

## Chapter 1

# INTRODUCTION

*“Multiple pathways are an important option for transforming our high schools in order to close the achievement gap and prepare all students for success in the global economy of the 21<sup>st</sup> century.”*

*State Superintendent of Public Instruction Jack O’Connell*

Today’s increasingly competitive global economy demands that we prepare all students to be critical thinkers, high-level problem solvers, and lifelong learners. Multiple pathways is an approach designed to ensure that more students graduate from high school prepared to take advantage of postsecondary educational and career opportunities without the need for remediation. Multiple pathways are multi-year programs that offer high school students four key components: an integrated core academic curriculum; an integrated core technical curriculum; a series of work-based learning opportunities; and student support services. The California Legislature, recognizing the importance of the multiple pathways approach, enacted Assembly Bill (AB) 2648 (Bass), which called for a report from the State Superintendent of Public Instruction to look at the feasibility of establishing and expanding multiple pathways programs in California.

Superintendent O’Connell has noted, “Multiple pathways can offer an exciting opportunity to transform the high school experience and offer students more academic rigor, curriculum that is relevant to the real world, and relationships with caring adults, leading to more students who are college- and career-ready at the end of high school” (California Department of Education [CDE], 2009).

To get input about the viability and costs of implementing multiple pathways statewide, the State Superintendent has sought information and feedback from a wide range of stakeholders, including representatives from state agencies, postsecondary education, kindergarten through grade twelve (K-12) education, teacher and administrator organizations, business, community leaders, parents, and researchers. Based on the interviews, focus groups, literature review, and survey results of this field study, it is clear that there is a debate in California, as well as across the country, about the best ways to improve high schools. Among stakeholder groups and organizations, however, there appears to be a growing consensus that:

- California is not succeeding in preparing students for ongoing education and employment in the 21<sup>st</sup> century.
- California needs a stronger unifying vision of the purposes of high school in preparing graduates for ongoing education<sup>1</sup> and family-wage career opportunities.<sup>2</sup>

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<sup>1</sup> Not all high school graduates need to attend college or university, but to earn a middle-class salary, they need to be prepared for ongoing education or training of some kind. This report uses the terms “ongoing education,” “next-level education,” “education beyond high school,” “further education,” and “postsecondary education” to refer to the full range of public and private education and training programs beyond the high school level, including but not

A statewide multiple pathways approach — partly because it seeks to integrate academic and technical education — can play a role in helping to inform and exemplify a statewide vision for student success. Currently, California is preparing to compete for federal American Recovery and Reinvestment Act Race to the Top (RTTT) funds. California’s RTTT application will demonstrate the state’s capacity to move forward with improving the K-12 education system. The multiple pathways approach holds real promise for helping to turn around California’s high schools and preparing students for the challenges of the 21<sup>st</sup> century. With implementation of multiple pathways as a key feature of California’s RTTT effort, helping districts and schools implement multiple pathways could be part of what Superintendent O’Connell has called “bold and far-reaching structural reform of our nation’s K-12 public education system.”

## Background

The multiple pathways approach is a next step for improving California’s high schools, based on efforts that started in 1992 when the California Department of Education released *Second to None: A Vision of the New California High School*. That report called for “a strong academic foundation in the first two years of high school and demanding, yet flexible, program majors for students in grades eleven and twelve” (CDE, 1992, p. 6). Although this vision led to some progress in high school reform, the continuing need to improve student achievement spurred the development and release ten years later of *Aiming High: High Schools for the 21<sup>st</sup> Century*. *Aiming High*, built on the legacy of *Second to None*, was designed to help schools produce graduates with higher levels of achievement and skills based on the state’s standards and accountability system.

During the years since the release of *Aiming High*, Superintendent O’Connell has spearheaded a number of high school improvement efforts, stating: “We simply must concentrate attention on our high schools – not to disparage the work of the thousands of teachers and administrators who educate our teens, but to give high schools the same types of focused, comprehensive assistance we have given our elementary and middle schools”<sup>3</sup> (CDE, 2005). Demonstrating his commitment to improving high schools and outcomes for high school students, the Superintendent has sponsored the High Performing High Schools Initiative to boost high school achievement, implementation of the California High School Exit Examination, and the Closing the Achievement Gap initiative. In addition, California has also developed standards and a curriculum framework for career technical education and has expanded the criteria for the California Distinguished Schools Program to include special recognition for high schools with outstanding programs in career technical education.

The multiple pathways approach is not new. California does have successful programs in place that reflect the goals of the multiple pathways approach, such as the state’s Partnership Academies, and Superintendent O’Connell has sponsored legislation to expand this program. He noted, “Partnership Academies combine rigorous academics with a career focus and are proven

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limited to, technical training programs, military training and education programs, community college programs, technical colleges, four-year colleges, and universities.

