

Alaska's Application to the Institute of Education Science for the Creation of a P-20W Statewide Longitudinal Data System

In December, 2011 the Alaska Commission on Postsecondary Education, on behalf of the Alaska Department of Education & Early Development (EED), submitted a grant application to the U.S. Department of Education's Institute of Education Sciences to create a statewide longitudinal data system, or SLDS. As proposed, the SLDS will incorporate data from the Department of Labor and Workforce Development, the University of Alaska System, the Alaska Commission on Postsecondary Education, and EED's existing K-12 longitudinal database into an expanded database covering preschool through postsecondary education attainment and workforce data. Once operational, the SLDS will provide information vital to policymakers and other stakeholders of Alaska's educational system, allowing for enhanced analysis of how various programs are affecting the educational outcomes of Alaska's students.

What follows are the three major components of Alaska's grant application: the project abstract; the project narrative; and the budget narrative. The complete grant application may be found at the Institute of Education Science's website at http://nces.ed.gov/Programs/SLDS/fy12_scoring.asp.

Abstract: Alaska Statewide Longitudinal Data System

The Alaska Department of Education and Early Development (DEED) is applying for \$4,000,000 over three years from the Institute for Education Sciences Grants for Statewide Longitudinal Data Systems under CFDA Number 84.372, and will contribute \$1,678,746 in kind for the Alaska SLDS project. DEED is proposing the linking of Alaska's current K-12 data system with postsecondary and workforce data, a Priority 3 application. This effort will provide critical information to Alaska's policymakers, educators, and general public about Alaska's education pipeline, including student transitions and performance in postsecondary education and workforce systems.

The Alaska State Longitudinal Data System (Alaska SLDS) will initially link data from the Alaska Department of Education and Early Development (DEED), the Alaska Commission on Postsecondary Education (ACPE), the University of Alaska, and the Alaska Department of Labor and Workforce Development (DOLWD). The data will include K-12 student demographics, program participation, assessments, performance, financial aid, and interventions; postsecondary enrollment, remediation, and success; teacher preparation, demographics, certification, and employment data; and information about individuals' employment, their related industry, employer information, and earnings, among other data-related elements. In addition, Alaska's DOLWD collects information on workers' occupations, unique to only a handful of states, and will incorporate this data in order to better link educational efforts to labor force demands. DEED will serve as fiscal agent; however, the system will be built and maintained by ACPE and function under the direction of a multi-agency governance structure.

The primary function of the Alaska SLDS is to build upon the efforts of Alaska's agencies to create a cohesive state data system and a data governance model that fosters a climate that supports data sharing to meet the state's information needs for understanding and improving state policy. In order to do this, the project is divided into six phases: (1) plans for development of the system; (2) create the SLDS hardware and software environment; (3) develop the longitudinal data system; (4) create reports and a portal to make information available; (5) provide extended training to help users access and utilize the data to better inform policy and practice to improve educational and workforce outcomes; and (6) create and implement a sustainability plan. The primary overarching goals of this project are to:

- develop a governance model with a team of leaders engaged in the practice of using data to inform decision making and who understand the value of this process for the state;
- create a secure, state longitudinal data system that allows data about K-12 students, teachers, college students, and industry to be linked together accurately and securely so they can be used to better understand and inform policy makers on the education to workforce cycle; and
- create reports, dashboards, and other information products that provide the right information to the right people in the right formats to better inform research and policy making; provide support to help the data users better utilize the system to improve

education and workforce outcomes in Alaska; and, increase transparency around educational outcomes, generally.

ALASKA STATEWIDE LONGITUDINAL DATA SYSTEM

Project Narrative

On behalf of the state of Alaska, the Alaska Department of Education and Early Development (DEED) is applying for \$4,000,000 from the Institute for Education Sciences (IES) Statewide Longitudinal Data Systems grant under Priority 3 for linking Alaska's K-12 data system with postsecondary and workforce data in order to provide policymakers and educators needed information about the linkages across the education and workforce systems. Total project costs are budgeted at \$5,678,746, with the difference being allocated to ACPE as in-kind contributions to the project.

