	Districts cannot use state's credit rating		Districts can use state's credit rating
Debt payment assistance programs	State has no programs specifically structured to help districts pay their debt	State has small programs to help school districts pay their debt	State has comprehensive programs to help school districts pay their debt
Debt vs. pay-as-you-go	Heavily reliant on debt	Mix of debt and pay-as-you-go	Heavily reliant on pay-as-you-go system

Findings from Phase 2: State Case Studies
Case Study State #1 Analysis: Texas

Overview of State School Facilities Investment Over Time

The state of Texas has experienced rapid population growth and resultant student enrollment increases in the past couple decades. Between the 1993-94 school year and the 2012-13 school year, enrollment increased from 3.6 million to 4.9 million students, an enrollment increase of 26 percent (Filardo, 2016). Given the rapid increase, school districts have had to build and renovate schools to combat overcrowding. In 2013, there were 8,731 schools in the state, though more are being built every year. The State of Our School report found that, after California, Texas has the highest 10-year estimate for new school construction, FY 2012-24, at $13.83 billion (Filardo, 2016, p. 25).

State and local levels have both invested in educational facilities in the State of Texas over the last 20 years. According to the State of Our Schools Report's 2016 analysis of U.S. Census of Governments F-33 Fiscal Survey data[6], state and local districts in Texas have invested $131.2 billion (in 2014 dollars) in capital outlay for educational facilities from FY 1994-2013, of which $107.8 billion was invested in school construction (Filardo, 2016). This amounts to $22,010 per student or $1,101 per student per year, and $179 per gross square foot, which is high relative to other states:

> Across fiscal years 1994–2013, three states met or exceeded the minimum spending standard for capital construction investments. The three states with the highest investment in capital construction compared with the standard were Texas (110 percent), Georgia (103 percent), and Florida (101 percent)...In most cases, states with high capital construction spending compared to the standard reach or exceed the standard because they build new schools to respond to enrollment growth. However, these states will need to continue to spend at the same levels to take care of what they have built. (Filardo, 2016, p. 27)

However, the share of facilities investment coming from state versus local sources is low. According to the report, Texas' state share of total capital outlay was only 9 percent ($12.21 billion), over the 1992-93 school year to the 2012-13 school year, compared with a national average of 18 percent (Filardo, 2016). That amount has fluctuated over time. A 2010 analysis by the 21st Century School Fund found that Texas "paid 12 percent of the total capital outlay from 2005 and 2008, with local school districts paying the

[6] *Source: Filardo. (2016). State of Our Schools Report, 2016 analysis of U.S. Census of Governments F-33 Fiscal Surveys, as collected by the National Center for Education Statistics*

balance. This level of state support for school facilities was in the 2nd lowest quartile of all states" (Filardo, Cheng, Allen, Bar, & Ulsoy, 2010).

With regard to facilities maintenance and operations (M&O) spending, state and local combined spending in Texas is more than most states. Texas expends approximately 10 percent of its total educational operating budget on facilities maintenance and operations, which amounts to approximately $836 per 2013 student per year. "Across fiscal years 2011-13, seven states met or exceeded the minimum spending standard for M&O of their facilities. The highest-spending states were Texas (125 percent), New Jersey (117 percent), and Alaska (114 percent)" (Filardo, 2016, p. 26).

State level facility administration and oversight

Relative to other states, Texas does not provide much administrative support or oversight of public educational facilities, nor does it have a state facility entity apart from the Texas Education Agency (TEA). Texas has not conducted a statewide inventory of facilities since 1991, nor does the state collect data on building condition, project costs, operations, utilities, maintenance, or design (Texas survey results, 2016). The TEA's 1992 report on the inventory found that the cost of the state's unmet need was between $2 billion and $3 billion, and the report noted disparities between poor and wealthy districts (TEA, 1992). In a survey conducted for a 2010 21st Century School Fund study of state capital spending on PK-12 school facilities across the 50 states, TEA reported that it had four staff members dedicated to the state educational facilities capital program. On the more recent survey conducted for this study, TEA had only 2.25 full time equivalent staff working on public school facilities (Texas survey results, 2016). The 2010 study found that Texas does not have a facilities plan for schools, though TEA does develop and publish facilities standards with the advice of facilities experts. State staff interviewed for this report acknowledged that state standards are essentially suggested guidelines given the lack of an inventory and limited oversight (TEA staff interview, May 25, 2016). Staff also confirmed that educational facilities remain the primary responsibility of local school districts given the strong culture of local control in the state (TEA staff interview, May 25, 2016).

Relevant litigation and legislative history

Though the Gilmer-Aikin Act in 1949 established the modern Texas school finance system, local school districts retained primary responsibility for the construction and modernization of educational facilities (Clark, 2001).[7] In 1973, a TEE/IDRA newsletter advocated for a state role for facilities finance, pointing out that "the costs of constructing school facilities is increasing at a faster rate than the taxing ability of school districts" and "many students in Texas are attending schools without adequate facilities for housing them. During the past few years, some school districts have been forced into split or double sessions in order to house all their students" (Cárdenas, 1997, p. 98). Cárdenas (1997) elaborated:

> The failure of the State of Texas to provide assistance in the construction and equipping of school facilities does not create an equal burden on all school districts. School districts with high tax bases have been able to provide adequate facilities with a minimum of tax effort. On the other hand, school districts with low tax bases have been unable to provide even basic facilities, regardless of the effort they have made in the past" (p. 98).

[7] *For a more complete history of Texas school facilities finance, see Clark (2001).*

The description of inequities between school districts sounds similar to today. IDRA's 1976 analysis of school facilities funding inequities found that the least wealthy 15 percent of school districts in the state had an average effective tax rate for facilities debt that was three times the tax rate of the wealthiest districts (Cárdenas, 1997). IDRA supported legislation in 1979 for facilities funding, though it died in committee.

The Texas Legislature's actions on school facilities finance have been intertwined with the state's school finance litigation history. Though Texas has not had a court case dedicated solely to educational facilities, since the late-1980s, Texas' six rounds of school finance litigation have kept the issue of education funding in the public eye, and educational facilities have been included in many of the cases[8] (see Table 3 for a list of Texas school finance court decisions and legislative responses). While the state has long defended the current system as constitutional, plaintiffs have claimed that the system is inadequate, inefficient, and inequitable over the years. IDRA's analysis at the time of the first round of school finance litigation found no improvement in educational facilities equity in Texas in the years leading up to *Edgewood I*, in which the court found:

> Efficiency does not require a per capita distribution, but it also does not allow concentration of resources in property-rich districts that are taxing low when property-poor districts that are taxing high cannot generate sufficient revenues to meet even minimum standards. There must be a direct and close correlation between a district's tax effort and the educational resources available to it; in other words, districts must have substantially equal access to similar revenues per pupil at similar levels of tax effort. [Edgewood Ind. Sch. Dist. v. Kirby, 777 S.W.2d 391 (1989). *Id* at 398.] (Willet, 2016, p. 78-79)

Table 3: Texas school finance court decisions and legislative responses

Court Decision	Legislative Response
Edgewood I (1989)	Senate Bill 1 (1990)
Edgewood II (1991)	Senate Bill 351 (1991)
Edgewood III (1992)	Proposition I (1993) – voted down
	Senate Bill 7 (1993)
Edgewood IV (1995)	System Found Constitutional
West Orange-Cove I (2003)	None
West Orange-Cove II (2005)	House Bill 1 (2006)

Note: From "Texas Supreme Court Decision," by Justice Willet, 2016. West Orange-Cove I (2003) was on a procedural issue.

Cárdenas sent a position paper in 1989 to state legislators in hopes that it would impact legislation after the *Edgewood I* decision:

[8] *For a more complete history of Texas school finance litigation and reform, see Cárdenas (1997) and Ogletree & Robinson (Eds.). (2015).*

> The most inequitable aspect of the Texas system of school finance stems from the failure of the state to contribute any money for school facilities. In the past, the entire cost of facilities, including sites, buildings, furniture and equipment has been paid from local funds. The disparities in local wealth among the school districts in the state has led to proportionate disparities in tax effort to provide facilities, disparities in the quantity and quality of facilities available, and in many cases, both. (Cárdenas, 1997, p. 305)

However, SB 1 (1990) did not revise the system for funding educational facilities. Cárdenas (1997) wrote, "The absence of funding for capital outlay and debt service retirement in SB 1 was a big disappointment" (p. 305). Cárdenas (1997) lamented that while "facilities funding did constitute an important aspect of the *Edgewood* litigation in the state courts, even after the apparent victory in this litigation, little state facilities funding is available to low wealth districts in the state" (p. 101).

When the Texas Legislature created programs in 1997 and 1999 to provide state funding for educational facilities (described below), Texas was one of the 20 states in the country that did not provide any state funds for educational facilities. While the current programs have been an improvement in state funding over the complete lack of investment in educational facilities, equity advocates have routinely pointed to deficiencies in the facilities funding programs over the years. Even after Texas began funding educational facilities, the trial court in *West Orange-Cove II* "found facilities funding both inequitable and inadequate for low-wealth school districts" citing a robust record of deplorable facilities and high debt in low-wealth school districts across Texas (Hinojosa, 2015, p. 31). The Texas Supreme Court acknowledged the ample evidence that facilities were inadequate "but then turned to new legal standards proffered by the state defendants in their briefing to the court," holding that the evidence in the record failed to meet the new standard (Hinojosa, 2015, p. 33). As a result, educational facilities were again involved in the most recent round of school finance litigation.

Unfortunately, the 2016 Texas Supreme Court school finance outcome came as a surprise to many given the 2014 district court findings, which were clear on the ways in which Texas' school finance system is inadequate and inefficient:

> The Texas school finance system effectively imposes a state property tax in violation of Article VIII, Section 1-e of the Texas Constitution because school districts do not have meaningful discretion over the levy, assessment, and disbursement of local property taxes. The court further finds that the Legislature has failed to meet its constitutional duty to suitably provide for Texas public schools because the school finance system is structured, operated, and funded so that it cannot provide a constitutionally adequate education for all Texas schoolchildren...all Texas students do not have substantially equal access to the educational funds necessary to accomplish a general diffusion of knowledge." (*Texas Taxpayer & Student Fairness Coalition, et al. v. Michael Williams, et al.*, 2014)

However, the May 2016 Texas Supreme Court outcome upheld the system, finding that it "meets minimum constitutional requirements" (Willet, 2016). Justice Willet's Texas Supreme Court decision acknowledged that "Texas' more than 5 million school children deserve better than serial litigation over an increasingly Daedalean "system." They deserve transformational, top-to-bottom reforms that amount to more than Band-Aid on top of Band-Aid. They deserve a revamped, nonsclerotic system fit for the 21st

century" (Willet, 2016). Whether it was the court's desire to not micromanage the Legislature, or whether they wanted to be removed from the debate (Hinojosa, 2016), the court's motives superseded its desire to address plaintiff's well-substantiated claims.

With regard to facilities, during the 2014 trial, plaintiffs pointed out that the state's system of *recapture*—the state's answer to previous litigation, which allows the state to collect and redistribute billions of dollars of local property wealth from wealthy districts' maintenance and operations (M&O)[9] taxes from around the state to districts with lower property wealth—does not apply. Revenue collected from local property taxes for educational facilities, called interest and sinking (I&S) taxes, are not recaptured or redistributed amongst school districts. Therefore, spending on educational facilities in Texas is more dependent on local wealth than spending on operations. However, in the June 2016 Texas Supreme Court decision, Justice Willet wrote the following:

> The trial court also made findings that property-poor districts levy higher I&S taxes but raise less revenue for facilities. The system for facilities funding is essentially the same as the one that existed when we decided WOC II. There we held:
>
> The State defendants argue that disparities among districts in available facilities are not proof of inefficiency absent evidence that the districts' needs are similar. They contend that facilities needs vary widely depending on the size and location of schools, construction expenses, and other variables. We agree that such evidence is necessary and lacking. The State defendants also argue that to prove constitutional inefficiency the intervenors must offer evidence of an inability to provide for a general diffusion of knowledge without additional facilities and that they have failed to do so. Again, we agree. Efficiency requires only substantially equal access to revenue for facilities necessary for an adequate system. 271(176 S.W.3d at 792)

Unfortunately, Willet's decision did not explain that a primary reason evidence is lacking is that the State of Texas has failed to conduct a statewide inventory of educational facilities since 1991, despite calls from practitioners, researchers, and policymakers alike for more current data on the state's school housing stock. Given the outcomes of the latest school finance litigation, advocates of greater adequacy and equity in school funding must now turn their attention to the conservative Texas Legislature, which, without a judicial mandate forcing their hand, has arguably little incentive to substantially revise the system of school finance.

[9] *"M&O" is used in Texas to refer to taxes for educational operations (not including facilities, which are covered by I&S taxes). The "M&O" acronym is also used in the facilities literature to refer to maintenance and operations spending for facilities, which are a fraction of the overall operational budgets of districts.*

Factors Contributing to Expanded State Investment in Equitable Public School Facilities

Taxation mechanisms (sources of funding)

While other states have diversified their funding for educational facilities, Texas has no dedicated special taxes or sources of funding for educational facilities. In addition, Article VIII, section 1-e of the Texas Constitution prohibits a statewide property tax. Therefore, the funding for state aid for facilities in Texas is contributed from the state's general revenues, which are collected primarily through a combination of sales taxes. Legislative appropriations for school facilities programs (described below) are subject to fluctuations and are therefore unstable.

Local level PK-12 sources of funding. The vast majority of funding for educational facilities is generated locally. School districts in Texas are fiscally independent and have the authority to issue bonds to raise funds for capital outlay (for construction and renovation) with a simple majority (Texas survey results, 2016). School districts then levy a tax called the *interest and sinking* tax (I&S) at a level that will allow it to pay the annual debt-service on bonds. After obtaining voter approval, school districts must get approval from the Texas Bond Review Board, which "is responsible for the approval of all state debt issues and lease purchases with an initial principal amount of greater than $250,000 or a term of longer than five years" (Texas Bond Review Board, 2016) to ensure that the district's tax rate will not exceed 50 pennies per $100 of taxable property to be able to pay the debt service. This "50-cent debt test" was established by the Texas Legislature in 1991 as part of Senate Bill 351, though some now argue that the debt limit constrains school districts with rapidly increasing enrollment (Fast Growth Schools Coalition, 2016b). According to the survey, allowable sources of funding for school districts for facilities in Texas include: local property taxes, public private partnerships, county sales tax, payments in lieu of taxes, Qualified Zone Academy Bonds, the sale or lease of property, tax increment financing, and income taxes (Texas survey results, 2016), though school districts rely primarily on local property taxes.

Effect of taxation mechanisms on equity. There are a couple main ways in which Texas' taxation policies contribute to the state's inequitable funding for educational facilities. First, because funding for educational facilities in Texas is derived primarily from highly variable local property wealth and not subject to recapture, the amount local districts can individually raise varies substantially. Second, the State of Texas has historically been tax-averse and collects less tax revenue per capita than many other states and less than any other case study state (Lee, Pome, Beleacov, Pyon, & Park, 2015), which affects the state's ability to spend on programs.

Distribution of state facility funding and aid

Budgets for capital outlay fluctuate from year to year. When asked on the survey to provide the total amounts budgeted by school districts for their total capital outlay (including school construction capital outlay, land and existing structures, and instructional equipment and other), if available, TEA provided the data in Table 4, shown below. However, the TEA staffer filling out the survey did not provide data on the state share of the total capital outlay, nor did they specify sources of funds.

Table 4: Total Budgeted School Facilities Capital Outlay by Year	
Fiscal Year	**Total Capital Outlay (U.S. Census of Governments)**
FY2011	$6 Billion
FY2012	$5.1 Billion
FY2013	$5 Billion
FY2014	$5.3 Billion
FY2015	$6.2 Billion
FY2016	not reported

State aid programs for facilities. Texas has two primary programs for providing state aid for facilities construction and maintenance, the Instructional Facilities Allotment (IFA) and the Existing Debt Allotment (EDA). According to the survey, "The IFA program provides funding to school districts that assists with debt service payments on qualifying bonds and lease-purchase agreements" (Texas survey results, 2016). School districts must apply for funding under the IFA program, which guarantees that districts will be able to generate $35 per penny of tax effort per student. School districts must raise their local share through a local property tax, and if that amount is less than the guaranteed $35 per penny of tax effort per student, the state will contribute the remainder for school districts that are funded under the program. However, there are three caveats that limit the program's scope and coverage. First, school districts receive funding based on a statutory formula based on their property wealth per student, with low-wealth districts receiving priority. "Statute also provides for ranking enhancements if a school district has a high rate of enrollment growth, has no outstanding debt, or has been denied an award in a prior funding cycle" (Legislative Budget Board, 2016). As the survey results elaborated: "TEA State Funding Division ranks all eligible applications in order of property wealth per student, which is based on average daily attendance (ADA). State assistance is awarded beginning with those eligible districts that have the lowest property wealth and continues until all available funds are used" (Texas survey results, 2016). Therefore, not all districts that apply are guaranteed funding. Second, the state does not appropriate funding to the program in each legislative session and did not fund the program in 2011 or 2013. Additionally, no new school districts received funding in 2016. As the survey indicated, "0 percent in FY 2016 because there were no new Instructional Facility Allotment rounds were funded in FY 2016" (Texas survey results, 2016). However, in 2016 "440 school districts have debt service covered by previously issued IFA awards" (Legislative Budget Board, 2016). Third, "Total entitlement award amounts per district per biennium are limited to the greater of $250 per student or $100,000" (Legislative Budget Board, 2014, p. 1). There is no appeals process for state funding decisions (Texas survey results, 2016). For the 2016-17 biennium, IFA entitlement is projected to be $1.5 billion with $0.6 billion coming from state aid and with a local share of $0.9 billion (Legislative Budget Board, 2016).

The Existing Debt Allotment (EDA) program was created in 1999 "to provide state support for debt service costs for bonds issued by school districts with the approval of local voters" (Legislative Budget Board, 2014, p. 2). Like the IFA program, it also guarantees a yield of $35 per student. However, the program only covers the first 29 pennies of tax effort. After that, pennies are not equalized under EDA. School districts must also begin making bond payments before they qualify for debt assistance under EDA. School districts do not have to apply for the EDA program and automatically qualify for assistance

for debt service. "Projected entitlement for the EDA program for the 2016–17 biennium is $6.7 billion, consisting of $0.6 billion in state aid with a local share of $6.1 billion" (Legislative Budget Board, 2016). According to the survey results, "67.3 percent of the school districts had eligible debt and 32.9 percent of the school districts received funds in FY 2016" (Texas survey results, 2016).

It is important to distinguish between state and local shares. The state's numbers include districts with qualifying debt service in the program, though not all qualifying districts receive state aid. "Eighty-four percent of school districts have qualifying debt service for one or both FSP Facilities programs during the 2016–17 biennium. About half of districts with qualifying debt service receive state aid at the programs' current $35 yield" (Legislative Budget Board, 2016, p. 1). State aid funds in Texas can be used for instructional purposes for "planning, design/engineering, construction, land acquisition, environmental assessment and abatement, furniture fixtures and equipment, interest and debt service" (Filardo, Cheng, Allen, Bar, & Ulsoy, 2010, p. 60). Texas does not have any aid programs specifically for facilities maintenance (Texas survey results, 2016).

Effect of state aid programs on equity. Both the EDA and IFA programs were designed as tax rate equalization programs to address differences in property wealth or the fact that some property poor school districts can raise less money through facilities tax collections despite greater taxing effort. However, the programs have never been sufficient to make facilities spending equitable. In fact, evidence revealed that capital outlay equity in the state actually decreased in the first few years after the EDA and IFA programs were implemented (Plummer, 2006). Furthermore, over the years, the programs have not been adjusted for inflation. The programs fund only districts below a certain property wealth threshold, and as property values in the state have increased over time, a smaller proportion of districts have qualified for state assistance. As the Legislative Budget Board Issue Brief (2014) explained:

> Overall entitlement for the programs has increased, with a larger portion of the increase in the form of local share due to the guarantee remaining constant at the $35 level. As property values increase, a smaller proportion of districts have local yields below this guarantee level. (p. 2)

The Equity Center's (2015) analysis found that in 1999, "The $35 per ADA per penny of I&S tax effort represented an equalized funding level that included about 91 percent of the students in the state," though today, fewer than 45 percent of students attend school districts that benefit from equalized I&S funding (p. 10). In order to provide state aid to 91 percent of Texas students, the guaranteed yield would now be approximately $67 (Equity Center, 2015). Because only the first 29 pennies are equalized (guaranteeing a yield of $35 per student per penny of tax effort), districts that cannot meet their needs under that level, including fast growth districts, end up with higher tax rates. Due to the Legislature's failure to raise the facilities equalization cap over time, the state's share of facilities funding has decreased from 30 percent in 1999 to less than 10 percent (Equity Center, 2015).

