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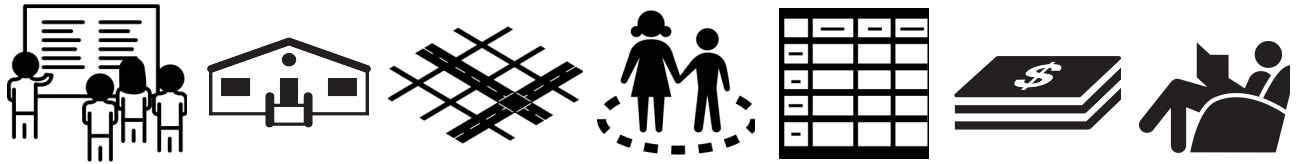
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# Building Accountability

A Review of State Standards and Requirements for K-12 Public School Facility Planning and Design



**CENTER FOR  
CITIES+SCHOOLS**  
UNIVERSITY OF CALIFORNIA BERKELEY

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## **About this Report**

The research and writing of this report was led by Jeffrey M. Vincent, PhD, with research assistance from Ruth Miller, Mark Leinauer, and Deborah L. McKoy. Mary Filardo served as a national policy advisor to the study. Funding for this work was provided by the California Department of Education. This paper is part of a series of policy research papers by Berkeley's Center for Cities + Schools on California's K-12 public school facilities, which can all be found on our website: <http://citiesandschools.berkeley.edu>. This paper was completed in March 2016 and reflects state standards in place at that time.

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# Building Accountability

## A Review of State Standards and Requirements for K-12 Public School Facility Planning and Design

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July 2016

<b>List of Figures</b> .....	<b>2</b>
<b>Executive Summary</b> .....	<b>3</b>
<b>Introduction: Looking Nationally at State Standards on K-12 School Facilities Planning and Design</b> .....	<b>5</b>
<b>Purpose and Scope</b> .....	<b>6</b>
<b>K-12 School Facility Planning Standards in California: Code of Regulations, Title 5</b> .....	<b>7</b>
<b>Lessons from the Field: National Trends in State Standards for K-12 School Facilities</b> ...8	
<b>School Facility Standards Advance Four State Interests</b> .....	<b>9</b>
<b>State Standards on Planning and Design of K-12 Public School Facilities</b> .....	<b>11</b>
<i>Educational Space</i> .....	<i>11</i>
<i>Minimum Essential Facilities</i> .....	<i>14</i>
<i>Indoor Human Comfort/Environmental Quality</i> .....	<i>14</i>
<i>School Site Size</i> .....	<i>15</i>
<i>Local School Facilities Planning Processes</i> .....	<i>17</i>
<i>Maintenance on Existing School Facilities</i> .....	<i>18</i>
<i>Charter School Facilities</i> .....	<i>20</i>
<b>Discussion: Linking School Facility Standards, State Interests, and Public Accountability</b> .....	<b>22</b>
<b>Implications for California</b> .....	<b>23</b>
<i>The California Department of Education should maximize availability of facilities planning and design technical assistance to local school districts, to uphold state standards and leverage numerous benefits to the public/taxpayers.</i> .....	<i>24</i>
<i>The State of California should regularly collect information on the conditions and qualities of all K-12 school facilities and grounds in the state.</i> .....	<i>26</i>
<i>The California Department of Education should conduct a public review and update of all K-12 facility standards every few years.</i> .....	<i>27</i>
<i>The State of California should ensure there is adequate and equitable school facility spending to uphold standards.</i> .....	<i>28</i>
<b>Appendices</b> .....	<b>31</b>
<b>Appendix A: Research Methods</b> .....	<b>31</b>

[A separate Appendix document provides more detail on each state and can be found online:  
<http://citiesandschools.berkeley.edu/school-facilities>]

# List of Figures

- Figure 1: Public K-12 Characteristics of the Case Study States, 2013-14.....8
- Figure 2: Summary of Educational Space Standards ..... 13
- Figure 3: Summary of Indoor Human Comfort Standards..... 15
- Figure 4: Summary of School Siting Standards ..... 16
- Figure 5: Summary of School Facility Planning Process Standards..... 17
- Figure 6: Summary of Maintenance Standards ..... 19
- Figure 7: Summary of Charter School Facilities Standards ..... 21
- Figure 8: Summary of School Facilities Data and Information Collected by States ..... 27
- Figure 9: Summary of State Capital Funding for School Facilities ..... 29

## Executive Summary

All states set standards for K-12 public education that shape local school district decision-making and educational delivery. State standards on the physical learning environments of schools (e.g., school facilities and grounds) is one key area of state standards. However, very little research or policy guidance exists on this topic to inform state lawmakers.

To inform state lawmakers on appropriate policies for K-12 school facility planning and design, we investigate standards in seven state policy areas (educational space, minimum essential facilities, indoor human comfort/environmental quality, school site size, planning process, maintenance, and charter schools) in ten case study states: California, Colorado, Florida, Maryland, Massachusetts, New Mexico, New York, Ohio, Texas, and Washington. Our recommendations are directed specifically to the California Department of Education, but applicable to all states.

### Lessons from the Field: National Trends in State Standards for K-12 School Facilities

**We find that school facility standards advance four state interests:**

State Interest #1. That children in the state attend public school facilities that adequately support the education program.

State Interest #2. To protect and/or advance the health of, safety of, and environmental quality for children and/or communities.

State Interest #3. That there are not gross facility disparities across the state that would disproportionately undermine the achievement of specific groups of students.

State Interest #4. That school districts design, build, and operate cost effective and efficient school facilities.

**Lessons from the specific policy areas:**

**Educational Space:** Space standards – whether specific or flexible guidelines – provide local districts and their designers parameters aimed to promote cost efficient investment while upholding educational program delivery. Additionally, states can use space standards to limit or cap the state’s capital cost in contributing to school construction and/or renovation expenses.

**Minimum Essential Facilities:** State standards on minimum essential facilities are seen as a way to promote greater educational adequacy and equity in learning environments so that they appropriately support the educational program.

**Indoor Human Comfort/Environmental Quality:** State standards on indoor human comfort for schools are increasingly included in general building standards/codes and/or are part of states’ high performance building standards or guidelines. Much of the focus

on so-called “green building” standards is the health and productivity of building occupants alongside energy efficiency gains.

**School Site Size:** Like educational space standards, site size standards are seen as a way to promote equity and educational adequacy across schools. Siting standards are also seen as a way to ameliorate siting conflicts that may arise between local public agencies. While most states largely treat school siting as a local issue, some states establish guidelines to promote outcomes linked to reducing public costs and/or safety hazards associated with siting decisions.

**Local School Facilities Planning Processes:** State standards on local facility planning are frequently based on the widely-held assumption that local facilities planning due diligence reduces school facility capital and operating costs in the long run, for both state and local districts.

**Maintenance of Existing School Facilities:** Adequate annual school facility maintenance investment protects state and local capital investment in the local facility asset, promotes occupant health and safety, and reduces long-term capital costs. State policies on maintenance can be in the form of “sticks” or “carrots.”

**Charter School Facilities:** Most states have yet to systematically address standards for charter school facilities. Charter schools may be a place to experiment with variances and/or waivers on some facility standards, especially on educational space, siting, and minimum essential facilities. States pursuing this route should track school facilities outcomes to understand the impact of different standards approaches.

## Implications for California

**The California Department of Education should maximize availability of facilities planning and design technical assistance to local school districts, to uphold state standards and leverage numerous benefits to the public/taxpayers.** State agencies are uniquely positioned to play a technical assistance role to bring this value to all school districts.

**The State of California should regularly collect information on the conditions and qualities of all K-12 school facilities and grounds in the state.** By collecting up-to-date information on school facility conditions and qualities, state leaders and the public have a way to know whether or not the various standards are having the desired effect(s).

**The California Department of Education should conduct a public review and update of all K-12 facility standards every few years.** State standards, guidelines and regulations for school facilities should be periodically reviewed and updated to reflect evolving industry best practice, new research findings, alignment to broader state infrastructure goals, and changing educational program emphases.

**The State of California should ensure there is adequate and equitable school facility spending to uphold standards.** California policymakers can use state school facility funding and the standards in tandem to ensure that all children attend facilities that are safe, healthy, educational suitable and affordable to taxpayers.