A) NEED FOR THE PROJECT

As an expansive and geographically challenging state with a resource extraction-based economy, Alaska faces a number of unique challenges. In the early decades of this relatively young state's history there was a wealth of high-wage jobs that required minimal education beyond high school, luring many young Alaskans into the workforce instead of pursuing postsecondary education. This situation has encouraged a high in-migration of nonresident workers who compete for jobs requiring higher skills and education, but who are not permanent Alaska residents. Nearly 20% of workers in Alaska each year migrate from outside the state. While some level of nonresident hiring is to be expected, such high rates impose costs to the state, and emphasize the need to prepare Alaska youth for high-wage employment opportunities in more highly skilled jobs.

This influx of highly skilled and trained workers has resulted in Alaska having one of the highest proportions of adults age 25 and over with a high school diploma or above (90 percent).¹ However, the outcomes for resident youth are not as encouraging. Alaska is ranked 51st in the nation in the rate of high school graduates going to college (45.7%)² and has the second highest public high school dropout rate in the nation (7.3%).³ The picture is clear – many jobs requiring higher skills and education are being filled by nonresidents, while Alaska ranks at or near the bottom in training its own residents. Alaska ranks 42nd in terms of the percentage of ninth graders who graduate from high school,⁴ and 50th in terms of the number of ninth graders who complete a bachelor's degree within ten years.⁵

Low levels of educational attainment clearly have an implication for employment opportunities for Alaska's youth. Although our statewide unemployment rate remains well below the national average, we have the 13th highest rate of 16 to 19-year-olds not in school and not working.⁶ This situation is even more troubling as we consider future employment prospects in the state. The Alaska Department of Labor and Workforce Development (DOLWD) projects that for those jobs with the brightest growth prospects and greatest number of openings over the next ten years that

¹ NCES Digest of Education Statistics: 2010, Table 11.

² NCES Digest of Education Statistics: 2010, Table 211.

³ NCES Digest of Education Statistics: 2010, Table 113.

⁴ NCES Trends in High School Dropout and Completion Rates in the United States: 1972-2008, Table 13.

⁵ Research conducted by NCHEMS, based on NCES data.

⁶ Annie E. Casey Foundation, Kids Count Data Center, information for 2007.

pay above median wages, over one-half will require at least an associate's degree, and one-third will require a bachelor's degree or greater. Teen dropouts lacking employment opportunities are the root cause of even more devastating social ills in Alaska. Our child and teenage injury/death rate is the highest in the nation – 70% higher than the national average.⁷ Suicide and attempted suicides are the leading cause of death and hospitalization among 15 to 19-year-olds in Alaska.⁸

Obviously, many opportunities exist to improve Alaskans' quality of life by improving educational opportunities and outcomes that prepare our youth for highly-skilled, high-paying jobs. To effectively leverage these opportunities, however, data sharing and analysis must occur among the state's K-12, postsecondary and labor force agencies to ensure potential workers have the opportunities and resources required to enhance their skills and knowledge in those areas in demand in the labor market. Alaska has been building the infrastructures to better collect and utilize data about students in our systems, with technical support and guidance from the IES SLDS program. Still, the data infrastructures that would allow us to understand how people transition from sector to sector are too limited in terms of capacity to provide the kinds of data needed to adequately inform policymakers and educators.

Education Funding and Outcomes

While in some states poor educational outcomes may be associated with lower levels of funding, this is not the case in Alaska. Providing educational services in Alaska is expensive. The system serves a largely rural, geographically isolated population. More than one-quarter of Alaska's 500 public schools serve fewer than 50 students. One school district covers more square miles than the state of Minnesota yet serves fewer than 2,000 children spread across ten villages. Providing high quality educational resources across all these small schools is expensive and challenging. Many school consolidation efforts possible in other states simply have not been a possibility in Alaska because of its size and geography.

