

# Texas Student Data System

[www.texasstudentdatasystem.org](http://www.texasstudentdatasystem.org)

## Overview

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## Background

For more than 20 years, Texas has demonstrated a strong commitment to thorough data collection and the use of data to support policy decisions. The Public Education Information Management System (PEIMS) was designed in 1986 as a state-of-the-art, state-level reporting system. Though undeniably strong and cutting edge at that point, the data structures and collection mechanisms within PEIMS now badly need upgrading. Recognizing the need to improve not only its underlying architecture to collect and report data but also the timeliness, relevance, and quality of information available to all stakeholders, the Texas Education Agency (TEA) has been actively engaged in a number of major projects, both privately and federally funded, to diagnose and address gaps in the existing state data systems.

In late 2008, TEA secured funding from the Michael & Susan Dell Foundation to initiate a study to form the basis of a new roadmap for developing an enhanced statewide longitudinal data capability to improve the capacity for data-driven decision making among key education stakeholders within the state: educators, parents, administrators, and policymakers.

The Texas Student Data System (TSDS) vision was developed with detailed background research and extensive consultation with stakeholders through various channels, including:

- Focus groups and interviews with more than 250 districts and charters and 18 regional educational service centers serving districts;
- Best practice surveys of other states' education systems and processes;
- A student information system (SIS) vendor forum with participants who have experience working with districts in Texas; and
- A voluntary district survey to document their data collection burden and associated costs.

The research identified several critical gaps in the state data systems:

1. **Districts spend too much time and money on collecting and submitting data rather than on using reported student-level information to drive better outcomes.** The survey estimated that Texas districts collectively spend \$323 million every year to submit their

PEIMS data. Factors contributing to the data collection burden in districts include:

- The need to modify district source system data to conform to PEIMS data collection structures and keep pace with changes to state and federal reporting requirements (more than 40 percent of districts reported this need; on a statewide basis, this equates to nearly 500 districts);
  - Additional time to address ad hoc data requests that are not replicable and typically redundant; and
  - The current necessity of each of the 1,200 districts and charter schools in Texas, including numerous small districts, to negotiate and structure their own SIS contracts to submit accountability data.
2. Because districts must perform significant data manipulation and transformations to provide the data in the format defined in the PEIMS data collections, **there is significant risk of erroneous or nonstandard data in PEIMS even if district source systems are accurate.**
  3. There is broad demand among districts for a statewide data management system to ease the data collection process and address both the dissatisfaction and undue cost for districts to maintain existing SISs, as well as meet the imminent need for upgraded systems:

## The TSDS Vision

The TSDS will leverage five major system components:

- District connections database (DCD);
- Certified PEIMS data store;
- TPEIR;
- Business intelligence tools; and
- State-sponsored SIS.

Collectively, these system components will standardize the data collection and data management process; equip educators with historical, timely, and actionable student data to drive classroom and student success; and streamline the data submission and reporting process.

The critical components of the data solution are as follows:

**DCD.** The system will include a DCD that allows student-level data generated by source systems (e.g., student and financial data) to be uploaded on a regular basis from independent school district source applications or from a state-sponsored

for local access, analysis, and action. Due to the time it takes to analyze and report the data, by the time reports are released, there is typically no longer an opportunity to improve outcomes for the specific students to whom the report pertains.