# Introduction: Looking Nationally at State Standards on K-12 School Facilities Planning and Design

All states set standards for K-12 public education that shape local school district decision-making and educational delivery. These standards are changed overtime by state legislature and/or state agency priorities. Evolving pedagogical approaches often require new and/or amended standards. Other times, research findings warrant new and/or amended state standards to promote desired outcomes. State standards on the physical learning environments of schools (e.g., school facilities and grounds) is one key area of state standards.

California – like other states – has a wide variety of state standards, guidelines, and other regulations on the planning and design of public K-12 school facilities. The *California Code of Regulations, Title 5* (§ 14001-14030) (hereafter referred to as *Title 5*) contains the state’s requirements for local school district educational facility planning and design and is enforced by the California Department of Education (CDE). *Title 5* is a key statutory vehicle for promoting the health, safety and educational appropriateness of K-12 schools. Reviewing and updating *Title 5* to ensure it adequately meets today’s educational needs has been recommended by numerous California policy reports in recent years.<sup>1</sup> However, very little research or policy guidance exists on this topic to inform state lawmakers.

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<sup>1</sup> 2012: *California’s K-12 Educational Infrastructure Investments: Leveraging the State’s Role for Quality School Facilities in Sustainable Communities*. This UC Berkeley report advised that CDE “should work with educators, communities, and design professionals to review the standards in *Title 5* to ensure they are the basis for quality school facilities that contribute to sustainable communities and effective and efficient public planning processes.” 2011: *Schools of the Future Report*, by State Superintendent of Public Instruction Tom Torlakson. The report recommended “Establish[ing] a *California Code of Regulations, Title 5* working group to ensure regulations support the creation of school sites and learning spaces that reflect the needs of 21st century teaching and learning, as well as the increasing awareness of the impact of school siting and size on environmental, economic and fiscal goals.” (<http://www.cde.ca.gov/nr/ne/yr11/yr11rel72.asp>). 2008: *Re-Visioning School Facility Planning and Design for the 21st Century: Creating Optimal Learning Environments*, a two-day policy symposium hosted by CDE. The summary report found that “Participants largely felt that both changes to *Title 5* and increased articulation of the flexibility already existing in *Title 5* language are needed. With the vision and principles as the guide, CDE should reevaluate existing policies and regulations on California school design.” (<http://www.cde.ca.gov/ls/fa/sf/documents/roundtablereport.pdf>). 2005: *California Performance Review*. Design, lifecycle costing, and energy use were key recommendations (<http://cpr.ca.gov/report/cprprt/issrec/inf/inf33.htm>).



## Purpose and Scope

Our study aims to inform the CDE in ensuring the standards contained in *Title 5* appropriately promote the planning and design of healthy, safe and educationally suitable K-12 school facilities. Our study gathers and analyzes K-12 facility standards in other states across the country to understand state policy trends and best practice in the field. The findings further the development of state policies by providing information about existing policies and standards that promote sound K-12 school facility planning and design.

We look at ten case study states: California, Colorado, Florida, Maryland, Massachusetts, New Mexico, New York, Ohio, Texas, and Washington. For each state, we completed an in-depth review of state-level school facilities standards and conducted interviews with directors and/or staff in the state program.

Like all states, California has a compelling interest – and legal responsibility – for public school facilities that promote health, safety, and educational achievement. The standards, guidelines, and regulations used by other states provide useful insights on best practice for educational leaders in California and other states. The state’s role in advancing safe, healthy, and high-quality 21<sup>st</sup> century learning environments should be well supported by its standards.

This report is outlined as follows: first, we briefly describe the policy and regulatory content of California’s *Title 5*. Second, we present summary analysis of our findings, focusing on the targeted state policy areas (educational space, minimum essential facilities, indoor human comfort/environmental quality, school site size, planning process, maintenance, and charter schools). The summary analysis identifies lessons from the field on the role of states in setting standards for K-12 facilities planning and design. Finally, we discuss the ways in which the standards structure public accountability and present implications for California policy based on our findings. A separate Appendix document contains more detailed description of each states’ standards in the targeted policy areas.

# K-12 School Facility Planning Standards in California: Code of Regulations, Title 5

*Title 5* is the statutory vehicle in California for the standards and guidelines on the planning and design of new K-12 public school facilities and campuses. Projects seeking state capital funding<sup>2</sup> must meet the standards in *Title 5* and obtain approval from the CDE. Projects that are entirely locally-funded must also meet the *Title 5* standards but do not require CDE approval.<sup>3</sup>

The current language in *Title 5* was developed by the CDE and adopted in 1993 following the passing of Assembly Bill (AB) 1603 (1991) and codified into the *California Education Code* § 17251. The legislation required the State Superintendent of Public Instruction (SSPI) to develop minimum educational design standards, site selection standards, and plan approval standards for new public school facilities in California. The last update of *Title 5* occurred in 2000.

*Title 5* contains 3 Articles and 10 Sections.<sup>4</sup>

#### Article 1. General Standards

- § 14001. Minimum Standards

#### Article 2. School Sites

- § 14010. Standards for School Site Selection
- § 14011. Procedures for Site Acquisition – State Funded School Districts
- § 14012. Procedures for Site Acquisition – Locally-Funded School Districts

#### Article 4: Standards, Planning and Approval of School Facilities

- § 14030. Standards for Development of Plans for the Design and Construction of School Facilities
- § 14031. Plan Approval Procedures for State-Funded School Districts
- § 14032. Plan Approval for State-Funded School Districts
- § 14033. Applicability of Plan Standards to Locally-Funded School Districts
- § 14034. Planning Guides
- § 14035. Abandonment of Inadequate Facilities
- § 14036. Integrated Facilities

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<sup>2</sup> For reviews of the current program, the School Facility Program (SFP), and its funding structure and amounts, see: Vincent, Jeffrey M. 2012. *California's K-12 Educational Infrastructure Investments: Leveraging the State's Role for Quality School Facilities in Sustainable Communities*, 2012. Report to the California Department of Education. University of California, Berkeley, Center for Cities & Schools; California State Allocation Board, Program Review Subcommittee: <http://www.dgs.ca.gov/opsc/AboutUs/progrevs Subcommittee.aspx>.

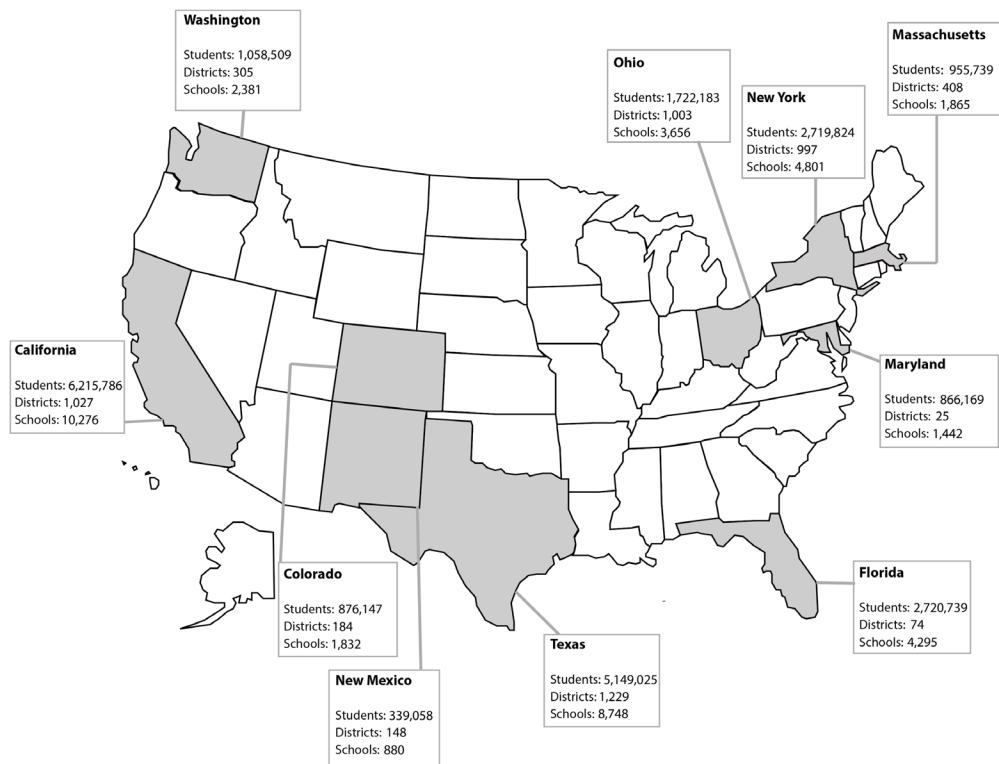
<sup>3</sup> As of this writing, public charter schools and projects by County Offices of Education are not required to meet the *Title 5* standards.