Given this challenge, it is not surprising Alaska has one of the highest education funding levels in the country. Alaska ranks first in terms of per capita funding of state and local government dollars for education for all educational general expenditures (\$4,387 per capita compared to the U.S. average of \$2,717), second in elementary and secondary expenditures (\$3,258 compared to the U.S. average of \$1,860) and eighth in terms of college and university expenditures (\$1,004 compared to the U.S. average of \$734).⁹ According to the Delta Cost Project, Alaska currently spends more than twice the national average to produce a credential at four-year institutions -- \$141,705 at public research institutions and \$107,398 at public comprehensive universities, compared to national expenditures of \$64,179 and \$54,167, respectively. This is about four and one-half times as much to produce a credential at a community college -- \$223,231 on average per credential compared to \$46,759 nationally.

With funding levels near the top of the nation producing such low outcomes in terms of educational attainment, Alaska needs better information to find ways to serve every student more effectively. This requires data that cross agency boundaries and the ability to follow students as they transition from K-12 to postsecondary and into the workforce. It is impossible to increase

⁷ Annie E. Casey Foundation, Kids Count Yearbook, 2010.

⁸ Annie E. Casey Foundation, Kids Count Yearbook, 2006-2007, 2010.

⁹ NCES Digest of Education Statistics: 2010, Table 32.

college-going rates without a good idea of which students are least likely to attend college and which students and schools need to be the focus of attention. It is also impossible to understand where alignment issues exist between the education systems and employment needs without first identifying and understanding what types of students are entering and staying in the workforce, and what the job markets require for the workforce of the future.

Alaska Data Systems

Alaska has longitudinal data systems within each of the four participating agencies (DEED, ACPE, UA, and DOLWD) for this project. These will serve as the foundation blocks for the Alaska SLDS. The system will integrate data from these four sources. This initiative is well-timed given the recent amendments to the Family Education Rights and Privacy Act (FERPA). The revised regulations provide guidance to the SLDS project by clarifying Alaska's abilities to share data across agencies, and the responsibilities the state assumes by doing so. The clarification of FERPA occurred at an opportune time as we work to build an efficient, powerful and protected system to perform longitudinal research in the state.

K-12 Data Systems

In FY06, DEED received a \$3.5 million award from the IES, to build a statewide K-12 longitudinal data system. This fueled a statewide effort to meet NCLB's present and future challenges regarding education data by unifying over 20 disparate data collections, involving schools using myriad reporting methodologies, into one unified data structure, utilizing uniform reporting methods, and delivering accurate, timely and accessible K-12 student-level data to stakeholders. A major goal of that undertaking, the Unity Project, was to create a statewide longitudinal system for Alaska's K-12 students to allow for more effective decision-making among K-12 professionals. The K-12 SLDS goal was broad in scope with a total of seven phases, only the first four of which were funded in the FY06 federal grant. Although the federal grant period has ended, Alaska has continued work on Phases V and VI. Components of Phase VII, specifically the certified and classified staffing data collections, were completed in Phase IV. The completion of Phase VII will allow staff to facilitate linkages between teachers and the students they teach. Regulations are currently being promulgated to define the components of rigorous curricula as they relate to eligibility for the state's new merit based scholarship. It is expected that efforts to collect student transcript data and teacher linkages will be significantly enhanced as the state's new Alaska Performance Scholarship (APS) becomes part of the Alaska education culture. However, it is also imperative that momentum on the Alaska SLDS project not be slowed as the state fully implements APS. The next logical step is linking the increasingly robust OASIS (Online Alaska School Information System) data sets with postsecondary and workforce data, so Alaska can answer pressing policy questions to determine what works and better allocate increasingly scarce resources to maximize student opportunity for success.

