



**ConnectEd**

The California Center for College and Career

Transforming today's education  
for tomorrow's economy

January 19, 2010

The Honorable Jack O'Connell  
State Superintendent  
California Department of Education  
1500 N Street  
Sacramento, California 95814

Dear Superintendent O'Connell:

ConnectEd: The California Center for College and Career applauds the work of the California Department of Education and WestEd in producing the Multiple Pathways Feasibility Report requested by the legislature in AB 2648. The recently released draft report synthesizes a wide range of research, analysis, and testimony and presents a very valuable road map for advancing this important and challenging work. The achievement is all the more impressive given the time pressures and other demands on the Department and its partners. We appreciate the opportunity to review and comment on the report and have provided detailed suggestions that we hope will help support your work.

Overall, the draft report ably captures the many challenges of pathway implementation and begins to address a wide range of issues that will need attention to make high-quality pathways available to significantly more students in California. We've separated our suggestions into some general comments framing the overall report, as well as more detailed comments on specific chapters. We'd welcome the opportunity to discuss any of these further and look forward to continuing to help finalize the report and carry forward with its recommendations.

## General Comments

*Recommendation 1: Emphasize a systemic approach to pathway implementation and expansion.*

As the report correctly states, AB 2648 requires that the Superintendent prepare, "a report that explores the feasibility of establishing and expanding additional multiple pathway programs in California" While the legislation does not specifically call for attention to promoting "systems" of pathways, it is clear that significantly expanding student access will depend on offering students a menu of pathways (ideally at least

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six to eight different options) that will help them pursue a comprehensive program of academic and technical study that aligns with their particular thematic and career interests.

While few districts will ever be able to offer students the choice of a pathway in each of the fifteen industry sectors that are the focus of state content standards for career and technical education, many can offer at least six to eight different choices, and most can offer at least three or four. Doing this in a way that maximizes student options and access requires a systemic districtwide approach to pathway design and implementation, as well as regional or cross-district collaboration wherever feasible.

Through a growing number of California Partnership academies, other career academies, theme-based high schools, comprehensive Regional Occupational Programs, and other strategies, there are now many examples of individual strong pathways operating throughout the state. However, more often than not, these pathways have developed independently from one another—the result of a dedicated group of teachers or school principal—rather than as part of a coherent districtwide plan giving students access to a range of options.

Significantly expanding pathways beyond a large number of “one-off” choices for students will depend on policies and incentives that encourage systemic approaches to pathway design, locally and at the state level. Districts will need to pay close attention to how many pathways they can feasibly offer, in what sectors, in which schools, and with what industry, postsecondary, and community partners. They will also need to address complex issues surrounding school choice, inter-district transfer, and transportation, to name just a few of the systems-related concerns. At the state level, while the California Department of Education is probably the best lead agency for supporting pathway expansion, connections to other agencies such as the California Community Colleges, California State University, the University of California, Employment Development Department, and others will be essential to achieving a comprehensive strategy for expanding pathways.

We recommend, therefore, that the report call out more explicitly this need for thinking about state and local systems and address more specific opportunities in the ensuing chapters, as appropriate.

*Recommendation 2: Pathways should be designed to serve “any” student rather than “all” students.*

Pathways must be designed to appeal to a great variety of students with a wide range of postsecondary and career aspirations, academic and technical proficiencies, and thematic interests. For example, a pathway in architecture, construction, and engineering, if well designed, will be appropriate for some students aspiring to baccalaureate or graduate degrees in architecture or engineering; other students intending to pursue such careers as construction management, carpentry, or heating, ventilation, and air conditioning; and still others with a general interest in design and technology. Pathways in other fields such as media and digital design, finance, or law and justice should be equally broad-based.

However, while a comprehensive system of industry-themed pathways should be a central feature of the high school offerings in districts throughout the state, these pathways are not intended to be the only option, replacing all other opportunities for students. On the contrary, districts will almost certainly want to continue to offer more traditional avenues to postsecondary education, and many may

seek to develop other kinds of theme-based pathways around such interests as international development, technology, world language, or other topics.

In short, industry-themed pathways should serve *any* student with a strong interest in the theme. They are not, however, intended for *all* students. We recommend that the report explicitly acknowledge this important distinction.

*Recommendation 3: Stress the importance of equity in pathway design.*

This report correctly acknowledges that none of the individual elements of Multiple Pathways is completely new. Many have even been around for decades. What is different, however, is combining these elements in comprehensive pathways that prepare students for college *and* career, both objectives and not just one or the other. Well-designed, pathways end the longstanding practice in high schools of preparing some students only for work and others only for postsecondary education—systems of “tracking” that all too often have denied some students access to postsecondary opportunities based on race, ethnicity, social status, and gender.

