

# Multiple Pathways to Student Success

EXECUTIVE SUMMARY

Envisioning the  
New California  
High School



A Report to the Legislature and Governor  
Pursuant to Chapter 681, Statutes of 2008

California Department of Education  
Sacramento, 2010

# Multiple Pathways to Student Success

Envisioning the New California High School

---

*Executive Summary*

A Report to the Legislature and Governor Pursuant  
to Chapter 681, Statutes of 2008

---

Jack O'Connell, State Superintendent of Public Instruction  
California Department of Education

*Multiple Pathways to Student Success: Envisioning the New California High School* was supported by the Carl D. Perkins Career and Technical Education Improvement Act of 2006 grant funds and by the California Department of Education. *Multiple Pathways to Student Success* was also supported by a grant from The James Irvine Foundation.

The activity that is the subject of this report was supported in whole or in part by the U.S. Department of Education. However, the opinions expressed herein do not necessarily reflect the position or policy of the U.S. Department of Education, and no official endorsement should be inferred.

No person shall, on the grounds of sex, race, color, national origin, or handicap, be excluded from participation in, be denied the benefits of, or be subject to discrimination under this project.

This document is available in print and electronic file format. A CD of the full report is also included on the inside of the back cover of this Executive Summary. For additional copies or information regarding *Multiple Pathways to Student Success*, please contact the California Department of Education at <http://www.cde.ca.gov>.

© 2010 by the California Department of Education.  
All rights reserved.



# Contents

A Message from the State Superintendent of Public Instruction.....	iv
Acknowledgments.....	vi
I. Introduction.....	1
Structure of the Executive Summary and the Full Report.....	2
Background and Challenges.....	2
How Are California High Schools Doing in Preparing Students? .....	5
II. The Multiple Pathways Approach.....	7
Core Components of Each Pathway .....	8
Essential Characteristics of High-Quality Programs .....	9
Wide Latitude in Design Options .....	11
What Do We Know About the Effectiveness of the Multiple Pathways Approach?..	13
III. Recommendations.....	15
Background of Recommendations.....	15
Recommendation Criteria.....	16
A Vision for California High Schools.....	17
Policy Recommendations.....	19
IV. Proposed 2010-2011 Agenda for Immediate Action.....	27
Action Item 1: Establish a Multiple Pathways Advisory Board and Establish the Multiple Pathways Approach as Foundational to High School Improvement.....	27
Action Item 2: Establish a Transformational High Schools Pilot Program.....	28
Action Item 3: Consolidate Career Technical Education.....	29
V. Conclusion.....	30
VI. References.....	31
VII. Stakeholders.....	33

# A Message from the State Superintendent of Public Instruction

California is at a critical crossroads in terms of the challenges it faces in reforming its public high school system. Amid extensive ongoing discussion in state policy forums, there continues to be persistent pressure for the state to lead efforts to improve graduation rates, close achievement and opportunity gaps, and prepare all students for success in pursuing both “living-wage” careers and a variety of postsecondary learning experiences. The task before us is an enormous and difficult one, and it is clear that we must embrace new, innovative approaches to educational transformation that are likely to lead to highly successful outcomes for our students, families, and communities.

California has long been a national leader in the development of rigorous, comprehensive standards and curriculum frameworks as the foundation for our educational programs, and our state is once again leading the nation with the publication of this report on the feasibility of implementing and expanding the multiple pathway approach in California’s public high schools. Pathways in this approach that effectively integrate both academic and career technical content, problem-based instructional strategies, work-based learning opportunities, and support services have the potential to transform our state’s public high schools into twenty-first century learning centers that effectively prepare all students to pursue multiple options beyond high school graduation. Toward that end, the California Department of Education is pleased to provide in this report a compendium of research, analysis, and policy recommendations on a host of topics related to the multiple pathways approach in particular and to high school transformation in general.

Transformation of our high schools requires a vision of success for our public school system, a solid policy foundation, and the development of strategies that can help all students prepare for and be ready to pursue multiple options beyond high school. In addition to this vision, the policy recommendations in this report provide a foundation for the future. With the adoption of these recommendations by the Legislature, our schools and districts can begin to create and sustain the effective strategies needed to implement a new approach to high school education that will benefit our youth, our communities, and our economy.

I appreciate the leadership of former Assembly Speaker Karen Bass; Senate President pro Tempore Darrell Steinberg; State Senator Loni Hancock; Assembly Members Wilmer Amina Carter, Mike Eng, Warren Furutani, and Anthony Portantino; and former Assembly Member Patty Berg in supporting the exploration of multiple pathways as a school improvement strategy. These individuals authored Assembly Bill 2648 in 2008 that led to this report.

I also want to acknowledge that the multiple pathways approach owes much to philanthropic, education, and civic groups that recognize the success and promise of these kinds of programs in engaging students and preparing them for future options. In recent years, the multiple pathways approach has been significantly advanced thanks to the efforts of The James Irvine Foundation; ConnectEd: The California Center for College and Career; the Los Angeles Chamber of Commerce; and the Linked Learning Alliance, an alliance of more than 140 representatives of education, industry, and community organizations and other individuals seeking to improve California's high schools.

Collectively and individually, these entities, in concert with many others, have played a pivotal role in promoting the expansion of the multiple pathways approach in California. Their foresight and contributions to improve California's high schools are deeply appreciated.

The multiple pathways approach is one of the most promising high school transformational strategies we have seen in decades, and it can certainly be expanded on a statewide basis to play an even more pivotal role in enabling all our students to be well-prepared for life in a twenty-first century global economy and society. Please join me in pursuing this vision for the future of California's high school system.

**Jack O'Connell**

State Superintendent of Public Instruction



# Acknowledgments

The California State Superintendent of Public Instruction's Assembly Bill (AB) 2648 report, *Multiple Pathways to Student Success*, is a first-in-the-nation publication on the feasibility of expanding the multiple pathways approach statewide. With the legislative enactment of AB 2648, California becomes the first state to codify an explicit definition of this promising high school reform approach. The approach incorporates four components: an integrated, multi-year high school program with an academic core; a career technical core; a work-based learning component; and support services.

This report to the Legislature and the Governor grounds its feasibility analysis in research on the development and educational needs of young adults and the challenges California's high schools face. Above all, it examines the practices effective schools employ to engage students in learning, increase graduation rates, close achievement and opportunity gaps, and prepare all students for success beyond high school – in both their postsecondary learning experiences and their future careers. The report also includes policy recommendations that were formulated based on extensive input received from dozens of individuals and organizations with an interest in the multiple pathways approach. Of special importance are the many stakeholders identified in AB 2648 with whom the State Superintendent consulted throughout the report's development (see Stakeholders, page 33).

This report was developed for the State Superintendent by staff from the Secondary, Career, and Adult Leadership Division and the P–16 Division, California Department of Education (CDE), under the direction of Deputy Superintendent Deb V.H. Sigman, Deputy Superintendent Cindy Cunningham, former Deputy Superintendent Rick Miller, and Assistant Superintendent Patrick Ainsworth. The AB 2648 team included the following CDE staff: Keith Edmonds, Penni Hansen, Lloyd McCabe, Charles Parker, Joseph Radding, and Chris Reeve. Other CDE staff from many divisions also participated in reviews of draft chapters and policy recommendations, and provided many helpful comments and suggestions.

This report reflects an extensive volume of research, analysis, and writing performed by a team from WestEd under the direction of Fred Tempes, principal investigator; Svetlana Darche and Rose Owens-West, co-project directors; Janice Lowen Agee, editor; Teresa Maldonado, research assistant; and Scott Sargent, program coordinator. The CDE also acknowledges the assistance provided by David Rattray and Chelsey Rask of the Los Angeles Area Chamber of Commerce.

The federal Carl D. Perkins Career and Technical Education Improvement Act of 2006 provided funding to prepare this report. The CDE gratefully acknowledges the generous contributions of The James Irvine Foundation, which also provided funding, and in this regard, the CDE appreciates the efforts of Anne B. Stanton, program director, The James Irvine Foundation.

# I. Introduction

California must significantly improve secondary education because today's increasingly competitive global economy demands that we prepare all students to be critical thinkers, high-level problem solvers, and lifelong learners. To address this demand, it is imperative for California to establish a new vision for its California high schools that combines both transformative new approaches as well as strengthened and expanded existing programs. In particular, the multiple pathways approach has been identified as one of the most promising models for high school transformation.