<sup>4</sup> <http://www.cde.ca.gov/ls/fa/sf/title5regs.asp>

# Lessons from the Field: National Trends in State Standards for K-12 School Facilities

National trends and best practice in K-12 school facility standards were identified by analyzing ten case states: California, Colorado, Florida, Maryland, Massachusetts, New Mexico, New York, Ohio, Texas, and Washington, as shown in Figure 1. Three criteria guided the case state selection: a) the state provides some state-level K-12 capital funding to local school districts;<sup>5</sup> b) together, the case study states represent different parts of the country; and c) the state contains varied geographies from urban to rural.

**Figure 1: Public K-12 Characteristics of the Case Study States, 2013-14**



Data Source: U.S. Department of Education, National Center for Education Statistics, Common Core of Data (CCD), "Local Education Agency (School District) Universe Survey", 2013-14 v.1a; "Public Elementary/Secondary School Universe Survey", 2013-14 v.1a; "State Nonfiscal Public Elementary/Secondary Education Survey", 2013-14 v.1a. Students = "Total number of students as reported by each school. A student is an individual for whom instruction is provided in an elementary or secondary educational program under the jurisdiction of a school, school system, or other educational institution." Districts = "Total number of school districts with total student enrollment (UG, PK-12) greater than zero as reported by the district." Schools = "Total number of schools as reported by the district." Available online: <http://nces.ed.gov/ccd/elsi>.

<sup>5</sup> Data on recent years' state spending on K-12 school facilities was obtained from National Center for Education Statistics, Common Core of Data.

In the case states, we look at seven policy areas of state standards and/or guidelines on planning and design:

- *educational space,*
- *minimum essential facilities,*
- *indoor human comfort/environmental quality,*
- *school site size,*
- *school district planning process requirements,*
- *facility maintenance requirements, and*
- *charter school facilities.*

First, we describe the state rationale for having standards on school facilities.

## School Facility Standards Advance Four State Interests

State standards on K-12 school facilities are fundamentally about public accountability and advancing four specific state interests. Each state takes its own approach to advancing these interests, which provide the context for the rationale for having state standards at all. Our findings suggest four prominent state interests upheld through school facility standards:

### **State Interest #1: That children in the state attend public school facilities that adequately support the education program.**

Ensuring the ‘educational suitability’ of facilities and campuses appears to be a common state rationale for facility standards and/or guidelines. Standards promoting this rationale (arguably a state constitutional requirement) may address issues of space per student, types of learning spaces, and/or educational tools that should be incorporated into facilities. For example, standards and/or guidelines for technology or science labs promote STEAM (Science, Technology, Engineering, Arts, and Math) curriculum.

### **State Interest #2: To protect and/or advance the health of, safety of, and environmental quality for children and/or communities**

Most states have standards and/or guidelines on environmental health aspects of facilities, which research finds does affect occupant health and student performance.<sup>6</sup> And, because states also have general interests in land

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<sup>6</sup> The research on school building conditions and student outcomes finds a consistent relationship between poor facilities and poor performance. When school facilities are clean, in good repair, and designed to support high academic standards, there is likely to be higher student achievement independent of student socioeconomic status. For reviews of the research

development, some states have standards and/or guidelines for school districts on issues such as school site selection or the joint use of school and other community facilities. The state interest on the health of children and/or communities cross-cuts the other three state interests.

**State Interest #3: That there are not gross facility disparities across the state that would disproportionately undermine the achievement of specific groups of students.**

Many states have established facility standards and/or guidelines to combat educational inequities. For example, some states have standards on minimum school facility conditions/qualities – these might apply to existing schools or address the ‘adequacy’ of new school designs [later in the paper we refer to this as ‘minimum essential facilities’]. Disparities in facilities can undermine educational delivery and/or occupant health for those in poor condition schools.

**State Interest #4: That school districts operate, design, and build cost effective and efficient school facilities.**

Because states have a general concern about public expenditures on public infrastructure and energy consumption, state K-12 facility standards and/or guidelines often aim to improve the value of public spending in these areas as

In December 1994, the New York State Board of Regents adopted the following guiding principles developed by the Regents Advisory Committee on Environmental Quality in Schools:

- Every child has a right to an environmentally safe and healthy learning environment that is clean and in good repair.
- Every child, parent, and school employee has a "right to know" about environmental health issues and hazards in their school environment.
- School officials and appropriate public agencies should be held accountable for environmentally safe and healthy school facilities.
- Schools should serve as role models for environmentally responsible behavior.
- Federal, State, local, and private sector entities should work together to ensure that resources are used effectively and efficiently to address environmental health and safety concerns.

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generally, see: Schneider, M. (2002). Do School Facilities Affect Academic Outcomes? Washington, DC: National Clearinghouse for Educational Facilities; Higgins S., Hall, E., Wall, K., Woolner, P. and McCaughey, C. (2005). The Impact of School Environments: A literature review. The Centre for Learning and Teaching, School of Education, Communication and Language Science, University of Newcastle. Available online: <http://www.cfbt.com/PDF/91085.pdf>; Earthman, G.I. (2004). Prioritization of 31 Criteria for School Building Adequacy. American Civil Liberties Union Foundation of Maryland. Available online: <http://www.aclu-md.org/aTop%20Issues/Education%20Reform/EarthmanFinal10504.pdf>; Uline, C. (editor). (2009). Special Issue: Building high quality schools for learners and communities. *Journal of Educational Administration* 47(3); Committee to Review and Assess the Health and Productivity Benefits of Green Schools, National Research Council. (2006). Green Schools: Attributes for Health and Learning. Washington, DC: National Research Council.

they apply to school facilities. For example, states increasingly are establishing minimum “green building” standards and/or guidelines for new school design and construction. States may also set standards on what types of spaces school facilities should, at minimum, include and/or standards on the types of facility spaces or elements that the state will not fund.

Collectively, the four state interests are upheld and enforced in each state, in large part, through the process that local school districts must go through for state approval of facility plans, designs, and, if applicable, funding. Each of our case states’ approval process is unique and is discussed in the findings.

## State Standards on Planning and Design of K-12 Public School Facilities

### Educational Space

All of our case study states provide a standard and/or guidance on square footage needed for educational space. As Figure 2 shows, each state’s approach is unique. These can serve as minimum or maximum space standards/ guidelines. For example, California, Colorado, Massachusetts, and Washington provide educational space guidelines, rather than more rigid standards as seen in Florida, New Mexico, Ohio, and Texas. New York, on the other hand, provides both standards and guidelines on educational space. States’ space standards can be in the form of net or gross square feet per room type or per student (often defined uniquely in each state). Minimum space standards aim to prevent crowding while maximum space standards are often used to cap state funding amounts per project. In this way, the space standards are used as a maximum or minimum threshold for state funding, not necessarily as a space standard per se. California, Massachusetts, Ohio, and Washington provide minimum and/or maximum space thresholds for state funding. Massachusetts is the only case state that provides both minimum and maximum space standards.

