SHEEO

STATE HIGHER EDUCATION EXECUTIVE OFFICERS ASSOCIATION

THE STATE OF STATE POSTSECONDARY DATA SYSTEMS

STRONG FOUNDATIONS 2016

JOHN ARMSTRONG
CHRISTINA WHITFIELD

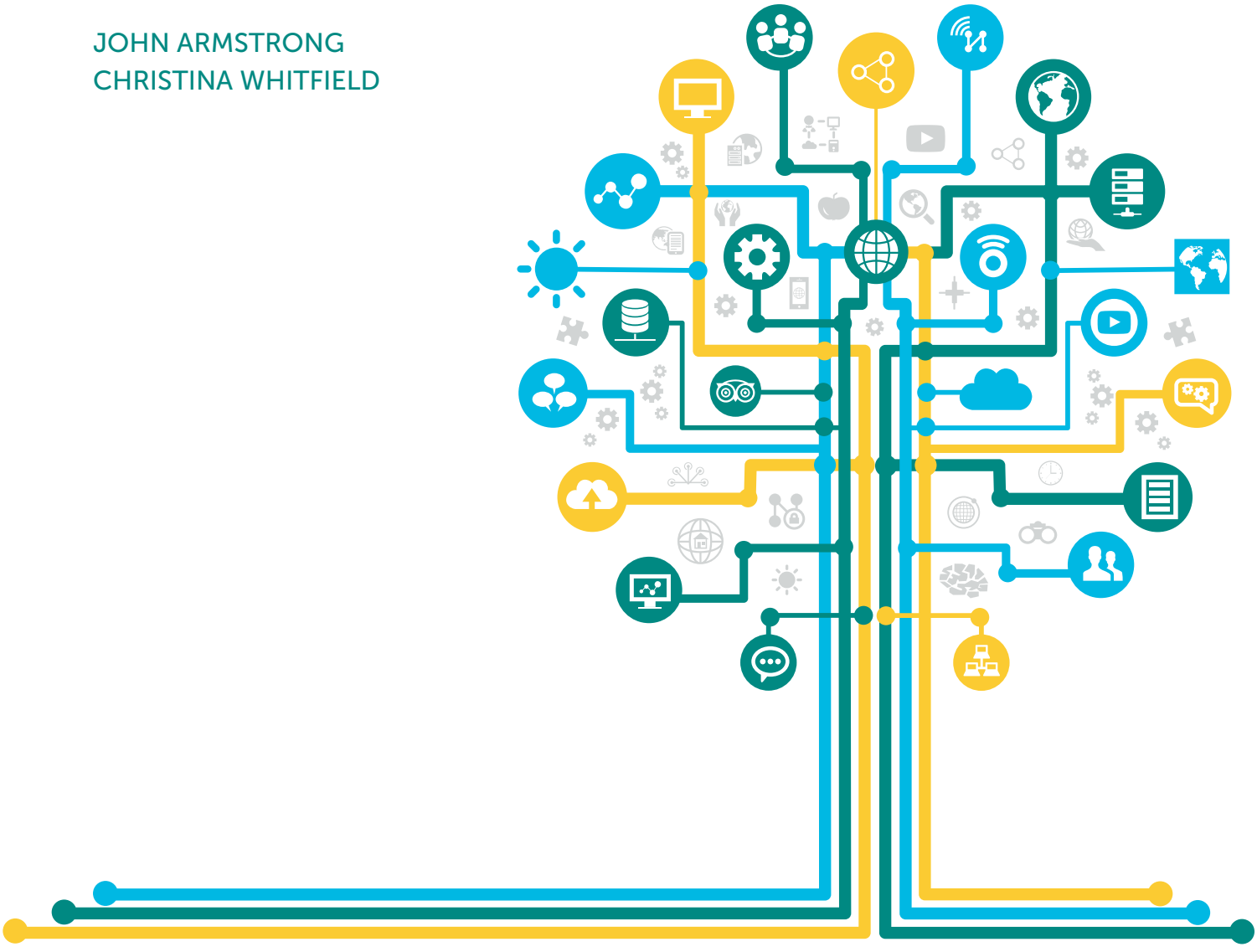


TABLE OF CONTENTS

ACKNOWLEDGMENTS

This report on state postsecondary data systems was made possible by the responses of state agency staff. We thank the respondents for devoting time and energy toward responding to the survey, and for providing additional information in response to follow-up requests. While the report names one primary contact for each participating agency, we are aware that in many instances coordination with additional staff and other partner agencies was necessary to complete the responses. We greatly appreciate the collaborative effort undertaken to generate this information.

Hans L'Orange and **Tanya Garcia**, former SHEEO staff members, wrote the first iteration of *Strong Foundations*, and this 2016 follow-up would not have been possible without their initial framework and methods. Each of them consulted on drafts of this report. **Peter Ewell** of the National Center for Higher Education Management Systems (NCHEMS) provided historical context for the postsecondary state data system landscape and guidance throughout the process. **Jay Pfeiffer** of the Georgetown University Center for Education and the Workforce (CEW), and **Jeff Sellers** of AEM Corporation provided commentary on the state of postsecondary unit record data.

Camille Brown (South Carolina Commission on Higher Education), **Sue Ellen Buth** (University of Wisconsin), **Joseph Curtin** (Utah System of Higher Education), **Neal Holly** (West Virginia Higher Education Policy Commission), **Andy Mehl** (Idaho State Board of Education) and **Craig Schoenecker** (Minnesota State Colleges and Universities) generously agreed to serve as pilot state representatives for the survey instrument. Their feedback greatly influenced the final version of the survey. Additionally, SHEEO staff members **Andy Carlson**, **Julie Carnahan**, and **Katie Zaback** assisted in the development of the survey.

Peer reviewers **Julie Morgan** of the Bill & Melinda Gates Foundation (BMGF), **Neil Ridley** and **Jeff Strohl** of CEW, and **Patrick Kelly** of NCHEMS provided valuable comments on draft versions of the report.

At SHEEO, **George Pernsteiner** provided oversight of the project and **Gloria Auer** undertook thorough copy edits and quality checks before this document was published. **Andy Sherman**, of Can of Creative, produced the graphic design and visual layout of this report.

Many thanks go to the Bill & Melinda Gates Foundation, which provided the funding that made *Strong Foundations 2016* possible. **Jennifer Engle** (BMGF) played an integral role in bringing this project to fruition.

This report is based on research funded in part by the Bill & Melinda Gates Foundation. The findings and conclusions contained within are those of the authors and do not necessarily reflect positions or policies of the Bill & Melinda Gates Foundation.

INTRODUCTION

This report addresses two key questions about postsecondary student unit record data systems (PSURSs): What data are collected by various parties, and how do these entities use the data to inform policy decisions? This 2016 report is both a follow-up and a redesign of two previous *Strong Foundations* reports by SHEEO (2010 and 2012). While many questions regarding the collection of particular data elements and reporting capacity were retained from the original 2010 survey instrument and the 2012 follow-up, others were revised to further address issues of data utilization. For a list of survey questions, see *Appendix A*.

Like the previous studies, the unit of analysis in this report is the state entity with responsibility for collecting and using student unit record (SUR) data. In most states, a single agency—the coordinating or governing board of higher education—is charged with responsibility for the postsecondary student unit record system (PSURS). In others, multiple agencies (e.g., university or community college systems) collect postsecondary unit record data. In a few states, there is no statewide or systemwide agency charged with housing student unit record data. Thus, while individual states may be highlighted for particular uses of data, and maps are presented for ease of analysis, readers should use caution when attempting to generalize results of this survey for state comparisons. It is more appropriate to compare the characteristics of the unit record systems themselves, rather than the states. For a list of 2016 survey respondents, see *Appendix B*.

Beyond describing the content of PSURSs, this report emphasizes effective use of postsecondary data and the increasing prevalence and importance of linkages between postsecondary, K-12, and workforce data. *Strong Foundations 2016* addresses themes of particular importance in the current postsecondary education environment: performance funding, employment outcomes, remediation, and completions. The report highlights use cases in which PSURSs are used to promote student success. The report also explores necessary conditions for effective use of PSURSs: ensuring data privacy and security, addressing perceived barriers, and promoting sustainability of these systems. The *Strong Foundations 2016* conclusion offers recommendations for further promotion of effective use.

THE POSTSECONDARY DATA ENVIRONMENT

PSURSs are the primary means for states to collect data and analyze student progress, completions, and outcomes. Demands on these systems are increasing as policymakers, researchers, and consumers call for more accurate and comprehensive data concerning postsecondary education. Many states have tied institutional funding to performance metrics derived from such data while others have utilized data to make policy decisions, evaluate programs, and inform students. The flow of information between PSURSs and other data systems has grown more complex. Both federal and state governments invest in unit record data systems with the aim of improving information and data-driven decision-making.

Public Policy Context: PSURSs play an evolving role informing state public policy for postsecondary education. As early as the 1970s, state coordinating and governing boards developed PSURSs to collect longitudinal information on students for reporting, compliance, and funding distribution purposes.[1] Over time, the need for longitudinal information grew dramatically in importance for state-level policy decisions.[2] Beginning in the late 1990s, states used these data systems to support the development of public agendas for postsecondary education and associated accountability systems. Some of these changes were stimulated by "Student Right-To-Know" legislation and shifted the focus of these data systems from enrollment to student progress and completion indicators. Most recently, a number of states have adopted performance funding models which require the use of PSURSs.

Changes in Student Behavior: Changes in student behavior increase the salience of state-level PSURSs. Student progression through the educational pipeline is increasingly complex. "Student swirl" refers to the likelihood that today's postsecondary student will attend multiple institutions and experience "stop-out" periods. Compared to students formerly considered "traditional"—students who enroll full time in four-year institutions directly from high school and earn a degree at their native institution—the enrollment and completion patterns of "swirling" students are more difficult to track because their progression follows non-linear paths. Institutional data are insufficient to measure these more complicated routes through the education pipeline.

Emphasis on Linkages: Over the past two decades, agencies have begun to address more complex policy questions that cannot be answered within PSURSs, but require data matches with unit records housed in other agencies. Analyses enabled by cross-sector longitudinal data include program evaluation, migration trends of high school graduates, and tracking wage outcomes of graduates. One of the earliest examples of interagency linkages was in the mid-1990s in **Florida**, where the Florida Department of Education matched data on 1991 graduates from Florida's public colleges and universities to K-12 education records and workforce information. Linking data across sectors (i.e., K-12, postsecondary, and workforce) has required PSURS agencies to work cooperatively with other agencies to execute legal agreements, establish protocols, establish common identifiers, or develop matching algorithms.

1. Longitudinal data consist of individual records of a population linked over a given period of time, as opposed to "snapshot," or point-in-time data.
2. Ewell, Peter and Marianne Boeke, "Critical Connections: Linking States' Unit Record Systems to Track Student Progress," National Center for Higher Education Management Systems, 2007.

Influence of State Longitudinal Data Systems (SLDSs): Between 2007 and 2016, forty-seven states expanded their data collection capabilities by leveraging federal funds through the National Center for Education Statistics (NCES) SLDS grant program, which distributed over $700 million to forty-seven states through multiple grant cycles. The majority of the recipients of federal SLDS grants are state education agencies (SEAs) which oversee primary and secondary education within their state. SLDS grants have encouraged states to develop or expand longitudinal data collection capabilities, primarily at the K-12 level. The program has also fostered linkages across the educational pipeline, although it has not required states to link K-12 student record data to postsecondary data.

An example of the influence of the SLDS grants on PSURSs can be found in **Washington**, where the grant program has been used to strengthen data linkages across sectors. The Education Research and Data Center (EDRC) used SLDS funds to strengthen the P-20 warehouse in the state. This enabled Washington to expand research efforts across the entire educational pipeline. Currently, multiple agencies, coordinated by Washington's Office of Financial Management, meet regularly to discuss P-20 research priorities and solicit feedback from peers on preliminary research.

Thus, while many of the PSURSs surveyed in this report have been influenced by the SLDS grants, and contribute data to the SLDSs in their states, the PSURSs predate the federal grant program and should be understood as differentiated systems. Moreover, one should not assume that the PSURS functions as the state SLDS.

Data-Sharing Structures: Postsecondary coordinating and governing boards link student-level data they collect to K-12 and workforce information through various data-sharing arrangements. Some states accomplish these linkages via individual agreements with participating agencies. In these **federated models**, data remains housed in their respective agencies, and custom data marts that draw data from these sources are created to address specific research purposes. Other states choose to establish and maintain **data warehouses**, where data files from the participating agencies are housed together and are accessible from one primary location. When these warehouses contain unit record information from early childhood education through employment, they are referred to as P-20W warehouses.[3] The specific agencies and organizations that participate in P-20W initiatives vary from state to state. Nationwide, the number of P-20W warehouses has expanded. Twenty-six states contain a P-20W warehouse according to the 2016 survey, compared to eight in 2010 (see *Figure 3*).

Overall, PSURSs function in a complex environment of institutional, state, and federal postsecondary databases. They often match data elements with non-postsecondary agencies in order to answer policy questions regarding student progress. In many states, PSURSs contribute to the state's SLDS or P-20W warehouse, while others link data with other agencies through ad-hoc arrangements. Overall, PSURSs should be understood as the primary mechanisms for generating state postsecondary metrics.

3. "P-20W refers to data from pre-kindergarten (early childhood), K-12, and postsecondary through graduate education, along with workforce and other outcomes data (e.g., public assistance and corrections data)." National Center for Education Statistics, "P-20W Data Governance: Tips from the States," May 2012. *https://nces.ed.gov/programs/slds/pdf/brief4_P_20W_DG.pdf*

CURRENT STATUS OF STATE POSTSECONDARY DATA SYSTEMS

NUMBER AND SCOPE OF STUDENT UNIT RECORD SYSTEMS NATIONWIDE

Forty-seven states have at least one state-level PSURS. For *Strong Foundations 2016*, SHEEO resurveyed the agencies that responded to the 2010 instrument. In addition, SHEEO contacted its membership and other postsecondary entities in each state to expand the pool of potential respondents. The Idaho State Board of Education, Nebraska's Coordinating Commission for Postsecondary Education, and the New Hampshire Department of Education all filled out the 2016 update to the survey, expanding the total number of states represented to forty-seven. Fifty-eight total PSURSs were surveyed for this 2016 update to *Strong Foundations*.[4] As was the case in the original report, *Strong Foundations 2016* includes multiple agencies for several states, based on the presence of multiple PSURSs that collect state-level postsecondary information. **Florida, Minnesota, North Carolina, Vermont,** and **Wyoming** all had two respondents to the 2016 survey; **California, New York,** and **Washington** each had three.

GENERAL USES FOR PSURSS

The vast majority of PSURSs are used for generating information, conducting research, and informing policymaking decisions, with more than half of PSURSs being used for cross-sector collaboration, consumer information, and external reporting (see *Table 1*).

TABLE 1 — USES OF PSURSS

GENERATING REPORTS AND STATISTICS (INTERNAL AND EXTERNAL)	56
DECISION/POLICYMAKING	54
RESEARCH	53
CROSS-SECTOR COLLABORATION (K-12, WORKFORCE, ETC.)	51
CONSUMER INFORMATION	43
EXTERNAL REPORTING (IPEDS, COMPLETE COLLEGE AMERICA, SREB, ETC.)	39

The most common data elements collected beyond student identifiers are gender, race/ethnicity, degree-seeking status, type of degree awarded, enrollment status (full-time vs. part-time) and field of study (major). Because the historical uses for PSURSs were often to track enrollment and completions, it is not surprising that these simple data elements are the most widely collected across the states. See *Appendix C* for a list of data elements collected by respondents. Recently, PSURSs have begun to collect less common data elements at the unit record level, such as family income, remedial course enrollments and completions, and cumulative debt.