Analyzing TEA data on the 837 school districts receiving state aid for facilities in 2016 reveals that, similar to 40 years ago, property poor districts end up with lower total facilities revenue per student per penny of tax effort than property wealthy districts (see Table 5). In 2016, the lowest quintile of school districts by property wealth taxed themselves an average of 23 pennies, resulting in $45.40 of total I&S revenue per student per penny of tax effort. However, the fourth quintile of school districts were able to tax themselves at approximately the same rate (22 pennies) and raise $61.74 per student per penny of tax effort. The

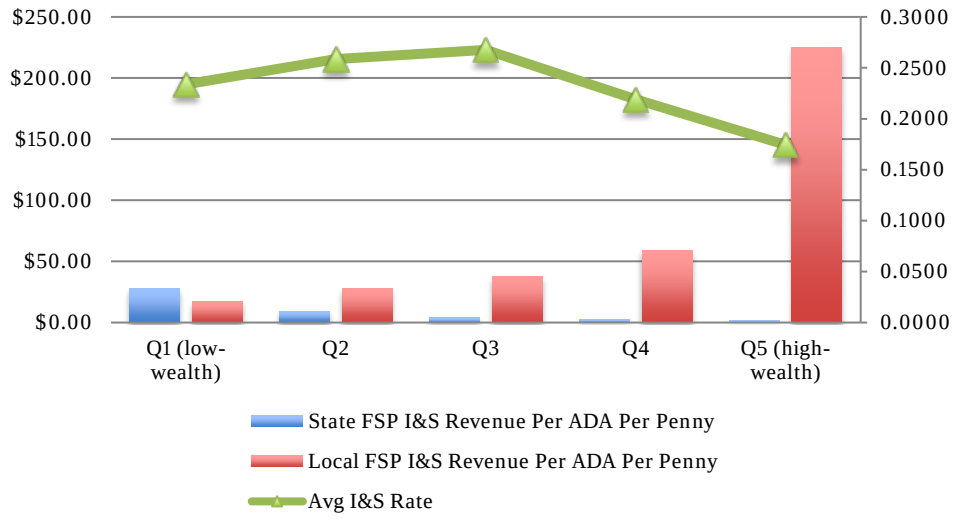
inequity is most evident when considering that the wealthiest quintile of school districts was able to raise an average of $226.35 per student per penny of tax effort while exerting less tax effort (17 pennies) on average.

Table 5: Texas 2016 State and Local I&S Revenue per ADA per Penny by Quintile of District Property Wealth per ADA

Property Wealth per Student by Quintile	Tax (I&S) Rate	State I&S Revenue per ADA per Penny	Local I&S Revenue per ADA per Penny	Total I&S Revenue per ADA per Penny	State Percent
Q1 (low-wealth)	0.2337	$27.92	$17.49	$45.40	54%
Q2	0.2588	$9.44	$28.14	$37.58	23%
Q3	0.2677	$3.88	$37.57	$41.45	6%
Q4	0.2191	$2.55	$59.19	$61.74	3%
Q5 (high-wealth)	0.1744	$1.31	$225.04	$226.35	1%

Graph 1 shows that while lower wealth districts benefited more from state aid, the level of state aid did not make up for the inequitable abilities of school districts to raise funds based on local property wealth. Analysis also reveals that mid-wealth school districts (quintile 3) taxed themselves the highest on average in 2016. This is likely due to the fact that these districts received limited state aid ($3.88 per student per penny) and were also limited in their ability to raise sufficient I&S taxes based on their local property wealth ($37.57 per student per penny). These findings are consistent with Plummer's (2006) earlier analysis of Texas school districts facilities revenues.

Graph 1: State and Local I&S Revenue Per ADA Per Penny by Quintile of District Property Wealth Per ADA



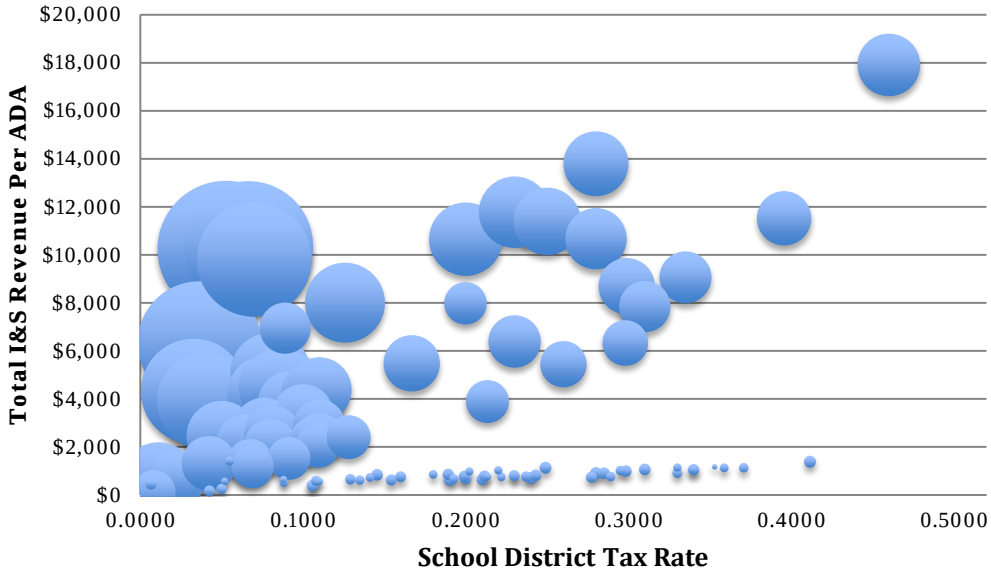
Note: Graph includes only school districts that tax themselves for facilities. Districts that fund facilities from operation revenues and consequently have no bonded indebtedness are not included in this analysis.

Table 5: Texas 2016 State and Local I&S Revenue Per ADA Per Penny by Quintile of District Property Wealth Per ADA

	Tax (Interest & Sinking) Rate	Mean I&S Revenue Per ADA	Median I&S Revenue Per ADA	Mean Property Wealth Per ADA	Median Property Wealth Per ADA
50 Wealthiest School Districts	0.1397	$5,541	$4,355	$5,003,658	$3,503,174
50 Least Wealthy School Districts	0.2081	$802	$774	$110,020	$116,719

A closer analysis of the approximately top and bottom 5 percent of Texas school districts based on property wealth revealed that the 50 wealthiest school districts were generating an average of $5,541 per student with a tax rate of 14 pennies, while the 50 least wealthy districts generated an average of $802 per student while taxing themselves over 6 pennies more on average (see Table 6). Graph 2 depicts the extent to which average district wealth per student (size of bubble) allowed wealthier districts to rise above poorer districts exerting similar tax effort in terms of total facilities revenue per student.

Graph 2: 50 Wealthiest and 50 Least Wealthy Districts: Total Facilities Revenue per Student, Wealth, and Tax Rates



Public debt policies

While some state aid programs for facilities are project-based or block grants, Texas' state aid through the IFA and EDA programs is designed to provide debt assistance to school districts. The 21st Century School Fund's 2010 analysis of 50 state facilities investment found that "school districts in Texas report outstanding long-term debt for K-12 public school systems of $54 billion ($54,370,654,000) at the end of 2008. The 2008 interest payments for this long-term indebtedness were $2.4 billion" (Filardo, Cheng, Allen, Bar, & Ulsoy, 2010, p. 60). The State of Our Schools report found, "The average amount of local district facilities long-term debt also varies greatly by state and district" (Filardo, 2016, p. 19), and that Texas had the third highest amount of debt per student at $13,297. Authors reported, "In general, states

in which local debt is highest are the ones that did not have a state program to help local districts pay for their facilities capital investments" (Filardo, 2016, p. 19).

While Texas does in fact have two programs to assist local districts in paying their debt, state facilities experts in Texas interviewed for this study agreed that Texas districts carry high debt for two reasons. First, many school districts experienced pent-up need for facilities construction and maintenance prior to the creation of IDA and EDA. When the programs were created, facilities programs in Texas entered into a period of high activity. Since districts can hold facilities debt for multiple decades, many school districts in Texas are still repaying the debt from the period of high activity, which results in higher overall average debt per student. Second, Texas has experienced higher enrollment growth than most states, resulting in the need for more facilities construction, and thus higher debt, than other states. However, this high debt per student also reflects the fact that Texas relies substantially on debt to fund facilities, rather than, for example, a pay-as-you-go system.

School districts in Texas benefit from the Bond Guarantee Program (BGP), which allows school districts to apply to use the state's credit rating. The BGP uses the Permanent School Fund balance, which has received AAA ratings. As a result, school districts do not have to pay separately for private bond insurance (Texas Education Agency, 2016a). In order for school districts to be accepted, they must be financially sound.

Effect of public debt policies on equity. Texas' debt policies are particularly important because the state's educational facilities are primarily financed using long-term debt, as opposed to a pay-as-you-go system used in some states. Due to the fact that Texas school districts carry relatively large debt balances compared with other states, the state should pay particular attention to helping school districts pay off existing debt. While the IFA and EDA programs are targeted for this purpose, the overall amount of funding allocated to those programs is arguably insufficient to relieve many districts' debt burden. The state's Bond Guarantee Program is particularly helpful for lower wealth school districts and those with any histories of financial trouble.

Discussion of Quality, Adequacy, Equity and Reliability of State Facilities Programs

A review of Texas' history of school finance reveals a pattern of a conservative state government pitted against school equity advocates and low-income and minority communities. For decades, underfunded school districts have advocated for more equitable and adequate funding from the state legislature. Educational facilities were included in state funding allocations in 1997 and 1999, though the state's programs for facilities provide limited funding.

With regard to quality, there is no recent measure of public PK-12 educational facilities in Texas. The last statewide inventory was conducted in 1991, and TEA does not keep records on building quality. Therefore, the state cannot and does not fund facilities based on a comprehensive evaluation of current facility needs. Individual districts must keep track of their facilities conditions with little technical assistance from the state.

When considering the adequacy of state aid for educational facilities, the State of Texas provides half of the national average for state share of facilities spending; on average, local school districts are responsible

for funding over 90 percent of facilities needs on their own (Filardo, 2016). Looking at overall levels of combined spending by state and local districts is misleading as Texas is one of the few states with rapid student enrollment growth. Texas school districts have had to build more new schools than districts in most states in addition to maintaining their current facilities stock. Again, because there is no recent inventory of facilities quality, it is difficult to determine whether capital outlay is adequate. However, respondents for this study consistently agreed that many Texas school districts' facilities needs, particularly in low-wealth areas, are greater than available funding levels.

With regard to equity, Texas' system of funding educational facilities has never been equitable due to the fact that school districts' ability to raise money by selling bonds is tied to local property values. As this study and other research has demonstrated, high wealth districts can raise more money for educational facilities than low wealth districts, even if the two communities are taxing themselves the same amount. The IFA and EDA programs do consider property wealth in their allocation formulas—providing more state aid for lower wealth districts—but the overall levels of state aid do not make up for the vast differences in revenues districts can raise locally.

There are three primary reasons educational facilities funding is less than reliable in Texas. First, the system is closely tied to local property values, which can fluctuate with the economy. Second, the legislature has not consistently funded the IFA program in each biennium. Third, not all school districts that are eligible for the IFA program receive funding. School districts are funded in order from lowest property wealth to highest property wealth, and when funding is exhausted, school districts with eligible debt can remain unfunded under this program.

Overall, while the creation of the IFA and EDA programs removed Texas from the category of states that provide zero support for educational facilities, the current state share for educational facilities remains low, relative to the local share that school districts are investing and relative to other case study states, explored below. As the population of Texas continues to grow, both fast-growing school districts and those with aging buildings will need increased state support to in order to provide high-quality, equitable schools for all Texas children.

Case Study State #2 Analysis: Wyoming

Overview of State School Facilities Investment Over Time

The State of Wyoming has invested equitably in educational facilities for its students. According to the State of Our Schools analysis of NCES statistics, Wyoming spent $3.8 billion in capital outlay from FY 1994-2013, or about $28,323 per student.[10] The state's share of total capital outlay was 63 percent (Filardo, 2016). In 2013, the state had 364 public educational facilities and 91,533 students. Over that same time period, Wyoming's maintenance and operations spending as a percent of total education operating expenditures was 10.4 percent, or $1,270 per student. Wyoming's student population decreased by 10 percent from the 1993-94 school year to the 2012-13 school year. According to the Wyoming State Facilities Division (WSFD) (2016b), the student population is 93,303 in the 2016-17 school year. Since 1998, the state has improved 353 campuses, including building 74 new schools and modernizing 35 others (WSFD, 2016b, p. 3).

State level facility administration and oversight

The bureaucratic system for educational facilities follows a clear hierarchy. As of January 2016, the WSFD has 20 full time employees (Wyoming survey results, 2016) and moved under the Wyoming State Construction Department. The SFD reports to the School Facilities Commission, which reports to the Select Committee on School Facilities. The Select Committee is the legislative committee overseeing the SFC and SFD, which "approves the spending of state funds on school facilities projects, and makes recommendations to the Legislature on funding school facilities" (WSFD, 2016b, p. 6). The Legislature appropriates funds, and the Governor proposes the SFD's biannual budget. The Wyoming Department of Education also provides adequate funding for "facilities operation and maintenance as part of the overall education block grant to school districts" (WSFD, 2016b, p. 6).

The School Facilities Commission (SFC) was created in 2002 as an oversight agency through House Bill 0043 as a result of Wyoming's litigation history. Before lawsuits challenged the facilities funding system as inequitable, some school districts were prosperous from coal mining wealth whereas other small rural school districts that were primarily agricultural found it close to impossible to pass a bond issue (State staffer, interview, August 18, 2016). The SFC was formed "to ensure adequate and equitable K-12 educational facilities throughout the state" (WSFD, 2016b) and is comprised of seven voting members appointed by the governor. The SFC's roles include reviewing budget recommendations, developing policies based on statewide adequacy standards, developing cost guidelines, overseeing contracts, and overseeing the relationship between the state and individual school districts (WSFD, 2016a). For example,

[10] *Wyoming estimates its capital funds per student from 1998-2016 at $38,768, (WSFD, 2016b)*

SFC policy 2013-16 states: "Department personnel shall be involved in projects to the extent that they can ensure compliance with requirements, statutes, and policies of the Commission, Legislature and State of Wyoming. A team approach is encouraged to establish a common understanding of which entity bears responsibility over which tasks on any given project. When the department and school district determine and assign project responsibilities, they shall consider the following: (a) Expertise possessed by school district personnel; (b) Past performance of school district with department and state funding; (c) Size and scope of project; (d) School district's expectations; (e) Availability and capacity of department personnel; and (f) Budgetary restrictions" (SFC website, 2016).

This policy is an example of how the state works to ensure that school districts receive the appropriate level of support and that there is a "local role, not control" (State Facilities Division staff, interview, July 22, 2016). If school districts have the internal capacity and expertise to navigate the facilities planning, financing, and construction process, they do not need to hire an owner's representative. However, if the school district lacks the necessary expertise, such as many of the smaller school districts (State Facilities Division staff, interview, September 15, 2016), there is a line item in the budget for the district to hire an owner's representative, funded by the state and using the Commission approved owner's representative contract. The contract limits the fee to 85 percent of 1 percent of the estimated cost of the project (State staffer, interview, September 26, 2016), thus helping to control facilities costs. School district facilities projects are also guided by the Facilities Design Guidelines, a 134-page document including both *standards* that all school districts must follow as well as suggested *guidelines*. The state worked with consultants and architects to develop the design guidelines, which have evolved over time and also help inform budgeting (State Facilities Division staff, interview, July 22, 2016).

The State of Wyoming has invested considerable resources into continually assessing the quality of its educational facilities and currently maintains a database with "standardized information on the condition of every school building in the state" (Picus et al., 2005, p. 72). In 1997, an outside consultant first conducted a statewide assessment of all Wyoming's school facilities, rating them on a scale. The 50 schools with the lowest scores were put on a priority capital improvement list for immediate renovation (Fothergill & Verdery, 2003, p. 15). As Fothergill & Verdery (2003) indicated, "The work on the first 50 schools is expected to be complete by 2004. Once work on the most needy schools is complete, the Wyoming School Facilities Committee will oversee work on all of the buildings on the list moving up the list from the most needy to the least needy" (Fothergill & Verdery, 2003, p. 15). To continually assess the quality of educational facilities, the state hires an outside consultant to conduct evaluations of all state school facilities, resulting in a Facility Condition Index (FCI) that allows the state to prioritize its spending (State Facilities Division staff, interview, July 22, 2016). This FCI score is then used in annual meetings between state project managers and school districts to develop a roadmap for facilities maintenance (including major and routine) and construction. The state's building inventory data is updated every four years, and is publicly available (Wyoming survey results, 2016), and facility conditions are maintained in the Asset Works facility management software (State Facilities Division staff, interview, July 22, 2016).

Relevant litigation history

Wyoming's successful litigation history is a direct result of its state constitutional language, which requires that the state provide a "complete and uniform" public education for all students.[11] "Wyoming

[11] *For a more complete analysis of Wyoming's litigation history, see Sciarra et al., (2006).*

first recognized the state's constitutional duty to ensure adequate and equitable funding for public school facilities in 1980, in *Washakie County School District Number One v. Herschler*" (Fothergill & Verdery, 2003, p. 10). In this case, wealth-base classifications were subject to strict scrutiny. "Only one state other than California has declared wealth a suspect class, as the Wyoming supreme court in *Washakie County School District v. Herschler* invalidated its education finance distribution formula, establishing that no equality could exist until funding was also equal" (Wood & Baker, 2004, p. 142). As Sciarra et al. (2006) explained, "The Wyoming school finance case is also unusual in that all parties agreed that inadequate funding causes serious damage to school districts' ability to deliver a constitutional education to the children of Wyoming... and that capital construction financing cannot be based upon local wealth, but must be based upon the wealth of the state as a whole," and the state observed facilities as part of the "full basket" of a constitutional education (p. 25).

Subsequent *Campbell* lawsuits led to the development of Wyoming's modern educational facilities system. In 1995, in the *State v. Campbell County School District* litigation, the state's school funding system was found unconstitutional. The court held that school facilities were part of the total educational process. In *Campbell II*, in 2001, the court mandated that all facilities "be made safe and efficient," and that the state address buildings based on building condition, giving priority to those most dilapidated (Fothergill & Verdery, 2003, p. 11). As a result of this litigation history, Wyoming's School Facilities Division currently defines adequate school facilities as "buildings and grounds that: (1) Need only routine maintenance to be in good condition; (2) Have enough school building capacity to serve their enrollment; and (3) Are suitable for meeting the Wyoming Department of Education content and performance standards" (WSFD, 2016b, p. 2). The litigation and subsequent policies have established a solid foundation upon which school districts can rely.

Factors Contributing to Expanded State Investment in Equitable Public School Facilities

Taxation mechanisms (sources of funding)

Wyoming is unique from other states with regard to sources of tax revenue. While the states on average draw 41 percent of their revenue from income taxes, Wyoming has no state income tax. Instead, it collects approximately the same share of revenue (39 percent) from "other taxes," including severance taxes from natural resource wealth (U.S. Census of Governments, 2014). The natural abundance of minerals in the state has influenced the funding of educational facilities. After *Campbell I*, the state redesigned public school finance, and in 1998, the Legislature directed "a portion of the Coal Lease Bonus revenues to pay for major capital projects and major maintenance of school facilities for K-12 public school districts" (WSFD, 2016b, p. 5). Since that time, the primary source of funding for school capital construction had come from coal lease bonus revenues, which has allowed the state to operate under a pay-as-you-go model for school facilities. When asked on the survey if Wyoming borrows to raise capital funds, the response indicated no, that "All money comes from coal lease bonuses and mineral taxes to fund all school construction and the department's overhead" (Wyoming survey results, 2016).

However, the state does have other revenue raising capabilities, such as using bonds to raise funds for school construction (Fothergill & Verdery, 2003). A Wyoming Legislative Service Office memorandum (WLSO, November 19, 2015) confirmed, "The Wyoming Supreme Court states that the Legislature wields an 'apparent unlimited power' under the state Constitution in making such further provision by taxation

or otherwise to fund schools" and "the Legislature may take other approaches, or combination of approaches, in exercising its constitutional authority to adequately fund schools" (p. 1-2). In *Campbell II*, it was clarified that the state's constitution "does not prohibit the state from imposing a statewide mill levy taxation level for capital construction, nor does it limit the number of mills that can be levied for such a fund" (WLSO, November 19, 2015, p. 2). In addition, the SFC may issue up to $100 million in revenue bonds for school construction, which are then funded by state mineral royalties and any investment income from the Common School Account (WLSO, November 19, 2015, p. 3).

However, in the last two years, the coal industry has essentially shut down due to federal mandates on the coal industry, or as one staffer put it the "golden goose croaked" (State Facilities Division staff, interview, July 22, 2016). The table below shows the School Capital Construction Account (SCCA) revenue from 2007-08 to 2019-20, indicating that the legislature will have to decide how to replace the coal lease bonus revenue in the near future. The revenue over time has come from the CLB, but also from transfers from the SFP, as well as federal mineral royalties and state royalties (WLSO, November 13, 2015). According to the Legislative Service Office's analysis, the SCCA is projected to have a biennial shortfall of $219 in the 2017-2018 biennium and $177 million in the 2019-2020 biennium (WLSO, November 13, 2015, p. 1). Changes in coal lease bonus program underscore the recommendation that school finance experts have long made: education finance needs to depend on diverse sources of revenue (Brimley, Verstegen, & Garfield, 2012).