As a systemic districtwide high school transformation initiative, the multiple pathways approach is intentionally 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.<sup>1</sup> Within a district's multiple pathways system are individual pathways that each offer high school students four key components: an integrated core academic curriculum; an integrated core career 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 2648 (Bass), which called for a report from the State Superintendent of Public Instruction (SSPI) to explore the feasibility of establishing and expanding the multiple pathways approach in California.<sup>2</sup>

To develop the report *Multiple Pathways to Student Success: Envisioning the New California High School*, the State Superintendent has sought information and feedback from a wide range of stakeholders, including representatives from state agencies, postsecondary education institutions, kindergarten through grade twelve (K-12) education, teacher and administrator organizations, businesses, community leaders, parents, students, 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 under way 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 twenty-first century.

---

1 Postsecondary and career in this document incorporate the full range of postsecondary educational options, including four-year universities, community college, apprenticeship, specialized career training, and the military.

2 Some educators now prefer the name "linked learning." To be consistent with the legislation, this report uses the original terminology in the legislation: multiple pathways.



- » California needs a stronger unifying vision of the purposes of high school in preparing graduates for ongoing education<sup>3</sup> and career opportunities.

Implementation of the multiple pathways approach statewide – partly because it seeks to integrate academic and career technical education – can help inform and exemplify a statewide vision for student success.

## Structure of the Executive Summary and the Full Report

This *Executive Summary for Multiple Pathways to Student Success: Envisioning the New California High School* summarizes the need to improve high school education as part of an overall strategy for expanding the multiple pathways approach statewide, and improving high school education. Section II of this *Executive Summary* explains that the 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. Section III makes recommendations that provide a bold vision for transforming the state’s high schools and further enabling the implementation of the multiple pathways approach, and Section IV provides an action agenda for implementation during 2010 and 2011.

The full report, *Multiple Pathways to Student Success: Envisioning the New California High School*, includes a wealth of additional information on the multiple pathways approach. It examines, in detail, the core areas of implementation (including curriculum and instruction, applied and work-based learning, and in-school support); core linkages (including alignment with middle grades and with postsecondary education, and linkages with partners and regional coalitions); and internal and external levers for change (including professional development and accountability). Final chapters focus on state leadership and examine cost and budgetary implications of implementing the multiple pathways approach to high school transformation. The full report is available at <http://www.cde.ca.gov>.

## Background and Challenges

The multiple pathways approach is a next step for improving California’s high schools and builds upon the SSPI’s High Performing High Schools Initiative to boost high school

---

3 Not all high school graduates will choose to attend college or university, but to earn a self-sustaining income, they will need to be prepared for ongoing education or training of some kind. *Multiple Pathways to Student Success* uses the terms “ongoing education,” “education beyond high school,” 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 limited to, career technical training programs, military training and education programs, community college programs, career technical colleges, four-year colleges, and universities.

achievement, the creation of the California High School Exit Examination (CAHSEE), and the SSPI's Closing the Achievement Gap initiative. In addition, California has also developed standards and a curriculum framework for career technical education (CTE) 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 478 California Partnership Academies (CPAs). Partnership Academies are an example of a pathway approach combining academics with a career focus that appears to have a positive impact on students who participate. CPAs engage students in a system of integrated academic and career technical course work that is rigorous and project-based, relevant, and engaging; and also connects students, faculty, and business leaders in new productive relationships. While CPAs have proven to be a successful strategy, the number of students enrolled in CPAs represents less than 3 percent of the nearly two million high school students enrolled in California's high schools.

Other initiatives that have fostered the multiple pathways approach to transform high schools to increase student's success have been supported and developed by The James Irvine Foundation, which has provided critical support for promoting quality pathways. The James Irvine Foundation supported the development of a research base for the multiple pathways approach and founded ConnectEd: The California Center for College and Career in 2006 to provide an anchor institution that could focus on supporting quality implementation and expansion of this effort. With additional support from The James Irvine Foundation, ConnectEd launched a district initiative that provides planning and implementation grants and technical assistance to ten school districts. At the time of this report, ConnectEd had awarded six implementation grants and four continued planning and development grants.

In tandem with these targeted efforts, a diverse coalition of more than 140 representatives of education, industry, community, philanthropic organizations, and other individuals seeking to improve California's high schools and prepare students for postsecondary education and careers has come together to support this vision for transforming high schools. Through the statewide Linked Learning Alliance, this broad array of stakeholders shares strategies, provides a unified voice, and maintains a concerted effort to sustain this transformative work. It is expected that the Alliance will continue to bring a collective voice and coordinated effort in expanding student access to pathways in California.

One of the key challenges in our secondary schools is to adequately prepare students to effectively meet the challenges of postsecondary education and careers. 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 particularly important 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, Chan, & Salling, 2009). Other organizations echo these concerns. The Partnership for 21st Century Skills has highlighted a wide range of high-level skills that are important in the fastest growing job sectors. These skills include critical thinking and problem solving, excellent communication, collaboration, and creativity and innovation skills (<http://www.21stcenturyskills.org>).

While some California employers expect high schools to prepare students for specific positions in industry – with industry certifications, in addition to basic career technical and academic skills – many employers expect high schools to provide students with strong basic academic and career readiness skills that will allow them to pursue further education or training and to adapt quickly to the changing demands of the workplace (Executive Office of the President, 2009).

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, students who have been underserved by postsecondary education 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. Simply graduating from high school may lead students to believe that 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?

Several major issues emerged from the research conducted for this report, which the multiple pathways approach is intended to address:

**High school graduation requirements.** Currently, the requirements for high school graduation, as defined in the California *Education Code*, do not meet actual admission requirements of many postsecondary educational institutions. The California *Education Code* allows school districts to enact graduation requirements that exceed those required by the state, and many districts have done so. Passing the CAHSEE is also a requirement for high school graduation in California, and it is set at a tenth-grade level for English-language arts and at a level no more advanced than Algebra I for mathematics.<sup>4</sup>

**Rigorous and relevant coursework.** Students are not required to complete any coursework that connects academics to the world beyond school or otherwise prepares them for future careers. 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 education or family-wage career paths.

**High school dropouts.** Dropout rates remain high. Nearly one-fifth of all students fail to graduate from California public high schools (CDE, 2009, March), and 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).

**Poor preparation for higher education.** 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 2008) results of California State University's (CSU) Early Assessment Program indicate that even students eligible for CSU needed remediation, as only about 62.8 percent of entering freshmen were proficient in mathematics, and 53 percent were proficient in English (CSU, Sacramento, n.d.). According to ACT results, 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.** Employers in many surveys report students are either underprepared or not prepared for success in a career. For example, only one in five business executives thinks that schools are doing an excellent or good job in teaching

---

<sup>4</sup> The mathematics section of the CAHSEE addresses state standards in grades six and seven and Algebra I.

reading or mathematics, and less than one in ten thinks 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).

**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 achieving at substantially lower levels than 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 report's findings indicate the industrial model high school of the past and present is not preparing students for the globally competitive world they must face in the future. In the current high school system, time is a constant, and learning is a variable. To improve student outcomes for every student, a new model of high school is envisioned. A transformed high school system would be based on the premise that learning is the constant and time becomes the variable. New systems, policies, and supports must be formulated to foster a personalized engaging approach to learning and individual mastery to progress through high school and beyond.

It is clear that continuing to support policies that created the current high school system and expecting different results is no longer feasible and will not prepare future generations of Californians to have economically self-sustaining careers, or to support the future growth of the state's economy. Many of those interviewed for this report believe California has the raw talent currently sitting in every high school classroom to propel the state to greatness. They also agreed that substantial changes are needed if we expect to have a system that is designed to move everyone to their highest educational and career potential.

## II. The Multiple Pathways Approach

The expansion of the multiple pathways approach has the potential to make high school a more cohesive and engaging experience for students and improve a wide range of student outcomes. Pathways are designed to expand students' options and opportunities; pathways can make high school an exciting learning environment where students are engaged and challenged, and understand how they might use what they are learning in the outside world.

In a multiple pathways approach, districts make several different pathways available to students throughout their jurisdictions, with each pathway aligned to one or more industry sectors. The aim is that students have access to at least one pathway matching their interests and that they select their high school or course of study with this interest in mind. Once in a pathway, all students have access to rigorous academics, rigorous career technical courses, work-based learning, and support services, maximizing learning while in high school and options after high school.

The term "pathway" is a common term in education. Within the multiple pathways context, a pathway is defined as:

A multiyear, comprehensive high school program of integrated academic and career technical study that is organized around a broad theme, interest area, or industry sector.<sup>5</sup>

Each school district has broad latitude to define its theme-based pathways within or across several industry sectors.<sup>6</sup> In most cases, pathway themes are associated with industries that are prevalent in that region.