The data elements within PSURSs can be used to construct a wide range of metrics related to student success. Definitions for many metrics, such as persistence and time-to-degree, vary by state. In early 2016, the Bill & Melinda Gates Foundation released a report entitled *Answering the*

4. As of this study, Delaware and Michigan do not have state postsecondary PSURSs. The Iowa College Student Aid Commission and the Iowa Department of Education collect postsecondary data, but study limitations did not permit including them. The California Postsecondary Education Commission responded to the 2010 survey, but dissolved in 2011.

Call: Institutions and States Lead the Way Toward Better Measures of Postsecondary Performance. In the document, they outline a comprehensive framework of metrics designed to "provide the information necessary to improve the capacity and productivity of the higher education system to generate more high-quality, affordable career-relevant credentials, particularly for underserved populations."[5] Because the vast majority of these systems include demographic information, most of these metrics can be disaggregated by race/ethnicity, gender, age, etc. The report acknowledges that the capacities of institutional, state, and national data systems are currently insufficient to report on each performance, efficiency, and equity metric. *Appendix D* lists which PSURSs appear to have the capacity to construct various kinds of commonly used metrics.

INSTITUTIONAL COVERAGE

Because many agencies that collect state-level postsecondary information are coordinating or governing boards, university systems, or community college systems, the coverage of PSURSs surveyed for this report is primarily focused on public institutions. Most state agencies collect information from both two-year and four-year public institutions (see *Table 2*). In 2010, eighteen states collected information from private, nonprofit institutions (sometimes referred to as independent institutions). In 2016, this number remains unchanged despite reports (in 2010) from six states that they intended to expand coverage to independent institutions. Additionally, some states are able to collect information from proprietary (for-profit) institutions as well as tribal institutions.

TABLE 2 — PSURS COVERAGE OF INSTITUTIONS

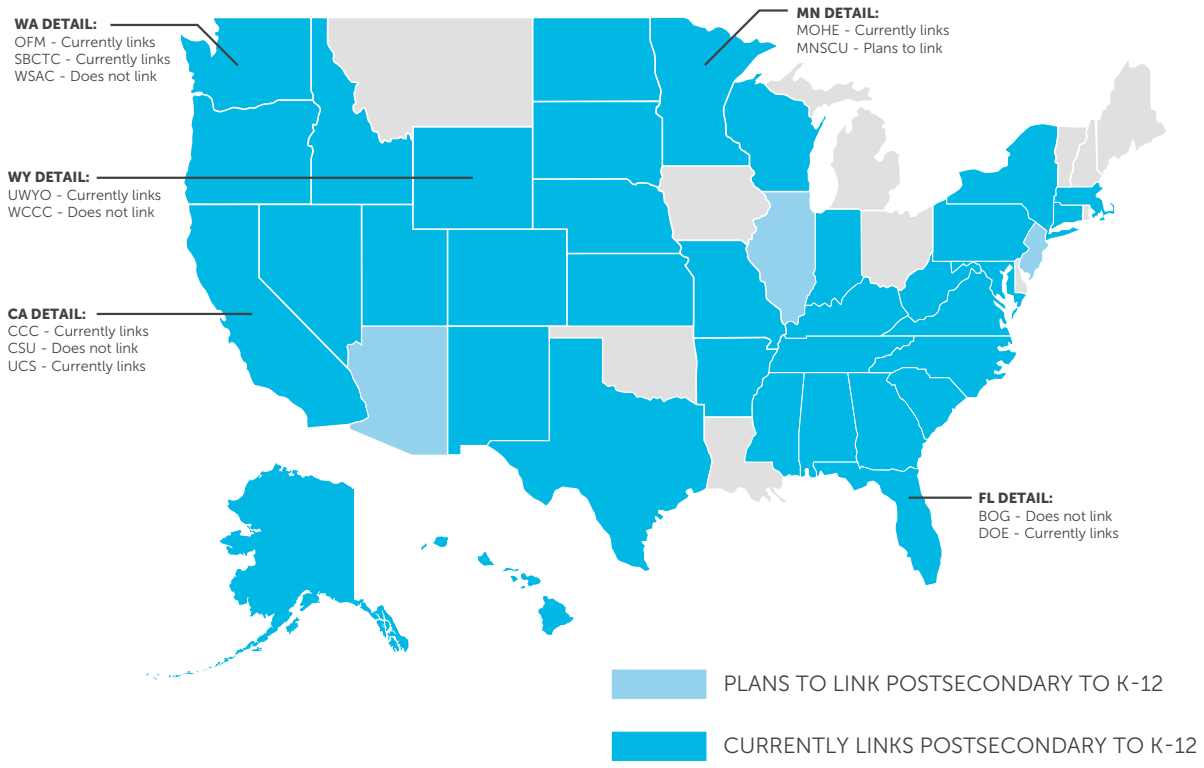
STATE	TWO-YEAR PUBLIC	FOUR-YEAR PUBLIC	INDEPENDENT (PRIVATE, NONPROFIT)	PROPRIETARY (PRIVATE, FOR-PROFIT)	TRIBAL	OTHER INSTITUTION TYPE	TOTAL NUMBER OF INSTITUTION TYPES
MN, WA	•	•	•	•	•		5
NJ, OH	•	•	•	•		•	5
AR, SC	•	•	•			•	4
MA, TN, TX	•	•	•	•			4
NM	•	•	•		•		4
AL, CO, CT	•	•	•				3
FL	•	•				•	3
IL		•	•	•			3
KY, MD, OK, VA	•	•	•				3
AK, AZ, CA, HI, ID, IN, KS, MO, MT, NV, NH, NY, NC, ND, RI, VT, WV, WI, WY	•	•		•			3
PA	•					•	2
LA, NE, UT	•	•					
GA, ME, MS, OR, SD		•					1

5. Engle, Jennifer, "Answering the Call: Institutions and States Lead the Way Toward Better Measures of Postsecondary Performance," Bill & Melinda Gates Foundation, 2016, 22.

LINKAGES

Agencies in **39 of the 47** states surveyed have a relationship with another state agency or entity that allows them to share or link postsecondary data to another data set. The most common linkage nationwide is between the PSURS and the SEA, which enables analysis of data about students as they transition from secondary to postsecondary education (see *Figure 1*). Thirty-nine states link or plan to link postsecondary data to **K-12 data**, compared with 16 states in 2010. This significant change underscores the influence of the SLDS grants and the increasing interest in understanding student progression from K-12 to postsecondary education.

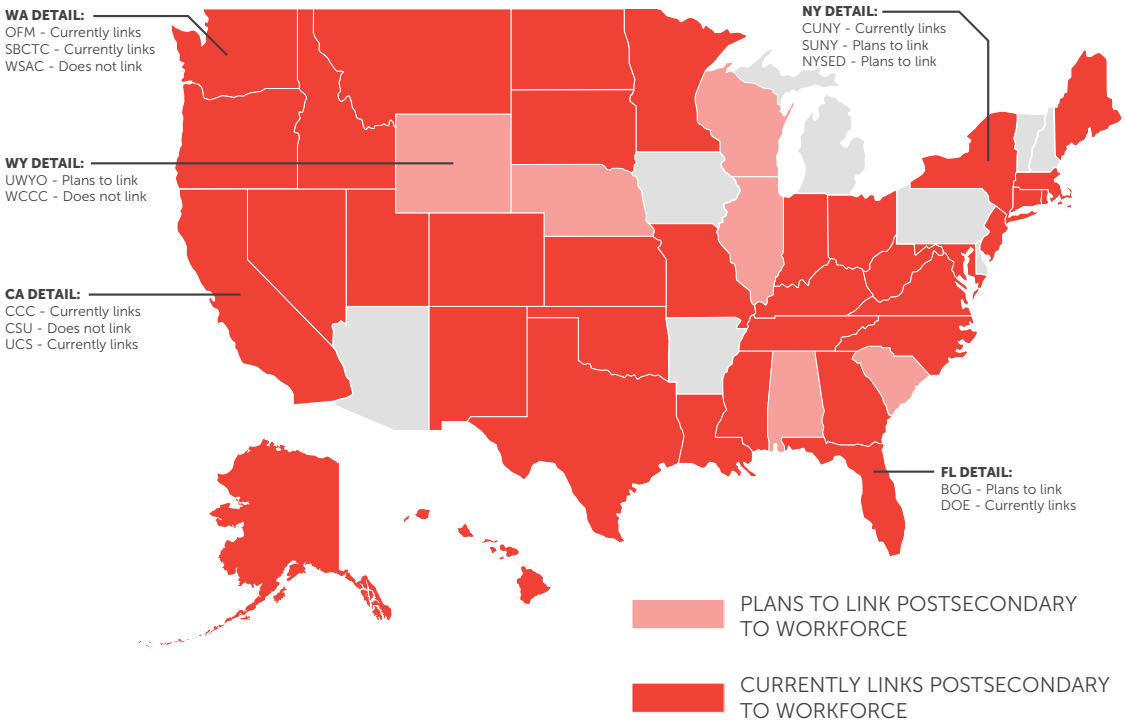
FIGURE 1 — 45 AGENCIES IN 39 STATES CURRENTLY LINK OR PLAN TO LINK POSTSECONDARY TO K-12 DATA



WORKFORCE DATA CONNECTIONS

To analyze employment outcomes of postsecondary graduates (and those who leave without a credential), a number of states link data between the postsecondary PSURS and a labor or workforce state agency. A majority of states contain at least one postsecondary agency that has the necessary relationships to conduct such analyses (see *Figure 2*). Compared with 2010 results, labor linkages have increased dramatically, from **11 to 42 states**. The growing prevalence of these matches is a response to calls—sparked by the Great Recession—from students, states, and policymakers, for more information on the returns to private and public investment in higher education.[6]

FIGURE 2 — 47 AGENCIES IN 42 STATES CURRENTLY LINK OR PLAN TO LINK POSTSECONDARY TO WORKFORCE DATA



See *Table 3* for information about increases in the number of PSURSs linking with K-12 or workforce data systems over time.

6. See College Excellence Program, "From College to Jobs: Making Sense of Labor Market Returns to Higher Education," The Aspen Institute, 2015.

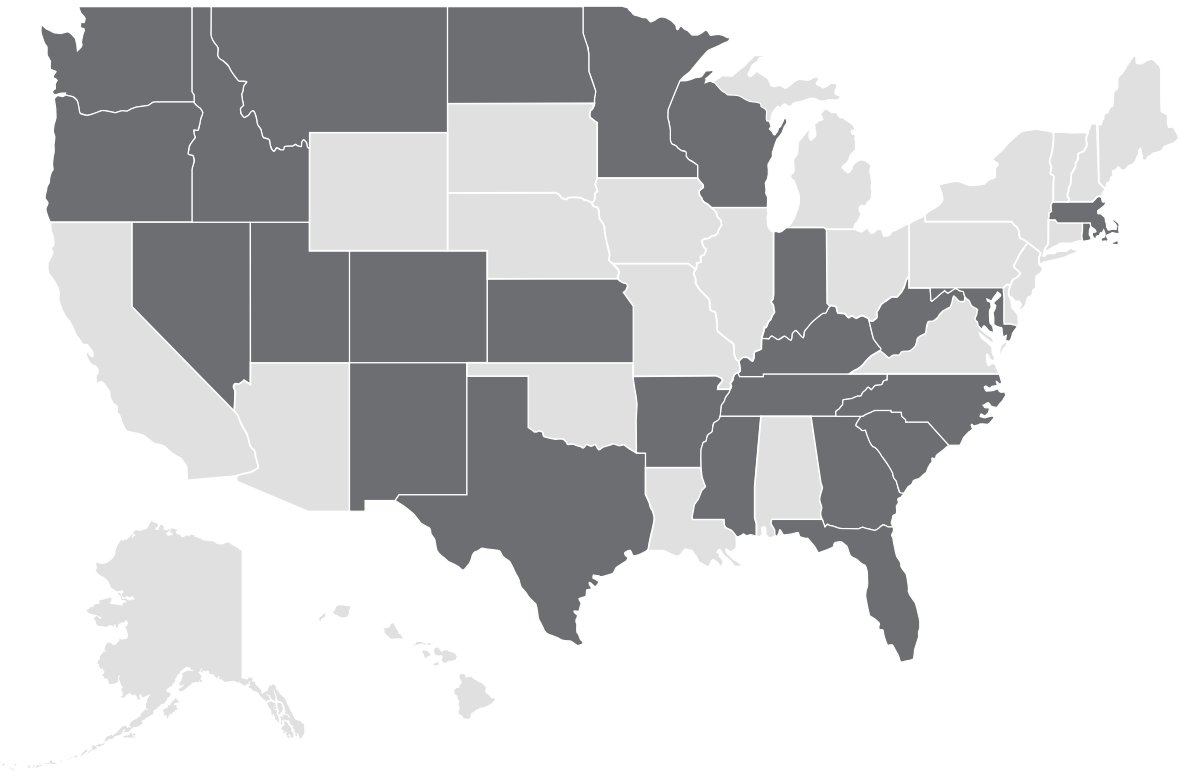
TABLE 3 — RESULTS OF K-12 AND WORKFORCE LINKAGES IN ALL STRONG FOUNDATIONS SURVEYS

LINKAGES (ACTIVE OR PLANNED)	2010	2012	2016
K-12	20	46	45
WORKFORCE	23	27	47

PRESENCE OF A P-20W WAREHOUSE

While the relationship between PSURSs, P-20W warehouses, and SLDSs varies, many states are accomplishing linkages between various agencies with a warehouse model. In these states, the PSURS is a key source of information for a multiple-agency repository, and the coordinating or governing board may gain access to files that link postsecondary unit record information to K-12 and workforce information. In the 2016 survey, 26 states indicated there is a P20-W warehouse in place (see *Figure 3*). There were eight in 2010.

FIGURE 3 — 26 STATES HAVE A P20W WAREHOUSE



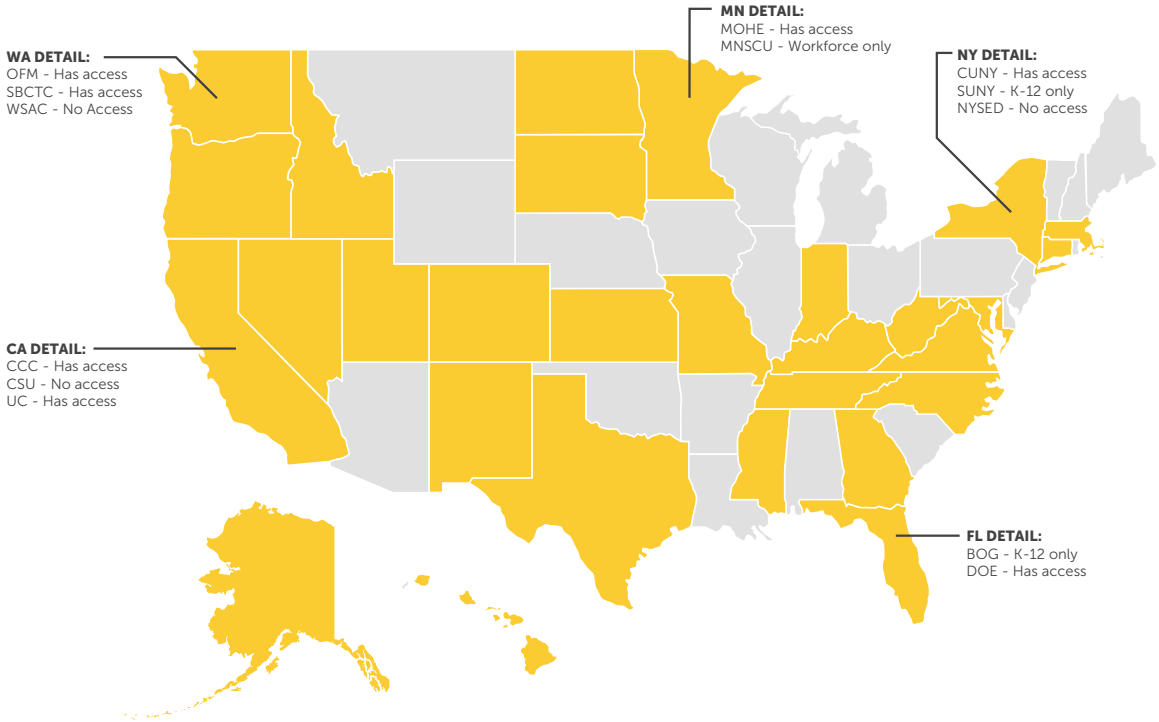
A good example of such a warehouse model is **Washington's** Education Research & Data Center (ERDC). The Office of Financial Management coordinates the ERDC and regularly convenes meetings of data administrators from multiple agencies to hash out research priorities and improve data quality. These agencies develop a large list of potential research questions with all member agencies

contributing to the queue. From there, all stakeholders prioritize which of the potential questions to devote time and resources toward. The result is a process in which multiple stakeholders with many different interests have the ability to articulate cross-agency research priorities.