Table 7: SCCA Revenue ($ Millions), Net Transfers, by 2007-08 to Estimated by 2019-20

					Estimated		
Revenue Category	**2007-08**	**2009-10**	**2011-12**	**2013-14**	**2015-16**	**2017-18**	**2019-20**
CLBs	$318.6	$157.3	$174.4	$433.4	$418.2	$117.9	$0.0
SFP Tranfers In	$0.0	$536.8	$446.0	$275.4	$105.3	$0.0	$0.0
FMRs	$10.7	$10.7	$10.7	$10.7	$10.7	$10.7	$10.7
In-state Royalties	$16.0	$16.0	$16.0	$16.0	$16.0	$16.0	$16.0
Other	$0.0	$0.1	$0.8	$0.6	$0.2	$0.0	$0.0
Total	**$345.3**	**$720.9**	**$647.8**	**$736.1**	**$550.4**	**$144.6**	**$26.7**

Note: From "School finance: Constitutional duties, powers, and approaches," by Wyoming Legislative Service Office, November 13, 2015.

Local level PK-12 sources of funding. While *Campbell II* reaffirmed that financing school facilities through local bonding indebtedness "created wealth-based disparities because school districts did not uniformly impose such levies, while the districts that did impose them generated disparate amounts of revenue to fund school capital construction projects" (WLSO, November 19, 2015, p. 6), "Individual school districts may levy optional mills to fund local enhancements" (WLSO, November 13, 2015, p. 9). School districts in Wyoming are allowed to work with the state to make the design of the school feel customized to their setting and needs (State staffer, interview, September 26, 2016). While the state provides school districts with the funding they need to provide for the "educational delivery basket of goods," or a basic educational structure, the state will not fund beyond a certain base. For example, the state will provide for a gym, but not for a pool. If a local school district is not satisfied with the basic facilities and wants a fancier gym or an aquatic center, they can raise funds locally through general obligation bonds to fund "enhancements" (State Facilities Division staff, interview, July 22, 2016). School districts are able to pass bonds for facilities enhancements, but the state is not involved in that process. Although a lot of districts do enhancements, school districts are generally satisfied with the support from

the state (State staffer, interview, August 18, 2016). Another staffer described school districts as being "very happy and feeling fortunate" (State Facilities Division staff, interview, September 15, 2016). Since 1998, local districts have raised $276 million for enhancements and locally funded capital projects (WSFD, 2016b, p. 3).

Effect of taxation mechanisms on equity. Wyoming is clear that the responsibility for educational facilities has shifted from local school districts to the state. As the WLSO (2015) explained, "The State is responsible for all planning, design, and construction or renovation of schools and district-owned facilities, including major maintenance and minor capital construction or component level projects (e.g., roof replacements or boiler replacements)" (WLSO, November 13, 2015, p. 9). Because the state holds primary responsibility for educational facilities, it is responsible for making sure there are sufficient tax dollars to fund facilities up to the standards set in statute. While there is concern over the presumed end of the coal lease bonus funding, staffers interviewed for this study all expressed confidence that the state would continue to collect the revenues necessary to meet its obligations. While the existence of enhancements arguably decrease equity as some districts will choose to augment their facilities while others do not, the enhancements to date have been relatively minor as "most school districts are fine with the base buildings" (State Facilities Division staff, interview, July 22, 2016), and the level of taxes raised for is enhancements is small relative to the overall state share for facilities.

Distribution of state facility funding and aid

Legislative appropriations for facilities construction and maintenance come from the School Capital Construction Account (SCCA), which also supports the SFD's budget (WLSO, November 13, 2015, p. 9). The State of Wyoming has not only made a considerable investment in educational facilities, but also put a great deal of effort into supporting its investment with equitable policies to support implementation at the local level. With regard to the level of investment:

> The Wyoming Legislature has appropriated more than $2.6 billion of state funds for major capital projects, including for building new schools and fully modernizing others...For fiscal years 1998 through 2016, the Legislature also appropriated $692 million in state funding for major maintenance improvements. In total, over $3.6 billion of state and local funds have been appropriated for K-12 public school facilities improvements. (WSFD, 2016b, p. 3)

With regard to implementation, when asked how school districts handled the prioritization process when the program was getting off the ground, one staffer emphasized that having a basic foundation laid out in statute was critical, though the program continued to be revised after implementation began (State staffer, interview, August 18, 2016).

Over time, the state has worked to bring all facilities up to the adequacy standards the state has set. To determine prioritization for funding, the state bases it on need, which is determined by two factors: 1) capacity and 2) condition. With regard to capacity, enrollment projections determine which schools have the greatest need and whether schools rise on the capacity list. Those at the top are addressed before those farther down the list. With regard to condition, the state uses a detailed assessment of different physical characteristics to rank schools on a needs index list and then works its way down the list. Then, every few years, the state redoes the lists given updated data. In an attempt to limit bias, the state coordinates and hires a team of consultants, including architects, engineers, and facilities managers, to conduct an

unbiased comparison between schools around the state. The state makes an effort to ensure that the teams are coordinated and trained to score with consistency (State staffer, interview, August 18, 2016).

From year to year, budgets for capital outlay fluctuate. When asked on the survey to provide the total amounts budgeted by school districts for their total capital outlay (including school construction capital outlay, land and existing structures, and instructional equipment and other), if available, the SFD provided the data in Table 8, shown below.

Table 8: Total Budgeted Capital Outlay by Year

Fiscal Year	Total Capital Outlay (U.S. Census of Governments)
FY2011	$486,110,332
FY2012	$584,095,173
FY2013	$328,937,073
FY2014	$751,972,755
FY2015	$433,231,555
FY2016	$147,242,000

State aid programs for facilities. Primary programs include facilities assessment, planning, major maintenance funding, minor capital (component) funding, and major capital funding (SFD, 2016). While the state of Wyoming does not "give credit" to school districts that pay for enhancements themselves, there have been programs in place in the past to help school districts pay their debt:

> Before it was repealed by 2014 Wyoming Session Laws, Chapter 15, Section 1... permitted school districts to apply to the Department of Education to receive a mill levy supplement for bonds issued on or before February 23, 2001, and for refunds of those bonds issued prior to April 1, 2010. To qualify for a mill levy supplement, districts were required to fall below 150 percent of the statewide average assessed valuation per average daily membership, notwithstanding the first two mills. School districts were then required to decrease their current year mill level to reflect the supplement. (WLSO, November 13, 2015, p. 6)

The table below shows the School Capital Construction Account (SCCA) Appropriations from 2007-08 to 2019-20 for the mill levy supplement and other programs.

Table 9: SCCA Appropriations (in millions), by 2007-08 to Estimated by 2019-20

					Estimated		
Appropriations	**2007-08**	**2009-10**	**2011-12**	**2013-14**	**2015-16**	**2017-18**	**2019-20**
Mill Levy Supplement	$4.8	$2.3	$0.9	$0.0	$0.0	$0.0	$0.0
Major Maintenance	$76.6	$84.2	$82.0	$101.7	$115.4	$118.5	$118.5
Operations, Engineering & Technical Services	$6.1	$7.0	$10.4	$6.6	$13.1	$13.0	$13.0
Capital Construction	$284.2	$235.4	$235.7	$646.0	$304.9	$232.2	$72.2
Total	**$371.6**	**$329.0**	**$329.0**	**$754.3**	**$433.4**	**$363.7**	**$203.7**

Note: From "School finance: Constitutional duties, powers, and approaches," by Wyoming Legislative Service Office, November 13, 2015.

Major maintenance funding for items like repairing roofs and replacing boilers goes directly to school districts and is "determined by a formula based on square footage, current building replacement value, and a projected 50-year lifespan for school facilities" (WSFD, 2016b, p. 7). Survey results confirmed that "each year a check is cut by our department to the districts" (Wyoming survey results, 2016). However, funding for major capital, such as for new schools, modernizations, or renovations, is "competitive and prioritized to schools that demonstrate the most need according to their facilities assessments and their capacity ratings" (WSFD, 2016b, p. 7). In the first decade of the program, capital construction comprised the majority of SCCA appropriations. Over time, the state has addressed the bulk of its new construction needs and is shifting its focus to maintenance, as shown in the table above.

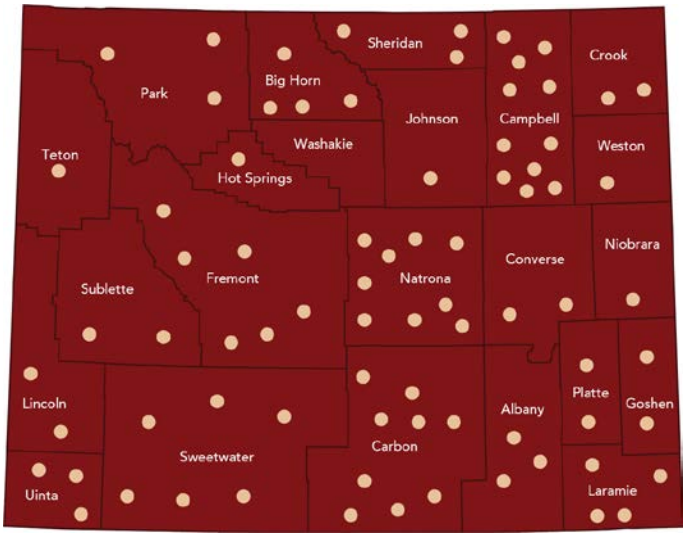
While not technically a "program," the state also has regional project managers who work with local school districts to provide technical assistance for their facilities programs. Regional project managers help school districts procure consultants, are involved with facilities assessment, and help develop a facilities budget (State Facilities Division staff, interview, September 15, 2016). These managers provide a great deal of the expertise and capacity that many local districts lack, and are funded by the state.

Effect of state aid programs on equity. One of the main roles of the SFD is to carry out the state statutes, implementing policies put in place to make school facilities more equitable. Survey results confirmed that "in general we oversee the equalization of the projects and the money" (2016). Indeed, the state works to ensure that school districts' needs are addressed across the state, in wealthy and under resourced areas, urban rural and suburban areas alike. See the SFD's (2016) map of school facilities construction projects ongoing in a single month below. However, given the state's budget and capacity constraints, there are still school needs that have not yet been addressed. According to an SFD (2016) report, "There are still 32 schools in poor condition that need major capital projects to make them adequate" (p. 10). SFD staff interviewed for this study expressed a commitment to serving all school districts in the state and implementing the facilities policies with fidelity at the local level.

With regard to future programming:

> SFD is looking to the future. The Department is planning to change its focus from the major capital projects that tackled decades of delayed maintenance and out-of-date facilities to a facilities program that supports the preservation of our capital investments. The Department anticipates an expansion of our Major Maintenance and Component remedies as we complete historic investments in K-12 public school facilities new construction and modernization. The enhanced Major Maintenance and Component programs will provide predictable funding and be backed by a state and local partnership for the facilities funding that is required to deliver adequate and equitable school facilities for the children of Wyoming. (WSFD, 2016b, p. 11).

Figure 3: Wyoming School Facilities Construction Projects – March 2015



Note: From "Strengthening Wyoming schools and our communities: Wyoming school facilities program 1998-2016," by Wyoming School Facilities Division, 2016, p. 9, Retrieved from http://legisweb.state.wy.us/InterimCommittee/2015/SSFRpt0904Appendix3.pdf

Public Debt Policies

Because Wyoming is primarily a pay-as-you-go state, it does not have many policies around debt. As a result, Wyoming is among the states with the lowest amount of local district debt per student: Wyoming ($674), West Virginia ($1,497), and Oklahoma ($2,402) (Filardo, 2016, p. 19). As mentioned above, the state did have a mill levy supplement program, through which "the Legislature appropriated $44.9 million to fund this program throughout its inception. The Legislature repealed this statute because there were no longer any districts eligible for the mill levy supplement" (WSLO, November 13, 2015, p. 10). Another program, the Excess Mill Levy Rebate, provided $2.7 million to school districts that levied more than the statewide average to assist them with debt repayment. There are no state loan programs, and the state allows local school districts to use the state's credit rating for borrowing (Wyoming survey results, 2016). Statewide bonds are allowed, and are limited to 1 percent of all statewide assessed property value, which could be relevant if the state decides to turn to statewide bonds to replace the revenue lost from the coal lease bonuses.

Effect of public debt policies on equity. For school districts in other states, taking on public debt is a burden that is particularly onerous on districts with low credit ratings, high levels of existing debt, or conservative or otherwise tax-averse communities. As Wyoming is a politically conservative and tax wary state, like Texas in many ways, the ability for school districts to avoid carrying debt at all and still meet their facilities needs is a major benefit. The state policies that helped lower wealth and overburdened districts relieve their debt also enhanced equity while the new program was implemented.

Discussion of Quality, Adequacy, Equity, and Reliability of State Facilities Programs

As with any program, the SFD has evolved and continues to do so. When it was first created, one staffer described the development of the new system as "building the plane while flying it" because the state was

developing an agency while deploying millions and millions of dollars before contracts and procedures were in place (State Facilities Division staff, interview, September 15, 2016). However, as one regional project manager explained, the system now is "wonderful" whereas before school districts had "so little money to repair facilities" (State Facilities Division staff, interview, September 15, 2016).

The State of Wyoming's facilities policies are in many ways a model for other states. Because the policies were written to address equity concerns as a direct result of litigation, the state facilities program infrastructure is equity-minded throughout. In addition, the state has made an unprecedented investment in educational facilities. While there are still unaddressed school needs, indicating that the funding is not fully adequate, it is arguably more adequate than many other states. With regard to quality, the regional project managers work to make sure policies are understood and implemented at the local level and that all school projects, whether they be construction, modernization, or major maintenance, have the technical support they need to be completed. The key concern with the Wyoming facilities programs moving forward is how the state will address the end of the coal lease bonus revenue. Until that time, the state will be, as one staffer said, "Looking under every rock to find a penny" (State Facilities Division staff, interview, July 22, 2016). The 10-year estimate for new school construction for fiscal years 2012-2024 is $230 million (Filardo, 2016, p. 25), and the state will continue to need a dedicated revenue source.

One recent structural change was the July 2016 merger of the SDF with State Construction Department. The School Facilities *Department* is now a *Division* in the same department with other state-related construction entities, similar to Ohio's structure. The value of restructuring remains to be evaluated. As one staffer explained, there is a difference between school facilities and other types of state construction. As he explained, when a community wants a library, the state will design and build it, and people are happy. This is not so with schools. Shifting the responsibility for facilities from the local level to the state level is a lingering source of tension. Many local school districts still want local control (State Facilities Division staff, interview, September 15, 2016). People take their local school facilities personally, and there is often friction through the design process. While it would be easier for the state to simply build the schools and then hand over the keys, Wyoming's SFD works hard to make sure the local community is involved in the facilities outcomes.

Case Study State #3 Analysis: New Jersey

Overview of State School Facilities Investment Over Time

The State of New Jersey has a two-tiered approach to addressing its school facilities, essentially running two different systems depending on a district's wealth. According to the State of Our Schools 2016 analysis of NCES statistics, the state of New Jersey and local districts spent $34.1 billion in capital outlay from FY 1994-2013 (Filardo, 2016). $27.0 billion of that was for school-construction capital outlay, amounting to approximately $20,133 per student. The state's share of total capital outlay was 32 percent. Over that same time period, New Jersey's facilities maintenance and operations spending as a percent of total education operating expenditures was 10.3 percent, or $1,666 per student. New Jersey's student population increased by 14 percent from the 1993-94 school year to the 2012-13 school year. In 2013, the state had 2,598 public educational facilities and 1,338,657 students. New Jersey has urban, suburban, and rural school districts. The southern part of the state is more rural, and most of the population is concentrated in the central and northern part of the state.

State level facility administration and oversight

There are two distinct entities governing educational facilities in New Jersey: The Office of School Facilities and the Schools Development Authority. New Jersey's Office of School Facilities is located within the state's Department of Education and administers educational facilities for the majority of the state's school districts, known as the 572 regular operating districts (RODs). The second entity, the Schools Development Authority (SDA), was created by legislation in 2007 and governs 31 special-needs districts, formerly known as "Abbott districts." The 31 districts cover approximately 450-500 individual schools out of the 2,600 total schools in the state and tend to be in more urban areas (NJ DOE Office of School Facilities staff, interview, May 16, 2016). The SDA is an independent authority with a public, 11-member board, which is nominated by the governor. SDA board members must have expertise related to educational facilities. Over the years, the governance of SDA has shifted. The Economic Development Authority was designated as the agency for managing construction and financing school projects, though due to slow progress on Abbott projects the then-governor established the Schools Construction Corporation under the EDA (Sciarra et al., 2006). According to the SDA's website: "Critical reforms took place in January 2006. An Interagency Working Group on School Construction was established to make recommendations regarding further reforms designed to protect taxpayer dollars, provide accountability and move the program forward" (SNJ Schools Development Authority, 2016).

The SDA not only provides 100 percent of funding for all school construction and renovation projects, but also administers the projects for the school districts, providing all the necessary technical assistance and support. The SDA hires architects, engineers, and construction managers through a stringent process, requiring prequalification. According to one DOE staffer, the SDA does a much better job than school

districts might be able to do on their own, but the SDA also has more money at their disposal than a typical school district (NJ DOE Office of School Facilities staff, interview, May 16, 2016).

For the majority of school districts in New Jersey, the Office of School Facilities (OSF) is relatively "hands-off," given New Jersey's strong sense of "home rule" and local control (NJ Office of School Facilities staff, interview, May 16, 2016). For example, the state does not get involved with school district construction projects for RODs. School districts are responsible for hiring their own teams of contractors and consultants and running their own facilities programs at the district level. While New Jersey does not directly get involved in construction management, it is one of two states that has a district-level certification requirement, known as the Certified Educational Facilities Manager program, through Rutgers University. Beginning in 2002, state statute required that "no person shall be employed by a board of education of a school district as a buildings and grounds supervisor unless he is a certified educational facilities manager" (OSF website). For individuals to become certified, they must take seven courses, including management supervision, structural and mechanical systems, financial management, and emergency management. Individuals must also have two years of experience in the field and must attend continuing education programs to maintain their certification. Through this program, the state requires that school districts have a certain level of capacity and expertise with regard to facilities. The NJDOE works with the Buildings and Grounds Association to run the program and ensure continuing education courses are valuable (NJ DOE Office of School Facilities staff, interview, May 16, 2016).

The state also provides limited technical assistance to RODs through the OSF's website. For example, the state provides assistance to school districts to help them estimate the annual required maintenance budget amount to be submitted with their Comprehensive Maintenance Plan. School districts are required to update their long-range facilities plan every five years. The Department of Education's Office of School Facilities website has guidelines and tutorials to assist districts in updating inventory data, identifying district enrollments, and revising and submitting their LRFPs.

As another example of technical assistance, the state also provides educational specifications guidelines to help convey the school district's intended educational purposes and design objectives to the building design consultant. "The success of the educational specifications in communicating program needs to the design consultant plays a large part in the overall success of the school construction project. Therefore, it is important that they comprehensively describe the school building's anticipated uses and identify specific physical characteristics that will be required to house and promote the proposed activities" (SNJ DOE, 2016b).

Relevant litigation history

While New Jersey is known nationally for the *Abbott* litigation, another important case set precedent for equitable education funding. In 1972, in the *Robinson v. Cahill* case, "Plaintiffs had alleged that the state education finance distribution formula violated federal and state equal protection laws and the fundamental right to an education, in that tax revenues varied greatly by school district wealth and were inadequately unequalized by the state" (Wood & Baker, 2004, p. 138). This laid the groundwork for the *Abbott* plaintiffs in one of the lengthiest school finance litigation series in the country, "in which a state supreme court has engaged in forceful definition and prescription, in which school facilities are regarded as part and parcel of equal educational opportunity, and in which the court has demonstrated sustained interest and control over very long periods of time" (Crampton & Thompson, 2008, p. 42). As Sciarra et al. (2006) explained, *Abbott* was an early example of including school facilities in funding adequacy

litigation, and "the case is also remarkable in terms of the comprehensive and sophisticated nature of the judgments that resulted" (p. 6).

New Jersey's state Constitution requires that the state "provide for the maintenance and support of a thorough and efficient system of free public schools for the instruction of all the children in the state between the ages of 5 and 18 years" (Sciarra et al., 2006, p. 7). In *Abbott*, "the court ordered that the quality of the facilities could not depend on the district's willingness or ability to raise taxes or to incur debt" (Fothergill & Verdery, 2003, p. 21). After the 1997 *Abbott* decision, the NJDOE conducted an assessment of the facilities in the Abbott districts. Abbott districts, in 1997-98, contained 429 buildings with over 220,000 students, with an average age of 56 years (Fothergill & Verdery, 2003, p. 23). *Abbott II* revealed that, while schools in richer suburban areas were "newer, cleaner, and safer," schools in lower income areas were unsafe and deteriorating (Sciarra et al., 2006, p. 7). As Crampton & Thompson (2008) explained, the court was critical of the unsafe condition of the state's facilities, particularly in poorer urban districts. Under the court's direction, the New Jersey legislature's Comprehensive Educational Improvement and Financing Act (CEIFA) in 1996 to address the state's facilities inequities. However, the court deemed the allotted funds constitutionally insufficient (Sciarra et al., 2006, p. 9). This led to sweeping programs and reforms "widely recognized to be the most fair and just in the nation," (p. 9) including "new and rehabilitated facilities to adequately house all programs, relieve overcrowding, and eliminate health and safety violations" (Sciarra et al., 2006, p. 10).