Quotes from state program directors in the states point to the diversity of approaches seen. The Washington director, noting the state’s guideline approach, stated, “The actual process of defining the educational needs and specifications is left to the districts – so we require Educational Specifications on buildings 10,000 square feet or larger.” By contrast, interviewees in Massachusetts noted that their more specific space standard approach was adopted to remedy specific concerns seen across the state,

*Our job is to ensure these buildings we fund are flexible and suitable...a lot of our policies in place now are a result of [seeing buildings being built] far bigger than they should have been...The whole basis [for our space guidelines] is finding the right sized building that’s flexibly designed.*

The state director in Colorado illustrated the desire, yet difficulty, in setting specific standards,

*We haven't figured out what the magic number is [for educational space]. But there's a real educational component for us to get [districts] to understand that they may not need all the space and they're actually paying to heat it, clean it, cool it, insure it, and that it's costing them money. You don't want to overbuild your school. We look at this really hard and work with them really hard on it on virtually every project. [We need to] design these buildings so they're much more efficient... We are just trying to be careful with our limited dollars to not be wasteful or overbuilding so they'll be put out of business because they can't operate it.*

Notable in Ohio's facility standards related to educational space is that a new section was added to the Ohio School Design Manual in 2012, called the "High Performance Learning Environments" (Section 1120). The new guideline, aimed at building "facilities responsive to meeting the needs of teaching and learning in the 21<sup>st</sup> century" (pg. 0111-1), distinguishes between three types of learning environments: "Traditional Learning Environments (TLE)," "Student Centered Learning Environments (SCLE)," and Blended Learning Environments (BLE)." Learning environments containing multiple approaches are referred to as "High Performance Learning Environments (HPLE's)." The OSDM provides design concepts for each of these types and specifies minimum prerequisite attributes that MUST be incorporated regardless of type being designed, under the following categories: agile/instantly flexible, comfort, ambiance, technology/connectivity, places, integrated sustainability. The intent of these guidelines is to offer examples of adaptable learning environments that meet ever-changing educational program.

**Lesson: Space standards – whether specific or flexible guidelines – provide local districts and their designers parameters aimed to promote cost efficient investment while upholding educational program delivery. Additionally, states can use space standards to limit or cap the state's capital cost in contributing to school construction and/or renovation expenses.**

Figure 2: Summary of Educational Space Standards

	Elementary School				Middle School				High School				Minimum essential facilities defined	Maximum grossing factor provided
	Classroom SF/student	Assumed class size	Classroom SF	Gross* Building SF standard	Classroom SF/student	Assumed class size	Classroom SF	Gross Building SF standard	Classroom SF/student	Assumed class size	Classroom SF	Gross Building SF standard		
California	≥30 SF	22-32	≥960 SF	n/a	≥30 SF	22-32	≥960 SF	n/a	≥30 SF	22-32	≥960 SF	n/a	N	N
Colorado	35	22	770 SF	n/a	32	25	800 SF	n/a	32	25	800	n/a	Y	N
Florida	49	18	882 SF	n/a	39	22	858 SF	n/a	32	25	800	n/a	N	ES - 27% of building net square footage; MS - 32% of building net square footage; HS - 34% of building net square footage
Maryland	n/a	n/a	n/a	104-131 SF/student	n/a	n/a	n/a	130-145 SF/student	n/a	n/a	n/a	145-170 SF/student	Y	N
Massachusetts	41 (estimate)	23	900-1,000 SF	145-180 SF/student	39 (estimate)	23	850-950 SF	160-190 SF/student	39 (estimate)	23	825-950 SF	157-226 SF/student	Y	1.4-1.5 depending on enrollment
New Mexico	≥32 net	13-22	650 SF net minimum	104-150 SF/student	≥28 net	18-27	650 SF net minimum	110-170 SF/student	≥25 net	21-30	650 SF net minimum	130-215 SF/student	Y	1.3
New York	26	≥30	770 SF				None for classrooms - some provided for other spaces				None for classrooms - some provided for other spaces		Y	N
Ohio	41	22	1,200 (PK-K) 900 (1-6)	119.6-125 SF/student	36	25	900 SF	141-151 SF/student	36	25	900	156-180 SF/student	Y	N
Texas	≥32 (PK-1) ≥36 (2-6)	22	≥800 (PK-1) ≥700 (2-6)	n/a	≥28	25	≥700 SF	n/a	≥28	25	≥700	n/a	N	N
Washington	n/a	n/a	n/a	90 SF/student	n/a	n/a	n/a	117 SF/student	n/a	n/a	n/a	130 SF/student	N	N

\*Note: States' definitions of "gross" may differ

Note: In the table, bolded entries refer to published specific state standard/guideline; unbolded entries refer to authors calculation or estimate based on standard/guideline



## Minimum Essential Facilities

Related to space standards is the issue of whether or not a state defines what types of spaces a school minimally should include – what we have termed “*minimal essential facilities*.” As shown in Figure 2, we found that six of the case study states define minimum essential facilities. However, we found that this is a more difficult standard to interpret. In many of our case states, state officials interviewed reported that their working interpretation of the state standards/guidelines includes articulation of minimum essential facilities needed in schools (for example, Colorado, Florida, Maryland, and Massachusetts) in order for them to be approved by the state agency even if this minimum is not specifically stated in statute.

**Lesson: State standards on minimum essential facilities are seen as a way to promote greater educational adequacy and equity in learning environments so that they appropriately support the educational program.**

## Indoor Human Comfort/Environmental Quality

Most states provide standards and/or guidelines on aspects of indoor “human comfort” or environmental quality for building occupants in K-12 facilities. Indoor comfort standards can cover many topics, including thermal comfort, lighting, acoustics and other environmental aspects of buildings. Standards on indoor comfort typically contain both quantifiable standards and performance standards. These standards have evolved over time, particularly with changes in state building codes and/or updates to third party guidelines such as ASHRAE,<sup>7</sup> “Collaborative for High Performance Schools” (CHPS),<sup>8</sup> “Leadership in Energy and Environmental Design” (LEED for schools),<sup>9</sup> and other commonly-used guidelines. These industry guidelines continually evolve in response to new research, technological advances, and industry practice changes.<sup>10</sup> As Figure 3 shows, eight of our case states have specific indoor comfort standards for schools on the books and/or require school districts certify that they follow specific industry-provided standards.

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<sup>7</sup> <https://www.ashrae.org/>

<sup>8</sup> <http://www.chps.net/>

<sup>9</sup> <http://centerforgreenschools.org/leed-for-schools.aspx>

<sup>10</sup> For a review of state policies on indoor air quality in schools, see: Environmental Law Institute. (2016). Addressing Indoor Air Quality in School Energy Efficiency Upgrades. Review of Selected State Policies. Washington, DC: ELI.

**Figure 3: Summary of Indoor Human Comfort/Environmental Quality Standards**

	State has indoor human comfort standards/guidelines for K-12 facilities	State uses 3rd party certification standards/guidelines	3rd party guidelines/standards used	3rd party guidelines/standards are required (R) or optional (O)
California	Y	N	n/a	O
Colorado	Y	Y	LEED for Schools, CO-CHPS, IESNA, ASHRAE	R
Florida	Y	Y	USGBC, LEED for Schools, Green Globes	R
Maryland	N	Y	USGBC, LEED for Schools	R (new construction only)
Massachusetts	Y	Y	LEED for Schools or Massachusetts CHPS	R
New Mexico	Y	N	ENERGY STAR	O
New York	Y	Y	NY-CHPS	R
Ohio	Y	Y	LEED for Schools	R
Texas	N	N	n/a	n/a
Washington	Y	Y	Washington Sustainable Schools Protocol (WSSP) or LEED for Schools	R

**Lesson: State standards on indoor human comfort and environmental quality for schools are increasingly included in general building standards/codes and/or are part of states’ high performance building standards or guidelines. Much of the focus on so-called “green building” standards is the health and productivity of building occupants in tandem with energy efficiency gains.**

### School Site Size

Some states provide standards and/or guidelines on the local selection of sites to build new schools. These standards can address issues of site size, site safety, land use issues, transportation, and environmental impact assessments/mitigation. Only four (California, New York, Ohio, and Washington) of our case states have site acreage requirements or recommendations. As shown in Figure 4, these standards are typically calculated based on the number of planned enrolled students.

