

Connecting Education and Workforce Data: *Data Sharing Among Agencies Within SREB States*

Introduction

Many state agencies collect administrative data that are useful in analyzing policies and evaluating programs that are intended to aid in workforce development and, in turn, improve state economies. In addition, much has been written about connecting data across state agencies to improve services, increase student success, better understand the workforce pipeline and improve education and workforce development programs. Policymakers and agency heads must understand what is involved in connecting data and how these data, once connected, can help in policy- and decision-making as they work to increase credential completion and meet employment goals to fill high-demand jobs in their states.

This report examines what was learned through SREB's 2023 SREB Cross-Agency Data Sharing surveys distributed to (1) departments of education or public instruction that include K-12 and career and technical education, (2) postsecondary system offices, and (3) workforce development agencies in the SREB region. First, we identify reasons for connecting data across state agencies and questions that can be answered. Next, we cover the types of data these agencies collect and share as well as main topics of interest to these agencies. We then describe what encourages or impedes this work. Finally, we discuss what steps are involved or what conditions must exist for data sharing to take place.

Connecting Data Allows Questions Around Student Success to be Answered

Agencies rely on data for a variety of reasons including assessing needs, measuring student success, making programmatic improvements and understanding the education to workforce pipeline. Data collection began for business or administrative purposes. Individual schools and postsecondary institutions wanted to know how many students they served and how many faculty and staff they employed to serve those students. Schools and institutions, however, realized that students often moved, transferring from one school or institution to another. For this and other reasons, departments of education or public instruction, postsecondary systems and workforce development agencies created data systems that collected some data from these different locations and stored it in a central location. In 2005, the federal government began offering competitive grants to states for the creation of state longitudinal data systems. In the last couple of years, some states have expanded on their previous work by connecting some data across state lines —mostly to address questions related to workforce and employment.

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Connecting data across agencies allows departments of education or public instruction to answer questions such as:

- What is the impact of participating in pre-K on kindergarten attendance and learning outcomes?
- How many high school graduates enroll in postsecondary education in the fall following their high school graduation?
- How many of those students are retained at the institution where they began their postsecondary studies?
- How many high school graduates enter the workforce directly after high school?

Connecting data across agencies allows postsecondary systems to answer questions such as:

- How many students began their postsecondary education at a two-year college and transferred to a four-year college or university?
- How many students continued their postsecondary studies but transferred to another college or university?
- How many students complete dual enrollment (or AP or IB) courses in high school? How, if at all, does this affect their postsecondary enrollment and/or completion?
- How many students are employed full-time while enrolled in postsecondary education? Is that employment related to their credential or major?

Connecting education data with Unemployment Insurance data often collected by departments of labor or workforce development agencies can help a state answer questions such as:

- Are high school graduates who enter the workforce directly after high school employed within six months of graduation? Are they still employed one year after graduation? Five years?
- Are completers of postsecondary certificates or degrees employed within six months of graduation? One year? Five years?
- In what industries are completers of different credentials most likely to be employed? How does this compare with in-demand careers in their state?
- How do earnings compare by credential or degree? How do earnings compare across majors?

Reasons that Agencies Connect Data

Agencies have multiple reasons for connecting data. As the table below shows, most respondents, regardless of the agency they represent, selected nearly all of the reasons presented to them; however, the frequency with which agencies identified a reason for connecting data differed slightly by sector. For example, federal reporting requirements was the reason for connecting data cited most often by K-12/career and technical education (73.7%) and Workforce (85.7%) survey respondents while facilitating cross-agency collaboration was the reason reported most often by Postsecondary (77.8%) survey participants. Awarding financial aid as a reason for connecting data appeared only on the Postsecondary version of the survey — and only 22.4% of Postsecondary survey participants stated that was a reason.

Additionally, survey respondents were asked if there were other reasons for connecting data. One K-12/CTE survey respondent indicated they connected data to award a state scholarship and one Postsecondary respondent added that they connect data because state law requires it.

Reasons for connecting data across agencies

Reason	K-12/CTE	Postsecondary	Workforce
Meet federal reporting requirements	73.7%	50.0%	85.7%
Facilitate cross-agency collaboration	73.7%	83.3%	78.6%
Fulfill state reporting mandates	73.7%	72.2%	78.6%
Improve student achievement/outcomes	73.7%	66.7%	78.6%
Make decisions	73.7%	50.0%	64.3%
Conduct research	68.4%	61.1%	64.3%
Make policy	63.2%	61.1%	78.6%
Award financial aid	5.3%	22.4%	NA
Abide by law	NA	5.6%	NA
Total respondents	20	18	14

Source: SREB Landscape of Data Sharing Survey, 2022.

NA: Response option not available in this version of the survey or not added by survey respondent.

These results show that most state agencies that participated in the SREB surveys connect data for reasons that one might such as reporting requirements, decision making. In some instances, however, those percentages were not as high as one might anticipate. For example, only 50% of Postsecondary survey respondents said they connect data to make decisions while their counterparts in K12/CTE (73.7%) and Workforce (64.3%) were more likely to report they link data for this purpose. One key takeaway is that Postsecondary agencies should consider how connecting data might help them inform decision making. In addition, only a couple of survey respondents added reasons to the list of response options. Thus, this item was not very useful in identifying additional reasons that agencies connect data. It is possible a focus group could be a better way of identifying additional reasons for connecting data.

Examining Employment Outcomes Also Requires Connecting Data

The survey asked participants at what point in time they seek information on the employment outcomes of their degree or program completers. Survey respondents from all three sectors, K-12/CTE (55.6%), Postsecondary (52.9%), and Workforce (71.4%), were most likely to collect this information one year after completion or graduation. Workforce survey respondents were equally likely (71.4%) to report they collect employment data six months after completion as they were at the one-year mark, but K-12/CTE (38.9%) and Postsecondary (23.5%) were less likely to report this option. The likelihood of collecting employment outcomes two years post completion/graduation was 22.2% of K-12/CTE, 29.4% of Postsecondary, and 28.6% of Workforce survey respondents. A notable percentage of respondents to all three surveys 38.9% of K-12/CTE, 41.2% of Postsecondary, and 57.1% of Workforce mentioned other points in time (three and five years after graduation or completion). Agencies, therefore, are most likely to collect employment outcome results for their completers one year out, but many collect at various other points in time.

Topics Analyzed Using Linked Data

One important aspect of this project was to determine the topics of greatest interest to agencies. What are the topics that they are most interested in exploring that require data be linked? What drives their participation?

Participants in the K12/CTE survey were most likely (81.3%) to indicate they use connected data to examine college going/postsecondary enrollment in a related field of study for CTE students. Three-fourths of the respondents said they use linked data to analyze high school graduation and college retention, progression, and graduation. Almost 70% (68.8%) of K12/CTE survey respondents said they connect individual-level data to study college going/postsecondary enrollment in an unrelated field of study and employment outcomes. A majority of K12/CTE survey respondents also said they use linked data to analyze college readiness (62.5%), get high school feedback (56.3%) and examine dual credit/enrollment data (56.3%).

