

# High School Reform

## *National and State Trends*

**Catherine Walcott, Rose Owens-West,  
Reino Makkonen**

**PREPARED FOR THE  
California Teachers Association**

**June 2005**

**WestEd**<sup>®</sup>

*Excellence in research, development, & service*



# High School Reform

---

## *National and State Trends*

**Catherine Walcott, Rose Owens-West,  
Reino Makkonen**

---

**PREPARED FOR THE  
California Teachers Association**

**June 2005**

**WestEd**<sup>®</sup>  
*Excellence in research, development, & service*

The CTA Board of Directors created the High School Restructuring Task Force in January of 2005. The charge of the Task Force is to:

1. Monitor state and federal initiatives dealing with high school reform and to make appropriate recommendations to the CTA Board;
2. Provide information on high school reform issues to the CTA Change Workgroup;
3. Review CTA policy regarding high schools and high school reform; and
4. Provide information and educational opportunities to CTA members on the topic of high school reform.

The Task Force commissioned West Ed to develop a “white paper” that synthesizes the major initiatives and research on high school reform in California and the nation.

### **TASK FORCE MEMBERS**

Curtis Washington, Chair

Bob Nichols, CTA Board Liaison

Don Dawson, Mathematics Teacher

Ellen Gervase, Special Education Teacher

John Haschak, Spanish and ELD Teacher

John Kelly, Mathematics Teacher

Jenny Rapp, Mathematics Teacher

Karen “Chelle” M. Wilson, Spanish Teacher

Craig Nelson, Staff Consultant

Justo Robles, Manager IPD

---

WestEd is a nonprofit research, development, and service agency whose comprehensive programs and wide-ranging expertise focus on education and human development, with a priority on serving underserved populations. Our broad scope of work creates effective and lasting solutions to the challenges that arise within these complex spheres. For more information about WestEd, visit our web site: [WestEd.org](http://WestEd.org); call 415.565.3000 or, toll-free, (877) 4-WestEd; or write: WestEd / 730 Harrison Street / San Francisco, CA 94107-1242.

# Table of Contents

Introduction .....	1
Why is high school reform such a priority? .....	3
High-performing high schools and barriers to improvement .....	13
Policy proposals to strengthen high schools.....	21
Conclusion .....	39
References .....	41
Appendix A: Summary of Policy Proposals .....	45
Appendix B: Annotate Bibliography .....	51
Appendix C: Useful Websites .....	61
Endnotes .....	63



# Introduction

In recent years, the traditional U.S. high school has become the target of sweeping reform efforts, all with the same vision of every student having access to a rigorous, personalized, and relevant secondary education. Billions of dollars — both public and private — have been invested in high school restructuring endeavors across the country, with major reform work underway in many locales, including such large urban districts as Los Angeles, New York City, Philadelphia, Sacramento, and Boston.

But more remains to be done. In February this year, 45 governors, together with a range of business and education leaders, gathered in Washington, DC for a summit on “Redesigning the American High School.” Participants worked closely together to build consensus around ways to confront the many problems plaguing the country’s high schools. Reform efforts are a priority in California as well. In his 2004 “State of Education” speech, California Superintendent of Public Instruction Jack O’Connell detailed the state’s struggles at the secondary level, noting that the majority of California’s high school students “simply are not reaching the academic levels needed to succeed in the workplace, in college, or as effective citizens.”<sup>1</sup>

While few would argue against the need for improvement, even and perhaps most especially those working in high schools, staying abreast of the fast-paced and far-reaching discussion around high school reform can be a challenge. Yet if teachers are to have a voice in the decisions that will guide their work in the coming years, it’s essential to tune in clearly and understand the problem, the related research, and current reform proposals. With this in mind, the California Teachers Association asked WestEd to develop a picture of the issue both nationally and in California specifically. This report provides that overview.

To underscore the urgency of high school reform efforts, the report begins by defining the problem. In addition to describing the changing economic and employment context, it reviews current high school outcomes nationally and in California, including assessment results and graduation rates. The report then discusses the research on high-performing high schools, comprehensive school reform models, and the issues and challenges faced by high school students. Next, it describes and categorizes current reform proposals and their research base. Finally, it offers some suggestions for further discussion and exploration by CTA.



# Why is high school reform such a priority?

## THE WORLD HAS CHANGED

In recent years, new technologies and economic demands have fundamentally altered the workplace, including entry-level job requirements. Gone are the days when low-skilled workers could readily find jobs that paid a living wage. Increasingly, such positions call for more sophisticated, higher-level skills and knowledge. With financial capital and information now flowing freely across borders in seconds, competition has broadened for businesses and, in turn, for those they employ. Increasingly, advantage goes to the educated. Of the 50 best-paying occupations in the country, only two require less than a college degree — air traffic controller and nuclear power reactor operator<sup>2</sup> — and the value of postsecondary education is only growing. According to the U.S. Bureau of Labor Statistics, by 2010 there will be a 22 percent increase in jobs requiring some college-level education.<sup>3</sup>

Businesses of all types need flexible employees who can handle multiple tasks, communicate effectively, and solve problems. When asked about which skills they find most basic and useful for their employees, officials from the manufacturing sector to financial services cite strong reading, writing, and research skills, as well as a solid understanding of algebra, geometry, and statistics.<sup>4</sup> In short, the skills needed for success in college and in work are converging. Unfortunately, far too many U.S. high schools are not keeping up with the changing demands and, therefore, are not adequately preparing their students for either arena.

## TODAY'S HIGH SCHOOL SYSTEM HAS NOT KEPT UP

American high schools were not designed to meet the higher expectations of today's knowledge-based economy. Most follow a design created more than a century ago at a time when it was assumed that only a portion of students would complete high school and only a portion of those graduates would go on to postsecondary education. To promote efficiency, schools were built on a "factory model" in which large numbers of students moved from class to class and were presented with up to eight different subjects a day. Students and teachers alike worked in relative isolation from their peers. Teachers would see as many as 150 students daily, and those students would listen to lectures and complete independent seatwork.<sup>5</sup>

Most California high schools continue to operate with this archaic model, and in doing so they are failing to meet the needs of the state's burgeoning and increasingly complex student population. Serving one-tenth of the nation's high school students, the state now struggles

to serve more than 1.9 million students in grades 9 through 12, a population that has grown by more than 30 percent in the past 10 years. The ethnic and linguistic makeup of California's student population has also changed. In 1993, non-white students made up 57 percent of the state's school population; today they account for 67 percent, and more than a quarter of California's current students are English learners.<sup>6</sup> A large proportion of these children are not getting a quality education, and African American, Hispanic, and Native American students are particularly underserved.

**Teacher shortages.** On the whole, California schools have been able to employ qualified public school teachers,<sup>7</sup> but the future looks less promising. While a large portion of the state's teaching force closes in on retirement, recent data show declines in both the number of credentialed teachers being produced and the number of postsecondary students enrolled in teacher preparation programs.<sup>8</sup> Projections indicate that California's teacher shortage will peak in 2013 at around 38,000 teachers,<sup>9</sup> with the impact felt most profoundly in the state's low-income, high-minority urban areas that have long struggled to find and keep qualified teachers.<sup>10</sup> Furthermore, high school teachers in these areas are often assigned to teach courses for which they lack training. A study for the Education Trust–West found that “a quarter of high school students in low-poverty schools face [sic] a math teacher who does not have a major or minor in mathematics, and nearly half of students in high-poverty high schools have underqualified math teachers.”<sup>11</sup>

**Poor facilities.** Similar problems exist with school facilities. Across the nation, growth in enrollment, coupled with deterioration of old buildings, is fueling an urgent demand for new schools in densely populated areas where open land is virtually nonexistent. California, with a statewide student enrollment of over 6 million, is especially hard hit. The state now lags the nation and the other large states in per-pupil construction expenditures and in the overall adequacy of its facilities. And as with state teacher shortages, the facility problems are concentrated predominantly in inner cities serving high-minority, low-income populations.<sup>12</sup>

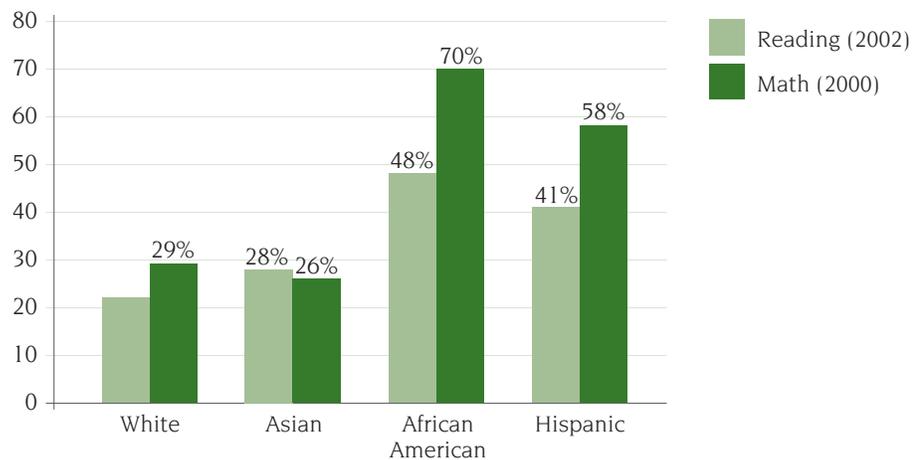
The major education barriers posed by such inequalities prompted 97 students from 46 different elementary, junior high, and high schools in California to sue the state in May 2000. The plaintiffs in this landmark case (popularly known as *Williams v. State of California*) sought to force the state to address the appalling conditions of many of its public schools. A settlement reached in August 2004 created new standards regarding such provisions as well-trained teachers and clean, safe school buildings. The long-term outcomes of this case bear watching as implementation efforts unfold.

### **Student Achievement**

**Nationwide.** On international math assessments, the 2003 performance of U.S. high school students in mathematics literacy and problem solving was lower than the average performance for most industrialized countries.<sup>13</sup> On the most recent National Assessment of Education Progress (NAEP) exams, 38 percent of 12<sup>th</sup>-grade public school students — more than one million teens — scored below the “basic” level in math.

Such achievement shortfalls are not confined to math. An estimated one-third of U.S. students start 9th grade reading two or more years below grade level, a problem that persists through high school. NAEP scores showed 28 percent of 12th graders below basic in reading in 2002, meaning that approximately 800,000 high school students could not demonstrate an overall understanding and make some interpretation of texts they were asked to read.<sup>14</sup> Achievement gaps were also evident. In both reading and math, African American and Hispanic 12th graders score below basic in far higher percentages than their white and Asian peers (Figure 1).

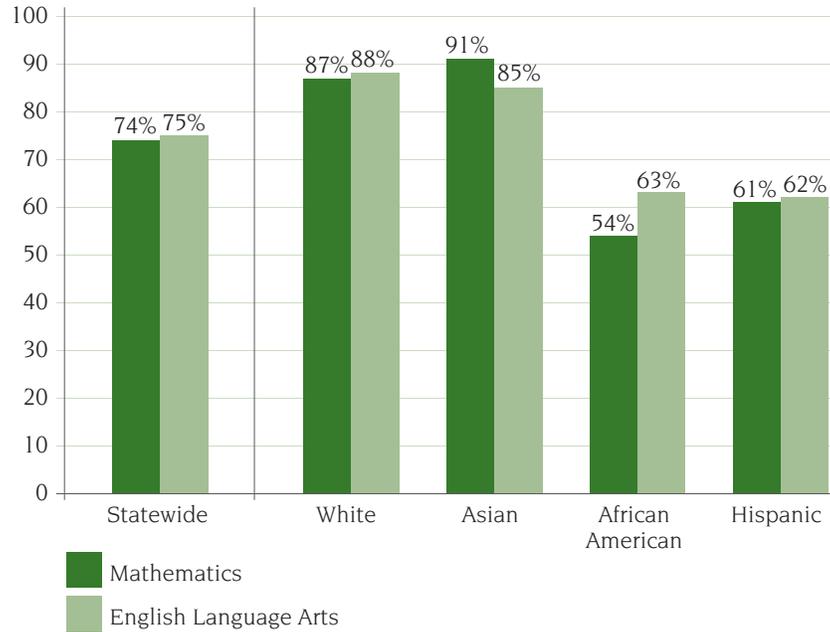
**Figure 1: Percentage of U.S. 12th grade students scoring below basic on NAEP exams**



Source: U.S. Department of Education, National Center for Education Statistics

**California.** As with the growing percentage of high school graduates nationwide, a first glance at student achievement for California high schoolers looks promising, while a more careful consideration reveals problems. In 2004, 74 percent of California 10th graders passed the math portion of the state's high school exit exam, with 75 percent passing the English language arts (ELA) portion. This was a marked improvement over 2003, when only 43 percent passed in math and 66 percent in English language arts. But in the face of this general improvement, achievement gaps persist. Hispanic and African American students and those from low-income families fell well below the state's passing rate on both sections of the exit exam (Figure 2).

**Figure 2: 2004 CAHSEE passing rates by race/ethnicity**

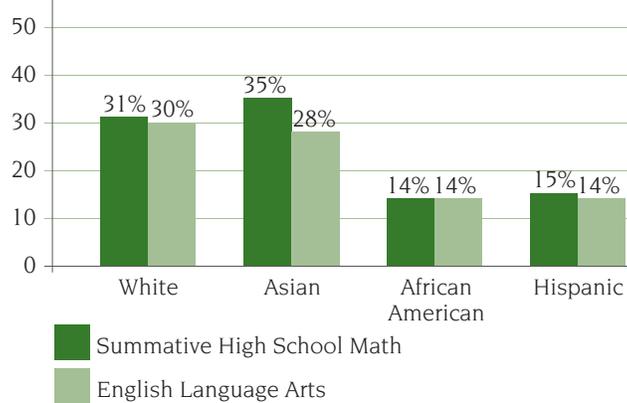


Source: California Department of Education 2004 assessment data (<http://data1.cde.ca.gov/dataquest>)

Notable gaps also existed among racial/ethnic groups on key portions of the 11th grade California Standards Test. On the math and ELA sections of this assessment, the state’s white and Asian high schoolers achieved proficiency in substantially higher percentages than their African American and Hispanic peers (Figure 3).

**Figure 3: 11th grade CST proficiency percentages by race/ethnicity (2004)**

Source: California Department of Education 2004 assessment data (<http://data1.cde.ca.gov/dataquest>)

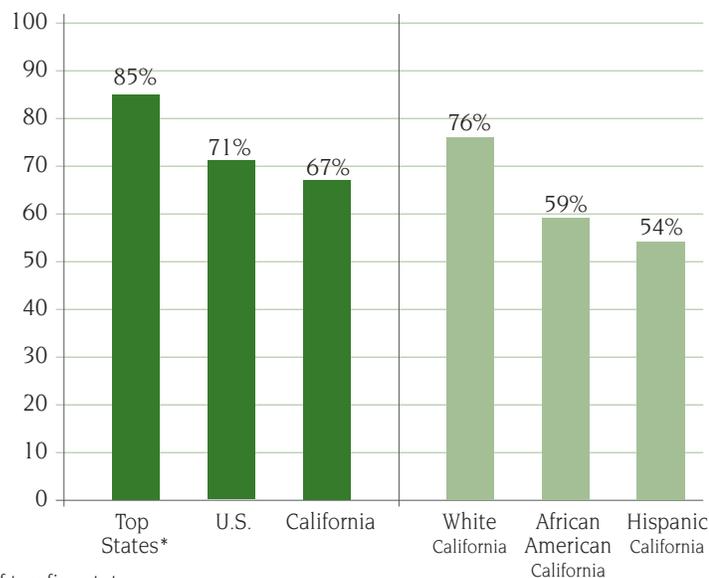


## Graduation Rates

**Nationwide.** Not included in the achievement figures, of course, are students who drop out of high school prior to 12th grade. Across the U.S., only about 70 percent of high school students graduate on time, a figure that varies greatly by race and ethnicity. In the class of 2002, 78 percent of white students graduated from high school on time with a regular diploma, compared to 56 percent of African American students and 52 percent of Hispanic students.<sup>15</sup>

**California.** Getting students to successfully complete their high school education and earn a diploma appears to be equally challenging in California. When comparing the number of graduates in 2002 to the number of 9<sup>th</sup> graders who started four years earlier, the rate for that year hovers at about 67 percent.<sup>16</sup> This figure indicates that almost 150,000 students did not make it through to graduation day in California.<sup>17</sup> Graduation rates for the state's minority students were even lower (Figure 4).

**Figure 4: High school graduation rates (2002)**



\* Median of top five states.

Source: Greene, J., & Winters, M. (2005). Public high school graduation and college readiness rates: 1991 to 2002.

In a recent paper, Harvard University's Civil Rights Project described California's lagging graduation rates as a crisis with far-reaching implications, a "tragic story of wasted human potential and tremendous economic loss." Citing figures from University of California–Santa Barbara Professor Russell Rumberger, the report projects that California's 2002-03 public school dropouts will eventually cost the state \$14 billion in lost wages.<sup>18</sup>

## Postsecondary Preparation

**Nationwide.** Among high school graduates nationwide, most intend to pursue postsecondary education.<sup>19</sup> Yet relatively few take the courses needed to adequately prepare them for college.

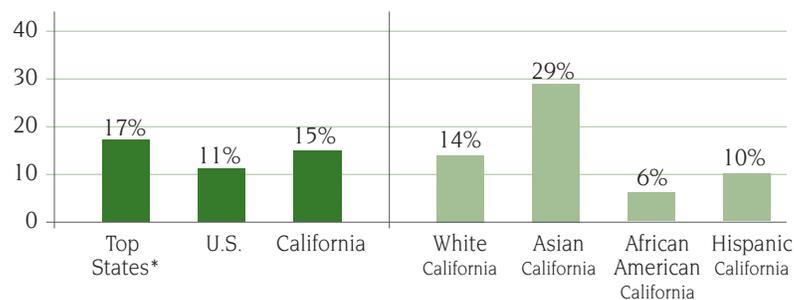
A recent national study revealed that 66 percent of 2002's high school graduates lacked the skills and other qualifications needed to succeed in college — a gap that routinely leads to college remediation courses and dropout.<sup>20</sup> More than a third of college undergraduates in the U.S. participate in a remedial education course during their first two years of postsecondary enrollment,<sup>21</sup> a trend that seems to be relatively stable since 1989.<sup>22</sup> These students are far less likely to graduate than those who enter college better prepared.<sup>23</sup>

**California.** Research by the Legislative Analyst's Office suggests a troubling three-way divide among the state's secondary students: 25 percent of students who enter high school graduate qualified for a public four-year university, 45 percent earn a high school diploma but are unprepared for college academics, and 30 percent drop out of high school.<sup>24</sup>

To enter the state's public four-year colleges and universities, high school students must complete the "A-G" high school course sequence. Requirements include four years of English; three years of math (algebra, geometry, intermediate algebra); two years of history (world and U.S.); two years of science (biology, chemistry, or physics); two years of the same foreign language; one year of visual and performing arts; and one year of an approved elective.<sup>25</sup> Groups such as the Education Trust–West are promoting the A-G curriculum for all students and have raised concerns that high schools don't offer enough of these courses to meet student demands and that racial gaps in course completion persist. For example, districts serving the highest concentrations of disadvantaged students are only a quarter as likely to offer enough A-G classes for everyone, and African American and Hispanic high school graduates are far less likely to have successfully completed the sequence.<sup>26</sup>

Research indicates that high-level math courses and participation in Advanced Placement (AP) exams are powerful predictors of high school and college graduation,<sup>27</sup> yet California high schools have few students taking the most challenging math classes. Recent data show that 56 percent of California 8th graders take Algebra, but only 24 percent of the state's high school students take a math course beyond Algebra 2.<sup>28</sup> The high percentage of California juniors and seniors taking AP exams is more encouraging, but here, too, troubling gaps exist between the state's racial and ethnic groups (Figure 5).

