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# California Department of Education

Orange County Office of Education Meeting  
December 6, 2011

Kathleen Moore, Director  
School Facilities & Transportation Services Division

**CALIFORNIA DEPARTMENT OF EDUCATION**

Tom Torlakson, State Superintendent of Public Instruction



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State Superintendent  
of Public Instruction

# Mission Statement

California will provide a world-class education for all students, from early childhood to adulthood. The Department of Education serves our state by innovating and collaborating with educators, schools, parents, and community partners. Together, as a team, we prepare students to live, work, and thrive in a highly connected world.

**Innovate      Collaborate      Serve      Learn**



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# Alignment

Effective October 1, 2011:

New Division Name:

**School Facilities and Transportation  
Services Division**

New Branch:

**Services for Administration, Finance,  
Technology, and Infrastructure Branch**

New Deputy:

**Jeannie Oropeza**



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# A Blueprint for Great Schools Transition Advisory Team Report



<http://www.cde.ca.gov/eo/in/bp/bpcontents.asp>



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# A Blueprint for Great Schools

- 59 Members appointed by State Superintendent Torlakson
- 9 Policy Areas



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# A Blueprint for Great Schools

1. Educator Quality
2. Curriculum and Assessment
3. Higher Education and Secondary Alignment
4. Accountability and School Improvement
5. Early Childhood Education
6. Education Supports
7. Health, Nutrition, and Physical Fitness
8. School Finance
9. School Facilities and Construction Reform



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# A Blueprint for Great Schools

## Facilities Recommendations

- Collaborate with the Governor to consolidate or better coordinate agencies.
- Inventory school facilities.
- Enable districts to engage in more efficient facilities construction and re-design.
- Establish a State Superintendent's Council of Business/Labor.
- Foster joint use agreements that support schools as community hubs.





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# Schools of the Future Report



The Schools of the Future Report is  
available online at:

[http://www.cde.ca.gov/ls/fa/sf/documents/  
sotfreport.pdf](http://www.cde.ca.gov/ls/fa/sf/documents/sotfreport.pdf)





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# Schools of the Future Report

- 90 Member Team
- 2 Major Policy Areas
- 8 Sub-committees' Policy Memos



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# Schools of the Future Report

## School Facility Program Reform

1. Educational Impact of Design
2. School Site Selection and Community Impact
3. Modernization
4. Funding and Governance



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# Schools of the Future Report

## Educational Impact of Design

Recommendations include:

- Revise Title 5 to reflect 21<sup>st</sup> century learning environments
- Explore ways to ensure on-going maintenance
- Develop research, resources, and best practices to assist local planning efforts



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# Schools of the Future Report

## School Site Selection Community Impact

Recommendations include:

- Align future state bond measures and CDE regulations and guidance with state sustainability goals
- Develop guidance documents and training programs for LEA/local governments cross-collaboration



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# Schools of the Future Report Modernization

Recommendations include:

- Eliminate portables that are beyond their useful life
- Look at the total needs of a school – – both physical and educational
- Protect the investments (deferred maintenance)



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# Schools of the Future Report

## Funding and Governance

Recommendations include:

- Use existing data to determine school facility needs
- State wide facility condition inventory
- Examine alternative governance structures



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# Schools of the Future Report

## High Performance Schools

1. High Efficiency Schools
2. Renewable Energy
3. Grid Neutral Schools
4. Financing of High Performance Schools





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# Schools of the Future Report

## High Efficiency Schools

Recommendations include:

- Develop a Green Schools Recognition Program
- Adopt a California Environmental Literacy Plan



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# Schools of the Future Report

## Renewable Energy

Recommendations include:

- Develop processes to help LEAs evaluate the procurement, financing, and construction of renewable energy systems
- CDE should ensure that local decision makers have access to the training and resources to reduce energy use and understand the renewable energy marketplace



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# Schools of the Future Report

## Grid Neutral Schools

Recommendations include:

- Change regulations to allow for more cost effective solar installations
- Conduct energy audits of all schools
- Encourage new construction and modernization to incorporate grid neutral operations



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# Schools of the Future Report

## Financing of High Performance Schools

Recommendations include:

- New and expanded funding sources
- Maximize production at school sites



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# Schools of the Future Initiative

## Actions to Date

- SSPI support of 2012 statewide bond
- USDOE Green Ribbon Award
- Senior Architect, Diane Waters named as Energy Liaison
- Research and Best Practices



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# Facility Research

Four separate documents designed to provide board members, teachers, parents, the public, and others a quick overview of key research on educational facilities.