A large percentage (88.9%) of respondents to the Postsecondary version of the survey reported they link individual-level data with other agencies to analyze employment outcomes of their graduates. Additionally, 55.6% indicated they analyze connected data to examine college going or postsecondary enrollment in an unrelated field of study and for providing high school feedback. Half of postsecondary survey participants reported they analyze dual credit and enrollment and college retention, progression and graduation using linked data.

All of the participants in the Workforce development version of the survey reported they link individual data with other agencies to examine enrollment in job training programs and program participant outcomes. Almost all of these respondents (91.7%) said they use linked data to analyze employment outcomes of program participants and to report on performance measures. Three-fourths of the Workforce survey respondents said they use linked data to examine diversity, equity and inclusion issues. A majority (58.3%) of these survey completers indicated they study college going or postsecondary enrollment in a related field of study or unrelated field of study as well as the economic impact of jobs using linked data.

In general, agencies appear to be most concerned with collecting data to analyze outcomes. K12/CTE survey respondents want to know how many of their graduates go on to postsecondary education and how many go straight into the workforce. Postsecondary participants want to know if their graduates are employed and if it is in an area related to their major. Finally, Workforce respondents also want to know if their completers are employed and in what industries.

Data Collected by Agencies

Student demographic data. Student demographics was the most collected type of data. This makes sense given that linked data only works if basic information on the students is collected or provided. Ninety percent or higher of survey respondents indicated they collect student name, date of birth, gender, race and ethnicity. A large majority of the respondents also indicated they collect a unique identifier for students or program participants. Those unique identifiers, however, are often not the same across agencies so it cannot be used to connect data across agencies. County of residence is also collected by a large majority of K-12/CTE, Postsecondary and Workforce agencies, 95%, 83.3% and 76.9%, respectively. All K12/CTE respondents reported they collect disability status, and homelessness status. All K12/CTE and Workforce agencies, and 55.6% of Postsecondary agencies, responded that they collect military status.

Workforce respondents (92.3%) reported they collect disability status. Postsecondary agencies were less likely to collect disability and homeless statuses.

Enrollment, assessment and graduation data. Nearly all (95%) K-12/CTE respondents said they collect district code, school code, CTE concentrator status, and CTE completer status. After that, 90% reported they collect dates of enrollment and high school diploma type, 85% collect program of study and course grade, and 80% collect end of course test scores. Almost all (94.4%) Postsecondary survey participants reported they collect institution name, full-time/part-time status, college admission test scores and credit hours earned. A large percentage of Postsecondary survey respondents (88.9%) also said they collect transfer/first time in college status, program of study/major, credit hours attempted, and postsecondary grade point average. A large percentage of Postsecondary respondents (83.3%) also said they collect degree/certificate seeking status and course grade and 77.8% indicated they collect postsecondary enrollment dates, entering cohort, and high school grade point average. With Workforce survey respondents, 100% reported they collect attained credential/certification and nearly all (92.3%) said they collect programs participation dates, participation in work-based learning, and employed after exit. A large percentage (84.6%) of Workforce respondents reported they collect data by program type, program/pathway participation, program/pathway completion, participation in basic career services, participation in individualized career services and participation in training services.

Course data. All K12/CTE and Postsecondary survey participants indicated they collect course identifier and course title, with 100% of K12/CTE participants also reporting they collect Advanced Placement course, and career and technical education course participation data. Both K12/CTE (95%) and Postsecondary (76.5%) said they collect dual credit/enrollment course participation. A large percentage (90%) of K12/CTE survey participants said they collect International Baccalaureate course participation. A large percentage (70.6%) of Postsecondary survey respondents indicated they collect data on distance education and developmental education/remedial courses. One area in which K12/CTE and Postsecondary survey participants differed was in the collection of work-based learning data. K12/CTE respondents (70%) were more likely to indicate they collect work-based learning participation than Postsecondary respondents (17.6%).

Program participant employment data. Only Workforce agency survey participants were asked additional questions about the data their agency collects on employment outcomes of their program participants. Nearly all (92.3%) said they collect employment NAICS Code and earnings/wages. A majority (53.8%) also said they collect employment record start/end dates and employment location.

Industry/occupation data. Workforce agency survey participants were also asked which industry/occupation data elements their agency collects. All indicated they collect job openings and occupational projections. Almost all (91.7%) said they collect occupational wages, 83.3% said they collect skills required by industry/cluster, 74% reported they collect certifications requested and 58.3% indicated they collect unemployment insurance claims by cluster.

Work-based learning data. All participants were asked whether work-based learning data are collected. The most frequently selected work-based learning option selected by K12/CTE (70.6%) and Postsecondary (62.5%) was enrollment in internships data. The response chosen most frequently (90%) by Workforce respondents was enrollment in pre-apprenticeship and completion of pre-apprenticeship programs. A large percentage of Workforce respondents also chose enrollment in internships (80%), completion of

internships (80%) and partnerships with business/industry sites that offer placement (60%). The majority (58.8%) of K12/CTE respondents also said they collect enrollment in pre-apprenticeship programs and completion of pre-apprenticeship programs.

Summary of data collected. The survey questions that asked participants to identify the data elements they collect from those listed revealed that while data elements differed by level of education, they were similar in type. For example, student demographics such as race/ethnicity and gender were collected by most if not all agencies. Nearly all also reported that they collect data such as a course identifier number or a program name. In addition, a large majority said they collect credential information and employment outcomes. Many of these data elements are likely used for reporting purposes and in the calculation of performance metrics.

Agencies that Link Data

As mentioned previously, three parallel versions of the Data Sharing Survey were distributed — one for departments of education or public instruction (K12 and CTE), another for postsecondary systems and the third to workforce development agencies. Each of these surveys asked participants to identify the agencies with which agencies they share data.

For K-12/CTE survey, 78.9% of respondents said they are most likely to link data with public postsecondary systems of four-year institutions, and then next with two-year college systems (73.7%), and lastly with departments of labor (63.2%), workforce development agencies (57.9%) and pre-K/early childhood education organizations (57.9%).

Postsecondary survey respondents were most likely to connect data with departments of education (88.9%) followed by departments of labor (83.3%) and state financial aid agencies (55.6%). Public postsecondary systems for two-year colleges (44.6%) and four-year institutions (50%) also share data with each other. These percentages, however, should be interpreted with caution since some postsecondary systems completing the survey include both two-year and four-year institutions. These systems would likely not indicate that as sharing data.

Workforce survey participants were most likely to indicate they share data with public postsecondary systems for two-year colleges (78.6%), followed by departments of labor (71.4%), departments of career and technical education (64.3%) and public postsecondary systems for four-year institutions (64.3%).

As the table on the next page shows, few survey participants chose some of the other response options. In addition, some survey respondents listed agencies or entities with which data are shared that were not among the response options such as departments of health and family and children's services, juvenile justice and corrections, and rehabilitation services. Still others reported that they submit data to a state longitudinal data system that allows for connecting data with several of these agencies. These findings are encouraging because several survey participants listed agencies with which they share data that were not included as response options such as juvenile justice, aging and rehabilitation services. This is evidence that agencies in some states are thinking about how connecting data across organizations can help with the delivery of programs and services as well as evaluating the efficacy of these programs and services.