<sup>2</sup> By family-wage career opportunities, this report is referring to high-skill, high-wage employment.

<sup>3</sup> For further information on middle grades education in California, visit <http://pubs.cde.ca.gov/tcsji>

to have a dramatic positive impact on students who participate. Research shows that students stay engaged in school when they are connected with caring adults and when they can see the real-world relevance of the skills they are learning. That’s why California Partnership Academies are so successful, even for students at risk of academic failure or dropping out of schools.”

Philanthropy has also recognized the success and promise of these kinds of programs in engaging students and preparing them for future options. In recent years The James Irvine Foundation has played a pivotal role in promoting the expansion of multiple pathways programs in California. In 2006, the Foundation established ConnectEd: The California Center for College and Career, dedicated to advancing practice, policy, and research aimed at helping young people prepare for both college and career through multiple pathways. It is also supporting a district initiative, together with an in-depth evaluation process, teacher preparation programs, and other activities to promote and learn from multiple pathways implementation.

California is not alone in its efforts to address improvements in secondary schools. Transforming high schools, and preparing more students for success in postsecondary educational and career pursuits is a national issue. The statistics for persistently high dropout rates, and low student achievement, including a troubling achievement gap, point to a national crisis in secondary education. Across the country, policy makers and educators are grappling with the issue of how to improve our secondary schools and better prepare young people for life and work in the 21<sup>st</sup> century.

One of the key challenges is that the world of work is changing rapidly — as it has been for at least two decades. This transformation involves new positions, fields, and enterprises, as well as new responsibilities in existing positions and fields.

The evolution of automobile electronics has transformed many visible, mechanical components into opaque electronic modules. As a result, a mechanic can no longer function without the ability to read, to work with computerized testing equipment and to construct mental models of a problem (Levy & Murnane, 2005).

This ratcheting up of job skills is even more common in technological, communications, and other industries prevalent in California. State business leaders consistently report that they need a pipeline of prospective entry-level employees who can read, write, solve problems, communicate with others, think critically, and be responsible for their work (Tulchin & Muehlenkamp, 2007; de Cos et al., 2009). Other organizations echo these concerns. The Partnership for 21<sup>st</sup> Century Skills has highlighted a wide range of high-level skills important in the fastest growing job sectors, including adaptability to changing duties, collaboration and shared responsibility with multiple partners, and information and media literacy (<http://www.21stcenturyskills.org>). It is not that employers in California expect high schools to prepare students for specific positions in industry. Rather, they expect high schools to provide students with higher-level skills than they have now.

Meanwhile, California high school students learn about career and ongoing educational options in various ways, depending largely on their own awareness and interests, the guidance they receive in school, and the involvement of their parents. While these information sources vary

widely, those students who have traditionally been underserved by postsecondary education (for example, those from low-income families and some ethnic groups) are likely to receive the least information and guidance. Across all groups, many high school students know little about what it takes to succeed in education and careers beyond high school. Many believe that by graduating from high school, they have fulfilled the requirements for the next level of education. What they learn when they enroll in community college or one of California's universities, however, is that they must pass placement tests in key subject areas to enroll in credit-bearing courses, and too often they have difficulty with these assessments (Venezia, Kirst, & Antonio, 2003).

## How Are California High Schools Doing in Preparing Students?

Bill Gates' comments in February 2005 about American high schools generally are also valid for California:

America's high schools are obsolete. . . . Today, only one-third of our students graduate from high school ready for college, work, and citizenship. The other two-thirds, most of them low-income and minority students, are tracked into courses that won't ever get them ready for college or prepare them for a family-wage job — no matter how well the students learn or the teachers teach. . . . This isn't an accident or a flaw in the system; it is the system. . . .

The heart of the economic argument for better high schools . . . essentially says: "We'd better do something about these kids not getting an education, because it's hurting us." But there's also a moral argument for better high schools, and it says: "We'd better do something about these kids not getting an education, because it's hurting them" (Gates, 2005).

Currently, the requirements for high school graduation as defined in *Education Code* fall well below the levels needed for success in ongoing education and careers. Graduation requirements feature substantial seat time in lower-level courses and passing the high school exit exam, which is set at a tenth-grade level for English-language arts and even lower for mathematics.<sup>3</sup> As the following evidence suggests, many high school graduates embarking on the next stage of their lives find that they have not gained the skills they need to qualify for either postsecondary school education or family-wage career paths.

**High dropout rates.** In examining California's effectiveness in preparing high school students for 21<sup>st</sup> century education and careers, the first litmus test involves a close look at dropout rates. The results are disheartening. Between one-fourth and one-third of all students fail to graduate from California public high schools.<sup>4</sup> Close to one million Californians ages 18 to 24 do not have a high school diploma (Center for Student Success of the Research and Planning Group for California Community Colleges [RP Group], 2005). Further, a significant percentage of students

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<sup>3</sup> The mathematics section of the CAHSEE addresses state standards in grades six and seven and Algebra I.