**Figure 5: High school juniors and seniors taking AP exams (2003)**

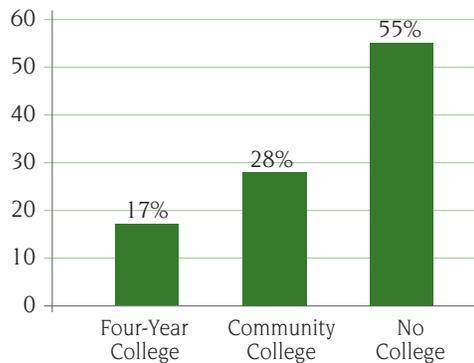


\* Median of top five states.

Source: Achieve, Inc. (2005). *California data profile*. Washington, DC.

As Figure 6 shows, nearly half (45 percent) of California's high school graduates enroll in college within two years of graduation. Seventeen percent of graduates enroll in four-year colleges and universities and 28 percent enroll in the state's two-year community college system.

**Figure 6: Postsecondary placement after graduation**

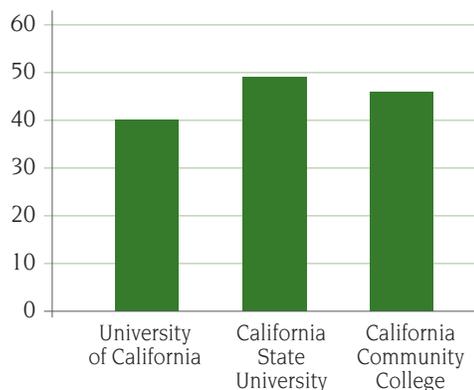


\* Within two years of graduation.

Source: Hill, E. (2005, May). Improving high school: A strategic approach. Sacramento, CA: Legislative Analyst's Office, p. 7.

Given their relatively low level of readiness, many students must participate in remedial classes once in college. For example, in 2002-03, 30 percent of University of California freshmen required remedial coursework in reading and writing, 49 percent of the students entering the California State University system required remediation in English, and more than 40 percent of California Community College students needed to retake at least one basic skills course (Figure 7).

**Figure 7: Percent of entering freshmen requiring remediation, 2003**



Note: Because each system develops its own standards for remediation, the figures are not comparable.

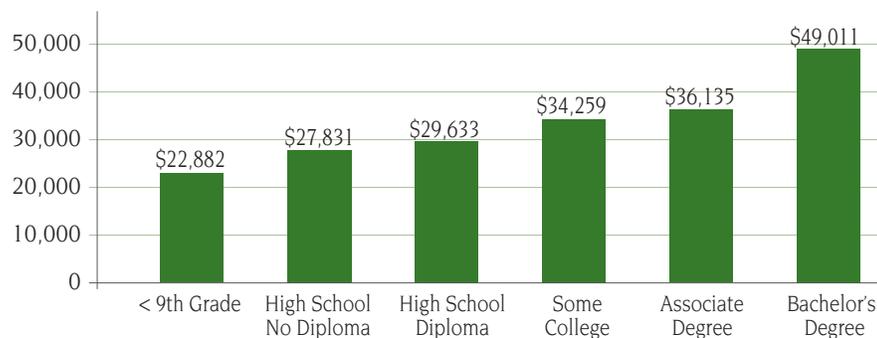
Source: Hill, E. (2005, May). Improving high school: A strategic approach. Sacramento, CA: Legislative Analyst's Office, p. 57.

## CONSEQUENCES OF POORLY PERFORMING HIGH SCHOOLS

Many graduates leave high school lacking both the academic preparation necessary for postsecondary education and the broad knowledge, habits of mind, and personal and social skills necessary for success in the workplace and in a diverse, democratic society. Today's Americans are voting with less and less frequency, and the youngest of those eligible to vote are casting the fewest ballots. Youth are also increasingly unlikely to join voluntary associations and to participate in the local, state, and national organizations that structure community life.<sup>29</sup>

The issue is perhaps clearest on an individual economic level. Across the board, individuals with postsecondary training have a better shot at good jobs and decent wages. While adults with a high school diploma have a clear edge in the job market over those without one, they are twice as likely to be unemployed as adults who have a bachelor's degree.<sup>30</sup> The real reward, though, isn't just having a job; it's what that job pays. In the year 2000, male and female college graduates earned 95 and 65 percent more, respectively, than those who had graduated but not studied beyond high school. In turn, this latter group — males and females who had graduated high school or earned a GED but not pursued higher education — earned 27 and 30 percent more, respectively, than their male and female counterparts who had dropped out of high school.<sup>31</sup> The lesson is clear: The more you know, the more you earn. Looked at another way, young adults with a high school diploma earn close to \$2,000 more annually than their peers who left high school early. But they earn \$6,000 less per year than those with an associate's degree, and nearly \$20,000 less per year than those with a bachelor's degree<sup>32</sup> (Figure 8).

**Figure 8: Average yearly earnings of 25-34 year olds by educational attainment (2001)**



Source: Bureau of Labor Statistics; Current Population Survey (CPS); Annual Demographic Survey, March 2002; average earnings for full-time, year-round workers.

The relationship between education and wages is itself not new. But the American workplace has modernized and, in the process, drastically reduced the proportion of unskilled jobs. Thirty years ago, 38 percent of office workers had taken college classes. Now more than two-thirds (69 percent) are college-educated.<sup>33</sup> The manufacturing industry, long an employment haven for high school dropouts, has seen its education levels increase as well.

In 1973, high school dropouts held 51 percent of the nation's factory jobs; in 2000, they held only 19 percent.<sup>34</sup>

In addition to the personal consequences for individual students, the failures of today's high schools have national economic consequences. In recent surveys, 80 percent of business leaders said they have a moderate to serious shortage of qualified job candidates<sup>35</sup> and 73 percent rated the writing skills of recent high school graduates as either fair or poor.<sup>36</sup> Survey authors noted that this lack of an adequately skilled workforce could drive competitive businesses "out of the global game."<sup>37</sup>

One economist, Anthony Carnevale of Educational Testing Service, has estimated that if current economic and demographic trends continue, by 2020 the nation will need as many as 14 million more workers with some college education than the country's education systems are likely to produce if they continue as is. If, instead, schools gear up to meet this demand, preparing greater numbers of currently underserved students to succeed in college, especially African American, Hispanics, and other non-whites, "the resultant earnings improvements would certainly narrow income differences and could add as much as \$230 billion in national wealth and \$80 billion in new tax revenues every year."<sup>38</sup>



# High-performing high schools and barriers to improvement

That there is a need to improve American high schools overall should not obscure the fact that there are any number of high-quality secondary schools. In recent decades, enterprising educators and other concerned stakeholders across the country — often relying partly on foundation funding and drawing on a growing research base — have worked to generate new and better options for students. Theme-based schools, charter schools, and small schools or smaller learning communities within large schools are just some of the approaches to high school transformation. One of the key research challenges has been to continue to evaluate and understand what makes certain high schools successful while others struggle. A related challenge is to then understand how to apply what we know about schools whose students are thriving so as to generate more such schools, indeed, to create whole systems of successful high schools.

Research on high school reform is still evolving. What we can say with certainty is that high schools are complex, dynamic organizations. No one-size-fits-all approach to success has been found, and, even in high-performing high schools, improvement efforts must be continuous and relentless.

This summary describes three general categories of research: case studies and analyses of the common characteristics of high-performing high schools; syntheses of lessons learned in implementing comprehensive school reform; and research on the challenging issues with which high schools must grapple. Most of the research, while informative, does not include randomized control trials or other more rigorous forms of scientifically based evidence. While the research findings on common elements of effective high schools are compellingly consistent, research findings about specific strategies and processes for transforming lower-performing high schools into high-performing learning organizations are much less clear. In fact, research in this latter area is still very much in the emergent stage.

## LITERATURE ON HIGH-PERFORMING HIGH SCHOOLS

Largely using case studies, interviews, and surveys, researchers have developed a body of literature focusing on the characteristics of high-performing high schools.<sup>39</sup> Across the research, findings have been remarkably consistent, showing that, as a rule, these schools show evidence of having:

- ⊙ **A set of high expectations and a rigorous curriculum to support it.**  
Faculty and staff expect their students to perform at high levels and often explicitly communicate the goal of having students pursue postsecondary education or training.

These schools have a rigorous core curriculum and offer career/technical courses with a strong academic core.

⊙ **A variety of instructional strategies that engage students and connect them to real-world applications.**

These schools engage students in learning by making things relevant to their lives and interests and attending to students' individual learning styles and aptitudes. Students actively apply knowledge and skills through problem solving, inquiry, and research. Many programs sponsor student projects in workplace or community settings or harness technology to heighten student interest and deepen their mastery of knowledge and skills.

⊙ **Strong connections between students and staff.**

These schools pay particular — and explicit — attention to building strong connections between staff and students and creating personalized, safe, and orderly learning environments. Advisors, mentors, and teachers help students clarify their goals and get the extra support they need, prepare for life after high school, and successfully transition to postsecondary settings or work.

⊙ **Leadership and a school culture that is mission-driven and focused on helping all students learn.**

High-performing high schools exhibit a clear sense of purpose and focus, often anchored in a theme or common goal for students that is shared by all staff, students, and parents or guardians. School leaders involve staff in decisions and build a shared vision for the school. All involved demonstrate an unrelenting focus on student learning.

⊙ **A professional community of faculty and other staff that focuses on teaching and learning and building capacity to close the achievement gap.**

These schools offer sustained professional development to strengthen content knowledge as well as instructional strategies for reaching diverse learners. They frequently examine data as part of a continuous effort to improve school programs and instructional strategies. They experiment with school schedules and the use of time (e.g., seeking longer blocks of learning time, creating time for teacher collaboration and planning).

⊙ **Additional supports for students who need them.**

To make sure that all students perform at high levels, these schools offer personalized support. Some stress the importance of intensive interventions in the 9th grade year, focusing on academic enrichment rather than remediation. They also employ such strategies as tutoring; longer, more flexible course periods; and lengthened school days or additional school weeks to help students catch up when necessary.

High-performing high schools come in many forms, but these common characteristics persist.

### Examples of high-performing high schools serving traditionally disadvantaged populations

**International High School (Long Island City, New York).** One of the nation's premier schools for immigrant students, IHS has designed an innovative, student-centered program based on a system of 12 interdisciplinary course clusters (each 13 weeks long), a significant focus on career education, and a commitment to bilingualism and teaching challenging academic content to English learners. To be admitted, a student needs to have lived in the United States for less than four years and have scored below the 21<sup>st</sup> percentile on New York's language assessment test battery. More than 75 percent of IHS students also qualify for free or reduced-priced lunch. Once admitted, students remain until graduation. By the time they graduate, students have completed their credits and a three-year work internship sequence, and most (over 75 percent) have taken at least one college course. The school's notable outcomes include a 90 percent pass rate on statewide Regents exams and a 90 percent postsecondary enrollment rate — with two-thirds of its graduates attending four-year colleges.<sup>40</sup>

**Career Academies (a model implemented in diverse settings nationwide).** Established more than 30 years ago, the Career Academies model aims to keep students engaged in school and prepare them for successful transitions to postsecondary education and employment. Typically serving between 150 and 200 high school students from grade 9 or 10 through grade 12, Career Academies are organized as small learning communities, combine academic and technical curricula around a career theme, and establish partnerships with local employers to provide work-based learning opportunities. Research has shown Career Academies substantially improving the labor market prospects of young men via increased wages, hours worked, and employment stability, with these positive impacts concentrated among those who were at the highest risk of dropping out of high school when they entered the programs. In fact, Career Academies are one of the few youth-focused interventions that have been found to improve the labor market prospects of young men.<sup>41</sup>

## LESSONS FROM COMPREHENSIVE SCHOOL REFORM

One approach to creating high-performing high schools is implementation of a comprehensive school reform (CSR) model. Such models have been adopted by scores of schools around the country. Research on CSR models indicates that many of the models do show evidence of improving student engagement, retention, and learning. It also indicates that schools should select a model that best fits their particular needs — no single approach to school improvement is proven to work in all contexts.<sup>42</sup>

Some examples of comprehensive school reform models at the high school level are:<sup>43</sup>

### ⦿ **Talent Development High Schools**

Developed in 1995 in the Center for Research on the Education of Students Placed at Risk at Johns Hopkins University, this model focuses on improving the academic achievement of low-performing students in large comprehensive high schools. As of June 2004, the model was operating in 33 high schools in 12 states.

The Talent Development approach features small learning communities organized around interdisciplinary teacher teams that share the same students and have common daily planning time; curricula leading to advanced English and mathematics coursework; academic extra-help sessions; and parent and community involvement. Research has shown that the Talent Development model substantially improves course completion and promotion rates at high schools with struggling 9<sup>th</sup> grade students. After the implementation of Talent Development, the percentage of 9<sup>th</sup> graders completing a core academic curriculum increased from 43 to 56 percent, on average. This was about three times the increase at similar schools in the district. Moreover, the Talent Development schools increased their promotion rates by just over 6 percentage points, while these rates fell by 4 percentage points in the comparison schools. These results are encouraging, but interpretations should be limited due to the fact that results reflect performance in the early stages of implementation in a single district. MDRC will be tracking and reporting results over the course of five years.<sup>44</sup>

⊙ **High Schools That Work**

Initiated by the Southern Regional Education Board in 1987, High Schools That Work (HSTW) is a comprehensive school reform model that combines quality career and technical studies with challenging college-preparatory academics for all students and a commitment to effective guidance services. HSTW schools are encouraged to provide time for teachers to collaborate on the development of challenging curricula.

Research has shown that among the hundreds of HSTW sites spread across 31 states, schools demonstrating the most progress implementing the HSTW design had significantly higher student achievement in reading, mathematics, and science; better course completion rates; and narrower achievement gaps between African American and white students.<sup>45</sup>

⊙ **First Things First**

First Things First was developed in 1996 as an elementary reform model; it has since been expanded to middle and high schools. Implemented by the Institute for Research and Reform in Education, First Things First is rooted in research on factors that contribute to high student engagement and achievement and on the practices of schools that have succeeded with students who might otherwise be at high risk of school failure.

Key elements of the First Things First model include the establishment of small learning communities with small student-teacher ratios and a “Family Advocate System” to further the development of strong teacher-student bonds. The model also calls for high academic expectations, with a focus on high standards, the introduction of professional development activities geared toward making classroom instruction more rigorous and engaging, and time for teachers to work collaboratively. In addition, it has clear accountability measures and tools to monitor progress as well as flexibility in allocation of resources at the school site level.

Kansas City, Kansas, began implementing First Things First in all of its schools in 1997. Promising early results — including increased graduation rates and improved

student achievement in reading and math — led the U.S. Department of Education to support expansion to six more schools in Kansas City as well as 12 middle and high schools in Houston, Texas; St. Louis County, Missouri; and Greenville and Shaw, Mississippi. All these schools are characterized by large percentages of non-white students and students considered at high risk of academic failure.<sup>46</sup>

### ⦿ **ATLAS Communities**

Authentic Learning and Assessment for All Students (ATLAS) Communities is a K-12 model that draws on approaches from four different school reform organizations: Coalition for Essential Schools, Education Development Center, Project Zero, and School Development Program. The model aims to strengthen high schools by aligning curriculum and coordinating the efforts of staff, parents, students, and feeder middle and elementary schools. This model has five main goals: 1) improving learning based on theories of teaching for understanding, multiple intelligences, and authentic assessment; 2) evaluating student progress using multiple assessments; 3) encouraging faculty collaboration and creating faculty study groups that focus on improving student achievement; 4) engaging parents, families, and communities in learning activities; and 5) giving schools and districts flexibility to reorganize time and structures if necessary.

Research on this approach has yielded some positive findings, but lacks comparative pre-test information to specifically connect improvements with the ATLAS model. An example of improvement is Norview High School in Norfolk, VA where increasing percentages of students met state standards in mathematics, English, science, and history each year from 1998 to 2002.<sup>47</sup>

Research on CSR implementation offers important insights for high schools that embark upon reform in general. Namely, it is critical that district administrators, teachers, and parents support the reform effort from the start, give reform efforts time to take hold, and are willing to allocate adequate resources for sustained professional development, outside assistance, and systems for data use.<sup>48</sup>

Researchers studying the impact of CSR as a reform strategy have identified several key implementation considerations:<sup>49</sup>

- ⦿ Implementation varies across schools, classrooms, and models.
- ⦿ Changing instruction is more difficult than changing other factors such as school climate and personalization.
- ⦿ Schools generally experience a dip in performance and attitudes after the initial enthusiasm of implementation wears off, but this is followed by improvements as reforms take hold. Both support from model developers and benchmark targets are helpful for overcoming this discouraging dip.
- ⦿ Change takes time to take root in a school — three to five years at a minimum.

These insights are consistent with lessons learned from decades of education change literature.

## KEY ISSUES IN HIGH SCHOOLS AND BARRIERS TO CHANGE

As schools consider strategies to improve performance, it is helpful to consider some of the research about both the core challenges facing high schools and the common barriers to reform. As noted earlier, to determine the best strategies for improvement, each high school must assess its goals and performance against those goals, and design strategies to address key needs — no single reform model is appropriate for all schools. This section outlines challenges that students bring to high schools as well as cultural barriers to high school reform.

### *Key high school issues*

High schools are complex institutions. They are expected to offer more advanced and specialized courses and a range of electives. They serve students who face a host of social, emotional, and academic issues that can detract from their ability to focus on academics. And high schools play a critical role in adolescent development as students mature, clarify their goals, and develop the attitudes and work habits that will help them become more independent and succeed after graduation.

In an analysis of high school reform research reports, policy proposals, and national dialogues, the Comprehensive School Reform Quality Center (CSROC) identified seven core issues facing today's high schools. While the list is by no means exhaustive — teen pregnancy, family economics, and student engagement in learning being just a few of the possible additions — it provides an overview of some of the issues with which high schools must grapple in considering how to better serve their students:

- ⊙ *Transition from middle to high school.* As they move from middle to high school, many students face new social, emotional, and academic demands. For low-achieving students, the transition is an especially vulnerable time. The 9th grade year is when many of these students experience course failure and grade retention, often cited as factors that increase the likelihood of students dropping out of school.<sup>50</sup> Students also face new social demands, frequently without their peer group from middle school, and they are exposed to a wider range of curricular and extracurricular choices. In many cases, they are also adjusting to the demands of a larger school, where it is more difficult to create a personalized, engaged student environment.
- ⊙ *Literacy and reading.* Strong literacy skills are essential if students are to access high school-level texts, work independently, and complete high school-level projects. Yet many students enter high school with inadequate reading skills, unable to access the content being taught — a fact that is reflected in poor NAEP scores.

Literacy development is especially challenging in the high school environment where courses are divided into departments focused on content, not literacy development. Expecting reading skills to have been developed at the elementary school level, secondary school teachers generally have not integrated literacy development into their courses or pedagogical repertoire. As the number of English learners at the secondary school level grows, the literacy development challenges for teachers also grows.