Data are linked to data from other agencies in state:	K-12	PSE	WF
Pre-K/early childhood	57.9%	NA	NA
Department of Education (K12)	NA	88.9%	NA
Department of Career & Technical Education	NA	33.3%	64.3%
Public postsecondary system for two-year colleges	73.7%	NA	78.6%
Public postsecondary system for four-year institutions	78.9%	NA	64.3%
Independent colleges	31.6%	22.2%	42.9%
State financial aid agency/higher education assistance authority	36.8%	55.6%	28.6%
Workforce development agency	57.9%	33.3%	NA
Department of Labor	63.2%	83.3%	71.4%
Department of Corrections	26.3%	11.1%	42.9%
Data are not linked to other data from other agencies	15.8%	5.6%	7.1%
Department of aging and rehabilitation services	10.5%	5.6%	
Social Services/Human Services	5.0%	5.6%	7.1%
Juvenile Justice	5.0%	5.6%	
State-operated programs	5.0%		
Private, outplaced schools	5.0%		
Children's Services		5.6%	
Department for the Blind & Vision Impaired		5.6%	
Department of Health Professions		5.6%	
Sentencing Commission		5.6%	
State Longitudinal Data System		16.7%	
Cabinet for Health & Family Services			7.1%
Finance & Administration			7.1%
Transformation & Shared Services			7.1%

Note: Agencies highlighted in blue were not response options but were listed when prompted under "Other."

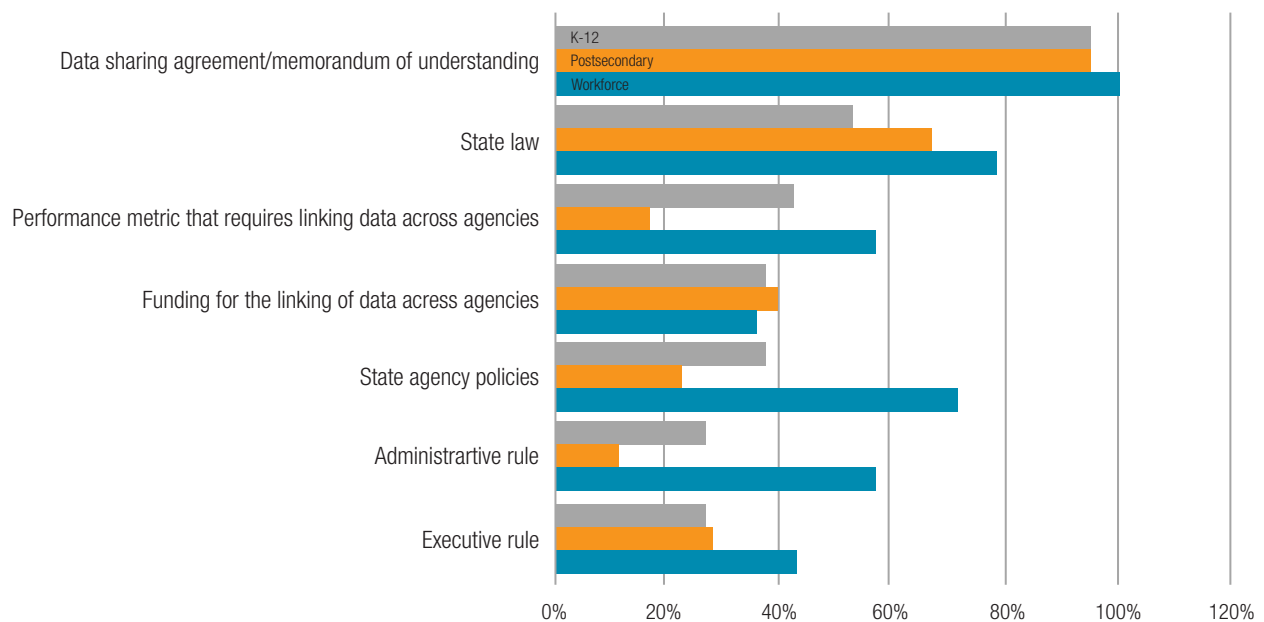
Individual-Level Data: A Requirement for Connecting Data

Regardless of whether data are stored in a centralized data system or connected using the federated model, data must be collected at an individual record level to be linked across different systems or datasets. Nearly all (98%) of the respondents to SREB's Cross-Agency Data Sharing Survey reported that they collect individual unit record level data. These unit record level data are collected on each student or program participant for workforce development programs. This data can be used to examine the performance of students over time, to evaluate programs and interventions, and provide feedback to teachers and school leaders on their instruction. Unit record level data can be connected across data systems to answer questions that cannot be answered using data from a single agency. For example, K-12 and postsecondary data can be linked to determine how many high school graduates enrolled in a postsecondary institution in the fall after their high school graduation.

Policies and Practices that Support Data Sharing

All three sectors (K12/CTE, Postsecondary and Workforce) ranked having data sharing agreements or memoranda of understanding and state law as the top two supports for data sharing. Beyond that, the supports they identified differed. K-12/CTE staff reported that performance metrics that require linking data across agencies as the next most frequently chosen reason at 42.1%. Among Postsecondary survey respondents, 38.9% cited funding for the linking of data across agencies in my state next on their list. State agency policies was the third most frequently chosen option among Workforce survey participants with 71.4% selecting that option. Two additional response options — performance metrics that require linking data across agencies and administrative rules — were chosen by a majority (57.1%) of Workforce survey respondents.

Policies and Practices that Support Data Sharing



Survey respondents were asked to list other supports for sharing data. A K12/CTE survey respondent listed having a SLDS governing board as well as grant opportunities as practices that encourage data sharing. Similarly, a Postsecondary survey participant said that a SLDS with an MOU governing data sharing facilitated the connecting of data. Finally, a Workforce survey participant reported that a legislative research study or mandate encouraged the sharing of data.

Data Sharing Agreements or Memoranda of Understanding

Nearly all (98%) of the survey respondents reported that they have a data sharing agreement with one or more agencies in their state. Only one survey participant said they did not know if they had a data sharing agreement with other agencies. None of the respondents reported they have no data sharing agreements.