Other states choose to link educational pipeline data via a federated model.[7] In these instances (Virginia is an example), K-12, postsecondary, and workforce data are stored in their respective agencies, and custom data marts are created for educational research.

Whichever method is used, the ability to link data along the state's entire educational pipeline provides valuable information for researchers and policymakers. In 2016, twenty-nine states reported the capacity to link postsecondary data with both K-12 and workforce data, compared with eight in 2010 (see *Figure 4*). This indicates significant progress since 2010, when only 15 states had that capacity.

FIGURE 4 — 29 STATES' POSTSECONDARY AGENCIES CURRENTLY HAVE ACCESS TO K-12 AND WORKFORCE DATA

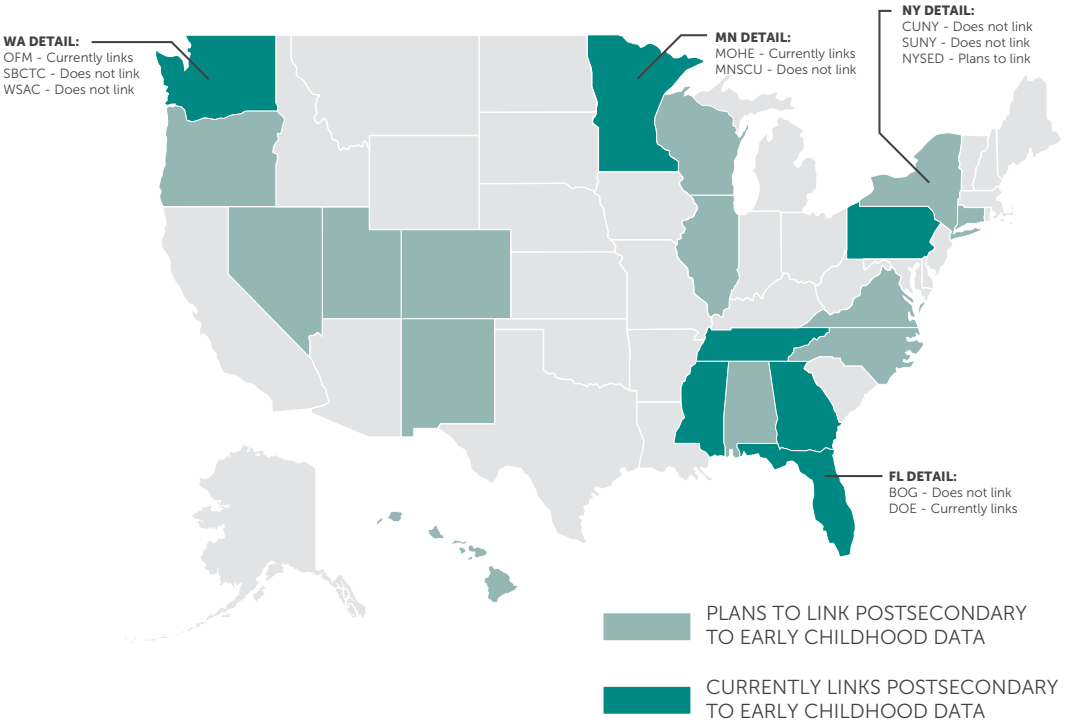


7. See Exhibit 2-3 in *NRS Guide to State Longitudinal Data Systems* available here: *http://www.nrsweb.org/docs/NRS_Guide_to_Building_An_Adult_FINAL_081712.pdf*

EARLY CHILDHOOD DATA

While there are relatively few examples of research linking early childhood unit records to the same student's postsecondary record, some states are poised to conduct this type of research in the future. For example, do children who participate in Head Start programs have higher college-going and graduation rates compared with other students? Currently, seven states link early childhood data to postsecondary data; agencies from an additional 11 states are planning to link these data in the future (see *Figure 5*).

FIGURE 5 — 21 AGENCIES IN 20 STATES CURRENTLY LINK OR PLAN TO LINK POSTSECONDARY TO EARLY CHILDHOOD DATA



DIVERSITY DATA

One of the central uses of a PSURS is analysis of student success. When detailed demographic information is included in the PSURS, states can add an equity lens to their analyses of student progression through the educational pipeline. Agencies in **all 47** states who responded include one or more data elements related to student diversity in their data systems (see *Table 4*). Fourteen states have access to all six data elements included in the survey (gender, race/ethnicity, citizenship status, age, military status and Pell status). Gender and race/ethnicity are most likely to be collected, probably because these data elements are required for federal data reporting. Few states include information regarding military status (though this may change, as the federal government recently instituted financial aid reporting requirements for students receiving military and veterans benefits[8]). Agencies in 13 states lack information about Pell status or family income (detailed information about family income and other financial aid data elements is available in *Appendix E*). The absence of information about Pell status (a viable proxy for low-income) presents a significant limitation on a state's ability to analyze equitable outcomes of postsecondary programs.

TABLE 4 — DIVERSITY DATA

STATE	GENDER	RACE/ ETHNICITY	CITIZENSHIP STATUS	AGE	MILITARY STATUS	PELL STATUS	TOTAL NUMBER OF ELEMENTS
CA, FL, GA, HI, ME, MN, NM, NY, NC, SD, VT, WA, WV, WI, WY	•	•	•	•	•	•	6
KS	•	•		•	•	•	5
AK, IN, ND	•	•	•		•	•	5
CO, CT, ID, IL, LA, MD, MS, OK, OR, TN, UT, VA	•	•	•	•		•	5
AR, KY	•	•		•		•	4
NV	•	•		•	•		4
AL, AZ, MA, MT, NJ, OH, RI	•	•	•	•			4
MO, NE	•	•		•			3
SC	•	•	•				3
NH, PA, TX	•	•					2

8. *https://surveys.nces.ed.gov/ipeds/VisInstructions.aspx?survey=7&id=30110&show=all*

In 2012, **South Dakota** conducted an analysis of the representation of and progression rates for American Indian/Alaska Native (AIAN) students using its SURS. The results indicated that at 3.1 percent of enrollment, AIAN students were underrepresented compared to the state's AIAN population (8.8 percent), and that AIAN students were retained at much lower rates than other students (57 percent versus 76 percent). These findings led the state to conduct a companion qualitative study which addressed obstacles and influences faced by AIAN students, their reasons for attending college, and their rationales in choosing particular postsecondary institutions. Combined, the two studies ultimately led to the naming of a task force and the securement of grant funds to improve outcomes for AIAN students.[9]

Student Success: In **South Dakota**, the Regents' system used their SURS to analyze representation and progression rates by race/ethnicity. This analysis indicated that American Indian/Alaska Native (AIAN) students were underrepresented in the student body and retained at significantly lower rates than other students. These findings led to a companion qualitative study, and ultimately to the naming of a task force to improve outcomes for AIAN students.

FINANCIAL AID DATA

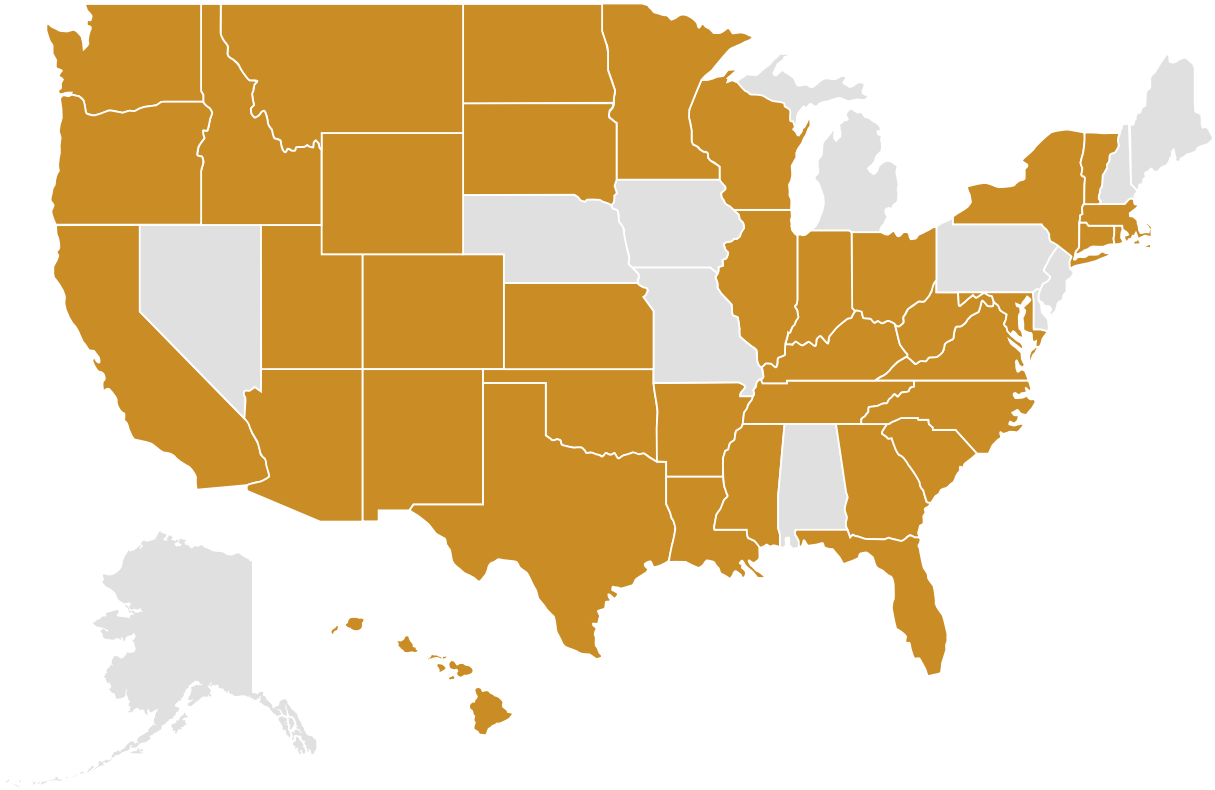
Another common purpose for collecting student unit records is to have information on financial aid data elements and indicators. The most common element collected is federal financial aid awarded. Forty-six PSURSs in 40 states collect at least this element, while many others collect more (see *Appendix E*).

The University of **Alaska** Statewide System collects the largest number of financial aid data elements of those agencies surveyed, followed by **Hawaii** and **Tennessee**. **Hawaii** calculates less-commonly available elements including cumulative debt, net price, and "cost of postsecondary education" (which attempts to determine what a student actually paid for his or her education after factoring in aid). In 2016, **Hawaii** used information from the ODS (at the University of Hawaii Institutional Research Office) to perform an extensive financial aid analysis intended to inform tuition setting in the state.[10]

9. See "Like two different worlds: American Indian perspectives on college-going in South Dakota," *https://www.sdbor.edu/mediapubs/documents/americanindiancollegegoingstudybor1213.pdf*
10. *http://www.hawaii.edu/offices/bor/regular/materials/201601280900/Item_VI.B.2___Tuition_Setting_Review_of_Policy_and_Practice.pdf*

As student debt levels have risen in recent years,[11] the need for research on outcomes for borrowers has grown. However, only eleven postsecondary agencies have access to student cumulative debt levels. Wider access to this information (especially if combined with information about students' earnings after leaving postsecondary education) would contribute significantly to our understanding of student borrowing and loan repayment patterns.

FIGURE 6 — 45 AGENCY SURSs IN 39 STATES CONTAIN AT LEAST ONE FINANCIAL AID DATA ELEMENT



CHANGES IN THE STATUS OF POSTSECONDARY DATA SYSTEMS

Overall since 2010, the biggest expansion in educational research capacity for postsecondary agencies has been through increased connections between workforce and postsecondary data, reflecting the increased demand for information on graduates' employment outcomes. There also have been significant gains in the ability of states to link K-12 and postsecondary data. The federal SLDS grant program assisted many SEAs in their ability to store and link statewide K-12, postsecondary, and workforce data.

Despite these advances, many states still struggle to collect unit record information from non-public institutions. States that make participation in the PSURS a condition of institutional participation in state aid programs are most likely to collect information from independent institutions. Creating additional incentives for independent institutions to participate in state agency collection efforts, such as grant allocation, access to research data, and information sharing, may be the key to expanding coverage in the future.

11. *https://www.newyorkfed.org/studentloandebt/index.html*

EXAMPLES OF EFFECTIVE USES OF POSTSECONDARY STUDENT UNIT RECORD DATA

PERFORMANCE FUNDING

In the context of constrained financial resources for postsecondary education and a growing emphasis by policymakers on student progression and completion rates, many states are shifting away from enrollment-based funding and adopting performance (or outcomes-based) models. Twenty-six agencies indicated their states use a performance formula to allocate funds to postsecondary institutions. Of these, a large majority (20 agencies) use their PSURSs to support this effort.

Tennessee was one of the first states to successfully implement an outcomes-based funding model that allocates 100 percent of state funds for postsecondary education. The Tennessee Higher Education Commission's use of its PSURS to implement the model exemplifies effective use of these data:

- The model is differentiated by sector and institution. To recognize differences in mission, Tennessee identified separate performance metrics for its four-year and two-year sectors, and applied institution-specific weights within sectors to the outcomes data generated via the PSURS.
- The model uses multiple measures of student progress and completion. Tennessee rewards credit hour accumulation, transfer, degree completion, and graduation rates at its four-year institutions. Additional outcomes rewarded at two-year institutions include job placement, workforce training, and dual credit enrollment. While increased state educational attainment is the overarching goal of most performance funding models, the inclusion of intermediate progress points recognizes the interim steps institutions must take to move students toward completion.
- To reduce volatility in funding levels, the model uses multiple years of data and stop-loss provisions to prevent dramatic swings in funding.
- Extra weight is applied to outcomes data for selected subpopulations. Tennessee sees the success of adult, low-income, and underprepared students as vital to the achievement of state goals, and applies a premium for progression and completion for these students.

Tennessee adopted its current performance funding model in 2010, and made adjustments to the model in 2015. Adding additional elements to the PSURS data collection made one of these adjustments—excluding non-degree-seeking students from Tennessee's credentials per FTE calculation—possible. The Tennessee example demonstrates the push-pull relationship between data structures and policymaking. Development of the state's performance funding model was made possible because of the previously existing PSURS. Subsequent to the development of the

performance funding model, policy changes necessitated changes to the elements included in the PSURS.