Given the earning limitations of students without some education or training beyond high school, it is important that pathways be designed to ensure that all pathway

---

5 This definition is from AB 2648, which further identifies the core components of a pathway and the industry sectors as those including, but not limited to, "the industry sectors identified in the model standards adopted by the State Board pursuant to Section 51226."

6 The term "pathway" in this context is not synonymous with the 58 CTE pathways identified as specific career areas within the 15 industry sectors identified in California *Education Code* Section 51226; however, CTE course sequences are integral components of pathways in the multiple pathways approach. The new term for the multiple pathways initiative—"linked learning"—helps alleviate confusion with regard to initiatives that have similar names.



students have curriculum choices that will prepare them with the knowledge and skills necessary for:

- » Successful career entry immediately after high school

– and –

- » Successful participation in, and completion of, education after high school, including, for example, two- and four-year colleges and universities, apprenticeship programs, formal employment training, and other postsecondary options

## Core Components of Each Pathway

To reach the twin aims identified here, each pathway requires, at a minimum, the following four core components:

1. An **integrated core curriculum** that:
  - Provides access to a challenging academic component that prepares students for success in California's colleges and universities, including apprenticeships and other postsecondary programs
  - Is delivered through problem- and project-based learning and other engaging instructional strategies
  - Intentionally brings real-world context and relevance to instruction, using methodologies that emphasize broad themes, interest areas, and career technical education
2. An **integrated career technical core curriculum**, including a sequence of at least four, year-long related courses that:
  - Contains CTE standards-based courses
  - Provides students with career management skills
  - Is aligned with and underscores core academic principles and standards
3. A **series of work-based learning opportunities** that begin with mentoring and job shadowing and evolve into intensive internships, school-based enterprises, or electronically assisted mentorships.
4. **Student support services**, including supplemental instruction in reading and mathematics, to help students master the advanced academic and career technical content necessary for success in postsecondary education and careers, counseling, and other services.

## Essential Characteristics of High-Quality Programs

The following characteristics appear to be essential for the development of effective programs using the multiple pathways approach:<sup>7</sup>

**Equity and access.** Pathways are selected and designed broadly to address the needs of students with diverse abilities and interests. The pathways explicitly facilitate access to and success in multiple postsecondary options for all participating students, for example, by providing rigorous courses of instruction in all subject areas (Bangser, 2008; Dolejs, 2006; Hoachlander & Dayton, 2007; Friedlander & Darling-Hammond, 2007; Kemple, 2008; Lee & Smith, 1995; National Research Council and the Institute of Medicine, 2004).

**Informed student choice.** Students have choice with regard to their selection of a pathway, their selection of academic and career technical courses within the pathway, and the postsecondary options they seek to pursue. Students and their families receive timely information, guidance, and exploration opportunities that enable them to make appropriate choices (Bangser, 2008; Benard, 2004).

**Student engagement.** Instruction and related activities inspire student interest and desire to learn and facilitate that learning through active participation. Students are engaged from the moment they arrive on the high school campus to mitigate their dropping out (Kemple, 2008; Kemple, Herlihy, & Smith, 2005; National Association of Secondary School Principals and the Education Alliance, 2004; National Research Council and the Institute of Medicine, 2004; Page et al., 2002; Walcott, Owens-West, & Makkonen, 2005).

**Relevance for students.** Students understand the relevance of their learning experiences beyond school – how academic and career technical knowledge are applied in industry. They also understand how their learning links to their own future career aspirations and the additional education that may be required to realize these aspirations (Bangser, 2008; Friedlander & Darling-Hammond, 2007; Kemple, 2008; Kemple with Scott-Clayton, 2004; Kemple, Herlihy, & Smith, 2005; Walcott, Owens-West, & Makkonen, 2005).

**Personalization and support.** Pathways provide students with smaller school environments; the students are known by their teachers, peers, and other school staff; and they develop a sense of community. Students' academic, social, psychological, or logistical needs are readily discerned and addressed (Hoachlander & Dayton, 2007; Friedlander & Darling-Hammond, 2007; Kemple, 2008; Kemple, Herlihy, & Smith, 2005; National Association of Secondary School Principals, 2004; National High School Center, 2008;

---

<sup>7</sup> Many of these characteristics are drawn from literature regarding effective educational programs generally, as the literature regarding pathways using the multiple pathways approach is relatively new and not yet conclusive in some areas.

National Research Council and the Institute of Medicine, 2004; Page et al., 2002; Walcott, Owens-West, & Makkonen, 2005).

**Depth of learning.** Students are provided opportunities to learn in depth in both academic and career technical skill areas, as reflected through performance-based assessments and other demonstrations of acquired knowledge and skill, such as industry certifications, when appropriate. Career technical and academic instruction are each deep enough to enable the application of career technical knowledge and skills in the workplace and lay a foundation of theoretical understanding needed for further learning and career development (de Cos & Chan, 2009; Friedlander & Darling-Hammond, 2007; Grubb & Oakes, 2007; Rose, 2007).

**Breadth and transferability of learning.** Pathways expose students to options, as well as prepare them for future learning and careers in a given industry area. Pathway curricula in the multiple pathways approach provide students with both broad exposure to the alternative careers in a particular industry sector and a set of basic transferable skills that would be useful to students, regardless of the career they eventually pursue, across industry sectors (de Cos & Chan, 2009; Grubb & Oakes, 2007).

**Developmental appropriateness.** Students have opportunities to learn in ways that are appropriate to their developmental needs. These opportunities include increasing levels of responsibility and autonomy as students mature; and providing access to caring adults in schools, workplaces, and communities who can join with parents in guiding students into adulthood (Bangser, 2008; Benard, 2004; National Research Council and the Institute of Medicine, 2004).

**High-quality curricula.** Curricula in all subjects are standards-based and, in both integrated academics and integrated career technical core courses, are also validated by industry (Kemple, Herlihy, & Smith, 2005; National High School Center, 2008; Walcott, Owens-West, & Makkonen, 2005).

**High-quality teaching.** Both academic instruction and career technical instruction are provided by teachers with expertise in their respective fields. Teaching encompasses a broad variety of strategies, including coaching and facilitating project-based and work-based learning, in addition to instruction. Teachers identify and provide access to learning opportunities outside the classroom to expand and strengthen classroom learning (Dolejs, 2006; Kemple, Herlihy, & Smith, 2005; National Association of Secondary School Principals and the Education Alliance, 2004; National High School Center, 2008; Rose, 2007).

**Linkages to middle school and to opportunities beyond high school.** Pathways are linked to experiences before high school, so that students come to high school prepared

to succeed in pathway programs. Pathways are also linked to a variety of postsecondary options, so that students can envision and gain access to appropriate opportunities after high school graduation. In addition, beyond curricular and programmatic linkages, pathways provide direct support to help students transition successfully from one level to the next (Bangser, 2008; Herlihy, 2007; Kemple, 2008; National High School Center, 2008).

**Industry and community partnerships.** Programs have direct input from industry and communities to inform the design and delivery of curricula and students' learning experiences (Kemple, Herlihy, & Smith, 2005; Kemple, 2008; de Cos & Chan, 2009; National Association of Secondary School Principals and the Education Alliance, 2004; Darche, Nayar, & Bracco, 2009).

**Adults as learners.** The adults who participate in pathways create, along with their students, a shared learning community. Teachers, administrators, and other staff engage in ongoing self-reflection and professional development, thus modeling "lifelong learning" (Bangser, 2008; Dolejs, 2006; Friedlander & Darling-Hammond, 2007; Page et al., 2002; Quint, Bloom, Black, & Stephens, 2005; National Association of Secondary School Principals and the Education Alliance, 2004; National High School Center, 2008; Walcott, Owens-West, & Makkonen, 2005).

## Wide Latitude in Design Options

The four core components described earlier, together with the essential characteristics of high-quality programs, allow for a wide variety of pathway designs. As a result, districts and schools have substantial latitude in developing pathways in the multiple pathways approach. For example, there is variability across the following design options.

**School structures.** Students may have access to pathways through comprehensive high schools, regional occupational centers and programs (ROCPs), charter schools, or independent study programs. Districts assist schools to identify specific pathways to be implemented while coordinating across schools to increase choice across the district. Small schools or semi-autonomous schools that share facilities on a large campus might each offer a single pathway, thus providing multiple options across the campus. In some cases, whole schools can focus on single themes; these single-pathway schools offer one option among many within a given district. Existing programs can also serve as organizing structures for pathways.

