



Investing in California's Data Future

How California's P-20W Cradle-to-Career Data System Could Take the State from Last to First

Today, California stands at the precipice of education data excellence. The state recently concluded a multiyear effort to design a P-20W data system that will securely bring together data from across the early childhood, K-12, postsecondary, and workforce sectors to empower policymakers, advocates, and communities with actionable data to support students' success.

Yet just five years ago, the state's education data system lagged far behind the systems in most other states. California's longitudinal education data was incomplete, hard to access and use, and focused on data for compliance and accountability. After years of thwarted efforts and half-starts, the state's recent data system success was no accident. State leaders and education advocates undertook a purposeful engagement and design process to build a data system that represents the state's values and meets different stakeholders' needs. The factors that helped California create a successful data system design process provide valuable insights for other state leaders looking to build or improve their state's P-20W data system. California's success factors include:

- Setting a vision and cultivating champions;
- Codifying and sustaining efforts with legislation;
- Investing in intentional system design through public engagement;
- Prioritizing data governance; and
- Centering inclusion and equity.

For California's 5.9 million students, the Cradle-to-Career Data System represents a profound investment in their success and futures. The data system will provide policymakers, leaders, and researchers with trend data and insights for improving education opportunities and outcomes. And tools created with the data in the system will provide educators, parents, and families clarity as they support student decisionmaking through school and career.



California's Cradle-to-Career Data System Process: Unprecedented Investments Build a Collective Commitment to Data

New Leadership, New Potential

Over the past three years, California state leaders, legislators, advocates, educators, and communities have undertaken one of the most ambitious, inclusive, and thoughtful efforts in the nation to build a P-20W data system. The Cradle-to-Career Data System is designed to bring together data—and people—from across sectors with the ultimate goal of empowering people to support students from early childhood through adulthood and to create a more effective and equitable state.

With his 2018 election, Governor Gavin Newsom galvanized the state's education champions and brought

new energy and attention to the state's need for more complete, timely, connected, and actionable education data. The governor's administration immediately focused on how to increase government transparency and enable meaningful data access to improve education pathways and equity across the state. The new administration was willing to take political risks and invest funding to make this data transformation happen. For many longtime data and education equity advocates, the state leadership's renewed interest in data was welcome and long overdue.

The Cradle-to-Career Data System Act

With the governor's leadership bolstered by vocal data advocates and state agencies looking for greater coordination, California state legislators passed the [California Cradle-to-Career Data System Act](#) in 2019.

This law accomplished two things:

- 1. It established and funded the parameters and participants for the California Cradle-to-Career Data System planning process.**

The law specified that the statewide longitudinal data system would bring together state data from early education, K-12, postsecondary systems, social services, and employment systems. Prioritizing the needs of California families and students, the state data system enabled agencies and partners from different sectors to share and access administrative data while safeguarding individuals' privacy.

- 2. It created a publicly accountable workgroup to design the Cradle-to-Career Data System.**

The law specified that the workgroup would have representation from the Office of the Chancellor of the California Community Colleges, University of California, California State University, California Department of Education, California State Board of Education, Commission on Teacher Credentialing, Student Aid Commission, Employment Development Department, Labor and Workforce Development Agency, Health and Human Services Agency, State Department of Social Services, Department of Technology, Bureau for Private Postsecondary

Education, Association of Independent California Colleges and Universities, and California School Information Services.

The law charged the workgroup with making recommendations and providing ongoing guidance about how the data system should be designed, constructed, administered, and enhanced over time to meet emerging needs. The workgroup was responsible for engaging stakeholders across the state and holding open meetings to make the design process as inclusive and responsive as possible.

The workgroup ensured that the Cradle-to-Career Data System could disaggregate data by student characteristic (including race, ethnicity, region, gender, military status, parents' education, and age) and transfer student education records between K-12 and postsecondary institutions. But beyond this basic functionality, the law also asked the workgroup to explore how the Cradle-to-Career Data System could inform policy relating to certain topics. Specifically, the law listed:

(1) The impact of early education on student success and achievement as a student progresses through education segments and the workforce.

(2) The long-term effect of state intervention programs and targeted resource allocations in primary education.

(3) How prepared high school pupils are to succeed in college.

(4) How long it takes students who transfer from community college to the University of California, the California State University, or another four-year postsecondary educational institution to graduate with a baccalaureate degree.

(5) College access, completion, and long-term effects of access to state financial aid.

(6) The workforce effect of graduation from high school, community college, and four-year postsecondary educational institutions.

