



Report on Colorado's Longitudinal Data Landscape and Future

2025 report

2025
Prepared and submitted by the
Colorado Department of Higher Education (CDHE)
Report to the House of Representative's Education Committee and Senate Education Committee
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Introduction

Colorado continues to establish programs that support the success of all individuals, enact bold policies, and build a Colorado for all. To further advance those efforts, the well-governed, responsible use of data crossing various sectors over extended periods is necessary to elevate evidence-based decision-making. The collection, connection, and use of these longitudinal data supports the work to move these goals to reality.

Pursuant to CRS 23-1-141, the Colorado Department of Higher Education (CDHE) is required to report on necessary steps and any barriers identified including recommendations for necessary legislative changes to deliver a statewide longitudinal data system in Colorado that connects K-12, postsecondary education and workforce information. This report is the third report on Colorado's longitudinal data landscape and ways to support this work going forward.

The [2023 report](#) provides an overview of the Colorado longitudinal data landscape (specifically the K-12, postsecondary education, and workforce continuum) along with recommendations to bolster well-governed data connections across state agencies. The [2024 report](#) provides updates on work, elevates specific use cases that can benefit from a more robust longitudinal data infrastructure and provides concrete actions Colorado can take to strengthen work around longitudinal data.

This 2025 report provides an update on the work of a Technical Working Group convened by CDHE and the Colorado Commission on Higher Education (CCHÉ) to:

- Develop student success measures that measure the progression of students through postsecondary education and the impact of postsecondary pathways on a student's career opportunities and success.
- Strategize and support the creation of better statewide longitudinal data systems.

2025 Updates

Colorado Minimum Value Threshold

Throughout 2023 and 2024, CDHE and the Colorado Commission on Higher Education (CCHHE) convened a Technical Working Group further developing new measures of postsecondary student success related to the value/ROI of postsecondary education. This Technical Working Group was composed of national thought leaders with expertise in higher education value/return on investment, CCHHE Commissioners, CDHE staff, public institutions and system level staff members, and community representatives. Meetings were facilitated by partners at Education Strategy Group (ESG) leveraging their expertise in higher education policy and data. This work led to the development of the Colorado Minimum Value Threshold (MVT) to support CCHHE's Strategic Plan goal of developing student success measures that measure the progression of students through postsecondary education and the impact of postsecondary pathways on a student's career opportunities and success. The model developed to estimate the minimum value threshold of a postsecondary credential in Colorado is as follows:

$$\text{Minimum Value Threshold} = (\text{Incremental Earnings} - \text{Costs Specific to Higher Education})$$

This model employs the following definitions:

- Incremental Earnings defined as (Median Earnings of a postsecondary graduate by institution and field - Median earnings of a high school graduate)
- Costs Specific to Higher Education defined as (Tuition and fees + cost of books and supplies) – financial aid + forgone wages) x time to degree.
 - Forgone wages defined as median earnings of a high school graduate, as a student enrolled in postsecondary education has often stopped out of the workforce and/or is not employed full time.
 - Time to degree is defined as the length of time a student takes to complete a postsecondary credential, accounting for both full- or part- time enrollment and a student's likelihood of graduation.

Summary and technical documents providing greater detail of this work can be found here:

<https://cdhe.colorado.gov/educators/policy-and-funding/legislative-affairs/postsecondary-student-success-data-system-hb22>

CDHE staff relied on data from various sources to calculate the MVT output including:

- Student enrollment, financial aid, completion data collected from Colorado institutions of higher education via CDHE's Student Unit Record Data System (SURDS).
- Wage data from Colorado's unemployment insurance (UI) system provided by the Colorado Department of Labor and Employment (CDLE).
- Tuition and fee data collected from Colorado public institutions of higher education.
- Average earnings for Colorado high school graduates from the US Census Bureau's American Community Survey (ACS).

Connecting fields within these datasets allowed CDHE staff to calculate a MVT output by institution of higher education, completion/non-completion, degree level, and program level. **However, CDHE staff and the Technical Working Group recognized that data from a robust State Longitudinal Data System (SLDS) could enhance this work in the following ways:**

- To account for differences in higher education opportunities and workforce needs by urbanicity and geography, future iterations of this work may break down workforce engagement and earnings by region, county, and institutional service area.
- Future analysis may approximate shorter-term earnings (i.e., 1-, 3-, 5-, and 10-years post-enrollment) in addition to lifetime earnings; as more data become available, "lifetime earnings" can be estimated using a timeframe longer than 15 years.
- Moving forward, future analyses may be adjusted to better account for inflation and macro-level economic conditions (i.e., students who entered the workforce in 2008 or 2009 may have had vastly different job prospects than their older or younger peers, having nothing to do with their higher education experience.)
- In partnership with the Colorado Department of Education, future iterations of this work may account for academic readiness and any substantial differences in the academic preparation of those who pursue postsecondary education and those who do not.

Statewide Longitudinal Data and Systems

To support further enhancement of the MVT work as well as other evaluation efforts across the education, training and workforce continuum, the Technical Working Group spent time at monthly meetings discussing a State Longitudinal Data System (SLDS) in support of [HB22-1349](#) and [HB24-1364](#). Facilitated by ESG staff, these conversations have centered around:

- Data elements from higher education and other participating state agencies that should be included in an SLDS.
- The most important operational and research use cases and questions an SLDS can answer for higher education systems and institutions.
- Challenges to implementing and using to its best advantage a SLDS at the institution- and state-levels.
- Best practices for SLDS governance; establishing appropriate partnerships between state agencies.
- Challenges experienced in other states (re: SLDS purpose, governance, audiences, etc.) that Colorado should attempt to mitigate as the SLDS is established.

Technical Working Group guest presenters included data experts from the Tennessee Office of Evidence and Impact (the state agency that houses Tennessee’s SLDS), former Indiana Commission for Higher Education research and data staff members, and national experts to discuss a 50-state scan of SLDSs and their evolution over the past two decades. Recordings of these meeting can be found at the links below:

[January 2024 meeting](#)

Topics:

- What is a Statewide Longitudinal Data System (SLDS)/P-20 (preschool to workforce) system?
- Examples from similar work in Kentucky, Indiana, and Tennessee

Time: Start – Finish (approximately 1.5 hours)

[February 2024 meeting](#)

Topics:

- More in-depth history, information, and use cases for Tennessee’s P-20 data system.

Time: 00:41:20 – Finish (approximately 40 minutes)

[March 2024 meeting](#)

Topics:

- Exploration of SLDS across various states, best practices, etc.

Time: 00:25:34 – Finish (approximately 1 hour)

Discussions pertaining to Colorado’s State Longitudinal Data System have continued through the implementation of HB24-1364 and the leadership of the Office of Information Technology (OIT). Various advisory groups convened by OIT with representatives from various education, training, and workforce agencies have supported the development of use cases, discussed technical considerations of the future system, and data governance best practices. A summary of OIT’s SLDS efforts can be found [here](#).

Conclusion

In pursuing discussions about postsecondary education’s value and enhancement of state longitudinal data over the past 18 months, Colorado is leading the nation in its attention to this matter - what is emerging across the country as a critical “next chapter” in higher education policy making. Continuing conversations around this topic, coupled with the growth of Colorado’s SLDS, will position the state to lead in this space and serve as a model for other states embarking on this work.