- ⦿ *English learners.* High schools have experienced a rapid increase in numbers of students who enter high school with limited English proficiency. These students are expected to rapidly gain language proficiency while navigating the complexities of the high school environment. Some have strong content knowledge from schools in their native countries, while others do not. Some have general English skills, but lack proficiency in the academic language used in high school classrooms. Without appropriate support, these students have a high probability of performing poorly, dropping out of school, or missing education opportunities that will help prepare them for success after high school.
- ⦿ *High school dropouts.* As discussed in the first section of this paper, the high school graduation rate remains frustratingly low in California and the nation. Research indicates that students drop out of school due to a variety of academic and social factors. Researchers point to dropping out of school as the most serious sign of student disengagement, the seeds of which are generally sown in elementary and middle schools. Students face increased risk of dropping out of school if they have low academic performance, have been retained in a grade, exhibit high absenteeism or truancy, have behavior problems, get suspended or expelled, or get pregnant. Socioeconomic factors and family attitudes about and support for education are additional factors that influence whether a student will quit school. Social adjustment issues can also contribute.
- ⦿ *Violence.* One of the common characteristics of effective schools is a safe and orderly environment that is conducive to learning. Yet high schools struggle with higher levels of violence, such as fights, use of weapons, and gang activity, than other levels of the education system. In describing this problem, the CSRQC reported “between 1993 to [sic] 2001, 7 to 9 percent of students reported being threatened or injured with a weapon, such as a gun, knife, or club, on school property.”<sup>51</sup>
- ⦿ *Alcohol, tobacco, and other drugs.* Rates of substance abuse may be declining with certain illicit drugs in high schools, but substance abuse of all forms remains alarmingly high. According to the CSRQC, “29 percent of high school students reported in 2001 that someone in school offered, bought, or sold drugs to them.”<sup>52</sup> Substance abuse has a negative impact on student success in high school and is an especially difficult issue to tackle because risk factors span home, school, and social dimensions.
- ⦿ *Transition from high school to a postsecondary setting.* Transitioning successfully out of high school into a postsecondary educational setting or gainful employment requires academic and social supports. High schools represent an important opportunity for students to learn about options after high school, including academic and job skills that will be required to successfully access such opportunities. Yet studies show that many students are woefully underprepared to achieve their postsecondary goals. They often fail to take the academic courses required for acceptance to universities and college or coursework that will equip them with skills necessary for the workforce.

## RESISTANCE TO CHANGE

In addition to the issues outlined by the Comprehensive School Reform Quality Center, reform-minded secondary schools face several other potential impediments, both cultural and financial. One reason high schools can be difficult to transform is that in many communities, they serve as a time-honored cultural reference point, with local stakeholders expecting that their comprehensive high schools will maintain traditions and look the same across generations. In such circumstances, high school reform efforts often meet resistance and can be undermined before they are fully implemented.

Reform fatigue is another inhibiting factor. Many educators have already been caught up in the numerous reform trends that often ebb and flow in schools. They may have been involved in school-to-work initiatives, comprehensive school reform models, or, more recently, in efforts to create smaller learning communities. Each initiative takes intensive effort, professional development, and energy, but administrative or political changes often derail such reforms before a program fully takes hold. This can lead to faculty burnout and resistance to change.

Finally, high school transformation requires funding to develop new programs, teacher skills, and student supports. Yet tight education budgets limit such funding, and teachers are justifiably skeptical of sustainability under such circumstances.

# Policy proposals to strengthen high schools

Policymakers have begun to recognize the urgent need for high school reform, in part because clearer and more rigorous state accountability measures have resulted in growing numbers of high schools being identified for program improvement. Yet, while educators and researchers can point to examples of highly successful model schools, research on how to develop an entire system of such schools is severely lacking. Waiting for greater clarity is not considered an option. Thus, state and local experimentation is proliferating, based on the best thinking of successful high school practitioners and systems reformers. Federal, state, and local education leaders are clearly hungry for strategies to accelerate reforms and transform high schools on a wider scale.

## **MANY PROPOSALS, COMMON THEMES**

Recent policy proposals reflect the increasingly accepted belief that high schools must focus more on rigor, relevance, and relationships. This means raising expectations and coursework requirements, ensuring that expectations are connected to current postsecondary and career demands, increasing the personalization, relevance, and effectiveness of instructional approaches, building strong adult-youth connections, and providing adequate supports for students to reach these higher expectations.

For the purposes of this policy summary, we reviewed proposals in California from the California Department of Education (CDE) and the Legislative Analyst's Office (LAO). We also reviewed proposals or "calls to action" from organizations that have a national focus or are working in high schools across multiple states. Many of these groups have worked together and influence each other. For example, the proposals by the National Association of Secondary School Principals (NASSP), the American Youth Policy Forum (AYPF), and the Southern Regional Education Board (SREB) most directly reflect the wisdom and experience of practitioners. Other groups more directly reflect policymakers, such as the partnership between Achieve and the National Governors Association (NGA), which resulted in a plan of action signed by the nation's governors in March 2005. This work was supported and influenced by Achieve's and NGA's research, as well as by ideas from groups such as Jobs for the Future, The Education Trust, the Bill & Melinda Gates Foundation, and the Aspen Institute. Proposals by national partnerships such as the National High School Alliance and the Pathways to College Network included representatives from all of the aforementioned organizations.

These policy proposals do not promote particular high school models but, instead, offer a mix of recommendations to change the systems that influence high schools (e.g., standards,

accountability, teacher credentialing) and the structure and practices of high schools (e.g., curriculum and instruction, school design, professional development, and leadership). To increase rigor, relevance, and relationships in high schools, policy proposals tend to focus on three general levers for change:

- ⦿ Strengthen systemic incentives to raise student performance, e.g.,
  - > Require more rigorous coursework,
  - > Align standards and assessments with postsecondary expectations,
  - > Increase school accountability for all students,
  - > Develop a system of differentiated diplomas;
- ⦿ Increase faculty and student supports for learning, e.g.,
  - > Strengthen school leadership and teacher skills and strategies,
  - > Provide extra supports to students who need them,
  - > Expand student counseling and mentoring;
- ⦿ Redesign school programs and structures, e.g.,
  - > Create smaller learning environments,
  - > Improve career and technical education programs.

Proposals are less clear on exactly how to reform these dimensions. The following section outlines the often-overlapping strategies that are suggested throughout the major proposals we reviewed. It also includes information about differentiated diplomas. While this strategy is not included in the proposals we reviewed, it is showing up on the reform agendas in various states. We conclude with a discussion of some of the finance issues associated with high school reform.

## **STRENGTHEN SYSTEMIC INCENTIVES TO RAISE STUDENT PERFORMANCE**

The proposals we reviewed tend to focus on using state policy as a lever for change. Many included recommendations aimed at strengthening the incentives for students and schools to focus on core academic achievement through course requirements, alignment with the expectations of higher education institutions, accountability information, and diploma options.

### ***Require more rigorous coursework***

One of the most common recommendations across the proposals is to have all students take challenging courses, rather than the limited number who now take them. This suggestion stems from a range of research indicating that entry-level knowledge and skills for postsecondary education and the workforce are converging, that students perform better in more challenging courses, and that inequities persist in access to college preparatory courses.

The American Diploma Project (ADP) — a joint project of Achieve, The Education Trust, and the Fordham Foundation — has conducted several studies on the value of a high school diploma. They have found remarkable overlap in the skills and knowledge necessary for success in entry-level jobs and in the initial years of postsecondary education.<sup>53</sup> They argue

**Figure 9: Summary of Reform Strategies\***

	Achieve & NGA	AYPF	Bush Admin.	Education Trust	Gates Foundation	NASSP	Natl High School Alliance	Pathways to College Network	SREB	CDE	LAO
Strengthen rigor of course requirements	X	X	X	X	X	X	X	X	X	X	
Align standards & tests with higher education	X			X			X	X		X	X
Increase school accountability	X	X	X		X	X	X	X	X		X
Develop differentiated diplomas**											
Strengthen school leaders and teachers	X	X	X	X		X	X	X	X	X	
Provide extra supports for students	X	X	X	X		X	X	X	X	X	X
Expand counseling & mentoring		X				X	X	X	X		X
Create smaller learning environments		X			X	X	X		X	X	
Improve career-technical education		X	X	X					X	X	X

\* See Appendix A for proposal summaries.

\*\* Differentiated diplomas were not recommended in these proposals, but are being used in multiple states.

that the high school diploma has lost its value because it fails to guarantee that high school graduates have these skills and knowledge. The ADP recommends that all students take four years of math, including Algebra I, Geometry, Algebra II, data analysis and statistics, and four years of grade-level English, including literature, writing, reasoning, logic, and communication skills.<sup>54</sup>

They point to research that connects higher expectations to higher student performance. As the CDE has succinctly summarized:

- ⊙ Those who enter high school with test scores in the lowest quartile learn more in academically rigorous courses than they do in either the low-level vocational or general courses in which they are traditionally enrolled...
- ⊙ Students are more likely to pass high-level courses than low-level courses. Thus, the research suggests that increasing access by all students to advanced academic course work will improve student academic achievement....
- ⊙ Students expected to master more demanding curricula are more likely to persist in school, achieve at higher levels, and be better prepared for the workforce after their formal education ends.<sup>55</sup>

Research suggests that, regardless of students' socioeconomic status, a rigorous high school curriculum has greater impact on bachelor's degree completion than other pre-college indicators of academic preparation.<sup>56</sup> Yet, inequities persist in the course-taking patterns of today's secondary students:

- ⊙ Fewer than a third of high school graduates complete the full set of courses recommended by A Nation at Risk.<sup>57</sup>
- ⊙ "Low-income students are less likely to be enrolled in the college preparatory program than their middle- or high-income peers (28 percent, compared with 48 percent and 65 percent, respectively). African American and Hispanic youth are similarly disadvantaged (25 percent and 2 percent, respectively, compared with 34 percent for white students and 42 percent for Asian students)."<sup>58</sup>

Debate continues over exactly what a core curriculum should consist of, but most of the national proposals we reviewed call for stronger requirements to ensure that all students take common college- and work-preparatory courses before graduation.<sup>59</sup> Groups like The Education Trust, Gates Foundation, and Pathways to College Network advocate a college preparatory curriculum for all students. Some critics, however, question whether a college preparatory curriculum is appropriate or even beneficial to all students; they fear that requiring the same content for all students may have the unintended effect of narrowing choices for students.

It has also been suggested that simply requiring certain course titles will not ensure equity or quality across school programs. Some worry that requiring all students to take college preparatory courses could result in watered down courses. Achieve recommends that states revise their standards to ensure that they clearly describe the level of content and skills to be taught in each course. The Education Trust recommends the development of exemplar lesson

plans and assignments for courses to help guide educators to deliver rigorous content. Others have suggested end-of-course exams to help promote quality and consistency.

Some idea papers advocate high expectations while varying the pathways and time students take to complete high school and some postsecondary education. Under such a scenario students might vary the types of courses they take and the amount of time spent in high school – ranging from three to five years – depending upon their needs and interests.<sup>60</sup> Researchers at the National Center for Education and the Economy studied European systems and propose merging the final years of high school with the first years of college. This system would feature nine or ten years of core education in smaller schools, followed by a variety of academic and vocational program pathways, each of which would be accessed by achieving clear standards. According to the NCEE, the range of upper-level choices would be somewhat constrained by the grades students received in their previous exams and core courses, but no one would ever be barred from the route to university.<sup>61</sup>

The national policy proposals that we reviewed do not explicitly call for multiple pathways, but do encourage high schools to develop dual-enrollment programs for students to take courses for college credit. Some students may need longer to complete high school, though these proposals don't get very specific about how to do this in effective and engaging ways.

### ***Align standards and assessments with postsecondary expectations***

Many proposals focus on better aligning high school standards with the requirements of postsecondary education and work.<sup>62</sup> They cite studies by the ADP and Jobs for the Future indicating that almost every career will require at least two years of postsecondary education and training.<sup>63</sup> As an indicator that high school and postsecondary systems should be better aligned, advocates also point to the high percentage of students who end up having to take remedial courses in basic math or language arts after admission to postsecondary settings — about one in three college freshmen and as many as three quarters of students in urban community colleges.<sup>64</sup>

Because few places have implemented these recommendations, research on their impact is limited. Also, while proposals focus on better aligning high school standards to those of the postsecondary world, they are vague about details, largely because they lack models on which to draw.

For example, the policy proposals we reviewed do not specify the standards that high schools should expect. They simply call for alignment with postsecondary and workplace standards,<sup>65</sup> with some recommending a standards-revision process. Others suggest administering college placement tests early on in high school and using the results to flag where standards might need to be better aligned or curriculum or instruction adjusted.

Some proposals identify the option of raising exit exam standards, most of which are currently pegged to middle school standards. But none of the current proposals explicitly recommends this approach.<sup>66</sup>

In its proposals, the California LAO recognizes that standards alignment is a two-way street, and that California's public university systems have an important role to play. In the past, neither the University of California (UC) nor California State University (CSU) systems have used students' performance on California's standards-based STAR tests as a factor in admissions or placement decisions. The LAO recommends that the systems use the STAR results for these purposes, thereby clarifying for teachers and students the importance of this statewide exam. It also recommends that the California Community College system use the STAR results for decisions about remedial course placement. The LAO argues that such policies would create stronger incentives for high school students to focus on achievement and take their coursework more seriously, and would mitigate inequities caused by uneven grading practices from school to school and even teacher to teacher. The CSU system has already started a program to use supplemented 11th grade STAR tests to identify whether students will need to take remedial coursework in mathematics and English when they enroll in a CSU. This proposal would expand that program to other courses covered in the state testing system and would tie results to admissions decisions.

### ***Strengthen schools' accountability for the success of all students***

The proposals we reviewed explore a variety of additional strategies to strengthen accountability for student performance as a means to raise performance. The strategies are intended to create incentives for improvement and to develop information that can guide improvement efforts, but their implementation has not yet been studied.

- ⦿ ***Report information K-16.*** Some proposals recommend tracking and reporting student performance data across the K-12 and higher education systems and developing joint governance and accountability authorities for both systems.<sup>67</sup> High schools could use information about the postsecondary performance of their graduates to evaluate their own performance and identify areas in need of strengthening (e.g., if a high proportion of students are placed in a university's remedial language arts classes, the high school might want to examine its own language arts curriculum and instruction).
- ⦿ ***Report on performance and engage communities.*** Several proposals stressed the importance on reporting on student performance and engaging stakeholders across the community to strengthen high schools.<sup>68</sup>
- ⦿ ***Strengthen high school accountability measures.*** The California LAO offers specific recommendations to improve performance accountability for all student groups. For example, it recommends that state and federal accountability systems be adjusted to focus more attention to the lowest performing students by increasing the weight of graduation and dropout data in accountability measures. It also recommends that the state reset the proficiency level expected for No Child Left Behind purposes so that it is the same as the level expected for passing CAHSEE. The LAO also recommends adding measures to the state's Academic Performance Index (API) that would hold high schools accountable for improving student transitions to work and college.

- ◎ *Interventions and supports for low-performing schools.* Another way that proposals focus on stronger accountability is to call for states to first intervene in their lowest-performing high schools. This recommendation is made most strongly in the Achieve/NGA call to action, which proposes such strategies as developing explicit state plans to provide support and assistance to low-performing high schools and intervening more aggressively in schools that fail to improve. Achieve, NGA, and the Gates Foundation all note the importance of providing extra resources to schools that serve high proportions of youth considered to be at risk of failure, who may need extra supports to master more rigorous standards.

### ***Develop a system of differentiated diplomas***

None of the proposals reviewed for this report explicitly call for the development of different types of diplomas, but, as noted earlier, this option is being considered in some states. Of the proposals we reviewed, the LAO's comes closest to these ideas with its recommendation to develop skill certificates to be awarded in addition to a diploma for successful completion of vocational course sequences.

Proponents of differentiated diplomas argue that such diplomas would communicate more clearly to employers, colleges, and universities about the knowledge and skills of individual high school graduates. Differentiated diplomas might also motivate students with different curricular objectives. But opponents worry that this approach could cause confusion and might limit the postsecondary options of those receiving non-standard diplomas. WestEd recently reviewed state practices and research regarding numerous graduation options as part of a study on the impact of state exit exams on students with disabilities.<sup>69</sup> The WestEd study team found that states have experimented with such options as multiple tiers of diplomas, diplomas with endorsements, career-technical diplomas, and special education diplomas. Certificates of completion are another option for low-performing students, but such certificates do not have the motivational value or carry the power of a diploma with differentiated levels.

- ◎ *Tiered diplomas.* In a tiered system, different diplomas are given out according to different levels of student performance on an exit exam or other academic criteria — for example, adequate, good, and exemplary performance. While some states have implemented tiered diplomas, the WestEd study team did not find research on how such systems affect student persistence in school or attainment after high school. Proponents argue that having tiered diplomas would enable a district or school to recognize varying levels of performance within an agreed-upon range, thereby increasing the number of students receiving diplomas at the lower end of performance while not undermining the value of the diploma for those at the higher end. Such an approach might increase student motivation and reduce the frustrations of lower performing students who are at risk of dropping out of school.<sup>70</sup> Some worry, however, about how the different diplomas would be recognized and interpreted by postsecondary education institutions and employers.
- ◎ *Diploma endorsements.* Another option is to include endorsements on a standard diploma — a practice already allowed under California statute to indicate honors or

special achievement. To signal achievement levels to employers and postsecondary institutions, districts might also use endorsements to recognize additional coursework, mastery of a skill or subject, or participation in school activities.

- ⊙ **Career-technical diplomas.** Some states, such as Alabama, Colorado, Missouri, and Nebraska, offer career-technical diplomas to signal employers that students have completed a series of career-related life skill and academic courses. The Center for Education Policy argues that such diplomas are more meaningful than a certificate of attendance because they are tied to successful course completion. However, no research has been conducted on the postsecondary and employment opportunities associated with such diplomas. Concerns have been raised about the feasibility of such an option in smaller schools and districts. To ensure consistency across schools, diplomas related to specific careers would need to be based on clear and widely shared standards and assessments.
- ⊙ **Special education diplomas.** This option, available in 12 states as of 2003, provides diplomas to certain students with disabilities who may not be working toward the same standards as other students, but whose accomplishments still merit recognition. This approach allows high schools to maintain rigorous standards for graduation of general education students while also recognizing the achievements of special education students. Future postsecondary and employment consequences are unknown at this time, and opponents worry about stigmatizing students who receive such a diploma.

## **INCREASE FACULTY AND STUDENT SUPPORTS FOR LEARNING**

Proposals include a mix of recommendations to build school capacity for reform. Most proposals focus on strengthening school leadership, teacher professional development, learning supports for students, and counseling.

### ***Strengthen school leadership and teacher skills and strategies***

State and national policy proposals recognize the critical importance of effective teachers and principals. Many cite data from The Education Trust and others showing that quality teachers are the most important assets for improving student achievement.<sup>71</sup> Teachers' strong content knowledge and instructional skills are essential to improving student learning. Most proposals call for expanded professional development opportunities to strengthen teachers' knowledge and skills in the core content areas, develop or broaden their techniques for reaching diverse learners, and improve their understanding and use of data to guide instructional decisions.<sup>72</sup> The National High School Alliance, Bill & Melinda Gates Foundation, and others engaged in school reform efforts also call for common planning time for teachers to plan curriculum, design instructional approaches, and learn from data.