Then in *Abbott IV*, the court decided that legislation did not adequately address unsafe and overcrowded facilities (Sciarra et al., 2006, p. 10). The court emphasized the importance of educational facilities as "integral to the efficacy of a coherent framework of remedial programs and reforms" (Sciarra et al., 2006, p. 10). However, it was the *Abbott V* case that solidified funding for Abbott school districts, wherein the court "ordered the state to undertake and fund a capital construction program to eliminate deficiencies in all Abbott school buildings, and outlined an appeal procedure by which schools and districts could dispute decisions related to the implementation, extensive or modification of the complete *Abbott* adequacy framework" (Sciarra et al., 2006, p. 10).

Per the court's decision, the New Jersey Department of Education (NJDOE) directed experts to develop "Facility Efficiencies Standards," a list of requirements for the state's schools with planning documents including "minimum requirements for classroom space, science labs, special education needs, cafeterias, auditoriums, music rooms, art rooms, CAD classrooms, technical labs, gymnasiums, media centers, small group instruction rooms, and office space for all support staff, from the school nurse to the principal" (Fothergill & Verdery, 2003, p 22). "As the longest-running school finance lawsuit in the nation, *Abbott* has seen no less than 17 high court actions over the course of 22 continuous years" (Crampton & Thompson, 2008, p. 45). The state's system of funding educational facilities is a direct result of the *Abbott* litigation.

Factors Contributing to Expanded State Investment in Equitable Public School Facilities

Taxation mechanisms (sources of funding)

The state funds SDA schools through statewide bond sales. For the RODs, funds for educational facilities for the state match come from the property tax relief fund, which is the state fund into which state income

taxes go (NJ DOE Office of School Facilities staff, interview, September 8, 2016). Another portion of the state's share comes from the state's general fund. According to the Office of School Facilities, the state's contribution for educational facilities for RODs is relatively stable, and "school districts more or less know how much they will get" (NJ DOE Office of School Facilities staff, interview, September 8, 2016).

Local level PK-12 sources of funding. For the 31 SDA districts, there is no local source of funding required. For the non-Abbott, RODs, funding is derived primarily through local property taxes and depends on the ability and willingness of local communities to pass a general obligation bond. Bonds in New Jersey are passed at the local level with a simple majority. As one Department of Education staffer explained:

> In New Jersey, for a school district to go and spend a lot of money, they need voter approval, and if that is approved, their property taxes go up. At a local level, each community gets to decide what they want to do and how they want to do it, and how much money they want to spend. [In] some places, the voters feel that "my kids are gone through school, so I don't have to support them anymore." In other places, people support whatever the school district wants. There are 600 school districts that make their decisions on their own. (NJ DOE Office of School Facilities staff, interview, May 16, 2016)

School districts that manage their general fund budgets well enough to save, or those that have higher budgets to begin with, can save money over time in a capital reserve account. As the fund accumulates, the school district can use the funds for smaller facilities projects in their long-range facilities plan. The benefit is that school districts do not have to pay debt service on this facility spending, though it can be difficult for school districts to accumulate money.

Effect of taxation mechanisms on equity. The system of taxation for educational facilities in New Jersey is arguable inequitable between SDA districts and RODs. However, the current system was set up to make facilities more equitable, providing state revenues for special-needs districts. As the majority of educational facilities revenues are collected locally from RODs, and different districts have different revenue raising power based on their local property wealth, taxation varies inequitably between RODs.

Distribution of state facility funding and aid

Because New Jersey's system is split, funds are distributed differently for SDA districts and RODs. For SDA districts, the state provides 100 percent of funding for projects, and the "amount for Abbot Districts is based on overcrowding, age of building, condition of building" (Vincent, 2014, p. 6). Each SDA district puts together a facilities needs plan, in consultation with the SDA, and creates a plan to address facilities needs. While the mechanism is there to provide full funding for SDA districts, the process is a slow one, with SDA districts complaining about how long they have to wait for the SDA to complete their projects (NJ DOE Office of School Finance staff, interview, September 8, 2016). "In 2002, the New Jersey legislature passed a bill which allowed the state to issue $8.6 billion in bonds over the next 10 years beginning with October, 2000. Six billion dollars of the bonds were designated for the Abbott districts and $2.6 billion were designated for the other districts" (Fothergill & Verdery, 2003, p. 23). By 2005, the $6 billion had run out, and 50 projects were continued while the remainder of the projects were put on hold. A 2006 report estimated that the cost of completing the remaining Abbott projects would cost $5.3 billion. After a round of reforms in 2006, the SDA "no longer works on every project approved by DOE without considering availability of funds. Now, projects are prioritized by educational need, and before a

project can begin, a comprehensive budget and schedule must be approved by the SDA board" (SDA website, 2016). To minimize costs such as change orders, the agency waits until it controls land and until designs are complete. It also charged private contractors and consultants for significant project errors. According to the SDA's website:

> Overall, as of March 15, 2016, the SDA had completed 817 projects in SDA districts, including 144 major projects including: 70 new schools; 74 Capital Improvement Projects including extensive additions, renovations and/or rehabilitations. The total also includes 354 health and safety projects, 144 emergent projects, and 175 grant projects managed by SDA districts...As of March 31, 2016, the SDA had executed 5,260 ROD grants impacting 523 school districts. The total State share of nearly $3 billion leverages projects costing a total of $8.8 billion. (SDA website, 2016)

Bringing SDA schools into good repair was a monumental task. According to one DOE staffer: "A lot of their schools are ancient. We still have schools from the 1800s in Newark" (NJ DOE Office of School Facilities staff, interview, May 16, 2016). Many of those schools needed to be completely replaced as they were too old to be brought up to code. If it costs more to renovate facilities than it does to build new schools, the state will not pay for renovation. Now, SDA districts must be sure to properly maintain their facilities to protect the state's investment.

The process of funding regular operating districts is dramatically different. The OSF approves approximately 1,000 projects in any given year, and most are between $500,000 to $1 million. From the district perspective, school districts must conduct long-range facilities plans (LRFP) every five years. They must get board approval for a needed project in their LRFP and then apply to the state for state approval. The state then determines eligibility of the project for state financing. Then, the school district goes to their local voters to get authorization for a general obligation bond, if needed. While the state used to provide two different funding options, the state is currently providing its matching funds through debt service aid only. Through this process, school districts issue local bonds and based on their annual bond payments and a state formula, the RODs receive a portion of their payments from the state in the form of debt service aid.

The state formula to determine the state share of educational facilities is tied to the formula for funding operational education costs. For the regular state school funding wealth formula, the state comes up with an *adequacy budget,* which is a calculation of what a school district should spend given its enrollment characteristics, including the percentage of students that are limited English proficient, enrolled in special education, or quality for the federal free and reduced price lunch program. The adequacy budget also makes geographic costs based on cost of living. For example, northern New Jersey has higher adequacy budget than southern New Jersey. Under this formulation, poorer school districts, even with the same number of students as wealthier school districts, will have a higher adequacy budget. This is in line with the academic literature establishing that some students are more expensive to educate than others.

Then, based on income and property wealth, the state will come up with a *local fair share* for each school district. Low-income school districts will have a lower fair share than higher wealth districts. The state then subtracts the local fair share from the adequacy budget to determine the state's share. The proportion of the state share then becomes the *district aid percentage* that is applied to the district's bond debt service to determine how much the state will support (NJ DOE Office of School Finance staff,

interview, September 8, 2016). The floor for debt service aid is 40 percent of eligible project costs, which depends on how much of that project is going toward educational purposes. Renovation of educational space is 100 percent eligible, while not all costs are eligible for new construction.

The state caps the amount of money it is willing to provide to school districts for construction based on the number of projected enrollment. For pre-kindergarten to fifth grade students, the state will provide 125 square feet, for sixth through eighth grade students, the state will provide 134 square feet, and for high school students, 151 square feet (NJ DOE Office of School Facilities staff, interview, May 16, 2016). The state looks at any project a school district is proposing and uses a cohort survival methodology to predict enrollment and then assesses the functional capacity of existing schools by grade grouping and then issues a letter to the school district outlining these details. As an example, one DOE staffer explained, "They need a second high school, so now, we've looked at existing capacity of their high school and overlaid that with projected enrollment for five years, and we have 1,000 kids, so if they want a new high school, state will pay up to 151,000 square feet. If they want to build 200,000 square foot high school, the extra is on them locally" (NJ DOE Office of School Facilities staff, interview, May 16, 2016). The full state contribution is capped at $143 per square foot for new construction, though the state focuses more on renovation than new construction at this point.

The state also distributes money for capital maintenance projects, including things that do not increase gross square footage. Examples include renovating science labs, roofs, and boilers. These calculations are not based on unhoused students, but what the school districts estimated as actual costs.

State aid programs for facilities. One state program that provided state funds to school districts is no longer in use. Regular operating districts (RODs) were previously able to apply for grants from the Department of Education for educational facilities, though all grant funds have been dedicated, and there is no longer any grant funding available. According to the DOE's website: "On July 9, 2008, legislation was enacted authorizing an additional $3.9 billion in bonds to finance the State share of school facilities projects. The legislation allocates $1 billion, including $50 million for vocational schools, for grants for the State share of Regular Operating District (ROD) school facilities projects. Additionally, the legislation required DOE to establish a prioritization process for school facilities projects based on critical need. There have been 3 allocations for funding since the inception of the law" (SNJ Schools Development Authority, 2016). Grant prioritization ranked schools based on health and safety, overcrowding, spaces necessary for district programs, and services for disabled students. The last grant program was in 2013, supporting an average project cost of $570,000 (SNJ DOE Office of School Facilities staff, interview, May 16, 2016).

Given New Jersey's litigation history and state interest in safe educational facilities, the New Jersey Department of Health has a Healthy School Facility Environments website (SNJ Department of Health, 2016), which provides resources for parents, students, school staff, administrators, architects, engineers and contractors regarding the prevention and identification of health and safety hazards. The website describes that "In New Jersey, six state and two federal government agencies share responsibility for healthy schools. There are also many community, environmental, and labor organizations working for healthy schools" (SNJ Department of Health, 2016).

Another process school districts go through is conducting their long-range facilities plans every five years. School districts must self-report their long-range facilities plan, which the state then approves. If school

districts want to do a project in the middle of the five years, then they must reaffirm their enrollment projects.

With regard to programs for maintenance, "The states that spent the most for M&O per student were Alaska ($2,096), New Jersey ($1,923), and New York ($1,759)" (Filardo, 2016, p. 14). In New Jersey, school districts are required to set aside 2/10th of 1 percent of the replacement value of the building. However, as an OSF staffer explained, "It's nothing" because the 2/10th requirement is based on a lower price per square foot when the real cost of building is $280 to $320 per square foot (NJ DOE Office of School Facilities staff, interview, May 16, 2016). There needs to be a program to incentivize school districts to set aside more money to properly maintain facilities.

The state also has an energy savings program to incentivize districts to improve their energy efficiency. They used to have a program that required school districts to test for radon, a leading cause of cancer in the area, but it was overturned by the unfunded mandate commission.

Effect of state aid programs on equity. The SDA was originally created to improve the equity of school facilities funding for special-needs districts. By providing 100 percent of the funding for the highest needs school districts, the state has made an impressive investment in improving the overall equity of educational facilities in the state. However, there were problems with the SDA as it was implemented. For the SDA districts, "Available data indicate that while 71 school facility projects have been completed and 28 projects are under construction, a list of 59 other planned projects has been reduced to only 32 due to lack of funding with the remainder placed on hold, while another 91 projects are completely stalled due to lack of funds" (Crampton & Thompson, 2008, p. 46). When asked if the SDA program could be expanded statewide to provide 100 percent of funding and technical assistance to all school districts in the state, a DOE OSF staffer pointed out that the SDA program is much more expensive to run and would likely be inefficient. "A similar project would cost the state 20 percent to 30 percent more than it would for a local SD to do" (NJ DOE Office of School Facilities staff, interview, May 16, 2016).

Wealth is taken into consideration when determining the state match for debt assistance aid, though it is not clear how many school districts receive more than the 40 percent floor. School districts are also hampered by the state's restrictions that district budgets not increase by more than 2 percent per year without voter approval. Facilities needs are often "squeezed" (NJ DOE Office of School Facilities staff, interview, May 16, 2016), and the state does not provide enough aid to address facilities maintenance needs.

Public debt policies

Debt is a large part of the school funding culture in New Jersey. If school districts issued debt prior to July 2000, they were funded under a different formula, between 0 percent to 100 percent, though there is less and less of that debt each year as it gets retired. Some school districts have issued bonds to pay off early retirement obligations and energy related projects, not just facilities. The DOE Office of School Finance estimated that the state is paying approximately $500 million a year on its debt service related to educational facilities.

With regard to debt limits, if a school district exceeds its debt limit, there is a provision that the district can "tap in to the municipal debt limit if it's not maxed out" (NJ DOE Office of School Finance staff,

interview, September 8, 2016). The debt limit varies by type of school district (elementary vs. high school). There are not many cases of districts exceeding their debt limits.

Effect of public debt policies on equity. As in Ohio, debt policies are important in New Jersey given the state's reliance on state and local debt to fund educational facilities. For RODs, the reliance on disparate local property values inequitably determines a school district's ability to raise funds for facilities. The state's reliance on debt for the SDA districts and its local match harnesses the state with large amounts of debt service over time.

Discussion of Quality, Adequacy, Equity and Reliability of State Facilities Programs

When examining New Jersey's educational facilities funding, it is necessary to emphasize that the state currently operates two separate systems. With regard to quality, there is a difference between SDA districts and regular operating districts. While SDA districts' facilities have been addressed by a state, which is obligated to spend the amount necessary to bring facilities up to a determined state standard, there have been ongoing problems with the implementation of the SDA's program. According to the SDA's website, "In April 2005, a report by the State Inspector General found the SCC's program suffered from a wide range of internal weaknesses that left it vulnerable to 'waste, fraud and abuse of taxpayer dollars.' The agency began an overhaul as a result." While the SDA has worked to overcome these shortcomings, complaints remain about the state's timeline to address all SDA facilities (NJ DOE Office of School Finance staff, interview, September 8, 2016). For RODs, quality of educational facilities is variable by district as determined by how much communities are willing to tax themselves for educational facilities. As one DOE OSF staffer explained: "It's always a balance, what the schools need to do their job, versus what the taxpayers are willing to fund...When the economy went bad in 2008, people were very reluctant to spend any more money on schools" (NJ DOE Office of School Facilities staff, interview, May 16, 2016).

With regard to adequacy, again there is a difference between SDA districts and RODs. For SDA districts, the state provides 100 percent of the funding for educational facilities, though there have been issues with the SDA program using more money than anticipated. For RODs, inadequate funds are "part of the problem...if I have fiscal constraints at the school district and want to cut something, the first thing school districts cut are maintenance and operations" (NJ DOE Office of School Facilities staff, interview, May 16, 2016). The inadequacy of funds is also felt at the state level. The staffer continued saying, "Since 2001, when the state began requiring reporting, when the state adds up the costs of all school district LRFPs the typical total is $20 billion to address all district facilities needs...that number never changes because every time you fix something, something else breaks" (NJ DOE Office of School Facilities staff, interview, May 16, 2016). This comment illustrates the ongoing nature of facilities investments. Rather than thinking of facilities as something you pay for once, states need to think about facilities as an asset that needs continual investment.

With regard to equity, the state's system was constructed to pay special attention to the highest needs school districts in the state, providing SDAs with the support they need for educational facilities. However, for the regular operating districts, the system is inequitable as those districts must rely on disparate local property values to raise funds for facilities. While the state pays a share of the debt service, school districts pay the majority.

With regard to reliability, the ongoing issues with New Jersey's educational facilities funding programs have made them less than dependable at times. For example: "When SDA was getting up and running, they put too much work out there and caused their own inflation. Bids kept going up" (NJ DOE Office of School Facilities staff, interview, May 16, 2016). This demonstrates the need to manage project timing statewide. Most regions do not have the capacity to do all the work at once when policies change. Economic cycles have affected program spending, as well as voters' preferences. SDA has had to put projects on hold when they have run out of money in the past.

Overall, while New Jersey's educational facilities program are imperfect, its special-needs schools have benefited from plaintiffs who fought for years to overhaul the state's system of school finance and policymakers who have responded to the court's decisions.

Case Study State #4 Analysis: Massachusetts

Overview of State School Facilities Investment Over Time

The Commonwealth of Massachusetts has spent the last 12 years systematically addressing its public educational facilities and working with school districts at the project level. According to the State of Our Schools analysis of NCES statistics, the Commonwealth of Massachusetts and local districts spent $22.2 billion in capital outlay from FY 1994-2013, or about $27,652 per student (Filardo, 2016). The state's share of total capital outlay was 67 percent. In 2013, the state had 1,854 public educational facilities and 922,848 students. Over that same time period, Massachusetts' facilities maintenance and operations spending as a percent of total education operating expenditures was 9.30 percent, or $1,263 per student per year. Massachusetts' student population decreased by approximately 5 percent from the 1993-94 school year to the 2012-13 school year. According to the Massachusetts School Building Authority's (MSBA) website, the MSBA has made $12.2 billion in payments to cities, towns, and regional school districts since its inception in 2004.

State level facility administration and oversight

Before the MSBA was created, school districts around the state would sell bonds (and pay interest) to build schools with the hope that they would eventually be reimbursed (MSBA staff, interview, August 5, 2016). As staff explained, when economic times were good, school districts received money for facilities, but when times were bad, school districts were left waiting for money. There was little oversight of educational facilities planning and construction, and there were not enough state resources dedicated to educational facilities (MSBA staff, interview, August 5, 2016).

The MSBA was created in 2004 as an act of the legislature and replaced the "former school building assistance program administered by the Department of Education" (MSBA, 2016a). The creation of the MSBA was the result of a program audit, from which state officials realized the "former way of doing business was just broken" (MSBA staff, interview, August 5, 2016). The audit revealed that the state had accumulated $16-17 million in debt obligations for educational facilities. As another MSBA representative explained: "When the legislature finally added up the bill for the very long list of projects that had been approved but not paid for yet, it was $16 billion to 17 billion of debt. They said, 'this can't go on,' so they decided to reform the whole thing" (MSBA representative, interview, July 15, 2016). The legislation to create the MSBA followed closely behind the audit. "People knew there was something wrong, but when the audit came out it really crystallized it for the legislators that this is a bigger problem than we thought. I think that audit really spurred them on to take action" (MSBA staff, interview, August 5, 2016).

The MSBA itself is a quasi-public entity, and was created as an *authority* for political reasons, according to one staff member. "If they want to take politics out of a situation, sometimes they'll create authorities"

as then voters will be "mad at the authority, not the legislature" (MSBA staff, interview, August 5, 2016). As an authority, MSBA staff are considered public employees, but the MSBA is not a state agency and does not have to answer to governor's office, but rather a board.

The MSBA's board is a seven-member body consisting of "individuals who bring with them decades of experience in a variety of fields, including educational facilities planning, school design, school building construction, educational standards, and finance" (MSBA, 2016a) as specified by the state legislature. Most board members are not paid and are appointed for two years at a time (MSBA representative, interview, July 15, 2016). The State Treasurer makes four appointments, with other appointees coming from the Department of Education and the governor's office of finance and administration. Board members meet bi-monthly, with additional subcommittee meetings held throughout the year. The three subcommittees include: "The Administration and Finance Subcommittee meets to review budgetary and financing matters. The Facilities Assessment Subcommittee meets to hear district presentations regarding proposed projects and provide feedback to districts before the project is presented to the Board. The Project Management Subcommittee meets to review audit appeals for MSBA projects" (MSBA, 2016a).

The MSBA's board works closely with school districts to determine project needs. Given that every city and town in Massachusetts can have its own school board, no matter how small, local school districts often lack the expertise and capacity to run a facilities program. The MSBA provides needed guidance and technical assistance:

> For a lot of small towns, especially in poorer communities, they don't have the kind of volunteer or paid staff that knows how to build a school because maybe it happens once every 50 years. Besides the money, the MSBA is able to provide a lot of professional expertise to help the communities get it right. (MSBA representative, interview, July 15, 2016)

Another MSBA staff member explained that the MSBA spends time with municipalities during the planning and construction phases, acting almost like an alder, despite being "just a finance agency" and that "we stay with them from the moment we invite them in until 10 months after they've occupied the building because we actually pay for the commissioning agent 100 percent, MSBA pays for that, because we want to leave buildings knowing that they're working properly...it's one of the things I think works very well" (MSBA staff, interview, August 5, 2016).