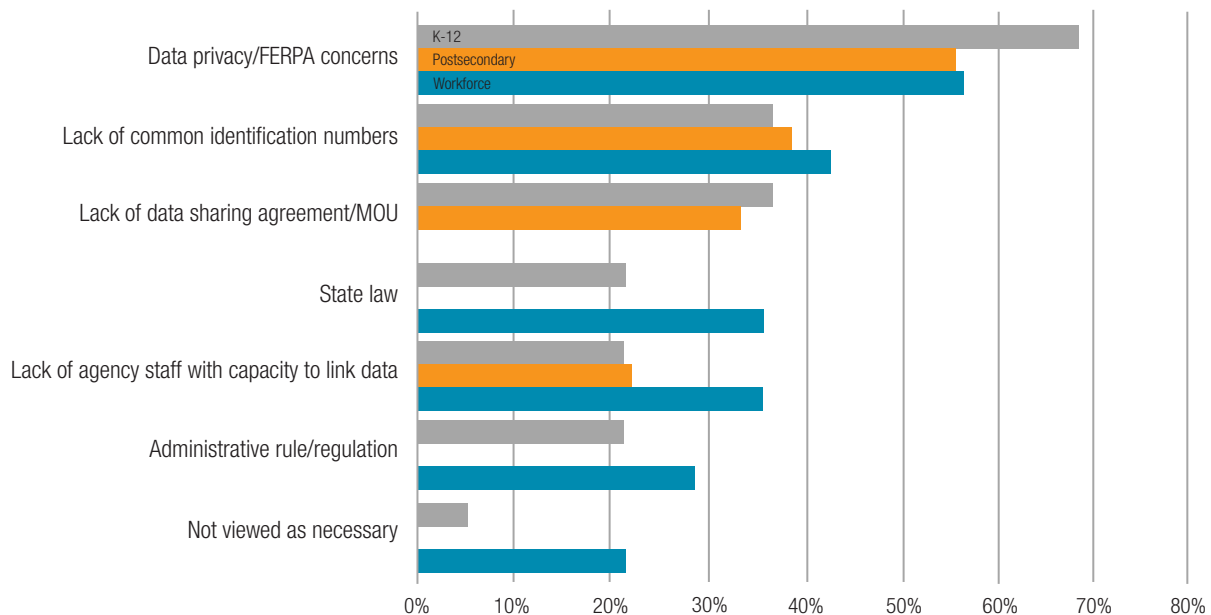
Survey participants were also asked to identify the agencies with which they currently have data sharing agreements. Agencies most often reported that they had agreements with agencies nearest to them in the

education pipeline. For example, 77.8% of K12/CTE survey respondents said they had agreements with public postsecondary systems for four-year institutions, 66.7% with public postsecondary systems for two-year institutions, and 61.1% have agreements with departments of labor. Postsecondary survey participants reported departments of education (70.6%), departments of labor (64.7%), and postsecondary systems for two-year institutions (41.2%). Workforce survey respondents were most likely to indicate departments of labor (83.3%) followed by departments of career and technical education (66.7%) and public postsecondary system for two-year colleges (66.7%).

Policies and Practices that Discourage Data Sharing

While survey respondents identified supports for data sharing, they also identified policies and practices that discouraged such sharing. Respondents of all sectors cited data privacy/Family Educational Rights and Privacy Act concerns most frequently when identifying factors that discourage data from being linked across agencies. The percentages were 68.4% for K12/CTE participants, 55.6% for Postsecondary respondents, and 57.1% for Workforce survey participants. In addition, respondents chose lack of common identification numbers as the second most frequently cited obstacle to sharing data. K12/CTE survey participants chose lack of data sharing agreement/memorandum of understanding with the same frequency (36.8%) while 33.3% of Postsecondary and 35.7% of Workforce survey participants chose this option. Finally, 35.7% of Workforce survey respondents also chose state law and lack of agency staff with capacity to link data.

Policies and Practices that Discourage Data Sharing



Survey respondents listed three additional obstacles to sharing data – (1) lack of funding and the cost of sharing data with agencies who charge fees for this service, (2) laws such as FERPA that are designed to protect data privacy, and (3) agency capacity.

Data Governance Policies and Procedures

Data breaches are a concern across many sectors of our economy. Education is no exception. Parents of K-12 students are particularly concerned about protecting the privacy of their children's data, but college students above the age of 18 are also concerned. Thus, avoiding data breaches and having a documented plan or process for handling a breach when it happens is crucial to a strong data governance plan and necessary before data are linked across agencies.

The survey included two questions to get a sense of how many education and workforce agencies in SREB states have policies or processes in place to protect the privacy and security of student data. First, participants were asked, "Does your agency have a documented process to protect the privacy and security of data shared across agencies?"

All of the K-12/CTE and Workforce survey respondents indicated that their agency has a documented process for protecting the privacy and security of data shared across agencies. Nearly three-fourths (72.2%) of Postsecondary survey participants responded "yes" to that question. Among Postsecondary survey participants, 5.6% said their agency does not have a documented process for protecting the privacy and security of data shared across agencies while 22.2% indicated they do not know.

Second, participants were asked, "Does your agency have a documented process for connecting and sharing data with other agencies in your state?" Nearly all K-12/CTE (94.4%) and Workforce (92.9%) survey participants said "yes" to this question while 72.2% of Postsecondary respondents did so. In contrast, 20% of K12/CTE survey respondents said that no legislation on data privacy influences how they link student data across agencies in their state while 30% said they do not know. Among Postsecondary survey participants, 11.1% responded "no" and 16.7% said they do not know. With Workforce survey respondents, 7.1% indicated no documented process exists.

Some states have enacted legislation designed to protect data privacy and security. The survey asked specifically if legislation on data privacy influenced how or if their agency links student data across agencies in their state. Fifty percent of both K12/CTE and Workforce survey participants responded "yes" to this question while 38.9% of Postsecondary survey respondents did so. One in five K12/CTE, 16.7% of Postsecondary, and 21.4% of Workforce survey participants answered "no" to this question. The remainder indicated they did not know if such legislation existed. Additional investigation needs to be done to determine what legislation these respondents had in mind and how it affects data sharing.

Defining Key Terms

In the Landscape of Data Sharing Survey, the terms linking, sharing and connecting data were used interchangeably. It is possible, however, that these terms mean different things to different people. For the purpose of this survey, the terms were defined as follows:

Data sharing is making data available to individuals in another department or agency that are not available in their own data systems while maintaining the integrity of the data. ([What is Data Sharing? | Snowflake Guides | Snowflake](#)) Data sharing of individual-record level data takes place using secure methods of file transfer. Data sharing of aggregate data can be as simple as making files available for download from an organization's website.

Data linking involves using technology (such as an algorithm) to match individual-record level data from one organization with the data from another organization to develop a more useful data set to analyze and make decisions. Using computer software, individual records are linked across data sets. After the data are linked, each individual record is given a unique identifier or “linkage key” that will be used to connect the data across the data sets while de-identifying the individual and ensuring the privacy of the data. ([What is Data Linking? | TIBCO Software](#)). The linked data can be stored in a data system for use in answering many questions or producing different reports or it might be linked temporarily for use in analysis or research and then destroyed.

Connecting data, in this context, involves matching data from different sources to create a “golden record” that includes data on an individual. The data available on that individual are then located in a central location that can be queried or analyzed. ([Connected Data: What It Is and Why It Matters | CustomerThink](#)).