The screenshot shows a Windows Internet Explorer browser window displaying the California Department of Education website. The address bar shows the URL <http://www.cde.ca.gov/s/ta/>. The page title is "Facilities - Learning Support (CA Dept of Education)".

The website header includes the California Department of Education logo, a search bar, and navigation tabs: Curriculum & Instruction, Testing & Accountability, Professional Development, Finance & Grants, Data & Statistics, Learning Support, and Specialized Programs. The "Learning Support" tab is selected.

The main content area is titled "Facilities" and includes the following text: "Information to assist school districts and their communities in creating well-planned, K-12 learning environments in safe, clean, and up-to-date schools."

Below this text are several links to research documents:

- [Research](#): Research, topic sheets, and bibliographies that support the vision and guiding principles throughout the school facilities planning, design, and implementation process.
- [General Information](#): General guidance for California public schools related to facilities and funding; includes e-mail list to get timely information regarding changes in laws, regulations and policies.
- [Charter Schools](#): Information to assist school districts and charter schools in seeking state facility funding assistance under AB 14 (Chapter 935, statutes of 2002), which defines the manner of funds available.
- [Overcrowded Schools](#): Provides information necessary to qualify for the overcrowded school programs. The programs provide funding for construction of new classrooms to reduce school site pupil density and to replace portable classrooms with permanent construction.
- [Health & Safety](#): Information on indoor air quality, lead, asbestos, electromagnetic fields, safe walking routes to school, disaster preparedness, PCBs, pesticides, and pipelines.
- [Master Planning](#): Information and resources to assist school districts in preparing facility master plans.
- [Multitrack Year-Round Education](#): Provides assistance to school districts that plan to implement or operate Multitrack Year-Round Education (MTYRE) programs.
- [Qualified School Construction Bond \(QSCB\)](#): Information about the QSCB program, which allows local educational agencies to issue tax-exempt bonds and use 100 percent of the proceeds for specified purposes.
- [Qualified Zone Academy Bond \(QZAB\)](#): Information about the QZAB program, which allows local educational agencies to solicit contributions from private enterprises and to issue tax-exempt bonds and use the proceeds for specified educational purposes.
- [School Facility](#): Information that relates to the Education Code sections that define the criteria that new school sites and new construction and modernization plans funded by the state must meet to be approved.

The footer of the page includes the California Department of Education contact information: 1430 N Street, Sacramento, CA 95814, and links to Contact Us, FAQ, and Web Policy.



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# Facility Research

Research - Facilities (CA Dept of Education) - Windows Internet Explorer

http://www.cde.ca.gov/ls/fac/re/index.asp

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Research - Facilities (CA Dept of Education)

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Advanced | Site Map | A-Z Index

Curriculum & Instruction	Testing & Accountability	Professional Development
Finance & Grants	Data & Statistics	Learning Support
		Specialized Programs

Home » Learning Support » Facilities » Research [Printer-friendly version](#)

## Research

Research, topic sheets, and bibliographies that support the vision and guiding principles throughout the school facilities planning, design, and implementation process.

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### Vision for California Public School Facilities

The California Department of Education [envisions](#) (PDF; 282KB; 1p.) school facilities that enhance the achievement of all students and are learner-centered, safe, sustainable, and centers of the community.

### Guiding Principles

The [guiding principles](#) (PDF; 282KB; 1p.) are meant to be applied comprehensively throughout the school facilities planning, design, and implementation process. The order of presentation does not reflect any prioritization.

These one-page summaries provide school board members, teachers, parents, and other interested parties a quick overview of school facility research. Detailed references and a complete bibliography are available for those wanting further information.

### School Facilities Improve Learning

- [Summan of research](#) (PDF; 666KB; 1p.)
- [Bibliography](#)

### Safe Schools Foster Improved Student Learning

- [Summan of research](#) (PDF; 732KB; 1p.)
- [Bibliography](#)

### Sustainable Schools Improve Learning and the Environment

- [Summan of research](#) (PDF; 304KB; 1p.)
- [Bibliography](#)

### Schools as Centers of Community Improve Learning

- [Summan of research](#) (PDF; 550KB; 1p.)
- [Bibliography](#)

Research

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# Facility Research

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## Vision for California Public School Facilities

The California Department of Education envisions school facilities that enhance the achievement of all students and are learner-centered, safe, sustainable, and centers of the community.