The MSBA also works with districts to ensure that their facilities plans are aligned with their educational goals. As one MSBA representative explained:

> Two of the four Treasurers' appointees were educators...once we determine you do need a project to refurbish, renovate, add on, or build an entire new school, before design, we want to see an educational plan from the school district that accounts for how all of the schools within the school district are part of a whole plan. How do you manage all of your schools, and how do you intend to use this building? What kind of educational goals do you have, how do you plan to deploy the teachers? (MSBA representative, interview, July 15, 2016)

The MSBA then ensures that the architect's designs are compatible with the educational plans and has been known to reject plans that do not fulfill school district goals.

After the MSBA was formed, they put a "freeze" on school construction while the MSBA established policies. As one MSBA representative explained, they informed local school districts that any schools built in the first two years of the new program would receive no money (MSBA representative, interview, July 15, 2016). Their first task was to "unwind debt," wherein the board went through all existing projects that had been completed or were "in the pipeline and had already been approved by the former group" that were waiting for state reimbursement, audited them, and paid them off (MSBA staff, interview, August 5, 2016). As part of this process of "cleaning up liabilities," the MSBA paid off any district bond anticipation notes and went through all projects "on hold" and worked with districts to determine whether the districts wanted to proceed or start over through the new process. During this time, the MSBA formulated rules for the new program. After the two-year freeze, the MSBA began working with districts under the new rules, using a partial pay-as-you-go system (explained below). MSBA has now cleaned up $10 billion in liabilities from the government (MSBA staff, interview, August 5, 2016).

Relevant litigation and legislative history

Unlike other case study states, Massachusetts' modern facilities policies were not created as a direct result of litigation, but rather the result of a program audit that made deficits in its facilities program transparent (MSBA representative, interview, July 15, 2016). However, Massachusetts does have a history of school finance litigation emphasizing that the "Commonwealth has an obligation to education all of its children" including those in less affluent communities (National Access Network, 2008). In addition, the legislative history regarding taxation still affects school districts today. Massachusetts' school districts are still affected by the state's 1980 Proposition 2½, during the period of tax revolts in states around the country. As one MSBA representative explained, heavy cuts from the proposition caused school districts around the state to cut administrative positions to preserve classroom teachers and class size. As Monk (1990) explained:

> No such surplus existed in Massachusetts at the time of Proposition $2^1/_2$ and it appears that the early impact of the tax limit was felt disproportionately by the schools. The proposition required a 15 percent annual reduction in the tax rate levied in all taxing jurisdictions until the tax rate equaled or fell below 2.5 percent of fair market value. As a result, there is reason to believe that the required cuts in services were disproportionately imposed on the poorest districts in the state. (p. 158)

To this day, no city or town can raise a levy more than 2.5 percent in any year. However, districts hoping to raise money for educational facilities can ask voters to pass a debt exclusion override, which will remain in place as long as the debt is outstanding.

Factors Contributing to Expanded State Investment in Equitable Public School Facilities

Taxation mechanisms (sources of funding)

According to the U.S. Census Bureau's analysis of 2014 Annual Survey of State Government Tax Collections, Massachusetts share of state tax revenue by source is similar to the United States on average,

though with less of reliance on sales and gross receipts taxes (31 percent in Massachusetts versus 48 percent U.S. state average) and a higher reliance on state income taxes (61 percent in Massachusetts versus 41 percent U.S. state average) (U.S. Census Bureau, 2014). Like the state of Iowa, Massachusetts has committed to dedicating a portion of their sales taxes to the MSBA. According to the MSBA's website:

> The MSBA, which has a dedicated revenue stream of one penny of the state's 6.25-percent sales tax, is collaborating with municipalities to equitably invest up to $2.5 billion in schools across the Commonwealth by finding the right-sized, most fiscally responsible and educationally appropriate solutions to create safe, sound, and sustainable learning environments.

Last year, the MSBA received $798 million from a penny on the sales tax. While revenues fluctuate from year to year, legislation established a minimum amount the MSBA can receive in any year, "which was good when the downturn happened" (MSBA representative, interview, July 15, 2016). As a result, the MSBA is not dependent on fluctuating legislative appropriations, which provides the authority with stability and independence.

In addition to the sales tax revenue, the MSBA also "sells bonds to leverage the $798 million" sales tax, which allows the authority to make some pay-as-you-go grant payments to school districts, pay administrative expenses (less than 1 percent of the total MSBA budget) and pay existing debt service (MSBA staff, interview, August 5, 2016). The sales tax fund pays annual payments under old program until 2024. The MSBA utilized Qualified School Construction Bond proceeds, when available to fund a $60 million Science Lab initiative (MSBA, 2016a).

Local level PK-12 sources of funding. As Filardo (2010) described: "Local school districts in Massachusetts are fiscally dependent and are supported through allocations of local and state tax revenues and financing. They do not have their own taxing authority to raise funds for capital outlay. The cities and towns are permitted to use the state's credit rating when they borrow funds for school district capital projects" (Filardo, 2010, p. 36). Local governments in Massachusetts are powerful entities. There are 351 municipalities in Massachusetts, and each one is a separate jurisdiction. Towns have "town meeting" forms of government, while cities have councils. Massachusetts' school districts are coterminous with cities or towns, so school districts go through their local municipality to issue bonds. As an exception, there are a few regional school districts where a few towns have combined to create one district. As a result, there are approximately 320 school districts in Massachusetts.

Local municipalities can issue both bond anticipation notes and general obligation bonds to provide the local share of educational facilities funding, with the MSBA providing grant funding for the state match. Municipalities can use the state's credit rating, but they do not have to.

Effect of taxation mechanisms on equity. The creation of the MSBA improved the equity of educational facilities financing. As one MSBA representative explained, before the MSBA was created, staff at the Department of Education would:

> perfunctorily look at proposal, say "This is ok," and put the district or specific building on a waiting list, and every year the legislature would appropriate a certain amount of money to school building projects, and the list kept getting longer and longer, and people had to

> wait for the projects to get paid. There was vast inequity because richer districts could float their own bonds, and build their school and wait until the state got around to pay them back. So poorer SD'swould propose the school, get it approved, and then wait for 10 years to be able to start the project. (MSBA representative, interview, July 15, 2016)

At the state level, all sales tax revenues are collected equitably from around the state. According to the MSBA staff, the sales tax as a revenue sources has been adequate and effective. "We've had a couple of declines, but never a single year in double digits...It's important to look at what the rating agencies and investors think about the source. Some people call sales tax a volatile revenue source, but from our perspective, we found it to be very stable...However if you look at California sales tax, it's less stable" (MSBA staff, interview, August 5, 2016).

However, because educational facilities in Massachusetts are still funded through a mix of state and local revenues, there is room for inequity at the local level. Local municipalities are still limited by their local tax base with regard to providing a local match through bond sales. However, districts with the lowest ability to pay receive a higher percentage match from the state, as described below, which offsets the inequity in local taxation.

Distribution of state facility funding and aid

Prior to the creation of the MSBA, the state paid 75 percent to 80 percent of the costs of educational facilities. As an MSBA representative explained, "in addition to the flat-out costs, if the school district floated a bond to build a school on its own, and the bond was a 20-year bond, and the state didn't get around to paying the SD for 10 to 12 years, all of the interest caused by floating the bond was also reimbursable by the state, but the state was paying three to four times the cost of doing a school" due to the interest that had accumulated from the local bonds over time (MSBA representative, interview, July 15, 2016). After the creation of the MSBA, the state changed its funding formula and actually *lowered* the percentage that the state pays for educational facilities relative to the local school districts. In fact, the MSBA's website boasts that the MSBA has "saved more than $162 million by developing a process that has increased oversight of school improvement projects and developed partnerships with districts to establish a reasonable project budget and to prohibit growth in scope or budget" and "saved approximately $230 million by focusing on core academic spaces." Whereas before school districts had more latitude over the scope of their facilities improvements, now the state more carefully restricts and limits the facilities for which it will help pay.

The MSBA's mission is to "partner with Massachusetts communities to support the design and construction of educationally-appropriate, flexible, sustainable, and cost-effective public school facilities." The MSBA's website describes its funding as "a non-entitlement, competitive, funding program. We determine grants based on need and urgency, as expressed by the district and validated by us. We work with the district to determine the most educationally-appropriate and fiscally-responsible solution and determine the portion of funds to appropriate." When determining how to distribute funding across the state, Vincent (2016) described:

> State funding is based on statewide assessment of facility needs. Once a year, the MA School Building Authority (MSBA) collects facility information on each school. MSBA then validates identified facility problems/deficiencies with site visits and determines which projects will be funded based on the type of problem identified. State funds are

> prioritized to address facility problems in the following order: (1) building structural issues; (2) student crowding; and (3) general building condition. Using statewide project cost averages, the MSBA determines what the cost of the project should be. (p. 5)

An MSBA staffer explained that the MSBA conducted an extensive inventory of all educational facilities in 2010 and will do another one in 2016 looking at all 1,800 school buildings (MSBA staff, interview, August 5, 2016).

Based on its prioritization policies, the MSBA invites school districts to engage in a feasibility study, in which the school district and MSBA work together to determine the best solution for the district, whether it be a new school, a major modernization, renovation, or other solution. When determining how to address a given project, Vincent (2016) described: "The guidelines are flexible, but school districts must provide justification for any variance from the space standards. The Massachusetts School Building Authority (MSBA) staff are given significant discretionary power to work with school districts on project specifics to meet state guidelines. New construction projects with classroom sizes smaller than the guidelines are rarely, if ever, approved for state funding" (p. 6). According to the MSBA's website, the authority has "developed data based enrollment projection methodology in order to build right-sized schools." The only time a project would not go forward once a need is determined is if the municipality does not approve the local matching funds, which has occurred fewer than 10 times in the history of the MSBA.

The MSBA works toward its mission, in part, by providing grants to school districts on a sliding scale, which is specifically laid out in statute. Every school district starts out with a 31 percent base level of project funding from the state. From there, the state applies three factors that can increase the base:

1. **Poverty:** This is measured as the number of students in the district who receive or are eligible for the federal student lunch program, compared to the state average. If a district has 100 percent or more than the state average, then you get a certain number of points. If they have 90 percent, then you do not get any points.
2. **Property value:** These "equalized" values are published by the Division of Local Services every two years and are equalized to balance across the whole state.
3. **Income:** This is per capita income from the U.S. census.

The MSBA inputs these values into their funding formula to determine the grant percentage school districts will receive. Grants range from 31 percent to 80 percent of the project cost. While the average state share of educational facilities has decreased since the creation of the MSBA, one MSBA staffer explained that school districts are placated because "there was more clarity and certainty about how much money they'll be getting and when it's coming" (MSBA staff, interview, August 5, 2016). School districts can determine their grant percentages from the MSBA website.

Before school districts begin a project, they get voter approval for a debt exclusion override and then issue bonds to pay for their educational projects as they go. For example, if a school district has a 50 percent reimbursement rate on a $30 million project, the MSBA will ask the school district to get voter authority for the entire project amount. The school district can issue bond anticipation notes to cover short term financing as the project begins. Once school districts have educational facilities projects underway, they submit monthly bills to the MBSA and receive state grants as a monthly reimbursement. The MSBA pays

95 percent of the grant each month, based on economic factors and eligible costs, which are spelled out in project funding agreement so the school district can predict their payments. For a project this size, the district might issue $20 million in bond anticipation notes to cover ongoing costs. Because the MSBA holds back part of the grant until the end, they ask school districts to authorize the entire cost of the project. As an MSBA staffer explained for this example, "When they finally get the project complete, they'll take out all of the BANS with an entire bond issue" (MSBA staff, interview, August 5, 2016). The size of general obligation bond needed at the end would depend on the district's reimbursement rate. At the end of this project, a school district would have received $15 million from the MSBA.

In this way, the system is based on a partial pay-as-you-go model. According to the MSBA, 23 percent of MSBA spending was pay-as-you-go, with the rest funded through bonds. Because school districts know how much money they will receive, they can plan their bond issuances accordingly and limit the amount of debt they take out at any one time, thus limiting the overall debt and interest payments. As the MSBA's website explains:

> In its 10-year history, the MSBA has made more than $12.1 billion in reimbursements to cities, towns, and regional school districts for school construction projects. Instead of waiting years for reimbursement, districts now receive payments from the MSBA as costs are incurred, usually within 15 days of submitting a request through the MSBA's online Pro-Pay System. These timely payments have saved municipalities over $2.9 billion in avoided local interest costs and have provided much needed cash flow to communities in difficult economic times. (MSB, 2016a)

State aid programs for facilities. The MSBA offers several programs to incentivize certain desired behaviors. For example, to incentivize small school districts to regionalize, the MSBA adds 5 percent to the reimbursement rate, while working with the Department of Education to organize the regionalization. School districts also receive bonus or incentive points for building a green or sustainable school that meets certain sustainability qualifications. The MSBA also offers a "model school program," for which they selected schools already built and used for one or two years that were doing very well, reasonably price, and loved by educators. If a district chose to use the same architectural plans, they would get 5 percent extra state participation. Other benefits included faster build times, which would decrease cost escalations, and lower architectural fees. The MSBA is in the process of updating its model schools (MSBA representative, interview, July 15, 2016). The MSBA has also had a Green Repair Program in the past for the repair or replacement of roofs, windows, and boilers, an accelerated repair program, and a science laboratory initiative. These smaller programs have been used to address specific facilities issues as they have arisen.

In addition to specific programs, the MSBA also offers detailed technical assistance to school districts, including assistance with writing their educational plans so that they will be appealing to voters. As one MSBA representative said, "We hold their hands all the way" (MSBA representative, interview, July 15, 2016). The MSBA also provides detailed flow charts for school districts and process overviews on its website.

Effect of state aid programs on equity. According to an MSBA staffer, "Equity was built in from the beginning" of this program. (MSBA staff, interview, August 5, 2016). By basing funding on a sliding scale related to wealth factors, the state was attempting to not leave economically disadvantaged communities

behind. The state's investment in facilities is indeed higher than the majority of other states. "Connecticut (57 percent), Delaware (57 percent), Massachusetts (67 percent), and Rhode Island (78 percent) also have assumed the responsibility for most capital investments" (Filardo, 2016, p. 20).

There are a number of factors built into the system that help the funding allocation be less political and more based on need. For example, the debt limits and funding approval limits, combined with budget transparency, allow the board to make tough decisions easier by following established procedures. To help ensure that the MSBA's limited dollars are allocated in a fairly and equitably, the board engages in an organized voting process. The MSBA has been trying to engage more urban school districts recently, such as working with the city of Boston to encourage projects and make sure funds are equitably shared with urban areas (MSBA representative, interview, July 15, 2016).

The MSBA also has systems in place to monitor its spending. According to its website, the MSBA has completed final audits of over 1,000 projects, totaling over $18 billion. It conducts audits for ongoing project reimbursement requests and has made over 1,750 site visits to audit ongoing projects to help ensure that the state saves money where possible for districts that need it most.

Public debt policies

In Massachusetts, Filardo (2010) reported, "The cities and towns are permitted to use the state's credit rating when they borrow funds for school district capital projects." (p. 36). Through the State Qualified Bond Act, school districts can "issue general obligation bonds payable from state appropriations for local aid. The State Treasurer's Office administers the State Qualified Bond Program, serving as paying agent," thus allowing school districts to issue bonds with higher credit ratings, saving money on interest payments (The Commonwealth of Massachusetts Investor Program, 2016).

With regard to debt limits, the MSBA has a debt limit of $10 billion. Local communities can only issue up to 5 percent of their equalized assessed valuation. If they need a higher debt limit, they have to get approval from the Municipal Finance Oversight Board, chaired by the state auditor. There is also a cap for how much the MSBA can spend each year. The first year, the cap was $500 million, though they can grow by 4.5 percent a year.

Effect of public debt policies on equity. The state has worked hard to help school districts pay down their existing debt in the first years of the MSBA's existence, retiring billions of dollars of school district debt. This has allowed districts around the state to save money on interest payments and freed up assessed valuation, providing districts the capacity to issue new bonds for additional projects if needed. While there are debt limits, the possibility of waivers allows districts to meet higher needs when necessary. Because the state allows districts with blemished financial pasts to use the state's credit rating, districts that would otherwise have higher interest payments are able to save money.

Discussion of Quality, Adequacy, Equity, and Reliability of State Facilities Programs

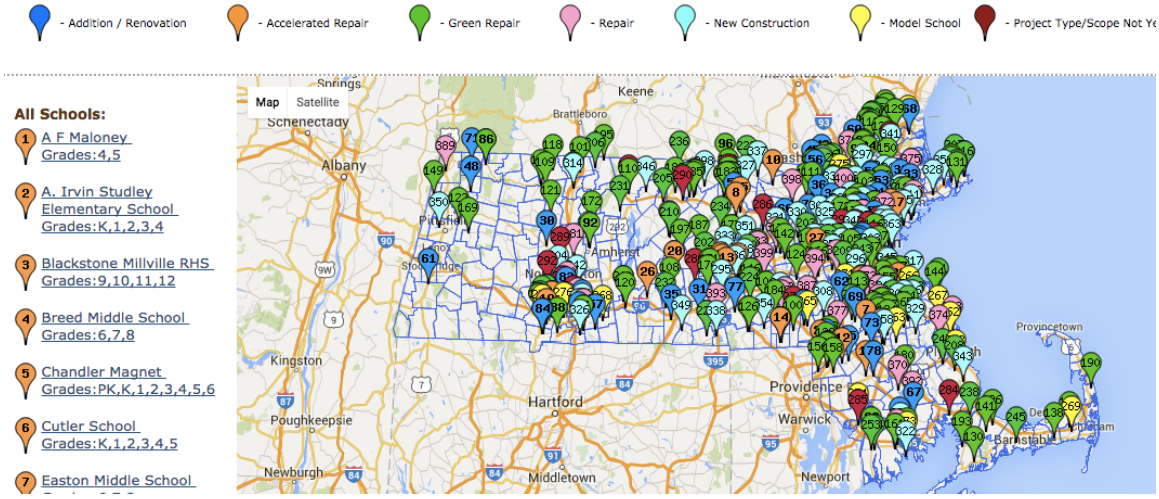
The Commonwealth of Massachusetts fundamentally altered the way it addresses educational facilities when it created the Massachusetts School Building Authority. To address mounting debt and inequitable facilities spending between the state's communities, the MSBA undertook an unprecedented effort to pay off existing debt and fulfill its existing obligations in a timely manner. It then created a new, organized

system for addressing all district's needs in a fair and consistent manner, based on need and urgency. Under the new system the MSBA works with local districts to pay for facilities jointly by requiring that local communities pay their share. As the MSBA's website explains:

> It is not our responsibility to garner support for a project within a district. Our funds are targeted towards projects and districts that are ready and able to make the financial commitment and move forward in a timely manner. To that end, if a particular district is unwilling to make that commitment, we have a responsibility to the Commonwealth to move forward with another project that can demonstrate that commitment. (MSBA, 2016a)

Transparency is a key factor in MSBA's equity goals. MSBA's website is a model for other states. For example, see the map below from the MSBA's website depicting the Geographic Information System, which is a comprehensive mapping tool providing clickable links to all educational facilities projects underway across the state. As the website explains, "Through this system, you can view individual district project information as well as projects by type (e.g., New Construction, Repair, Model School)" (MSBA website).

Figure 4: Map of State-Level Project Information



Note. From "State-Level Project Information" by MSBA, 2016, Retrieved from http://gis.massschoolbuildings.org/Projects_StateWideMap.aspx

With regard to quality, the MSBA's board and staff work to ensure that school projects meet industry best practices, without overspending. School districts can find detailed examples of school projects on the MSBA's website. With regard to adequacy, the board collects and distributes current and historical cost data for the design phase, including architectural, engineering, and owner's project manager fees, for various school types, as well as current and historical data for estimated construction and total project costs for various school types. This information helps school districts determine whether their budgeting is accurate and realistic and provides more information about how much money they can expect to receive from the state. With regard to reliability, the statute guaranteeing sales tax revenue for the MSBA as well as a revenue floor provides the system with reliability and stability.

School districts can go to the MSBA's website to learn about the detailed steps of the facilities project process and learn what to expect when they present to the MSBA's Facilities Assessment Committee. Full board meetings are open to the public, which enables districts to observe other districts going through the process. This helps districts learn what to expect when it is their turn to work with the MSBA. As one staffer explained, the MSBA has worked to "master the art of transparency" and "keep an open line of communication with any information that pertains to a district...whether we're bringing good news or bad, whether we're funding a project or not, there's that level of transparency to explain whether a project is happening or the reasons why it wouldn't be happening" (MSBA staff, interview, August 5, 2016). She credited this transparency with keeping the relationship between the MSBA and school districts a positive one.

Finally, the MSBA has also worked to engage students in facilities planning and investment. The MSBA ran a "My Ideal School" contest, which encouraged all first graders in the state to submit drawings for their ideal environment for 21st century learning. The MSBA received over 2,500 drawings. Getting students to start caring about the quality of their state's educational facilities from a young age is an example of how Massachusetts has worked to engage its citizens in investing in educational resources.

