

Use Data Wisely

Accurate and reliable information is the cornerstone of a culture of continuous improvement. The education system itself must “learn” and grow.

Our Vision:

Creating a culture that focuses first and foremost on student learning requires putting in place systems that allow all stakeholders to see where learning is occurring — or not — and why. Clear, accurate, and reliable data are the foundations of those systems. When properly interpreted and used, they provide the information essential to effective decisions. Students can use good information to know where they stand and what they must do to prepare themselves for high school graduation and postsecondary opportunities. Parents can use good information to make wise decisions about where to enroll their children and how to support their learning at home. Teachers can use good information to adjust their instruction to meet the needs of each student. Principals can use good information to lead their schools — to inspire and provide instructional support to staff, to conduct fair evaluations, to determine how best to allocate resources, and to speak knowledgeably to parents and other members of the community.

District, county, and regional leaders can use good information to hold schools accountable for success, to know where additional support is needed, and to intervene more directly, if necessary. State officials can use good information for the same reasons — as well as to develop sound policies, identify and share best practices, and meet their ultimate responsibility to provide each student with a high-quality education. Finally, taxpayers and the general public can use good information to understand whether the system is spending public funds effectively and delivering on its promise to educate each child to high levels.

California’s Current Reality

California’s current information systems are woefully lacking. Educators do not have the information they need to increase effectiveness. State policymakers have little information to make well-informed policy. Parents and communities are not able to effectively track the success of their children’s schools or compare them to other schools; and they don’t know how schools are funded, including the distribution of funds and who makes allocation decisions. This state of affairs, however, does not result from California districts’ and schools’ failure to collect an abundance of information. They do. What the state and many school districts *do not* do, however, is systematically collect, integrate, and maintain the array of information available from various sources and then provide that information — in raw or analyzed form — back to educators and decision makers in a timely fashion that allows the

data collected to inform the decision-making and education processes. If this were done, educators throughout the system could improve their practices. This is a key step in supporting the development of a culture of continuous improvement.

To promote effective accountability, districts, counties, and the state must be able to track individual student enrollment history, program participation, and achievement data over time; this will allow evaluation of students' progress, the impact of learning inputs on their outcomes, and assessment of program quality. This is what is meant by a "longitudinal" data system. Again, this is currently lacking in California.

Unfortunately, much of the data currently collected is maintained in independent "silos" that do not interact with each other. To some extent, the "siloin" of data at the state level has evolved from the way the state collects data from school districts. The California Department of Education (CDE) receives data from districts through hundreds of independent collections, each associated with a particular purpose. At the local level, where districts are being asked for data at different times of the year in different formats for different programs, there often is a tendency to follow the state's lead and create independent databases to track specific needs. For example, one system may track migrant education students, while another tracks students who are eligible for Title I program support; often, students participate in both of these programs, each offering similar services such as after-school support, but because the information systems do not interact with one another, students served by both programs may not be supported in an integrated fashion. Improving state information systems would enhance the ability of most districts to serve students effectively.

California has been making progress in developing educational data systems, including the recent statutory requirement to develop a longitudinal teacher database. That progress, however, has been slow and consists of only the first steps in creating the kinds of information systems that can meet educators' and the state's needs to support continuous improvement — as do the highly effective systems operating in many other states. The National Center for Educational Achievement has developed 10 essential elements that are critical to an effective longitudinal data system (see sidebar "10 Essential Elements Critical to Longitudinal Data Systems")¹. While these standards may not encompass all that will ultimately be desirable for an information system to guide the state in the future, they are useful in illustrating the inadequate state of California's current system. California currently is on track to meet four of these elements (numbers 1, 2, 4, and 10), and although it has plans to achieve three more elements (numbers 3, 7, and 8), the state has a long way to go to address them and the final three elements.² (See also Appendix J.)