The deployment of OASIS accomplished several goals critical to the functionality of a P-20W¹⁰ longitudinal data system. It electronically eliminated barriers to district-level reporting and

¹⁰ Relative to P-20W linking, it should be noted that pre-school in Alaska is provided in a de-centralized fashion and will be addressed in a later expansion effort relative to SLDS. Nevertheless, SLDS development in Alaska will be undertaken with the expectation that pre-kindergarten information will be included in the future.

created statewide data snapshots. It also enhanced the state-level framework for collecting individually identifiable records for all public K-12 students by automating and establishing common protocols for the process. Alaska proposes to leverage the foundational K-12 work to design and deploy the K-12 SLDS into other areas of education, including institutions of higher education, and to coordinate with other state agencies to track student outcomes once they leave Alaska's education system and progress (or fail to progress) on to additional education or employment. DEED work to date on OASIS, cultivated stakeholder buy-in—an essential element given Alaska's isolated districts and historically disparate methods for sharing information.

These prior efforts have set the stage and the State of Alaska considers this new proposal a priority, recognizing the importance of moving forward now with the SLDS expansion to avoid the costs associated with delaying progress and the risk of losing momentum.

Postsecondary Data Systems

As the context within which postsecondary data is proposed to be shared and governed within the Alaska SLDS, it is helpful to understand Alaska's higher education administrative and governance model. The University of Alaska (UA) is the state's higher education system. The system's president serves as UA's chief executive officer, and is Alaska's academic State Higher Education Executive Officer (SHEEO). The institution is organized around three main administrative units, each of which has responsibilities for administering multiple satellite campuses spread across a state that is one-third the size of the contiguous 48 states. UA data are managed through the system offices under the purview of the UA president's office.

The Alaska Commission on Postsecondary Education (ACPE), funded by the Alaska Student Loan Corporation (ASLC), is an enterprise agency of the State of Alaska, charged in statute with administering student financial aid, licensing postsecondary institutions to operate in Alaska, and promoting access to and success in education and career training beyond high school. ACPE's executive director is Alaska's SHEEO relative to student financial aid administration and institutional authorization. The Commission's administrative staff serves as the staff of the Corporation. They carry out ASLC activities through the delegated authority of the ASLC Executive Officer, who is also the Executive Director of ACPE.

At the postsecondary level, UA's statewide office maintains access to individual-level records for all its enrollees. Due to the limited number of non-UA providers¹¹ of postsecondary education in Alaska, UA has information on the vast majority of in-state postsecondary participants. Yet apart from linking data in order to respond to federal reporting requirements, such as for Perkins participants, there have been few efforts to link student data across the K-12 and postsecondary levels. In part, this has been caused by the fact that such linkages are difficult because the student information systems at UA and DEED use different student identifiers, and Social Security Numbers (SSNs) are not available from both systems. Only UA captures students'

¹¹ The University of Alaska system, including Price William Sound Community College, enrolls approximately 95% of all the postsecondary students in the state. Alaska has one tribal college (Ilisagvik College in Barrow), one private collegiate institution (Alaska Pacific University in Anchorage), and two proprietary institutions (Charter College and Alaska Career College, both in Anchorage). DOLWD also operates AVTEC (Alaska Vocational Technical Education Center), Alaska's public postsecondary career training institution, located in Seward.

SSNs for reporting related to tuition tax credits for the Internal Revenue Service; DEED does not.

Also at the postsecondary level, ACPE, relative to its mission, maintains access to individual-level data specific to: education loan borrowers, state scholarship and grant recipients, and Institutional Student Informational Reports (ISIRs, which summarize FAFSA information) for Alaska residents and students attending Alaska postsecondary institutions; Alaska's authorized postsecondary institutions; and National Student Clearinghouse for Alaska high school graduates; as well as aggregate data on students receiving ACPE outreach services and interventions.