### Guiding Principles for Implementing the Vision

The siting and design of educational facilities will:

1. Reflect the local educational agency's board-adopted facilities master plan and educational specifications.
2. Result from an open, community-based, and comprehensive planning process including all stakeholders and early dialogue with all involved planning agencies.
3. Accommodate a complete facility supporting the delivery of the adopted educational program, be accessible to all, and be adaptable to future demographic, educational, and community needs.
4. Support students, parents, teachers, and staff in closing achievement gaps and preparing students for the workforce, post-secondary education, and lifelong learning.
5. Consider the full spectrum of community facilities and support opportunities for joint use and educational partnerships.
6. Ensure safety from existing and potential hazards and incompatible land uses.
7. Provide a secure environment with a focus on supervision.
8. Create comfortable, attractive, and stimulating environments that support collaboration and diverse learning styles and opportunities.
9. Promote sustainable practices that conserve natural resources, limit greenhouse gas emissions, optimize construction and life cycle costs, and encourage walking and bicycling.
10. Incorporate superior acoustics, indoor air quality, and natural lighting.
11. Respond to current and future information, communication, and technology needs.
12. Support student health, nutrition, and physical fitness.

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## School Facilities Improve Learning

There is a growing body of research demonstrating that clean air, good light, and a small, quiet, comfortable, and safe learning environment are important for students' academic achievement.

Here are a few examples of the research results:

- Students who receive instruction in buildings with good environmental conditions can earn test scores that are 5–17 percent higher than scores for students in substandard buildings.<sup>1</sup>
- There is a negative relationship between classroom noise higher than 40 decibels and student achievement.<sup>2</sup>
- Schools with better building conditions have up to 14 percent lower student suspension rates.<sup>3</sup>
- Improving a school's "Overall Compliance Rating" to meet health and safety standards can lead to a 36-point increase in California Academic Performance Index scores.<sup>4</sup>
- Substandard physical environments are strongly associated with truancy and other behavior problems in students. Lower student attendance led to lower scores on standardized tests in English–language arts and math.<sup>5,6</sup>



- Students' reading speed, comprehension, and mathematics performance are adversely affected by room temperatures above 74 degrees.<sup>7</sup>
- Student achievement scores tend to decrease as the school building ages—to as high as 9 percent, depending on maintenance factors.<sup>8</sup>
- Studies indicate that student performance is improved by an even distribution of daylight, an expansive view, and limited glare and thermal heat gain. One study found 20 percent faster student progress on math and 26 percent faster progress in reading compared with students in classrooms with less exposure to daylight.<sup>9,10</sup>

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## Safe Schools Foster Improved Student Learning



Everyone wants safe schools for their children. Current research shows that the definition of "safe" involves three areas that school facilities planning groups should consider:

- Potential physical hazards
- Environmental conditions of the site and of the building
- Crime/violence prevention

Some research findings and resources are provided below:

- The California Department of Education provides a guide to help districts review certain health and safety requirements. The guide identifies potential physical hazards and environmental safety conditions, such as proximity to airports, transmission lines, railroads, underground pipelines, and propane tanks.<sup>1</sup>
- Potable water, fire safety, adequate lavatories, security systems, and good communication systems for use in emergencies are important priorities for schools as they plan for the health and safety of students.<sup>2</sup>
- Concern about traffic and street crossings is among the most commonly cited reasons parents do not let their children walk to school or engage in free play on the streets.<sup>3</sup>
- Several studies have determined that children suffer significant health consequences from excessive heat; inadequate heating, ventilation, and air conditioning systems; mold and other biological hazards; pest infestations; lead and other toxic hazards; and overcrowding beyond the stated capacity of the school structure.<sup>4</sup>
- Research repeatedly shows the detrimental impact of high levels of lead and poor indoor air quality in classrooms.<sup>5</sup>
- One study of the Los Angeles Unified School District showed that a school's compliance with health and safety regulations can lead, on average, to a 36-point increase in California Academic Performance Index scores.<sup>6</sup>
- Students who attend small schools have a stronger sense of identity and belonging, of being connected to a community, than students who attend large schools. Additionally, the full range of negative social behavior—from classroom disruption to assault—is far less common in small schools, traditional and new, than it is in large schools.<sup>7,8</sup>
- The practice of "crime prevention through environmental design" embraces three proven concepts to make school sites safer: natural surveillance, natural access control, and territoriality. Simple, low-cost measures—for example, those involving furniture layouts, campus lighting, landscaping, reconfiguration of access points, and establishment of clear borders—are basic first steps to reducing crime on campus.<sup>9</sup>
- Schools with better building conditions have up to 14 percent lower student suspension rates.<sup>10</sup>