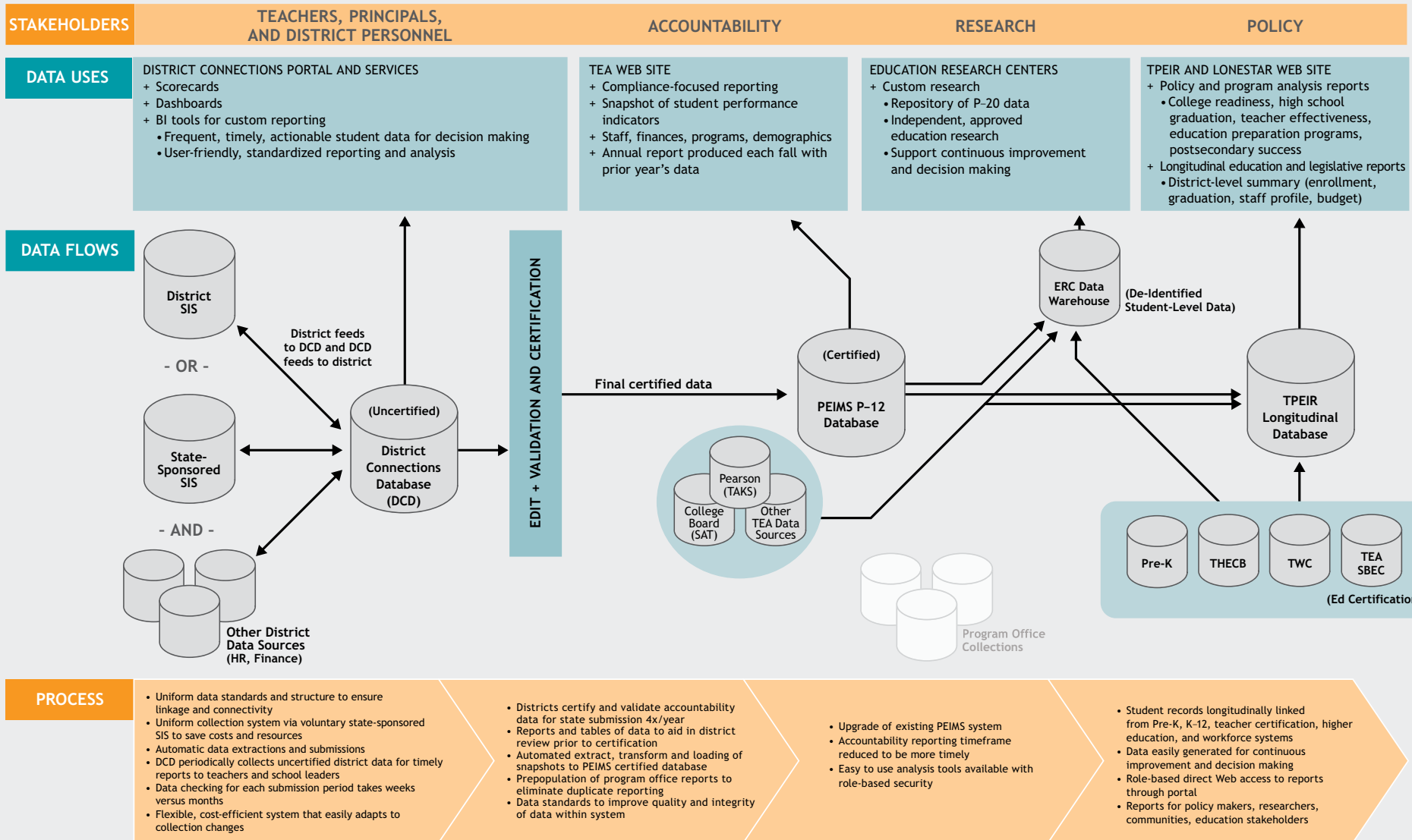
5. **Critical workforce and prekindergarten data are missing** from the Texas P–20 Public Education Information Resource (TPEIR) data warehouse.

Based on these findings and continuous stakeholder input, TEA is developing a roadmap for an enhanced statewide longitudinal data system (SLDS) to improve the capacity for data-driven decision making among educators, administrators, parents, and policymakers.

SIS, as described on page 4, in a manner that is consistent with the Family Educational Rights and Privacy Act (FERPA). The DCD will facilitate the use of operational data by districts for their own reporting, analysis, and local actions. Districts will be able to upload data as often as they choose, thus addressing the need for timely, actionable student-level data to inform decision making at the classroom, campus, and district levels. By centralizing the data platform at the state level and defining standard early warning reports, the DCD provides the ability to access individual student data to drive continuous improvement in the classroom. It also should be noted that DCD operational data will not be accessible by the TEA,

# PROPOSED TEA STATE LONGITUDINAL DATA SYSTEM LANDSCAPE

The TSDS solution can be visualized as a framework of the planned system components, stakeholders, data flows, data uses, and processes. This graphical depiction makes it possible to better understand whom the system is designed to support, what information will be available, and how the data will flow through the system.



and the PEIMS data collection is not expected to expand as a result of the DCD implementation.

**Certified PEIMS data store.** The system includes a certified PEIMS data store that will serve as a repository for certified data used for state and federal compliance reporting, funding, program evaluation, and educational research. TEA will populate the certified PEIMS data store through automated periodic extracts, or “snapshots,” of data from the DCD for specific compliance, funding, and accountability purposes, and school districts and TEA will validate these snapshots through a workflow and validation process. This process alleviates the burden on districts to perform unduly complex actions and allows for a more accurate, cost-effective creation of state-required data.

**TPEIR.** The statewide data solution loads data from the certified PEIMS data store to the state’s P–20 data warehouse, TPEIR. In addition to 18 years of P–12 data and 17 years of higher education data from Texas colleges and universities and information on teacher certification and teacher preparation programs, the warehouse will be expanded to link critical missing prekindergarten, college readiness, and workforce (wage, industry, and employment) data. When complete, TPEIR will enable P–20 monitoring of an individual student, from enrollment into the public education system through matriculation and graduation from Texas colleges and into the labor market. As such, Texas will have the ability to evaluate the effectiveness of P–12 programs based

on how well they prepare students to contribute to the 21st-century workforce.

**Business intelligence tools.** The statewide data solution allows for more detailed, FERPA-compliant data analysis by providing secure business intelligence and reporting tools in the DCD, certified PEIMS data store, and TPEIR to more effectively support end-user analysis and reporting across the SLDS. Each of the three databases will have a set of business rules and authorized, role-based, and secure access associated with the reporting tools.