The governor's commitment to using data to benefit California families built momentum and attracted the interest and expertise of national education advocates like The Education Trust and Data Quality Campaign. Most critically, WestEd was brought on to officially facilitate the entire design and engagement process. These external partners, especially WestEd, brought historical and technical perspective, a neutral voice, and a commitment to public engagement and equity. With the help of WestEd and the input and participation of these other partners, the Cradle-to-Career workgroup undertook two years of statewide engagement and trust-building.

The workgroup's recommendations culminated in 2021, when the state legislature took the workgroup's guidance and passed an additional law to affirm the creation of the Cradle-to-Career Data System. This law codified and described six aspects of the state's data system effort. The law:

1. Created the Cradle-to-Career Data System to provide actionable data on education, economic, and health outcomes for individuals, families, and communities by creating linkages from early learning and care through K-12, higher education, skills training opportunities, and employment.

2. Required the system to be administered through open meetings to allow for public accountability and transparency.

3. Established the California Cradle-to-Career Data System Governing Board to provide operational oversight for the Office of Cradle-to-Career Data. The board's membership includes key cross-agency leaders in education, health and human services, and workforce development as well as members of the state legislature and the public.

4. Centered data governance by creating a structure for the governing board to define the roles and responsibilities needed to ensure clear processes for collecting and reporting education data.

5. Designated two advisory boards including members of the public to serve the board as advisers and share the perspectives of institutions, organizations, agencies, and other groups and to facilitate collaboration among researchers, practitioners, administrators, legislators, and community stakeholders.

6. Protected student privacy by including language to implement privacy policies and limit public access to the records of the data system.

After years of careful engagement and thoughtful planning, California leaders, education advocates, and community members have built a shared data vision, processes for ongoing collaboration and innovation, and trust across sectors and roles. These stakeholders trusted WestEd's expertise and the workgroup's process, took risks, and fought for the needs of California families and students. Now the state stands ready to build the Cradle-to-Career Data System and put it to work on behalf of young people.



CALIFORNIA'S DATA PAST

Before the Cradle-to-Career Data System, a lack of statewide vision, collaboration, and trust hindered data use

The development of California's Cradle-to-Career Data System could easily paint a picture of a state long committed to robust data infrastructure and effective data use. But in truth, California's data history was far less promising. For years, California lagged behind other states across the country that were building comprehensive P-20W data systems and the tools and dashboards that make the data actionable for a variety of stakeholders. California lacked a statewide data system and a strong data culture. In California, a lack of investment in a data culture was evident in three ways:

Data vision. Previous administrations did not value data as a tool for government improvement and conversation, instead focusing on compliance and local control. State leaders' lack of interest in data coupled with several years of tight budgets meant that state legislators didn't make investments in state data systems. As a result, state agency leaders came to see data as an unhelpful or even punitive measure; policy conversations rarely used data as a tool for strengthening agency programs or led to a comprehensive plan for data use. Additionally, in the past, each individual agency maintained its own view of culture and transparency. However, under the Newsom administration, the primary goal of bringing communities and stakeholders together emerged as a defining element in aligning and creating a shared data culture.

Statewide collaboration. Previous data-sharing efforts in California had been limited to regional partnerships and small pilot programs, including:

- Cal-PASS Plus, a voluntary data-sharing network of K-12 districts, community colleges, and universities.

- The CORE Districts, a partnership of several California K-12 districts that was originally formed in an unprecedented effort to secure federal funding intended for states. It later grew into a permanent network of districts using and sharing data and evidence to improve student outcomes together.
- The California Education Lab, a collaborative of education researchers that works in partnership with state education agencies and boards to conduct research.
- The California Policy Lab, a research institute at the University of California that partners with government and California public universities to research social policy issues including education inequality.
- The California Longitudinal Pupil Achievement Data System (CALPADS), California's K-12 education data system, which was constructed largely to house the data needed for state and federal reporting requirements.

Without statewide coordination, these data efforts—while individually valuable—could never serve all of the purposes of a full state longitudinal data system with timely, complete data that can be accessed and used to answer a variety of questions across sectors.

Trust. Before state leaders set a vision for statewide data use with the California Cradle-to-Career effort, state and district leaders had little reason to trust each other to share and use their data in productive ways. Without data systems, governance, and a culture to encourage sharing insights and investigating challenges, agency leaders lacked transparency about their own work as well as the processes and forums to explore the collective impacts of statewide policies.