10 Essential Elements Critical to Longitudinal Data Systems

1. A unique statewide student identifier that connects student data across key databases across years.
2. Student-level enrollment, demographic, and program-participation information
3. The ability to match individual students' test records from year to year to measure academic growth.
4. Information on untested students and the reasons they were not tested.
5. A teacher identifier system with the ability to match teachers to students.
6. Student-level transcript information, including information on courses completed and grades earned.
7. Student-level college-readiness test scores.
8. Student-level graduation and dropout data.
9. The ability to match student records between the P–12 and higher education systems.
10. A state data audit system assessing data quality, validity, and reliability.

Source: www.dataqualitycampaign.org/survey_results/elements.cfm

The Committee strongly supports the rapid implementation of the student and teacher information systems already underway. But it is clear that the system as envisioned will not be able to deliver all that is expected of it, even based on currently identified needs. For example, the California Longitudinal Pupil Achievement Data System (CALPADS) will not allow school districts to access the data, so the information will not be available to improve the quality of classroom instruction. Moreover, no critical analysis has been undertaken to determine what an information system *should* provide to educators and policymakers in the state. In short, California is building a system that will not meet all of the state’s information needs, but rather focuses on improving the way state reporting is conducted.

There still is a great deal more work to do in California; that work is essential to any progress the state will be able to make in advancing the academic achievement of K–12 students.

Improve Data Capacity throughout the System

The essential first step to creating a higher level of accountability is to improve the data capacity throughout the education system. What is known from the research on best practices for states, school districts, and schools is that effective use of information is a key component of success. Collecting data, maintaining it, and making it accessible to educators and decision makers throughout the system are necessary steps to create the type of education system that continuously improves — as the Committee envisions for California. If relevant information is not collected, it is difficult to tell whether a program or policy is working at the state or local level.

Florida Is the Gold Standard of State Data Systems

Florida has created an education data warehouse — encompassing preschool through graduate school — that was designed from its inception to provide a continuous, integrated, and longitudinal repository of student and staff data. The data system includes public schools, adult education programs, technical centers, community colleges, and universities, as well as parallel resources such as financial aid, facilities, finance, employment, and social services. The state has been tracking students longitudinally since the mid-1990s.

Florida has been able to create a culture of data throughout its education enterprise. Of particular importance is the system’s capacity to allow teachers, schools, districts, and universities to make continuous improvements based on real information, rather than anecdotal information and philosophical beliefs. The system can help determine whether an intervention program helps a student in the near *and* long term, as well as whether an intervention has an impact on long-term district and state goals. So, for example, while California cannot even measure its student dropout rate, Florida can pinpoint the dropout rate and then move on to more difficult and important questions, such as the following:

- What data from middle and high schools are predictors that a student is at risk of dropping out?
- What interventions for these at-risk students help reduce the risk of a student dropping out?
- If a student drops out, does she eventually find her way back into the education system (GED, community college, or work training program), and what can the state do to improve this return rate?
- What type of careers do dropouts enter, what are their earnings, and what is the unemployment rate for these students?

With the rich array of data and analysis available in such a data system, readily available information can help each level of the system to maximize its effectiveness in improving outcomes for students.

Other states are significantly ahead of California in implementing effective information systems. States such as Florida and Texas have been developing their data systems for decades, and their systems contain all or almost all of the essential elements of an effective data system, as well as additional capacities. While it is unfortunate that California is so far behind in this critical area, as it moves forward the state can benefit from the work that these other states have done. California must make progress toward a system that contains all of the 10 essential elements — even as it identifies other capacities it will need to support effective educational delivery in the future.

As noted, California has not taken the time to determine what it wants a data system to support and do or to design a long-term strategic longitudinal data plan based on that assessment. A long-term design and implementation plan is a crucial next step to developing and implementing an integrated data system that can support continuous improvement. Once a strategic plan is in place, annual policy decisions and resource implications will be more straightforward.