Case Study State #5 Analysis: Ohio

Overview of State School Facilities Investment Over Time

Since the creation of the Ohio School Facilities Commission in 1997, the State of Ohio has taken an active role in working with individual school districts across the state to overhaul their educational facilities. According to the State of Our Schools analysis of NCES statistics, the state of Ohio and local school districts spent a combined $46.4 billion in capital outlay from FY 1994-2013, or about $21,683 per student (Filardo, 2016). Over that same time period, Ohio's facilities maintenance and operations spending as a percent of total education operating expenditures was 9.3 percent, or $1,102 per student per year. The state's share of total capital outlay was 27 percent, three times the state share in Texas, but lower than any other case study state. In 2013, the state had 3,685 public educational facilities and 1,613,718 students. From the 1993-94 school year to the 2012-13 school year, Ohio has experienced a 12 percent decline in its student population. As Filardo (2016) explained: "In Ohio, a desire to consolidate and replace deteriorated and obsolete facilities with educationally and environmentally modern facilities also fueled the high level of new construction. Ohio's ...total number of schools declined by 133, but new construction still accounted for 60 percent of the state's capital investments. That is because Ohio undertook a major statewide modernization program to overcome years of deterioration in its school facilities" (p. 9).

State level facility administration and oversight

As of 2012, the Ohio School Facilities Commission (OSFC), the State Architect's Office, and the Ohio Cultural Facilities Commission (OFCC) were consolidated to form the Ohio Facilities Construction Commission, which now works with K-12, higher education, and state agency construction. The goal was to bring all the construction arms of the state into one entity and set statewide administrative policies for how construction is delivered (OFCC staff, interview, August 16, 2016). According to one OFCC staffer, the consolidation is working out well and provides for a more consistent and efficient use of resources as the OFCC has been able to reduce staff and develop relationships with the construction industry (OFCC staff, interview, August 10, 2016). Another staffer added that consolidation has allowed for better cross training and that the common set of documents and regulations have increased the contractor bidding pool, which helps to hold down construction costs (OFCC staff, interview, August 16, 2016).

For the construction industry, the process is now the same with regard to process and contracting documents for all state projects. According to the OFCC's website, the OSFC exists within the OFCC and "focuses on programmatic and facility planning issues related to K-12 construction. The OFCC, however, holds the authority to approve, award and administer design, construction and other specialty contracts (OFCC, 2016d). The commission has seven members, including the Director of the Office of Budget and Management, the Director of Department of Administrative Services, the Superintendent of Public

Instruction, and two appointees from both the State Senate and House of Representatives. The OFCC employs just under 100 people, including project managers, IT staff, planners, and agency support staff. Approximately 50 people work primarily on K-12 facilities (Ohio survey results, 2016).

The relationship between the OFCC and individual school districts is "cradle to grave" (OFCC staff, interview, August 16, 2016). According to the survey, the OFCC's responsibilities are "to work with eligible school districts to master plan their school facilities, providing a portion of the project cost, and help them to manage the building project" (Ohio survey results, 2016). The OPCC invites school districts to participate in the state program, and "When invited to participate, school districts are provided a facility condition index for each facility, a 10-year enrollment projection and a draft master plan" (Vincent, 2016, p. 30). Since 1997, when the OSFC began working with school districts to design comprehensive fixes, the facilities master planning process has involved the state and school districts working together to develop a plan for an efficient build of their facilities. This process includes a facility assessment of 23 buildings systems, an environmental assessment, demography work and 10-year enrollment projections, and a plan for matching facilities to the educational plans of the district, which are co-funded (Ohio survey results, 2016). Unlike other states, Ohio conducts an inventory of district facilities as they enter the state program, rather than on a regular statewide schedule. As one staffer explained, the "master plan is an ideal set of facilities the school district would need to meet their needs. This is overlaid with the buildings that they already have" to create a construction and renovation plan (OFCC staff, interview, August 10, 2016) "The state program does not focus on individual projects, but instead commits to addressing every school building within the LEA, for a district-wide solution" (Vincent, 2014, p. 7).

However, the state does allow for "segmenting" projects (allowing a district to work on distinct school buildings at a time) and deferments if school districts are not prepared to engage in a district-wide project. The state begins working with school districts about two years before their "number comes up" (explained below) so school districts know how much money they will need to raise for their local share. A detailed project agreement between the state and local school district specifies the details of the project and local requirements. Due to the fact that the state works to provide facilities that address districts' educational needs, school district leaders, including superintendents, become intimately involved and "focus a lot of time and energy" when their district has a facilities project going on (Professional Superintendent Association, interview, August 18, 2016).

School districts working with the state can expect to receive ongoing support for years. Project managers assist school districts with determining how many buildings they need, deciding where to put new schools, working with consultants and contractors, and overseeing construction, attending project meetings, and ensuring that the project is in line with the Ohio School Design Manual's standards and guidelines (OFCC staff, interview, August 16, 2016). The design manual was developed by expert educational planners (Fothergill & Verdery, 2003) and is a detailed guide that school districts must follow if they choose to go through the state's program and use state money for their educational facilities. As Vincent (2016) described, "Meeting the standards in the OSDM is required for state-funded projects, but the state does allow for a 10 percent +/- tolerance for prescribed square footages. If a project exceeds the state's space standards, the local school district funds the entire overage. Projects funded entirely at the local level are not required to follow the OSDM space standards" (p. 8). School districts must fund desired portions of the project that are not covered in the OSDM through *locally funded initiatives* (LFIs).

Relevant litigation and legislative history

Perhaps more than any other state, Ohio's system of funding educational facilities needed a dramatic overhaul as their school buildings were some of the worst in the state prior to 1997. As Crampton & Thompson (2008) found, "In 1989 the state legislature had ordered a survey of all school buildings in the state for the purpose of costing out compliance with building and health and safety issues, including asbestos removal, whereupon the associated price tag has amounted to $10.2 billion for repair and reconstruction of existing schools" (p. 51). Assessment determined that over $5 billion were needed to repair existing buildings, and an additional $4 billion was required to rebuild and provide additions (Fothergill & Verdery, 2003, p. 5). However, it was not until almost a decade later that the state took comprehensive action to address the state's overwhelming facilities needs as a result of the *DeRolph v. State of Ohio* case in 1997. As one state facilities expert explained, the current school facilities laws are a "direct outgrowth of a lawsuit challenging constitutionality of the state's funding system...which tries to level the playing field" (Professional Superintendent Association, interview, August 18, 2016). Before the *DeRolph* suit, local school districts had to tax themselves heavily to provide for educational facilities, with little state support. An OFCC staffer described the previous grant system the following way, "A school district might need three new buildings, but would get money for one," noting the inadequacy of prior state support (OFCC staff, interview, August 16, 2016).

According to Ohio's Constitution, the state has a duty to provide a "thorough and efficient" public education to its state's students (Fothergill & Verdery, 2003). In the *DeRolph* litigation, plaintiffs brought detailed evidence demonstrating the sub-par quality of Ohio's educational facilities:

> Plaintiffs' extensive record included proof that asbestos had yet to be removed from 68.6 percent of the state's school buildings and that schools had leaking roofs and windows, falling plaster, no ventilation, arsenic in the drinking water, no handicap access, inadequate media centers, cockroach infestations, no science labs, a warped gymnasium floor, lack of proper heating, carbon monoxide poisoning, asbestos, and faulty electrical wiring. Plaintiffs also presented evidence regarding three schools that were, respectively, sliding down a hill; had no cafeteria; and employed a coal heating system that emitted coal dust throughout the school, conducted band rehearsal in the basement, and held special education classes in a closet with one light bulb. (Sciarra et al., 2006, p. 12)

Plaintiffs' examples included "children having to bring umbrellas to school to use inside the building and libraries located inside old coal bins" (Fothergill & Verdery, 2003, p. 3.)

Crampton & Thompson (2008) added, "Additional evidence of crumbling and bowing school walls, leaking sewage, tainted drinking water, and students freezing" contributed to the outcome (Crampton & Thompson, 2008, p. 51). As a result of the evidence, the Ohio State Supreme Court determined that the state's facilities were some of the worst in the country, and the entire public educational system was unconstitutional. Lower wealth districts could not raise sufficient funds to address their facility's needs, and the state needed to step in (OFCC staff, interview, August 10, 2016). Consequently, the state created the Ohio School Facilities Commission, and the organization's mission was to "provide funding, management oversight, and technical assistance to local school districts for construction and renovation of school facilities in order to provide an appropriate learning environment for Ohio's school children" (Fothergill & Verdery, 2003, p. 4). However, it took several rounds of litigation for the state to develop its current system. As Wood & Baker (2004) lamented, "Ohio illustrates a perfect instance in which the court

issues its directive and the legislature knowingly fails to follow its directive. The state of Ohio illustrates the issues in which even if a court opinion were to be offered and directed at the legislature, dependent upon the political context of the state the actual implementation of such a directive is not a foregone conclusion" (p. 161). This statement illustrates the importance of continuing to press for change until the desired outcome is achieved.

Factors Contributing to Expanded State Investment in Equitable Public School Facilities

Taxation mechanisms (sources of funding)

According to the U.S. Census Bureau's analysis of 2014 Annual Survey of State Government Tax Collections, Ohio's share of state tax revenue by source is similar to the United States on average, though with more reliance on sales and gross receipts taxes (58 percent in Ohio versus 48 percent U.S. state average) and a lower reliance on state income taxes (31 percent in Ohio versus 41 percent U.S. state average) (U.S. Census Bureau, 2016). Ohio has no statewide property tax and collects a higher percentage of license taxes than any other case study state (11 percent in Ohio versus 6 percent U.S. state average) (U.S. Census Bureau, 2014).

Since 1997, revenue for educational facilities has also come from more than one source. For example, in 2008, Ohio used $4.2 billion from the state's tobacco settlement for educational facilities, using one-time money for one-time expenses. The state has also recently passed laws to allow gambling facilities, and has used licensing fees as one time money for school facilities. However, Ohio's primary mechanism for funding school buildings is through biennial capital appropriations as part of the state's capital budget (OFCC staff, interview, August 10, 2016). The remainder is provided through statewide general obligation bonds through the capital bill. Debt on the bonds is retired from the state's general fund. Since 2002, the state's budget has included money for school construction and renovation (Professional Superintendent Association, interview, August 18, 2016).

Local level PK-12 sources of funding. As in Texas, local taxpayers rely on local property taxes for both educational operating and capital funding. Taxpayers approve millage necessary through general obligation bond elections. As Vincent (2014) described, "Once the district-wide facilities master plan is finalized, the school district puts their share of the funding up to local vote for bonding. If the local bond is successful, the state releases the funds necessary to complete the project" (Vincent, 2014, p. 7). Districts must show that they can raise their entire local share before the state will work with them. In Ohio, local general obligation bonds are approved with a simple majority. According to one OFCC staffer, there are a few other ways districts can pay for their educational facilities, including using their general revenue funds, permanent improvement funds, or with lease agreements with a third party (OFCC staff, interview, August 10, 2016).

School districts can also defer working with the state. In the event that school districts are not able to raise their local share within 13 months, they become a "lapsed" district that then moves to another list, which occurs with approximately three to four school districts a year (OFCC staff, interview, August 10, 2016). Lapsed school districts can enter the program once they have raised their local share.

An additional requirement for participating in the program is that school districts raise an additional ½ of 1 mill that must be used for facilities maintenance. This special tax lasts for 23 years, and is a small amount that accumulates for later repair and maintenance, such as replacing an HVAC system or roof. As an Ohio facilities expert explained, the state "did not want to be building school buildings and then 15 years later, they were in bad shape because the school districts couldn't afford to maintain them" (Professional Superintendent Association, interview, August 18, 2016). This local revenue protects the state and local investment.

Effect of taxation mechanisms on equity. Ohio's state share is collected equitably statewide. For the local share, generally a reliance on general obligation bonds tied to local property wealth results in continued inequity as taxpayers in districts with lower property wealth must tax themselves more to raise the same amount of money as taxpayers in districts with higher property wealth. As explained in the next section, the state addresses the disparity in revenue raising ability through its sliding scale of disbursement. However, the state's strong reliance on bonds to finance educational facilities results in a lack of revenue source diversity, which can be helpful in challenging economic times or when interest rates increase.

Distribution of state facility funding and aid. The distribution of state aid is based on the assumption that school districts with lower property wealth have the most need and least ability to pay for educational facilities. The system addresses school districts in a specific order:

> Through its major financial assistance program, the OSFC provides state funding to school districts on a priority basis in converse relationship to the wealth of the district. To prioritize the funding distribution, OSFC utilizes a ranking schedule provided by the Ohio Department of Education (ODE) that lists school districts on a continuum of wealth from low to high. The wealth measure accounts for the property tax base of the district as measured by assessed valuation in the context of the ability to pay of their residents as measured by income per tax return. Ohio Revised Code Section 3318.011 provides for ODE to generate and certify to the OSFC an updated ranking list before September 1st of each year. The ranking identifies the relative position of each school district on the wealth spectrum for prioritization of fund distribution[12]. (Ohio Department of Education staffer, personal communication, September 13, 2016)

Since the 1990s, these "Equity Rankings" have determined when school districts enter the state's educational facilities program. As one OFCC staffer explained, the equity list is primarily based on property values and secondarily on incomes, weighted by the number of students in a school district (OFCC staff, interview, August 10, 2016). Property values per student are based on a rolling average, and the equity lists are adjusted every year to reflect changes in enrollment and property values. For example, if a school district's enrollment increases, but their assessed valuation does not increase, then "they get a bump on the equity list" (Professional Superintendent Association, interview, August 18, 2016). This is important as one third of the state's counties every year go through a reappraisal of property values or

[12] *Pursuant to provisions of the law, the Ohio Department of Education calculates the wealth measures utilizing two different methodologies for traditional school districts and joint vocational school districts (Ohio Department of Education staffer, personal communication, September 13, 2016).*

"triennial update." The state and local share are then determined by the relative wealth of a school district, ranging from 5 percent to 95 percent. The first districts to enter the program, those with the least property wealth, were responsible for a 5 percent (or similar) share, while the school districts with the greatest wealth will be almost entirely responsible for paying for their own facilities, though the state will contribute no less than 5 percent for each district. For example, of the 610 school districts, #305 would have close to a 50/50 split between state and local share (OFCC staff, interview, August 10, 2016). Nineteen years into the program, the state has spent $11.3 billion in state funds since 1997 and built out 50 percent to 60 percent of the state's educational facilities so far.

Table 10: State Share of PK-12 Capital Outlay and Sources of Funding (in millions)

	FY2011	FY2012	FY2013	FY2014	FY2015	FY2016
State General Fund (from statewide bonds)		$235	$312	$195M	$274	$198
State General Fund (not from statewide bonds)	$6	$7	$4	$3M	$2	$3
Lottery Funds				$133	$103	$88
Tobacco Settlement	$904	$286				
Other?		$1				
Total State Share of Total Capital Outlay	**$910**	**$529**	**$316**	**$331**	**$379**	**$288**

Throughout the program, Ohio has invested heavily in educational facilities. "From 1998-2002, Ohio has authorized $2.7 billion in state funding for school construction or nearly $536 million a year" (Fothergill & Verdery, 2003, p. 9). There is $650 million in the current capital bill for school facilities, and there was $675 million in the previous bill. The decrease recognizes that as the state moves through the equity list, the state share is gradually decreasing (OFCC staff, interview, August 10, 2016). The OFCC has the capacity to begin working with approximately 20 school districts per year at its current staffing level, though state funding needed to manage those 20 school districts would decrease over time. Currently, the state share is about 40 percent as the state is entering projects with higher wealth school districts.

With regard to the actual distribution of funds, "the state enters into a project agreement and quarterly releases the funds necessary to complete the project" (Vincent, 2016, p. 44). Currently, the average district-wide project is $40 million to 45 million, which equates to two to three school buildings. To set a project budget based, the OFCC estimates a cost per square foot based on grade level and regional factors within the state, as different parts of the state are costlier than others. However, the state takes into account that project budgets change over time, and the OFCC analyzes construction costs every year to adjust the expected cost per square foot; "facilities that cost $10 million 10 years ago will cost $15 million today" (OFCC staff, interview, August 10, 2016).

State aid programs for facilities. Over time, the state's main program, Classroom Facilities Assistance Program, has gained some flexibility. As mentioned earlier, the state now allows a school district to divide its facilities needs into discrete segments under Commission Resolution 13-05, allowing a district to raise the local share of the segment, rather than the entire district amount. In these cases, the state will work with the school district multiple times.

The OFCC's current policy is to conduct a thorough assessment of facilities, including the building's finishes, foundation, HVAC, security system, etc. The state compares the results of the assessment to the

standard they would expect to find and then develop the cost to bring that building up to standard. As an OFCC staff member explained, if the costs to renovate a building exceed 2/3 the cost of new construction, then the state builds a new building, rather than renovating (OFCC staff, interview, August 16, 2016). However, some communities are tied to their buildings and apply to have the 2/3 policy waived. In those circumstances, the state will only pay for renovations up to the cost of new construction.

With regard to more formal programs, the state has an Exceptional Needs Program (ENP), which according to the OFCC's website, "is a building replacement program that provides school districts with the ability to protect the health and safety of their students with a new facility." The ENP identifies facilities "most in need of replacement" from amongst a pool of applicants and addresses facilities with urgent needs, such as those damaged by flood, fire, tornado, or earthquake. District participation in the ENP does not preclude a district's participation in the primary CFAP or other programs. A subprogram, the Extreme Environmental Contamination Program, provides for the relocation or replacement of facilities with environmental contamination. All districts are eligible, though districts are responsible for their proportional local share, depending on their wealth. One facilities expert asserted that this program targets school districts that are below the 75th percentile in wealth ranking or have a large land mass (Professional Superintendent Association, interview, August 18, 2016). Under this program, the state will not do a project for a building with fewer than 350 students, which is meant to encourage consolidation, particularly in southeastern Ohio, a rural area of the state.

Another major program is the Expedited Local Partnership Program (ELPP), which is used for districts that cannot wait for their "number to come up" in the primary Classroom Facilities Assistance Program. Districts can request to enter the ELPP and then:

> OSFC then performs an assessment of the district's facilities and enters into an agreement with the district on a facility master plan that covers the entire needs of the district. The district then chooses a "distinct portion" of their master plan to fund through local efforts. When the district's turn later arises in the Classroom Facilities Assistance Program, the money spent by the district on the distinct portion is credited against the local share of the entire master plan projects. (OFCC, 2016).

For example, if a school district needs three buildings at $20 million each and they build one on their own through ELPP, when their number comes up, if they have a 50 percent match from the state, they will get a $10 million credit for the money they already spent (OFCC staff, interview, August 10, 2016). In some cases, school districts have used the entire amount of their local share through this program.

Smaller programs include the Vocational Facilities Assistance Program (VFAP), Facilities Assessment Program (FAP), the School Energy Performance Contracting Program, and the School Security Grant Program. In Ohio, schools are considered state property until the building is complete. Once a project is complete, however, the OFCC will come back and revisit the facilities plan is a school district has had a large enrollment increase (Professional Superintendent Association, interview, August 18, 2016).

Effect of state aid programs on equity. As in Wyoming, this system was created with equity in mind, and the state works to achieve equitable facilities in a number of ways. As one staff member explained, the "program was developed so that every seat built in the state was equivalent, not tied to wealth of local area" (OFCC staff, interview, August 10, 2016). First, the state began addressing the lowest wealth

districts first, but it has programs in place to acknowledge that emergencies come up. It also gives credit to school districts that can afford to pay for their districts before it is their turn. Second, it uses a sliding scale, providing a higher percentage of money to school districts with less wealth.

Public debt policies

Debt policies are important in a state like Ohio that relies primarily on long-term debt, both at the state and local levels, to finance educational facilities. In Ohio, only the wealthiest districts can afford to pay for large portions of their facilities without borrowing. Ohio has the authority to issue bonds equal to 5 percent of the total revenue fund. School districts in Ohio cannot use the state's credit rating when issuing debt locally. In the current low-interest environment, it is easy to borrow money. According to an OFCC staff member, the state does not have plans to move away from a debt-based financing system, saying "the policy has been, when times are tough financially, there is going to be a desire to borrow money. The state has borrowed money for years, and there is a large amount of debt that has to be paid off. Principal and interest payments are considerable. It's hard to do cash payments on top of that" (OFCC staff, interview, August 10, 2016). That last statement indicates that it would be difficult to try to do pay-as-you-go payments on top of retiring debt. Fortunately, compared to other states, at the end of fiscal year 2013, district long-term debt was only $5,803 per student (Filardo, 2016).

Effect of public debt policies on equity. As with any type of financing, interest payments increase the overall cost of a project. Since Ohio relies on debt to pay for educational facilities, the cost of facilities is ultimately higher across the state. The fact that the state does not allow school districts to use the state's credit rating is also detrimental to school districts with lower credit ratings, either due to blemished financial pasts, lower wealth, or high levels of current debt.