**Themes.** Themes serve two primary purposes. The first is to organize learning in ways that motivate student engagement and facilitate comprehension of academic and career technical content knowledge. The second is to provide a vehicle for students to explore their interests and master skills that they can later apply in further education and

careers – sometimes in jobs immediately after high school. Pathways in the multiple pathways approach have varying themes.

**Number of years in the pathway.** Pathways ideally span all four years of the traditional ninth through twelfth grade high school to ensure early engagement of students and to help prevent ninth graders from dropping out of school. Variation is possible, however, if schools can provide all four components over a different time period and, at the same time, create other means to engage students when they enter ninth grade.

**Number of pathways available in a school.** There is no optimum number of pathways at a school. Districts and schools should consider the number and sequence of courses the school can realistically provide to deliver high-quality academic courses, career technical courses, work-based learning opportunities, and support components. Pertinent issues include the number of students; the number of available teachers, counselors, and other staff; access to facilities; the design of the master schedule; and the level of industry, teacher, and community support.

**Number of pathways available in a district.** The multiple pathways approach does not prescribe a specific number of pathways per district. The intent is that, eventually, all students have access to at least one pathway of interest, whether at his or her school or within an appropriate travel distance. In rural areas particularly, some courses or experiences might need to be accessed virtually, through distance learning, if necessary.

**Degree of integration among components in each program.** While all pathways must include all four core components, pathways will vary in how tightly the academic and career technical curricula are integrated. When career technical courses have been approved as meeting university admission requirements, a single career technical core class can be considered inherently integrated – that is, it encompasses both career technical and academic components, enabling students to meet two goals simultaneously. However, some CTE courses may not meet university admission requirements. In addition, a stand-alone course does not impart to students the full benefit of an integrated program for students – seeing the connections among their courses, which facilitates understanding and motivates learning in all disciplines.

Therefore, coordination across disciplines and among teachers is usually necessary to achieve integration. In some cases, academic and career technical teachers will align their courses to a common theme, whereas in other cases, academic content and career technical skills are team-taught in a common class. Ideally, across all models, teachers use interdisciplinary projects and work-based learning to enhance integration. For example, students in a building and engineering pathway might learn about geometry and algebra while actually designing and building a structure; and students in an arts, media, and

entertainment pathway might learn persuasive writing skills while developing business plans, or creative writing skills while drafting scripts.

**Types of work-based learning.** Work-based learning is a core component in the multiple pathways approach, but the types of work-based learning offered can vary. Work-based learning may occur on the school campus; through school-based enterprises; in the community through service learning or social enterprises; or through technological means, as in “virtual apprenticeships” or electronically supported mentorships. The key is providing students access to opportunities that are judged by professional standards, through direct employer or community input.

**Classroom staffing.** Staffing of academic and career technical courses depends on the pathway and includes teachers with varied backgrounds. Teachers in core academic courses provide a rigorous academic program and are credentialed to teach assigned courses. Some exposure to the industry in which the pathway focuses, as well as the teachers' close collaboration with their CTE colleagues, enhances their ability to bring relevance to the classroom. Career technical teachers, with their required industry experience, deliver rigorous career-specific skills and exposure to the industry sector and are credentialed to do so.

**Staffing for support systems and work-based learning.** Counseling and career guidance and work-based learning staff may be centralized or assigned directly to the pathway, depending on the pathway's size, the school's structure, available resources, and other factors. In some cases, teachers with adequate professional development can take on these functions. In other cases, community or industry resources may expand staff capacity to provide career guidance, career exploration, and work-based learning opportunities.

## What Do We Know About the Effectiveness of the Multiple Pathways Approach?

Based on a review of existing research, the multiple pathways approach appears to offer promise in helping students prepare for a wide range of postsecondary and career opportunities. According to studies that have been completed in California and nationwide, pathways using this approach have shown positive effects on student achievement, educational attainment, and employment and earnings outcomes. However, the literature regarding the multiple pathways approach is relatively new and therefore is not yet conclusive in some areas. As a result, the report draws upon research studies of programs that incorporate some, but not necessarily all, components of pathways using the multiple pathways approach. For more comprehensive reviews of the research literature, see Clark et al. (2007), and Stern & Stearns (2006).



The research reviewed suggests that pathways using the multiple pathways approach can make learning more engaging for students and offer promise for preparing students more effectively for a wide range of postsecondary and career opportunities. However, broader implementation of the multiple pathways approach gives rise to opportunities for refining program and model designs and for addressing complex implementation challenges. These opportunities should also be met with complementary research efforts to better understand student outcomes, capture lessons, and inform future directions. In particular, California could benefit from knowing more about students' long-term outcomes, including persistence in postsecondary education and labor market outcomes. In addition, more data are needed to better understand the relationship between student outcomes and various aspects of implementation.

## III. Recommendations

The policy recommendations in *Multiple Pathways to Student Success* set forth a bold vision for improving California's high school system – a system of rigorous pathways that will prepare all students for postsecondary education and careers. Given the extensive nature of the following recommendations, the intent is to provide an agenda for change through the year 2020.

Following the policy recommendations, an action agenda is presented for immediate consideration and implementation during 2010 and 2011. More extensive system changes need to be considered and debated over the next several years to set the stage for implementing substantial improvements in the state's high schools as the economy and the school systems' financial conditions improve.

California's high school system was designed early in the twentieth century, but it is struggling to prepare students for transition to postsecondary education or careers in the increasingly competitive global economy of the twenty-first century. Californians must therefore engage in crucial conversations about the future of the high school system, and then take bold steps to provide opportunity and access for all students to reach their goals and achieve their dreams.

### Background of Recommendations

Assembly Bill 2648 required the State Superintendent of Public Instruction to develop a report that explores the feasibility of establishing and expanding pathway programs in California. The legislation was comprehensive and identified 17 components of California's secondary educational system crucial to advancing the multiple pathways approach. At the SSPI's direction, each of these topics was extensively researched and examined, with key issues and findings identified.

Respondents interviewed in the course of gathering information to fulfill the requirements of AB 2648 for this report noted that it is imperative to improve secondary education in California. They also agree that substantial changes are needed if we expect to have a system that is designed to move everyone to their highest educational and career potential. The information gathered on the current practices confirms that if implementation of the multiple pathways approach is to succeed, then California must transform secondary schooling in California.

Throughout the research for *Multiple Pathways to Student Success*, one of the top concerns expressed by students, parents, teachers, and administrators is the large number of high school students described as disengaged. While these students attend class, they

have little motivation or interest beyond making it through to the passing bell. Students who fall behind are often scheduled into double doses of math and English or are made to repeat the same courses, under the premise that if they spend more time in the subjects they failed, they will somehow discover a path to success. In some cases, students are fortunate enough to connect with a motivating teacher, administrator, or community member who mentors them; become engaged in a career technical education course that inspires them; or to find sports or extra-curricular activities that motivate them and bring meaning to their high school experience. For many California high school students, these motivators are simply not available or accessible.

The recommendations presented here were developed in response to the legislative purpose of exploring the feasibility of establishing and expanding the multiple pathways approach to high school transformation. However, the recommendations are far-reaching in recognition that successful implementation of pathways represents a bold departure from our current methods of educating high school students. The recommendations reflect major considerations for substantially transforming secondary education in California.

Examining the feasibility of implementing the multiple pathways approach has provided a platform for ensuring that California's students are prepared to graduate from high school ready to take full advantage of postsecondary education and career options. The policy recommendations presented here for transforming secondary education in California align with the national agenda to ensure that all students graduate from high school ready for both postsecondary education and careers.

Two types of policy recommendations emerged from the report. First, recommendations were developed that were specific to the effective implementation of the multiple pathways approach. Secondly, recommendations were identified for creating changes within the secondary education system deemed essential for the multiple pathways approach to flourish. Both types of recommendations are necessary for creating the systemic change that can make pathways a common feature throughout the state's high schools and school districts.

## Recommendation Criteria

To ensure the policy recommendations were clear, consistent, and credible, the following criteria were utilized. The recommendations:

- » Address the reporting requirements of AB 2648.
- » Support local decision-making and flexibility to the fullest extent possible.

- » Articulate roles at the state, regional, and local levels.
- » Are congruent with current educational reform policy.
- » Promote innovation and systemic change to improve secondary education – and transitions of students among the segments from one segment to another – from the middle grades and to postsecondary education – and into career opportunities.
- » Are aimed at improving outcomes for all students, closing the achievement gap, and reducing the high school dropout rate.
- » Are actionable.