Workforce Data Systems

Labor data is the third critical component in the state's data alignment goals. Alaska's DOLWD currently maintains several unique and confidential administrative data stores. As in most states, the primary workforce data source is historical unemployment insurance (UI) wage records. These wage records are maintained for most wage and salary workers in the state and contain the worker's employer, industry, place of work, and quarterly earnings, using the SSN as the unique individual identifier. In addition, DOLWD collects an employee's occupation, one of only a handful of states to do so. This information presents a unique opportunity to match a student's program of study to the occupation they eventually pursue, a powerful tool to track the efficacy and outcomes of various training programs. DOLWD is also responsible for training, testing, and certifying GED recipients in Alaska, and shares data with DEED to identify those non-graduating secondary school students who go on to earn this equivalency certificate.

Preparatory Work to Date

To better prepare Alaska students to be successful in the twenty-first century workforce, state agencies have long understood that tracking student progression from the K-12 environment, through postsecondary into the workforce is a vital capability as a means to effectively measure the education pipeline's performance and the effectiveness of various programs and interventions. The proposed SLDS will take Alaska's long history of project-specific data linkages to the next level, formalizing agreements to persist over time and ensuring ongoing identification of policy questions and data measurement at levels of interest to policymakers, researchers, and the public.

ACPE first began work on policy questions in 2009 by hosting a multi-agency SLDS project scoping meeting in Anchorage, facilitated by Peter Ewell of NCHEMS and David Longanecker of WICHE and attended by Alaska stakeholders, including representatives from current partner agencies, research organizations, school districts, teacher outreach programs, and broader education stakeholders. This data summit began the process of gathering information and developing consensus on the need to develop a statewide longitudinal data system spanning three sectors: kindergarten through twelfth (K-12) grade, postsecondary education, and labor/employment. At that time, the group adopted the goal for Alaska to build capacity to respond to key public policy questions relating to the efficacy of its education and workforce training systems in preparing citizens to be successful in our economy and society. Those key questions that Alaska must be able to answer address graduation and dropout issues (who, and more important for dropout prevention, why), postsecondary preparedness (students' need for

remediation, increasing retention and graduation rates), measurement of the efficacy of intervention programs, and retention of completers to contribute to the state's economy.

Alaska's agencies concluded the next step was to obtain external expertise and examine where Alaska was in terms of its readiness to develop a larger P-20W SLDS project. Alaska further engaged WICHE and NCHEMS to conduct a landscape review of existing data systems to include the data elements maintained, how they are being used, and the degree to which information held by individual state agencies is shared among them. The results of the review confirmed Alaska's preparedness to move forward in expanding the SLDS to support transparency, accountability, and educational improvement, and set the stage for Alaska's 2009 SLDS grant application. Although that grant was not funded, Alaska continued to move toward linking education /workforce pipeline data by reconvening the primary data partners.

In 2010 ACPE facilitated a partners' retreat in Boulder, Colorado, with WICHE and NCHEMS' guidance, to further develop the SLDS plans. This two-day meeting was moderated by the presidents of the hosting organizations. Two SLDS State Support Team members, Jeff Sellers and Robin Taylor, also attended, sharing expertise on SLDS development and suggesting next steps for Alaska. One of the retreats many outcomes is Alaska's SLDS vision statement (see Boulder Outcomes Document in Appendix B). The vision statement articulates the system's purpose as "Facilitate the state's ability to describe the outcomes of its investments in the education system, both in aggregate and at the student's level, and to identify opportunities to improve it while protecting individual privacy." Other recommendations from the retreat included guiding policy questions the system could answer, governance structure, data security, system design, data providers and users identification, and data reporting. In addition a Memorandum of Agreement (MOA) among the four data partners was developed and approved at each agency (see APS MOA in Appendix B). The outcomes of that retreat have been invaluable in the SLDS planning process for Alaska.

In addition to these more recent SLDS-development collaborations, over the past decade Alaska has developed a strong history of collaboration through existing relationships with Alaska Native organizations and community organizations. CASHE (Coalition of Alaskans Supporting Higher Education), developed by ACPE, UA, and Native organizations, has demonstrated success in coalition building by attracting a Lumina grant to bring College Goal Sunday to Alaska. Another example is the Alaska Career Information System (AKCIS), an interactive Web-based career planning tool made available to Alaska school districts and the public at no charge through the collaboration of ACPE, DOLWD and DEED to share responsibility for development, deployment, and maintenance of this statewide career planning resource.