Success Factors

What investments and policy decisions allowed California to move from data laggard to data leader? And just as importantly, what aspects of the state's approach to developing its data system have built the engagement, trust, and transparency that will ultimately help this effort succeed? California's story is unique, but leaders in any state can look to several of the state's success factors regardless of the status of their own data systems or culture.

Setting a Vision and Cultivating Champions

While data work is often mischaracterized as a technical project, it's actually a series of policy-relevant, interdisciplinary, and value-laden decisions that require buy-in and prioritization from high-level political leadership. Following his election, Governor Newsom immediately made improved P-20W data an integral part of his education and workforce goals and a priority of his administration. The governor publicly articulated support for data efforts and put funding for the system in his budget.

ON THE ROLE OF A DATA CHAMPION

"If people can't find data or never know it exists, it's as useless as if it never did exist. Through government websites, Facebook pages, Twitter feeds, press releases, memos, whatever it takes, we must make sure that people who can benefit from data sets know that they're out there."

—Governor Gavin Newsom, "Citizenville: How to Take the Square Digital and Reinvent Government"

A data champion drives policy change with their own leadership and by setting the stage for others to take action. Following eight years of stalled conversation, Governor Newsom set the vision for renewed collaboration on P-20W data efforts in California. California was already home to a wide range of education advocates and stakeholders that the state and philanthropic partners could look to; long-standing relationships among national experts, community partners, nonprofits, public and family engagement leaders, and community-based organizations were called on and received resources to create a healthy ecosystem for collaboration.

Critically, state leaders understood the unique benefits of working with external partners. WestEd's leadership brought necessary expertise and content knowledge to the work. At the same time, the organization's reputation as a neutral arbiter built trust with stakeholders across the state. When state leaders bring in external experts to manage a state government process, they run the risk of alienating stakeholders and abdicating their ownership and responsibility for the project. But leaders in California didn't use their partnership with WestEd as a way to remove themselves from the process; instead they demonstrated their commitment by working alongside a trustworthy expert who could help move this work through existing state relationships and power dynamics.

ON LEADERSHIP

"Strong leadership and the will of those involved have been big. Everybody had a lot of pent-up energy in restarting this conversation in a robust way. So there has been a combination of need and energy alongside strong leadership and good guardrails to push it forward."

—Gavin Payne, CEO of GPC Advisors, LLCH, former Chief Deputy Superintendent for the State Superintendent of Public Instruction

The hallmark of the development of the Cradle-to-Career Data System was the collective effort of this community of champions working together to carry out a strategy of coordinated advocacy. With a clear charge from state leaders and direct investments from philanthropic partners that funded a range of initial convenings, organizations worked together and were open to making concessions and compromises to ensure that their most pertinent shared priorities and data needs were met.

“An important part of this story is that no one organization in the advocacy community did this. [It was the] governor, legislature, and advocacy community, broadly. There’s a story to be told about strategic coordinated advocacy. Outsiders were welcome. This data is for the people and the community.”

*—Christopher J. Nellum, Executive Director,
The Education Trust–West*



Codifying and Sustaining Efforts with Legislation

Political will and public demand can drive policy innovation, but intentional design and purposeful system maintenance are critical for sustained change. Establishing a state P–20W data system in law, including its goals, governance, and authority, is crucial for sustaining its work beyond the term of a single leader or initiative. California’s Cradle-to-Career Data System is the product of several pieces of legislation. The 2019 California Cradle-to-Career Data System Act established the broadly representative workgroup charged with collaborating and engaging the public to design the data system around specific questions and requirements. The 2021 law then used the workgroup’s guidance to affirm

the creation of the Cradle-to-Career Data System, its governance, and its responsibilities to the public.

While not all state legislators need to follow this series of legislative actions (for example, some may wish to establish a system design process and the system itself in the same law), it is crucial that state policymakers use legislation as a tool to build clarity, consensus, and long-term system sustainability.

California state leaders also invested in the long-term sustainability of the data system by funding it. Initial funding from the Governor’s Office underscored leadership’s commitment to the system as a long-term tool for stakeholders across the state.

Investing in Intentional System Design through Public Engagement

The ultimate success and sustainability of a state’s P–20W data system depend on several factors. Intentional system design built from broad community engagement and trust is chief among them. A primary goal of the newly established Office of Cradle-to-Career Data in California is to build trust in the state system so that data becomes a driving force of public, parental, and district-level engagement.