Some critics of pathways worry, with some justification, that pathways could be used to reproduce and perpetuate practices of tracking. It is not difficult to imagine how some pathways, with more demanding academic and technical content (perhaps also establishing certain high level academic entry criteria) could be used to serve mainly students aspiring to baccalaureate and graduate degree programs. Other pathways could be designed to offer a more limited, occupationally specific focus, with lower academic expectations, that *by design* restricted students’ options after high school to immediate entry-level labor market opportunities or less demanding postsecondary opportunities. The result would be the same kind of pernicious tracking that pervaded far too many high schools throughout most of the 20th Century.

Vigilant attention to equity, therefore, must be a centerpiece of all efforts to expand students’ access to pathways throughout California. We recommend that the report strongly affirm this commitment to equity and consider carefully how the recommendations in the subsequent chapters help promote this important goal.

*Recommendation 4: Pathways encompass more than just high school.*

Although high schools are the primary focus for immediate efforts to expand pathways in California, good design depends on recognizing the importance of articulation forward through the range of postsecondary options and to industry sectors and career opportunities, as well as backward into middle school and even the lower grades. Individual chapters of the report address middle school and postsecondary articulation. However, the report might benefit from stronger emphasis at the outset on the “P-16 and beyond” aspects of pathway design and implementation. Doing so helps underscore the importance of engaging postsecondary and industry partners in pathway design and implementation, as well as the need to address pathway-related preparation in the earlier grades. As currently written, the report sometimes seems a bit too “K-12 centric” with insufficient attention to the role that other stakeholders have in good pathway development.

*Recommendation 5: Give more attention to state policies and regulations.*

AB 2648 also states that the report shall:

“(1) Identify regulations, policies, and practices that need to be added, deleted, or amended in order to promote the development and expansion of multiple pathway programs.”

While some chapters do an excellent job of considering implications for state policies and regulations (e.g., Chapter 4 on Work-Based Learning), many chapters do not. A more thorough consideration of the policy and regulatory implications associated with each of the major issues would be helpful.

*Recommendation 6: Rely primarily on “pathways” rather than “multiple pathways” to describe the initiative.*

As the Department and the authors acknowledge, since the passage of the Legislation requesting preparation of the feasibility report, the field of multiple pathways has been transitioning from the “multiple pathways” label to a new field name—Linked Learning: Pathways to College and Career Success. While it would be inappropriate for the report to adopt the new field name, using “pathways” rather than “multiple pathways” throughout most of the text might make it easier to continue to use the report to support expansion as more and more stakeholders adopt the new name. The report represents an excellent reference that can serve the field well for several years to come, and using terminology that anticipates the name change will help preserve its long-range value.

## **Chapter-Specific Comments**

### **Chapter 1 – Moving Forward: Transforming California High Schools**

The chapter provides a succinct lead-in to the reasons why California needs a stronger unifying vision to improve high schools. The chapter might benefit from emphasizing the importance of ensuring that all students master skills and knowledge needed for further education and achieving family-wage careers, as well as the importance of committing to strategies that will give all students a means to achieve these outcomes. One of the great strengths of the pathways approach is its inherent commitment to access and equity—a direct counterpoint to traditional tracking.

The chapter might also highlight that while there are many promising programs under way, and strong pieces on which to build, expanding pathways will benefit from a more systemic approach, locally and at the state level. Giving many more students access to a menu of high-quality pathways will require a confluence of efforts across departments and across programs and funding sources to realize the changes in curriculum, instruction, leadership development, accountability, and other requirements for successful pathway development throughout the state.

**Some more specific suggestions include the following:**

pg. 2 – Consider adding to the discussion of the California Partnership Academies model the point that although the CPAs are one of the best examples of pathways currently operating in the state, they still serve relatively few students and vary considerably in their ability to fully incorporate the four core pathway components.

pg. 5 – Charts and graphs might enhance the narrative figures about preparation for higher education and careers.

pg. 5, para. 4, last sentence – Might point out that the Latino population is not only the fastest growing, but also currently the single largest student population.

pg. 6 – Could refer to the work of the American Diploma Project in this section, as an organizing strategy.

pg. 6 – Could include the work of statewide industry representatives in advancing pathways, e.g. the REAL Coalition representing 18 chambers/industry organizations.

## **Chapter 2 – What Are Multiple Pathways?**

This chapter does an excellent job of simply explaining a complicated approach.