Groups like Achieve, the NGA, and The Education Trust also call for states to revise their teacher preparation and licensure programs to reflect the content knowledge and skills necessary to effectively deliver a rigorous curriculum to all students. They also call for the

development of incentives to recruit and retain effective teachers in schools where they are needed most.

Proposals do not ignore the important role of effective leadership in setting the tone, focus, and mission of high schools. But calls to strengthen the pipeline of effective school leaders include little detail.<sup>73</sup> Some proposals also call for distributed leadership and the empowerment of teachers to drive professional development, curriculum, and instruction<sup>74</sup>

### ***Provide extra supports to students who need them***

A harsh reality is that many students enter high school lacking the skills they need to succeed in a rigorous core curriculum. Many of the current high school reform proposals recognize that some students will require extra supports to accelerate learning, but remain silent about specific support strategies. Instead, they tend to focus on getting low-performing students into more rigorous courses as a strategy to accelerate learning.<sup>75</sup>

The few specific support strategies included in national policy proposals are based on a growing body of research indicating the importance of supports targeted in some key areas, including literacy development, mathematics, English learners, connections to community resources, and the transition from middle school.

***Secondary literacy.*** Without the requisite literacy skills for accessing high school-level texts and projects, students are at a serious disadvantage, and proposals cite statistics showing that many students enter 9th grade with literacy skills at least two grade levels behind. Several policy proposals include strategies focused on development of secondary literacy.<sup>76</sup>

Researchers have developed different types of literacy interventions designed for different high school contexts. The CSRQC synthesis of research outlines several research-supported approaches to literacy development from which high schools might select depending on student needs:

- ⦿ Extra-help reading courses for high school students who can decode moderately well but have weak fluency and difficulty with comprehension.
- ⦿ A reading course or a series of reading courses designed to provide direct instruction in phonemic awareness, decoding, and word attack skills for more severely disabled high school students.
- ⦿ Instructional practices infused into content instruction to enhance literacy development for all students within a school.
- ⦿ A comprehensive school reform model with a strong literacy component.<sup>77</sup>

Schools may need to use multiple strategies to meet the needs of all students. A comprehensive program should address literacy skills while motivating students and engaging them in learning. The National Research Council summarized the elements of successful pedagogy in secondary literacy as: “personalized relationships, authentic tasks, capitalizing on cultural knowledge, use of multiple resources, rigorous and challenging instruction, explicit instruction, frequent feedback from assessments, and integrated curricula.”<sup>78</sup>

*Mathematics.* Many students are also entering high school far behind in mathematics skills, so several proposals recommend strategies for accelerated math programs to get students ready for algebra and professional development to strengthen teacher skills in helping students catch up to high school levels. In a review of research on effective mathematics programs at the secondary level, the National Research Council found that the elements of effective pedagogy in mathematics were similar to those identified for literacy. Effective mathematics instruction should include the following features: “personally relevant; access to native language; authentic, open-ended problems and involvement in mathematics discussions; peer collaboration; rigorous and challenging instruction with frequent assessment feedback; access to technology.”<sup>79</sup> The NRC report goes on to stress that such programs will require teachers with a deep understanding of mathematics, how students learn, and how to address developmental needs. Teachers will also need time to collaborate and develop new knowledge and skills as well as a curriculum that supports their instruction.

*English learners.* The burgeoning numbers of English learners at the secondary level pose additional challenges for high schools. Many of the reports we reviewed acknowledge that English learners will require learning supports, but the reports do not focus on specific strategies. Research shows that such students may need supplementary courses to accelerate their development of literacy skills and content knowledge.<sup>80</sup> They may also need additional counseling and parent outreach to inform them about post-graduation options and planning.

*Connections to community resources.* Other students may need stronger connections to community supports to address factors that can increase the likelihood of them dropping out. Most of the proposals we reviewed recommend stronger connections to community supports, but here, too, lack specific details.<sup>81</sup> The National Dropout Prevention Center has identified hundreds of dropout prevention programs — with varying research evidence — that offer supplemental services delivered in school settings, alternative schools, and the community.

*Transitions from middle school.* Some proposals focus on the critical transition from middle school to high school.<sup>82</sup> The 9th grade is a vulnerable year for students and can be a critical time for intervening to prevent them from subsequently dropping out of school. Researchers at the Southern Regional Education Board (SREB) have identified several elements of successful transition programs: development of school improvement plans that are continuously updated with teacher involvement; working across middle and high schools to strengthen communication; communicating high expectations for all students; providing challenging and meaningful assignments; arranging for extra help and extra time for students to meet high standards; and creating flexible schedules to accommodate student learning needs.<sup>83</sup>

Such elements can be fostered through smaller learning communities, freshman academies, summer learning programs, longer blocks of time for accelerating learning in core academic areas, and engaging parents, teachers, and students in the transition process. The proposals we reviewed highlight strategies such as:

- ⦿ Strengthening the transition from middle to high school through more coherence in curriculum from middle to high school, communication among teachers, and student supports such as summer programs to help catch up in core content areas.
- ⦿ Providing intensive supports in 9th grade. SREB notes the importance of enrichment in grade nine for students who enter high school below standard.<sup>84</sup>
- ⦿ Using longer blocks of time to focus on intensive instruction in literacy and math, providing tutoring, and offering extended-day programs.

### **Expand student counseling and mentoring**

Reform proposals also stress the importance of building positive and supportive relationships between youth and adults. Such relationships can motivate students, guide them in making sound curricular and extracurricular choices, and connect students to their communities.

Many students report a desire to attend college but don't take the necessary courses or other steps to reach that goal.<sup>85</sup> Low expectations on the part of teachers and counselors can compound this disconnect.

Since many students have lofty plans, but don't know how to carry them out, some proposals recommend that students be assigned an adult advisor or mentor for all four years of high school to help them set goals and take the appropriate steps to meet them, including identifying extra support if necessary.<sup>86</sup> Such mentors might continue their support even as students transition out of high school to postsecondary education or a job.<sup>87</sup>

The LAO calls for counseling starting in the 8th grade to help students and parents clarify post-graduation goals and the steps necessary to achieve them. It further recommends specific counseling in 10th grade to check on students' progress toward their goals and help them make any necessary adjustments.

Some proposals call for the development of personal learning plans for each student.<sup>88</sup> We did not find cost estimates for such proposals nor research about the impact of such planning, but these recommendations reflect increasing recognition of the value of personalization and support for high school students.

## **REDESIGN SCHOOL PROGRAMS AND STRUCTURES**

The proposals we reviewed call for employing multiple instructional strategies to accommodate the diverse learning styles, aptitudes, and goals of high school students. They acknowledge that rigor must be embedded in a curriculum and instructional strategies that are engaging and relevant to student interests. Also, because in today's rapidly changing world adults and students will be continually challenged to solve new problems and adapt to new technologies, students must learn how to apply knowledge to new settings and think critically and deeply about issues. As the National High School Alliance says in its proposal, "Students should be engaged in disciplined inquiry, which requires problem solving, higher-order thinking, and the capacity to construct, rather than merely reproducing knowledge."<sup>89</sup>

Yet the majority of students are not engaged in learning and do not see the relevance of high school offerings. According to Public Agenda, a public opinion research organization, “Two thirds of American high school students said they could do better if they tried, and half of students considered school boring and too easy.”<sup>90</sup>

Proposals generally call for employing a variety of teaching strategies to help students master rigorous content, including flexible use of time<sup>91</sup> and more project-based learning.<sup>92</sup> The latter allows students to connect key academic concepts to real-world situations, helping them actively engage in learning and internalize important skills and concepts, while also gaining job skills. The proposals often recommend the creation of more options for students through smaller learning environments or enhanced career and technical education.

### **Create smaller learning environments**

Several proposals recommend structural changes to promote stronger connections between students and staff. Small schools, smaller class size, teacher teaming, and looping are commonly suggested strategies for reducing the number of students teachers must get to know.

The broad national proposals do not get specific about the details of school redesign, but mainly call for the creation of new schools or schools within schools that give students choices in terms of size, themes, and instructional approaches.<sup>93</sup>

Research indicating the potential of smaller learning environments to contribute to greater student engagement and improved student academic performance stretches back several decades. The positive findings sparked particular interest as policymakers struggled for an answer to growing incidents of student violence, such as the Columbine shooting. More recently, the development of smaller education settings with closer connections among staff and students has attracted growing popular attention as a strategy for improving high schools. Private, nonprofit funders, chief among them the Bill & Melinda Gates Foundation and the Carnegie Corporation, have poured hundreds of millions of dollars into the development of autonomous small schools while the U.S. Department of Education has invested in development of smaller learning communities within large high schools.

Although smaller learning environments share many similarities, there are distinct approaches to creating them:

- ⊙ **Small schools** are autonomous units that operate independently. They have their own mission and vision statements, administrators and teachers, budgets, policies and programs, schedules, and physical space or facilities. If public, they are held to state accountability and program compliance requirements.
- ⊙ **Schools within schools**, also known as multiplexes, also generally operate independently and are held to accountability and compliance requirements, but they share a larger physical plant with other schools.
- ⊙ **Smaller learning communities** (SLCs), on the other hand, are small groupings of students and teachers within a larger comprehensive high school. They are not fully

autonomous and they share a principal with the rest of the school, though they may have a lead teacher or an SLC coordinator. SLCs take various forms and names, such as houses, pathways, clusters, mini-schools, and academies.<sup>94</sup> Such structures vary in features, including the number of grades they comprise, their level of autonomy, the type and level of teacher professional development and collaboration, and the degree of student and teacher identification with a particular unit.<sup>95</sup>

At this point we don't know whether one model is more successful than another. Most related research has focused on small schools, with lessons from that research being applied to schools within schools and smaller learning communities. Much research remains to be done, including more study of the increasing number of new smaller learning environments that have been established in the last 10 years. But research thus far suggests that when other supports are in place as well, smaller size can contribute to better attendance, achievement, and graduation rates. For example:

- In a synthesis of over 50 studies of smaller learning communities, Kathleen Cotton of the Northwest Regional Educational Laboratory found that when done well, smaller learning communities result in higher student achievement, especially among low-income and minority students, stronger feelings among students of affiliation and belonging, increased order and safety, higher student attendance, lower dropout rates, higher college attendance rates, higher extracurricular participation levels, greater parental involvement and satisfaction, a stronger sense of efficacy and satisfaction among teachers, and a high-quality curriculum.<sup>96</sup>
- Linda Darling-Hammond has led several research studies of smaller learning communities through the School Redesign Network at Stanford University. In a study of a school conversion in New York City, for example, she found that replacing a failing comprehensive high school with five new smaller schools resulted in substantially better attendance, lower incident rates, better performance on reading and writing assessments (with mixed math results), higher graduation rates, and higher college-going rates, despite serving a more educationally disadvantaged population of students.<sup>97</sup>
- ◉ Early evaluations of small schools supported by the Bill & Melinda Gates Foundation indicate that, on average, small start-up high schools have stronger levels of personalization, higher expectations, and more time for teachers to collaborate than comparison schools. Students in start-up schools exhibited more positive attitudes about learning than those at comparison schools – though it is too early in the grants to demonstrate student achievement results.<sup>98</sup>

In general, research indicates that small size is a useful tool for increasing personalization and a sense of community in the school. Reducing size itself, however, is not enough to improve high schools overall. Researchers and practitioners are quick to point out that smaller size is effective when combined with strategies such as high expectations, a curriculum that supports disciplined inquiry and problem solving, a highly qualified professional community focused on learning, and intensive supports for students who enter school behind grade level.<sup>99</sup>

While the early research points to the potential for smaller learning environments to contribute to greater engagement and higher achievement, research on the conditions and supports *required* for such success is just beginning. Groups such as the School Redesign Network at Stanford University, and the Small Schools Project at the University of Washington are in the throes of research and development of tools, coaching, and other supports to create high-performing small high schools.

Recent studies have begun to shed light on several of the main challenges in implementing a small schools strategy:

- ⦿ *Curriculum and instruction issues.* Small schools are not exempt from the challenge of designing curriculum and instructional strategies that are challenging and successfully serve diverse learners. Schools supported by the Gates Foundation report that they need more support in instructional strategies and curriculum content.<sup>100</sup> Small schools also cannot offer the range of courses and extracurricular activities that large high schools can.
- ⦿ *Staff turnover.* Small schools are more vulnerable to staff turnover. It is estimated that nationwide and across all schools, 30 to 50 percent of teachers and administrators change their school or position or leave education altogether within three to five years of entering the profession. These percentages are sometimes higher in small schools, where additional roles such as house coordinator or school management council member often translate to a longer and more burdensome teacher workday.<sup>101</sup> For a small school, the departure of a couple of top teachers or the founding principal can be particularly disruptive.
- ⦿ *Shortage of qualified teachers.* Research by Richard Ingersoll of the University of Pennsylvania has shown that small high schools are more likely than large ones to have “out-of-field” teachers who possess neither a major nor a minor in their subject. Ingersoll’s data suggest that small schools find it more difficult to allow staff specialization and, as a result, teachers in these schools are more often required to be generalists, regardless of their background and training.<sup>102</sup> This has been noted in early evaluations of small schools funded by the Gates Foundation. Researchers have raised concerns that many of these schools have turned to education software for their mathematics curriculum, while others encourage students to take math courses at community colleges.<sup>103</sup>
- ⦿ *Costs.* Smaller high schools often prove more expensive to operate on a per-pupil basis, since they lack the economies of scale available to larger schools.<sup>104</sup> Indeed, recent research in Denver showed that the smallest schools at each level (elementary, middle, and high) cost more than the relative district average, even after taking into account the differing needs of students at each school. In their start-up year, Denver’s three new small high schools cost, on average, 27 percent more per pupil than the district’s larger high schools, which enroll over 1,000 students each.<sup>105</sup> The study of new Gates small schools went on to note that the smaller the school, the harder it is to finance a secondary education program with per-pupil general education funds. In states with low per-pupil allocations (such as California), operating a high school

of 400 students or fewer on the average-daily-attendance (ADA) allotment provided through the state may simply not be feasible.<sup>106</sup>

Early evaluation work also raises issues about the challenges of converting large comprehensive high schools into small schools. For example, converting a comprehensive school into smaller learning communities requires funding to support the transition. While many schools seek grants to help underwrite the expenses attached to conversion, reallocating currently held dollars is essential for conversion and future sustainability. Research by Karen Hawley Miles and Linda Darling-Hammond (1997) stresses how critical it is to a small high-performing high school to reallocate existing resources in order to optimize time for instruction and to ensure high-quality teaching.<sup>107</sup> Further, their research makes clear that without rethinking the use of all available resources, and aligning them with the new structures, it is impossible to sustain the SLCs.

Conversion schools also appear to face additional challenges beyond those of small start-up schools. Early reports indicate issues related to staffing, such as teacher placement and burnout; difficulty maintaining the curricular choices including high-level courses that existed pre-conversion; facilities that are unsatisfactory; and continued tracking of students.<sup>108</sup> Most conversions are in their very early stages, however, and efforts are underway to surmount these obstacles and study whether learning improves as a result. In fact, the U.S. Department of Education is currently funding research on the efficacy of smaller learning communities and issues such as the optimal size for SLCs, factors contributing to sustainability, costs of creating SLCs, and differences in impact among various models. Issue papers should be released this fall.

### ***Improve career and technical education programs***

Career and technical education (CTE) courses account for a significant portion of high school curricula (16.2 percent in 2000<sup>109</sup>) and are an important resource for increasing high school completion rates and improving labor market outcomes. Yet as accountability for academic performance measures has increased, support for CTE programs, as they currently exist, has begun to wane. Critics of CTE argue that high schools should focus more on core academics and college preparation and leave technical training to postsecondary institutions. In fact, the Bush administration has come out squarely against CTE by recommending zero funding in its 2006 budget, instead redirecting those funds to academic programs. Yet some policy proposals focus on strengthening CTE programs to ensure that they cover rigorous academic content while preparing students both for the workplace and for postsecondary education.<sup>110</sup>

Over the past decade, CTE programs have generally taken the form of school-to-work programs, career academies, Tech Prep, and such models as High Schools That Work. Research on these efforts is rather thin and should be interpreted with caution. Studies over the last decade generally conclude:

- ◉ CTE appears to play a role in reducing the number of high school dropouts, particularly among those who enter high school with the lowest academic indicators and thus the highest risk of dropping out of school.<sup>111</sup>

- ⦿ Absent a quality core academic curriculum, work-based learning will not result in higher student performance. The National Assessment of Vocational Education (NAVE) found that today's CTE students are more likely than those in the past to enroll in academically challenging courses, but their achievement levels still lag those of their peers in non-vocational courses.<sup>112</sup> It also concluded that CTE programs do not impact test scores.
- ⦿ CTE programs have a differential impact on college-going rates depending on the particular CTE model. For example, studies of school-to-career (STC) programs in the 1990s found that general STC programs — those not concentrating on specific student populations — boosted the probability of college enrollment in the immediate post-high school period by about 13 percentage points, while internships and apprenticeships appeared to raise college enrollment among students with the lowest test scores.<sup>113</sup> But researchers caution that such programs have a selection bias, so findings should be interpreted with caution. In a random assignment study, MDRC found that Career Academies were a viable means to postsecondary enrollment, but there was no significant difference from the control group.<sup>114</sup>
- ⦿ CTE programs increase the earnings potential of high school graduates, at least in the short and medium term. NAVE found that income increases as a student takes more courses, and those who enrolled in both CTE courses and the core academic curriculum experienced the highest earnings benefits.<sup>115</sup>
- ⦿ CTE programs also expose students to adult settings, problem solving in a work context, career choices, and other non-academic skills.<sup>116</sup>

Researchers have identified some lessons from quality school-to-career (STC) programs that might be valuable for high school reform.<sup>117</sup> For example, to produce real improvements in preparing students for higher education and the workplace, *whole-school* STC reforms must be undertaken in the areas of curriculum, pedagogy, assessments, and the involvement of employers and parents. Also, students benefit from instructional strategies that engage a wide range of students in working together. Finally, student performance should be closely tied to recognized skill standards. Specifically, well-conceived STC programs consist of a rich cluster of academic and technical courses organized around major industries or broad career opportunities. For instance, a high school might offer a program structured around building and environmental design that includes carpentry and traditional trades while also emphasizing the academic and technical knowledge used in architecture, urban planning, construction engineering, interior design, and environmental protection. This type of broad framework encourages the inclusion of richer academic content and enables participants to pursue a full range of postsecondary options.

Policy proposals tend to focus on the need to strengthen both the academic rigor and technical skills of CTE programs. The LAO, for example, recommends that districts develop vocational course sequences. Others call for a stronger academic core in CTE programs in order to meet new labor market and college demands and accountability pressures.<sup>118</sup>

## FUNDING HIGH SCHOOL REFORMS

Initiating, implementing, and sustaining high school reform efforts will take resources. For example, redesigning a school, developing new curricula and instructional approaches, and professional development all require funding and human resources. The policy proposals we reviewed often reference the need for funding, but are noticeably silent on details about how much money might be necessary.<sup>119</sup>

One of the reasons that proposals might be silent on these issues is that data on the true costs of various reform ideas is limited. Costs will vary based upon the nature and size of the reform, the school, and the skills and capacity of staff within the school.