Members of the public are an audience for education and workforce data tools, and they are also the subjects of the data being collected; both roles give them a right to be part of the data system design process. California’s Cradle-to-Career Data System design process pioneered

engagement efforts and shows how other states can listen to diverse voices while still following a guiding vision for their data system.

Six of the Cradle-to-Career workgroup’s subcommittees were designed to hear directly from a range of community stakeholders, including one subcommittee specifically devoted to community engagement. To encourage buy-in and a sense of collective responsibility for the success of the Cradle-to-Career system, this Community Engagement subcommittee created multiple opportunities for the public to play a meaningful, substantive role in shaping the system’s goals and design.

In addition, two advisory groups, the [Policy & Analytics Advisory Group](#) and the [Practice & Operations Advisory Group](#), provided opportunities for external stakeholders to contribute to the system’s technical elements.

California’s public engagement efforts are continuing far beyond the initial system design process. As the Cradle-to-Career Data System is implemented, leaders will facilitate user testing of tools and ideas to get additional feedback from the public. Through community engagement groups, individuals across the state will have the opportunity to share their opinions on what works, what information is helpful and relevant, and how well the system is working. Community members will have an active role in catching blind spots about how their communities are represented in the data and what other data tools should be included in the system.

Prioritizing Data Governance

When California legislators formally established the data system governing board, the law specified that the board would provide strategic oversight of the Office of Cradle-to-Career Data. It also specified that the board’s membership would include key cross-agency leaders in education, health and human services, and workforce development, as well as members of the state legislature and the public.

Robust, formalized [cross-agency data governance](#) is a necessary component of effective P-20W data systems. Data governance provides a structure for diverse stakeholders, often including state agency representatives, education leaders, and members of the public, to make collaborative and transparent decisions about the collection, use, and protection of data. California’s governing board is responsible for making recommendations about the data system’s structure, processes, and future enhancements. The board’s authorizing legislation also includes specific language designed to foster interconnectedness among K-12, postsecondary institutions, and the workforce by creating a space to develop common definitions, increase collaboration, generate cleaner data, and increase public access to more targeted and strategic wraparound services.

Governance was especially helpful in enabling cross-agency collaboration in California. In the past, individual

CENTERING THE INDIVIDUAL

Listening improves the policy process and builds public trust. When legislators hear case studies and individual stories directly from students, families, advocates, and education leaders, they get a clearer picture of the questions stakeholders are trying to answer, how data can make a difference in the lives of students and families, and why data systems are so critical for improving education and workforce outcomes. The stories of real constituents add perspective to policy conversations by centering how people use data to improve lives.

state agencies maintained their own data culture and practices; the governing board is bringing these agencies together to create a shared data culture free from preexisting power dynamics and relationships.

Along with creating the California Cradle-to-Career Data System Governing Board, state legislators designated two additional boards, which include members of the public to serve as advisers. These two advisory boards will share the perspectives of institutions, organizations, agencies, and other groups and will facilitate collaboration among researchers, practitioners, administrators, legislators, and community stakeholders.

ON BUILDING TRUST

“Collaborations move ahead only with trust. A former colleague of mine had a sign on her desk: *Accountability + Transparency = Trust*. That’s a useful shorthand for how we need to build this work.”

—Mary Ann Miller Bates, Executive Director,
California’s Office of Cradle-to-Career Data

TRANSPARENT DOCUMENTATION

The Cradle-to-Career Data System Governing Board stresses transparency, a value the workgroup has also embraced through its early governance and processes. The workgroup has created detailed, publicly available accounts of the data system design process. Resources and information on past workgroup and advisory group meetings, including agendas and board member information, are available on the [Cradle-to-Career Data System website](#). WestEd [created a website](#) that features personas and resources documenting the 18-month process as well as tools designed to provide clarity on how to communicate about the system's vision, governance, and functioning.

Centering Inclusion and Equity

The Cradle-to-Career workgroup prioritized equity and inclusion in every component of the data system design process. A Community Engagement subcommittee was charged with designing equitable communication, providing technical assistance, and incorporating community voice to build trust among communities that have historically been excluded from conversations around data and data privacy.

Throughout the design process, community members shared direct feedback that they felt heard. Holding stakeholder meetings in a virtual environment made measuring active engagement easier; the level of participation in the chat boxes during the virtual meetings and online participants' sustained interest gave facilitators confidence that meeting attendees were engaged.