Some school districts in the state, such as Garden Grove and Long Beach Unified, have developed the capacity to collect, integrate, and provide analysis of their data in ways that help them to be among the higher-achieving urban districts in the country. (See sidebar “Long Beach Unified Shows the Benefits of Investing in Information Systems.”) Recently, Just for the Kids, a nonprofit organization, has begun to assist schools by providing analytical tools to improve the information available at the school site, one school at a time. While schools benefit from this type of analysis, the state needs a more systematic approach that provides usable information to *all* schools. Improved information systems can help at each level of government.

Long Beach Unified Shows the Benefits of Investing in Information Systems

Long Beach Unified School District is one of a handful of California districts on the leading edge of data use. Long Beach Unified puts the theory of “data-driven decision making” into practice with its district longitudinal data intranet system.³ This system goes far beyond a longitudinal data system based on demographic data and state-level assessment data. The data system is integrally linked to the district’s local assessment program. It includes data on district end-of-course exams, more than 200 district benchmark assessments, student course participation, a range of surveys, teacher and principal observations, essays, and more. The end-of-course exams and benchmarks are correlated with the California Standards Test to ensure that the district is always focused on the state’s academic content standards. Furthermore, while results from the state exams take months to reach the district, the district currently returns the results of benchmark exams to schools within five days and is working to reduce that turnaround even more.

The data is accessed at the local level via a Web-based tool that allows classroom, grade-level, department-level, and school-level disaggregation, to meet the needs of each user. The district provides both standard and special reports. Over time, the district has developed a culture that constantly turns to the data to solve problems and determine what is working and what is not. This can lead to changes in both short- and long-term district decisions, such as how to allocate resources or what types of professional development are needed. At the school and classroom levels, the data system supports changes to specific lesson plans, helps identify areas in which students may need some additional review, and helps a department work collaboratively across grades to improve alignment. The data are used to place students in classes and match struggling students with the appropriate intervention. In total, the district’s assessment and data systems empower local educators to make improvements based on the data relevant to them, rather than basing changes on personal beliefs and anecdotes.

At the school level, for example, teachers and administrators need timely data to ensure that English learners are being appropriately placed and receiving the support services they need, that the support services help students become English proficient, and that the students are progressing over time. Districts require effective data to determine when and where

students are dropping out of the system and whether changes in district policies are effective in reducing drop-outs. At the state level, integrated data is needed to determine which types of pre-service and professional development programs are most effective and how the state can support the improvement of these preparation activities.

According to Springboard Schools, effective data systems focus on enhancing active data use at all levels of the school and district, especially among teachers.⁴ These systems are characterized by accessibility, ease of use, and a sense of ownership. First, teachers, site administrators, district administrators, and to some extent students and parents need to have access to the data. Next, the system needs to be easy to use, even for less computer-literate educators, and reliable: If the system is often down or seems to be more work than it is worth, educators will stop using it. Finally, administrators, teachers, and students need to feel a sense of ownership that these data reflect work in the classroom, help them make day-to-day decisions about instruction, and support improvement.

As the state develops its longitudinal data systems, it must ensure that useful information gets back to school districts and schools to support their information needs. Thus, the state also must develop the expertise to transform data into analytical information that local districts and schools can use. This will require returning to local districts analyzed, student-based, vertically scaled information that can inform instruction.

Finally, the state needs to take advantage of the large number of researchers who would like to have access to state data sets. States that have led the way in data system development have benefited greatly from the research that academics and researchers have conducted in their states; that research has been used to inform and improve the data systems that supported it. California must ensure that it similarly benefits from independent researchers who use the state's education data in their work.