Schools and districts might consider various resource dimensions when comparing the costs of different reform approaches. Alan Odden of the University of Wisconsin has analyzed the costs of numerous school reform initiatives. When he examined the costs of various comprehensive school reform models in 1997, for example, he found great variation across models. He examined costs above a “core” calculation of one teacher for every 25 students and one principal for a school of 500 and found that implementing elementary school CSR models ranged from \$114,000 to \$354,000 above the school’s “core” expenses.<sup>120</sup> Designs varied in terms of the supports they required and costs of professional development and technical assistance.

While Odden’s analysis did not examine costs associated with high school CSR models, the dimensions that he examined at the elementary school level are useful for schools and districts to consider as they evaluate various reform options. For example, he considered the costs of resources such as: principals and assistant principals, instructional facilitators, classroom teachers, regular education specialists, strategies for struggling students, professional development, teacher aides, pupil support/family outreach, and technology.

Reformers note that not all proposals will necessarily require new funding. It certainly seems easier to get a change process started with seed capital to plan and implement new programs and provide professional development, but the reality is that existing resources may need to be reallocated in order to transform high schools. The benefit of such a process is that it reduces the inclination of administrators to simply layer new programs on top of old, and can result in creating streamlined processes and programs.

One reform group that devoted significant attention to resource issues in high school reform is the American Youth Policy Forum (AYPF). As it developed its proposals for high schools of the millennium, advisors repeatedly warned that lack of funding was a significant barrier to reform. They set up a finance advisory group of researchers and school leaders to examine these issues. That group acknowledged that some schools simply don’t have access to necessary funds for a quality education and that resource adequacy and equity are important policy issues that must be addressed. Advisors also noted, however, that given tough budgetary constraints, resource reallocation is the most realistic strategy at this point. They recommended several strategies to more effectively target resources and address school constraints to reallocation:<sup>121</sup>

- ⊙ *District and school reform efforts must be supportive of each other.* In particular, districts should have clear reform plans that are understood by individual schools. This can allow schools to design their programs to be aligned to district goals. Also, districts should provide support for resource decisions — giving flexibility to schools with strong leadership capacity and assistance to those where capacity is limited.
- ⊙ *Funding and resource decisions need to be driven by data, not by past practice.* This means that student needs, not past practices and traditions, must drive funding choices. It also means that allocation decisions should be revisited and revised as new data emerges (e.g., if a program is no longer necessary because students improve, then funds should be redirected to an area that poses greater challenge).
- ⊙ *Collect and share information about what works.* They recommended that high schools across the nation share lessons learned about the efficacy and costs of various reform models, high school structures, staffing patterns, and instruction.
- ⊙ *Explore creative solutions to resource-related problems.* Districts and schools should be encouraged to utilize all community resources through partnerships, shared activities such as after-school programs, and higher education programs. Districts might also share resources, such as specialized teachers. At the same time, states and districts will have to work hard to ensure that they eliminate barriers to creative use of resources.

Clearly, a cost analysis is a critical area for further research in any of the proposals outlined in this paper. Such information will be helpful for reallocating resources and for generating additional funds if necessary. The lack of funding — whether perceived or real — can undermine the support for and sustainability of any real change in today's high schools.

# Conclusion

High school reform is imperative as educators and students face unprecedented demands. We can take heart that high-performing high schools exist even in our most disadvantaged communities, but their numbers don't suffice. We need whole systems of high-performing secondary schools.

Research offers some starting points. It tells us that high-performing high schools share some important characteristics — high expectations for students, strong curricular and instructional programs, close connections between students and staff, mission-driven leadership, highly skilled teachers, and the availability of additional supports for students.

Research and experience also tell us that embarking on a school transformation effort — whether creating a smaller learning community or school or implementing a comprehensive reform model — requires a commitment to change among teachers, school leaders, district administrators, and communities.

The challenge lies in knowing exactly how to best support the transformation of diverse schools into high-performing organizations. Proposals abound, but few have been tested. Raising graduation requirements, equipping teachers with a variety of instructional strategies, ensuring high-quality teachers and school leaders, providing extra supports for students, personalizing school environments and supports, adequately funding reforms, and engaging stakeholders in change are all sensible strategies. But actually implementing them in ways that change school cultures and practices is no easy task.

Teachers have an important perspective to add to the high school reform discussion. They can bring a practical perspective to the proposals on the table and identify supports that they will need if any of the proposals are to succeed. They can also help identify reasonable benchmark indicators of success, for we all know that policymakers and the public are impatient.

The CTA might consider a policy position paper that outlines:

- ① Key beliefs about student learning and teacher expectations.
- ① Key beliefs about the most important leverage points for transforming schools. Should policymakers be supporting specific school models such as small schools? Should they focus on standards and course requirements to leverage change? How can professional development be used effectively?
- ① Recommendations for actions by teachers, administrators, and schools to strengthen student learning. Should schools define their performance goals? Design curriculum and instructional approaches? Create stronger adult-youth connections?

- ⦿ Recommendations for actions in support of teachers and their schools. What policies need to be in place to support reform? What programs are necessary to prepare teachers to achieve these goals? What additional resources will be necessary for students? What can we define as interim measures of success?

We look forward to supporting the CTA in its efforts to constructively engage in high school reform efforts. Teachers are critical to the success of any effort and all would be served well by their early insights and ideas.

# Reference List

- Achieve, Inc. (2004). *The expectations gap: A 50-state review of high school graduation requirements*. Washington, DC: Author.
- Achieve, Inc. (2005). *California data profile*. Washington, DC: Author.
- Achieve, Inc. and National Governors Association. (2005). *An action agenda for improving America's high schools*. Washington, DC: Authors.
- Allen, L., & Steinberg, A. (2004). *Big buildings, small schools: Using a small schools strategy for high school reform*. Boston, MA: Jobs for the Future.
- American Diploma Project. (2004). *Ready or not: Creating a high school diploma that counts*. Washington, DC: Achieve, Inc.
- Barth, P. (2003). A common core curriculum for the new century. *Thinking K-16: A Publication of the Education Trust*, 7(1).
- Bottoms, G., & Anthony, K. (2004). *Raise academic standards and get more students to complete high school: How 13 Georgia schools did it* (SREB Research Brief). Atlanta, GA: Southern Regional Education Board.
- Bottoms, G., Presson, A., & Han, L. (2004). *Linking career/ technical studies to broader high school reform* (SREB Research Brief). Atlanta, GA: Southern Regional Education Board.
- Brand, B., & Partee, G. (2000). *High schools of the millennium: Report of the workgroup*. Washington, DC: American Youth Policy Forum.
- Brand, B. (2003). *Rigor and relevance: A new vision for career and technical education, a white paper*. Washington, DC: American Youth Policy Forum.
- Bush Administration high school proposals**. Excerpted from: White House Press Release, September 2, 2004, *Strengthening education and job training opportunities*. <http://www.whitehouse.gov/news/releases/2004/09/print/20040902-3.html>
- California Department of Education. (2004, February 10). *High performing high schools initiative: A white paper on improving student achievement in California's high schools*. Retrieved from <http://www.cde.ca.gov/eo/in/se/yr05highschoolwp.asp>
- California Department of Education. (2001). *Aiming high: High schools for the 21st century*. Sacramento, CA: CDE High School Initiatives/Career Education Office.
- Callan, P., & Finne, J. (2003). *Multiple pathways and state policy: Toward education and training beyond high school*. Boston, MA: Jobs for the Future.
- Carnevale, A., & Fry, R. A. (2001). Economics, demography, and the future of higher education policy. *Higher expectations I: Essays on the future of postsecondary education*. Washington, DC: National Governors Association.
- Carroll, S. J., Krop, C., Arkes, J., Morrison, P. A., & Flanagan, A. (2005). *California's K-12 public schools: How are they doing?* Santa Monica, CA: RAND Corporation for the William and Flora Hewlett Foundation.
- Cohen, M. (2001). *Transforming the American high school: New directions for state and local policy*. Washington, DC: The Aspen Institute.

- Comprehensive School Reform Quality Center. (2005). *Works in progress: A report on middle and high school improvement programs*. Washington, DC: American Institutes for Research.
- Cotton, K. (2001). *New small learning communities: Findings from recent literature*. Portland, OR: Northwest Regional Educational Laboratory.
- Cross, C. (Ed.). (2004). *Putting the pieces together: Lessons from comprehensive school reform*. Washington, DC: The National Clearinghouse for Comprehensive School Reform.
- Daggett, W. (2004). *America's most successful high schools: What makes them work*. Rexford, NY: International Center for Leadership in Education.
- Darling-Hammond, L. (2002). *Factory-model schools*. Stanford, CA: School Redesign Network at Stanford University.
- Darling-Hammond, L. (2002). *Large to small high school redesign: Small LEARNING community continuum*. Stanford, CA: School Redesign Network at Stanford University.
- Darling-Hammond, L. (2002). *Redesigning high schools: What matters and what works*. Stanford, CA: School Redesign Network at Stanford University.
- Darling-Hammond, L., Aness, J., & Wichterle-Ort, S. (2002). Reinventing high school: Outcomes of the Coalition Campus Schools Project. *American Educational Research Journal*, 39(3).
- Esch, C. E., Chang-Ross, C. M., Guha, R., Tiffany-Morales, J., & Shields, P. M. (2004). *California's teaching force 2004: Key issues and trends*. Santa Cruz, CA: The Center for the Future of Teaching and Learning.
- Greene, J., & Winters, M. (2005). *Public high school graduation and college readiness rates: 1991 to 2002*. New York: Manhattan Institute for Policy Research.
- Harvey, J., & Housman, N. (2004). *Crisis or possibility: Conversations about high school reform*. Washington, DC: National High School Alliance.
- Hawley-Miles, K., & Darling-Hammond, L. (1997). *Rethinking the allocation of teaching resources: Some lessons from high performing schools*. Philadelphia, PA: University of Pennsylvania, Consortium for Policy Research in Education.
- Hill, E. (2005, May). *Improving high school: A strategic approach*. Sacramento, CA: Legislative Analyst's Office.
- Huebner, T. A., & Calisi-Corbett, G. (2005). *Rethinking high school: Five profiles of innovative models for student success*. San Francisco: WestEd.
- Ingersoll, R. M. (2003). *Out-of-field teaching and the limits of teacher policy*. Seattle, WA: University of Washington, Center for the Study of Teaching and Policy.
- Kazis, R. (2005, April). *Remaking career and technical education for the 21<sup>st</sup> century: What role for high school programs?* Washington, DC: Jobs for the Future and the Aspen Institute.
- Kazis, R., Pennington, H., & Conklin, K. (2003). *Ready for tomorrow: Helping all students achieve secondary and postsecondary success*. Washington, DC: National Governors Association.
- Kemple, J. J. (2004). *Career academies: Impacts on labor market outcomes and educational attainment*. New York: MDRC.
- Kemple, J. J., & Herlihy, C. M. (2004). *The Talent Development High School Model: Context, components, and initial impacts on ninth-grade students' engagement and performance*. New York: MDRC.
- McNeil, P. (2003). *Rethinking high school: The next frontier for state policymakers*. Washington, DC: The Aspen Institute.

- McRobbie, J. (2001). *Are small schools better? School size considerations for safety and learning*. San Francisco: WestEd.
- National Association of Manufacturers, Andersen, and the Center for Workforce Success. (2001). *The skills gap 2001: Manufacturers confront persistent skills shortages in an uncertain economy*. Washington, DC: Authors.
- National Association of Secondary School Principals (NASSP). (1996). *Breaking ranks: Changing an American institution*. Reston, VA: Author.
- National Association of Secondary School Principals. (2002). *What the research shows: Breaking ranks in action*. Reston, VA: Author.
- National Association of Secondary School Principals. (2004). *Breakthrough high schools: You can do it too!* Reston, VA: Author.
- National Center for Public Policy and Higher Education. (2004). *Measuring up 2004: The state report card on higher education: California*. San Jose, CA: Author.
- National High School Alliance. (2005). *A call to action: Transforming high school for all youth*. Washington, DC: Institute for Education Leadership.
- National Research Council and the Institute of Medicine (2004). *Engaging schools: Fostering high school students' motivation to learn*. Committee on Increasing High School Students' Engagement and Motivation to Learn. Board on Children, Youth, and Families, Division of Behavioral and Social Sciences and Education. Washington, DC: The National Academies Press.
- Neufeld, B., & Levy, A. (2004). *Baseline report: High school renewal in Boston*. Cambridge, MA: Education Matters, Inc.
- Neumark, D. (2004). *The effects of school-to-career programs on postsecondary enrollment and employment*. San Francisco: Public Policy Institute of California.
- Odden, A. (2000, February 1). The costs of sustaining educational change through comprehensive school reform. *Phi Delta Kappan*, 6(81).
- Pathways to College Network. (2004). *A shared agenda: A leadership challenge to improve college access and success*. Boston, MA: The Education Resources Institute.
- Quint, J. C., Byndloss, D. C., & Melamud, B. (2003). *Scaling up First Things First: Findings from the first implementation year*. New York: MDRC.
- Rabinowitz, S., Crane, E., Ananda, S., Vasudeva, A., Youtsey, D., Shimozato, C., & Schwager, M. (2005). *High school exit examination for pupils with disabilities: Senate Bill 964*. San Francisco: WestEd.
- Reich, R. (2003). *Transforming American high schools: Early lessons and new challenges*. Washington, DC: The Aspen Institute.
- Roza, M., & Swartz, C. (2004). *Lessons on assessing the costs of small schools: Evidence from Denver*. Seattle, WA: University of Washington, Center on Reinventing Public Education.
- Schwartz, R. (May 2004). Multiple pathways – and how to get there. In Kazis, R. et al. (eds.) *Double the numbers: Increasing postsecondary credentials for underrepresented youth*. Cambridge, MA: Jobs for the Future.
- Schwartzbeck, T. (2002). *Patterns in implementing comprehensive school reform: What the researchers say*. Washington, DC: The National Clearinghouse for Comprehensive School Reform.
- Silverberg et al. (2004). *National assessment of vocational education: Final report to Congress*. Washington, DC: U.S. Department of Education, Office of the Under Secretary, Policy and Program Studies Service.

- Smerdon, B., & Means, B. (2004). *The National School District and Network Grants Program year 2 evaluation report*. Washington, DC: The American Institutes for Research; Menlo Park, CA: SRI International.
- Stiefel, L., Berne, R., Iatarola, P., & Fruchter, N. (2000). High school size: Effects on budgets and performance in New York City. *Educational Evaluation and Policy Analysis*, 22(1), 27–39.
- The Bill & Melinda Gates Foundation. (2003). *Closing the graduation gap: Toward high schools that prepare all students for college, work, and citizenship* (Gates Education Policy Paper). Seattle, WA: Author.
- The Bill & Melinda Gates Foundation. (2004). *High schools for the new millennium: Imagine the possibilities* (Gates Education White Paper). Seattle, WA: Author.
- The Civil Rights Project. (2005). *Confronting the graduation rate crisis in California*. Cambridge, MA: Harvard University.
- The Education Trust–West. (2004). *Are California high schools ready for the 21st century?* Oakland, CA: Author.
- The Education Trust–West. (2004). *The A–G curriculum: College-prep? Work-prep? Life-prep*. Oakland, CA: Author.
- The Education Trust. (2003). *Telling the whole truth (or not) about highly qualified teachers*. Washington, DC: Author.
- Tucker, M. (2004). *High school and beyond: The system is the problem—and the solution*. Washington, DC: National Center on Education and the Economy.
- U.S. Department of Education (1997). *The condition of education 1997*. Washington, DC: National Center for Education Statistics, p. 102.
- U.S. Department of Education. (2003). *The High School Leadership Summit issue papers*. Washington, DC: Office of Vocational and Adult Education.
- U.S. Department of Education. (2003). Every young American a strong reader. *The High School Leadership Summit issue papers*. Washington, DC: Office of Vocational and Adult Education.
- U.S. Department of Education. (2003). The economic imperative for improving education. *The High School Leadership Summit issue papers*. Washington, DC: Office of Vocational and Adult Education.
- U.S. Department of Education. (2004). *International outcomes of learning in mathematics literacy and problem solving: PISA 2003 results from the U.S. perspective*. Washington, DC: National Center for Education Statistics.
- Voke, H., & Brand, B. (2003). *Finance and resource issues in high school reform*. Washington, DC: American Youth Policy Forum.
- Walqui, A. (2000). *Access and engagement: Program design and instructional approaches for immigrant students in secondary schools*. San Francisco: WestEd.
- WestEd. (2004). *California's graduation rate: The hidden crisis*. San Francisco: Author.
- Wing, J. Y. (2003). *Pressure to go big, evidence to go small: A policy briefing on small schools facilities*. Oakland, CA: Bay Area Coalition for Equitable Schools.
- Wing, J. Y. (2003). *Small autonomous schools: An affordable alternative*. Oakland, CA: Bay Area Coalition for Equitable Schools.

# APPENDIX A

## Summary of Policy Proposals

### ACHIEVE, INC. AND NATIONAL GOVERNORS ASSOCIATION

(2005). *An action agenda for improving America's high schools*. Washington, DC.

In March 2005, governors from 45 states gathered in Washington, DC for a summit on high school reform. They propose that states ensure that all high school graduates are prepared for postsecondary education and work by taking the following actions:

1. Restore value to the high school diploma by revising academic standards, upgrading curricula and coursework, and developing assessments that align with the expectations of college and the workplace.
2. Redesign the American high school to provide all students with the higher-level knowledge and skills, educational options, and supports they must have to succeed. They recommended reorganizing low-performing high schools first, expanding high school options in all communities, and providing supports to low-performing students.
3. Give high school students the excellent teachers and principals they need by ensuring teachers and principals have the necessary knowledge and skills and by offering incentives to attract and retain the best and brightest to the neediest schools and subjects.
4. Hold high schools and colleges accountable for student success by setting meaningful benchmarks, intervening in low-performing schools, and demanding increased accountability of postsecondary institutions.
5. Streamline educational governance so that the K-12 and postsecondary systems work more closely together.

### AMERICAN YOUTH POLICY FORUM

(August 200). *High schools of the millennium: Report of the workgroup*. Washington, DC: Author

This report outlines a vision for high performing high schools and strategies for state and local leaders. It outlines the following elements of high schools for the new millenium:

- ⊙ Vision, standards, and expectations;
- ⊙ Principles of youth development;
- ⊙ New forms of assessment;
- ⊙ Immersion in the adult world;
- ⊙ Using the community for learning;
- ⊙ Structure and organization;

- ⊙ Accountability; and
- ⊙ Teaching and learning.