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## Sustainable Schools Improve Learning and the Environment

The recent *National Action Plan for Greening America's Schools* concludes that a sustainable school creates a healthy environment that is conducive to learning and saves energy, resources, and money. Additional benefits of sustainable schools include improved student health, attendance, and academic achievement.<sup>1</sup>

Here are a few more reasons to consider sustainable features:

- A 2006 study showed that sustainable schools use 33 percent less energy and 32 percent less water than conventionally constructed schools, significantly reducing utility costs over the average 42-year life cycle of a school.<sup>2</sup>
- Additional studies show the continuing high cost of energy and utilities. According to national data from 2008, the median annual cost for energy and utilities per student in kindergarten through grade twelve was \$295.13.<sup>3</sup>
- Improving a school's health and safety standards can lead to a 36-point increase in California Academic Performance Index scores.<sup>4</sup>
- Because green schools emphasize a healthy indoor environment, a district that builds green schools will benefit from reduced exposure to liability for students' and staff's health-related problems, fewer lawsuits, and less risk of damage to its reputation.<sup>5</sup>
- A school site that uses effective construction techniques can reduce, reuse, and recycle between 50 percent and 75 percent of building materials (e.g., brick, asphalt, wood, plastic, glass, gypsum board, and carpet), thereby reducing environmental impacts.<sup>6</sup>
- Attention to school siting practices can improve solar access; take advantage of natural air flows; maximize daylighting; and increase easy and safe pedestrian, bicycle, and mass transit options.<sup>7,8</sup>
- Substandard physical environments are strongly associated with truancy and other behavior problems in students. Lower student attendance led to lower scores on standardized tests in English-language arts and math and to less funding.<sup>9,10</sup>
- Studies indicate that student performance is improved by an even distribution of daylight, an expansive view, and limited glare and thermal heat gain. One study found 20 percent faster student progress on math and 26 percent faster progress in reading compared with students in classrooms with less exposure to daylight.<sup>11,12</sup>

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## Schools as Centers of Community Improve Learning

Many recent documents support the concept that schools are centers of community. Research shows that this concept boosts student achievement and focuses community life. Some reports also advocate the fiscal soundness of the concept and others point to the environmental advantages of land use. A 2003 evaluation of 20 community school initiatives across the United States yielded the following findings about schools that function as centers of community:

- Improved student academic performance
- Improved attendance
- Improved graduation rates
- Reduced dropout rates
- Reduced behavioral/discipline problems
- Increased access to physical and mental health services<sup>1,2</sup>

Here are reasons to consider building schools that function as centers of community:

- The U.S. Environmental Protection Agency (EPA) views schools as the key to promoting economic development, strengthening neighborhoods, and improving human and environmental health.<sup>3</sup>
- According to the EPA, a centrally located school with sidewalks and safe walking and biking routes can reduce air pollution and promote other healthy community benefits, such as joint-use arrangements.<sup>4,5</sup>
- Schools that function as centers of community may be open late or longer for community use—or they may have been designed to provide the community with other services, such as a public library, performing arts center, fine arts center, senior center, health clinic, community college branch, sports stadium, public park, or museum.<sup>6,7</sup>
- Co-location is a concept according to which public services are placed together in one location. The benefits are cost savings and community support for the tax increases required to repay school construction bonds.<sup>8,9</sup>
- Many perceived obstacles to joint use can be overcome with agreements between agency groups that typically function in “silos.” The cost benefits to communities can be substantial.<sup>10,11</sup>





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# U.S. Department of Education Green Ribbon Schools

- 4 Award Nominations per State
- Criteria – three Pillars

<http://www2.ed.gov/programs/green-ribbon-schools/index.html>



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# Importance of Educational Specifications

- Design of a new school—Required by Title 5
- When planning an addition—Recommended  
Referring to the educational specification will ensure that additions are made consistent with program needs
- Modernization—Recommended  
A focused educational specification for modernization will help to target modernization funds





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# Importance of Educational Specifications

- Required by Regulations
  - *California Code of Regulations, Title 5* 14001 (a) and 14030 (a)
  - Plan Summary Effective July 1, 2010—Board Adopted
- District board policy
  - The Superintendent of each LEA “Oversees the preparation of (school construction and modernization) plans from the developed educational specifications”.  
(CSBA Board Policy 7100)



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# Importance of Educational Specifications

- Better product
  - School design that supports and enhances the educational program
- Builds Relationships
  - Among district staff
  - Between district and community
- Puts students as the focal point of decision making



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# Contact Information

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