Recommendation 4.1: Build and Manage Effective Data Systems To Meet Local and State Information Needs

The state must have a broad information system that monitors student success from the early years all the way into college and the workplace so that all can better understand what's working and what's not — and for whom. Such a system should integrate academic, health, and social service data, allowing professionals from all three sectors to share information about students while ensuring appropriate security and privacy protections. To maintain the integrity of the data, this system must be managed by an entity that has no vested interest in its outcomes. The Committee recommends that the state take action to achieve these objectives, as follows:

4.1.1: Implement and financially support student and teacher information systems

California must develop integrated, longitudinal data systems that can link performance outcomes with the programmatic or resource inputs that led to them. Given that actual implementation of California's current data system project started almost a decade ago (after an additional 15 years of contemplation and planning), it is logical to conclude that the project has suffered from a lack of will. In the past two years, however, the state has made significant progress on the student longitudinal data system and a positive start on a new teacher data system. But there is much still to be completed, and the Committee finds that the firewall between the two data systems is too stringent, impeding appropriate programmatic analysis. The Committee recommends that these projects be designated among the highest priorities of the administration's education agenda, to achieve their rapid completion, and that the state provide sufficient financial investment to support them. The Committee further recommends that the state initiate work on its longer-term data objectives by beginning to explore the integration of these

systems with one another and with preschool data, higher education data, and workforce data to truly create an integrated data system that can help drive effective state policy and resource use.

4.1.2: Appoint a data commission to oversee data system implementation and develop a long-term strategic plan for data

One of the problems the Committee identified is that the current governance system for education data is fractured. Data and information systems are one of the victims of the state’s current convoluted governance structure; if the state were able to fix the state governance system overnight, an independent approach for data governance likely would not be needed. Since a rapid change in state governance is not likely, the Committee recommends creating a data commission within state government to do all of the following:

- **Oversee the current implementation of initial, longitudinal data systems.** This independent data commission would be responsible for the management of the integrated data and information systems implemented pursuant to Recommendation 4.1.1, as well as the interfaces between those systems and among other state and local systems. The commission would be designated as the state’s collector of data and would have responsibility for promoting and ensuring the accuracy of data and information flow between local education entities and the state.
- **Develop a long-term strategic plan for data use in California.** The slow progress from which California’s current data efforts have suffered results in large part from the state never having established long-term goals for its information projects. That lack of direction also has increased the potential risk of project failure and increased the cost of the information projects over time. The commission would develop a strategic plan that would address whether and how K–12 data should be integrated with other data systems, such as early education, higher education, workforce development, and health and human services delivery information systems. The plan would further identify the barriers necessary to overcome to support such sharing of data and then develop related mitigation strategies. The plan also would develop various options for the Governor and Legislature to pursue to improve the use of information in the short term and outline the related costs.
- **Develop necessary regulations to oversee access to the new information systems.** The commission would develop regulations to govern who could have access to various elements of the data and steps that those with access would need to take to ensure that Family Education Rights and Privacy Act (FERPA) requirements were met. As this report is being written, the Legislative Analyst’s Office is leading a statewide working group — which can inform the state as it moves forward — that is developing policy recommendations to clarify California’s implementation of FERPA. Through this designation, the state would have more flexibility on providing access and using data to conduct appropriate research and analysis.

Dependent on the treatment of the Committee’s other recommendations for state-level education governance in California (see the Governance and Accountability chapter), this data commission may only be needed for a period of a few years; but the state must not delay pursuit of these data recommendations pending those other governance changes. In the long term, the Committee’s recommendations would have the responsibilities of the data commission transferred to the Superintendent of Public Instruction in its revised role. Therefore, the Committee recommends establishing a five-year sunset review for the data commission to determine whether it should continue beyond that period.

Accommodating FERPA

One of the constant barriers to a significant discussion about improving the quality of individual longitudinal data in the state is the concern about potentially violating federal FERPA protections. Loosely, FERPA ensures that no information is shared publicly that can be directly linked to an individual student. Obviously, the state wants to be in full compliance with FERPA and needs to take targeted action to protect student-level data. At the same time, other states, such as Florida, have been able to develop impressive student information systems that truly support educators and decision makers throughout the education system, while at the same time remaining compliant with FERPA. Given that FERPA is a federal law, it should apply to California in the same way it applies in other states, and California should be able to learn from the extensive work already completed elsewhere.