Conclusion and Observations

The purpose of this report is to summarize the results of the SREB Cross-Agency Data Sharing Survey. SREB conducted this survey to get a better understanding of what data K12, CTE, postsecondary systems, and workforce development agencies collect and connect to answer questions frequently posed by state policymakers and agency heads, respond to reporting requirements, and conduct their own analyses. In addition, the survey asked participants which agencies they share data with and for what reasons. The survey focused on some specific topics like work-based learning and employment outcomes to learn which agencies collect those data and when. Next, the survey asked about what conditions in their state facilitated or discouraged data sharing. Finally, the survey included questions about selected data governance that the agencies have in place to protect the privacy and security of student data. Based on the survey results, SREB makes the following observations.

Collect individual-record level data. Most of the survey respondents indicated that their agencies collect at least some data at the individual level. Collecting data at that level allows for data to be linked across databases if there is a common unique identifier or there are data elements in each of the databases that can be used in creating an algorithm to match records.

Identify the data collected by each collaborating agency. One cannot assume that the agencies that agree to share data already collect the data needed to answer questions, respond to reporting requirements or engage in research. Representatives of each participating agency must know what data elements are collected, what the valid values are, when those data are collected and for what dates.

Identify the reasons that data need to be shared. Research and policy staff at agencies as well as legislative and gubernatorial staff play an important role in this step because they are likely to know the questions that state policymakers and agency heads ask. In addition, agency staff will know the reporting requirements they have that will require that data be shared across agencies. These individuals as well as researchers external to state government or agencies might have also identified questions that are to be answered with data that are linked across agencies.

Determine the data elements needed to answer questions or meet reporting requirements. The data contacts in state agencies in collaboration with information technology staff will know what data elements are currently collected at the agency level and if they are not, whether the data are collected at the school or institution level. In addition, they will know how the data elements are defined to know if they are appropriate to use in answering the questions.

Develop data governance to aid in connecting data. Organizations will need data sharing agreements that stipulate which data elements will be shared, how they will be shared, and when. In addition, the data sharing agreement will include the date by which the data should be destroyed. Data governance also includes the development of a structure for making decisions about what data elements are collected, how they are defined, what office or agency “owns” the data and is, therefore, responsible for the quality and integrity of the data. Finally, data governance should include policies and procedures to protect the privacy and security of the data. Some agencies responding to the survey indicated that federal laws, such as FERPA, and state rules or regulations make sharing data difficult. These laws and regulations exist to protect the privacy of students by maintaining the security of the data.

Create a unique identification number across agencies. Some agencies reported the lack of a common unique identification number across their organizations made linking data more difficult. As states develop statewide longitudinal data systems or plan to link data for any reason, they should consider creating such a unique identifier to make data sharing easier.

Predict future needs for data. Predicting the future is impossible but agencies should engage in environmental scanning and an analysis of strengths, weaknesses, opportunities and threats to highlight areas where they need data. Anticipating future data needs will help states get a jump on the data needed to answer questions raised in future legislative sessions.

Create online tools for using data. States should develop web-based tools to make data more useful to students. States should keep in mind that ultimately the goal is to better serve students so providing them with tools to access the data that might help them identify a career pathway they find interesting, a post-secondary option that will help them pursue that pathway, and employment outcomes they might expect upon completion. These tools, in turn, help to build support for the collection of data and the creation of state longitudinal data systems because the public begins to understand its utility.

Appendix A

Building Systems that Connect Agency Data

Historically, agencies connected data by sharing or exchanging data files that included the data elements needed to conduct a study or prepare a report. This form of data sharing continues today particularly if the resources or the support for creating a data infrastructure where these data would be stored or routinely connected do not exist. That said, many SREB states have longitudinal data systems. The National Center for Education Statistics defines an education longitudinal data system as “a data system that collects and maintains detailed, high quality, student- and staff-level data that are linked across entities and over time, providing a complete academic and performance history for each student, and makes these data accessible through reporting and analysis tools.”

State Longitudinal Data Systems

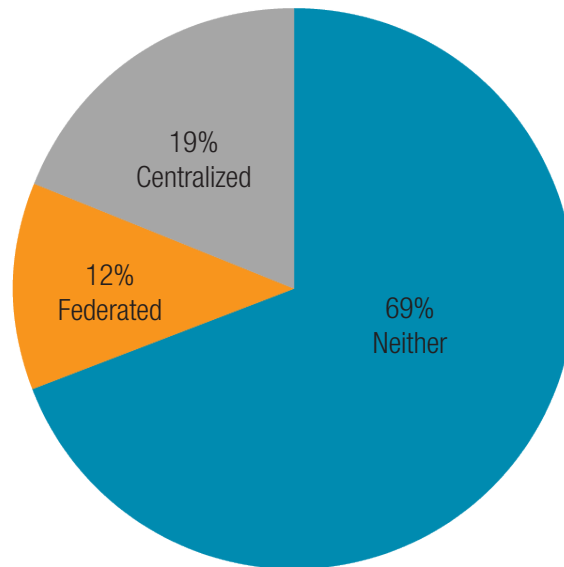
In some instances, these education longitudinal data systems were built in part using funds obtained through the Institute of Education Sciences Statewide Longitudinal Data Systems Grant Program. The SLDS Grant Program was established in the Education Technical Assistance Act of 2002. IES explains that the purpose of the Program is to “improve student learning and outcomes by designing, building, maintaining, and expanding P-20W+ (early childhood through workforce) longitudinal data systems.” In 2005 and 2007, the focus of the Program was building K12 data systems. In 2009, the Program required that K12 link data to pre-K, postsecondary or workforce data or link teacher and student data within K12. The Program dropped the teacher-student linking requirement in 2012. In 2015, the Program shifted requirements to focus less on the agencies to be involved in the data linking to identify the areas of investigation the linking should explore (for example, fiscal equity and return on investment, educator talent management,) The FY19 grant requirements stated that states must propose to link a minimum of one data source to existing K12 data. In addition, the applicants in the FY19 round of grants could also propose to use their data system to support education choice initiatives or examine issues of education equity in their states.

The Institute of Education Sciences uses the term, statewide longitudinal data system to describe their grant program which initially funded the development of K12 longitudinal data systems has led to some confusion. Also, some postsecondary systems developed longitudinal data systems going as far back as the 1980s and referred to those as state longitudinal data systems because they included data from postsecondary systems across the state. When someone references a statewide longitudinal data system, it is important to understand whether they are referring to a system that includes data at one level of the education pipeline or if the system involves data from various agencies such as K12, postsecondary or workforce. The Education Commission of the States defines an SLDS as “a data system with formal connections across two or more of the four core agencies (early learning, K12, postsecondary and workforce). Therefore, it possible that a state could have received funding through the IES SLDS Grant Program to build or expand, for example, a K12 longitudinal data system but that would not meet the definition of a statewide longitudinal data system unless it linked data to another agency.

Types of Systems: Centralized and Federated

Statewide longitudinal data systems are often described as either centralized or federated data systems. Initially, statewide longitudinal data system involved the development of a single, centralized data system that contained data submitted by participating agencies. The participating agencies contribute some of the data collected by their agencies to be matched to data from other participating agencies and stored in the centralized data system. More recently, some states have opted to create statewide longitudinal data systems using a federated model. According to the Institute of Education Sciences, data from participating agencies are temporarily linked to create a report or generate a dataset in a federated model.” The data do not remain connected indefinitely. Federated systems, according to IES, are often used to connect data in states where legislation prohibits the establishment of a data system that permanently links data.