Examples of effective use of a PSURS to support performance funding in other states include:

- Applying additional weight to completions in particular fields—In Maine, and for Texas community colleges, performance funding models reward completions in STEM and allied health majors.
- Allowing institutional choice—Florida allows universities to choose a metric from a list of options; Maine allows institutions to identify programs that meet regional employment needs.

Detailed information about performance funding models and the use of PSURSs to support them may be found at:

- Florida: *www.flbog.edu/about/budget/performance_funding.php*
- Maine: *http://thinkmissionexcellence.maine.edu/wp-content/uploads/2013/06/Final-Draft-OBF-Report-Jan-2013.pdf*
- Tennessee: *http://www.tn.gov/thec/topic/quality-assurance-funding*
- Texas: *http://www.txhighereddata.org/Interactive/Accountability/SuccessPoints.pdf*

WORKFORCE DATA CONNECTION

An aspect of the postsecondary data landscape that has changed dramatically over the past several years is the level of attention paid to employment outcomes for college graduates. As college costs and student debt levels have risen, students and families have become increasingly concerned about the potential return on investment of a college degree. State and federal policymakers have sought to measure returns on the significant public investment in higher education. Headlines asking "Is college worth it?" have appeared frequently since the Great Recession, but attention to the economic rewards of a college education has not waned as the economy has recovered.[12] Most recently, the Obama Administration's College Scorecard has made aggregate employment outcomes by institution widely available. Previous iterations of the *Strong Foundations* survey instrument did not include detailed questions regarding how states use workforce data elements, or whether they used workforce data matches to assess employment outcomes for students. Adding questions about the ability to measure these outcomes with PSURSs was a key revision in the 2016 edition.

The most common method for reporting on workforce outcomes is linking postsecondary records to unemployment insurance (UI) records. However, UI records use Social Security numbers as the primary identifier. If either the K-12 or postsecondary agency does not collect an SSN, linking these records is often difficult or incomplete. Matching algorithms, such as using a combination of name, date of birth, and other supplemental information, can sometimes allow for matches without SSN, but results in a lower match rate.

12. For recent examples, see "Is College Worth It?" in *The Economist* (*http://www.economist.com/news/united-states/21600131-too-many-degrees-are-waste-money-return-higher-education-would-be-much-better*), "Is college worth the cost?" in *The Washington Post* (*https://www.washingtonpost.com/news/grade-point/wp/2015/09/30/is-college-worth-the-cost-many-recent-graduates-dont-think-so/*)

Results from the updated survey reflect the growing emphasis on workforce data. Of the 58 agencies who responded, 39 indicated they currently link PSURS data to labor or workforce data. An additional nine agencies indicated they had plans to make these linkages in the future. The list of data elements that agencies reported they are able to access generally corresponded with those mandated by the federal unemployment insurance system.[13] The calendar quarter of employment, wages earned, and the North American Industry Classification System code (the NAICS code identifies the industry of the employer) were most frequently cited. A minority of agencies indicated they had access to two additional data elements not commonly collected by unemployment insurance systems that hold the potential to significantly improve outcomes analyses:

- Eight respondents indicated they had access to number of hours worked. This data element allows researchers to differentiate between highly paid part-time workers and poorly paid full-time workers.
- Five respondents reported access to Standard Occupational Classification (SOC) codes. These codes make it possible to analyze employment within fields. Reliance on the more widely available NAICS codes can lead to misclassification of occupations (a nurse employed in a logging camp, for example, would be classified as a "forest products worker").

Data matches between PSURSs and workforce data systems are widely used to assess employment outcomes of postsecondary graduates. Thirty-two agencies use their PSURS matches for this purpose, and half of those are mandated by law to do so. North Carolina provides an interesting example of the evolving nature of these data matches and their legislative mandates. The North Carolina Common Follow-Up System (CFS) was established in 1992 to assess state-supported education and training programs, and was altered by legislation five times between 1995 and 2014. These changes included shifting the state agency responsible for the CFS, establishing performance metrics, and updating the technology platform. For a full report, see: *http://www.nccommerce.com/Portals/47/Publications/COMMON%20FOLLOW-UP%20SYSTEM%20REPORT/CFS-Operational%20Report-May%202015.pdf.*

Examples of effective PSURS/workforce data connections include:

- Several states have developed interactive dashboards that allow students and families to examine employment outcomes for particular programs and institutions. See **North Carolina's** Tool for Online Workforce and Education Reporting (*http://nctower.com*) and **Washington's** Earnings Report and Earnings Dashboard. The Overview includes a useful synopsis of the caveats surrounding use of these data (*http://www.erdcdata.wa.gov/esm.aspx*). In **California**, earnings information for community college graduates is available via the College Wage Tracker (*http://datamart.cccco.edu/Outcomes/College_Wage_Tracker.aspx*).

13. For an explanation of the relationship between state and federal unemployment insurance data systems, see College Excellence Program, "Using Labor Market Data to Improve Student Success," The Aspen Institute, 2015, p. 12.

- Several states have used their PSURS/workforce data matches to support participation in the College Measures Economic Success Metrics Program. Links to websites for **Arkansas, Colorado, Florida, Tennessee, Texas,** and **Virginia** can be found at: *http://www.collegemeasures.org/esm*.
- In **Tennessee**, 12 of the state's 34 private, nonprofit institutions are voluntarily submitting student unit record data to the state longitudinal data system in order to gain access to employment outcomes information for their students.

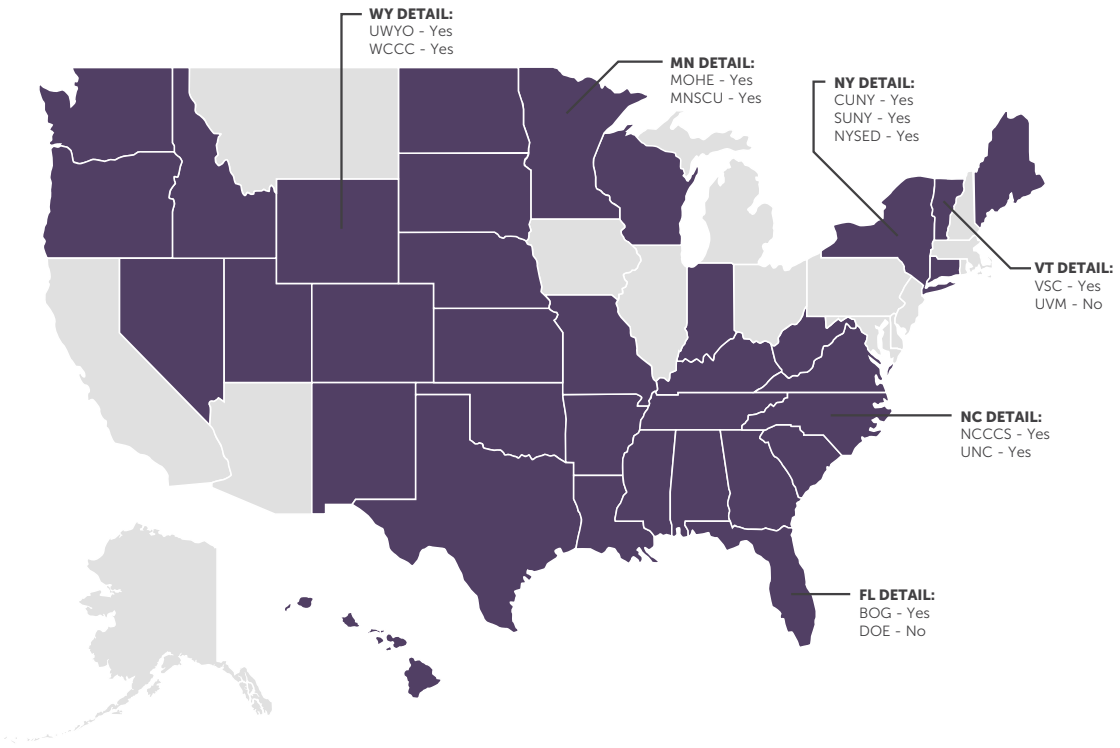
REMEDIATION

As state and federal policymakers prioritize increasing college attainment, their discussions frequently include the importance of removing remedial and developmental education as a barrier to college completion. Organizations such as Complete College America and the National Governors Association have highlighted the number of students who enroll in remedial education nationwide and have described in detail the fact that these students are unlikely to earn degrees, especially when compared with students who do not enroll in remedial education.[14] While institutional databases contain course-level information at the student unit record level that allows analysis of remedial student outcomes, access to remedial student information is not universally available to state postsecondary agencies. Increased state-level access to more detailed information about developmental education would foster improved policy analysis in this important area.

Forty-one unit record systems in 35 states of those surveyed collected remedial or developmental education information (see *Figure 7*).

14. See Complete College America, "Remediation: Higher Education's Bridge to Nowhere," *http://www.completecollege.org/docs/CCA-Remediation-final.pdf* and National Governors Association Center for Best Practices, "Increasing College Success: A Road Map for Governors," *http://www.nga.org/files/live/sites/NGA/files/pdf/0912INCREASINGCOLLEGESUCCESS.PDF*.

FIGURE 7 — 41 AGENCIES IN 35 STATES HAVE REMEDIAL OR DEVELOPMENTAL COURSE INFORMATION INCLUDED IN THEIR UNIT RECORD SYSTEM



Remedial and developmental education data elements generally include flags for students who have been determined to be underprepared for college-level classes, enrollment in remedial courses, and information about underprepared students' enrollment in gateway courses. Some unit record systems may include additional detail such as course grades, assessment scores, and participation in intervention strategies or cohort programs.

An example of how collecting and analyzing these data can affect broader strategic goals and higher education state policy can be found in **Minnesota**. The state's coordinating board, the Office of Higher Education, has leveraged information collected from its Statewide Longitudinal Education Data System (SLEDS) to analyze students in remedial and developmental education courses. Annually, the Office produces the *Getting Prepared* report in fulfillment of a legislative mandate. As a result of this report and other information, the Minnesota Legislature enacted a law in 2014 requiring the Minnesota State Colleges and Universities System (MnSCU) to provide students with adequate time and resources to prepare for placement tests that determine if developmental or remedial coursework is needed. In addition, students are given opportunities to retake placement tests. While MnSCU had retesting policies in place before the recent legislation, the new law encouraged further support and communication to students. The impact of these policy changes is not yet known, but the state anticipates positive results.

West Virginia has prioritized analysis aimed at improving developmental student outcomes. The Higher Education Policy Commission made "eliminating developmental education as an obstacle"[15] one of its key strategies to improve student success. The Commission regularly reports institution-level developmental education success rates in its report cards. Between 2008 and 2012, the proportion of underprepared students passing developmental English and math classes increased, as did the proportion of those students who subsequently passed a college-level course in those subjects. The largest increase was in developmental math success rates, which increased by more than eight percentage points during this period.[16]

Legislation passed in **Florida** in 2013 brought sweeping changes to developmental education in the state, and new demands on its SURS. Senate Bill 1720 exempts most recent high school graduates from remedial education, and requires institutions to implement new instructional strategies for developmental courses (including modularized, compressed, contextualized, and corequisite instruction). The bill also resulted in statutory changes that included a requirement that institutions submit an annual accountability report related to each of these developmental strategies. The Division of Florida Colleges, using data collected in its SURS, developed a business intelligence tool that provides institutions with consistent, accessible information to comply with this requirement. The tool also includes an interactive element, which encourages institutional users to use information generated from the SURS to analyze whether the reform efforts are closing achievement gaps among student subpopulations.[17]

Student Success: Legislation passed in **Florida** in 2013 brought sweeping changes to developmental education in the state. Many students were exempted from remediation requirements, and institutions were required to implement new instructional strategies for developmental courses. The reform effort requires institutions to submit annual accountability reports related to these strategies. The Division of Florida Colleges used data from its SURS to develop a business intelligence tool that provides consistent, accessible information to comply with this requirement, and that encourages institutions to address persisting achievement gaps.

15. *http://www.wvhepc.edu/wp-content/uploads/2014/06/White-paper-Success.pdf*
16. West Virginia Higher Education Policy Commission and Community and Technical College System of West Virginia, "West Virginia Report Card 2014," *http://www.wvhepc.edu/wp-content/uploads/2015/01/Annual-Report-2014-lr.pdf*.
17. Mullin, Christopher. "Student Unit Record Use: Florida Division of Colleges," 2015. Presentation, Boulder, CO. Accessible at: *http://www.sheeo.org/sheeo-meeting-effective-utilization-postsecondary-data-systems*.

A number of other states, including **Arkansas, Kansas, Missouri, Montana, South Dakota, Tennessee, Utah,** and **Vermont,** responded that they collect data on college readiness indicators such as assessment scores and high school GPA. Some use these data to determine whether a student should be enrolled in remedial coursework.

Efforts by the aforementioned states (and others that collect remedial and developmental education data) are potentially among the most effective in improving student success. As other policy organizations have attested, students who enroll in non-credit-bearing coursework have very low completion rates; efforts to improve outcomes for this large group of students could have a great impact on overall student success rates. Data are the key to identifying those students who can most benefit from these reforms, and tracking the effectiveness of states' reform efforts.

COMPLETIONS

While PSURSs have long documented the number of degrees and certificates conferred by postsecondary institutions, the advent of "the completion agenda" (which focused the attention of foundations, the Obama Administration, and many states on increasing educational attainment rates) has led to increasingly sophisticated use of these systems. Examples include:

- Identifying factors that contribute to student success—Completions data analyzed in combination with demographic, preparedness, and course-taking information available in many PSURSs allows researchers to identify factors that contribute to improved retention and graduation rates. These analyses can be used to develop policies and procedures that foster student success. In **Hawaii**, "Campus Completion Scorecards" were created to provide institutions with ready access to information on factors that contribute to student success. Evidence gleaned from the PSURS regarding higher graduation rates for students who enroll in more credit hours and complete gateway courses in their first year resulted in a publicity campaign promoting "15 to Finish" and default scheduling (including English and math courses) for first-year students at the University of Hawaii-Manoa. Through 15 to Finish, students who take 15 credits per semester pay the same as those who take only 12.

- Finding "reverse transfer" students—Reverse transfer refers to "a unique process for awarding associate degrees to students who have transferred in pursuit of a bachelor's degree before completing the requirements for an associate degree at a two-year institution."[18] Data within PSURSs can be used to identify transfer students who may be eligible for postsecondary credentials from their native institutions. In **North Carolina**, as part of Lumina Foundation's Credit When It's Due initiative, the University of North Carolina's Student Data Mart was used in conjunction with the PSURS from the North Carolina Community College System to analyze student transcripts. This analysis determined which students at four-year institutions were eligible for associate degrees or certificates from their community colleges. The project yielded an additional 665 credentials during its first year of implementation.[19]

18. Anderson, Lexi, "Reverse Transfer: The path less traveled," Education Commission of the States, May 2015. *http://www.ecs.org/clearinghouse/01/18/77/11877.pdf*

19. Taylor, Jason L. and Debra D. Bragg, "Increasing State Associate's Degree Attainment: The Potential of Reverse Transfer," October 2015. *http://occrl.illinois.edu/files/Projects/CWID/cwid-data-note-4.pdf*.