**Figure 4: Summary of School Siting Standards**

	State has acreage requirements or recommendations for new school sites	Minimum acres			Maximum acres			State approves new school sites
		ES	MS	HS	ES	MS	HS	
<b>California</b>	Y (Recommendations)	8 (301-450 enrollment)	8.1 (301-450 enrollment)	36.1 (1401-1600 enrollment)	n/a	n/a	n/a	Y
<b>Colorado</b>	N	n/a	n/a	n/a	n/a	n/a	n/a	N
<b>Florida</b>	N	n/a	n/a	n/a	n/a	n/a	n/a	N
<b>Maryland</b>	N	n/a	n/a	n/a	n/a	n/a	n/a	Y
<b>Massachusetts</b>	N	n/a	n/a	n/a	n/a	n/a	n/a	N
<b>New Mexico</b>	N	n/a	n/a	n/a	n/a	n/a	n/a	N
<b>New York</b>	Y	3 acres + 1 acre per 100 students	10 acres + 1 acre per 100 students	10 acres + 1 acre per 100 students	n/a	n/a	n/a	Y
<b>Ohio</b>	Y (waived for urban sites)	10 acres + 1 acre per 100 students	15 acres + 1 acre per 100 students	25 acres + 1 acre per 100 students	n/a	n/a	n/a	N
<b>Texas</b>	N	n/a	n/a	n/a	n/a	n/a	n/a	N
<b>Washington</b>	Y	Five useable acres and one additional usable acre for each one hundred students or portion thereof of projected maximum enrollment plus an additional five useable acres if the school contains any grade above grade six.				n/a		N

Note: The State of California requires approval of new school sites only if the school district is seeking state funding for the construction project.

However, the states vary greatly in their school siting standards approach. For example, in Texas, local ordinances solely determine locations for schools. Washington provides guidance on school site size and siting issues, but ultimately leaves siting issues up to local-level authorities. By contrast, Massachusetts looks closely at school siting linking it to cost implications. As a state program director stated,

*We look for [siting plans] to be pretty vigorous with numbers on it. We look at those alternatives, we ask them to look at the total cost of the site. That includes the cost of bringing utilities into the site and upgrading any infrastructure that’s required... We do provide additional incentives for Smart Growth. You’ll see on our website that both Massachusetts CHIPS and LEED for schools have incentives for alternative transportation, pedestrian access, mass transit, bicycles, and so on.*

**Lesson: Like educational space standards, site size standards are seen as a way to promote equity and educational adequacy across schools. Siting standards are also seen as a way to ameliorate siting conflicts that may arise between local public agencies. While most states largely treat school siting as a local issue, some states establish guidelines to promote outcomes linked to reducing public costs and/or safety hazards associated with siting decisions.**

## Local School Facilities Planning Processes

States often establish standards on the procedural requirements and content of facility planning documents to be prepared by local school districts. The standards may be accompanied by guidance documents, planning templates, best practice information, and other resources. Standards on local planning practice generally focus on two areas:

- *School district-level planning*: including district-wide educational facility master plans, capital plans, maintenance plans, etc.
- *Project-level planning*: including project-specific studies, plans, educational specifications, etc.

As shown in Figure 5, nine of the case study states required school districts to prepare and submit a school district facility master plan when they are requesting state school facility construction or renovation funds. However, the requirements for the content of these plans vary widely from state to state. Seven of the case states also require a local educational specification document be prepared.

**Figure 5: Summary of School Facility Planning Process Standards**

	State requires Facility Master Plan if school district is requesting state facility funds	State requires Educational Specification be prepared if school district is requesting state facility funds
California	Y	Y*
Colorado	Y	Y
Florida	Y	Y
Maryland	Y	Y
Massachusetts	Y	Y
New Mexico	Y	Y
New York	Y	N
Ohio	Y	N
Texas	N	N
Washington	Y	Y

\*California requires educational specifications for all new school construction projects. Educational Specifications are sometimes required for modernization projects on existing schools or additions to existing schools. See: <http://www.cde.ca.gov/ls/fa/sf/documents/edspecflowchart.pdf>.

Comments by case state program directors speak to the rationale behind standards on local planning processes. As the state director in Colorado noted,

*It's a very competitive [state funding] program. We put a lot of emphasis on the master planning. We encourage districts (we can't require it because it's an unfunded mandate), to do a master plan, a study of their facilities and deficiencies. We feel like it's important that they fund [the plan] themselves, because it gives them some skin in the game.*

Similarly, the Washington state program director noted his state's emphasis on local planning and financial role in supporting local planning,

*In my mind, the Study and Survey Report is the cornerstone of the program...Every six years districts are eligible for a planning grant, sized according to enrollment and facilities space....The first chapter is the bulk of the document - the inventory, building condition evaluation... We're trying to put the spin on compliance to best practices. One of those best practices, setting the tone, is having a facilities plan. This is a good practice, and the state provides some funding to assist locals.*

The 2014 New York Manual of Planning Standards also noted the benefits of local planning,<sup>11</sup>

*"We urge that all school officials confronted with building needs contact the Office of Facilities Planning for consultation before detailed planning is undertaken. In this way costly mistakes and delays may be avoided. Even more importantly, early consultation will give us the opportunity to help districts secure the buildings best suited to their educational needs within the resources available." (pg. 4)*

The director of New Mexico's Public School Facilities Authority pointed specifically to the cost savings his state has realized through improving the school facility planning process,

*In the end, the greatest cost [of a school facility] is operation over a facility's life. Heating, cooling, lighting, cleaning, routine maintenance, and capital maintenance is 4-5 times the cost to build. Business operating costs (salaries, copy machines, etc.) is 200 times the cost to build. Good planning upfront greatly affects operations cost. Planning is the most important part, yet represents only 1/100th of the whole operational costs of a facility. Planning costs is hardly a statistical error of margin of the whole cost. Good planning requires good information – all of this can greatly reduce upfront capital costs and ongoing operations cost.*

**Lesson: State standards on local facility planning are frequently based on the widely-held assumption that local facilities planning due diligence reduces school facility capital and operating costs in the long run, for both states and local districts.**

## **Maintenance on Existing School Facilities**

Only one (Ohio) of our case states reports that it requires minimum facility maintenance spending levels that local school districts must follow (see Figure 6). However, six of them report that facility condition or local maintenance investment effort is used as a criterion for receiving state facility funds. It appears that the most of our states are *incentivizing* local districts to invest in maintenance, though not necessarily *requiring* it.

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<sup>11</sup> <http://www.p12.nysed.gov/facplan/documents/MPS-2014.pdf>

**Figure 6: Summary of Maintenance Standards**

	State required minimum level of annual facility maintenance spending by school district	State makes school facility condition rating and/or minimum local facility maintenance spending as criteria for allocating state facility funds
<b>California</b>	N	N
<b>Colorado</b>	N	Y
<b>Florida</b>	N	N
<b>Maryland</b>	N	Y
<b>Massachusetts</b>	N	Y
<b>New Mexico</b>	N	Y
<b>New York</b>	N	N
<b>Ohio</b>	Y	Y
<b>Texas</b>	N	N
<b>Washington</b>	N	Y

Many of the state program directors interviewed described desires or specific policy efforts to require or encourage improved local investment on facility maintenance. As the Maryland director noted,

*[School building] maintenance is on the minds of many people in the state capital... [Appropriate maintenance] is one of the conditions of getting state capital funding. The State Controller created a 'Golden Hammer Award' to recognize superiorly maintained schools.*

The Massachusetts director described similar efforts in his state,

*We are trying to encourage better maintenance. I'd rather be doing HVAC repairs in 8 years, than finding the schools run down again and needs to be replaced...As an agency, we're disinclined to continually replace facilities that weren't maintained.*

The Washington director also noted his state's interests in promoting local facility maintenance and their state policy shift to a performance-based approach,

*We used to have a rule that districts spend 2% of the building replacement value each year on their buildings....but we've now shifted to a performance-based approach, based on rating of condition of the building. And so we have built within our inventory system, and Study and Survey process, a requirement that districts do a condition assessment of their buildings every year, and every six years, timed with the survey, have an independent assessment of their buildings. If it falls short or off the map, they will not be eligible for state funding in 30 years.*

The New Mexico director described his state's approach,

*New Mexico does not currently require a minimum spending amount [by local districts on facility maintenance]. We measure with the Facility Maintenance Assessment Tool (FMAR) - a measure of maintenance effectiveness and only with very marginal success, we try to motivate improvement. This is the reason we want maintenance and facility definitions so we can have*

*accurate measures of spending and can make recommendations for necessary spending based upon FCI and other factors. Then maybe we can drive required spending. Right now, the state can not say what districts should spend. We use \$6-8 per GSF as a recommendation, and talk to school boards about reducing replacement school footprints by showing the excess GSF at \$7.50 so they are aware of consequences to their operational budgets.*