### **BUSH ADMINISTRATION HIGH SCHOOL PROPOSALS**

Excerpted from: White House Press Release, September 2, 2004, *Strengthening education and job training opportunities*. <http://www.whitehouse.gov/news/releases/2004/09/print/20040902-3.htm>

The Bush Administration focused on improving high schools in this year's budget proposal. Their initiative proposes increased funds in the following programs:

- ⊙ **Striving Readers Initiative.** This competitive grant program supports efforts to develop, implement, and evaluate effective reading interventions for middle or high school students reading significantly below grade level in 50-100 districts.
- ⊙ **Mathematics and Science Partnership Program. Additional funds would** support direct, Federal competitive grants to partnerships to increase achievement in mathematics for secondary students, especially low-achieving students.
- ⊙ **Improved Advanced Placement.** A proposed increase in this program would help ensure that teachers in low-income schools are well-trained to teach Advanced Placement (AP) and International Baccalaureate (IB) courses.
- ⊙ **Adjunct Teacher Corps.** This would be a new competitive grant program to school district partnerships with public-private institutions to create the Adjunct Teacher Corps, creating opportunities for professionals to teach middle and high school courses in the core academic subjects, particularly in mathematics and science.
- ⊙ **Rigorous Courses with the State Scholars Program.** Based on the Texas Scholars program, this program encourages high school students to take more rigorous high school courses and is currently in 12 states.
- ⊙ **Enhanced Pell Grants.** This is a new proposal to create a \$33 million program to enhance Pell Grants to reward low-income students who participate in the State Scholars Program by taking a rigorous high school curriculum.
- ⊙ **Strengthening and Modernizing Support for Vocational Education.** The President's proposal redirects \$1 billion in annual funding from the Perkins Vocational Education program into a new Secondary and Technical Education program and requires that schools participating in the program offer 4 years of English, 3 years of math and science, and 3 years of social studies as part of their vocational education curriculum.
- ⊙ **Assessing Whether High Schools Are Producing Educated Graduates.** This new proposal includes testing 12th graders in the National Assessment of Educational Progress (NAEP). Expanding NCLB testing provisions to annual testing in grades 9-11 is also under consideration.

## CALIFORNIA DEPARTMENT OF EDUCATION

(2004, February 10). *High performing high schools initiative: A white paper on improving student achievement in California's high schools.*

State Superintendent Jack O'Connell is leading a High Performance High Schools initiative to strengthen high schools by:

- ⊙ Implementing high expectations for all students
- ⊙ Fostering the development of world class teachers and site administrators
- ⊙ Developing world-class instructional materials
- ⊙ Creating and supporting successful transitions to postsecondary education
- ⊙ Nurturing and developing a community of support for high-achieving students

## CALIFORNIA LEGISLATIVE ANALYST'S OFFICE

Hill, E. (2005, May). *Improving high school: A strategic approach.*

This report focuses on state policy levers to strengthen high schools. It recommends strategies for three groups of students.

- ⊙ **Reduce high school dropout rates**
  - Increase state accountability for dropouts as a way of encouraging high schools to become more responsive to the needs and goals of students who are struggling to succeed in high school. Do this by reducing the standard of proficiency for the purposes of NCLB and by increasing the importance of dropout and graduation data in the state and federal accountability systems.
  - Help schools obtain better information about effective remedial services for low-performing elementary and middle school students as a means of preventing dropouts.
- ⊙ **Strengthen the general track**
  - Increase high school accountability for helping students make a successful transition to work or college after high school.
  - Provide additional funds for middle school planning and counseling to help students and parents obtain better information about the options available to students in high school. Provide counseling in 10<sup>th</sup> grade to check in on high school goals.
  - Change vocational programs to help districts create high-quality vocational sequences that have greater benefits to students.
- ⊙ **Improve the university track**
  - Use the existing STAR tests for admission and placement decisions in our postsecondary system.

### THE EDUCATION TRUST

Barth, P. (2003). A common core curriculum for the new century. *Thinking K-16: A Publication of the Education Trust*, 7(1), 3–25.

This paper argues that high school students must participate in the same high-quality college preparatory curriculum in order to ensure that they graduate ready to succeed in college and careers. It recommends strategies in four areas:

- ⊙ Align high school courses with postsecondary requirements
- ⊙ Get good teachers and instruction
- ⊙ Provide time and support for students to learn challenging content
- ⊙ Federal support

### THE BILL & MELINDA GATES FOUNDATION

(2003). *Closing the graduation gap: Toward high schools that prepare all students for college, work, and citizenship* (Gates Education Policy Paper). Seattle, WA.

This foundation has poured hundreds of millions of dollars into building small schools. To support wide-scale transformation it makes the following recommendations.

- ⊙ Eliminate tracking and prepare all students for college
- ⊙ Create a range of small, focused high schools
- ⊙ Create a policy environment that supports a college focus and small schools

### NATIONAL HIGH SCHOOL ALLIANCE

(2005). *A call to action: Transforming high school for all youth*. Washington, DC: Institute for Education Leadership.

The National High School Alliance is a partnership of over 40 national organizations committed to fostering high academic achievement, closing the achievement gap, and promoting civic and personal growth among all high-school-age youth. The Alliance has agreed that six core principles must be in place to improve high schools. Its report outlines strategies for implementing each principle:

- ⊙ Personalized learning environments
- ⊙ Academic engagement of all students
- ⊙ Empowered educators
- ⊙ Accountable leaders
- ⊙ Engaged community and youth
- ⊙ Integrated system of high standards, curriculum, instruction, assessments, and supports

## NATIONAL ASSOCIATION OF SECONDARY SCHOOLS PRINCIPALS (NASSP)

(1996). *Breaking ranks: Changing an American institution*. Reston, VA.

This report lays out a plan for transforming American high schools, developed primarily by high school principals. It presents six main themes, with numerous recommendations. It is supplemented by a *Breaking Ranks II* report that outlines strategies for school leaders to bring these themes to reality:

- ⊙ Personalization
- ⊙ Coherency
- ⊙ Time
- ⊙ Technology
- ⊙ Professional development
- ⊙ Leadership

## SOUTHERN REGIONAL EDUCATION BOARD

Bottoms, G., Presson, A., & Han, L. (May 2004). *Linking career/technical studies to broader high school reform*. SREB Research Brief. Atlanta, GA.

This brief describes the research findings of the High Schools That Work program. It ends with recommendations for school leaders and policymakers:

- ⊙ Help get the high school graduation requirements right.
- ⊙ Develop faculty understanding of teaching to standards and good teaching practices.
- ⊙ Establish understanding among teachers, students and parents about the quality of work and level of effort required to become prepared for postsecondary studies and good jobs.
- ⊙ Develop a system that supports parents and students in setting and achieving postsecondary goals.
- ⊙ Get students ready to succeed in rigorous high school courses – work with middle grades, intensive interventions in grade 9.
- ⊙ Help schools use the senior year to get students ready for postsecondary studies and good jobs or to jump-start postsecondary studies.
- ⊙ Get state accountability policies right.
- ⊙ Provide adequate resources.
- ⊙ Reauthorize Perkins Act.

### **PATHWAYS TO COLLEGE NETWORK**

(2004). *A shared agenda: A leadership challenge to improve college access and success*. Boston, MA: The Education Resources Institute.

The Pathways to College Network is a national alliance of 30 organizations committed to using research-based knowledge to improve postsecondary education access and success for the nation's many underserved students, including underrepresented minorities, low-income students, those who are the first in their families to go to college, and students with disabilities. Its reform agenda outlines six principles and numerous strategies to guide educators and other stakeholders:

1. Expect that all underserved students are capable of being prepared to enroll and succeed in college.
2. Provide a range of high-quality college-preparatory tools for underserved students and their families.
3. Embrace social, cultural, and learning-style differences in developing learning environments and activities for underserved students.
4. Involve leaders at all levels in establishing policies, programs, and practices that facilitate student transitions toward postsecondary attainment.
5. Maintain sufficient financial and human resources to enable underserved students to prepare for, enroll, and succeed in college.
6. Assess policy, program, practice, and institutional effectiveness regularly.

# APPENDIX B

## Annotated Bibliography

**Achieve, Inc. (2004). *The expectations gap: A 50-state review of high school graduation requirements*. Washington, DC: Author. (20 pages)**

In this report, Achieve—a bipartisan, nonprofit organization created by the nation’s governors and business leaders—presents evidence that too many American young people graduate from high school poorly prepared for college and work. Achieve’s review of high school graduation requirements in all 50 states and the District of Columbia makes clear that there also is a gap between what students are expected to learn in high school and what they need to succeed in college or the workplace.

**Allen, L., & Steinberg, A. (2004). *Big buildings, small schools: Using a small schools strategy for high school reform*. Boston, MA: Jobs for the Future. (25 pages)**

This report looks at the growing number of school districts using small school development as a central strategy for improving high schools and overhauling the way districts do business. It describes communities that are addressing two basic issues: how quickly to proceed and who should take the lead in conversion. The report also examines staff, student, and community relationships; labor agreements; equity; and the autonomy versus accountability debate.

**Barth, P. (2003). *A common core curriculum for the new century*. *Thinking K-16: A Publication of the Education Trust*, 7(1), 3–25.**

The only way to ensure that all high school students graduate ready to succeed in

college and careers is to require the same high-quality college preparatory curriculum for all students, Patte Barth argues. Although this strategy runs the risk of limiting the proliferation of creative-learning programs at the high school level, the author claims the benefits of this new, common, high-standards curriculum (particularly for low-achieving students in poorly performing schools) outweigh the risks of reducing program options for older adolescents.

**Bottoms, G., & Anthony, K. (2004). *Raise academic standards and get more students to complete high school: How 13 Georgia schools did it* (SREB Research Brief). Atlanta, GA: Southern Regional Education Board. (8 pages)**

This paper shares the insights of leaders from the 13 Georgia high schools that showed the most improvement in first-time passing rates on the Georgia High School Graduation Test (GHSGT) between 1997 and 2002 and in high school completion rates between 1999 and 2002. SREB identified six main drivers of success: 1) rigorous academic core and high-quality career/technical courses; 2) teaching in ways that students see a reason for learning the content and engaging them in challenging assignments that go beyond memorization of facts and procedural knowledge; 3) a faculty with a shared and strong commitment to provide students extra help needed to meet standards; 4) providing a mentor to assist each student in post-high school goals; 5) school leaders who work with faculty to develop a consensus on what it means to teach to high standards, to teach well, and to help low-performing students become independent

learners, and to continuously improve; and 6) successful transition programs from middle to high school and high school to postsecondary education.

**Brand, B. (2003). *Rigor and relevance: A new vision for career and technical education, a white paper*. Washington, DC: American Youth Policy Forum. (35 pages)**

What should be the role of the federal government in Career and Technical Education (CTE)? This paper presents a fresh look at CTE funding, recommending that federal money be used to support the development and expansion of rigorous CTE programs of study, and that federal funding be allocated on a competitive basis to schools, area vocational schools, school districts, and community colleges. The paper goes on to describe the importance of high academic standards and recognizes key recent CTE reforms.

**Brand, B., & Partee, G. (2000). *High schools of the millennium: Report of the workgroup*. Washington, DC: American Youth Policy Forum. (49 pages)**

High schools are out of date and need to be redesigned to meet the needs of today's youth, this report argues. This report depicts a new vision of high school, one that uses all the resources of the community to create smaller learning environments, to engage youth in their striving for high academic achievement, to support them with adult mentors and role models, and to provide them with opportunities to develop their civic, social, and career skills.

**California Department of Education. (2001). *Aiming high: High schools for the 21st century*. Sacramento, CA: CDE High School Initiatives/Career Education Office. (184 pages)**

This CDE publication builds on the legacy of *Second to None*, California's 1992 comprehensive guideline for high school reform. *Aiming High* is a how-to guide for providing a standards-based education

in the context of a standards-based accountability framework. The focus is on guiding schools to do "the right things" in "the right ways." Specifically, *Aiming High* defines standards and how schools and individual students are assessed; delineates how to effectively identify, teach, and assess academic standards; provides supports to help students meet high standards; and outlines how to use data to foster continual systemic improvement.

**Callan, P., & Finne, J. (2003). *Multiple pathways and state policy: Toward education and training beyond high school*. Boston, MA: Jobs for the Future. (15 pages)**

This report describes the economic and social imperatives for increasing higher education access and attainment in the population and identifies the policy elements necessary for reform. According to the authors, the future of individual citizens, communities, states, and the nation will "require policies that assure that most Americans benefit from at least two years of education and training beyond high school."

**Carnevale, A., & Fry, R. A. (2001). *Economics, demography, and the future of higher education policy. Higher expectations I: Essays on the future of postsecondary education*. Washington, DC: National Governors Association. (17 pages)**

The growing income disparity between those with and without college degrees has already turned the U.S. into a nation of haves and have-nots, the authors explain. In the next 15 years, they point out, 1 to 2 million additional young adults will be seeking access to higher education, a large proportion of them from low-income and minority families. Governors are thus now in a unique position to influence the nation's long-run economic competitiveness and social equity by helping minority and low-income youth gain access to postsecondary education while also helping higher education institutions accommodate them.

**Carroll, S. J., Krop, C., Arkes, J., Morrison, P. A., & Flanagan, A. (2005). *California's K–12 public schools: How are they doing?* Santa Monica, CA: Rand Education, for the William and Flora Hewlett Foundation. (216 pages)**

California's public schools, once considered to be among the nation's best, are now being questioned as to their condition, performance, and ability to meet the needs of the state's diverse student population. This report describes California's student population, the resources provided to the schools (finances, teachers, and facilities), and the schools' outcomes. It discusses student academic achievement, as measured by standardized tests, and then turns to outcomes that schools may influence and that are inadequately captured in test scores. These include both educational attainment measures (high school graduation and continuation on to college) and nonacademic measures (teenage pregnancy, substance abuse, and delinquency). The report also analyzes trends within the state and compares California to other states and to the nation as a whole.

**Cohen, M. (2001). *Transforming the American high school: New directions for state and local policy*. Washington, DC: The Aspen Institute. (25 pages)**

Aspen Institute Senior Fellow Michael Cohen's white paper looks at ways to accelerate the current high school reform process by stimulating the creation of new models of schools and youth pathways, providing immediate and intensive help for the lowest performing schools, and providing incentives for creating new small schools and learning communities.

**Comprehensive School Reform Quality Center. (2005). *Works in progress: A report on middle and high school improvement programs*. Washington, DC: American Institutes for Research. (120 pages)**

This report offers educators and policymakers a summary of the key issues facing middle

and high schools, such as literacy and reading, English language learners, violence and bullying, and transition. It reviews nearly 100 programmatic approaches and provides information to help educators at the district and school levels make evidence-based decisions to improve outcomes for middle and high school students.

**Cotton, K. (2001). *New small learning communities: Findings from recent literature*. Portland, OR: Northwest Regional Educational Laboratory.**

This report presents research findings about the results produced by well-run small schools. It begins by defining the various types of small learning communities and discusses the requirements for success identified by researchers and practitioners, while also citing barriers to effective implementation. A small school is not effective for students because of its size, Cotton notes, but rather because it creates an environment that acts as a facilitating factor in promoting increased student learning, enhancing collegiality among teachers, and personalizing relationships between teachers and students.

**Cross, C. (Ed.). (2004). *Putting the pieces together: Lessons from comprehensive school reform*. Washington, DC: The National Clearinghouse for Comprehensive School Reform.**

The publication brings together research on comprehensive school reform as well as views of practitioners. It is framed by the 11 components contained in federal law and provides a history of the reform. It describes the factors that affect model implementation and how implementation has worked. It has a chapter that examines the necessary conditions for CSR and what it takes to sustain CSR efforts. Another chapter synthesizes research on the results of CSR models. The book closes with recommendations by a researcher and a practitioner regarding considerations for schools, districts, and model developers as they implement CSR.

**Daggett, W. (2004). *America's most successful high schools: What makes them work*. Rexford, NY: International Center for Leadership in Education. (44 pages)**

While there is no one formula for a successful high school, Dr. William Daggett describes the characteristics consistent across the 30 high schools included in 2004's *Bringing Successful Practices to Scale* initiative. His analysis found the following critical factors in high-performing high schools: Focusing instruction around students' interests, learning styles, and aptitudes through a variety of small learning community approaches; an unrelenting commitment by administrators and teachers to excellence for all students with a particular emphasis on literacy across the curriculum; a laser-like focus on data at the classroom level to make daily instructional decisions for individual students; an extraordinary commitment of resources and attention to 9<sup>th</sup> grade students, providing extensive enrichment rather than remediation; a rigorous and relevant 12<sup>th</sup> grade year; high-quality curriculum and instruction that focuses on rigor, relevance, relationships, and reflective thought; solid and dedicated leadership; relationships driven by guiding principles; and sustained and supported professional development.

**Darling-Hammond, L. (2002). *Factory-model schools*. Stanford, CA: The School Redesign Network at Stanford University. (2 pages)**

Today's schools are based on an outdated "factory model" and are not meeting the needs of today's students. This short paper explains why the schools that we have inherited fail, by design, to educate all students to high levels.

**Darling-Hammond, L. (2002). *Redesigning high schools: What matters and what works*. Stanford, CA: The School Redesign Network at Stanford University. (75 pages)**

Small size is a necessary condition for effective schooling, but it is not enough. This report provides a compelling look inside the day-to-day workings of successful

small schools. In addition to providing clear examples in actual school settings, each section ends with brief school profiles or resources for additional information. The report concludes with a concise description of the essential external conditions that support the work going on inside each school.

**Darling-Hammond, L., Ainess, J., & Wichterle-Ort, S. (2002). *Reinventing high school: Outcomes of the Coalition Campus Schools Project*. *American Educational Research Journal*, 39(3), 639–673.**

This seven-year study of the Coalition Campus Schools Project in New York City found that the new small schools that replaced a failing large comprehensive high school produced better attendance, lower incident rates, better performance on reading and writing assessments, higher graduation rates, and higher college-going rates, despite serving a more educationally disadvantaged population of students. The schools shared a number of features that appeared to contribute to these outcomes, including small size; a carefully constructed curriculum aimed at specific proficiencies; individualized, adaptive instruction and explicit teaching of academic skills; a schoolwide performance assessment system; flexible supports for student learning; and strong teachers supported by collaborative planning and problem solving.

**Esch, C. E., Chang-Ross, C. M., Guha, R., Tiffany-Morales, J., & Shields, P. M. (2004). *California's teaching force 2004: Key issues and trends*. Santa Cruz, CA: The Center for the Future of Teaching and Learning. (107 pages)**

This comprehensive report provides the latest available data and analysis of California's teaching workforce and examines the preparation, induction and professional development of teachers. It also discusses the contextual issues facing the California education system today, including NCLB legislation, the California High School Exit

Exam (CAHSEE), and the 2004 settlement of the *Williams v. California* civil rights lawsuit.

**Greene, J., & Winters, M. (2005). *Public high school graduation and college readiness rates: 1991 to 2002*. New York: Manhattan Institute for Policy Research. (35 pages)**

This study calculates high school graduation rates (nationally and by state) as well as the percentage of students at these levels who left high school eligible to apply for college from 1991 to 2002. It finds that during this period the national graduation rate went from 72 percent to 71 percent while the college readiness rate increased from 25 to 34 percent. The authors argue that flat high school graduation rates and increasing college readiness rates are likely the result of standards and accountability programs that have required students to take more challenging college-prep courses without pushing those students to drop out of high school.

**Harvey, J., & Housman, N. (2004). *Crisis or possibility: Conversations about high school reform*. Washington, DC: National High School Alliance. (33 pages)**

Students from a range of socioeconomic and ethnic backgrounds are disengaging from and dropping out of high school each day, the authors note. This report looks at how leaders are beginning to transform America's traditional, comprehensive high school in ways that make it responsive to the needs of all students. Based on proceedings from a series of conferences in the fall of 2003, the paper identifies key levers for change and discusses the challenges that remain.