- Assessing progress toward state educational attainment goals—As the prevalence of national and state-level strategic postsecondary attainment goals has increased, PSURS data in combination with other information sources has been used to analyze the effectiveness of various policy levers aimed at increasing attainment.[20] In **Massachusetts**, researchers at the Department of Higher Education concluded that closing the achievement gaps between African-American and Latino students and white students would be insufficient to allow the state to reach its attainment goal. Combining information from the PSURS with information from the state's K-12 agency resulted in a policy emphasis on reducing achievement gaps earlier in the education pipeline, and increasing the proportion of underrepresented minorities who enter postsecondary education. For more information about Massachusetts' efforts around educational attainment, see the report, *Degrees of Urgency*, at *http://www.mass.edu/visionproject/_documents/2014%20Degrees%20of%20Urgency%20-%20Vision%20Project%20Annual%20Report.pdf*.

Student Success: In **Massachusetts**, researchers at the Department of Higher Education concluded that closing the achievement gaps between African-American and Latino students and white students would be insufficient to allow the state to reach its attainment goal. Combining information from the SURS with information from the state's K-12 agency resulted in a policy emphasis on reducing achievement gaps earlier in the education pipeline, and increasing the proportion of underrepresented minorities who enter postsecondary education. See *http://www.mass.edu/visionproject/_documents/2014%20Degrees%20of%20Urgency%20-%20Vision%20Project%20Annual%20Report.pdf.*

20. A nationwide example of an attainment goal is Lumina Foundation's Goal 2025; a state example is the Texas 60x30TX.

NECESSARY CONDITIONS FOR EFFECTIVE USES OF POSTSECONDARY STUDENT UNIT RECORD DATA

ENSURING PRIVACY AND SECURITY

Given the personal and sensitive information contained in student unit record systems and heightened public concerns regarding big data and data breaches, an effective SUR must ensure privacy and security. The *Strong Foundations 2016* instrument asked respondents to "briefly describe the process used to ensure privacy of student unit record data in your state." The themes that emerged in the responses could be used as a checklist for a multifaceted approach to maintaining a secure PSURS.

- **Information technology security:** Twenty-six respondents (more than any other category) mentioned information technology (IT) approaches when describing their means of ensuring privacy. Respondents reported maintaining secure storage servers, having secure means of exchanging data (FTP sites), and encrypting data. Respondents also described stringent password protocols and parameters regarding the use of mobile devices. Several respondents noted assistance from other agencies (typically the state information technology agency) in maintaining secure data.
- **Data governance:** Many respondents cited adherence to state privacy regulations and policies.[21] Formalized agreements (usually memoranda of understanding) are required for data sharing. Official oversight committees or governance structures monitor compliance with legislation and agency-level procedural standards.
- **Limiting access to personally-identifiable information (PII):** Many PSURSs protect privacy by constructing de-identified data sets for analysis that exclude PII (i.e., eliminating first and last name, date of birth, Social Security number). SSNs are frequently stored separately from other information in the student record, and systems are creating alternate identification keys to link the various data sets.

21. Idaho's "Student Data Accessibility, Transparency and Accountability Act of 2014" (*http://legislature.idaho.gov/legislation/2014/S1372E1.pdf*) focuses on K-12 data, but covers the postsecondary PSURS; Minnesota's "Government Data Practices Act" (*https://www.revisor.mn.gov/statutes/?id=13*) articulates standards for a wide range of state agencies; and Maine's "Information Security Policies & Standards" (*http://www.maine.edu/wp-content/uploads/2013/08/POLICYSTANDARD.pdf*) is a very comprehensive, 40-page policy.

- **Role-based access:** Respondents place tight restrictions on user access to sensitive information. They include limiting the number of staff that have access to PII and limiting the number of data elements an individual can access to only those necessary to complete a particular task or analysis. Best practices cited in this category include providing training for users who have access to PII, and requiring staff with access to sensitive information to sign confidentiality agreements.
- **Data usage protocols:** PSURSs produce aggregate reports, suppress small cell sizes, or combine years or categories to protect the privacy of small student populations.
- **Family Educational Right to Privacy Act (FERPA):** Concerns about adherence to—and varying interpretations of—FERPA dominated privacy conversations over the last several decades. Indeed, the acronym "FERPA" became shorthand for a broad range of privacy issues and associated political concerns, even those beyond the purview of the Buckley Amendment, which originally enacted FERPA. Responses to the 2016 survey indicate FERPA is still a concern; 15 respondents mentioned the Act specifically. However, the wide range of themes used to discuss protecting privacy and security indicates the field has moved beyond an exclusive focus on FERPA.

Transparency: PSURSs strive to inform the public about their efforts to protect privacy. **Connecticut's** website *(http://www.ct.edu/initiatives/p20win#data)* explains privacy safeguards from the perspectives of students and parents. **Colorado** provides summaries of relevant state laws, excerpts from FERPA, and Commission procedures at: *http://highered.colorado.gov/Data/Privacy.html.* The **Arkansas** Research Center has a particularly robust technical solution for protecting student information. See ***https://arc.arkansas.gov/trusted***.

ADDRESSING PERCEIVED BARRIERS

Respondents were asked two slightly different questions regarding barriers to effective use of PSURSs. The first, a multiple choice question, asked respondents to choose from a list of possible barriers to linking data from their SUR to data from other agencies or reporting entities. The second, more general question, presented respondents with an open text field and asked them to identify the "largest barrier to the effective use of SUR data in your state." The interaction between these two questions is revealing, and points out some possibilities for further research.

In both instances, "resources" were most frequently cited as a barrier. Thirty-four respondents chose resources in response to the linkages question; 23 respondents cited resources as a general barrier. The latter instance provided context for how respondents interpreted "resources." Staff capacity (both number of staff and skill levels of staff), time constraints, information technology capacity, and financial resources were frequently mentioned in the open response fields. Several respondents mentioned a desire to shift resources from routine tasks to more action- or policy-oriented activities. In the words of one respondent, the largest barrier to effective use of SUR data is "creating time to pursue a more robust research agenda…[;] legislatively mandated reporting and external partnerships consume a significant amount of the staff time." Increasing analytical capacity and devoting fewer resources to standardized reporting are clear needs to be addressed in promoting effective use of these systems.

"FERPA concerns" was the second most popular choice for the linkages question; however, only one respondent mentioned FERPA as a barrier to effective use of PSURSs in the general question. Without additional context, it is difficult to know what the 30 respondents who identified FERPA as a barrier to linking systems meant. As indicated elsewhere in this report, many states have successfully linked multiple unit record systems while adhering to FERPA and other privacy regulations. It may be that the respondents who cited FERPA as a barrier to linking data systems were referring to the public and political perceptions about FERPA, rather than the restrictions laid out in the law.

Similarly, data quality and data integration were identified as significant issues in both response sets. After "resources" and "FERPA concerns," the most popular responses to the linkages question can be broadly categorized as logistical/process issues. "Lack of common identifiers," "coordination with other state authorities," and "data quality concerns" all relate to the technical aspects of data matches. Data quality was the second most mentioned theme in the effective use question. One respondent wrote, "Data quality, both accuracy and completeness…[D]ata was not originally entered for the purpose it is being used for." Respondents also indicated that educating stakeholders about the uses and limitations of SUR data would promote effective use. "We need more and better metadata [data about data]," one commented, "so primary researchers, power users, and the general public can become more informed and better consumers of postsecondary education and related data and information."

It is worth noting that several respondents objected to the concept of "barriers" to effective use. Indeed, some of their comments helped frame the context of this section of the report (we have intentionally labeled them "perceived" barriers). In response to the "linking" question, 12 respondents indicated there were no barriers within their state. Respondents to the "effective use" question clarified further. "I don't believe we have any barriers;" wrote one respondent, "we have challenges, such as maintaining a high level of data quality." Another directly addressed both questions in this response: "First, to clarify, the barriers to linkage of SUR data are largely perceived, as opposed to real, and more data providers and consumers are coming to that point of view year by year. As to effective use, the limitations primarily have to do with knowing who has what data, and where it resides."

PROMOTING SUSTAINABILITY

In many cases, the most interesting results from the 2016 survey were generated by the open response questions included in the instrument. The fairly simple question posed to participants regarding sustainability ("What...are your plans for ensuring the sustainability of your SUR?") is a case in point. In some cases, respondents indicated that sustainability was not an issue, as in states where the SUR is mandated by legislation or serves as the administrative platform for the postsecondary system or agency. Those who identified sustainability concerns interpreted the question quite differently, allowing the emergence of several interrelated themes:

- Technology considerations were most frequently cited. Respondents are concerned with maintaining adaptable, secure systems. They anticipate the need to respond to changing information-technology tools and to increased expectations for Web access and user-friendly delivery. Many respondents included concerns about appropriate vendor selection in their responses.
- Funding emerged as a central theme. In some states, success in procuring recurring funding has alleviated sustainability concerns. More frequently, states cited the need to gain additional and more stable funding to maintain or increase the capacity of their PSURSs. Staffing considerations were often linked to this sustainability theme. In the words of one respondent, "We'll continue to advocate [maintaining] appropriate staffing to maintain, improve, and leverage data."
- Relationships with governance entities: Closely related to the procurement of sustained funding was the importance of developing and maintaining positive relationships with state legislatures. Respondents from states with formal data governance structures were less likely to cite concerns regarding the sustainability of their PSURS.
- Data quality and improved data structures were seen as important to ensuring the credibility of the PSURS. "Ultimately," wrote one respondent, "the longitudinal data system will be supported only as long as it provides reliable and valid information on a timely basis to inform evidence-based policy decision-making."

The underlying theme in respondents' comments about sustainability is the importance of stakeholder engagement. Respondents are increasingly engaging a wide range of constituents—including postsecondary institutions, other government agencies, board members, and the general public—by turning "data into information."[22] Generating and maintaining interest in PSURSs and their output is key to the sustainability of effective systems.

22. The dashboards developed by staff at the South Dakota Board of Regents provide an excellent example of this effort: *www.sdbor.edu/dashboards*.

VALUE OF POSTSECONDARY STUDENT UNIT RECORD DATA SYSTEMS

The *Strong Foundations 2016* survey asked agencies to describe how their SUR has "provided the greatest value" to their state. This question generated many thoughtful responses (worth quoting at length, below) and several clear themes:

- **Efficiency:** The value of the PSURS in improving efficiency was cited twice as often as any other value consideration. Agencies described the advantages of providing consistent information across multiple institutions—to respond to stakeholder requests and to fulfill reporting requirements—as a central value of these systems. In essence, effective PSURSs function as "one-stop shops" for education data. As stated by one respondent: "It would be difficult to overstate the advantages of a unified data system like ours. It provides us the ability to quickly and reliably extract comparable data for all of our campuses, which in turn leads to high internal (and external) confidence in our analyses."

- **Student success:** Agencies use their PSURSs for a wide range of student success analyses. These include high school feedback reports, remediation studies, studies of student progression through the educational pipeline and (via data matches) employment outcomes for graduates. Ideally, these studies are used to inform policy decisions. "We have helped the state set college readiness standards," reported one agency, "...by correlating test scores with performance in criterion courses."

- **Policy development:** Many states cited the value of their PSURS in providing information to boards or legislatures to inform the development of education policy. "Generally speaking," wrote one respondent, "the greatest value has been in providing information to policymakers on all aspects of higher education, such as enrollment data, degree data, and retention and graduation rates." Another noted: "Our SUR has helped our state transition from anecdotal decision-making in some cases to more fact-based, data-driven decision-making."

The responses to this question clearly indicate that practitioners hold high regard for the value of their PSURSs. One respondent noted that identifying the "greatest value" of the system was "like trying to answer which is my favorite kid." The conclusion of this report will articulate recommendations to improve and sustain the value of these systems.

RECOMMENDATIONS FOR POLICYMAKERS

Recommendation: Tie the PSURS to strategic planning efforts.

PSURS data should be used to help identify strategic priorities for state systems of postsecondary education, analyze factors that contribute to student success, and assess the effectiveness of programs, policies, and procedures. Even the best longitudinal student unit record system does not lead to effective utilization or good policy without strong leadership and an established policy framework. The relationship between a PSURS and strategic planning ideally works in two directions: the establishment of a strategic agenda guides development of the PSURS and associated research priorities, while the use of the PSURS to support strategic planning demonstrates the utility of the system for a broad range of stakeholders.

Recommendation: Engage agency leadership regarding the capabilities of the data system and collaborate on research priorities.

The agency head should regularly meet with data system administrators to discuss strategic priorities for the system and brainstorm new topics for research. In **South Dakota**, former SHEEO Jack Warner held regular discussions with the agency's data team. This allowed Warner to better understand what the data system could and could not determine, and it allowed the data administrators to understand what policy issues were of importance to agency leadership. Working in conjunction with the data experts, Warner developed dashboards intended to anticipate questions by the Board of Regents. Reaction to the dashboards has been positive—the utility of the PSURS data in South Dakota was enhanced because of the involvement of leadership.

Recommendation: Address privacy concerns head on.

Whether privacy concerns constitute a perceived—or real—barrier to effective use of unit record data, states should have a plan for communicating how they protect personally identifiable information (PII) to legislators and the general public. A few states have had their analysis of unit record data stymied by legislation that prohibits collection of unit records or sharing of data between government agencies; many more have been threatened with potential legislation. **Virginia** developed a series of YouTube videos to explain the Virginia Longitudinal Data System (VLDS) and how the system protects personally identifiable information. One video[23] reiterates that VLDS does not collect religious, political, or medical information and does not share any data with the federal government. It also explains how PII are encrypted using a double-de-identification methodology and that no one, including agency staff, can reverse this information once encrypted.

Recommendation: Serve the needs of constituents.

Whether the primary consumers of PSURS information are legislators, board members, or the general public, the primary purpose of unit record data is to serve the needs of constituents. PSURS administrators can ensure that they serve the needs of their constituents by involving them in strategic decision-making and work planning. By developing common goals among stakeholders and communicating the value of research to constituents, PSURS administrators can ensure that a broad audience sees the value in the unique data collection efforts that PSURSs fulfill.

The implication of many of these recommendations is highlighting the PSURS value to all stakeholders. The more use and exposure that PSURSs contribute to the higher education public discourse, the more likely the agencies that house them are to maintain secure staffing, support, and funding.

23. See: *https://www.youtube.com/watch?v=Wpda6eP-rcI*

CONCLUSION

Since 1972, when the oldest PSURS surveyed in *Strong Foundations 2016* was established, these systems have expanded to cover a broad range of data elements and topics, and potential policy implications. PSURSs exist in a complex environment of institutional, state, and federal data systems, all of which have varying degrees of influence and interconnectivity on each other and across the country. Maintaining these systems requires a significant investment of staff resources and technological infrastructure. By engaging stakeholders, sharing results, and following best practices that other states have adopted, the practitioners of PSURSs will continue to innovate and deliver value to the broader higher education community. Above all, the goal of these PSURSs is to improve outcomes for postsecondary students through careful research and analysis of unit record data.

APPENDIX A — 2016 SURVEY QUESTIONS

1. **Has your agency administered a new student unit record system since 2010?**

2. **When was your agency/entity's student unit record system first established?**
   Please indicate four-digit year.

3. **Why was your agency/entity's student unit record system originally established?**
   Select all that apply.

   - Legislative mandate
   - Audit compliance
   - Institutional resource allocation/funding formula
   - Awarding financial aid
   - IPEDS reporting
   - Increasing student achievement
   - Tracking student retention/graduation
   - Tracking students across institutions
   - Federal civil rights mandates
   - Other federal mandates
   - Other reason, please specify:

4. **What legal authority assigns your agency/entity data collection and reporting responsibilities?**
   Select all that apply.