Finally, Alaska has refined the policy questions identified in 2009 to ensure they continue to express stakeholder needs. To that end, ACPE's Research and Analysis staff surveyed stakeholders to validate and prioritize policy questions, and to identify overlaps and any critical gaps. The results are summarized in the 2010 "Focusing Educational Research in Alaska" report (see Appendix B).

Current Data Linking: Alaska Performance Scholarship

While Alaska currently lacks a system linking data across agencies, other required reports and analyses have resulted in development of manual processes to link data from multiple sources. While these are labor and time-intensive processes, state agencies have taken the opportunity to develop a number of “proof of concept” efforts to better learn how well data link together and to identify any limitations in terms of moving forward with a set of “best practices” in matching records. For an example of one such data sharing project and the information it provided, see the article from Alaska Economic Trends, Tracking Alaska’s Students, in Appendix B.

A recent and notable need to share data relates to the Alaska Performance Scholarship (APS) mentioned earlier. APS is a 2011 program designed to positively influence the education culture in Alaska by incenting and rewarding students who complete a rigorous high school curriculum and meet certain grade and test score benchmarks with scholarships of up to \$4,755 per year for four years. The scholarship legislation required unit-level data sharing among DEED, ACPE, and UA to determine and track student scholarship eligibility, and to report on student outcomes. Data sharing protocols are in place and resulted in a successful program implementation; however, the protocols are highly manual, are limited to APS-related data, and are governed by time- and project-limited MOAs, underscoring the growing need for a robust SLDS with associated agreements.

Meeting Reporting Requirements

Although matching individual data at the K-12 and postsecondary levels in Alaska had been infrequent prior to APS implementation, there have been several projects linking educational data and workforce information. The America COMPETES requirements provide strong incentives to link K-12 and postsecondary data.

Alaska has already taken the next step to ensure K-12 and postsecondary data can be linked with workforce data. Through multiple Memoranda of Understanding (MOUs), DOLWD has accessed individual-level data from DEED and UA. These MOUs are separately negotiated between DOLWD and one or more other state agencies. Some have been in place for many years, while other MOUs are fresh and have little history. Originally, MOUs were developed to answer a discrete question or meet a specific reporting requirement. Recently developed MOUs have allowed for more open-ended arrangements without specific termination dates, although the parties retain the ability to unilaterally terminate the agreement at any time. Under these arrangements, DOLWD matches the other agencies' data to the Alaska Permanent Fund dividend (PFD) database (described in a later section) and with its own data (usually the UI database) to examine former students' experiences in the labor market. Match rates of resident students and workforce data are very high, generally exceeding 90%.

Although the very high match rates document successful linking outcomes, the process can be difficult and time consuming. DOLWD’s Research and Analysis data warehouse has documented its capacity to meet both DOLWD’s needs and the needs of partner organizations, relative to data matching projects (see Trends report in Appendix B). However, the limitations of the MOU structure may result in each match having to be treated like a separate project and additional requests relative to a specific request may result in the agreement having to be created anew. In addition, as these projects are developed on an “as needed” basis, they are not

standardized or automated. For example, different agencies may be involved in producing the data in different projects making it difficult to reproduce matches every time and thus provide comparable data over time and across reports. Alaska needs a system where these data can be linked together so standing reports exist to provide accurate, timely information about key education and career pipeline transitions to inform public policy and improve the education to employment processes.

To date, Alaska meets eight of the twelve elements identified in the America COMPETES Act (see Exhibit 1). While the state does have the ability to match student-level, K-12 and higher education data, to date this is achieved only through manual processes on an as-needed basis. Without a P-20W SLDS, this is considerably time and resource intensive and making it difficult to use the data because any changes or efforts to disaggregate it often require matching the records again to add the new data elements needed for analysis.