**State-sponsored SIS.** The statewide data solution includes a proposed state-sponsored SIS, which is critical to creating a solution that addresses the needs of the state’s complex and fragmented operating environment. (More than 80 percent of districts in Texas have fewer than 5,000 students, and more than 60 percent have fewer than 1,000 students.) The vast majority of districts do not have the budget or available staff to support sophisticated information technology departments. The proposed state-sponsored standard SIS, which any district could use, will ensure that most districts in Texas can link to the DCD without expensive modifications to their current SIS. Additionally, a state-sponsored SIS will facilitate the interoperability of data structures and formats. This approach would create economies of scale to drive down per-student costs for districts, improve standardization of data across districts, and ensure the efficient use of tax dollars in the state.

## TSDS Goals

The new TSDS will improve the availability and timeliness of high-quality, longitudinal education data to enable educators to make more real-time decisions for Texas students. The goals of the system are to:

1. Enhance performance management capabilities through the creation of academic dashboards and early warning systems that will, for example, help determine which students are at risk of dropping out and recommend intervention strategies;
2. Alleviate the data collection burden on school districts and improve data quality; and
3. Integrate key data into TEA’s P–20 data warehouse, known as TPEIR, to better understand students’ preparedness to contribute to the 21st-century workforce.

Full deployment of the solution will occur over the next five to six years, depending on the availability of funding and other key resources. However, the system is being designed to produce sustainable and positive outcomes throughout this period, based on the funding that already has been committed. As plans and expected outcomes become complete, they will be made available.

TEA has three projects under way that partially address identified needs in the existing SLDS and provide the necessary foundation for achieving the outcomes outlined in the previous pages:

- **PEIMS Redesign Project Phases 1 and 2.** The Texas Legislature provided a total of \$7.7 million in 2007 and 2009 to fund a comprehensive rewrite of the PEIMS system, which includes migrating PEIMS from the mainframe, removing the 80-character record limit, and improving reporting capabilities. Upgrading the PEIMS architecture was necessary to provide the basic infrastructure for the proposed revision of the entire data collection system and business processes for districts.
- **2009 Institute of Education Sciences Statewide Longitudinal Data Systems Grant.** This is a five-year, \$7.9 million project that establishes a student-teacher link for analysis, reporting, and research on student performance by attributes of a teacher or class, as well as the evaluation of programs designed to affect students or teachers.
- **The Michael & Susan Dell Foundation TSDS grant.** In September of 2009, the Dell family foundation made a \$10 million commitment to establish a TSDS. The investment will support the development of the prototype for the statewide DCD to be integrated in the proposed SLDS.

The DCD provides the necessary infrastructure for improved data collection from districts, as well as the subsequent creation and population of reporting and analysis tools with timely, actionable student data. The DCD will generate dashboards and snapshots of achievement data at the district, campus, and student levels for use by educators and parents in decision making that supports improved educational outcomes.

In addition to the three projects under way, TEA has applied for a \$20 million SLDS grant under the American Recovery and Reinvestment Act of 2009. TEA is continuing to seek funding to put in place the major components of the solution by the end of 2013.

The TSDS solution will ensure that data from the state's longitudinal data system are accessible to and used to inform and engage key stakeholders and that the data support decision makers in the continuous improvement of efforts in policy, instruction, resource allocations, and operations. Ensuring districts have timely data to make better decisions will ultimately make districts more accountable for performance and align with federal and state accountability systems.

### Contact Information

If you would like more information about the TSDS, please send an email to [tsds\\_feedback@tea.state.tx.us](mailto:tsds_feedback@tea.state.tx.us).

**TEA is overseeing the TSDS solution with support from the Michael & Susan Dell Foundation and Double Line Partners.**

Texas Education  
Agency

The Texas Education Agency ([www.tea.state.tx.us](http://www.tea.state.tx.us)) is the state agency that oversees prekindergarten through high school education in Texas, which educates 4.7 million students in its more than 1,200 school districts and charter schools.

Michael & Susan  
Dell Foundation

The Michael & Susan Dell Foundation ([www.msdf.org](http://www.msdf.org)) is dedicated to improving the lives of children living in urban poverty around the world. With offices in Austin, TX; New Delhi, India; and Cape Town, South Africa, the Dell family foundation funds programs that foster high-quality public education and childhood health and improve the economic stability of families living in poverty. The foundation has committed more than \$530 million to global children's issues and community initiatives to date.

Double Line  
Partners

Double Line Partners, LLC, ([www.doublelinepartners.com](http://www.doublelinepartners.com)) is a consulting firm focused on serving the public sector, with a special emphasis on working in K-12 education. Double Line Partners works with a broad range of state and local education agencies across the United States to create scorecards and dashboards to improve student performance.