   - N/A – data collection occurs on a voluntary basis
   - State law creating coordinating or governing board
   - State law creating data system
   - State law requiring the collection of student unit record data
   - Executive branch mandate
   - Administrative regulations/rules issued to interpret state law(s)
   - Coordinating or governing board policy interpreting state law(s)
   - Coordinating or governing board policy interpreting executive branch mandate
   - Memorandum of understanding
   - Attorney general opinion/statement
   - Other legal authority, please specify:

5. **Please select the *types of postsecondary institutions* from which your agency/entity *currently* collects student unit record data. *Select all that apply.***

N/A

2-year public

4-year public

Independent (private, nonprofit)

Proprietary (private, for-profit)

Tribal

Other institution type, please specify:

6. **If your SUR fulfills IPEDS reporting requirements, please check the surveys completed and your agency's role in completing these surveys.**

SURVEY	VERIFY DATA?	SUBMIT DATA?
INSTITUTIONAL CHARACTERISTICS (IC)		
12-MONTH ENROLLMENT (E12)		
COMPLETIONS (C)		
STUDENT FINANCIAL AID (SFA)		
HUMAN RESOURCES (HR)		
FALL ENROLLMENT (EF)		
GRADUATION RATE (GRS)		
FINANCE (F)		
ADMISSIONS (A)		
ACADEMIC LIBRARIES (AL)		
200% GRADUATION RATES (200)		
OTHER, PLEASE SPECIFY:		

7. **What *types of data* are included in your agency/entity's student unit record system? *Select all that apply.***

K-12 academic history

Postsecondary academic history

Demographic

Postsecondary enrollment

Course-level information

Finance (*tuition, fees, fiscal management*)

Financial aid

Completions

Non-credit instructional activity

Academic program inventory

Admissions scores

Faculty/staff

Institutional characteristics

Facilities/capital projects

Adult Basic Education (GED, Adult Basic Education, English as a Second Language)

Labor/workforce/unemployment insurance

Remedial/development course information

Continuing education course information

Placement test scores

Other type of data, please specify

8. **What additional data elements are collected?** ***Select all that apply.***

- Student name
- Date of birth
- Gender
- Race/ethnicity
- Social Security number
- K-12 unique identifier
- Institution of Higher Education identifier
- Postsecondary student unique identifier
- Citizenship status
- State residency status
- Admissions scores
- Placement scores
- Prior college(s) attended
- Transfer credit(s)
- FAFSA fields
- Merit-based financial aid
- Need-based financial aid
- Cost of postsecondary education (what student actually pays)
- Tuition and fees
- Cost of attendance
- Net price
- Revenues and expenditures
- Cost per credential
- Loan repayment status
- Course title
- Course mode of instruction
- Course grade
- Retention by term or year
- Age
- Military Status
- Enrollment status (first-time, transfer, continuing)
- Degree-seeking status
- Full-time/Part-time status
- 1st term academic history
- Program/major
- Dependency status
- Family income
- Federal financial aid
- State financial aid
- Institutional financial aid
- Other financial aid
- Student credit hours attempted
- Student credit hours earned
- Academic term
- Remedial course completion
- Gateway course completion
- Degree awarded
- Degree date
- Cumulative credit hours earned
- Cumulative GPA
- Graduation rate
- Time to credential
- Credits to credential
- Pell status

9. **Does your agency/entity have the authority to add or delete data elements and change definitions for any of the data elements above?**

- Yes, full authority
- Yes, but only in conjunction with other stakeholders
- No
- If No, who does?

10. **Which of the following *sources* does your agency/entity use to define data elements? *Select all that apply.***

    IPEDS

    U.S. Census

    SPEEDE/ExPRESS

    Agency staff/workgroup

    PESC

    Common Education Data Standards (CEDS)

    Other, please specify:

11. **What is your agency/entity's *internal primary key* used to build longitudinal records within your student unit record system? *Select all that apply.***

    Social Security number

    K-12 student identifier

    Postsecondary student identifier

    Longitudinal data system (LDS) identifier

    Other, please specify:

12. **Does your agency/entity have any plans to discontinue use of the Social Security number as an internal primary key?**

13. **For what *purpose(s)* does your agency/entity currently use student unit record data? *Select all that apply.***

    Decision-/policymaking

    Generating reports and statistics (internal and external)

    Consumer information for prospective students

    Research

    Cross-sector collaboration (K-12, labor, etc.)

    External reporting (Complete College America, Achieving the Dream, SREB, etc.)

    Other purpose, please specify:

14. **Does your agency use SUR data for analysis by the following categories?**

- Articulation
- Completions
- Course cost analysis
- Course taking patterns
- Demographics (age, gender, race/ethnicity)
- Distance education
- Dual credit/dual enrollment
- Economic impact/jobs
- Enrollment (age, gender, ethnicity)
- Facilities utilization
- Financial aid
- High school feedback
- Institutional finance
- Institutional profile, public
- Institutional profile, private
- Mobility/migration
- Non-credit instructional activity
- Performance measures
- Remediation
- Retention
- Student learning
- Transfer
- Tuition/fees/college costs
- Other, please specify

15. **Do you use your SUR to determine college placement?**

16. **[If so] Which data elements are used to determine placement?** ***Select all that apply.***

- Accuplacer
- ACT / SAT
- COMPASS
- Other, please specify:

17. **Does your SUR collect data on any college readiness indicators (such as college readiness test scores, high school GPA, AP/IB scores)?**

18. **[If so] Please briefly describe how data on college readiness indicators are used.**

19. **Do you intend to collect PARCC or Smarter Balanced Assessment scores through your SUR in the future?**

20. **Does you state use SUR data to assess student learning at the course level?**

21. **[If so] Please briefly describe how course level assessments of student learning are used.**

22. **Does your state use SUR data to inform policy decisions that address student completion outcomes (graduation rates, degrees/certificates awarded, etc.)?**

23. **[If so] Please provide an example, if available, of how completion outcomes data generated from the SUR system have been used to inform policy decisions. You may link to a report or press release, if available.**

24. **Which agency in your state manages or has primary responsibility for the P-20W data warehouse?**

    Early Childhood

    K-12

    Postsecondary

    Workforce

    Other, please explain:

    N/A – No P-20W warehouse

25. **Is the P-20W warehouse hosted at an agency other than the one identified in Question 24?**

26. **Is your SUR included as part of a larger P-20W warehouse?**

27. **[If so] Please identify the agency where the P-20W warehouse is hosted and briefly describe the communication process between the hosting and managing agencies.**

28. **Which sectors are included in your state's P-20W data warehouse?**

    Early Childhood

    K-12

    Postsecondary

    Workforce

    Other, please explain:

    N/A – No P-20W warehouse

29. **Does your agency/entity currently link or plan to link with the following agencies?** ***Select all that apply.***

AGENCY	CURRENTLY LINK?	PLAN TO LINK?
PRE-K/EARLY CHILDHOOD		
STATE EDUCATION AGENCY (K-12)		
STATE FINANCIAL AID AGENCY/ENTITY		
LABOR/WORKFORCE		
CHILD PROTECTIVE SERVICES		
FOSTER CARE		
HEALTH		
HUMAN SERVICES		
MOTOR VEHICLE DIVISION/DEPT.		
JUVENILE DETENTION		
CORRECTIONS		
COURT SYSTEM		
OTHER AGENCY / ENTITY, PLEASE SPECIFY:		

30. **Which *primary ID number(s)* are used to match your agency/entity's student unit record data to unit record data from other agencies/entities within your state?** ***Select all that apply.***

	SOCIAL SECURITY NUMBER	K-12 ID	POSTSECONDARY ID	LONGITUDINAL DATA SYSTEM ID	OTHER ID
PRE-K/EARLY CHILDHOOD					
STATE EDUCATION AGENCY (K-12)					
STATE FINANCIAL AID AGENCY/ENTITY					
LABOR/WORKFORCE					
CHILD PROTECTIVE SERVICES					
FOSTER CARE					
HEALTH					
HUMAN SERVICES					
MOTOR VEHICLE DIVISION/DEPT					
JUVENILE DETENTION					
CORRECTIONS					
COURT SYSTEM					
OTHER AGENCY/ENTITY					

31. **Which *K-12 data elements* does your agency/entity have access to and/or utilize through linking arrangements? *Select all that apply.***

DATA ELEMENT	HAVE ACCESS?	UTILIZE?
STUDENT NAME		
STUDENT DATE OF BIRTH		
STUDENT GENDER		
STUDENT RACE/ETHNICITY		
STUDENT RESIDENT COUNTY-DISTRICT CODE		
DATES OF ENROLLMENT		
LANGUAGE SPOKEN AT HOME		
STUDENT FREE AND REDUCED LUNCH ELIGIBILITY		
DISTRICT/SCHOOL CODE		
DISABILITY STATUS		
COURSE TYPE (REGULAR, HONORS, AP, IB, DUAL CREDIT)		
COURSE TITLE		
COURSE GRADE		
HIGH SCHOOL GRADE POINT AVERAGE		
ASSESSMENT SCORES		
DATE STUDENT GRADUATED		
FAMILY INCOME		
OTHER K-12 DATA ELEMENTS, PLEASE SPECIFY		

32. **Which *labor/workforce data elements* does your agency/entity have access to by virtue of the linking arrangements? *Select all that apply.***

DATA ELEMENT	HAVE ACCESS?	UTILIZE?
EMPLOYER NAME		
EMPLOYER ADDRESS		
EMPLOYER ID NUMBER		
EMPLOYER SIZE; NUMBER OF MONTHLY EMPLOYEES		
EMPLOYER COUNTY		
WAGES EARNED		
HOURS WORKED		
EMPLOYMENT QUARTER CODE		
EMPLOYMENT YEAR		
DATE STUDENT/EMPLOYEE APPLIED FOR UNEMPLOYMENT INSURANCE		
DATE STUDENT/EMPLOYEE RECEIVED FIRST UNEMPLOYMENT INSURANCE CHECK		
OTHER AGENCIES/ENTITIES PROVIDING STUDENT/EMPLOYEE SERVICES DURING PERIOD INDIVIDUAL IS IN RECEIPT OF UNEMPLOYMENT INSURANCE		
NORTH AMERICAN INDUSTRY CLASSIFICATION SYSTEM CODE		
NORTH AMERICAN INDUSTRY CLASSIFICATION SYSTEM TITLE		
STANDARD OCCUPATIONAL CLASSIFICATION CODE		
STANDARD OCCUPATIONAL CLASSIFICATION TITLE		
OTHER LABOR/WORKFORCE DATA ELEMENT, PLEASE SPECIFY		

33. **Does your agency/entity link or share data with other states?**

34. **Does your agency/entity provide data to the National Student Clearinghouse?**

35. **Does your agency/entity receive data from the National Student Clearinghouse?**

36. **Which of the following *currently* allow your agency/entity to link or share with other unit record systems? *Select all that apply.***

Legislative mandate

Executive mandate

Attorney general opinion/statement

Memorandum of agreement/understanding

Administrative rule/regulation

Other, please specify:

37. **If applicable, please describe how your agency/entity modified its student unit record system to allow linking to other data systems (e.g., adding new data fields, creating new file structures).**

38. **Which of the following barriers prevent your agency/entity from linking to any unit record systems or further inhibit your agency/entity from linking to other unit record systems? *Select all that apply.***

    N/A

    Legislation

    Attorney general opinion/statement

    Resources

    Lack of common identifiers/crosswalks

    Coordination with other state authorities/administrators

    Incompatible systems

    Data quality concerns

    FERPA concerns

    Lack of interest from other agencies

    Other barrier, please specify:

39. **Does your state use SUR data to evaluate teacher effectiveness?**

    No

    Yes

40. **[If so] If possible, please provide an example of how teacher effectiveness evaluations have been used.**

41. **Does your state use SUR data to produce feedback reports to high schools in your state?**

42. **[If so] If possible, please provide a link to an example feedback report.**

43. **Does your state use SUR data to process and allocate financial aid for students attending postsecondary institutions?**

44. **Does your state use a formula to allocate funds to postsecondary institutions based on performance (performance funding)?**

45. **[If so] How are SUR data used to inform the development or calculation of the performance funding formula?**

46. **Does your state use SUR data to assess employment outcomes of postsecondary graduates?**

47. **Are there mandates in your state for measuring workforce outcomes?**

48. **[If so] Please briefly describe the mandate to measure workforce outcomes in your state.**

49. **Please briefly describe the process used to ensure privacy of unit record data in your state.**

50. **What is the largest barrier to effective use of SUR for your state?**

51. **What, if any, are your procedures and plans for ensuring the sustainability of your SUR?**

52. **How has your SUR provided the greatest value to your state?**

APPENDIX B — RESPONDENTS

ALABAMA

Diane Sherman
Director of Research Services
Alabama Commission on Higher Education
diane.sherman@ache.alabama.gov

ALASKA

Gwen Gruenig
Associate Vice President, Institutional Research and Analysis
University of Alaska System
gwen.gruenig@alaska.edu

ARIZONA

Rebecca McKay
Senior Director of Technology and ASSIST
Arizona State System for Information on Student Transfer
rebecca.mckay@asu.edu

ARKANSAS

Tim Atkinson
Senior Associate Director, Research and Technology
Arkansas Department of Higher Education
tim.atkinson@adhe.edu

CALIFORNIA

Chris Furgiuele
Content Manager
University of California System
chris.furgiuele@ucop.edu

Edward Sullivan
Assistant Vice Chancellor, Academic Research
California State University
esullivan@calstate.edu

Alice van Ommeren
Dean, Research, Analysis and Accountability
California Community Colleges
avanommeren@ccco.edu

COLORADO

Beth Bean
Chief Research Officer
Colorado Department of Higher Education
beth.bean@dhe.state.co.us

CONNECTICUT

William Gammell
Director, Research, Policy & Financial Analysis
Connecticut Board of Regents for Higher Education
gammellw@ct.edu

FLORIDA

Terricka Washington
Database Administrator
Board of Governors, State University System of Florida
terricka.washington@flbog.edu

Andre Smith
Assistant Deputy Commissioner of Data Systems
Florida Department of Education
andre.smith@fldoe.org

GEORGIA

Angela Bell
Senior Executive Director for Research, Policy and Analysis
University System of Georgia
angela.bell@usg.edu

HAWAII

Pearl Iboshi
Director, Institutional Research and Analysis Office
University of Hawaii System
iboshi@hawaii.edu

IDAHO

Andy Mehl
Statewide Longitudinal Data System Program Manager
Idaho State Board of Education
andy.mehl@osbe.idaho.gov

ILLINOIS

Doug Franklin
Chief, Institutional Research Division
Illinois Board of Higher Education
franklin@ibhe.org

INDIANA

Stacy Townsley
Associate Commissioner for Research and Analysis
Indiana Commission for Higher Education
stownsley@che.in.gov

KANSAS

Cynthia Farrier
Director, Data, Research and Planning
Kansas Board of Regents
cfarrier@ksbor.org

KENTUCKY

Joy Mordica
Director, Data and Information
Kentucky Council on Postsecondary Education
joy.mordica@ky.gov

LOUISIANA

Lance Neal
Assistant Commissioner for Information Services and Data Management
Louisiana Board of Regents
lance.neal@regents.la.gov

MAINE

Rosa Redonnett
Chief Student Affairs Officer
University of Maine System
rosar@maine.edu

MARYLAND

Jon Enriquez
Director, Research and Policy Analysis
Maryland Higher Education Commission
jon.enriquez1@maryland.gov

MASSACHUSETTS

Jonathan Keller
Senior Associate Commissioner for Research and Planning
Massachusetts Department of Higher Education
jkeller@bhe.mass.edu

MINNESOTA

Alexandra Djurovich
Manager, Student Enrollment Data
Minnesota Office of Higher Education
adjurovich@ohe.state.mn.us