The policy recommendations are arranged in broad content areas that mirror both the report's content and the concepts within AB 2648. While individual recommendations can be considered as separate policy actions, the recommendations, when considered together, hold the greatest promise for transforming California's decades-old high school system into a performance-based educational system dedicated to preparing all students to be successful in postsecondary education and careers.

## A Vision for California High Schools

The policy recommendations outline a vision for transforming California's high school system. The vision includes new policies and practices that fundamentally change the orientation of the high school experience from one in which time is the constant and learning is the variable to one in which learning is the constant and time is the variable. A transformed system would provide multiple rigorous programs of study, structures, and practices to ensure student success and accountability for results. Attaining this vision requires fundamental changes within the system.

To begin, the state must continue to identify the knowledge and skills necessary for all high school graduates to be both postsecondary and career ready. Second, the high school system must be based on students' mastery of the identified knowledge and skills. This means the traditional method of earning credits and grades would be replaced with performance-based measures that local schools would use to advance students towards graduation.

Schools' effectiveness would be measured on the degree to which they are assisting students to remain in school and reach mastery. Funding for the system is proposed to change from a student's seat-time-based calculation to one that is based on both annual enrollment and performance. Such performance would be measured by the number of students remaining in school, making progress towards completion of a high school course of study, and reaching graduation.

In addition, the high school of the future must be smaller. California has a tradition of building large "shopping-mall" high schools. Many high schools have over 1,500 students, and some have over 4,000. Principals report that simply managing the large numbers of students to maintain a safe environment becomes the primary focus and that students do not make the personal connections so necessary during the transition from adolescence to adulthood. The high school of the future should embrace the principle that no student can be lost, and the school must work with the community to support students and families.

Furthermore, the curriculum and instruction must be relevant and engaging. Real-world problem- and project-based-learning experiences change the way students and teachers approach learning. Incorporating applied learning across all disciplines and assuring that every student is provided access to career technical education and work-based learning experiences foster both student engagement and relevance of curriculum. Business, industry, and labor must be engaged in more integral roles within high schools to help ensure the relevance and applicability of curricula. Dual enrollment and dual credit programs developed between school districts and higher education need to be expected features of high school to expand the range of curricular opportunities and to help create a postsecondary mind-set among high school students.

Also, teachers and principals in the transformed high school system should receive high-quality, sustained professional development that incorporates team learning and problem solving as central features – mirroring the team-teaching and problem- and project-based approaches they will use in their classrooms. The instructional staff must work in partnership with faculty from the middle grades and higher education to help facilitate the transition of students into and beyond high school. Further, vastly expanded use of modern technologies can increase the options for teachers and students to support learning and provide new methods for demonstrating and tracking mastery of curricular content.

Numerous examples already exist that demonstrate that the components of a transformed pathways high school are feasible and effective. While these schools show promising results, they must be given the policy framework and incentives within which to continuously improve and flourish. The following recommended policies are intended to provide the environment that will lead to increased options and opportunities for student success in high school and beyond.

## Policy Recommendations

### Revise the California *Education Code* and Make Other Structural Changes to Allow High Schools to More Successfully Meet Their Students' Needs.

- » Revise the California *Education Code* to state the purpose of high school is to educate and prepare all students to be postsecondary and career ready upon high school graduation.
- » Permit high school-aged students and their parents to choose the high school, curriculum pathway, and related programs that best meet the students' needs and goals.
- » Base high school graduation on demonstrated competency and mastery of identified academic and career standards.
  - Establish a process for determining and adopting the academic and career standards necessary for success in first-year college courses, apprenticeships, and entry-level employment.
  - Determine student progress through high school based on mastery of grade-level, standards-based performance benchmarks and not on seat time.
  - Eliminate the California *Education Code* requirement that particular courses be completed for high school graduation and establish standards-based performance benchmarks that must be met for high school graduation.
- » Adopt state policy indicating that school districts shall incorporate small-sized schools and smaller groupings of students within new and existing high schools.
  - Change state school facilities funding regulations and formulas to ensure high schools do not exceed a state-established maximum number of students.
  - Prohibit schools and districts that do not adopt small school or small learning community configurations from receiving state incentive funding.
- » Require all high schools to involve community stakeholders and maximize the use of community resources within the planning and implementation of new high school designs or redesigns.
  - Encourage and allow the co-location of community services within school facilities to maximize student learning opportunities and expand student support services.
  - Allow high schools to formalize long-term partnership agreements to locate high schools or high school programs within approved community, government, or business facilities.



- » Allow continuously enrolled students to remain in high school or other appropriate educational programs until graduating from high school to increase available instructional support services.
  - Require school districts to adopt local school board policy on including adult students within the high school, which balances the needs of students with available school resources, student safety, and community resources.
  - Allow the blending of adult education programs, funding, and instructors within the design of high schools to assist in serving students ages sixteen years and older.
  - Provide adult education funding equitably to school districts based on the number of adults without high school diplomas and who are non-English literate, who are unemployed, and who are living in poverty, and to districts that demonstrate positive outcomes.
  - To ensure successful transitions to postsecondary education and careers, limit adult education funding to providing adult basic education, adult secondary education, English-as-a-second-language, and career technical education services.
- » Extend the school day and school year to meet or exceed the average of other countries with advanced economies.
  - Phase in the extended school year over a ten-year period.
  - Provide extended-day schedules that expand student options for access to learning that meet their individual needs. The extended day provides students with additional opportunities for earning benchmarks towards graduation in areas including CTE, visual and performing arts, work-based learning, service learning, physical education, after-school programs, dual or concurrent postsecondary courses, and other intra-curricular activities.
- » Allow and encourage cost-effective mergers of K–12 school districts, adult education programs, ROCP, and community college districts to increase opportunities for students and to meet student learning needs.
  - Base funding on the average revenue limit among the entities that merge.
  - Follow the existing California *Education Code* regarding K–12 unification.
  - Adopt flexibility in credentialing requirements to allow the expansion of instructional opportunities available to students.
- » Increase the number of California Partnership Academies from the current 478 academies to 1,000 academies and provide annual cost-of-living adjustments to increase funding for individual academies.

### **Change the School and Program Finance System to Increase Students' Performance.**

- » Replace the current seat-time-based school finance system with an equitable performance-based system designed to increase student performance.
  - Provide schools a base of funding calculated on the number of students enrolled annually.
  - Provide 80 percent of the base funding to high schools for the number of students enrolled annually, plus 20 percent of the funding tied to the number of students graduating and the number of students remaining in school annually. A school district would not be penalized if students achieved early attainment of mastery and moved on to college or careers.
- » Provide school districts with incentives to meet essential state priorities to increase performance.
  - Provide incentive funding to recover student dropouts, paid upon the students' completion of high school.
  - Provide an incentive for school districts and partnered community college districts that have adopted dual enrollment and/or dual credit policies and programs that have proven to be successful.
  - Provide districts an incentive for substantially closing the achievement gap.
  - Limit incentives to a total capped percentage of base funding, set annually in the state budget.
- » Provide start-up grants to schools adopting the multiple pathways approach, utilizing the existing Specialized Secondary Program model that makes four years of funding available for intensive planning and implementation, after which the districts rely on existing base funding.

### **Expand the Accountability System to More Accurately Reflect High School Students' Performance.**

- » Expand the number of measures within the Academic Performance Index (API) to include rates of completion of college entrance requirements, career technical education program completion and certification, school graduation rates, and dropout recovery rates.
- » Develop postsecondary and career readiness measures and annual targets that reflect the expectations of colleges and employers and incorporate these into the state's accountability system.
- » Set statewide goals for improving California's high school graduation rates and college and career preparation readiness rates to help measure progress towards reducing the high school achievement gap.

- » Enhance the rigor and relevance of the state's high school graduation requirements through the alignment of these requirements with the expectations of colleges and employers.
- » Evaluate high school student performance from high school to postsecondary education and employment, to improve program performance.
- » Establish model program quality indicators through which pathways can be evaluated locally on a regular basis.
- » Collect and analyze data on work-based learning and counseling/guidance outcomes through the California Longitudinal Pupil Achievement Data System (CALPADS) to evaluate and improve services.