Discussion of Quality, Adequacy, Equity, and Reliability of State Facilities Programs

The interview respondents spoke favorably of Ohio's facilities policies overall. One expert who works with superintendents around the state said, "Overall, it's perceived very positively" (Professional Superintendent Association, interview, August 18, 2016). Another facilities expert said the "main components of the program work well," including that local districts have to have "skin in the game" so they feel invested (Ohio Facilities Expert, interview, August 29, 2016). However, one issue on which respondents seemed divided was the nature of the Ohio School Design Manual, describing it as "elaborate," but also "overly prescriptive." With regard to quality, the design manual is quite specific about its siting standards and other guidelines for educational facilities in the state. The state will not pay for elements not included in the design manual, which has earned it some push back from school districts. For example, the design manual does not include a certain type of tile floors, which are more durable and aesthetically pleasing, that many school districts prefer. The main sticking point, however, is that the state will pay for gymnasiums, but not auditoriums, which many districts criticize as unreasonable. Since many communities view auditoriums as a central feature of a community school, they turn to "locally funded initiatives" to raise money locally for elements not included in the design manual. Wealthier school districts do not appreciate such tight state controls, especially given their relatively lower state share of funding. One expert expressed school districts' sentiments, saying, "As you move to wealthier school districts, you have school districts that say, 'You only want to give us 25 percent of the money, but you want to have 100 percent of the say? We'll just do it ourselves'" (Ohio Facilities Expert, interview, August

29, 2016). Some wealthier districts that do not want to be limited by the OSDM have chosen to pass millage on their own, foregoing state support.

With regard to adequacy of funding, as the state has moved through the equity list, the state share for facilities has decreased. School districts eligible for 40 percent or less are having a harder time passing bond issues (Professional Superintendent Association, interview, August 18, 2016). These school districts "in the middle" are not necessarily economically disadvantaged and have some local wealth, but they are not wealthy enough to completely fund facilities on their own. Yet their voters might not necessarily want to raise the local match necessary to fully address the district's educational facilities. These districts will likely segment their projects into more acceptable portions.

With regard to equity, the state has made significant efforts to weave equity into the fabric of the facilities policies. At least according to one study, these efforts have been successful:

> The difference in ability to pay is still quite large in Ohio, with the top quintile having almost three times the taxable value of land. In spite of this difference, the highest quintile is only about 4 percent above the lowest in capital stock per pupil. Clearly the Ohio School Facilities Commission is having an equalizing effect, at least for the poorest quintile of districts. (Davis, 2015, p. 14)

Davis used three measures of equity to look at the distribution of facilities spending in Ohio and noted that "it appears that the Ohio School Facilities Commission has to some extent leveled the playing field and also weakened the link between poverty and the quality of school facilities" (Davis, 2015, p. 22) also noting a correlation between school capital and graduation rates.

With regard to reliability, the program has been methodically working through the equity list for almost two decades, with no indication of stopping. There are 610 traditional school districts in the state and 49 joint vocational districts. To date, 351 school districts have been served, though that does not mean that all of those districts' facilities have been built. Because school districts are limited by their ability to pay for everything at once, school districts can develop a master plan and then build it out slowly over time. The state works with school districts over the course of their project, and the state currently has 90 projects underway. For example, Cleveland's school district started working with the state in 2002, and they are in the middle of their program. Cincinnati took 12 years to completely address their district (OFCC staff, interview, August 10, 2016). There are 308 districts in the state remaining to be served, and at a rate of 20 school districts a year, it is likely that many of those districts will need to rely on the ELPP to get more immediate needs addressed.

While no program is perfect, "It's a good environment to have" (OFCC staff, interview, August 10, 2016), and the system is certainly more equitable than before the *DeRolph* rulings led to the creation of the OSFC. It is also worth considering that Ohio is a relatively more conservative state, which generally provide less funding for public services. Ohio's program is potentially a model for both conservative states and those that do not want to move away from debt financing.

Findings from Phase 3: Leveraging Factors to Encourage States to Expand Facilities Support

The second phase of the study addressed the research question: How can those factors be leveraged to encourage states that make minimal investments to expand their support for facilities funding? Each case study state's educational facilities funding system had elements that contributed to equitable investment. Table 11 below applies the Equity Investment Typology to the case study states, summarizing major factors of each case study state's facilities funding system with regard to the three categories: (1) state spending and aid policies; (2) taxation policies (sources of funding); and (3) public debt policies. As in Equity Investment Typology table above (see Table 2), criteria for the low, moderate, and high levels were determined as follows:

- "Low" indicates that the state has programs, policies, or practices that do not advance equitable investment in facilities, relative to other policies in other states.
- "Moderate" indicates that the state has programs, policies, or practices that somewhat advance equitable investment in facilities, relative to other policies in other states.
- "High" indicates that the state has programs, policies, or practices that work to advance equitable investment in facilities, relative to other policies in other states.

Table 11: Summary of Equity Investment Typology Applied to Case Study States

	Texas	Wyoming	New Jersey	Massachusetts	Ohio
State Spending/Aid Policies					
Aid formula/ program(s) consider/s equity	**Moderate**: aid distributed based on property wealth sliding scale	**High**: aid distributed based on capacity and building condition	**High**: aid distributed based on property wealth and need	**High**: aid distributed based on project need, urgency, and wealth	**Moderate**: aid distributed based on district wealth
State share	**Low**: 9 percent state share	**High**: 63 percent state share	**Moderate**: 32 percent state share	**High**: 67 percent state share	**Moderate**: 27 percent state share
Adequacy (FY1994-2013 (2014$) Annual avg. School-construction cap outlay per 2013 student)	**Moderate**: $1,101	**High**: $1,416	**Moderate**: $1,007	**High**: $1,383	**Moderate**: $1,084
Technical assistance	**Low**: no facilities department and very limited assistance	**High**: State provides in depth-technical assistance	**Moderate**: State provides in depth-technical assistance for high-need districts	**High**: State provides in depth-technical assistance	**High**: State provides in depth-technical assistance
Stability	**Low**: IFA program is not consistently funded by the Legislature	**Moderate**: Coal lease bonuses were previously stable, but state is now looking for new funding	**Moderate**: The state has run out of funding in the past, though it has always allocated more	**High**: State consistently allocates portion of sales tax	**High**: State consistently allocates funding to educational facilities
Taxation Policies: Sources of Funding					
Tax Caps/Limits	**Moderate**: $0.50 per $100 of property value	**High**: Legislature has unlimited taxation power to fund schools	**Moderate**: Regular operating school districts have tax caps, but can tap into municipal valuation if necessary	**Moderate**: MSBA has a debt limit of $10 billion. Local communities can issue up to 5 percent of their equalized assessed valuation.	**Moderate**: Ohio has the authority to issue bonds equal to 5 percent of the total revenue fund. The debt limit is on unvoted debt only; no limit on voter approved debt
Diversity of revenue sources	**Low**: Vast majority of funding comes from local property taxes (91 percent) with only 9 percent from state general revenues	**Moderate**: Coal lease bonuses have been used, but the state can use bonds as well	**Moderate**: Majority of funding comes from state and local bonds, but also includes state income taxes	**High**: Revenue comes from sales tax, statewide bonds, and local bonds	**Moderate**: Revenue comes primarily from state and local bonds, but also some one-time funds
Statewide vs. local tax collection	**Low**: Local property tax only, no redistribution	**High**: Taxes are collected statewide	**Moderate**: Taxes are collected both statewide and locally	**Moderate**: Taxes are collected both statewide and locally	**Moderate**: Taxes are collected both statewide and locally
Public Debt Policies					
Credit enhancements	**High**: Districts can use state's credit rating, and state has established a guaranteed fund to ensure debt	**High**: Districts can use state's credit rating	**High**: State has established a guarantee fund for school district debt	**High**: Districts can use state's credit rating	**Low**: Districts cannot use state's credit rating
Debt payment	**Moderate**: State	**High**: Debt payment	**High**: The state	**High**: MSBA paid	**Low**: State has no

assistance programs	has small programs to help school districts pay their debt	assistance programs with equity considerations (programs no longer exist, but only because there is no longer a need)	offers a floor of 40 percent debt assistance aid for regular operating districts. High-needs districts have no debt	off the majority of school districts' debt held under old system and now helps school districts minimize overall debt	programs specifically structured to help districts pay their debt.
Debt vs. pay-as-you-go	**Low**: heavily reliant on debt	**High**: pay-as-you-go system	**Low**: heavily reliant on debt	**Moderate**: partial pay-as-you-go system, partial debt	**Low**: heavily reliant on debt

Each case study above closed with a discussion of the quality, adequacy, equity, and reliability of the state's facilities funding system. No state has a perfect system for funding educational facilities. Some states exceled in certain areas, but not others. Other researchers have attempted to evaluate state systems of funding facilities. There are two states that stand out as having the most equitable systems: Wyoming and Massachusetts.

Both states provided over 60 percent of funding for educational facilities between 1993-2013 according to U.S. Census of Governments F-33 Fiscal surveys, while Wyoming's share has been higher since the implementation of its current system. Wyoming, more than any other state, has taken on funding educational facilities at the state level and provides full funding for all educational facilities for all school districts. Wyoming also relies on a pay-as-you-go system, rather than debt financing, thus saving the state from paying interest payments over decades.

Massachusetts also stands out given the state's dedication to a state and local partnership. The state funds between 31 percent to 80 percent of project costs, based on poverty (as determined by the number of students in the district that receive or are eligible for the federal student lunch program, compared to the state average), equalized property values, and per capita income (as determined by the U.S. census). While funding levels vary by district according to need, the MSBA provides all districts with in-depth technical assistance at the project level.

When analyzing why educational facilities have remained inequitable given increases in educational spending, attempts at finance reform, and judicial action aimed at redressing inequality over the years, it is crucial to examine these policies in terms of the broader social, political, and economic system. Each state's context was different, which was reflected in the policy pathways states chose to follow. What was clear was that a finance system based on local property values and credit ratings, voters' willingness and ability to raise taxes, and local leadership capacity are inherently inequitable.

Building Educational Success Together, a national initiative to improve the quality of school facilities in urban communities, has the following policy objective: To ensure that there are stable and sufficient funds for public school facilities and that they are allocated equitably and efficiently. In the spirit of this objective, the following section provides policy recommendations that states can implement, if they have not already, to expand their support for facilities construction and/or maintenance.

Ensuring Equitable State Spending and Aid Policies

A first step to being able to equitably fund educational facilities across a state is for the state to conduct and maintain an inventory of all educational facilities in the state. The inventory must be adequately funded and regularly updated. Best practices include hiring impartial facilities experts to conduct the

inventory with fidelity across the state. Without reliable, up-to-date information about the state's housing stock, it is impossible to assess whether funds are being targeted to the appropriate places, as equity requires.

When developing or updating policies for how the state will spend money on facilities and/or target state aid through programs, there are two main processes to consider. First, the state should develop a ranking system to determine the order in which to address school districts' needs. Best practices include ranking districts based on need, urgency, capacity, and growth rate as determined through the statewide inventory and long-range demographic planning. Second, the state must determine how much money to provide for each school district. If the state is not providing full funding, such as Wyoming or New Jersey for SDA districts, then best practices include developing a sliding scale based on measures of local wealth. These can include equalized property value, student poverty, and community income. As Burrup, Brimley, & Garfield (1988) advocated decades ago, "School building funds allocated by state to local districts should be disbursed on an equalization basis, just as operating funds are" (p. 360).

Cárdenas (1997) provided the following recommendation for facilities financing in a 1989 position paper, "A formula for inclusion of a facilities and debt service entitlement in the foundation school program should include at least the following four elements: a basic entitlement, an adjustment for unusually large district growth, an adjustment for age of existing classrooms and an adjustment for existing bonded indebtedness for past construction of school facilities" (p. 306). Finally, funding approaches must be sophisticated enough to recognize that while some school districts need funding for new construction, others need funding targeted toward renovations and modernization, and all school districts need reliable, consistent funding for ongoing facilities maintenance and operations.

As we have seen in the state of Texas, even equity-centered funding formulas based on wealth will result in inequitable facilities statewide if the overall level of funding is inadequate. The state share is an important factor for states to consider. Once states have conducted a statewide inventory, they will have a clearer picture of the total costs of educational facilities needs statewide and the overall level of funding needed to ensure equitable facilities construction. Then the state can budget for its share. Each state will need to decide for itself what level of state funding it can provide, though best practices include the state providing over 50 percent of the funding for educational facilities, at least for high-needs school districts. The level of state spending should not only provide for new construction and major renovations, but also provide ongoing funds for maintenance of all facilities that is tied to industry best practices at a level that protects facilities investments.

State legislatures can also provide state departments of education with enough funding and capacity to hire and retain individuals with the expertise to provide all school districts in the state with technical assistance for facilities planning, design, construction, and maintenance. When technical assistance is lacking, school districts turn to a varied and sometimes ethically dubious field of private consultants and contractors. As one state facilities expert explained, "School boards have no clue about facilities" (NJ DOE Office of School Facilities staff, interview, May 16, 2016). They need technical assistance they can trust. States can also require higher maintenance spending. School board members and other school leaders that make shortsighted cuts to facilities maintenance are often out of office before their decisions have allowed facilities to degrade. Just as individuals take their cars in for regular oil changes, states should protect their investments in newly constructed and modernized facilities by requiring school districts to spend industry-established amounts on facilities maintenance.

Finally, ensuring equitable state spending requires the establishment of a dedicated, stable funding source, specifically allocated for facilities. The legislature should also take steps to protect funding from economic fluctuations by setting an annual minimum spending amount.

Improving the Equity of Taxation Mechanisms and Sources of Revenue

Regular taxation is necessary for a well-functioning government, though states vary widely on how they raise revenue. Many states limit how much local school districts can tax their voters, and other states limit taxation at the state level by restricting the level of debt they will issue, thus limiting the taxes needed to repay the debt. When thinking about raising revenue to fund equitable facilities investment, it is necessary to consider that facilities are not a one-time cost, but an ongoing expense, as they require regular maintenance. At any point in time, a state will have a mix of new and aging facilities. When states neglect to properly maintain facilities over time, they spend more on addressing facilities emergencies. Therefore, states must be in the practice of consistently and predictably raising revenue to fund facilities across the state. Wyoming sets the standard by allowing its legislature unlimited taxation power to fund schools.

States should also consider diversifying their taxation mechanisms and revenue sources to protect against economic fluctuations over time. Unfortunately, most states rely almost exclusively on the local property taxes to fund educational facilities, which is a regressive tax and an inequitable source of revenue. The primary recommendation in this report is for states to move away from the local property tax toward other sources of revenue. What TEE/IDRA published in a 1973 newsletter remains true today. The newsletter article pointed out that the ad valorem tax was "too narrow a base to continue supporting the cost of school construction. State assistance drawing upon broad-based sources of revenue must provide relief, at least to low wealth school districts unable to support a program of school construction" (Cárdenas, 1997, p. 98). Burrup, Brimley, & Garfield (1988) agreed, stating "property taxes should not bear the entire costs of financing school facilities. Increasing the amount the state pays for financing such facilities, of course, puts the burden of taxes on forms of wealth other than real property" (p. 360). States would do well to draw from a combination of funding sources that alleviate pressure from local property tax payers, such as statewide general revenues, a statewide property tax, sales taxes, severance taxes, and so-called sin-taxes.

The problem of local tax bases is that the state is carved into too many school districts with uneven property values. Cárdenas pointed this out in 1997, saying, "Texas is still plagued with an excessive number of school districts...the cost of operation of a small school district becomes prohibitive...an investment of state funds in construction grants as an incentive to consolidation will pay high dividends" (p. 98). The Equity Center (2015) agreed, suggesting, "Consolidation of districts or at least tax bases and/or shifting to a statewide property tax on at least some categories of property (e.g., mineral wealth, major commercial, industrial or utility property, etc.)" (p. 18). The goal with consolidation would be to collect and distribute taxes in a way that makes up for inequitable abilities of local districts to make sustained investments in infrastructure. A more regional approach would make it easier to address broader goals such as racial and socioeconomic integration as larger geographic areas tend to be more diverse. Other regional goals include the use of educational facilities for entire communities. However, consolidation has long been viewed as a less realistic policy change: "More far-reaching reforms entail the elimination of separate local tax jurisdictions so that there is but a single state-wide tax base that could be

taxed at a common rate" (Monk, 1990, p. 160). At the very least, tax assessors could be required to assess property more equitably across states.

Enhancing the Equity of Public Debt Policies

Ideally, states would move away from debt financing as it is costlier in the long-run and is tied to property wealth, which at the local level, is inequitable. However, because many states will likely rely on at least some level of debt financing for infrastructure investments, either because of a lack of other funding or a deeply rooted statewide penchant for debt, there are a few policies that states can put in place to ensure that their debt policies are more equitable.

First, the state can provide credit enhancement for local school districts, such as allowing school districts to use the state's credit rating. Second, the state can provide state debt assistance programs that distribute money in a way that makes up for inequitable local investment, such as by adjusting for local wealth. By helping local school districts pay off their debt, particularly those that are less wealthy, they save districts money, reduce tax rates, and prevent districts from reaching debt caps that limit their ability to provide needed facilities. Using even partial pay-as-you-go methods allow taxpayers to save money by lowering the amount of interest paid over time. Third, states can set their debt limits at a level that allows fast-growth districts to access the funds they need to prevent students from spending too much time in portable facilities.

States would be advised to move away from debt whenever possible and toward at least partial pay-as-you-go systems. By paying at least some educational facilities expenses on a current basis, states will save money. While borrowing is "cheap" now, given low interest rates, carrying high levels of debt is not necessarily a best practice, particularly given the likelihood of interest rate increases over time.

Additional Best Practices

States should push for increased federal funding for educational facilities. While the federal government contributes 10 percent for operating costs for public education, with state and local levels contributing 45 percent each, the federal government contributes only 0.2 percent of capital outlay for public educational facilities. This is an inconsistent approach to public infrastructure given the federal government's larger roles in funding, for example, public transportation. Many states have recognized that facilities are an integral component to a high quality and equitable education. It is time the federal government recognized that as well.

Whenever possible, equity advocates and parents should pursue litigation including and even focusing on educational facilities. While some states are fortunate to have state constitutional language that makes it easier to argue for equitable educational funding, other states, are less fortunate. Short of pursuing a constitutional amendment explicitly addressing equitable educational resources, states that have been less successful in the courts can build a coalition over time with equity-centered organizations to advocate *together* for desired policy changes at the legislative level. For example, those interested in more equitable facilities can partner with existing organizations like the National Council on School Facilities, which currently includes over 20 states pushing for equitable facilities policies.

State departments of education can also provide guidelines to help school districts navigate relationships with private consultants and contractors. For example, policies can regulate fees paid to financial consultants. In addition, the state can require all contractors and consultants to be pre-qualified and trained before working with school districts. The state can also assist districts with creating uniform contracts that protect school districts' interests and provide consistency across the construction industry.

Regarding motivation, equity advocates would do well to acknowledge that states might not want to take the first step of conducting a statewide inventory because then they would be pressured to find the resources to address the problem. Therefore, equity advocates and school districts might want to pursue funding for an external, objective source that can collect the data and serve as the initial impetus for state action. Advocates for funding equity should also disseminate the empirical academic literature documenting the importance of facilities for teaching and learning. Making connections between high-quality facilities and school-based outcomes will help school districts and the equity community advocate for improved policies and have common talking points. A shared goal should be to make it harder for people to accept facilities inequities as just "how it has always been." In order to motivate people to advocate for equitable spending for facilities statewide, advocates should also argue that improving educational inputs for all students helps the entire state and can improve the state's economy long-term.

States can also work across industries to consolidate construction needs as Ohio and Wyoming have done but must take care to ensure that public education remains a priority. By creating a department or agency that handles construction for all state entities, rather than housing school facilities within the department of Education, states can focus on wider infrastructure development and maintenance policies, standardize and oversee health and safety issues, ensure ADA compliance across all state facilities, and improve statewide policies for sustainable and green facilities. When facilities practices are consistent across the state, transparency increases, and along with it, social trust.

Implications and Conclusion

President Obama's Equity and Excellence Commission (2013) presented a report to then Secretary of Education Arne Duncan, presenting school finance strategies for educational equity and excellence. Though the recommendations were never taken up, the report's findings include disparate facilities as part of an inequitable system that we need to address moving forward:

> Our education system, legally desegregated more than half a century ago, is ever more segregated by wealth and income, and often again by race. Ten million students in America's poorest communities—and millions more African American, Latino, Asian American, Pacifc Islander, American Indian and Alaska Native students who are not poor—are having their lives unjustily and irredeemably blighted by a system that consigns them to the lowest-performing teachers, the most run-down facilities, and academic expectations and opportunities considerably lower than what we expect of other students. These vestiges of segregation, discrimination and inequablit are unfinished business for our nation. (p. 14)

Indeed, President Trump declared in his speech on election night that he intended to rebuild the nation's infrastructure, including school buildings. The National Council on School Facilities passed several resolutions in December 2016, one of which asked that "federal infrastructure spending in the new administration include schools and grounds" (Superville, 2016). Facilities advocates should push for federal funding for educational facilities as an integral part of national investment in infrastructure.