Craig Schoenecker
Senior System Director for Research
Minnesota State Colleges and Universities
craig.schoenecker@so.mnscu.edu

MISSISSIPPI

Jim Hood
Assistant Commissioner for Strategic Research
Mississippi Board of Trustees of State Institutions of Higher Learning
jhood@ihl.state.ms.us

MISSOURI

Jeremy Kintzel
Director of Data and Research Services
Missouri Department of Higher Education
jeremy.kintzel@dhe.mo.gov

MONTANA

Tyler Trevor
Deputy Commissioner for Planning and Analysis
Montana University System
ttrevor@montana.edu

NEBRASKA

Mike Baumgartner
Executive Director
Nebraska's Coordinating Commission for Postsecondary Education
mike.baumgartner@nebraska.gov

NEVADA

Linda Heiss
Senior Director of Institutional Research
Nevada System of Higher Education
linda.heiss@nshe.nevada.edu

NEW JERSEY

Betsy Garlatti
Chief of Staff
New Jersey Office of the Secretary of Higher Education
elizabeth.garlatti@oshe.nj.gov

NEW MEXICO

Dina Advani
Director, Planning and Research
New Mexico Higher Education Department
dina.advani@state.nm.us

NEW YORK

David Crook
University Dean for Institutional Research and Assessment
City University of New York
david.crook@cuny.edu

Teresa Foster
Assistant Provost for Institutional Research and Data Analytics
The State University of New York
teresa.foster@suny.edu

Kathleen Moorhead
Executive Director for Data Systems and Educational Technology
New York State Education Department
Office of Higher Education
edtech@nysed.gov

NORTH CAROLINA

Bill Schneider
Associate Vice President for Research and Performance Management
North Carolina Community College System
schneiderb@nccommunitycolleges.edu

Daniel Cohen-Vogel
Associate Vice President for Institutional Research
University of North Carolina
drcohenvogel@northcarolina.edu

NORTH DAKOTA

Lisa Feldner
Vice Chancellor for Information Technology and Institutional Research
North Dakota University System
lisa.feldner@ndus.edu

OHIO

Jill Dannemiller
Director, Data Management & Analysis
Ohio Board of Regents
jdannemiller@highered.ohio.gov

OKLAHOMA

Marion Dilbeck
Assistant Vice Chancellor for Student Performance Data and Research
Oklahoma State Regents for Higher Education
mdilbeck@osrhe.edu

OREGON

Patrick Crane
Director, Office of Research and Data
Oregon Higher Education Coordinating Commission
patrick.crane@state.or.us

PENNSYLVANIA

Georgia Prell
Assistant Vice Chancellor, System Research
Pennsylvania State System of Higher Education
gprell@passhe.edu

Julie Kane
Higher Education Associate 2
Pennsylvania Department of Education
Office of Postsecondary and Higher Education
jukane@pa.gov

RHODE ISLAND

Steve Vieira
Project Manager, Data Warehouse for the State of Rhode Island
Rhode Island Office of the Postsecondary Commissioner
stephen.vieira@ribghe.org

SOUTH CAROLINA

Camille Brown
Associate Director of Fiscal Affairs
Chief Information Officer
South Carolina Commission on Higher Education
cbrown@che.sc.gov

SOUTH DAKOTA

Paul Turman
System Vice President for Academic Affairs
South Dakota Board of Regents
paul.turman@sdbor.edu

TENNESSEE

David Wright
Senior Policy Officer
Tennessee Higher Education Commission
david.l.wright@tn.gov

TEXAS

Doug Parker
Director, Educational Data Center
Texas Higher Education Coordinating Board
doug.parker@thecb.state.tx.us

UTAH

Joseph Curtin
Director of Institutional Research & Analysis
Utah System of Higher Education
jcurtin@ushe.edu

VERMONT

John Ryan
Director of Institutional Research
University of Vermont
jfryan@uvm.edu

Hope Baker-Carr
Director of Institutional Research
Vermont State Colleges
Hope.baker-carr@vsc.edu

VIRGINIA

Tod Massa
Director, Policy Research & Data Warehousing
State Council of Higher Education for Virginia
todmassa@schev.edu

WASHINGTON

Alan Hardcastle
Director of Research
Washington Student Achievement Council
alanh@wsac.wa.gov

Melissa Beard
Data Governance Coordinator
Washington Office of Financial Management
melissa.beard@ofm.wa.gov

Darby Kaikkonen
Policy Research Associate
Washington State Board for Community & Technical Colleges
dkaikkonen@sbtct.edu

WEST VIRGINIA

Neal Holly
Vice Chancellor for Policy and Planning
West Virginia Higher Education Policy Commission
nholly@hepc.wvnet.edu

WISCONSIN

Sue Buth
Director, Policy Analysis and Research
University of Wisconsin System
sbuth@uwsa.edu

WYOMING

Nicole Anderson
Policy Analyst
Wyoming Community College Commission
nicole.anderson1@wyo.gov

Sue Koller
Associate Director, Institutional Analysis
University of Wyoming
ssavor@uwyo.edu

APPENDIX C — LIST OF DATA ELEMENTS COLLECTED, BY AGENCY

	DEMOGRAPHIC							IDENTIFIERS						COURSE INFORMATION								DEGREE INFORMATION						
AGENCY	STUDENT NAME	DATE OF BIRTH	GENDER	RACE / ETHNICITY	AGE	MILITARY STATUS	PELL STATUS	SOCIAL SECURITY NUMBER	K-12 UNIQUE IDENTIFIER	INSTITUTION OF HIGHER EDUCATION IDENTIFIER	POSTSECONDARY STUDENT UNIQUE IDENTIFIER	CITIZENSHIP STATUS	STATE RESIDENCY STATUS	COURSE TITLE	COURSE MODE OF INSTRUCTION	COURSE GRADE	STUDENT CREDIT HOURS ATTEMPTED	STUDENT CREDIT HOURS EARNED	ACADEMIC TERM	REMEDIAL COURSE COMPLETION	GATEWAY COURSE COMPLETION	DEGREE AWARDED	DEGREE DATE	CUMULATIVE CREDIT HOURS EARNED	CUMULATIVE GPA	GRADUATION RATE	TIME TO CREDENTIAL	CREDITS TO CREDENTIAL
ALABAMA	•	•	•	•	•				•	•	•	•	•				•	•	•			•	•	•	•	•	•	
ALASKA	•	•	•	•		•	•	•				•	•	•	•	•	•	•	•	•		•	•	•	•	•	•	
ARIZONA	•	•	•	•	•			•			•	•	•	•		•	•	•				•	•	•	•			
ARKANSAS	•	•	•	•	•		•	•			•		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
CALIFORNIA CC	•	•	•	•	•			•		•	•	•	•	•	•	•	•	•				•	•	•	•			
CALIFORNIA CSU	•	•	•	•	•		•	•		•		•	•	•	•	•	•	•	•			•	•	•	•			
CALIFORNIA UC	•	•	•	•	•	•	•	•	•	•	•	•	•	•		•	•	•	•			•	•	•	•	•		
COLORADO		•	•	•	•		•	•	•	•	•	•	•	•	•	•	•	•	•	•		•	•	•	•			
CONNECTICUT	•	•	•	•	•		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
FLORIDA BOG	•	•	•	•	•	•	•	•			•	•	•	•	•	•	•	•	•	•		•	•	•	•			
FLORIDA DOE	•	•	•	•	•			•	•	•	•	•	•	•	•	•						•	•					
GEORGIA	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•		
HAWAII	•	•	•	•	•	•	•	•		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
IDAHO	•	•	•	•	•		•		•	•	•	•		•	•	•	•	•	•	•		•	•	•	•	•	•	•
ILLINOIS	•	•	•	•	•		•	•	•	•		•	•				•	•	•			•	•	•	•	•		
INDIANA	•	•	•	•		•	•	•		•	•	•	•				•	•	•	•	•	•	•	•	•	•	•	•
KANSAS	•	•	•	•	•		•	•		•	•		•	•	•	•	•	•	•	•		•	•	•	•			
KENTUCKY	•	•	•	•	•		•	•	•	•	•		•	•	•	•	•	•	•			•	•	•				
LOUISIANA	•	•	•	•	•		•	•		•	•	•	•	•		•		•	•	•		•	•	•	•	•	•	
MAINE	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•		•	•	•	•	•	•	•
MARYLAND	•	•	•	•	•		•	•	•	•		•	•				•	•		•	•	•	•	•	•	•	•	•
MASSACHUSETTS	•	•	•	•	•			•		•	•	•	•	•	•		•	•				•	•	•	•			
MINNESOTA MOHE	•	•	•	•	•			•	•	•	•	•	•						•			•	•	•		•		
MINNESOTA MNSCU	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•		•	•	•	•	•		•
MISSISSIPPI		•	•	•	•		•	•		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•		•	•
MISSOURI	•	•	•	•	•			•	•	•	•		•				•	•	•	•		•	•	•	•	•	•	•
MONTANA	•	•	•	•	•			•	•	•	•	•	•	•	•	•	•	•	•	•		•	•	•	•			•
NEBRASKA	•	•	•	•					•	•							•	•	•			•	•	•	•		•	•
NEVADA	•	•	•	•	•			•	•		•		•	•	•	•	•	•	•	•	•	•	•					

APPENDIX C — LIST OF DATA ELEMENTS COLLECTED, BY AGENCY CONTINUED

	STUDENT METRICS										FINANCIAL AID																	
AGENCY	ADMISSIONS SCORES	PLACEMENT SCORES	PRIOR COLLEGE(S) ATTENDED	TRANSFER CREDIT(S)	RETENTION BY TERM OR YEAR	ENROLLMENT STATUS (FIRST-TIME, TRANSFER, CONTINUING)	DEGREE-SEEKING STATUS	FULL-TIME / PART-TIME STATUS	1ST TERM ACADEMIC HISTORY	PROGRAM / MAJOR	DEPENDENCY STATUS	FAMILY INCOME	FEDERAL FINANCIAL AID	STATE FINANCIAL AID	INSTITUTIONAL FINANCIAL AID	OTHER FINANCIAL AID	FAFSA FIELDS	MERIT-BASED FINANCIAL AID	NEED-BASED FINANCIAL AID	COST OF POSTSECONDARY EDUCATION (WHAT STUDENT ACTUALLY PAYS)	TUITION AND FEES	COST OF ATTENDANCE	NET PRICE	REVENUES AND EXPENDITURES	COST PER CREDENTIAL	CUMULATIVE DEBT	LOAN REPAYMENT STATUS	Q11 TOTAL
ALABAMA			•	•	•	•	•	•	•	•																		27
ALASKA	•	•	•	•	•	•	•	•		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	48
ARIZONA		•	•	•			•	•	•	•			•			•												26
ARKANSAS		•	•			•	•	•	•	•			•	•	•	•		•	•									37
CALIFORNIA CC			•	•			•	•	•	•	•	•	•	•	•	•	•	•	•									34
CALIFORNIA CSU	•	•	•	•	•	•	•	•	•	•	•		•	•	•	•	•	•	•									38
CALIFORNIA UC	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•		•	•			•		46
COLORADO	•	•	•	•		•	•	•	•	•	•	•	•	•	•	•	•	•	•									40
CONNECTICUT	•	•	•	•	•	•	•	•	•	•			•	•	•			•	•									42
FLORIDA BOG	•	•	•	•		•	•	•	•	•	•	•	•	•	•	•		•	•									39
FLORIDA DOE	•	•	•	•			•	•		•	•	•	•	•	•	•		•	•									31
GEORGIA	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•							•		46
HAWAII	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	53
IDAHO		•	•	•	•	•	•	•	•	•			•	•	•	•	•	•	•									40
ILLINOIS	•					•	•	•		•			•	•	•													27
INDIANA			•	•	•	•	•	•	•		•	•	•	•	•	•			•			•	•	•			•	41
KANSAS	•	•	•	•		•	•	•	•	•	•		•	•	•	•		•	•	•	•	•						40
KENTUCKY	•	•	•	•		•	•	•	•	•	•	•	•	•	•	•	•	•	•									38
LOUISIANA	•					•	•	•	•	•			•	•	•	•	•	•	•									35
MAINE	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•		•	•	•			•	•	•	•		•	50
MARYLAND			•	•		•	•	•	•	•	•	•	•	•	•	•	•	•	•									38
MASSACHUSETTS	•	•	•	•			•	•	•	•		•	•	•	•	•		•	•									33
MINNESOTA MOHE			•	•		•	•	•		•																		22
MINNESOTA MNSCU	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•		•	51
MISSISSIPPI	•	•	•	•		•	•	•	•	•	•		•	•	•	•		•	•									40
MISSOURI	•		•	•	•	•	•	•	•	•																		30
MONTANA	•	•	•	•			•	•	•	•	•		•	•	•	•		•	•									38
NEBRASKA						•	•	•		•																		19
NEVADA						•	•			•																		22

APPENDIX C — LIST OF DATA ELEMENTS COLLECTED, BY AGENCY CONTINUED

	DEMOGRAPHIC							IDENTIFIERS						COURSE INFORMATION								DEGREE INFORMATION						
AGENCY	STUDENT NAME	DATE OF BIRTH	GENDER	RACE / ETHNICITY	AGE	MILITARY STATUS	PELL STATUS	SOCIAL SECURITY NUMBER	K-12 UNIQUE IDENTIFIER	INSTITUTION OF HIGHER EDUCATION IDENTIFIER	POSTSECONDARY STUDENT UNIQUE IDENTIFIER	CITIZENSHIP STATUS	STATE RESIDENCY STATUS	COURSE TITLE	COURSE MODE OF INSTRUCTION	COURSE GRADE	STUDENT CREDIT HOURS ATTEMPTED	STUDENT CREDIT HOURS EARNED	ACADEMIC TERM	REMEDIAL COURSE COMPLETION	GATEWAY COURSE COMPLETION	DEGREE AWARDED	DEGREE DATE	CUMULATIVE CREDIT HOURS EARNED	CUMULATIVE GPA	GRADUATION RATE	TIME TO CREDENTIAL	CREDITS TO CREDENTIAL
NEW HAMPSHIRE		•	•	•					•	•																		
NEW JERSEY			•	•	•			•	•	•	•	•	•				•	•	•			•	•	•	•			
NEW MEXICO	•	•	•	•	•		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•					
NEW YORK CUNY	•	•	•	•	•	•	•	•	•	•		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
NEW YORK STATE DOE	•	•	•	•	•				•	•	•									•		•	•		•			
NEW YORK SUNY	•	•	•	•	•	•	•	•		•	•	•	•	•	•	•	•	•	•	•		•	•	•	•			•
NORTH CAROLINA CC	•	•	•	•	•		•	•		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•		
NORTH CAROLINA UNC	•	•	•	•	•	•	•	•	•	•			•		•	•	•	•	•	•		•	•	•	•	•	•	•
NORTH DAKOTA	•	•	•	•		•	•	•			•	•	•	•	•	•	•	•	•	•		•	•	•	•			
OHIO		•	•	•	•			•		•	•	•	•	•	•		•	•				•	•	•	•			
OKLAHOMA	•	•	•	•	•		•	•		•		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
OREGON	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•		•	•	•	•			
PENNSYLVANIA DOE	•	•	•	•						•			•	•	•	•	•	•	•	•		•	•	•				
RHODE ISLAND	•	•	•	•	•			•		•		•	•	•		•	•	•				•	•	•	•			
SOUTH CAROLINA		•	•	•				•				•	•	•	•		•		•			•		•	•			
SOUTH DAKOTA	•	•	•	•	•	•	•	•		•	•	•	•	•	•	•	•	•	•	•		•	•	•	•			•
TENNESSEE	•	•	•	•	•		•	•	•	•	•	•	•		•		•	•	•	•	•	•	•	•	•	•	•	•
TEXAS	•	•	•	•				•		•				•	•	•	•	•	•			•	•					
UTAH	•	•	•	•	•		•	•	•	•	•	•	•	•	•	•	•	•		•		•	•	•	•			
VERMONT STATE COLLEGES	•	•	•	•	•	•	•	•		•		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•		
VERMONT U	•	•	•	•	•	•						•	•	•	•	•	•	•	•			•	•	•	•	•	•	•
VIRGINIA	•	•	•	•	•		•	•	•		•	•	•		•	•	•	•	•	•		•	•			•	•	•
WASHINGTON OFM	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•		•	•	•	•	•	•	•
WASHINGTON SBCTC	•	•	•	•	•	•	•	•		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•		
WASHINGTON WSAC	•	•	•	•	•			•		•			•															
WEST VIRGINIA	•	•	•	•	•	•	•	•		•		•	•	•	•	•	•	•	•			•	•		•			
WISCONSIN	•	•	•	•	•	•	•	•	•	•	•	•	•		•	•	•		•	•		•	•		•	•	•	•
WYOMING CC	•	•	•	•	•	•	•	•	•	•	•	•	•	•		•	•	•	•	•	•	•	•	•	•	•		
WYOMING U	•	•	•	•	•		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
TOTAL	51	58	57	57	51	18	37	52	31	48	41	45	52	42	41	42	51	49	45	37	18	55	54	47	46	25	18	21