### Expand Curriculum and Instruction Opportunities to Allow for the Expansion of the Multiple Pathways Approach.

- » Require all school districts with high schools to develop and adopt programs of study that identify the courses a student must complete and/or performance benchmarks a student must attain to complete high school and to transition into postsecondary education and related careers.
- » Require all schools adopting pathways to include rigorous CTE instructional options within each year of high school.
- » Allow California Partnership Academies to include students for four years rather than the current three years.
- » Establish a career preparation graduation requirement for all students, in which students must demonstrate mastery of career technical, personal career management, financial literacy, and digital literacy skills.
- » Require individual learning plans for all students to guide middle and high school students' preparation for entry into postsecondary education and careers.
- » Provide districts the explicit ability to offer synchronous and asynchronous distance learning courses and programs adopted under local board policy to increase student access to effective instructors, programs, and resources not available within their high schools.
- » Develop California virtual high schools, providing access to any California student or school district, to enable students to meet high school graduation requirements and prepare for college and career.
- » Feature pathways curricula, assessments, work-based learning models, and in-school support strategies in existing online clearinghouses, such as the Brokers of Expertise Web site (<http://www.boepilot.org>).
- » Expand the support networks that provide curriculum and instruction knowledge and resources targeted at improving student achievement (e.g., Advancement for Individual

Determination [AVID] program, University of California subject matter projects, CTE Online).

- » Expand the funding available to the University of California's Curriculum Integration Project to enhance the ongoing efforts to increase the number of new CTE courses that meet the requirements for courses accepted for public university admission purposes.
- » Include interdisciplinary and problem-based learning strategies as a required element within the development of the California curriculum frameworks.

### **Enhance Professional Development and Other Strategies to Increase Teachers' Effectiveness and Ability to Be Successful in the Multiple Pathways Approach.**

- » Provide regional professional development support for academic and CTE teachers, counselors, and administrators to improve the use of integrated rigorous curricula in their classrooms, including how to team-teach and make effective use of the longer class periods in pathways.
- » Require the California Commission on Teacher Credentialing to incorporate problem-based pedagogies and other innovative instructional strategies as core competencies for any single-subject secondary teacher, CTE teacher, pupil personnel services, and administrative services credential.
- » Develop a pathways teaching credential authorization that would combine the competencies required within a traditional academic credential and a CTE industry sector credential.
- » Provide start-up grants to the California State University and the University of California to create CTE and multiple pathways credential teacher education programs.
- » Require that districts ensure the equitable distribution of teachers among high schools, based on subject matter expertise, related skills, and effectiveness.
- » Streamline the teacher preparation system to allow the acquisition of an academic, CTE, or pathways teaching credential within a four-year baccalaureate program.
- » Provide for a pathways concentration within the Beginning Teacher Support and Assessment program.

### **Ensure That the Transition from Middle Grades to High School Prepares Students for High School, Including Making Informed College and Career Choices.**

- » Define the purpose of middle grades as preparing students with the knowledge, skills, and abilities necessary for success in high school, incorporating discovery and exploration of educational and career opportunities.
- » Provide models for articulation and alignment of middle and high school curricula and related professional development to improve student transitions.

- » Provide planning and start-up grants to develop exploratory CTE programs within middle grades that articulate with area high school CTE programs, and provide parents and students with the resources and information to make informed college and career choices.

### **Provide Support and Counseling That Students Need to Succeed.**

- » Establish maximum caseload levels for all secondary guidance counseling and student support personnel to ensure that students in middle grades and high school receive access to necessary counseling and support services.
- » Expand the role and funding of the California Career Resource Network to offer interactive Web-based college and career resources and advisement to individual middle and high school students throughout the state.
- » Require pathways to incorporate Response to Instruction and Intervention (RTI<sup>2</sup>) strategies to support and maximize available personalized support for students experiencing learning or behavioral challenges.
- » Require that all California local Workforce Investment Boards provide training accessible to all high school students within their service region on how to access and utilize California's One-Stop Business and Career Center system.

### **Modify the Mission, Structure, and Functions for Regional Occupational Centers and Programs.**

- » Modify the ROCP mission, structure, and functions to provide statewide systemic support to increase school district capacity to offer career technical education and to support pathways using the multiple pathways approach.
  - Change the ROCP name to reflect a new mission, the Regional Career Preparation Authority (RCPA), and utilize existing ROCP funding to support the CTE system.
  - Consolidate the number of RCPAs serving regions or counties.
  - Provide RCPA governance through a board consisting of the county superintendents and representatives from each school district within the service area appointed by each school district board of education. If a single school district qualifies as a region, the district school board would serve as the governing body.
  - Designate the corresponding county office of education, joint powers authority agency, or single school district to serve as the local educational agency for fiscal and administrative purposes, receiving RCPA funds directly from the state.
  - Limit RCPAs to 5 percent administration, 10 percent capacity building, and 85 percent for CTE pathways and courses.

- Provide school districts from 50 percent to 90 percent funding for each approved CTE course from the RCPA, with the school district providing the matching funding necessary to operate the course. Funding allocations would be made to participating districts in a way that ensures substantially equitable distribution of funds.
  - Require school districts upon the establishment of a course, and biennially thereafter, to demonstrate to the RCPA that there is a current or future labor demand for the pathway, each CTE course is part of a viable CTE pathway, there is no unnecessary duplication of the program within the region, there is articulation with postsecondary institutions, and the course meets established administrative and performance standards.
  - Require the RCPA to have a representative business and labor advisory committee to advise the governing board on labor market needs and the curriculum offered across the region. Each district pathway would also be required to have a local business and labor advisory committee to assist the high school in implementing rigorous and relevant CTE courses and pathways.
  - Provide professional development and instructional resources through the RCPA to member school districts and coordinate all related business, accountability, and program support functions related to pathways and CTE.
- » Distribute federal Carl D. Perkins (Career and Technical Education Improvement Act of 2006) funding through the RCPAs.
    - Define RCPAs as meeting the conditions of a consortium under the Perkins Act.
    - Require each RCPA to develop a regional plan guiding the expenditure of Perkins funding within the region.
    - Require the RCPA to prepare and submit annual applications, data, accountability, and fiscal reports to the CDE.
  - » Distribute other state and federal career technical education funding through the RCPA system, and provide the associated oversight and support necessary.

### Increase Work-Based Learning in Schools.

- » Expand and sharpen the definition of work-based learning to allow for and encourage innovative, equitable, and pedagogically sound work-based learning activities for students and faculty.
- » Redefine the existing work experience function within high schools and the role of the work experience teacher to coordinate work-based learning activities and local school-business engagement.
- » Provide statewide models of how work-based learning embedded in both CTE and academic classes can help schools address the four components of pathways.



- » Collect and track data on work-based learning through the state's CALPADS system.
- » Provide school districts with guidance regarding insurance and labor law requirements when placing students in off-site, work-based learning locations.

### **Provide State Leadership That Strengthens the Multiple Pathways Approach.**

- » Create a statewide Multiple Pathways Advisory Board of leaders from the education, business, and civic communities, appointed by and reporting directly to the SSPI, to provide the SSPI with ongoing guidance to expand pathway programs in California's public schools.
- » Provide administrative funding to the CDE to provide policy implementation, state and regional coordination, resource development, and accountability oversight for the expansion of pathways and high school redesign efforts.
- » Incorporate effective pathway strategies into state policies and strategies for turning around the state's persistently lowest-achieving high schools.
- » Recognize in state policy the role and benefits of educational foundations, intermediary organizations, and coalitions in supporting the multiple pathways approach and systemic reform initiatives.
- » Establish a statewide research agenda that incorporates input from key stakeholders to evaluate the effectiveness of the multiple pathways approach in preparing students for college and career.
- » Design high-quality research studies that include longitudinal student-level and cohort designs to measure the effectiveness of pathway programs on improving student achievement.

## IV. Proposed 2010–2011 Agenda for Immediate Action

The following three items are proposed for immediate action during 2010 and 2011 to provide a strong foundation for substantially improving California's high schools through the establishment and expansion of the multiple pathways approach.

### ACTION ITEM 1

#### Establish a Multiple Pathways Advisory Board and Establish the Multiple Pathways Approach as Foundational to High School Improvement.

This action item includes policy recommendations from *Multiple Pathways to Student Success* that will serve to establish the multiple pathways approach as foundational to high school improvement and will ensure that the multiple pathways approach persists into the future.

- » Revise the California *Education Code* to state the purpose of high school is to educate and prepare all students to be postsecondary and career ready upon high school graduation.
- » Establish a statewide Multiple Pathways Advisory Board composed of leaders from the education, business/labor, and civic/community organizations, appointed by and reporting directly to the SSPI to:
  - Develop a plan with strategies and timelines for implementing the recommendations contained in *Multiple Pathways to Student Success*.
  - Provide the SSPI with ongoing guidance in expanding pathways in California's public schools.
  - Promote the incorporation of effective pathway strategies into state policies and strategies for reforming secondary education in general and for turning around the state's persistently lowest-achieving high schools in particular.
  - Develop proposed statewide data, measures, and a research agenda incorporating input from key stakeholders to evaluate the effectiveness of pathways in preparing students for postsecondary and career opportunities.
  - Establish model program quality indicators that can be used locally to evaluate pathways.
- » Utilize existing Web sites to feature curricula, assessments, resources, work-based learning models, and in-school support strategies for implementing the multiple pathways approach.