**Huebner, T. A., & Calisi-Corbett, G. (2005). *Rethinking high school: Five profiles of innovative models for student success*. San Francisco: WestEd. (47 pages)**

With college now seen as a minimum requirement for a growing number of living-wage jobs, the economic future is not looking bright for the large number of U.S. students who aren't even graduating from high school. Some wonder whether shrinking the size of

America's high schools can help, not just to keep more students in school, but, equally important, to prepare greater numbers for college. This report looks closely at five such schools to evaluate their practices and the performance of their students.

**Ingersoll, R. M. (2003). *Out-of-field teaching and the limits of teacher policy*. Seattle, WA: University of Washington, Center for the Study of Teaching and Policy. (22 pages)**

This research report utilizes recent data to build on Ingersoll's earlier work on the problem of out-of-field teaching. It outlines the extent to which out-of-field teaching varies across different subjects and different kinds of schools, and to what extent levels of out-of-field teaching have changed in recent years (nationally and in the 50 states). The report also discusses reasons for the failure of many popular teacher quality reforms and draws lessons for the prospects of 2001's No Child Left Behind Act.

**Kazis, R., Pennington, H., & Conklin, K. (2003). *Ready for tomorrow: Helping all students achieve secondary and postsecondary success*. Washington, DC: National Governors Association. (32 pages)**

Written with input from governors, this report examines the causes and consequences of the "leaky education pipeline" and proposes five specific means by which states can repair them. Approaches include setting a statewide performance benchmark for postsecondary attainment, creating a K-16 data system to track all youth over time, promoting learning options that combine secondary and postsecondary experiences, and focusing on improving achievement for students in low-performing high schools.

**McNeil, P. (2003). *Rethinking high school: The next frontier for state policymakers*. Washington, DC: The Aspen Institute, (44 pages)**

Written by Patricia McNeil, an Assistant Secretary of Education during the Clinton Administration, this report looks at the efforts

offourstates(California,Maine,RhodeIsland,Vermont) that pursued similar strategies to reform their high schools on a statewide level. Reforms were standards-based, and each state appointed a commission or task force to diagnose the problem, review state policies and regulations, articulate a vision, support a dialogue with the public and key stakeholders, and recommend a set of goals, principles, practices, and policies to support reform. In addition, the states marshaled resources from federal programs and foundations, provided technical assistance, and monitored results.

**National Association of Manufacturers, Andersen, and the Center for Workforce Success. (2001). *The skills gap 2001: Manufacturers confront persistent skills shortages in an uncertain economy.* Washington, DC: Authors. (22 pages)**

This survey finds that more than 80 percent of manufacturers reported a shortage of qualified job candidates in 2001, despite a recession in manufacturing and an overall economic downturn. On the positive side, however, results showed that substantial progress has been made in closing the technology skills gap and good production jobs exist for workers with the right skills. Nonetheless, more than two-thirds of the firms surveyed claimed serious workforce shortages among entry-level workers, operators, machinists, technicians, and engineers.

**National Association of Secondary School Principals. (2002). *What the research shows: Breaking ranks in action.* Reston, VA: Author. (84 pages)**

Since the release of *Breaking Ranks* in 1996, principals and other school leaders have used the report to guide their school improvement efforts. This report analyzes recent research to provide a synopsis of the literature underpinning the 80-plus recommendations in *Breaking Ranks*. The original recommendations now supported most clearly are those concerning curriculum, instructional strategies, and professional

development, while those geared toward technology, assessment and accountability, and governance merit further evaluation.

**National Association of Secondary School Principals. (2004). *Breaking ranks II: Strategies for leading high school reform.* Reston, VA: Author.**

This guidebook for school leaders outlines high school reform processes. It provides strategies for implementing change practices; illustrates possible entry points or areas in which to begin reform; and profiles the successes, challenges, and results of schools implementing the report's recommendations.

**National Association of Secondary School Principals. (2004). *Breakthrough high schools: You can do it too!* Reston, VA: Author. (50 pages)**

This report profiles 12 "Breakthrough High Schools" that tackled the challenges facing high-poverty, high-minority student populations and found ways to increase student achievement, improve graduation rates, and prepare students for college. By showcasing the successes of these schools, the project hopes to provide useful models for other high schools to follow. Their analysis of these schools found such common factors as "creating a safe and orderly school environment; articulating a common message on the basis of shared values and a vision focused on the high achievement of all students; holding high expectations for students and staff members; creating structures to support a personalized learning environment; collaborating for shared leadership, decision making, and problem solving; and using data for decision making.

**National Center for Public Policy and Higher Education. (2004). *Measuring up 2004: The state report card on higher education: California.* San Jose, CA: Author. (15 pages)**

*Measuring Up 2004's* California report card assesses the status of postsecondary education in a variety of categories, including

preparation, participation, affordability, completion, benefits, and learning. It concludes that California's historically strong performance in enrolling students in college-level education and providing affordable educational opportunities may now be at risk. While the high school population is increasing in size and diversity, the likelihood of students enrolling in college by age 19 is declining. High school students are not taking the rigorous courses they need to succeed in higher education, and graduates are not going to college right after high school.

**National Research Council and the Institute of Medicine (2004). *Engaging schools: Fostering high school students' motivation to learn*. Committee on Increasing High School Students' Engagement and Motivation to Learn. Board on Children, Youth, and Families, Division of Behavioral and Social Sciences and Education. Washington, DC: The National Academies Press. (286 pages).**

This book reviews current research on what shapes adolescents' school engagement and motivation to learn – including new findings on students' sense of belonging – and looks at ways these can be used to reform urban high schools. The book also discusses what changes hold the greatest promise for increasing students' motivation to learn in these schools. It looks at various approaches to reform through different methods of instruction and assessment, adjustments in school size, vocational teaching, and other key areas. Examples of innovative schools and comprehensive reform designs aimed at getting high school kids excited about learning are also included.

**Neufeld, B., & Levy, A. (2004). *Baseline report: High school renewal in Boston*. Cambridge, MA: Education Matters, Inc. (50 pages)**

This report describes the ways in which Boston's comprehensive high schools are restructuring into smaller learning communities to reduce alienation and increase literacy skills. It concludes that the

effort faces a considerable array of challenges, and recommends that district leaders meet directly with teachers and headmasters to assess the "big picture" and plan strategies for implementation.

**Reich, R. (2003). *Transforming American high schools: Early lessons and new challenges*. Washington, DC: The Aspen Institute. (27 pages)**

This report is the product of three summer workshops on high school transformation organized by the Aspen Institute's Program on Education in a Changing Society. It offers the case for reform, reports some early lessons from the small schools approach to transformation, and lays out policy implications and a research agenda for district and state leaders adopting a small school strategy. Implications for other educational players, such as postsecondary education and teacher unions, are also addressed.

**Roza, M., & Swartz, C. (2004). *Lessons on assessing the costs of small schools: Evidence from Denver*. Seattle, WA: University of Washington, Center on Reinventing Public Education. (4 pages)**

This research brief presents findings on the costs of small schools in Denver. The analysis found that although the smaller schools did have higher per-pupil school budgets, there was no significant link between school size and salary expenditures. In some cases, the higher small- schools costs were inflated by special program costs. The authors further argue that an accurate picture of funding requires examination of school budgets, staff salaries, and the central budget.

**Schwartzbeck, T. (2002). *Patterns in implementing comprehensive school reform: What the researchers say*. Washington, DC: The National Clearinghouse for Comprehensive School Reform.**

The author of this research brief questioned a network of researchers about the trends and patterns they see in schools implementing

comprehensive school reform. Though the researchers agreed that it was difficult to draw conclusions, some trends did emerge. Progress commonly occurs in waves, and schools often experience a dip in outcomes. If reform is working, a tipping point or critical mass will be reached, but this may take 3 to 5 years. Some things are easier to change, such as school climate, while modifying teaching and learning is more difficult. And concrete, externally developed models tend to be easier to implement than process-based or local models, the brief noted.

**Smerdon, B., & Means, B. (2004). *The National School District and Network Grants Program year 2 evaluation report*. Washington, DC: The American Institutes for Research; Menlo Park, CA: SRI International. (110 pages)**

This report is the second evaluation of the Gates Foundation initiative funding the creation of small schools around the country. In general, results matched the foundation's theories and showed the organization helping create small high schools that foster personalization, high expectations, and teacher collaboration. However, key challenges were also identified, including implementing effective teaching, developing appropriate curriculum content, and achieving financial stability. In response, the report recommended providing schools with more support in curriculum development, creating a strategy to promote the new school culture among staff and students, and offering guidance on where to turn for financial support.

**Stiefel, L., Berne, R., Iatarola, P., & Fruchter, N. (2000). *High school size: Effects on budgets and performance in New York City*. *Educational Evaluation and Policy Analysis*, 22(1), 27–39.**

This paper contributes to the school size policy debate by using methods and data that combine budget and performance information. With data on budgets, graduates, and characteristics of students in New York City public high schools, the authors created

four-year, per-graduate budget estimates. Their findings indicated that small academic and large high schools are similar in terms of budgets per graduate and that some vocational and “transfer” high schools have the highest budgets per graduate. Because the literature on school size indicates that small high schools are effective for minority and poor students, the authors suggest that this similarity in outcomes supports the creation of more small high schools.

**The Bill & Melinda Gates Foundation. (2004). *High schools for the new millennium: Imagine the possibilities* (Gates Education White Paper). Seattle, WA: Author. (15 pages)**

This white paper describes the state of high schools today and further outlines the Gates Foundation's strategy, designed to ensure that all students graduate prepared for college, work, and citizenship.

**The Civil Rights Project. (2005). *Confronting the graduation rate crisis in California*. Cambridge, MA: Harvard University. (14 pages)**

Harvard's researchers maintain that California's official graduation rate of 87 percent dramatically understates the true number of dropouts, and graduation rates in the state “remain at crisis levels.” The report presents data on school promotion power as well as graduation-rate information broken down by gender and racial/ethnic group. In addition, the report discusses the economic ramifications of a high dropout rate, districts beating the odds, and recommendations regarding accountability and the No Child Left Behind Act.

**The Education Trust–West. (2004). *Are California high schools ready for the 21st century?* Oakland, CA: Author. (15 pages)**

This report measures the success of California high schools on three indicators: graduation rates, rigorous curriculum, and student achievement. The authors found that only approximately 70 percent of California's 9<sup>th</sup> graders graduate four years later and

Hispanic, African American, and low-income students complete high school at even lower rates than their peers. The report also notes that few California school districts provide enough high-level courses for all students to enroll in the curriculum necessary to meet the entry requirements of California's four-year public colleges and universities.

**The Education Trust–West. (2004). *The A–G curriculum: College-prep? Work-prep? Life-prep.* Oakland, CA: Author. (8 pages)**

The authors of this report argue that California's optional A-G curriculum, aligned with the state's public university entrance requirements, is not just for college-bound students. They suggest that completing the A-G requirements makes for a more meaningful high school experience by challenging high school students to learn more and live up to high expectations. The report also identifies the strategies, such as increased learning time and strengthening middle school learning and expectations, that will help all students meet these increased demands.

**U.S. Department of Education. (2003). *The High School Leadership Summit issue papers.* Washington, DC: Office of Vocational and Adult Education.**

Created for the U.S. Secretary of Education's 2003 national summit on high schools, these issue papers describe the various challenges facing U.S. high schools and suggest diverse courses of action for states, schools, educators, and community leaders.

**Voke, H., & Brand, B. (2003). *Finance and resource issues in high school reform.* Washington, DC: American Youth Policy Forum. (23 pages)**

This report summarizes discussions between education and youth development leaders regarding the need to address financial and resource issues in high school reform. Discussants offer perspectives on allocating and aligning resources to support standards-based reform, generating resources for interventions and specialized programs,

and developing funding strategies for dual enrollment programs.

**WestEd. (2004). *California's graduation rate: The hidden crisis.* San Francisco: Author. (7 pages)**

At a time when postsecondary education is becoming the new basic for finding a job and leading a satisfying life, large numbers of California's young people are not finishing high school. Disproportionately, the non-graduates are Latino and African American students. This brief illustrates the trend in California's graduation rate. It examines the methodological debate, provides comparisons between California and other states, and shows California results by race and ethnicity (including data from several of the state's largest school districts).

**Wing, J. Y. (2003). *Pressure to go big, evidence to go small: A policy briefing on small schools facilities.* Oakland, CA: Bay Area Coalition for Equitable Schools. (6 pages)**

The demand for new schools in California is increasing at the same time the state's educational infrastructure is aging and in need of costly repair. This policy brief looks at the situation as both a crisis as well as a rare opportunity. By developing new small schools, California can relieve overcrowding and reverse chronic underachievement, yet a lack of land and facilities is now delaying or halting the opening of many new small schools and small school conversions in the state.

**Wing, J. Y. (2003). *Small autonomous schools: An affordable alternative.* Oakland, CA: Bay Area Coalition for Equitable Schools. (10 pages)**

Despite the widespread belief that small schools are better for educating children, many also believe that we simply cannot afford them. This policy brief confronts the latter premise by presenting budget information from seven new small autonomous schools in Oakland, outlining evidence that shows the schools operating on a "cost neutral" basis compared to similar institutions.



# APPENDIX C

## Useful Websites

### POLICY & RESEARCH ORGANIZATIONS

#### **Achieve**

<http://www.achieve.org>

#### **American Diploma Project**

<http://www.achieve.org/achieve.nsf/AmericanDiplomaProject>

#### **American Youth Policy Forum**

<http://www.aypf.org>

#### **Annenberg Institute for School Reform**

<http://www.annenberginstitute.org/index.html>

#### **Aspen Institute**

<http://www.aspeninstitute.org/index.asp>

#### **Center for Collaborative Education**

<http://www.ccebos.org>

#### **Center for Education Reform**

<http://edreform.com/index.htm>

#### **Comprehensive School Reform Quality Center**

<http://www.csrq.org>

#### **Education Matters, Inc.**

<http://www.edmatters.org/>

#### **Education Trust**

<http://www.edtrust.org>

#### **Jobs for the Future**

<http://www.jff.org/jff/>

#### **Mid-Century Regional Educational Laboratory**

<http://www.mcrel.org>

#### **National High School Alliance**

<http://www.hsalliance.org/>

#### **North Central Regional Educational Laboratory Center for High School Excellence**

<http://www.chse.org>

#### **Northwest Regional Educational Laboratory**

<http://www.nwrel.org>

#### **Southern Regional Education Board**

<http://www.sreb.org>

#### **WestEd**

<http://www.wested.org>

### HIGH SCHOOL NETWORKS & REFORM MODELS

#### **Authentic Learning and Assessment for All Students (ATLAS) Communities**

<http://www.atlascommunities.org>

#### **Big Picture Company**

<http://www.bigpicture.org/>

#### **Coalition of Essential Schools**

<http://www.essentialschools.org>

#### **Early College High School Initiative**

<http://www.earlycolleges.org>

#### **First Things First**

<http://www.irre.org/ftf>

#### **Gateway to Higher Education**

<http://www.gateway.cuny.edu/index.php>

#### **High Schools That Work**

<http://www.sreb.org/programs/hstw/hstwindex.asp>

#### **High Tech High Learning**

<http://www.hightechhigh.org>

**National Center on Education and the Economy**

<http://www.ncee.org>

**Pathways to College Network**

<http://www.pathwaystocollege.net>

**School Redesign Network at Stanford University**

<http://www.schoolredesign.net/>

**Small Schools Project**

<http://www.smallschoolsproject.org/>

**Talent Development High School**

<http://www.csos.jhu.edu/tdhs>

**NATIONAL PROGRAMS, PARTNERSHIPS,  
& GOVERNMENT OFFICES**

**American Association of School Administrators: School Reform Approaches**

[http://www.aasa.org/issues\\_and\\_insights/district\\_organization/Reform/approach.htm](http://www.aasa.org/issues_and_insights/district_organization/Reform/approach.htm)

**Council of Chief State School Officers**

<http://www.ccsso.org>

**Council of the Great City Schools**

<http://www.cgcs.org>

**Gaining Early Awareness and Readiness for Undergraduate Programs (GEAR UP)**

<http://www.ed.gov/programs/gearup/index.html>

**National Association of Secondary School Principals**

<http://www.nassp.org>

**National Clearinghouse for Comprehensive School Reform (NCCSR)**

<http://www.csrclearinghouse.org/>

**National Governors Association**

<http://www.nga.org>

**U.S. Department of Education High School Education Home Page**

<http://www.ed.gov/about/offices/list/ovae/pi/hs/index.html>

**FOUNDATIONS SUPPORTING HIGH SCHOOL REFORM**

**Annie E. Casey Foundation**

<http://www.aecf.org/initiatives/education/index.htm>

**Bill & Melinda Gates Foundation**

<http://www.gatesfoundation.org/Education>

**Carnegie Corporation of New York**

<http://www.carnegie.org/sub/program/education.html>

**General Electric Foundation's College Bound Program**

[http://www.ge.com/foundation/grant\\_initiatives/education/collegebound.html](http://www.ge.com/foundation/grant_initiatives/education/collegebound.html)