4.1.3: Build the capacity of districts and schools to support improved data quality and to use data more effectively

It is not sufficient to build a state-level information system and interfaces with local systems. Local districts must have the capacity to provide valid and reliable data into that system if any of its outputs are to be useful, and they must be able to use the resulting analytical information to inform classroom instruction, educational programs, and district policies. The Committee recommends that the state provide funding to school districts to support the costs of meeting new data reporting requirements that will be demanded of them. This funding would serve multiple purposes:

- **Support improvements in the quality of data.** Funding either could be used to directly support improved training or equipment or could be provided only on the condition that districts meet specific quality criteria.
- **Leverage timely data submission.** Funding would be provided only to districts that resolve data issues and submit accurate data within a timeline imposed by the commission. This process could mirror that which is in place for submission of the information at the top of the state's assessment mechanism, the Standardized Testing and Reporting (STAR) tests (known as "STAR headers"). If a district was required to resubmit data numerous times due to inaccuracies, then the state would reduce the level of funding the district receives.
- **Insulate the state against any possible reimbursable mandates.** If the state provides funding for meeting data requirement and structures that allocation so that it is deemed appropriate to support the functions required of districts to ensure that data inputs into the system are of high quality, the state can prevent mandates claims by districts.

4.1.4: Explore the range of appropriate uses of information

While the work that has been done to build a new statewide student longitudinal data system is a significant step forward, the current goals for using that system were driven almost solely by cost-containment issues, limiting the scope of functions the system can serve. The system currently is envisioned to support the state in meeting its reporting requirements pursuant to the federal No Child Left Behind (NCLB) Act — including that pertaining to an improved graduation rate. Thus, the system currently is being built with inherently limited capacity; but the potential to use longitudinal data to support improved instruction and student achievement far exceeds these limited purposes, and the Committee believes this warrants the cost to the state of expanding the system's capacity. For example, the system also should support school district improvement efforts, schools' instructional strategies, and countless other appropriate purposes. To begin expanding the scope of the student longitudinal data system, the Committee recommends the state immediately fund a study to work with a set of districts, counties, and charter organizations to explore potential benefits of the system. This pilot would focus on processing and analyzing data and providing useful interpretations of it back to local educators to help them improve their educational programs. Costs could be limited by using the California School Information Services (CSIS) framework, but expanding the data — such as local assessment data and other

local benchmark indicators — which are input into that system for the purposes of the study. The state probably will have to waive laws and regulations that now impede the effective use of data in order to maximize the benefits of such a pilot study.

Recommendation 4.2: Make Data More Useful and Informative, To Support Accountability

Accurate, reliable, and valid data is the underpinning of a model of continuous improvement, an essential element for helping schools to identify both successful and deficient efforts to support achievement. Of equal importance is the right *kind* of information: Educators and policymakers must have data useful for accountability. The Committee recommends that the state take specific actions to provide information regarding changes in student achievement and the resources applied in concert with those changes, as follows:

4.2.1: Implement a growth measure for assessment

Currently, the California Standards Test effectively measures a student’s performance in a single grade but does not allow educators to evaluate that student’s progress across grade levels. Thus, districts cannot use state assessments to compare one student’s scores in 4th grade mathematics with that same student’s score in 3rd grade, and later in 5th grade, to determine the effectiveness of existing or new instructional strategies. For all involved, this means that accountability and evaluation cannot focus on the “value-added” of instruction — the increase in a student’s learning from one year to the next. The Committee recommends making improvements to state tests to ensure that the assessments can measure the *growth* in a student’s achievement over time, as well as a student’s *level* of achievement. The Committee considers this to be sufficiently important to revisit or amend the contract recently negotiated by the State Board of Education for the development of new state tests. While the Committee recognizes that modifying the assessments will increase costs of tests and will lengthen the duration of test-taking time, the Committee believes that the educational and systemic benefits easily warrant those costs. In addition, such a change in California’s assessment system is necessary if the state is serious about its interest in negotiating with the federal government to switch its NCLB accountability system to be based on a growth model. (See sidebar “Federal Accountability Flexibility Requires Longitudinal Data Systems and Growth Measure of Student Performance” for background.) Creating a growth measure for the state’s assessment also is a necessary foundation if the state is to implement compensation reform that incorporates performance measurements within a professional compensation model, or if it is to be eligible for federal grants to experiment with compensation reform (the federal government currently is funding these types of experiments in other states).