- » Allow schools adopting the multiple pathways approach to be eligible for SSPI waivers to more efficiently operate and adapt to the needs of students and communities pursuant to California *Education Code* Section 58509.

## ACTION ITEM 2

### Establish a Transformational High Schools Pilot Program.

The pilot would direct the SSPI to allow 20 school districts, on a competitive basis, to implement pathways that adopt core transformational concepts for five years. The core strategies will include the following actions:

- » Implement a districtwide multiple pathway approach in all high schools.
- » Incorporate small-sized schools and smaller groupings of students within new and existing high schools.
- » Base high school graduation on demonstrating competency and mastery of rigorous, locally identified academic and career standards, and not on seat time.
- » Identify rigorous programs of study that guide students through course sequences leading to mastery of standards, high school graduation, and transition to postsecondary education or employment.
- » Adopt policies and agreements that promote dual enrollment and dual credit with community colleges and/or universities.
- » Adopt problem-based instructional methodologies and applied learning within all subject areas.
- » Implement the transformational requirements within existing resources.

In exchange for implementing these transformational changes, districts will receive the following policy accommodations:

- » Allow schools adopting the multiple pathways approach to be eligible for SSPI waivers to more efficiently operate and adapt to the needs of students and communities pursuant to California *Education Code* Section 58509.
- » Provide participating school districts funding based on annual end-of-year student enrollment, not on scheduled minutes of attendance.
- » Allow participating school districts to offer distance learning and enroll students in community college or university courses without financial penalty.
- » Receive priority for competitive grant funding.

- » Give eligible graduating students within participating school districts first priority on non-entitlement Cal Grants, admission to the California State University system, and admission to state-approved apprenticeship programs.

### **ACTION ITEM 3**

#### **Consolidate Career Technical Education.**

This action item would consolidate the currently fragmented CTE system into a streamlined approach that supports districts in the development and efficient operation of pathway programs.

- » Modify the ROCP legislated mission, structure, and functions to provide statewide systemic support to increase school district capacity to offer CTE and to support pathways.
  - Change the ROCP name to reflect a new mission, the Regional Career Preparation Authority, and utilize existing ROCP funding to support the system.
  - Provide RCPA governance through a board consisting of the county superintendents and representatives from each school district within the service area.
  - Provide professional development and instructional resources through the RCPA to member school districts and coordinate all related business, accountability, and program support functions related to pathways and CTE.
  - Distribute state and federal CTE funding through newly created RCPAs.
- » Modify the *2008–2012 California State Plan for Career Technical Education* to increase the number of formalized programs of study to improve CTE programs and pathways.

## V. Conclusion

California's schools face many challenges, but its educators, parents, businesses, communities, and many partners are nonetheless trumpeting hope as they join together to assert the importance of supporting students in achieving their dreams and becoming contributing members of society. The multiple pathways approach is not the only approach to high school reform and to the promotion of student achievement, but it is unique in the breadth of its mission and the depth of its commitment to serving the needs of all students. The principle of equity is foundational; this principle, coupled with a focus on research and inquiry, inspires change and is galvanizing local efforts.

Equally important, the approach – and the movement to bring the approach to scale – has put a spotlight on the need to address secondary school reform across the state. It has challenged us to question our assumptions and put into action what we know about *how* students learn best, *where* students learn best, and *what they need* to succeed in high school and to move boldly into the next stages of their lives. We are called upon to act, learn, and act again – in our relentless pursuit of a statewide educational system that can prepare all students for postsecondary education, careers, and true lifelong learning. We cannot wait until the budget or the economy improves – the nurses, bridge builders, electricians, scientists, air traffic controllers, writers, and teachers of the future are in our classrooms today. Now is the time to expand the statewide dialogue, break down the barriers we so lament, and get to work. The students depend on it; the future of the state depends on it.

## VI. References

- ACT. (2009). *ACT profile report – state, graduating class 2009, California*. Iowa City, IA: Author. Retrieved from <http://www.act.org/news/data/09/pdf/states/California.pdf>
- Bangser, M. (2008). *Preparing high school students for successful transitions to postsecondary education and employment*. New York, NY: MDRC.
- Benard, B. (2004). *Resiliency: What we have learned*. San Francisco, CA: WestEd.
- California Department of Education. (2009). In *DataQuest*. Retrieved from <http://dq.cde.ca.gov/dataquest/>
- California State University, Sacramento. (n.d.). *Proficiency reports of students entering the California state university system*. Sacramento, CA: California State University, Analytic Studies. Retrieved from <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, CA: Author. Retrieved 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)
- Clark, P., Dayton, C., Stern, D., Tidyman, S., & Weisberg, A. (2007). *Can combining academic and career-technical education improve high school outcomes in California?* Santa Barbara, CA: California Dropout Research Project.
- Darche, S., Nayar, N., & Bracco, K. (2009). *Work-based learning in California: Opportunities and models for expansion*. San Francisco, CA: The James Irvine Foundation.
- de Cos, P.L. (2005). High school dropouts, enrollment, and graduation rates in California. Sacramento, CA: California Research Bureau. Retrieved from <http://www.library.ca.gov/crb/05/08/05-008.pdf>
- de Cos, P.L., & Chan, J. (2009). *The careers project: School survey of middle and high school principals and counselors in California*. Sacramento, CA: California Research Bureau.
- de Cos, P.L., Chan, J., & Salling, K. (2009). *The careers project: A summary with policy options*. Sacramento, CA: California Research Bureau.
- Dolejs, C. (2006). *Report on key practices and policies of consistently higher performing high schools*. Palo Alto, CA: National High School Center.
- Executive Office of The President, Council of Economic Advisers. (2009, July). *Preparing the workers of today for the jobs of tomorrow*. Washington, D.C.: Author. Retrieved from [http://www.whitehouse.gov/assets/documents/Jobs\\_of\\_the\\_Future.pdf](http://www.whitehouse.gov/assets/documents/Jobs_of_the_Future.pdf)
- Friedlaender, D., & Darling-Hammond, L., with Andree, A., Lewis-Charp, H., McCloskey, L., Richardson, N., et al. (2007). *High schools for equity: Policy supports for student learning in communities of color*. Stanford, CA: The School Redesign Network at Stanford University and Justice Matters. Retrieved from [http://www.srnleads.org/resources/publications/pdf/hsfe/hsfe\\_report.pdf](http://www.srnleads.org/resources/publications/pdf/hsfe/hsfe_report.pdf)
- Grubb, W.N., & Oakes, J. (2007). *Restoring value to the high school diploma: The rhetoric and practice of higher standards*. East Lansing, MI: The Great Lakes Center for Education Research and Practice.