Type of Data System, SREB States



Source: Education Commission of the States, 50-State Comparison: Statewide Longitudinal Data Systems, ecs.org.

For more information about the Landscape of Data Sharing Survey, please contact Susan Lounsbury at Susan.Lounsbury@SREB.org or Ivy Colburn at Ivy.Colburn@SREB.org.

Appendix B

SREB Cross-Agency Data Sharing Survey for K-12 and CTE

Background and Contact Information

1) Please enter your contact information:

First Name: _____

Last Name: _____

Title: _____

Agency Name: _____

State: _____

Email Address: _____

Phone Number: _____

Your Agency's Data

2) Does your agency collect unit record level data (individual level, not just aggregate data) on students?

- Yes
- No
- I don't know

3) Please identify the student demographic data elements your agency collects. (Select all that apply.)

- Student name
- Date of birth
- Gender
- Ethnicity
- Race
- Social Security number
- K-12 unique identification number
- Country of birth
- State of birth
- County of residence
- Disability status
- Economically disadvantaged/low-income

- Preparing for nontraditional fields
- Single parent
- Out-of-workforce individual
- Homelessness status
- Foster care status
- Military connected student indicator
- Limited English proficiency
- Free and reduced lunch eligibility
- Migrant status
- Other - Please specify: _____

4) Please identify which student enrollment, assessment and graduation data elements your agency collects. (Select all that apply.)

- District code
- School code
- Technology center/campus code
- Dates of K-12 enrollment
- End of course test scores
- End of pathway test scores
- College admission test scores
- Career cluster
- Career pathway
- CTE concentrator status
- CTE completer status
- CTE program of study
- CTE entering cohort
- CTE certification exam participation
- CTE certification exam attainment
- Career and technical student organization participation
- High school diploma type
- Credit hours attempted
- Credit hours earned
- Course grade
- High school graduation date
- High school grade point average
- Other - Please specify: _____

5) Please identify which course data elements your agency collects. (Select all that apply.)

- Course identifier
- Course title
- Advanced Placement course
- International Baccalaureate course
- Dual enrollment/credit course
- Career and technical education course
- Middle school CTE course
- Work-based learning participation
- Carnegie Unit Credit
- Other - Please specify: _____

6) What data does your agency collect on work-based learning opportunities? (Select all that apply.)

- Enrollment in internships
- Completion of internships
- Enrollment in pre-apprenticeship programs
- Completion of pre-apprenticeship programs
- Participation in job shadowing opportunities
- Completion of job shadowing opportunities
- Participation in tours of job sites
- Partnerships with business/industry sites that offer placement for CTE students
- Data on work-based learning not collected
- Other - Please specify: _____

Linking Data Across Agencies

7) Are data from your agency linked to data from any of the following agencies in your state? (Select all that apply)

- Pre-K/early childhood education
- Public postsecondary system for two-year colleges
- Public postsecondary system for four-year institutions
- Independent colleges (private, non-profit)
- State financial aid agency/higher education assistance authority
- Workforce development agency (provider of workforce development programs)
- Department of labor (source of Unemployment Insurance data)
- Department of corrections

- Data are not linked to data from other agencies
- Other - Please specify: _____

8) Connecting data across agencies usually requires that the agencies involved sign a data sharing agreement or memorandum of understanding that allows for the secure transfer of data for the purpose of linking them. Does your agency have a data sharing agreement with one or more agencies in your state?

- Yes
- No
- I don't know

9) Please indicate the agencies with which you currently have a data sharing agreement. (Select all that apply.)

- Pre-K/ early childhood education
- Public postsecondary system for two-year institutions
- Public postsecondary system for four-year colleges and universities
- Independent colleges (private, not-for-profit)
- State financial aid agency/higher education assistance authority
- Workforce development agency (provider of workforce development programs)
- Department of labor (source of Unemployment Insurance data)
- Department of corrections
- Other - Please specify: _____

Purpose of Linking Data

10) Why are data from your agency connected to data from other agencies in your state? (Select all that apply)

- Meet federal reporting requirements
- Meet state reporting mandates
- Improve student achievement
- Facilitate cross-agency collaboration (e.g., produce high school feedback report)
- Decision making (e.g., allocation of resources/funding)
- Policy making
- Conduct research
- Other - Please specify: _____

11) Are individual-level data from your agency linked to data with other agencies to conduct analysis on any of the following topics? (Select all that apply.)

- High school graduation
- College going/postsecondary enrollment in related field of study
- College going/postsecondary enrollment in unrelated field of study
- High school feedback
- College readiness
- Dual credit/enrollment
- Equity, diversity and inclusion
- Student mobility
- Student learning
- Teacher effectiveness evaluations
- College retention, progression and graduation
- Enrollment in job training program
- Employment outcomes (employed and/or earnings)
- Economic impact/jobs
- Other - Please specify: _____

12) Are aggregated data (e.g., reports, queries) from your agency shared with other agencies?

- Yes
- No
- I don't know

13) Are aggregated data from your agency shared with other agencies to conduct analysis on any of the following topics? (Select all that apply.)

- High school graduation
- College going/postsecondary enrollment in related field of study
- College going/postsecondary enrollment in unrelated field of study
- High school feedback
- College readiness
- Dual credit/enrollment
- Equity, diversity and inclusion
- Student mobility
- Student learning
- Teacher effectiveness evaluations

- College retention, progression and graduation
- Enrollment in job training program
- Employment outcomes (employed and/or earnings)
- Economic impact/jobs
- Other - Please specify:

14) At what points does your agency check to see if completers/graduates are employed?

- Six months after completion/graduation
- One year after completion/graduation
- Two years after completion/graduation
- Four years after completion/graduation
- Not applicable
- Other - Please specify: _____

Influences on Linking Data

15) Which of the following encourage or permit data from your agency to be linked to data from other agencies in your state? (Select all that apply.)

- Data sharing agreement/memorandum of understanding
- Funding for the linking of data across agencies in my state
- Performance metric that requires linking data across agencies
- State law
- Administrative rule/regulation
- State agency policies
- Executive mandate
- Not applicable
- Other - Please specify: _____

16) Which of the following discourage or prohibit data from your agency being linked to data from other agencies in your state? (Select all that apply)

- Data privacy/FERPA concerns
- State law
- Administrative rule/regulation
- Lack of common identification numbers
- Lack of agency staff with capacity to link data
- Lack of data sharing agreement/memorandum of understanding

- Not viewed as necessary
- Not applicable
- Other - Please specify: _____

Your Agency's Data Policies

17) Does your agency have a documented process for protecting the privacy and security of data shared across agencies?

- Yes
- No

18) Does your agency have a documented process for connecting and sharing data with other agencies in your state?

- Yes
- No

19) Has any legislation on data privacy influenced how or if you link student data across agencies in your state?

- Yes
- No
- I don't know

Thank You!