**Knowledge Works Foundation**

<http://www.kwfdn.org/index.html>

# Endnotes

- <sup>1</sup> The full text of Superintendent O'Connell's 2004 address is available online at <http://www.cde.ca.gov/eo/in/se/yr04stateofed.asp>.
- <sup>2</sup> U.S. Department of Education. (2003). The economic imperative for improving education. *The High School Leadership Summit issue papers*. Washington, DC: Office of Vocational and Adult Education, p. 2.
- <sup>3</sup> Reich, R. (2003). *Transforming American high schools: Early lessons and new challenges*. Washington, DC: The Aspen Institute, p. 6.
- <sup>4</sup> Barth, P. (2003). A common core curriculum for the new century. *Thinking K-16: A Publication of the Education Trust*, 7(1), p. 15.
- <sup>5</sup> Darling-Hammond, L. (2002). *Factory-model schools*. Stanford, CA: School Redesign Network, Stanford University.
- <sup>6</sup> California Department of Education enrollment data; <http://data1.cde.ca.gov/dataquest>.
- <sup>7</sup> Carroll, S. J., Krop, C., Arkes, J., Morrison, P. A., & Flanagan, A. (2005). *California's K-12 public schools: How are they doing?* Santa Monica, CA: RAND Corporation, for the William and Flora Hewlett Foundation, p. 85.
- <sup>8</sup> Esch, C. E., Chang-Ross, C. M., Guha, R., Tiffany-Morales, J., & Shields, P. M. (2004). *California's teaching force 2004: Key issues and trends*. Santa Cruz, CA: The Center for the Future of Teaching and Learning, p. 1.
- <sup>9</sup> *Ibid.*, p. 7.
- <sup>10</sup> Carroll et al., p. 86.
- <sup>11</sup> The Education Trust–West. (2004). *Are California high schools ready for the 21st century?* Oakland, CA: Author, p. 10.
- <sup>12</sup> *Ibid.*, p. xxxiii.
- <sup>13</sup> U.S. Department of Education. (2004). *International outcomes of learning in mathematics literacy and problem solving: PISA 2003 results from the U.S. perspective*. Washington, DC: National Center for Education Statistics, p. iii.
- <sup>14</sup> U.S. Department of Education. (2003). Every young American a strong reader. *The High School Leadership Summit issue papers*. Washington, DC: Office of Vocational and Adult Education, p. 1.
- <sup>15</sup> Greene, J., & Winters, M. (2005). *Public high school graduation and college readiness rates: 1991 to 2002*. New York: Manhattan Institute for Policy Research.
- <sup>16</sup> Greene & Winters (2005). Calculating exact graduation rates is not a straightforward task. Most states lack the individual student identifiers that would enable accurate tracking of students across grades and schools, so they must estimate figures based upon either school-reported dropout rates or enrollment data comparisons from 9<sup>th</sup> grade to 12<sup>th</sup> grade. Relying on dropout figures, the CDE officially reported a four-year graduation rate of 87 percent for the class of 2002. But dropout data are notoriously unreliable – students who drop out do not file forms and schools must estimate whether they transferred or dropped out. Enrollment data, on the other hand, track school and grade populations and reveal a more accurate picture of high school completion. Green's method of calculation is considered among the most accurate formulas for estimating graduation rates. It uses the annual enrollment figures that each district provides to the NCES Common Core of Data to compare the graduating cohort with the cohort that entered 9<sup>th</sup> grade four years earlier. It estimates the 9<sup>th</sup> grade size by averaging 8<sup>th</sup>, 9<sup>th</sup>, and 10<sup>th</sup> grade enrollments and also uses a formula to adjust for population changes over the four years due to such factors as mobility and retention in grade. And as is the case with most enrollment-based methods, there is no way to know whether the missing students dropped out or, for example, repeated grades, left the state, or transferred to private schools.
- <sup>17</sup> The Education Trust–West. (2004). *Are California high schools ready for the 21st century?* Oakland, CA: Author, p. 2.
- <sup>18</sup> The Civil Rights Project. (2005). *Confronting the graduation rate crisis in California*. Cambridge, MA: Harvard University, p. 2.
- <sup>19</sup> U.S. Department of Education. (2003). "From there to here: The road to reform of American high schools," p. 4.
- <sup>20</sup> Greene & Winters (2005). This study estimated college readiness by taking into account: graduation rates; admissions criteria of minimally selective four-year public colleges and universities, using the least burdensome requirement; and literacy levels according to the NAEP reading assessment.
- <sup>21</sup> U.S. Department of Education. (2003). "Every young American a strong reader," p. 2.
- <sup>22</sup> U.S. Department of Education (1997). *The condition of education 1997*. Washington, DC: National Center for Education Statistics, p. 102.
- <sup>23</sup> Cohen, M. (2001). *Transforming the American high school: New directions for state and local policy*. Washington, DC: The Aspen Institute, p. 3.
- <sup>24</sup> Hill, E. (2005, May). *Improving high school: A strategic approach*. Sacramento, CA: Legislative Analyst's Office.
- <sup>25</sup> The University of California's A-G course requirements for in-state freshman admission are available online at [http://www.universityofcalifornia.edu/admissions/undergrad\\_adm/paths\\_to\\_adm/freshman/subject\\_reqs.html](http://www.universityofcalifornia.edu/admissions/undergrad_adm/paths_to_adm/freshman/subject_reqs.html).
- <sup>26</sup> The Education Trust–West. (2004), pp. 4-5.
- <sup>27</sup> Achieve, Inc. (2005). *California data profile*. Washington, DC: Author, p. 4.

- <sup>28</sup> Ibid., pp. 2, 4.
- <sup>29</sup> Reich, p. 7.
- <sup>30</sup> Barth, p. 4.
- <sup>31</sup> Ibid., p. 2.
- <sup>32</sup> Ibid.
- <sup>33</sup> Barth, p. 5.
- <sup>34</sup> Ibid., p. 14.
- <sup>35</sup> U.S. Department of Education. (2003). "The economic imperative for improving education," p. 2.
- <sup>36</sup> U.S. Department of Education. (2003). "Every young American a strong reader," p. 2.
- <sup>37</sup> The National Association of Manufacturers, Andersen, & The Center for Workforce Success. (2001). *The skills gap 2001: Manufacturers confront persistent skills shortages in an uncertain economy*. Washington, DC: Authors, p. 12.
- <sup>38</sup> Carnevale, A., & Fry, R. (2001). Economics, demographics, and the future of higher education policy. *Higher expectations I: Essays on the future of postsecondary education*. Washington, DC: National Governors Association, p. 15.
- <sup>39</sup> See findings in Appendix B, Annotated Bibliography for:
- National Association of Secondary School Principals. (2004). *Breakthrough high schools: You can do it too!* (Vol. 1). Reston, VA: NASSP. Analyzes the characteristics of "breakthrough high schools" – schools that educate predominantly low-income, minority students and that moved from very low performance to high performance as indicated by attendance rates of 90 percent or greater, graduation rates of 85-100 percent, and sending most students to college.
  - Bottoms, G., & Anthony, K. (2004, February). *Raise academic standards and get more students to complete high school: How 13 Georgia schools did it* (SREB Research Brief). Atlanta, GA: Southern Regional Education Board. Examines what schools defined as "the drivers of success" in 13 high-performing high schools in Georgia, each of which increased its percentage of students meeting higher graduation standards (as measured by first-time pass rates on a more challenging exit exam) while also raising graduation rates.
  - Huebner, T. A., & Calisi-Corbett, G. (2005). *Rethinking high school: Five profiles of innovative models for student success*. San Francisco: WestEd. Describes five smaller learning communities for which instructional practices and student performance were evaluated and identifies elements of their success.
  - Daggett, W. (2004). *America's most successful high schools: What makes them work*. Rexford, NY: International Center for Leadership in Education. Studied 30 model high schools in the "Bringing Best Practices to Scale" initiative co-sponsored by the Council of Chief State School Officers and the Bill & Melinda Gates Foundation.
- <sup>40</sup> Walqui, A. (2000). *Access and engagement: Program design and instructional approaches for immigrant students in secondary schools*. Washington, DC: Center for Applied Linguistics and Delta Systems, Inc.
- <sup>41</sup> Kemple, J. J. (2004). *Career academies: Impacts on labor market outcomes and educational attainment*. New York: MDRC.
- <sup>42</sup> Cross, C. (Ed.). (2004). *Putting the pieces together: Lessons from comprehensive school reform*. Washington, DC: The National Clearinghouse for Comprehensive School Reform.
- <sup>43</sup> These examples of models are outlined because we could find independent research that supports evidence of success. Other promising models often cited are Accelerated Schools, America's Choice, Connect, Expeditionary Learning Outward Bound, Modern Red Schoolhouse, More Effective Schools, Onward to Excellence, Quantum Learning, Quest, School Development Program, and School Renaissance.
- <sup>44</sup> From Kemple, J. J., & Herlihy, C. M. (2004). *The talent development high school model: Context, components, and initial impacts on ninth-grade students' engagement and performance*. New York: MDRC.
- <sup>45</sup> Bottoms, G., Presson, A., & Han, L. (2004). *Linking career/technical studies to broader high school reform* (SREB Research Brief). Atlanta, GA: Southern Regional Education Board.
- <sup>46</sup> Quint, J. C., Byndloss, D. C., & Melamud, B. (2003). *Scaling up First Things First: Findings from the first implementation year*. New York: MDRC.
- <sup>47</sup> Comprehensive School Reform Quality Center. (2005). *Works in progress: A report on middle and high school improvement programs*. Washington, DC: American Institutes for Research.
- <sup>48</sup> See Cross, C. (Ed.). (2004):
- Ross, S., & Gil, L. The past and future of comprehensive school reform: Perspectives from a researcher and practitioner.
  - Rowan, B., Camburn, E., & Barnes, C. Benefiting from comprehensive school reform: A review of research on CSR implementation.
- <sup>49</sup> Schwartzbeck, T. (2002, February). *Patterns in implementing comprehensive school reform: What the researchers say* (Research Brief). Washington, DC: The National Clearinghouse for Comprehensive School Reform.
- <sup>50</sup> Comprehensive School Reform Quality Center. (2005). *Works in progress: A report on middle and high school improvement programs*. Washington, DC: American Institutes for Research (citing Neild, Stoner-Eby, & Furstenberg, 2001).
- <sup>51</sup> Ibid., p. 61.
- <sup>52</sup> Ibid., p. 65.
- <sup>53</sup> The American Diploma Project (ADP). (2004). *Ready or not: Creating a high school diploma that counts*. Washington, DC: Achieve, Inc.
- <sup>54</sup> Achieve, Inc. (2004). *The expectations gap: A 50-state review of high school graduation requirements*, p. 1.
- <sup>55</sup> CDE. (2005, February). *High performing high schools initiative: A white paper on improving student achievement in*

California's high schools, p. 3. Citing:

- Lovesque, K. et al. (2000). *Vocational education in the United States: Toward the year 2000*. Washington, DC: U.S. Department of Education, National Center for Education Statistics. <http://nces.ed.gov/pubsub2000/2000029.pdf> (PDF; Outside Source).
  - Hallinen, M. T. (2002, May 14-15). *Ability grouping and student learning*. Prepared for Brookings Papers on Education Policy Conference, "The American High School Today," The Brookings Institution, Washington, DC.
  - Adelman, C. (1999). *Answers in the tool box: Academic intensity, attendance patterns, and bachelor's degree attainment*. Washington, DC: U.S. Department of Education.
- <sup>56</sup> Pathways to College Network (2004), p. 13, citing Adelman, C. (1999). *Answers in the tool box: Academic intensity, attendance patterns, and bachelor's degree attainment*. Washington, DC: U.S. Department of Education.
- <sup>57</sup> Pathways to College Network. (2004). *A shared agenda: A leadership challenge to improve college access and success*, p. 13, citing Barth, P. (2003). A common core curriculum for the new century. *Thinking K-16*, 7(1).
- <sup>58</sup> Kazis, R. et al. (2003). *Ready for tomorrow: Helping all students achieve secondary and postsecondary success*. Washington, DC: National Governors Association, p. 20.
- <sup>59</sup> See Achieve/NGA, National High School Alliance, The Education Trust, Pathways to College Network, NASSP, SREB, Gates Foundation, CDE.
- <sup>60</sup> See, for example, ideas by Marc Tucker of the National Center for Education and the Economy, Jobs for the Future, and Robert Schwartz of Harvard University.
- <sup>61</sup> Tucker, M. (2004). *High school and beyond: The system is the problem—and the solution*. Washington, DC: National Center on Education and the Economy.
- <sup>62</sup> See Achieve/NGA, Education Trust, NASSP, National Alliance, SREB.
- <sup>63</sup> Callan, P., & Finne, J. (2003, June). *Multiple pathways and state policy: Toward education and training beyond high school*. Boston, MA: Jobs for the Future. See also ADP (2004).
- <sup>64</sup> Kazis, R. et al. (2003), p. 5.
- <sup>65</sup> See Achieve/NGA, The Education Trust, NASSP, National High School Alliance, Pathways to College Network.
- <sup>66</sup> About half the states, including California, require passage of exit exams for graduation. An analysis by the ADP indicates that most of these exams currently reflect math and literacy skills covered in middle school. See Achieve, Inc. (2004). *The expectations gap: A 50-state review of high school graduation requirements*. Washington, DC: Achieve, Inc.
- <sup>67</sup> See Achieve/NGA Action Agenda, Kazis, Pathways to College Network.
- <sup>68</sup> See National High School Alliance, CDE, NASSP.
- <sup>69</sup> For more detail see: Rabinowitz, S., Crane, E., Ananda, S., Vasudeva, A., Youtsey, D., Shimoizato, C., &

Schwager, M. (2005). *High school exit examination for pupils with disabilities: Senate Bill 964*. San Francisco: WestEd.

- <sup>70</sup> Ibid., p. 61, citing Johnson & Thurlow (2003). *A national study on graduation requirements and diploma options for youth with disabilities* (Technical Report 36). Minneapolis, MN: National Center on Educational Outcomes, p. 8.
- <sup>71</sup> The Education Trust. (2003). *Telling the whole truth (or not) about highly qualified teachers*. Washington, DC: Author.
- <sup>72</sup> See Achieve/NGA, The Education Trust, NASSP, SREB, National High School Alliance, and Pathways to College Network.
- <sup>73</sup> See Achieve/NGA, National High School Alliance, SREB.
- <sup>74</sup> See NASSP and National High School Alliance.
- <sup>75</sup> See Pathways to College Network, Achieve/NGA, and The Education Trust.
- <sup>76</sup> See National High School Alliance, SREB, Alliance for Excellent Education.
- <sup>77</sup> Comprehensive School Reform Quality Center (CSRQC). (2005, January). *Works in progress: A report on middle and high school improvement programs*. Washington, DC: American Institutes of Research, p. 46.
- <sup>78</sup> National Research Council and the Institute of Medicine (2004). *Engaging schools: Fostering high school students' motivation to learn*. Committee on Increasing High School Students' Engagement and Motivation to Learn. Board on Children, Youth, and Families, Division of Behavioral and Social Sciences and Education. Washington, DC: The National Academies Press, p. 65.
- <sup>79</sup> Ibid., p. 80.
- <sup>80</sup> See CSRQC (2005).
- <sup>81</sup> See CDE, NASSP, AYPF, National High School Alliance.
- <sup>82</sup> See National High School Alliance, SREB, Pathways to College Network.
- <sup>83</sup> CSRQC (2005), p. 44.
- <sup>84</sup> The Bridge Project surveyed students in six states and found less than 12 percent knew which courses were necessary for admission to their public institutions of higher education. Barth, P. (2003), citing Venezia, A., Kirst, M., & Antonio, A. (2003, March). *Betraying the college dream: How disconnected K-12 and postsecondary education systems undermine student aspirations*. Stanford, CA: Stanford University's Bridge Project.
- <sup>85</sup> See National High School Alliance, Pathways to College Network, LAO.
- <sup>86</sup> See Pathways to College Network, SREB.
- <sup>87</sup> See NASSP, National High School Alliance, SREB.
- <sup>88</sup> National High School Alliance, p. 9.
- <sup>89</sup> The Bill & Melinda Gates Foundation. (2004). *High schools for the new millennium: Imagine the possibilities* (Gates Education Policy Paper), p. 3, citing S. Frakas & J. Johnson (1997), *Public agenda*.
- <sup>90</sup> See National High School Alliance, National Association of Secondary School Principals.

- <sup>91</sup> See National High School Alliance, Pathways to College Network, American Youth Policy Forum.
- <sup>92</sup> See Achieve/NGA, National High School Alliance, Gates, The Education Trust, NASSP.
- <sup>93</sup> Cotton, K. (2001). *New small learning communities: Findings from recent literature*. Portland, OR: Northwest Regional Educational Laboratory.
- <sup>94</sup> Darling-Hammond, L. (2002). *Large to small high school redesign: Small LEARNING community continuum*. Stanford, CA: School Redesign Network at Stanford University.
- <sup>95</sup> Cotton, K. (2001).
- <sup>96</sup> Darling-Hammond, L. (2002). Reinventing high school: Outcomes of the Coalition Campus Schools Project. *American Educational Research Journal*, 39(3), 639–673.
- <sup>97</sup> Smerdon, B., & Means, B. (2004). *The National School District and Network Grants Program year 2 evaluation report*. Washington, DC: The American Institutes for Research; Menlo Park, CA: SRI International.
- <sup>98</sup> For greater detail see:
- Cotton, K. (2001). This synthesis of research on smaller learning communities finds that in addition to small size, effective high schools shared several factors. Their research points to the importance of: self-determination — such as autonomy of the small school or community, distinctiveness, self-selection of teachers and students, and flexible scheduling; a clear mission and vision and focus for the school; personalization as demonstrated by knowing students well, heterogeneous grouping, and/or looping; support for teaching through strategies such as visionary leadership, shared decision-making, professional development and collaboration, integrated curriculum/teaching teams, and a large repertoire of instructional strategies; and functional accountability as exhibited by multiple forms of assessment, accountability, and credibility with stakeholders, and support by the school district administration, board, and legislature.
  - Darling-Hammond, L. (2002). *Redesigning high schools: What matters and what works*. Stanford, CA: School Redesign Network at Stanford University. This study concludes that small size is a contributing factor to school success, but not the only necessary factor. Schools that incorporate more personalizing features and ambitious instructional goals and approaches produce greater benefits. Her research highlights the importance of ten factors for successful high school redesign: Personalization; continuous relationships; standards and performance assessments; authentic curriculum; adaptive pedagogy; multicultural and anti-racist teaching; qualified teachers; collaboration and development; family/community connections; and democratic decision-making.
- <sup>99</sup> Smerdon & Means (2004).
- <sup>100</sup> Ibid., p. 43.
- <sup>101</sup> Ingersoll, R. M. (2003). *Out-of-field teaching and the limits of teacher policy*. Seattle, WA: University of Washington, Center for the Study of Teaching and Policy, p. 17.
- <sup>102</sup> Smerdon & Means, p. 4.
- <sup>103</sup> See, for example, Stiefel, L., Berne, R., Iatarola, P., & Fruchter, N. (2000). High school size: Effects on budgets and performance in New York City. *Educational Evaluation and Policy Analysis*, 22(1), 27–39.
- <sup>104</sup> Roza, M., & Swartz, C. (2004). *Lessons on assessing the costs of small schools: Evidence from Denver*. Seattle, WA: University of Washington, Center on Reinventing Public Education, p. 3.
- <sup>105</sup> Smerdon & Means, p. 4.
- <sup>106</sup> Hawley-Miles, K., & Darling-Hammond, L. (1997). *Rethinking the allocation of teaching resources: Some lessons from high performing schools*. Philadelphia, PA: Consortium for Policy Research in Education, University of Pennsylvania.
- <sup>107</sup> Ibid.
- <sup>108</sup> Silverberg et al. (2004). *National assessment of vocational education: Final report to Congress*. Washington, DC: U.S. Department of Education, Office of the Under Secretary, Policy and Program Studies Service.
- <sup>109</sup> See SREB, American Youth Policy Forum, Jobs for the Future, LAO.
- <sup>110</sup> Kazis, R. (2005, April). *Remaking career and technical education for the 21<sup>st</sup> century: What role for high school programs?* Washington, DC: Jobs for the Future and the Aspen Institute.
- <sup>111</sup> Silverberg et al. (2004).
- <sup>112</sup> Neumark, D. (2004). *The effects of school-to-career programs on postsecondary enrollment and employment*. San Francisco: Public Policy Institute of California.
- <sup>113</sup> Kemple, J. (2004, March). *Career academies: Impacts on labor market outcomes and educational attainment*. New York: Manpower Research Demonstration Corporation, Overview, p. 1.
- <sup>114</sup> Silverberg et al. (2004).
- <sup>115</sup> Kazis (2005).
- <sup>116</sup> Brand, B. (2003). *Rigor and relevance: A new vision for career and technical education, a white paper*. Washington, DC: American Youth Policy Forum. For additional descriptions of innovative STC programs that have proven successful over time, see Pedraza, R. A., Pauly, E., & Kopp, H. (1997). *Home-grown progress: The evolution of innovative school-to-work programs*. New York: MDRC.
- <sup>117</sup> See Jobs for the Future, American Youth Policy Forum, SREB.
- <sup>118</sup> See Gates Foundation, AYPF, NASSP.
- <sup>119</sup> Odden, A. (2000, February 1). The costs of sustaining educational change through comprehensive school reform. *Phi Delta Kappan*, 6(81), 433.
- <sup>120</sup> Voke, H., & Brand, B. (2003). *Finance and resource issues in high school reform*. Washington, DC: American Youth Policy Forum, pp iii-iv.



WestEd®

*Excellence in research, development, & service*