Federal Accountability Flexibility Requires Longitudinal Data Systems and Growth Measure of Student Performance

The state currently operates a dual accountability system that incorporates state and federal accountability measures — which often are in conflict with one another and cause confusion throughout the state.⁵ Many in California have criticized NCLB for forcing the state to implement two accountability systems. The federal system largely has implications only for Title I schools and focuses generally on the percentage of students proficient in English Language Arts and math in a school, a district, or the state. The state system largely holds schools accountable for improving each year in relation to an individual school’s performance in the prior year. California policymakers were active in inducing the federal government to be more flexible in implementing NCLB. Eventually, the federal government provided to states the flexibility California and others had requested. Unfortunately, California has not been able to take advantage of this flexibility because it does not meet certain required minimum criteria. The two key requirements to apply for flexibility are having a longitudinal student data system and having a state assessment that measures individual student-level growth from year to year. At some point, California should integrate the state and federal accountability systems; however, these two issues must be rectified before any such effort can begin.

4.2.2: Require school-level accounting data

More accurate data can promote the assurance of equitable distribution of general funding and provide accountability for targeted funds. Much attention has been given to the dramatic disparities of resource distribution of schools within the same district; to address this, a recently enacted statute requires reporting of *overall* per-pupil spending by school site. The Committee believes that information highlighting the current inequities of funding among schools within a district would greatly assist parents and community organizations to redress those inequities themselves at the local level — minimizing state intrusion. The state already has adopted a Standardized Account Code Structure (SACS) that, as the title suggests, provides a uniform process for school districts to submit accounting information to the state. SACS allows districts to disaggregate their accounting data to the school-site level, and some districts use this functionality of SACS. However, because it is optional, the use of the school-level data is sporadic and not comparable across districts. The Committee recommends that the state require school districts to more comprehensively report financial expenditure data at the school-site level, using actual cost data rather than district averages. This practice would provide a detailed understanding of whether resources are following the students who need them and generate their allocation. At present, for example, the state is beginning to target substantial additional resources to low-performing schools through the Quality Education Investment Act (QEIA); assurance should be given that districts do not offset that targeted investment by simply reducing the level of general purpose funds allocated to the sites that receive QEIA funds. Without a school-site accounting system, however, such assurances are not possible.

Recommendation 4.3: Make Data More Accessible

Too much of the data collected, much less the data intended to be collected, are inaccessible to most parents, students, teachers, and even researchers. In other fields, California companies are at the forefront of making massive amounts of data useful to untrained users at the click of a mouse. Giving everyone appropriate access to timely and actionable data would make the entire system accessible and, thereby, more accountable. The Committee recommends that the state make data more accessible through the following specific actions:

4.3.1: Build database access for local educators and the research community

The current scope of the California longitudinal data systems being developed — CALPADS and the California Longitudinal Teacher Education Data System (CALTIDES) — focuses almost exclusively on meeting federal NCLB reporting requirements. As such, current development and operation plans for these systems will not provide the functionality to return data to schools and school districts, and it will not support providing data to the research community. At a time when these systems are still being developed, this is a missed opportunity to meet essential information needs. The Committee recommends that appropriate querying tools be created and incorporated into the architecture of the CALPADS and CALTIDES systems to allow districts and researchers to access data they need. As they are constructed, these tools would need to accommodate security, confidentiality, and other FERPA-related issues. However, as other states have demonstrated, these obstacles can be overcome in appropriate and safe ways. The Committee further recommends that the state provide funding for additional staff at CDE to support the data needs of researchers. Once appropriate policies and protocols have been developed, this additional staff would support the data requests from researchers for access to non-identifiable individual student record data.