**Lesson: Adequate annual school facility maintenance investment protects state and local capital investment in the local facility asset, promotes occupant health and safety, and reduces long-term capital costs. State policies on maintenance can be in the form of “sticks” or “carrots.”**

## Charter School Facilities

State standards on charter school facilities vary greatly across the states. This appears to be a rapidly evolving policy issue as charters continue to grow in number in many states. Some states have begun to provide facilities funding to charter schools. In nine of our case states, charter schools may receive a variance or waiver from some or all educational facility standards that apply to traditional K-12 public schools, as shown in Figure 7. Given the more flexible nature of charter schools, one approach seems to be to grant increased facility standards variance to charters. New Mexico serves as an example – many of the facility standards are waived for charter schools. The New Mexico Public School Facilities Authority produced a chart showing precisely which standards are waived and which must be met.<sup>12</sup> New Mexico charter schools are required to produce educational specifications for their projects, following a state guide that is more simple and flexible than the educational specifications guidelines for conventional schools.<sup>13</sup> Of course, in all of those states, charter school facilities must, at minimum, meet state and local building codes. Most of our case study states did not have specific standards for charter school facilities, beyond basic building codes.

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<sup>12</sup> [http://www.nmpsfa.org/pdf/MasterPlan/Charters/Charter-Alternative\\_Sch\\_Variance\\_09-05-08.pdf](http://www.nmpsfa.org/pdf/MasterPlan/Charters/Charter-Alternative_Sch_Variance_09-05-08.pdf)

<sup>13</sup> [http://www.nmpsfa.org/pdf/MasterPlan/Charters/Charter\\_EdSpec\\_FMP\\_checklist\\_01-12.pdf](http://www.nmpsfa.org/pdf/MasterPlan/Charters/Charter_EdSpec_FMP_checklist_01-12.pdf)

**Figure 7: Summary of Charter School Facilities Standards**

	Charter schools receive variance or waiver from some or all educational facility standards
<b>California</b>	Y
<b>Colorado</b>	N (if applying for state facility funding)
<b>Florida</b>	New start up charters = Y; Conversion charters = N
<b>Maryland</b>	Y
<b>Massachusetts</b>	Y
<b>New Mexico</b>	Y
<b>New York</b>	Y
<b>Ohio</b>	Y
<b>Texas</b>	Y
<b>Washington</b>	Y

**Lesson: State standards on charter school facilities are a rapidly evolving issue as charters continue to grow in number. Many states have yet to systemically address the issue in policy. Charter schools may be a place to experiment with variances and/or waivers in some facility standards, especially on educational space, siting, and minimum essential facilities. However, states pursuing this route should track school facilities outcomes to understand the impact of different standards approaches.**

[Authors’ note: A separate Appendix document provides more detail on each state]



## Discussion: Linking School Facility Standards, State Interests, and Public Accountability

K-12 school facilities are a unique element of public infrastructure – locally planned and locally controlled. However, stewardship of these facilities is accomplished through state-local partnerships that structure governmental responsibility and public accountability. Our survey of state standards, regulations, and guidelines on K-12 public school facility planning reveals wide variation in the partnership structure by the states. Inherent in this policy topic is that a tension exists between state standards to advance state interests on one hand and allowing appropriate local flexibility on the other. These tensions between state-local control and responsibility for school facility conditions and qualities are many and varied.

As our findings reveal, states use a mix of “standards,” “guidelines,” “regulations,” and recommended “best practices” on different issues associated with K-12 school facilities planning, siting, and design. These can be at the policy level (for example, in state code) or at the regulatory level (for example, in a regulatory document prepared by a state agency that the code may refer to). Sometimes the standards can be specific, quantifiable, and precise; other times they are meant as general guidance to follow, with local flexibility built into them. For example, the state program director in Maryland stated, “Our standards are really guidelines – recommendations on size, relationships, the nature of facilities. Sometimes pretty strong recommendations, but not a fixed standard.” By contrast, a state agency staffer in New Mexico noted, “Ours is a standards-based approach, and we have detailed adequacy standards online...they cover what is considered to be the essential characteristics of spaces that every K-12 school in the state should have as a minimum.”

Standards that operate as guidelines may be ones that the state strongly advises local districts to meet and in many cases the state requires that districts justify any deviation from a set standard. As such, the enforcing agencies in our case states have varying levels of discretionary powers in their review processes to assess project merit against the standards. At times, the onus falls on local school districts to substantiate any deviation from standards or guidelines. In some states, allowable deviation is stated in the standard in provisions.

Unfortunately, research to guide policymakers in the field of K-12 facility planning is greatly lacking, particularly on planning and educational space standards. Future research should investigate outcomes associated with different state standards approaches.

We find that clarity in state standards and creating a culture of trust between state agencies involved and local school districts in the planning and design process is essential to meeting standards, adhering to guidelines, incorporating best practices – in

addition to delivering cost-effective projects. Ideally, doing so ensures that state and local decision-making processes link data, public input, transparency, and sound research and planning to both state and local decisions on K-12 school facilities.

Of course, local leaders are best positioned to weigh the pressures of facility condition and suitability within their own community context, but the state can hold them accountable for effectively protecting and extending the life of the capital investments that tax payers have already made. Similarly, local districts must hold the state accountable to set and enforce clear, defensible standards that best promote positive objectives associated with school facilities. Many of the state directors we interviewed noted the critical importance of project plans clearly articulating how all facility and design proposals support the education program and occupant health, even when there is deviation from a hard standard.

There may not be a ‘silver bullet’ standard for K-12 facilities on many of the topics we studied. For example, the challenges to finding objective criteria for suitability cannot be overstated. Imagine objective criteria for “beauty” and one can appreciate the subjectivity of the problem.

Overall, many of our interviewees in the states expressed concerns that their state was too limited in its approach(es) to promoting state interests – particularly around childhood health, educational suitability of designs, an efficient planning process, and reducing long-term facility costs. They also generally felt that state policies were too limited in advancing the integration of multiple state goals, such as education, health, and environmental sustainability in tandem. Trends of 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.

## Implications for California

Though varied, the standards, guidelines, and regulations seen in other states provide direction for California policymakers. As is the case in other states, in making any changes to its policies, California must wrestle with the inherent tension that exists between state standards to advance state interests on one hand and allowing appropriate local flexibility on the other. Thus, state leaders must debate the right mix of state standards, regulations, and guidelines that will allow appropriate local flexibility to address local suitability. As we have shown, each state addresses that differently, under different structures of public accountability. Thus, for many topics there may not be one right answer as to the “best” standard, but rather, many different approaches. Overall, all standards should be regularly evaluated for how they meet the four state interests, at minimum.

The specific findings of standards, guidelines, and/or best practice guidance provided by the states on the various topics we looked at provide examples that California lawmakers might consider. Our findings raise the following key implications for California.

**The California Department of Education should maximize availability of facilities planning and design technical assistance to local school districts, to uphold state standards and leverage numerous benefits to the public/taxpayers.**

Perhaps the central take-away from our review of the states is the importance of strong local planning with appropriate due diligence. To ensure compliance with K-12 facility standards and promote state interests, many states provide technical assistance to local school districts for planning, design, construction, and/or management of K-12 facilities. State technical assistance on facility planning and meeting the various standards is believed to reduce expenses associated with the planning, design, and construction of school facilities.

Many of our case study states reported that they are increasing their focus on providing planning, design and facility management best practice and technical assistance to local school districts, particularly to reduce construction and/or building operational costs over time.