- Herlihy, C. (2007). *Toward ensuring a smooth transition into high school*. Palo Alto, CA: National High School Center.
- Hoachlander, G., & Dayton, C. (2007). *A profile of the California Partnership Academies 2004–2005*. Berkeley, CA: ConnectEd.
- Kemple, J.J., Herlihy, C.M., & Smith, T.J. (2005). *Making progress toward graduation*. New York, NY: MDRC.
- Kemple, J.J., & Rock, J.L. (1996). *Career academies early implementation lessons from a 10-site evaluation*. New York, NY: MDRC.
- Kemple, J.J. with Scott-Clayton, J. (2004). *Career academies: Impacts on labor market outcomes and educational attainment*. New York, NY: MDRC.
- Lee, V.E., & Smith, J.B. (1995). Effects of high school restructuring and size on early gains in achievement and engagement. *Sociology of Education*, 68(4).
- Levy, F., & Murnane, R.J. (2005). *How computerized work and globalization shape human skill demands*. [White paper]. Planning Meeting on 21st Century Skills, National Academy of Sciences, Washington, D.C. Retrieved 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)
- National Association of Secondary School Principals and the Education Alliance at Brown University. (2004). *Breaking ranks II: Strategies for leading high school reform*. Reston, VA: National Association of Secondary School Principals.
- National High School Center. (2008). *Eight elements of high school improvement: A mapping framework*. Palo Alto, CA: National High School Center at the American Institutes for Research.
- National Research Council and the Institute of Medicine. (2004). *Engaging schools: Fostering high school students' motivation to learn*. Washington, D.C.: The National Academies Press.
- Page, L., Layzer, C., Schimmenti, J., Bernstein, L., & Horst, L. (2002). *National evaluation of smaller learning communities literature review*. Cambridge, MA: Abt Associates, Inc.
- Quint, J., Bloom, H.S., Black, A.R., & Stephens L. (2005). *The challenges of scaling up educational reform*. New York, NY: MDRC.
- Rose, M. (2007). *A reflection on career and technical education, multiple pathways, and the academic vocational divide*. Los Angeles, CA: University of California, Los Angeles, Institute for Democracy, Education, and Access.
- Stern, D., & Stearns, R. (2006). *Combining academic and career technical courses to make college an option for more students: Evidence and challenges*. Los Angeles, CA: University of California, Los Angeles. Retrieved from <http://casn.berkeley.edu/resources/multiple-perspectives.pdf>
- Tulchin, B., & Muehlenkamp, K. (2007). *Survey results on education among California business leaders*. San Francisco, CA: Greenberg Quinlan Rosner Research. Retrieved from <http://www.calchamber.com/SiteCollectionDocuments/www.calchamber.com/CC/PDF/CFCESurveySummary.pdf>
- Venezia, A., Kirst, M.W., & Antonio, A.L. (2003). *Betraying the college dream*. Stanford, CA: Stanford Institute for Higher Education Research.
- Walcott, C., Owens-West, R., & Makkonen, R. (2005). *High school reform: National and state trends*. San Francisco, CA: WestEd.

## VII. Stakeholders\*

### **Ronda Adams**

Associate Superintendent  
Yolo County Office of Education

### **Sophie Angelis**

Student Representative to the  
State Board of Education  
Senior, Rim of the World High School

### **James D. Aschwanden**

Executive Director  
California Agricultural Teachers  
Association

### **Brian Ausland**

Program Administrator  
Butte County Office of Education

### **Marisol Avina**

Consultant  
Assembly Education Committee

### **Karen Bass**

Speaker of the Assembly  
California State Assembly

### **Michele Badovinac**

AVID Director  
Delta Sierra Region IV, San Joaquin  
County Office of Education

### **Rebecca Bauman**

Legislative Aide  
Senator Hancock

### **Elmy Bermejo**

Interim Executive Director  
Latino Issues Forum

### **Rocky Bettar**

Director  
Adult Education and Career Preparation  
Rowland Unified School District

### **Pam Brady**

President  
California State Parent Teacher  
Association

### **Jonathan Brown**

President  
Association of Independent California  
Colleges and Universities

### **Susan Burr**

Executive Director  
California County Superintendents  
Educational Services Association

### **David Butler**

Executive Director  
Rocklin Chamber of Commerce

### **Marianne Cartan**

Director  
Student Services and Instruction  
49er R.O.P.  
Placer County Office of Education

### **Lewis Chappellear**

2008 California Teacher of the Year  
James Monroe High School

### **Jennifer Cotter**

Associate  
Collaborative Communications Group

### **Shelley Davis**

Director  
California Gear Up

### **Charles Dayton**

Coordinator  
Career Academy Support Network  
University of California, Berkeley

### **Janie DeArcos**

Assistant Superintendent, Secondary  
Instruction, Folsom Cordova Unified  
School District

### **Julienne DeGeyter**

Chief Business Officer  
West Sacramento Early College Prep  
Charter School

### **Julie Elliott**

AVID California State Director  
California Advancement Via Individual  
Determination Center Headquarters

### **Sophie Fanelli**

Director of Research  
University of California, Los Angeles  
Institute for Democracy, Education,  
and Access

### **Jaime Pueschel Fasteau**

Vice President  
Alliance for Excellent Education

### **Glen Forman**

Acting Chief  
Division of Apprenticeship Standards

### **Marlene Garcia**

Vice Chancellor of  
Governmental Relations  
California Community Colleges  
System Office

### **Omar Garcia**

Architecture Teacher  
Construction Tech Academy

### **Beth Graybill**

Consultant  
Senate Education Committee

### **Liz Guillen**

Director of Legislative and  
Community Affairs  
Public Advocates

### **Lance Gunerssen**

President-Elect  
California Industrial & Technology  
Education Association  
Davis Joint Unified School District

### **Barbara Halsey**

Executive Director  
California Workforce Investment Board

### **Deanna Hanson**

California Director  
National Academy Foundation

### **Janet Harden**

President  
California Association of Regional  
Occupational Centers and Programs

### **Gary Hoachlander**

President  
ConnectEd: The California Center for  
College and Career

### **Karen Humphrey**

Executive Director  
California Postsecondary Education  
Commission

### **Allison Jones**

Assistant Vice Chancellor  
California State University Office of  
the Chancellor

### **Janalee Jordan-Meldrum**

Senior Consultant  
Collaborative Communications Group

\* These positions and titles were accurate as of April 2009.



**Cricket Kidwell**  
Director of Curriculum and Instruction  
Trinity County Office of Education

**Barry Kirschen**  
California Federation of Teachers'  
Representative  
Greater Santa Cruz Federation  
of Teachers

**Michael Kirst**  
Emeritus Professor of Education  
Stanford University

**Tim Klein**  
Health Teacher  
Health Careers Academy  
Palmdale High School

**Rick Larkey**  
Director  
North State Building Industry Association

**Mark Wade Lieu**  
President  
Academic Senate, California  
Community Colleges

**Kathleen Milnes**  
President and Chief Executive Officer  
The Entertainment Economy  
Institute, Inc.

**George Montgomery**  
Past President  
California Association of  
School Counselors

**Colleen Moore**  
Research Specialist  
Institute for Higher Education  
Leadership and Policy, California State  
University, Sacramento

**Carl Morrison**  
President  
California Home Economics  
Educational Foundation

**Linda Murray**  
Superintendent in Residence  
The Education Trust-West

**Jeannie Oakes**  
Director  
Education and Scholarship  
Ford Foundation

**Matt Perry**  
Principal  
Health Professions High School

**Cindy L. Peterson**  
Charter Schools Director  
Twin Rivers School District

**Dennis Petrie**  
Deputy Director  
Workforce Development Branch  
California Employment Development  
Department

**Scott P. Plotkin**  
Executive Director  
California School Boards Association

**Oscar F. Porter**  
Executive Director  
Mathematics, Engineering, Science  
Achievement Statewide Office

**Art Pulaski**  
Executive Secretary  
California Labor Federation

**David Rattray**  
Vice President, Education and  
Workforce Development  
Los Angeles Area Chamber of Commerce

**Lee Angela Reid**  
K-12 Education Policy Consultant  
California Senate Office of Research

**Roger Rice**  
Associate Superintendent of  
Student Services  
Ventura County Office of Education

**Patricia Rucker**  
Career Technical Education  
Legislative Advocate  
California Teachers Association

**Marisa Saunders**  
Senior Research Associate  
University of California, Los Angeles  
Institute for Democracy, Education,  
and Access

**Chris Scott**  
Director II  
AVID/CalSOAP-Sacramento County  
Office of Education

**Arif Shaikh**  
Director of Communications and  
Public Affairs  
University of California, Los Angeles  
Institute for Democracy, Education  
and Access

**Nancy Shulock**  
Director  
Institute for Higher Education  
Leadership and Policy  
California State University, Sacramento

**Mark Siberlich**  
Principal  
dsk architects

**Marsha Stanley**  
English Teacher  
Health Professions High School

**Anne Stanton**  
Program Director, Youth Programs  
The James Irvine Foundation

**Roman J. Stearns**  
Director for Leadership Development  
ConnectEd: The California Center for  
College and Career

**Darrell Steinberg**  
Senate President Pro Tempore  
California State Senate

**Jack M. Stewart**  
President  
California Manufacturers and  
Technology Association

**Vincent Stewart**  
Assistant Secretary for  
Higher Education  
Office of the Secretary of Education

**Art Taylor**  
Director  
Strategic Partnerships-MKThink

**Granger Ward**  
Executive Vice President  
California Advancement Via Individual  
Determination Center Headquarters

**Robert Weinberg**  
Principal  
Sherman Oaks Center for  
Enriched Studies

**Peter Welch**  
President  
California New Car Dealers Association

**Bob Wells**  
Executive Director  
Association of California School  
Administrators

**Sue Westbrook**  
President, Early Childhood/  
K-12 Council  
California Federation of Teachers

**Susan Wilbur**  
Director of Undergraduate Admissions  
University of California, Office of  
the President