**Some more specific suggestions include the following:**

pg. 1, sentence 1 – May want to broaden the “potential” for a Multiple Pathway approach. Suggestion:

“The expansion of MP has the potential to improve a wide-range of student outcomes; it can make high school an exciting learning environment where students are challenged, engaged, and understand how they might use what they are learning in the outside world. It has the potential to expand students’ choices both while they are in high school and after they graduate.”

pg. 5, Box on Local District 4 – (a) In the first paragraph, the report refers to 19 theme-based small learning environments. In the second paragraph, the report refers to middle schools students being able to choose from 6–8 pathways and then 2 theme-based pathways at each high school. There may be confusion as to how these numbers related to each other. (b) The last sentence says that at least one theme-based pathway would have an industry-theme, and other components. Would help to clarify.

pg. 5, Themes – May want to further explain that while students participating in a particular pathway theme might eventually end up in a job related to that theme, it is not expected that all students will, nor are specific employment outcomes the primary goal of pathways. Rather industry-themed pathways offer a vehicle for mastering a strong foundation of academic and technical knowledge (“Why to I need to know this/”) and a way to engage students in a topic that interests them.

pg. 7, para. 1, last sentence – May want to emphasize that it is important not only to engage the students but also challenge them and encourage them to stay in school since many students drop out in the 9<sup>th</sup> grade.

pg. 7, para. 4 – A CTE course that is a-g approved may include academic theories and standards that meet the UC and CSU standards, but it does not represent the optimal type of integration where the course content is aligned and coordinated with other subject areas. Ideally a school will offer at least one well-designed, extended multidisciplinary, integrated project per semester, which would include the technical course as a key component. May want to clarify.

pg. 7, para. 5, last sentence – May want to further explain that schools that incorporate the pathway theme into courses but do not link between courses are not representative of a fully-developed pathway—although they may be an evolving pathway.

pg. 7, section on Integration – May want to help readers further understand the concept of curriculum integration by providing additional examples. For example, “Students in a building and engineering pathway might learn about geometry and algebra while actually designing and building a structure. Students in an arts, media, and entertainment pathway might learn persuasive writing skills while developing business plans, or creative writing skills while drafting scripts.” These examples could be incorporated into the school profiles as well.

### **Chapter 3 – Curriculum and Instruction**

This chapter correctly identifies curriculum integration as an important instructional strategy within the pathways approach. This strategy builds on nearly two decades of developments in education philosophy, research, and federal policy that link enhanced student learning to experience with authentic applications and problems. However, the chapter could reference other key elements of pathways curriculum and instruction—many of which are similar to those used in good, traditional high schools. As it currently reads, the text paints a partial, and possibly misleading, picture of what pathways require. While curriculum integration is different and important, there are many similarities between instruction in pathways and traditional, good teaching and curriculum design. For example:

- Quality pathways curriculum starts with state academic standards. Students in pathway courses master the same challenging content as students in more traditional high school classrooms.
- Effective teachers in pathway programs do not limit their instruction to integrated problems and projects. Traditional teaching methods, such as direct instruction, remain important teaching tools.

Like all high schools that aim to prepare students for the full range of postsecondary education opportunities, high-quality MP programs give students access to a full sequence of UC/CSU “a-g” courses.

To provide a larger context for the role of integrated curriculum, the chapter could frame this work in the larger context of pathway as a comprehensive, multiyear program of study, encompassing core academic courses, technical courses, work-based learning, and supplemental services—much, much more than just integrated curriculum.

The chapter might also discuss additional challenges in developing curriculum: (1) the necessity for teachers to share a common cohort of students; (2) the difficulty of achieving common cohorts when same-grade students are spread across many different levels within a subject area (AKA, the math problem); (3) adherence to pacing charts and benchmark testing, as well as prescriptive activities within the scope and sequence, allows little flexibility for integrate planning and implementation; and (4) the culture of high schools. (Asking teachers to collaborate across disciplines runs counter to the academic culture of colleges/universities and teacher preparation programs, which are structured around traditional academic disciplines. The organizational culture of high schools typically mirrors this structure. Asking teachers to collaborate across disciplines—and even between the academic and CTE arenas—requires them to adopt an entirely different culture.)

**Some more specific suggestions include the following:**

pg. 1, para. 1 – Mentions academic skills integrated into career technical courses but not vice versa. May want to clarify that integration is two way.

pg. 2, para. 1 – May want to have more specificity in integration examples. In the examples provided, for instance: information about swine flu incorporated into a biology lesson on the immune system and mutation of viruses, or an agriculture teacher might have students discuss or investigate how chemicals found in insecticides impact global warming, and how that can affect decisions about which products to use.

pg. 2, para. 2 – The distinction among the three forms of integration is not clear from the description provided, especially between reconstructed and shared.

pg. 2, para. 5 – Bulleted list seems incomplete. May want to mention the connection to industry, postsecondary, and community partners and real-world problems/issues contextualization of academic and CTE curriculum.