<sup>4</sup> The statistic varies depending on the way that dropout rates are calculated. The basic completion ratio graduation rate, which compares ninth grade enrollment to the number of students who graduated, found that only 70.7 percent of California students from the class of 2004 graduated from high school. This basic completion method yields a high school dropout rate of nearly 30 percent.

drop out as early as ninth grade. The eighth to ninth grade transition year is considered to be a particularly vulnerable time for students (Berliner & Brodie, 2007). In addition, even those who do not drop out until eleventh or twelfth grade lose interest well before then. In one study, 71 percent of the students who dropped out said they had lost interest in school in the ninth and tenth grades. Nationally, much of the dropping out of school has shifted from the last two years of high school, typical of three decades ago, to between ninth and tenth grades today (Bridgeland, DiIulio, & Morison, 2006).

**Poor preparation for higher education.** In examining how well high schools are doing, it is important to identify what happens to high school students once they enroll in college or training programs — and these results are also disconcerting. A survey of placement test results in California indicates that 70 percent of community college students place in remedial-level mathematics, and 42 percent place in remedial-level English (RP Group, 2005). The most recent (fall 2006) results of California State University’s (CSU) Early Assessment Program indicate that even students eligible for CSU needed remediation, as only about 63 percent of entering freshmen were proficient in mathematics, and 54 percent were proficient in English (CSU, Sacramento, n.d.). According to the American College Test, the proportion of tested graduating seniors in California who are “college ready” across English, algebra, social science, and biology stands at about 29 percent for the class of 2009 (ACT, 2009).

**Poor preparation for careers.** As a third lens on how well high schools are doing, California high school graduates do not appear to be career-ready. According to a statewide survey, only one in five business executives think that schools are doing an excellent or good job in teaching reading or mathematics, and less than one in ten think that schools are doing an excellent or good job in teaching communication or problem-solving skills. About one in 20 believes that schools are doing an excellent or good job in teaching individual responsibility or good work ethics (Tulchin & Muehlenkamp, 2007). In a separate California survey, only three percent of employers said that high schools are preparing students “very well” for employment, while about half responded that high schools are preparing students “inadequately” (31 percent) or are “not preparing students at all” (16 percent) (de Cos, 2009). Two of the overall themes that surfaced from this survey include the following: (1) “Students do not have the necessary skills to perform the work,” and (2) “While the nature of jobs has changed, the educational system has not” (de Cos et al., 2009).

**Persistent gaps in achievement.** Finally, in studying how well high schools are performing, it is important to examine the achievement of student subgroups. For example, African American and Latino high school students are roughly two to three years of learning behind their white peers. In addition, African American and Latino students are also at higher risk of dropping out than their peers (de Cos, 2005). The achievement gap for Latino students is particularly worrisome for California’s future, because this population is growing faster than most other ethnic groups.

### **The Need for a Statewide Vision and the Potential Role of Multiple Pathways**

Although California has implemented a number of efforts to spur high school improvement, it must continue to develop an overall unifying vision of what a high school education means and what it provides to graduates — that is, the skills and knowledge that prepare students for

ongoing education and family-wage careers. The California State Plan for Career Technical Education acknowledges that “there is still no widespread consensus among educators-at-large regarding the knowledge and skills — beyond minimum literacy and mathematics — that all students should have by the time they graduate from high school” (CDE and California Community Colleges Chancellor’s Office [CCCCO], 2008, p. 78).<sup>5</sup> In addition, the state CTE plan calls for the establishment of:

a common understanding of essential skills among all stakeholders, including both CTE and non-CTE educators at the K-12, adult school, community college level, parents, industry, and community members. Essential skills include transferable skills that all individuals need in order to navigate through life and multiple career changes, such as learning and thinking skills, life skills, innovation and creativity, entrepreneurship, and “21<sup>st</sup> century content,” in addition to other employability and career management skills (CDE & CCCCCO, 2008, p. 78).

The purpose of such an overall vision does not call for mandating student adherence to it — but rather shifting the default approach away from seat time and minimum expectations toward curricular programs and instructional practices that provide students with the foundational skills they need to succeed. The adoption of such a vision can have a galvanizing effect at the regional, district, and school levels. At the state level, it can assist in aligning a wide range of policies and practices spanning K-12 and postsecondary education — so as to better support student progress within and across systems.

A wide range of organizations has already come together to promote such a vision of success for all students. The Coalition for Multiple Pathways, established in May 2008, is an alliance of educators, policy makers, industry, and community stakeholders. The group has committed to expanding multiple pathways programs statewide to achieve this vision.