Many of the state program directors interviewed talked about having their staff “add value” to the facilities planning process, rather than play a strictly standard enforcement or compliance role. This point is illustrated by the New York state program director’s preface in the 2014 School Facilities Manual,

*We offer advice and technical assistance to school districts, architects and engineers to help them solve their school building needs with consideration of educational and planning efficiency, conservation of natural resources, initial and life-cycle costs and within the context of the most recent State and Federal laws (pg 3).*

Similarly, the Washington director noted,

*We have a big role in providing technical assistance for planning purposes, if school districts are planning a bond issue, then they’ll work with my staff, and their consultants will work with my staff to understand what the project for a new elementary school will be eligible for when it comes in a year from now.*

State agencies are uniquely positioned to play a technical assistance role to bring this value to all school districts. The Massachusetts director noted,

*The relationship between [our staff] and local districts is collaborative because we have the expertise they need....[for example] we are generally a part of [the district's] educational specifications committee...We like to participate in local planning meetings because it's so much easier to put good input in early before everything's firmed up.*

The New Mexico state director elaborated on his observation that state's technical assistance and his planning staff add measurable value – and promote public cost savings – in school construction processes. He described what he sees as the strong return on investment of his agency,

*I consider staff as a transaction cost. Too low a transaction cost and you may lose benefit of more knowledge and experience that can more than pay of itself...In New Mexico's experience, the return on investment of state technical assistance is substantial: our program has cost about \$70 million to operate over the past 15 years. With that money we have provided coordination, oversight and approval of long range planning; statewide maintenance system and maintenance oversight and support; audit school facilities ongoing and maintain the Facility Assessment Database; we provide plan review and coordination with all other agencies such as Department of Health, Building Permitting, Fire Marshall, etc; and, most other necessary facilities support services. This \$70 million transactional cost is about 1.24% of the total facility capital expenditures and improvements we have made, and we estimate this oversight will reduce the total cost of ownership over time by 20% or more, equating to a 1,457% ROI (return on investment).*

California state agencies should provide ample best practice resources and technical assistance to school districts on school facilities planning, siting, and design. The CDE's role in promoting facility master planning and the development of educational specifications is especially important. Technical assistance should also include best practice principles of California local land use planning, including local inter-agency collaboration, and the promotion of active transportation. For example, the CDE should provide this in conjunction with other state offices or initiatives such as the Governor's Office of Planning and Research, the California Strategic Growth Council, and the Health in All Policies Task Force. One aspect of state technical assistance is planning and budgeting tools and templates created by the state and made available to local school districts. For example, Ohio, New Mexico, Massachusetts provide multiple planning and analysis templates of design, cost, and other factors for districts to utilize. As such, the state should play more of a resource role to local school districts, rather than strictly a compliance role. All CDE guidebooks, best practices, and the like should be regularly reviewed and updated by CDE to reflect industry changes and changes in State of California education and infrastructure investment priorities.

Strengthening local school facility planning and transparency requirements supports California's new Local Control Funding Formula (LCFF) approach and the required adoption of Local Control and Accountability Plans (LCAP). For example, state standards on space per student can require that space allocations in local project plans are soundly justified in a local school board-approved educational specification that aligns with a board-adopted educational program. Similarly, the local board-approved educational specification could serve as the local definition for a "complete school." The CDE can

provide technical assistance support to ensure appropriate due diligence was used in crafting an educational specification that promotes the local board-adopted educational program plan.

## **The State of California should regularly collect information on the conditions and qualities of all K-12 school facilities and grounds in the state.**

By collecting up-to-date information on school facility conditions and qualities, state leaders and the public have a way to know whether or not their various standards are having the desired effect. If not, the standard can be revisited. Using this process, districts and the state will have greater understanding and accountability for the health and efficiencies of their facilities. Ideally, over time, and with appropriate data, the state can get better at knowing the most efficient and effective standards in relation to student health, student academic achievement, resource equity, building operating costs, environmental sustainability, and other outcomes of interest.

Many states collect information on the characteristics, attributes, and qualities of K-12 school facilities to ensure minimum health, safety, and educational adequacy for children and in some cases, prioritize for the use of state funds. This state knowledge of local school facilities may be in the form of space inventories (a database of existing spaces that may include basic information such as square footage, construction type, year built, designed usage, etc.) and/or may contain information on the conditions/qualities (which may include measures of facility quality, educational suitability, building systems lifecycle data, energy use, etc.).

As Figure 8 shows, eight of our case states report that they have a statewide inventory of K-12 school facilities – only California and Texas do not. Seven of those report that their inventories include information on facility conditions. As the Colorado state director noted, “Our state statute requires us to assess every building in the state.” In some cases, states assist in the cost of information collection, such as in Washington, as noted by the state’s director,

*We have a grant program that contributes to the planning [and facility data collection]. In order for you to [get state facility funds], we have to have a plan for the district. We call it a capital facilities plan, or a Study and Survey report....In my mind, the Study and Survey Report is the cornerstone of our state program.*

**Figure 8: Summary of School Facilities Data and Information Collected by States**

	State has statewide inventory of K-12 school facilities	Inventory includes building conditions assessment(s)
<b>California</b>	N	N
<b>Colorado</b>	Y	Y
<b>Florida</b>	Y	Y
<b>Maryland</b>	Y	N (only includes maintenance info)
<b>Massachusetts</b>	Y	Y
<b>New Mexico</b>	Y	Y
<b>New York</b>	Y	Y
<b>Ohio</b>	Y	Y
<b>Texas</b>	N	N
<b>Washington</b>	Y	Y

## The California Department of Education should conduct a public review and update of all K-12 facility standards every few years.

State standards, guidelines and regulations for school facilities should be periodically reviewed and updated to reflect evolving industry best practice, new research findings, alignment to broader state infrastructure goals, and changing educational program emphases. The review process should be transparent and include members of the public as well as stakeholders from education, architecture, health, land use planning, and the building industry. Additionally, relevant state agency representation should be obtained so that school facility standards can align with other state infrastructure priorities, such as energy consumption, transportation, Health in All Policies objectives, sustainable communities goals, and the like.<sup>14</sup>

<sup>14</sup> For a recent example of this kind of cross-agency collaboration on school facility-related standards, see: Center for Cities + Schools. 2013. Partnering with K-12 Education in Building Healthy, Sustainable, and Competitive Regions: A California Policy Symposium. Berkeley: Center for Cities + Schools, University of California. [http://citiesandschools.berkeley.edu/reports/ProceedingsSum\\_062113.pdf](http://citiesandschools.berkeley.edu/reports/ProceedingsSum_062113.pdf).

Evolving science on health-related standards provides strong rationale for regular review and update of school facility standards. While some of our case states have specific standards on indoor human comfort for schools, many of them are moving toward the use of high performance building criteria requirements that, increasingly, include standards on indoor comfort.<sup>15</sup> New York’s state program director noted that the state building code and the school standards were “converging” and there is an effort to reduce duplicative regulations, particularly considering the growing trend toward high performance building criteria that also include indoor comfort standards.

When considering any change to state standards, guidelines, and/or regulations, state agencies should ask how changes would or would not uphold state interests. And, can this be best addressed by a standard, regulation, and/or guideline? Of course, each state may have different answers to that based on state legal authority and state policy culture. There was broad agreement from our interviewees that all state standards, guidelines, and regulations on school facilities should be regularly reviewed for effectiveness and appropriateness.<sup>16</sup>

## **The State of California should ensure there is adequate and equitable school facility spending to uphold standards.**

As evidenced in our case states, more state school facility funding is generally associated with more robust facility standards school districts must follow. Many states use K-12 facility standards as a way to qualify projects for state facilities funding and/or to limit/control state funding allocation amounts for individual construction projects. For example, space standards can be used to help establish the amount of built space (e.g., square footage) that the state will fund (and what it will not). That is, a state may only fund up to the maximum established space standard – anything designed “above” that standard will be paid for entirely with local dollars – as is the approach in Massachusetts, New Mexico, Maryland and Ohio.

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<sup>15</sup> This trend is occurring in California with the requirement for schools to use CALGreen and the newest Title 24 standards. However, California schools are not required to obtain CHPS (Collaborative for High Performance Schools) or LEED for Schools (Leadership for Environmental Design) certification. Additionally, California has adopted targets to make every new school by 2030 a net zero energy building.

<sup>16</sup> It is important here to note that our study does not look at every aspect of state policy, guideline or regulation on K-12 public school facilities. For example, we do not look specifically at detailed environmental health standards, outdoor space standards, or stormwater run-off standards. Future reviews of Title 5 should seek to identify areas of policy that need to be added or are insufficiently addressed in current policy.