SREB Cross-Agency Data Sharing Survey for Postsecondary

Background and Contact Information

1) Please enter your contact information:

First Name: _____

Last Name: _____

Title: _____

Agency Name: _____

State: _____

Email Address: _____

Phone Number: _____

Your Agency's Data

2) Does your agency collect unit record level data (student level, not just aggregate data) on students?

- Yes
- No
- I don't know

3) Please identify the student demographic data elements your agency collects. (Select all that apply.)

- Student name
- Date of birth
- Gender
- Ethnicity
- Race
- Social Security number
- Postsecondary student unique identifier
- Country of birth
- State of birth
- County of residence
- Dependency status
- Parent/guardian education level/first generation status
- Live on campus/off-campus
- Disability status
- Economically disadvantaged/low-income
- Single parent or single pregnant woman status
- Out-of-workforce individual
- Homelessness status
- Aged out of foster care
- Military status (e.g., active, veteran, branch, parent on active duty)
- English learners/Limited English Proficiency
- Public assistance status
- Other - Please specify: _____

4) Please identify which student enrollment, assessment and graduation data your agency collects. (Select all that apply.)

- Postsecondary institution name
- Dates of postsecondary enrollment (entry and exit)
- Entering cohort
- Transfer status/first-time in college
- Degree/certificate seeking status
- Full-time/part-time status
- College admission test scores
- Program of study/major
- Credit hours attempted
- Credit hours earned
- Course grade
- Postsecondary grade point average
- High school graduation date
- High school grade point average
- Dual credit/enrollment credits awarded
- Advanced placement credits awarded
- International Baccalaureate credits awarded
- Licensure exam attempt /attainment
- Industry recognized credential attainment
- Title IV participant/recipient
- Participation in programs offered by student services
- CTE career pathway participant
- CTE concentrator status
- CTE completer status
- Other - Please specify: _____

5) Please identify which course data elements your agency collects. (Select all that apply.)

- Course identifier
- Course title
- Work-based learning participation
- Distance education course
- Developmental education/remedial course
- Dual credit/enrollment course
- Other - Please specify: _____

**6) What data does your agency collect on work-based learning opportunities?
(Select all that apply.)**

- Enrollment in internships
- Completion of internships
- Enrollment in pre-apprenticeship programs
- Completion of pre-apprenticeship programs
- Participation in job shadowing opportunities
- Completion of job shadowing opportunities
- Participation in tours of job sites
- Partnerships with business/industry sites that offer placement
- Data on work-based learning not collected
- Other - Please specify:

Linking Data Across Agencies

7) Are data from your agency linked to data from any of the following agencies in your state? (Select all that apply)

- Department of education (K-12)
- Department of career and technical education
- Public postsecondary system for two-year colleges
- Public postsecondary system for four-year institutions
- Independent postsecondary institutions (private, non-profit)
- State financial aid agency/higher education assistance authority
- Workforce development agency
- Department of labor and/or workforce (Unemployment Insurance data source)
- Department of corrections
- Data are not linked to data from other agencies
- Other - Please specify:

8) Connecting data across agencies usually requires that the agencies involved sign a data sharing agreement or memorandum of understanding that allows for the secure transfer of data for the purpose of linking them. Does your agency have a data sharing agreement with one or more agencies in your state?

- Yes
- No
- I don't know

9) Please indicate the agencies with which you currently have data sharing agreements. (Select all that apply.)

- Department of education (K-12)
- Department of career and technical education
- Public postsecondary system for two-year institutions
- Public postsecondary system for four-year colleges and universities
- Independent colleges (private, not-for-profit)
- State financial aid agency/higher education assistance authority
- Workforce development agency (provider of workforce development programs)
- Department of labor (source of Unemployment Insurance data)
- Department of corrections
- Other - Please specify

Purpose of Linking Data

10) Why are data from your agency connected to data from other agencies in your state? (Select all that apply.)

- Meet federal reporting requirements
- Meet state reporting mandates
- Improve student achievement
- Facilitate cross-agency collaboration (e.g., produce high school feedback report, calculate college-going rate)
- Decision making (e.g., allocation of resources/funding)
- Policy making
- Conduct research
- Award financial aid
- Other - Please specify:

11) Are individual-level data from your agency linked to data with other agencies to conduct analysis on any of the following topics? (Select all that apply.)

- College going/postsecondary enrollment in related field of study
- College going/postsecondary enrollment in unrelated field of study
- High school feedback
- Dual credit/enrollment
- Distance education
- Equity, diversity and inclusion
- Student mobility/transfer

- Community college feedback
- Student learning
- Financial aid
- Student debt
- College retention, progression and graduation
- Employment outcomes (employed and/or earnings)
- Economic impact/jobs
- Other - Please specify: _____

12) Are aggregated data (e.g., reports, queries) from your agency shared with other agencies?

- Yes
- No
- I don't know

13) Are aggregated data from your agency linked to data with other agencies to conduct analysis on any of the following topics? (Select all that apply.)

- College going/postsecondary enrollment in related field of study
- College going/postsecondary enrollment in unrelated field of study
- High school feedback
- Dual credit/dual enrollment
- Distance education
- Equity, diversity and inclusion
- Student mobility/transfer
- Community college feedback
- Student learning
- Financial aid
- Student debt
- College retention, progression and graduation
- Employment outcomes (employed and/or earnings)
- Economic impact/jobs
- Other - Please specify: _____

14) At what points does your agency check the employment outcomes of your completers/ graduates? (Select all that apply.)

- Six months after completion/graduation
- One year after completion/graduation
- Two years after completion/graduation
- Four years after completion/graduation
- Not applicable
- Other - Please specify: _____

Influences on Linking Data

15) Which of the following currently encourage or permit data from your agency to be linked to data with other agencies in your state? (Select all that apply.)

- Data sharing agreement/memorandum of understanding
- Funding for the linking of data across agencies in my state
- Performance metric that requires linking data across agencies
- State law
- Administrative rule/regulation
- State agency policies
- Executive mandate
- Not applicable
- Other - Please specify: _____

16) Which of the following discourage or prohibit data from your agency from being linked to data from other agencies in your state? (Select all that apply)

- Data privacy/FERPA concerns
- State law
- Administrative rule/regulation
- Lack of common identification numbers
- Lack of agency staff with capacity to link data
- Lack of data sharing agreement/memorandum of understanding
- Not viewed as necessary
- Not applicable
- Other - Please specify: _____

Your Agency's Data Policies

17) Does your agency have a documented process for protecting the privacy and security of data shared across agencies?

- Yes
- No
- I don't know

18) Does your agency have a documented process for connecting and sharing data with other agencies in your state?

- Yes
- No
- I don't know

19) Has any legislation on data privacy influenced how or if your agency links student data across agencies in your state?

- Yes
- No
- I don't know

Thank You!

SREB Cross-Agency Data Sharing Survey for Postsecondary

Background and Contact Information

1) Please enter your contact information:

First Name: _____

Last Name: _____

Title: _____

Agency Name: _____

State: _____

Email Address: _____

Phone Number: _____

Your Agency's Data

2) Does your agency collect unit record level data (student level, not just aggregate data) on students?