pg. 3, para. 1– This paragraph seems to imply that if a CTE course is a-g approved that it is inherently integrated. May want to clarify that this is not always the case.

pg. 3 – Current Status may imply (inadvertently) that the only structure that supports curriculum integration is academies, especially CPAs. Yet, none of the three examples that follow are CPAs. May want to acknowledge that small, career-themed high schools, pathways within comprehensive high schools, and some magnet schools also support effective curriculum integration.

pg. 3, Examples of Integrated Approaches – The three examples provided in this section seem to mainly describe different school structures in which integrated curriculum can be delivered. May want to consider expanding on how integrated instruction differs between the sites or how it is unique to that program structure.

pg. 4, Existing Resources – Might consider adding the Career Academy Support Network (CASN) that has many resources beyond those mentioned on pg. 5, para. 2 about the green academies.

pg. 4, Existing Resources – Consider adding that curriculum for health sciences is available to any California high school through the ConnectEd website. Any school that has established a relationship with ConnectEd also can, without charge, access integrated curricula for engineering and architecture.

## **Chapter 4 –Work-Based Learning**

The chapter nicely presents the different aspects of work-based learning and their role in pathways. This chapter is also one of the few chapters that identify some of the regulatory and policy barriers.

The structure of this chapter may be confusing and the department may want to create a better organizing structure to deliver the rich content.

**Some more specific suggestions include the following:**

pg. 1, para. 1 – The connection to applied learning may cause confusion. Clarify that in addition to core curriculum that integrates applied learning, pathways also offer work-based learning opportunities.

pg. 2 – Text has correctly listed the criteria on which to judge all of the different types of work-based learning. May want to ensure that models listed meet the criteria.

pg. 2, Types of WBL – Might be useful to include exploratory experiences like job shadowing and company tours.

pg. 5, Teacher Knowledge and Skills – Consider adding teacher externships that link to the building of partnerships with business and industry and to build the skills of the teachers on how best to prepare student to participate in WBL, as well as create the workplace relevance into the curriculum.

pg. 6, Partnership Building and Advisory Boards – Consider expanding the definition of advisory boards beyond the one annual ROP advisory board meeting as the board can play a much greater role in assisting with project ideas, judging student work, providing support and feedback to teachers as they engage their students.

## **Chapter 5 – In-School Support**

This chapter does a very good job of *listing* counseling and academic support services and programs, however there is no specific mention of how these programs are especially suited (or not) for pathways. Consider specifying more clearly how the programs link to the multiple pathway approach.

Example:

“Students in multiple pathway programs feel supported, valued, and part of a family. Pathways achieve this through consciously creating strong teacher-student relation-

ships, teacher teamwork, and a personalized learning environment where each student's learning needs are well known and individually addressed. Daily instruction is designed with the knowledge that students vary in their preferred method of gaining information, understanding ideas, and demonstration mastery. Pathway teachers, therefore, use multiple methods of presenting course content and assessing student learning to address each student's learning needs.

Pathway students performing below grade level are supported by a range of services that may include supplemental instruction, intervention classes, tutoring, credit recovery, before-and after-school programs, and academic support programs. To the extent possible, academic support services are provided within the pathway and utilize the pathway's theme to motivate and engage student learning.

Each pathway should have a designated counselor who knows pathway students well and is familiar with the unique characteristics and needs of the pathway. The counselor actively participates in pathway team meetings. The counselor plays a significant role in recruiting students, coordinating academic interventions, aligning course selection and work-based learning with student interests, among other roles. The counselor also assumes a lead role in the implementation of the pathway's advisory program.

Each pathway student should have a multi-year college and career plan that is informed by a range of college and career planning activities, extends through high school, and guides decisions about postsecondary education, training, and career pursuits.”

In addition to formal student support programs, the chapter may also want to include site-based programs like intervention classes, supplementary instruction, CAHSEE support programs, tutoring, etc., and how these programs support students in pathway programs

**Some more specific suggestions include the following:**

pg. 2, para. 1 – The example program is unclear and doesn't describe any specific in-school support. May want to clarify.

pg. 2, para. 5 – It's unclear in this paragraph what are the main objectives and goals of a guidance curriculum. Will the audience for this report be familiar with that? If not, more clarification here would be desirable.

pg. 3, Academic Counseling – With the exception of “Advisories,” these descriptions do not generally include a description of the structure in which these programs are implemented (e.g., extra class, after school). May want to consider adding to the discussion of how these programs could or should be implemented in a pathway.

pg. 3 – May want to expand on the definitions of AVID, GEAR UP, and MESA programs. For example, AVID is more than “a college preparatory program.”

pg. 4, Support of English Language Learners – may want to ensure that the message is not that ELL students should be vocationally focused.

pg. 5, Support for Struggling Students – May want to include additional academic interventions and alternative programs, and how they fit within pathways.