APPENDIX C — LIST OF DATA ELEMENTS COLLECTED, BY AGENCY CONTINUED

	STUDENT METRICS										FINANCIAL AID																	
AGENCY	ADMISSIONS SCORES	PLACEMENT SCORES	PRIOR COLLEGE(S) ATTENDED	TRANSFER CREDIT(S)	RETENTION BY TERM OR YEAR	ENROLLMENT STATUS (FIRST-TIME, TRANSFER, CONTINUING)	DEGREE-SEEKING STATUS	FULL-TIME / PART-TIME STATUS	1ST TERM ACADEMIC HISTORY	PROGRAM / MAJOR	DEPENDENCY STATUS	FAMILY INCOME	FEDERAL FINANCIAL AID	STATE FINANCIAL AID	INSTITUTIONAL FINANCIAL AID	OTHER FINANCIAL AID	FAFSA FIELDS	MERIT-BASED FINANCIAL AID	NEED-BASED FINANCIAL AID	COST OF POSTSECONDARY EDUCATION (WHAT STUDENT ACTUALLY PAYS)	TUITION AND FEES	COST OF ATTENDANCE	NET PRICE	REVENUES AND EXPENDITURES	COST PER CREDENTIAL	CUMULATIVE DEBT	LOAN REPAYMENT STATUS	Q11 TOTAL
NEW HAMPSHIRE																												5
NEW JERSEY	•		•	•		•	•	•		•																		23
NEW MEXICO						•	•			•	•	•	•	•	•	•	•	•	•			•						35
NEW YORK CUNY	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•									46
NEW YORK STATE DOE			•	•		•	•	•		•																		18
NEW YORK SUNY	•	•	•	•		•	•	•	•	•	•	•	•	•	•	•	•	•	•		•	•						44
NORTH CAROLINA CC	•	•			•	•	•	•	•	•	•		•	•	•	•	•	•	•									40
NORTH CAROLINA UNC	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•		•							44
NORTH DAKOTA	•		•	•		•	•	•		•	•	•	•	•	•	•	•	•	•		•	•	•					40
OHIO			•	•			•	•	•	•	•	•	•	•	•	•	•	•	•									32
OKLAHOMA	•		•	•		•	•	•	•	•	•	•	•	•	•	•		•	•									41
OREGON	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•						•			44
PENNSYLVANIA DOE			•	•	•	•	•	•	•	•																		24
RHODE ISLAND	•	•	•	•			•	•		•			•															25
SOUTH CAROLINA	•					•	•	•		•			•	•		•							•					22
SOUTH DAKOTA	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•									43
TENNESSEE	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•		•	•	•	51
TEXAS							•			•	•	•	•	•	•	•		•	•		•	•		•				27
UTAH				•		•	•	•	•	•			•	•	•			•										32
VERMONT STATE COLLEGES	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•			•	•		•			•				43
VERMONT U	•				•	•	•	•		•																		27
VIRGINIA	•			•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•		•	•	•			•		43
WASHINGTON OFM			•	•	•	•	•	•	•	•																		35
WASHINGTON SBCTC			•		•	•	•	•	•	•	•	•	•	•	•	•		•	•					•				41
WASHINGTON WSAC							•	•			•	•	•	•	•	•	•	•	•									19
WEST VIRGINIA	•	•	•	•		•	•	•	•	•	•		•	•	•	•	•	•	•							•		38
WISCONSIN	•		•		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•		•	•	•			•		45
WYOMING CC	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•		•	•	•		•	•		•				46
WYOMING U	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•				•	•	51
TOTAL	37	30	44	43	23	45	56	53	40	55	36	30	46	44	43	40	27	42	40	6	13	14	7	7	2	9	2	

APPENDIX D — METRICS CAPACITY

STATE AGENCY	ENROLLMENT	CREDIT ACCUMULATION	CREDIT COMPLETION RATIO	GATEWAY COURSE COMPLETION	RETENTION RATE/ PERSISTENCE RATE	TRANSFER RATE	GRADUATION RATE	COMPLETERS/COMPLETIONS PER STUDENT	NET PRICE	CUMULATIVE DEBT	EMPLOYMENT RATE/MEDIAN EARNINGS/EARNINGS THRESHOLD	LOAN REPAYMENT	TIME-TO-CREDENTIAL	CREDITS-TO-CREDENTIAL	TOTAL
ALABAMA	•	•	•		•	•		•							6
ALASKA	•	•	•	•	•	•	•		•	•	•	•	•	•	13
ARIZONA	•	•	•			•		•							5
ARKANSAS	•	•	•	•	•	•	•	•					•	•	10
CALIFORNIA CC	•	•	•		•	•		•			•				7
CALIFORNIA CSU	•	•	•		•	•		•			•				7
CALIFORNIA UC	•	•	•		•	•	•	•	•	•	•				10
COLORADO	•	•	•		•	•	•	•			•		•	•	10
CONNECTICUT	•	•	•	•	•	•	•	•			•		•	•	11
FLORIDA BOG	•				•	•		•			•				5
GEORGIA	•	•	•	•	•	•	•	•		•	•		•	•	12
HAWAII	•	•	•	•	•	•	•	•	•	•	•		•	•	13
IDAHO	•	•	•	•	•	•	•	•			•		•	•	11
ILLINOIS	•	•	•		•	•	•	•					•	•	9
INDIANA	•	•	•	•	•	•	•	•		•	•		•	•	12
KANSAS	•	•	•		•	•		•			•				7
KENTUCKY	•	•	•	•	•	•	•	•			•		•	•	11
LOUISIANA	•	•	•	•	•	•	•	•			•		•		10
MAINE	•	•	•	•	•	•	•	•		•		•	•	•	12
MARYLAND	•	•	•	•	•	•	•	•			•		•	•	11
MASSACHUSETTS	•	•	•	•	•	•	•	•			•		•	•	11
MINNESOTA MNSCU	•	•	•		•	•	•	•	•	•	•				10
MINNESOTA MOHE	•	•			•	•	•	•			•			•	8
MISSISSIPPI	•	•	•	•	•	•	•	•					•	•	10
MISSOURI	•	•	•	•	•	•	•	•			•		•	•	11
MONTANA	•	•	•	•	•	•	•	•			•		•	•	10
NEBRASKA	•	•	•		•		•	•					•	•	8
NEVADA	•	•	•	•	•	•		•			•				8
NEW HAMPSHIRE	•														1
NEW JERSEY	•	•			•	•	•								5

APPENDIX D — METRICS CAPACITY CONTINUED

STATE AGENCY	ENROLLMENT	CREDIT ACCUMULATION	CREDIT COMPLETION RATIO	GATEWAY COURSE COMPLETION	RETENTION RATE/ PERSISTENCE RATE	TRANSFER RATE	GRADUATION RATE	COMPLETERS/COMPLETIONS PER STUDENT	NET PRICE	CUMULATIVE DEBT	EMPLOYMENT RATE/MEDIAN EARNINGS/EARNINGS THRESHOLD	LOAN REPAYMENT	TIME-TO-CREDENTIAL	CREDITS-TO-CREDENTIAL	TOTAL
NEW MEXICO	•	•	•	•	•	•	•	•			•		•	•	11
NEW YORK CUNY	•	•	•	•	•	•	•	•			•		•	•	11
NEW YORK NYSED	•				•			•							3
NEW YORK SUNY	•	•	•		•	•		•						•	7
NORTH CAROLINA CC	•	•	•	•	•	•	•	•			•				9
NORTH CAROLINA UNC	•	•	•		•	•	•	•			•		•	•	10
NORTH DAKOTA	•	•	•		•	•		•	•						7
OHIO	•	•	•	•	•	•	•	•			•		•	•	11
OKLAHOMA	•	•	•	•	•	•	•	•			•		•	•	11
OREGON	•	•	•	•	•	•		•			•				8
PENNSYLVANIA	•	•	•		•	•		•							6
RHODE ISLAND	•	•	•		•	•		•			•				7
SOUTH CAROLINA	•	•	•		•	•		•							6
SOUTH DAKOTA	•	•	•	•	•	•	•	•			•		•	•	11
TENNESSEE	•	•	•	•	•	•	•	•	•	•	•	•	•	•	14
TEXAS	•	•	•	•	•	•	•	•			•		•	•	11
UTAH	•	•	•	•	•	•	•	•			•		•	•	11
VERMONT STATE COLLEGES	•	•	•	•	•	•	•	•							8
VERMONT UNIVERSITY	•	•	•		•		•	•					•	•	8
VIRGINIA	•		•		•	•	•	•	•	•	•		•	•	11
WASHINGTON WSAC	•				•			•			•				4
WASHINGTON OFM	•	•	•		•	•	•	•			•		•	•	10
WASHINGTON SBCTC	•	•	•	•	•	•	•	•			•				9
WEST VIRGINIA	•	•	•	•	•	•	•	•		•	•		•	•	12
WISCONSIN	•	•	•	•	•	•	•	•	•	•			•	•	12
WYOMING CC	•	•	•	•	•	•	•	•							8
WYOMING UWYO	•	•	•	•	•	•	•	•		•		•	•	•	12
TOTAL	57	52	51	32	55	52	41	54	8	12	38	4	33	34	

APPENDIX E — FINANCIAL AID DATA

STATE AGENCY	DEPENDENCY STATUS	FAMILY INCOME	FEDERAL FINANCIAL AID	STATE FINANCIAL AID	INSTITUTIONAL FINANCIAL AID	OTHER FINANCIAL AID	FAFSA FIELDS	MERIT-BASED FINANCIAL AID	NEED-BASED FINANCIAL AID	COST OF POSTSECONDARY EDUCATION	TUITION AND FEES	COST OF ATTENDANCE	NET PRICE	REVENUES AND EXPENDITURES	COST PER CREDENTIAL	CUMULATIVE DEBT	LOAN REPAYMENT STATUS	TOTAL
ALASKA	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	17
HAWAII	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•		16
TENNESSEE	•	•	•	•	•	•	•	•	•	•	•	•	•		•	•	•	16
MINNESOTA (MNSCU)	•	•	•	•	•	•	•	•	•	•	•	•	•	•		•		15
MAINE	•	•	•	•	•	•	•	•	•	•	•	•	•	•		•		15
WYOMING	•	•	•	•	•	•	•	•	•	•	•	•				•	•	14
CALIFORNIA (UNC)	•	•	•	•	•	•	•	•	•	•		•	•			•		13
VIRGINIA	•	•	•	•	•	•	•	•	•		•	•	•			•		13
WISCONSIN	•	•	•	•	•	•	•	•	•		•	•	•			•		13
NORTH DAKOTA	•	•	•	•	•	•	•	•	•		•	•	•					12
NEW MEXICO	•	•	•	•	•	•	•	•	•		•	•			•			12
NEW YORK (SUNY)	•	•	•	•	•	•	•	•	•		•	•						11
NORTH CAROLINA	•	•	•	•	•	•	•	•	•		•							10
OREGON	•	•	•	•	•	•	•	•	•					•				10
GEORGIA	•	•	•	•	•	•	•	•	•							•		10
CALIFORNIA (CCC)	•	•	•	•	•	•	•	•	•									9
COLORADO	•	•	•	•	•	•	•	•	•									9
KENTUCKY	•	•	•	•	•	•	•	•	•									9
MARYLAND	•	•	•	•	•	•	•	•	•									9
NEW YORK (CUNY)	•	•	•	•	•	•	•	•	•									9
OHIO	•	•	•	•	•	•	•	•	•									9
SOUTH DAKOTA	•	•	•	•	•	•	•	•	•									9
WASHINGTON (WSAC)	•	•	•	•	•	•	•	•	•									9
TEXAS	•	•	•	•	•	•		•	•		•	•		•				11

APPENDIX E — FINANCIAL AID DATA CONTINUED

STATE AGENCY	DEPENDENCY STATUS	FAMILY INCOME	FEDERAL FINANCIAL AID	STATE FINANCIAL AID	INSTITUTIONAL FINANCIAL AID	OTHER FINANCIAL AID	FAFSA FIELDS	MERIT-BASED FINANCIAL AID	NEED-BASED FINANCIAL AID	COST OF POSTSECONDARY EDUCATION	TUITION AND FEES	COST OF ATTENDANCE	NET PRICE	REVENUES AND EXPENDITURES	COST PER CREDENTIAL	CUMULATIVE DEBT	LOAN REPAYMENT STATUS	TOTAL
WASHINGTON (SBCTC)	•	•	•	•	•	•		•	•					•				9
FLORIDA (BOG)	•	•	•	•	•	•		•	•									8
FLORIDA (DOE)	•	•	•	•	•	•		•	•									8
OKLAHOMA	•	•	•	•	•	•		•	•									8
WYOMING (WCCC)	•	•	•	•	•		•	•	•		•	•		•				11
VERMONT (VSC)	•	•	•	•	•			•	•		•			•				9
INDIANA	•	•	•	•	•				•		•	•				•		9
WEST VIRGINIA	•		•	•	•	•	•	•	•							•		9
CALIFORNIA (CSU)	•		•	•	•	•	•	•	•									8
NORTH CAROLINA (NCCCS)	•		•	•	•	•	•	•	•									8
KANSAS	•		•	•	•	•		•	•	•	•	•						10
MISSISSIPPI	•		•	•	•	•		•	•									7
MONTANA	•		•	•	•	•		•	•									7
MASSACHUSETTS		•	•	•	•	•		•	•									7
IDAHO			•	•	•	•	•	•	•									7
LOUISIANA			•	•	•	•	•	•	•									7
ARKANSAS			•	•	•	•		•	•									6
CONNECTICUT			•	•	•			•	•									5
UTAH			•	•	•			•										4
ILLINOIS			•	•	•													3
SOUTH CAROLINA			•	•		•						•						4
ARIZONA			•			•												2
RHODE ISLAND			•															1

STATE HIGHER EDUCATION EXECUTIVE OFFICERS
3035 CENTER GREEN DRIVE, SUITE 100, BOULDER, COLORADO, 80301
303.541.1600 • **SHEEO.org**