- Yes
- No
- I don't know

3) Please identify the student demographic data elements your agency collects. (Select all that apply.)

- Student name
- Date of birth
- Gender
- Ethnicity
- Race
- Social Security number
- Postsecondary student unique identifier
- Country of birth
- State of birth
- County of residence
- Dependency status
- Parent/guardian education level/first generation status
- Live on campus/off-campus
- Disability status
- Economically disadvantaged/low-income
- Single parent or single pregnant woman status
- Out-of-workforce individual
- Homelessness status
- Aged out of foster care
- Military status (e.g., active, veteran, branch, parent on active duty)
- English learners/Limited English Proficiency
- Public assistance status
- Other - Please specify: _____

4) Please identify which student enrollment, assessment and graduation data your agency collects. (Select all that apply.)

- Postsecondary institution name
- Dates of postsecondary enrollment (entry and exit)
- Entering cohort
- Transfer status/first-time in college
- Degree/certificate seeking status
- Full-time/part-time status
- College admission test scores
- Program of study/major
- Credit hours attempted
- Credit hours earned
- Course grade
- Postsecondary grade point average
- High school graduation date
- High school grade point average
- Dual credit/enrollment credits awarded
- Advanced placement credits awarded
- International Baccalaureate credits awarded
- Licensure exam attempt /attainment
- Industry recognized credential attainment
- Title IV participant/recipient
- Participation in programs offered by student services
- CTE career pathway participant
- CTE concentrator status
- CTE completer status
- Other - Please specify: _____

5) Please identify which course data elements your agency collects. (Select all that apply.)

- Course identifier
- Course title
- Work-based learning participation
- Distance education course
- Developmental education/remedial course
- Dual credit/enrollment course
- Other - Please specify: _____

**6) What data does your agency collect on work-based learning opportunities?
(Select all that apply.)**

- Enrollment in internships
- Completion of internships
- Enrollment in pre-apprenticeship programs
- Completion of pre-apprenticeship programs
- Participation in job shadowing opportunities
- Completion of job shadowing opportunities
- Participation in tours of job sites
- Partnerships with business/industry sites that offer placement
- Data on work-based learning not collected
- Other - Please specify: _____

Linking Data Across Agencies

7) Are data from your agency linked to data from any of the following agencies in your state? (Select all that apply)

- Department of education (K-12)
- Department of career and technical education
- Public postsecondary system for two-year colleges
- Public postsecondary system for four-year institutions
- Independent postsecondary institutions (private, non-profit)
- State financial aid agency/higher education assistance authority
- Workforce development agency
- Department of labor and/or workforce (Unemployment Insurance data source)
- Department of corrections
- Data are not linked to data from other agencies
- Other - Please specify: _____

8) Connecting data across agencies usually requires that the agencies involved sign a data sharing agreement or memorandum of understanding that allows for the secure transfer of data for the purpose of linking them. Does your agency have a data sharing agreement with one or more agencies in your state?

- Yes
- No
- I don't know

9) Please indicate the agencies with which you currently have data sharing agreements. (Select all that apply.)

- Department of education (K-12)
- Department of career and technical education
- Public postsecondary system for two-year institutions
- Public postsecondary system for four-year colleges and universities
- Independent colleges (private, not-for-profit)
- State financial aid agency/higher education assistance authority
- Workforce development agency (provider of workforce development programs)
- Department of labor (source of Unemployment Insurance data)
- Department of corrections
- Other - Please specify: _____

Purpose of Linking Data

10) Why are data from your agency connected to data from other agencies in your state? (Select all that apply.)

- Meet federal reporting requirements
- Meet state reporting mandates
- Improve student achievement
- Facilitate cross-agency collaboration (e.g., produce high school feedback report, calculate college-going rate)
- Decision making (e.g., allocation of resources/funding)
- Policy making
- Conduct research
- Award financial aid
- Other - Please specify: _____

11) Are individual-level data from your agency linked to data with other agencies to conduct analysis on any of the following topics? (Select all that apply.)

- College going/postsecondary enrollment in related field of study
- College going/postsecondary enrollment in unrelated field of study
- High school feedback
- Dual credit/enrollment
- Distance education
- Equity, diversity and inclusion
- Student mobility/transfer

- Community college feedback
- Student learning
- Financial aid
- Student debt
- College retention, progression and graduation
- Employment outcomes (employed and/or earnings)
- Economic impact/jobs
- Other - Please specify: _____

12) Are aggregated data (e.g., reports, queries) from your agency shared with other agencies?

- Yes
- No
- I don't know

13) Are aggregated data from your agency linked to data with other agencies to conduct analysis on any of the following topics? (Select all that apply.)

- College going/postsecondary enrollment in related field of study
- College going/postsecondary enrollment in unrelated field of study
- High school feedback
- Dual credit/dual enrollment
- Distance education
- Equity, diversity and inclusion
- Student mobility/transfer
- Community college feedback
- Student learning
- Financial aid
- Student debt
- College retention, progression and graduation
- Employment outcomes (employed and/or earnings)
- Economic impact/jobs
- Other - Please specify: _____

14) At what points does your agency check the employment outcomes of your completers/ graduates? (Select all that apply.)

- Six months after completion/graduation
- One year after completion/graduation
- Two years after completion/graduation
- Four years after completion/graduation
- Not applicable
- Other - Please specify: _____

Influences on Linking Data

15) Which of the following currently encourage or permit data from your agency to be linked to data with other agencies in your state? (Select all that apply.)

- Data sharing agreement/memorandum of understanding
- Funding for the linking of data across agencies in my state
- Performance metric that requires linking data across agencies
- State law
- Administrative rule/regulation
- State agency policies
- Executive mandate
- Not applicable
- Other - Please specify: _____

16) Which of the following discourage or prohibit data from your agency from being linked to data from other agencies in your state? (Select all that apply)

- Data privacy/FERPA concerns
- State law
- Administrative rule/regulation
- Lack of common identification numbers
- Lack of agency staff with capacity to link data
- Lack of data sharing agreement/memorandum of understanding
- Not viewed as necessary
- Not applicable
- Other - Please specify: _____

Your Agency's Data Policies

17) Does your agency have a documented process for protecting the privacy and security of data shared across agencies?

- Yes
- No
- I don't know

18) Does your agency have a documented process for connecting and sharing data with other agencies in your state?

- Yes
- No
- I don't know

19) Has any legislation on data privacy influenced how or if your agency links student data across agencies in your state?

- Yes
- No
- I don't know

Thank You!

SREB Cross-Agency Data Sharing Survey for Workforce Development Programs

Background and Contact Information

1) Please enter your contact information:

First Name: _____

Last Name: _____

Title: _____

Agency Name: _____

State: _____

Email Address: _____

Phone Number: _____

Your Agency's Data

2) Does your agency collect unit record level data (individual level, not just aggregate data) on program participants?

- Yes
- No
- I don't know

3) Please indicate which demographic data your agency collects. (Select all that apply.)

Program participant name _____

Date of birth _____

Gender _____