## Chapter 6 –School Structure and Time

This chapter provides a good overview of time and program design and cites good examples. Consider reinforcing why pathways are a viable answer to the needs cited.

Nice that the chapter cited “Prisoners of Time,” which is a compelling study on the folly of seat time. The department may want to further illustrate how teams of teachers and partners can capitalize on more flexible and longer instruction time.

**Some more specific suggestions include the following:**

pg. 1, last para. – May want to emphasize “high-quality” pathways whenever possible. There are many existing academies and pathways that do not yet deliver all of the core pathway components or meet other criteria for high quality pathway design and implementation. Those pathways do not necessarily serve students well and may not yield the achievement outcomes that we would hope and expect.

pg. 2, para. 1 – In addition to highlighting students with disabilities, may also want to highlight other special needs, particularly English learners. Pathways must be accessible to and serve a full range of student ability levels and aspirations.

pg. 4, Duration and Grade Span, para. 1 – Clarify that 4-year programs are being implemented in the *majority* of districts in ConnectEd’s District Initiative, not *all*.

pg. 4, Duration and Grade Span, para. 2 – May want to further explain that research shows that (a) boredom is the #1 cause for dropping out and (b) the vast majority of dropouts occur in or around 9th grade.

pg. 4, Duration and Grade Span, para. 4 – A three-year model is common among California Partnership Academies, the most common model for pathways in CA. The text might also discuss that studies show that students are quite unlikely to change schools after their 9th-grade year, so there should be some attention to pathway options when students initially select their high school.

pg. 5, para. 1 – Clarify that the Linked Learning Pathway Certification Tool is *not* solely a ConnectEd document. Its development was and its use will be shared by several organizations, including CDE, CASN, NAF, NCAC, and ConnectEd. In its current form, the tool does not mention a desirable enrollment size. However, as an organization, ConnectEd does recommend pathways of 300-500 students.

pg. 5, Teacher Scheduling – Add that school site and district administration should prioritize keeping pathway teacher teams together from year to year in order to promote quality and sustainability.

pg. 6, last paragraph – May want to clarify this section to read:

“In order for teachers to work effectively together in cross-disciplinary teams to design multidisciplinary projects, examine student work, and address necessary student supports and interventions, there is a need for the schedule to accommodate common planning time for teams of pathway teachers. This may be accomplished by scheduling pathway teachers with a common prep period; however, the typical teacher contract with terms negotiated by the bargaining unit would not allow a site or district administrator to *require* teachers to use a prep period to collaborate with colleagues. For this reason, many schools with pathways have arranged for common planning time during a late start or early release day. Doing so also carves out time for students to participate in WBL and other related community or work-based learning experiences.”

pg. 10, CART callout box – Note: CART is no longer a charter school, but rather a joint partner agreement between Clovis and Fresno USDs.

pg. 12, 3rd full paragraph – More accurate language would be: “Six districts (...) have received grants from ConnectEd: The California Center for College and Career, with funding from the James Irvine Foundation, to develop...continue their work to develop district systems to support the development and sustainability of high quality pathways.”

pg. 13, Lack of Flexibility – Clarify that: “If testing could be offered at multiple times during the year, schools would have greater scheduling flexibility.”

## Chapter 7 – Middle School Alignment

While the chapter correctly highlights the need for transition and career exploration in middle school, the chapter could expand on how best to strengthen the connection on how changes at the middle school level would affect a system of pathway, promote equity and access and lower the drop out rate by having student making personally meaningful choices.

**Some more specific suggestions include the following:**

pg. 3, para. 4 – May want to expand on the definition of “open-ended exploration.” Career exploration courses need to be established in Middle schools to give students a hands-on approach to career exploration. The use of course like Gateway to Technology from PLTW or Exploring Technology or even wheel courses does a nice job of exposing students.

pg. 3, para. 5 – May want to expand on the current role of career development plans and counselor management. Middle School Counselors far too often don’t have the time, or expertise to do this effectively. They also have caseloads of 500-600 students.

pg. 4 – May want to again address equity and access. Students and parents need to get information in their hands about the options in high school, be able to attend school fairs, have a tour, hear presentations about various options, and gain an understanding of the choice process.

## Chapter 8 – Postsecondary Linkages

As in other chapters, this chapter might expand on how the specific linkages support the development of pathways and systems of pathways.