This report — in examining the means and conditions needed for expanding multiple pathways statewide — explores the ways in which this approach might fulfill the state’s overall need for a more cohesive vision of high school education. As Chapter 2 defines in greater detail, a multiple pathways approach is not a “one-size-fits-all” model for how students learn or how schools and districts structure their programs. Rather, there are many variations. The chapter goes on to examine existing evidence about the effectiveness of multiple pathways programs to date.

Beginning with Chapter 3, the report examines core areas of implementation (including curriculum and instruction, applied and work-based learning, and in-school support); core linkages (including alignment with middle schools and with postsecondary education, and linkages with regional coalitions); and internal and external levers for change (including professional development and accountability). A final chapter on taking action focuses on state leadership, examines cost and budgetary implications, and provides a timeline.

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<sup>5</sup> Even the national efforts by the National Governors Association and the Council of Chief State School Officers to develop common core standards across states, which California has pledged to participate in, are focused only on mathematics and English-language arts.

## REFERENCES

- American College Test. (2009). *ACT profile report – state, graduating class 2009, California*. Iowa City: Author. Retrieved August 18, 2009 from <http://www.act.org/news/data/09/pdf/states/California.pdf>
- Berliner, B. & Brodie, E. (2007). *The dropout challenge*. San Francisco: Regional Educational Labs-West and WestEd.
- Bridgeland, J.M., DiIulio Jr., J. J., & Morison, K. B. (2006). *The silent epidemic: Perspectives of high school dropouts*. Washington, D.C.: Civic Enterprises in association with Peter D. Hart Research Associates for the Bill & Melinda Gates Foundation.
- California Department of Education. (1992). *Second to none*. Sacramento: Author.
- California Department of Education. (2005). *High performing high schools initiative: A white paper on improving student achievement in California's high schools*. Sacramento: Author.
- California Department of Education. (April 15, 2009). State Schools Chief Jack O'Connell Launches Development of Career Multiple Pathways Feasibility Report. *California Department of Education Press Release*. Retrieved October 15, 2009 from <http://www.cde.ca.gov/nr/ne/yr09/yr09rel154.asp>
- California Department of Education & California Community Colleges Chancellor's Office. (2008). *California state plan for career technical education*. Sacramento: California Department of Education.
- California State University, Sacramento. (n.d.). Proficiency Reports of Students Entering the California State University System. California State University, Analytic Studies. Retrieved October 18, 2009 from The California State University website: <http://www.asd.calstate.edu/performance/proficiency.shtml>
- Center for Student Success of the Research and Planning Group for California Community Colleges. (2005). *Environmental scan: A summary of key issues facing California community colleges pertinent to the strategic planning process*. Sacramento: Author. Retrieved on June 15, 2007, from [http://www.eric.ed.gov/ERICDocs/data/ericdocs2sql/content\\_storage\\_01/0000019b/80/28/07/e9.pdf](http://www.eric.ed.gov/ERICDocs/data/ericdocs2sql/content_storage_01/0000019b/80/28/07/e9.pdf)
- de Cos, P.L. (2005). *High school dropouts, enrollment, and graduation rates in California*. Sacramento: California Research Bureau. Retrieved from <http://www.library.ca.gov/crb/05/08/05-008.pdf>
- de Cos, P. L. (2009). *The careers project: Survey of representatives of business and industry in California*. Sacramento: California Research Bureau.
- de Cos, P. L., Chan, J., & Salling, K. (2009). *The careers project: A summary with policy options*. Sacramento: California Research Bureau.
- Gates, B. (2005, February). Bill Gates' prepared remarks for the National Governors Association/Achievement Summit, Washington D.C. Retrieved September 26, 2009 from <http://www.nga.org/cda/files/es05gates.pdf>
- Levy, F. & Murnane, R. J. (2005). *How computerized work and globalization shape human skill demands*. This paper was prepared for the Planning Meeting on 21st Century Skills, National Academy of Sciences, Washington, D.C. Retrieved September 5, 2009 from [http://www7.nationalacademies.org/CFE/Educ\\_21st\\_Century\\_Skills\\_Levy\\_Paper.pdf](http://www7.nationalacademies.org/CFE/Educ_21st_Century_Skills_Levy_Paper.pdf)
- Tulchin, B. & Muehlenkamp, K. (2007). *Survey results on education among California business leaders*. San Francisco: Greenberg Quinlan Rosner Research. Retrieved August 27, 2009 from <http://www.cfcepolicy.org/NR/rdonlyres/CFCE06m3ltr1.pdf>
- Venezia, A., Kirst, M. W., & Antonio, A. L. (2003). *Betraying the college dream*. Stanford, CA: Stanford Institute for Higher Education Research.