Overcoming the “Reality Gap”

One of the greatest challenges to changing the system is to overcome the “reality gap” between Californians’ expectations and what is actually occurring. Perhaps the most compelling example is that 80 percent of Latino parents and 86 percent of Black parents want their children to go to at least a four-year public university. In reality, only 14 percent of Latino students and 16 percent of Black students are that well-prepared; significantly fewer actually enter the university, and fewer still actually complete their degrees.

This perplexing failure to perceive problems close to home does not seem to vary much when informed by student performance. Over 55 percent of students who have repeatedly failed the high school exit exam still say in surveys that they expect to go to college, according to the report on the exam conducted by the Human Resources Research Organization (HumRRO). Communities whose schools have been chronically ineffective nevertheless give their schools passing marks when asked.

More timely, accurate, and understandable data will help provide parents and community members with better information, which, in turn, can help close this “reality gap.” Part of the overall solution will be to help parents and the public understand the reality of California’s plight and engage them to actively participate in the changes needed to bring their hopes to fruition.

4.3.2: Overhaul the School Accountability Report Card (SARC) and transform it into E-SARC

SARC was originally created, in implementing Proposition 98, as a simple tool to inform parents and communities about the conditions and successes of their schools. After two decades of extensive changes, the current SARC is massive and overly complex, to the extent that it no longer serves the purpose for which it was created. In fact, researchers estimate that significant college experience is required for a reader to understand the SARC — hardly a standard of accessibility that serves California’s parents well. Governor Schwarzenegger has suggested that the administration, the Legislature, the State Board of Education, and CDE should collaborate to overhaul the SARC.⁶ The Committee recommends that that overhaul of SARC be undertaken. In doing so, emphasis should be placed on standardizing the process of reporting by schools and having the information supporting SARC flow through CDE in a standardized way. Because the reporting process currently is conducted locally and in a non-standardized way, meaningful comparisons of schools by parents or policymakers currently are not possible, undermining another key intended value of the report card to parents and communities. If the data were standardized and publicly available, the state could rely on private organizations to develop Web sites to portray the information in a user-friendly way; some of these entities already have entered the market, but their access to data is too limited to maximize their effectiveness to families. Recognizing that electronic access is not universal among families, the Committee also recommends sending an abbreviated, paper version of SARC home to parents in concert with STAR test results.

Endnotes

¹ Data Quality Campaign, *The 10 Essential Elements in Detail for 2007–08* (www.dataqualitycampaign.org/survey_results/elements.cfm).

² Data Quality Campaign, *California — 7 of 10 Essential Elements* (www.dataqualitycampaign.org/survey_results/state.cfm?st=California).

³ Information on Long Beach’s data systems come from a combination of an interview with the Assistant Superintendent for Research, Planning and Evaluation and a PACE paper. See Elisabeth Woody, Soung Bae, Sandra Park, and Jennifer Russell (2006) *Snapshots of Reform: District Efforts to Raise Student Achievement Across Diverse Communities in California*, Policy Analysis for California Education (PACE), working paper (pace.berkeley.edu).

⁴ Springboard Schools (2007) *Bringing the State and Locals Together: What’s Needed to Encourage Effective Use of Data in California School Districts*, Getting Down to Facts, Institute for Research on Education Policy and Practice, Stanford University.

⁵ See the Legislative Analyst’s Office (2003) *Analysis of the 2003-04 Budget Bill* and Legislative Analyst’s Office (2004) *Analysis of the 2004–05 Budget Bill* for a discussion of the issues involved in having a dual and conflicting accountability system.

⁶ Governor Arnold Schwarzenegger expressed this interest within his formal message, dated September 26, 2006, attached to his veto of Senate Bill 1510 (Alquist).