**Some more specific suggestions include the following:**

pg. 4, bottom – In addition to some of the dual enrollment challenges, the text may also note that the Department of Finance continues to be concerned about “double dipping,” that is, a scenario whereby dual enrollment triggers high school ADA and community college FTE for the same student. When addressing this concern and resolving it, the state should pay attention to long-term gains as well as potential short-term losses. For example, through dual enrollment, although there may be a short-term loss through “double dipping,” the state saves money by students not needing to take as many remedial courses in college, by speeding the time to degree, by increasing college-going rates, etc.

pg. 5, A-G Issues – May want to define the A-G sequence of courses.

pg. 6 (top) – May want to clarify that UC’s approval of relatively few CTE courses in the English, math, and history/social science areas (A, B, C requirements) has to do with the nature of CTE courses (i.e., how many CTE courses contain substantial amounts of college-preparatory math?) and the limiting/narrow way in which UC defines their requirements in these disciplines. For example, for the “A – History / Social Science” requirement, UC only accepts courses in world history/geography/cultures, U.S. history, and American government – no others. Any other social science course would fall to the “g – elective” area.

pg. 6, last line – May want to state “Whether a-g is the best approach, or *some other* proxy, ...” because a-g is a proxy in itself.

pg. 8, ROCPs, Adult Education, and Community College-Based Apprenticeships – May want to clarify definitions. Are RSI’s available to high school students? If so, how are they accessed? How does this pertain to the expansion of pathway options for students and/or the creation of higher quality pathways?

pg. 13, Monitoring Student Progress – May want to connect TES or Cal-PASS to pathways. For example, could comment that TES monitors student progress toward meeting the expected academic core requirements in any pathway program of study. It could suggest that Cal-PASS offers opportunities to create regional councils that are cross disciplinary and discuss project-based learning practices and the impact those practices have on student achievement.

pg. 14, System Structure – May want to note that there are currently no statewide policies, guidelines, or systems to establish, guide, monitor, and/or incentivize dual enrollment and postsecondary articulation.

## Chapter 9 – Regional Coalitions

The chapter offers a good list of “organizations and collaboratives whose work can be leveraged in the multiple pathways initiative.” However, AB 2648 required the report to contain:

“(K) Recommendations for supporting regional coalitions in planning and developing programs.”

The chapter could make stronger connections between the coalitions and pathway development, and offer specific recommendations.

### **Some more specific suggestions include the following:**

pg. 1, para. 2 – May want to emphasize that establishing a broad-based coalition is essential to sustaining efforts and keeping the momentum moving forward regardless of superintendent and board changes.

pg. 2 – Engaging, convening, and supporting critical constituencies – The Board of Directors for LEED Sacramento has recently approved a 6-county Regional Career Academy Initiative.

pg. 5 – May want to clarify that much work needs to be done with Local Workforce Investment Boards to work on system building.

pg. 6, para. 3 – May want to clarify that ROP advisory boards are not usually broad-based and regional. However, the ROPs present a great opportunity for pathway expansion.

pg. 9, Local P-16 Councils – How might P-16 councils use its collaborative structure to encourage/support regional systems of pathways that take advantage of economies of scale, P-16 articulation, curriculum alignment, etc.?

pg. 10, para. 2 – May want to expand on the possible role of DAIT in terms of supporting pathways.

pg. 10, 2nd full paragraph – Example: A few years ago, the MERCED County Office of Education completed a “paired courses” project that created several course curricula that integrates academic and career-technical disciplines. (For more information, contact Sharon Twitty.)

pg. 10, 2nd full paragraph – Example: San Bernardino County’s Alliance provides a good example of a regional collaboration that nurtures active and ongoing involvement by industry partners (for more info, contact Kevin Baker, San Bernardino COE).

pg. 10, last sentence – Construction Technology Academy may be better described as a small school that uses a pathway approach to teach academic and technical curriculum that is standards-based, integrated, and aligned to the theme of architecture, construction, and engineering.

pg. 11, District-wide Partnerships, sentence 2 – Preferred language: “The California Multiple Pathways District Initiative promotes sustainability by requiring each funded district to establish a broad-based community coalition that promotes shared vision, commitment, responsibility, and leadership among business/industry, civic, postsecondary, and community organizations.”

pg. 13, Challenges, end of para. 1 – Propose adding “Similarly, regions lack such a common vision and strategy.”

pg. 13, Challenges, para. 3 – “The disparate organizational cultures, missions and motivations of industry and education...”

## **Chapter 10 –Teacher Recruitment, Preparation, and Professional Development**

Chapter might frame the discussion with requirements of AB 2648, which states:

“(I) Recommendations for increasing the supply of teachers who can teach effectively in a pathway setting that aims to prepare pupils for a full range of postsecondary options. Necessary specialized skills include, but are not limited to, the abilities to design interdisciplinary projects and use project-based learning as an instructional strategy, work with other teachers in a team-teaching arrangement, develop curriculum that effectively integrates academic and technical content, design and utilize high-quality work-based learning to reinforce lessons in both academic and technical courses, and develop authentic pupil assessments.”