School facilities funding is at once financially and legally complex, of critical importance to districts, and often misunderstood by researchers, policymakers, and practitioners alike. The findings from this study contribute to research, policy, and practice. While scholars have written extensively on education finance and others have studied certain aspects of school facilities, primarily attempting to link facilities to academic achievement, the extant literature in this area has yet to fully explore the different policy pathways that states have taken and can take to invest in educational facilities. Little had been written about the broad range of factors that contribute to expanded state investment in equitable, traditional public school facilities and how those can be used to move states that make minimal investments in supporting facilities funding into expanding their support for facilities construction and/or maintenance. This study contributes to research by creating an Equity Investment Typology that categorizes factors that contribute to expanded state investment in equitable public school facilities. This study synthesizes various strands of facilities research that have not yet been considered together.

States' education finance policies have shaped the current systems of school facilities funding over time. While there is no one-size-fits-all solution, many states have implemented educational facilities best practices in one or more areas of the Equity Investment Typology. The analysis here examines how states with various constraints and policy preferences have taken different policy pathways to expand their investment in educational facilities and maintenance. This study contributes to policy by providing

policymakers with various factors they can pursue to move toward higher levels of investment in school facilities to improve the equity of school facilities in their state.

Finally, this research contributes to practice and the everyday experiences of students and teachers around the country. Just as previous research has helped school district leaders understand the steps to take when financing facilities in their districts, this research has the potential to assist practitioners engaging in the facilities financing system by making the system more transparent and inspiring them to lobby for additional policy changes within their state. From the student perspective, the investments we as a society make in public educational facilities signal to students how much society values them. Students are observant of their surroundings and are aware of the disparities in educational facilities, as evidenced by the Through Your Lens project, in which students shared photos and essays about the quality of their public-school facilities. Students included photos of water damage, broken doors, flaking paint, locked up bathrooms, broken water fountains, and other unsafe and unhealthy conditions that they endured daily. The Through Your Lens report (Healthy Schools Campaign, 2010) explained that buildings in poor conditions "limit educational opportunity, damage the morale of students and teachers, impair student and teacher health" (p. 7). These conditions are the direct result of inadequate and inequitable facilities funding in states across the country. We cannot expect all students to succeed when they are provided with insufficient, unsafe environments in which to learn.

Currently, the quality of a child's school building is directly related to the decisions their state's policymakers have made in the past. Examining state facilities policies reveals important insights about how policies promoting equity have developed in certain states and points to opportunities to improve equitable access to facilities for students in other places. Furthermore, investment in educational facilities is tied to broader health and safety concerns. Outrage over outdated lead pipes poisoning water in Flint, Michigan, was a reminder of the importance of investing in infrastructure. While wealthy communities have the ability to adequately maintain their facilities, persistent patterns of racial and socioeconomic segregation have long-lasting implications for equitable infrastructure investment, particularly when funding is still tied to local property wealth in most states. Given the recent evidence on the importance of educational facilities for school climate, student attendance, and teacher attrition, which directly affect teaching and learning, as well as the continued focus on school finance equity in many states around the country, this is a timely and important policy area with long-term implications for the schooling of millions of children.

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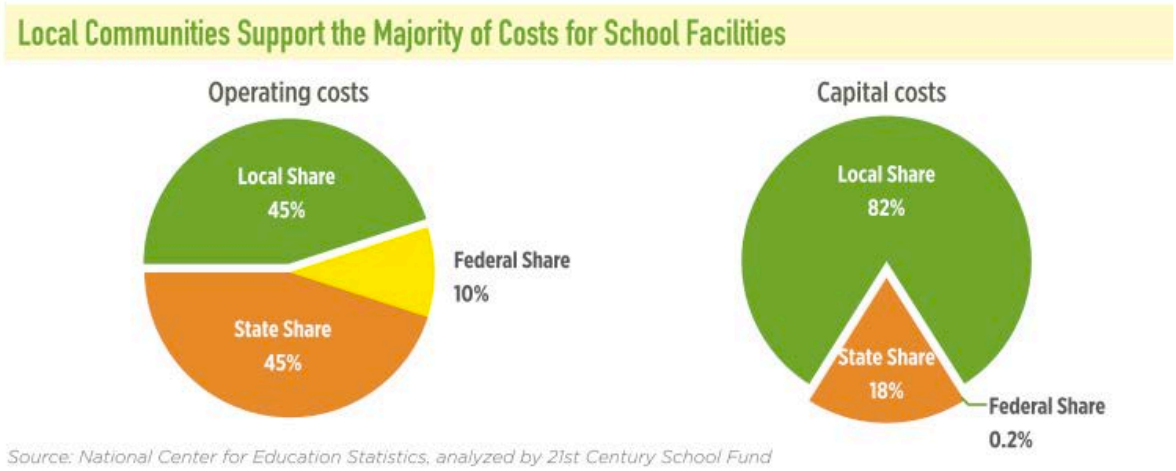
Appendix A: Case Study Selection Matrix

Selected Case Study States	Political Party Affiliation (Governor/ State Senate/State House)	Avg Annual Per Student	Rank, Avg Per Student	State percent	Rank, State percent Share	Public Inventory Available	Facilities Plan	Facilities Standards	State Facility Entity	State Staff	Technical Assistance	Facilities Court Case	Funds Charters	Student Population	Type of Building Aid Program (Duncombe & Wang, 2009)
		(Filardo, Cheng, Allen, Bar, & Ulsoy, 2010)													
Texas	R/R/R	$1,280	10	13	31	no	no	yes	no	4	yes	no	no	4,581,517	Open-ended matching (OEM)
Wyoming	R/R/R	$2,066	2	106**	1	yes	no	yes	yes	18	yes	yes	no	85,991	OEM
New Jersey	R/D/D	$1,343	8	57	10	yes	no	yes	yes	350	yes	yes	no	1,359,949	OEM
Massachusetts	R/D/D	$762	32	194**	1	yes	yes	yes	yes	45	yes	no	no	937,677	OEM
Ohio	R/R/R	$1,100	18	50	15	no	yes	yes	yes	70+	yes	yes	no	1,743,920	lump-sum aid AND OEM
Possible Case Study States															
New Mexico	R/D/R	$1,205	13	52	13	no	no	yes	yes	51	yes	yes	yes	329,045	lump-sum aid AND OEM
California	D/D/D	$1,569	6	30	23	no	no	yes	yes	157	yes	yes	yes	6,188,761	OEM
Florida	R/R/R	$1,652	5	21	24	yes	no	yes	no	30	yes	no	yes	2,645,680	lump-sum aid
Colorado	D/R/D	$1,080	20	1*	39	yes	no	no	no	7.5	yes	yes	yes	797,167	lump-sum aid AND OEM

Appendix B: Local Communities Support the Majority of Costs for School Facilities



Note. From "State of Our Schools: America's K-12 Facilities 2016," by M. Filardo, 2016, Washington, D.C.: 21st Century School Fund. For a breakdown of capital costs by state, see the full report's Appendix C.

Appendix C: IDRA Consent for Participation in Interview Research

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Consent for Participation in Interview Research

This consent is for research that is being conducted for the IDRA José A. Cárdenas School Finance Fellows Program, which was established to investigate school finance solutions that secure equity and excellence for all public school students. Marialena Rivera, Ph.D. candidate from the University of California, Berkeley, Graduate School of Education, has been named 2016 José A. Cárdenas School Finance Fellow.

I volunteer to participate in a research project conducted by Marialena Rivera, 2016 José A. Cárdenas School Finance Fellow. I understand that the project is designed to gather information about educational facilities and equity. I will be one of approximately 20-25 people being interviewed for this research.

1. My participation in this project is voluntary. I understand that I will not be paid for my participation. I may withdraw and discontinue participation at any time without penalty. If I decline to participate or withdraw from the study, no one on my campus, or with my organization or entity will be told.

2. I understand that most interviewees will find the discussion interesting and thought-provoking. If, however, I feel uncomfortable in any way during the interview session, I have the right to decline to answer any question or to end the interview.

3. Participation involves being interviewed by researcher Marialena Rivera, the 2016 José A. Cárdenas School Finance Fellow. The interview will last approximately 20-45 minutes. Notes will be written during the interview. An audio recording of the interview and subsequent dialogue will be made. If I don't want to be recorded, I will check this box ❑.

4. I understand that the researcher and IDRA will not identify me by name in any reports and symposia proceedings using information obtained from this interview, and that my confidentiality as a participant in this study will remain secure—unless I consent to otherwise by checking this box ❑. Subsequent uses of records and data will be subject to standard data use policies which protect the anonymity of individuals and institutions.

5. Faculty and administrators from my campus and other employees at my work will neither be present at the interview nor have access to raw notes or transcripts. This precaution will prevent my individual comments from having any negative repercussions.

6. I understand that this research study has been reviewed and approved by the Intercultural Development Research Association (IDRA). For research problems or questions regarding subjects, IDRA may be contacted through Director of National Policy, David Hinojosa at (210) 444-1710, ext. 1739, or by email at david.hinojosa@idra.org.

7. I have read and understand the explanation provided to me. I have had all my questions answered to my satisfaction, and I voluntarily agree to participate in this study.

8. I have been given a copy of this consent form.

_____	_____
Signature	Date
_____	_____
Printed Name	Signature of the Investigator

For further information, please contact: Marialena Rivera at 210-573-7907

The Intercultural Development Research Association is an independent, non-profit organization, led by María Robledo Montecel, Ph.D. Our mission is to achieve equal educational opportunity for every child through strong public schools that prepare all students to access and succeed in college. IDRA strengthens and transforms public education by providing dynamic training; useful research, evaluation, and frameworks for action; timely policy analyses; and innovative materials and programs.

Appendix D: 2016 State Level School Facility Administration & Financing Survey

2016 State Level School Facility Administration & Financing Survey

The Intercultural Development Research Association is working with the National Council on School Facilities and the 21st Century School Fund to assess the role of state governments in the administration and financing of school facilities across the country. We appreciate your willingness to assist us in conducting this assessment by completing the following survey. Results of this survey will be shared in a forthcoming report from IDRA to be released in early 2017. You will have the opportunity to verify the information presented about your state before final publication. If you have any questions, please feel free to contact **Marialena Rivera at 210-573-7907 or marialena.rivera@gmail.com**

I. Contact Information

State: _____ Governmental Organization/Office:

Department/Unit:

Name and Title:

Address:

Phone: _____ Fax: _____ Email:

Are there other agencies/units that make state level school facility administration and funding decisions? Y / N

If so, please list

II. State Level Facility Administration

In the first section, we are gathering information on the role that your agency plays in the planning, administration and oversight of public school facilities.

1. Information Systems: Answer the questions below.

	Does the agency maintain data on:	If yes, data is collected from which Districts?	How often is data updated?	Is data publicly available?
Building Inventory	Y / N	All / Only Funded / None		Y / N
Design	Y / N	All / Only Funded / None		Y / N
Utilization	Y / N	All / Only Funded / None		Y / N
Condition	Y / N	All / Only Funded / None		Y / N
Project Costs	Y / N	All / Only Funded / None		Y / N
Operations	Y / N	All / Only Funded / None		Y / N
Utilities	Y / N	All / Only Funded / None		Y / N
Maintenance	Y / N	All / Only Funded / None		Y / N
Other:	Y / N	All / Only Funded / None		Y / N

2. Planning: Answer the questions below.

	Master Plan	Capital Plan	Other (Please Describe)
What kinds of facility plans are generated by your agency?	Y / N	Y / N	
How many years do the state plans cover?			
What kind of plans does the state require from local school districts?	Y / N	Y / N	
How many years do the district plans cover?			

Administration and Oversight

3. How many staff (FTE) work in your agency on public school facilities?

4. What are the responsibilities of your agency/unit?

5. Does your agency offer technical assistance to local education agencies for planning, design, construction or maintenance and operations of schools? Y / N

5a. If so, what does this technical assistance include?

6. Does the state have facilities or site standards? Y / N . If YES, what types of standards does the state have?

Circle all that apply and list other types of standards that are not listed here.

School size Site size Energy efficiencies Design LEED (or equivalent) Construction Maintenance

7. Is there a state wide public school building condition assessment? Y / N

7a. If so, when was the last assessment?

7b. Are the assessments regular? Y / N . If YES, how often?

7c. What was the total deferred maintenance at the time of the last assessment? $

7d. Who conducts the assessment?

7e. Are all schools required to be assessed or a sample?

III. State and Local Level Sources of Funding and Taxation Mechanisms

In this section, we would like to learn about state and local level sources of funding for facilities, including the revenue sources for capital funding of facilities.

State Level PK-12 Annual Capital Outlay and Sources of Funding

1. Are there court rulings that affect the state's responsibility for facility spending? Y / N

1a. If yes, please describe:

2. If your state funds school facilities, how are allocations made: (*Check all that apply.)*

	To school districts, by formula		To projects, by formula
	To school districts, per competitive process		To projects, per competitive process
	First come, first served with project level formula allocation		
	Other:		

3. Please provide the total amounts budgeted by school districts for their total capital outlay (including school construction capital outlay, land and existing structures, and instructional equipment and other). Include estimates for FY2014-FY2016, if available.

	FY2011	FY2012	FY2013	FY2014	FY2015	FY2016
Total Capital Outlay (U.S. Census of Governments)	$	$	$	$	$	$

If the state provides LEAs, including public charter schools, with capital outlay for facilities, please provide the total *amount of capital outlay funding that is from the STATE* (including school construction capital outlay, land and existing structures, and instructional equipment and other). Include estimates for FY2014-FY2016, if available.

State Share of Total Capital Outlay	$	$	$	$	$	$

4. If your state provides capital funds for local school districts, does it borrow to raise capital funds? Y / N

4.a. If YES, what revenue is dedicated toward repaying K-12 construction bonds?

Please identify the revenue sources for the state's share of capital outlay.

	FY2011	FY2012	FY2013	FY2014	FY2015	FY2016
State General Fund (from statewide bonds)	$	$	$	$	$	$
State General Fund (not from statewide bonds)						
Statewide Property Tax	$	$	$	$	$	$
State Sales Tax	$	$	$	$	$	$
Lottery Funds	$	$	$	$	$	$
Developer Fees	$	$	$	$	$	$
Tobacco Settlement $	$	$	$	$	$	$
Severance Tax	$	$	$	$	$	$
Other?	$	$	$	$	$	$
	$	$	$	$	$	$
Total State Share of ***Total Capital Outlay****	$	$	$	$	$	$

* Should match state share of capital outlay in above table.

4. If there are statewide facilities bond referenda, what percent of the vote is required for passage?

Local Level PK-12 Sources of Funding

5. Do school districts in your state have taxing authority? Y / N

5a. If NO, then what governmental entity has financial responsibility for the public schools? (County, State, Municipality, Township)

6. What are the allowable sources of funding for LEAs for facilities in your state? (*Check all that apply.)*

	Local property taxes		Qualified Zone Academy Bonds (QZABs)
	Public private partnerships		Sale or lease of property
	County sales tax		Tax increment financing
	Payments in lieu of taxes		Income taxes
	Other:		

7. If there are local property tax referenda, what percent of the vote is required for passage?

IV. Distribution of State Facility Funding & Aid

In this section, we would like to learn about the types of facilities and maintenance programs that are funded and how the state distributes funding to the local education agencies (LEAs) and/or projects.

State Aid Programs for Facilities
Note: Do not include loan programs.

Name of Program #1:

1a. For this program, does the state distribute facility funding through the local education agencies or directly to individual projects?

1b. Do LEAs apply for this program, or do they receive money automatically?

1c. What form does the funding come to the LEAs or projects in? (e.g. matching grants, non-matching grants (lump- sum), technical assistance, reimbursements, direct payment to vendors, other)

1d. How is the facility funding level for the LEA or project determined?

1e. Who decides whether LEAs or projects get funding for this program (Department of Education, Independent Committee)?

1f. Is there an appeals process to state funding decisions? Y / N If YES, how is it managed?

1g. What criteria are used to determine which local education agencies or projects are funded under this

program? (*Check all that apply.)*

	Building condition		District property wealth
	Lottery		District median household income
	Crowding		Student characteristics (ex: FRPL percent)
	Building age		First come, first served
	Enrollment		Local costs of construction
	Enrollment growth		Geographic size of school district
	Existing debt		Previous receipt of funds
	Other		
	Other		

1h. Is the funding annually appropriated for this program, or do appropriations skip years?

1i. Is the funding for this program pegged to inflation? Y / N

1j. What percent of school districts in the state apply for/receive funding from this program?

1k. Are there any caps or limits on the maximum funding an LEA or project can receive from this program? Y / N If YES, what are the caps or limits?

1l. Does this program make school facilities across the state more equitable? Y / N If YES, in what way?

Name of Program #2:

2a. For this program, does the state distribute facility funding through the local education agencies or directly to individual projects?

2b. Do LEAs apply for this program, or do they receive money automatically?

2c. What form does the funding come to the LEAs or projects in? (e.g. matching grants, non-matching grants (lump- sum), technical assistance, reimbursements, direct payment to vendors, other)

2d. How is the facility funding level for the LEA or project determined?

2e. Who decides whether LEAs or projects get funding for this program (Department of Education, Independent Committee)?

2f. Is there an appeals process to state funding decisions? Y / N If YES, how is it managed?

2g. What criteria are used to determine which local education agencies or projects are funded under this program? (*Check all that apply.)*

	Building condition		District property wealth
	Lottery		District median household income
	Crowding		Student characteristics (ex: FRPL percent)
	Building age		First come, first served
	Enrollment		Local costs of construction
	Enrollment growth		Geographic size of school district
	Existing debt		Previous receipt of funds
	Other		
	Other		

2h. Is the funding annually appropriated for this program, or do appropriations skip years?

2i. Is the funding for this program pegged to inflation? Y / N

2j. What percent of school districts in the state apply for/receive funding from this program?

2k. Are there any caps or limits on the maximum funding an LEA or project can receive from this program? Y / N If YES, what are the caps or limits?

2l. Does this program make school facilities across the state more equitable? Y / N If YES, in what way?

Name of Program #3:

3a. For this program, does the state distribute facility funding through the local education agencies or directly to individual projects?

3b. Do LEAs apply for this program, or do they receive money automatically?

3c. What form does the funding come to the LEAs or projects in? (e.g. matching grants, non-matching grants (lump- sum), technical assistance, reimbursements, direct payment to vendors, other)

3d. How is the facility funding level for the LEA or project determined?

3e. Who decides whether LEAs or projects get funding for this program (Department of Education, Independent Committee)?

3f. Is there an appeals process to state funding decisions? Y / N If YES, how is it managed?

3g. What criteria are used to determine which local education agencies or projects are funded under this program? (*Check all that apply.)*

	Building condition		District property wealth
	Lottery		District median household income
	Crowding		Student characteristics (ex: FRPL percent)
	Building age		First come, first served
	Enrollment		Local costs of construction
	Enrollment growth		Geographic size of school district
	Existing debt		Previous receipt of funds
	Other		
	Other		

3h. Is the funding annually appropriated for this program, or do appropriations skip years?

3i. Is the funding for this program pegged to inflation? Y / N

3j. What percent of school districts in the state apply for/receive funding from this program?

3k. Are there any caps or limits on the maximum funding an LEA or project can receive from this program? Y / N If YES, what are the caps or limits?

3l. Does this program make school facilities across the state more equitable? Y / N If YES, in what way?

State Level Funding Distribution

4. Does the state have any aid programs specifically for facilities maintenance? Y / N If YES, how much funding is allocated, and how is it distributed?

5. Does the state have any **loan** programs specifically for facilities or facilities maintenance? Y / N If YES, how much funding is allocated, and how is it distributed?

6. Does the state have dedicated funding for joint use and/or joint development projects? Y / N

7. How does the state allocate Qualified Zone Academy Bonds and Qualified School Construction Bonds?

8. Do charter schools have access to state funding for school facility acquisition, improvements or new construction? Y / N

9. How do charter schools access state facilities funds?

10. What are the allowable uses for state facility capital funds and what share of capital outlay was allocated to each type of use during the period from 2011-2016?

Allowable Uses	Allowable?	percent of Capital Outlay by Use
Planning	Y /N	percent
Design/Engineering	Y /N	percent
Construction	Y /N	percent
Land acquisition	Y /N	percent
Environmental assessment & abatement	Y /N	percent
Furniture, fixtures & equipment (FFE)	Y /N	percent
Interest	Y /N	percent
Maintenance	Y /N	percent
Debt payments	Y /N	percent
Other (describe):	Y /N	percent
Total		100 percent

11. What is the percent of state capital outlay allocation by project types funded during the period from 2011-2016?

Project Types	percent of Capital Outlay by Project Type
Health and safety upgrades	percent

Energy upgrades	percent
New school construction	percent
Additions	percent
Modernization of existing buildings	percent
Major systems/ component replacement	percent
Maintenance and repair	percent
Other (describe):	percent
Total	100 percent

V. Public Debt Policies

1. Does the state allow local school districts to use the state's credit rating for borrowing? Y / N

2. Does the state allow charter schools to use the state's credit rating for borrowing? Y / N

3. Does the state provide any other credit enhancements to local school districts or public charter schools? Y / N

3a. If so, what are they?

4. Is there a state mandated debt limit for local education agencies? Y / N

4a. If so, what is the state mandated debt limit for local education agencies?

5. Are there any state programs specifically structured to help LEAs pay their debt? Y / N

5a. If so, how are the programs structured and how are funds allocated?

Please write below or email any other comments about your state's facilities policies to marialena.rivera@gmail.com. Thank you.