Legislators designed the composition of the governing board to reflect and represent a balance of data practitioners and members of the public. In addition, the Office of Cradle-to-Career Data is considering equity in its hiring to ensure that the staff will reflect the diversity of California and the lived experiences of Californians across the state.

ON ENGAGEMENT

"We modeled openness and inclusiveness. We wanted people to know they were heard and we were interested. Data systems are built on trust and usefulness."

—Kathy Booth, Project Director, Educational Data and Policy, WestEd

INCLUSIVE ENGAGEMENT IN A PUBLIC HEALTH EMERGENCY

Contrary to what many might have expected, the public meeting constraints implemented due to the COVID-19 pandemic actually expanded opportunities for public engagement in California by challenging the status quo. When they weren't able to hold traditional community meetings or town halls, state leaders rose to the challenge and discovered new ways to cultivate an open and inclusive environment, giving more people the opportunity to have a seat at the table and weigh in on the design of the Cradle-to-Career Data System.

Teleconferencing became an easier way to include more people in the (virtual) room, hear from more voices, and widen outreach efforts. By eliminating the barrier of requiring in-person participation, the workgroup held more than 100 public meetings over the course of 18 months.

Virtual tools for engagement, including the chat feature in the videoconferencing software, allowed for a level of interactivity and participation that would not have been possible during in-person meetings.

Vision for the Future

The hiring of staff for the new Office of Cradle-to-Career Data is underway, and leaders are focused on creating and staffing a team that represents the diverse lived experiences and spirit of Californians. Newly appointed Executive Director Mary Ann Miller Bates won the support of the governing board with her vision to share stories of the office's impact, empower individuals to reach their full potential, foster evidence-based decisionmaking, and help California build a more equitable future.

As California system leaders look ahead, they hope to create a system that is useful and that supports students on their journey from early education to the workforce. The Office of Cradle-to-Career Data plans to earn the trust of the community by building a functional and useful system that produces resources and tools rooted in both accountability and transparency. In a recent win for the office, 15 education, social service, and workforce agencies signed a [data-sharing agreement](#), marking an

official first step in the creation of linked data dashboards and publicly available tools. In time, and with continued investments to build capacity, the system will be able to:

- Inform education and workforce decisionmaking, advocacy, and policymaking through access to linked data;
- Produce publicly available tools and reports that are timely and topical and dashboards that are easy to use and embraced by the public;
- Provide students with free access to financial aid and applications, transcripts that include nonacademic experiences, and a realistic view of the financial burden of attending schools; and
- Allow communities to engage with state leaders in collaborative problem-solving through sustained community and public engagement built on transparency and trust in the success of the system.

Lessons Learned

While California's story is unique, the success factors that allowed its leaders to transform their data culture are not. State leaders and data advocates across the country can look to these success factors to guide their own efforts to make data work for students. In addition to the larger success factors discussed previously, California's work highlights steps that state leaders can consider as they build or strengthen their longitudinal data system.

- **Embrace transparency.** California's process required numerous public engagement points and open meetings. When data conversations and decisions take place in the open, there's less room for misconceptions and misunderstandings. Openness breeds trust, which is a crucial success factor.
- **Use asset framing.** Data system design is an opportunity to revisit data practices and definitions that could unintentionally ignore or blame students for the systemic barriers they may face. Asset framing more accurately identifies the root causes of students' challenges and opportunities and builds trust with communities.
- **Increase opportunities for access.** In California, public engagement was a central practice, not an afterthought. By creating many ways for members of the public to participate in the design process (e.g., meetings, online opportunities), California leaders ensured that they weren't just hearing from the usual suspects.

- **Look for champions.** California's Cradle-to-Career effort was bolstered by a wide array of stakeholders. Everyone from education researchers to agency leaders to parents to national policy organizations was invited to bring their support and perspective to the work.
- **Build from clear goals and use cases.** California's original 2019 legislation laid out specific policy questions that the state wanted to answer to understand student pathways and experiences. The data system was then designed to address these specific needs and use cases.

With the design of the Cradle-to-Career Data System, California policymakers, education leaders, national and local advocates, community partners, and members of the public have accomplished an incredible feat of collaboration. State leaders, with the partnership of WestEd, carried out a data system design process grounded in inclusion and equity, transparency, governance, and prioritizing the students and families of California. But in many ways, California is still at the beginning of its efforts to build an effective and useful P-20W data system. Implementation will introduce new questions, challenges, and partner voices. But the success factors that guided the Cradle-to-Career design process will continue to provide an invaluable roadmap for California leaders—and leaders in other states across the country.