Chapter might also review the discussions regarding AB 1223 attempting to establish a linked learning recognition of study.

**Some more specific suggestions include the following:**

Second full paragraph on pg. 2 – May want to further clarify the connection between regions that have high dropout rates and regions that have under-prepared teachers.

pg. 3 – The first set of bullet points may want to acknowledge that lower salaries are paid to designated-subject teachers who constitute a large proportion of the CTE teacher workforce.

pg. 4 – May want to add that improving elementary and secondary math and science instruction would lead more students to pursue and succeed in these fields in college. Completing a bachelor’s degree in the field is, of course, the first prerequisite for becoming a highly qualified teacher.

pg. 8 – The report indicates that the qualifications for teacher preparation (TPEs) do not address pathway requirements. Previously, this was true. However, last October, the CCTC issued revisions to the California Standards for the Teaching Profession. This new document indicates that teachers need to be able to link subject matter with meaningful real-life experiences.

pg. 9 (top) – May want to clarify and state: “Working with post-baccalaureate students, the San Diego program adds a “pathways lens” to the California Single Subject Credential program. In addition to the Teacher Preparation Expectations that have been identified by the California Commission on Teacher Credentialing and that are required for the Single Subject Credential, core pathways proficiencies have been identified for this “pathways lens.” These include pathways philosophy, core areas of proficiency, career exposure and development, curricula design, and pedagogy.”

pg. 10 – San Francisco State has not yet joined the SDSU project. Instead, the list should include CSU San Bernardino.

pp. 12–13 – May want to expand on the need for ongoing professional development for CTE teachers. This section might be entitled *Ongoing Professional Development*, with externships identified as only one vehicle for providing these opportunities. CTE teachers, like their academic colleagues, need the resources to keep abreast of developments in their fields. This is especially true today because of technology advances in almost every industry sector.

## **Chapter 11 – Administrator and Counselor Recruitment, Preparation, and Professional Development**

AB 2648 states that the report shall include the following:

“(J) Recommendations for increasing the supply of school site and district administrators who can effectively create and manage schools that are implementing one or more industry focused pathway programs. Necessary specialized skills include, but are not limited to, the abilities to develop and sustain partnerships with industry partners, recruit and retain uniquely qualified teachers, guide development of integrated curriculum, understand needs for and provide teacher professional development, guide development of comprehensive guidance systems that integrate college advising and career counseling, guide development of a coordinated and sequenced work-based learning component, and utilize data to assess pupil readiness for college and career.”

The Commission on Teacher Credentialing is currently working on a request by the Assembly and Senate on promoting Transformative Leadership within the administrative credentialing process and to connect the transformative leadership work with the pathway expansion work. The authors may want to contact the CTC and include additional comments on this issue.

**Some more specific suggestions include the following:**

pp. 1–5 – May want to expand on the unique skills and knowledge needed by administrators in schools with pathway programs.

p. 6 – Consider connecting the crucial role that counselors play in the success of pathways and the unique knowledge and skills those counselors must possess to do successful work in pathway programs. In the NRWEL evaluation on SLCs, counselors were the group identified as being the most satisfied with role changes that resulted.

## **Chapter 12 – Accountability, Assessment, and Evaluation**

The chapter correctly captures key issues affecting local implementation around the API, AYP and standards. The current changes proposed in the RTTT legislation may give the opportunity to make some immediate changes in assessment that will promote the expansion of pathways. Consider including these proposals in this chapter. Also consider expanding the discussion on the issue of systems of pathways and the roles of local districts in this chapter.

**Some more specific suggestions include the following:**

On pg. 7, regarding “Pathway Certification” please find below the update on the certification process.

“In response to the advent of the multiple pathways approach to high school design a *set of pathway certification criteria, a generic rubric to accompany the criteria, and a glossary of terms* have been developed by a team of representatives from partner organizations including ConnectEd, the National Academy Foundation, the National Career Academy Foundation, the Career Academy Support Network, the California Department of Education, as well as representatives from high schools and district office staff. These certification criteria provide general descriptions of quality for pathway program elements, while the rubric provides a guide to assess pathway quality for each of the criteria. Together the criteria and the rubric provide sufficient detail that individuals just embarking on the design of multiple pathways can get a clear picture of where they are headed, while those currently implementing pathways can use them for self-assessment of program quality and fidelity as well as program improvement.

External evaluators working at the school and district level will also use the certification criteria and rubric. They can also be used by local program evaluation to guide improvements in practice. When local evaluations are reviewed in the aggregate at the state level, best practices can be identified, and state support can be directed where it is needed.”