Many states provide funding to local school districts for new construction, upgrades or expansions to existing school buildings/campuses, and/or funds dedicated for general facility maintenance. These state funds can be in the form of grants, loans, and/or debt service payment assistance. Eight of our case study states provide regular capital funding to local school districts for facilities, as shown in Figure 9. Notably, each state program is unique and has its own structure and funding formula. However, all seven of these case study states adjust the state aid amount based on the wealth of the local school district.

**Figure 9: Summary of State Capital Funding for School Facilities**

	State provides capital funding to school districts	Capital funding type	State capital funding varies by wealth of local school district
<b>California</b>	Y (prior to 2015)	Grant, competitive	N*
<b>Colorado</b>	Y	Grant, competitive	Y
<b>Florida</b>	Y	Appropriate	N
<b>Maryland</b>	Y	Grant, competitive	Y
<b>Massachusetts</b>	Y	Grant, competitive	Y
<b>New Mexico</b>	Y	Grant, noncompetitive	Y
<b>New York</b>	Y	Grant, competitive	Y
<b>Ohio</b>	Y	Grant, noncompetitive	Y
<b>Texas</b>	N	n/a	n/a
<b>Washington</b>	Y	Grant, competitive	Y

\*California does not adjust for local school district wealth directly in its capital funding formula, but does have a Financial Hardship program, which enables low wealth school districts to receive up to 100% state funding on construction or modernization projects

In at least 15 states in the country (including five of our case states), court cases about facilities condition or adequacy have played a major role in shaping facility funding and standards set by the states.<sup>17</sup> Courts have recognized the detrimental effect of poor quality school facilities on educational equity and student achievement, citing disparities in school facilities as a violation of student rights and as evidence of need for change in the school funding formula. For example: *Campaign for Fiscal Equity, Inc. v. State*, 86 N.Y.2d 307, 345 (N.Y. 1995) (“Children are entitled to minimally adequate physical

<sup>17</sup> 21<sup>st</sup> Century School Fund and National Clearinghouse for Educational Facilities. 2010. “State Capital Spending on PK-12 School Facilities.” Washington, DC: 21csf; Crampton, F. and Thompson, D. 2008. “Building minds, minding buildings: School infrastructure funding need: A state-by-state assessment and an analysis of recent court cases.” American Federation of Teachers: Washington, DC.



facilities and classrooms which provide enough light, space, heat, and air to permit children to learn. Children should have access to minimally adequate instrumentalities of learning such as desks, chairs, pencils, and reasonably current textbooks.”); *DeRolph v. State*, 78 Ohio St.3d 193 (Ohio, 1997) (“A thorough and efficient system of common schools includes facilities in good repair and the supplies, materials, and funds necessary to maintain these facilities in a safe manner.”); and *Abbott v. Burke* line of cases beginning in 1985 in New Jersey articulated how the quality of facilities—the “need for maintenance, treatment of asbestos services, and heating of older, less energy- efficient school facilities”—should be equally considered with other aspects long- recognized as critical to the schooling environment: qualified teachers, achievement levels on standardized tests, and dropout rates (100 N.J. 269, 269 (N.J., 1985)).

An issue closely connected to state facility funding is promoting cost control/containment of facilities construction and maintenance and operations over time. Many of the state directors expressed concerns that local districts and their architects were “overbuilding” schools – that is, building far more square footage than they need. Concern about this practice has driven the state’s square footage guidelines and/or space caps/limits state funding projects in some states. The state program director in Colorado noted, “We’re just trying to be careful with our limited dollars to not be wasteful or overbuilding so they’ll [the school district] be put out of business because they can’t operate it.” Colorado places emphasis on encouraging school districts not to build more square footage than they need. The focus is on efficiency of space and making buildings smaller, from an ongoing operational cost perspective. State program staff provide feedback for desired total square footage for a school based on the school districts educational programming decisions. They instruct the school district and the architect to design within that square footage maximum. Massachusetts also has a strong focus on cost containment. The program director noted, “Our focus is on ensuring projects are flexible, right-sized, and have acceptable life-cycle cost assumptions. Projects funded by the state must have detailed project and lifecycle cost analysis conducted.” In Washington, the state promotes local cost control in a number of ways, including requiring school districts to prepare energy conservation reports, value engineering studies, constructability reviews and building commissioning for their projects (see WAC 392-343-075 and 392-343-080).

California policymakers can use state school facility funding and the standards in tandem to ensure that all children attend facilities that are safe, healthy, educational suitable and affordable to taxpayers.

# Appendices

## Appendix A: Research Methods

This study was undertaken to provide guidance to California lawmakers on appropriate state standards for school facilities planning and design. To inform this policy reform discussion, we undertook in-depth review and analysis of school facilities standards approaches in ten case study states: California Colorado, Florida, Maryland, Massachusetts, New Mexico, New York, Ohio, Texas, and Washington. The case states were selected based on the following criteria: a) the state provides some state-level K-12 capital funding to local school districts;<sup>18</sup> b) together, the case study states represent different parts of the country; and c) the state contains varied geographies from urban to rural.

Because states use a variety of mechanisms to communicate school facility standards, we looked broadly at these approaches, which can include standards, guidelines, and best practices set in state code, regulation or state agency guidance documents. We limited our investigation to the policy topics most specifically addressed in *Title 5, California Code of Regulations*: educational space, minimum essential facilities, indoor human comfort, school site size, planning process, maintenance, and charter schools

Our case study research had five phases:

1. First, we reviewed each state's educational facilities statutory code and relevant supplementary guidance (websites, reports, etc.). See appendices for the central location of each state's school facility standards.
2. Second, we interviewed educational facility agency representatives from each state to deepen our understanding of each state's policies.<sup>19</sup>
3. Third, we created a framework for analyzing state standards and compared each state's standards to identify similarities and differences.
4. Fourth, we discussed preliminary findings with members of the National Council on School Facilities (NCSF) at their December 10, 2013 meeting in Washington, DC. Follow-up discussions of the policy research findings were also made at the December 2014 and December 2015 NCSF meetings.
5. Finally, we compared the findings to California's own facility standards and school facility-planning processes.

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<sup>18</sup> Data on state spending on K-12 school facilities was obtained from: 21<sup>st</sup> Century School Fund. 2010. State Spending on K-12 School Facilities. Washington, DC: 21csf. Available online: <http://www.21csf.org/csf-home/Documents/FederalStateSpendingNov2010/StateCapitalSpendingPK-12SchoolFacilitiesReportNov302010.pdf>.

Over the course of the research, we conferred with the CDE SFTSD staff to discuss findings and identify areas for further exploration and clarification through the study. In this regard, we consider this a collaborative research effort.

The following individuals from across the country were interviewed:

- Kathleen Moore, California Department of Education (retired as of publication date)
- Fred Yeager, California Department of Education
- Michael O’Neill, California Department of Education
- Bill Savidge, California State Allocation Board (retired as of publication date)
- Ted Hughes, Colorado Department of Education (retired as of publication date)
- Scott Newell, Colorado Department of Education
- Mike Smiley, Department of Defense Education Activity
- Violet Brown, Florida Department of Education
- Carl Nicoleau, Miami-Dade School District
- John Jumpe, Massachusetts School Building Authority
- Karl Brown, Massachusetts School Building Authority
- David Lever, Maryland Public School Construction Program
- Pat Goucher, Maryland State Department of Planning
- Bob Gorrell, New Mexico Public School Facilities Authority
- Andre Laroque, New Mexico Public School Facilities Authority
- John Valdez, New Mexico Public School Facilities Authority
- Carl Thurneau, New York State Education Department
- Franklin Brown, Ohio Facilities Construction Commission
- Melanie Drerup, Ohio Facilities Construction Commission
- Lisa Dawn-Fisher, Texas Education Agency
- Rob Caudill, Texas Education Agency
- Gordon Beck, Washington State, Office of Superintendent of Public Instruction
- Mary Filardo, 21<sup>st</sup> Century School Fund

Additionally, the researchers participated in the following meetings of state agency directors on K-12 school facilities:

- National Council on School Facilities Annual Meeting, December 9, 2013, Washington, D.C.
- National Council on School Facilities Annual Meeting, December 8, 2014, Washington, D.C.
- National Council on School Facilities Annual Meeting, December 7, 2015, Washington, D.C.

See the companion Appendix document available online:

<http://citiesandschools.berkeley.edu/schoolfacilities>