## **Chapter 13 – State Leadership**

While it is important to ensure that the expansion of pathways has a long-term champion, it’s is not clear that creating another state-level advisory council is the best strategy. Nevertheless, AB 2648 specifically states, it is important to:

“(B) [Identify] the possible roles and responsibilities of other departments or agencies to assist in developing or expanding multiple pathway programs.”

A better analysis of the possible roles of EDD, WIB, Community College, CSU, Secretary of Education, and the Secretary of Labor in the expansion of pathways would strengthen this chapter.

**Some more specific suggestions include the following:**

pg. 2 (bottom) – Clarify that in order “To promote district-wide systems of multiple pathways, ConnectEd has recently embarked on a statewide initiative funded by the James Irvine Foundation, to provide planning grants, as well as technical assistance to 10 school districts. As of the time of this report, ConnectEd has awarded implementation grants to six of these districts to take this to scale, also funded by the Irvine Foundation.”

## Chapter 14 – Cost and Budgetary Implications

Pathways are first and foremost about using existing resources differently. While the design and implementation of pathways can certainly benefit from an infusion of additional funding, it is misleading — and probably counterproductive — to suggest that pathway implementation *depends* on additional spending, especially as much as \$1,500 per student. Making stronger connections between academic content and authentic application to challenging industry-related problems does not *depend* on teachers spending more time on lesson planning than do teachers in more traditional settings. It does depend on their using their planning time differently to produce different results. Similarly, expanded work-based learning does not depend on providing individual paid, or even unpaid, internships to every student participating in a pathway, which would certainly require substantial internship development costs. There are much less costly alternatives to individual internships that can still bring industry into the classroom and expose students to authentic work-place situations.

Moreover, it may be equally misleading to use the status quo in California’s high schools as the benchmark for calculating the incremental costs of pathways. It is widely known that California’s high schools are not working for large numbers of young people. On one simple measure alone, the number of Carnegie units completed by the average high school graduate, California lags about three units (or the equivalent of half a year of school) behind the average for high school graduates nationwide (just under 24 units for California graduates compared to about 27 units for graduates nationwide). Thus, were California’s high schools delivering the amount of instruction typical nationwide, it would be possible for most California high schools to routinely offer students a seven-period day or a block schedule, which are much better suited to high quality pathway design and delivery. The problem here, however, is not that pathways cost more but that better high schools cost more. And California is well behind other states in delivering a rich and comprehensive curriculum to its students.

The issue of cost is complex, and while the chapter does a good job of beginning to identify many of the important variables, considerably more analysis is needed to more accurately assess the costs and benefits of pathways. Until that work is done, one should exercise restraint in putting forth specific cost estimates.

If districts and schools utilize the existing funding structure and delivery mechanism, pathways may cost additional dollars. The exact dollar is still debatable. However, if districts and schools utilize funding differently and create different structures, pathways may be cost neutral or even save districts funding (lower remediation, lower discipline referrals, few personal sick days, increase graduation, as reported by NRWEL about SLCs).

**Some more specific suggestions include the following:**

pg. 5 – Consider adding the following to the first sentence in the last paragraph after “want support,” “as is helpful when implementing most improvement strategies.”

pg. 7 – In the discussion of “Development of a ‘virtual high school’ to enable students the flexibly to take all the courses needed to complete a rigorous multiple pathways program” – Consider exist-

ing/or developing models of virtual learning environments that can supplement pathways (e.g., Acme Animation, ConnectEd Studios).

pg. 8, para. 3 – Consider keeping the suggestive tone in the report, instead of a directive tone — e.g., “Priority COULD be placed on the development, acquisition, or expansion”

pg. 11 – The report addresses the total cost of MP to California Taxpayers. It cites the Belfield and Levin (2007) study that concludes pathways have a very high benefit to cost ratio due to reduced dropout rates. Might be useful to elaborate on the issue that lower dropout rates have many long-term positive economic effects for the state: lower crime, lower prison costs, lower social service costs, and greater economic development potential.

## Conclusion

In closing, we wish to reiterate that the study has provided a review and synthesis of an extraordinary amount of useful information and research. It will serve as an invaluable resource for helping to shape the strategies, policies, and actions that will be needed to ensure that many more of California’s young people can have access to pathways that prepare them for college *and* career, both objectives and no longer just one or the other.

We look forward to being able to continue to work with the California Department of Education and other stakeholders to advance this critical work. Please feel free to contact us for clarifications and additional information. Gary Hoachlander may be reached at 510-849-4945; Jose Hernandez at 213-580-7588.

Sincerely,



Gary Hoachlander  
President



Jose Atilio Hernandez  
Director for External  
And Community Affairs