EXHIBIT 1. Alaska’s America COMPETES Act Results

Element Met?	Element
Yes	Statewide Student Identifier
Yes	Student-Level Enrollment Data
Yes	Student-Level Graduation and Dropout Data
Yes	Capacity to Communicate with Higher Education Data Systems
Yes	A State Data Audit System
Yes	Student-Level Test Data
Yes	Information on Untested Students
No	Statewide Teacher Identifier with a Teacher-Student Match
No	Student-Level Course Completion (Transcript) Data
Yes	Student-Level SAT, ACT, and Advanced Placement Exam Data
No	Information on Secondary to Postsecondary Transition, Including Remediation
No	Information on Alignment & Adequate Preparation for Postsecondary Success

Although the state’s 2009 grant request to complete the two outstanding elements was not funded, the state continues to move forward in these areas. The 2011 APS implementation extends progress towards meeting these four elements because the scholarship requires districts confirm a student completed a specific rigorous high school curriculum with a minimum GPA in order to be eligible. To date, initial multi-agency meetings among DEED, UA, and ACPE have been conducted to hear presentations on various electronic transcript collection products and to

discuss potential options to expand transcript data collection and analysis. In addition, the state will be collecting information in OASIS relative to student completion of the rigorous curriculum. Also relating to the new APS requirements, DEED has issued regulations defining the specific courses that meet the rigorous curriculum requirements, which is an essential step toward common definition across school districts. The outcome of initial discussions relative to teacher-student matching is that this goal would be most efficiently accomplished as a component of transcript data collection, to include teacher information associated with each course.

Included in the state law establishing APS is a provision for mandatory legislative reporting relative to the impacts of the scholarship on student performance both at the secondary and postsecondary levels. As with the reporting for America COMPETES, APS outcomes reporting is accomplished through a series of relatively cumbersome data match processes. While this activity has been positive in advancing the level of discussion around the reports' value for all stakeholders, it has also illustrated the inefficiency and inherent challenges of having to work outside of an interoperable P-20W SLDS environment.

Alaska Advisory Task Force on Higher Education & Career Readiness

Underscoring the heightened awareness of the need for, and importance of an Alaska SLDS is the April 2011 Final Report of the Alaska Advisory Task Force on Higher Education & Career Readiness (HECR), which included a specific recommendation that ACPE, DEED, DOLWD, and UA collaborate in development of a statewide longitudinal data system. The HECR task force was established by the Alaska Legislature in 2010 as a time-limited task force, charged with, among other things:

- Compiling research on reducing remediation, and improving retention and graduation rates;
- Identifying likely causes for inadequate readiness for college/career ; and
- Identifying best practices for increasing student readiness for college.

HECR members, representing legislative leaders, education leaders, and stakeholders statewide, convened in various venues around Alaska. The HECR heard from state and national subject-matter experts who presented on topics such as remediation, assessment, completion, and financial aid; as well as from members of the public who gave oral and written comment.

At the conclusion of the fact-finding and public testimony, the HECR developed recommendations to the Alaska Legislature in four focus areas: student success, career path guidance, strengthening schools, and predictable and sustainable funding. Key to the strengthening schools section was the recommendation the state develop a SLDS to inform development of action plans to ensure that every Alaska student completes high school with sufficient skills to enter the workforce or pursue a postsecondary course of study.

Permanent Fund Dividend (PFD) Database

Like other states, Alaska faces the problem of linking records across various databases without the benefit of a unique identifier (See Exhibit 2). Matching via the more common administrative records – driver's license, FAFSA submittals, data-to-data comparisons, etc. – is an option in Alaska. However, the Alaska PFD database provides a large, broader-based data repository to match records across Alaska's data systems with incompatible identifiers. The PFD Division is a

component unit of the Alaska Department of Revenue, charged with administering annual payment of the state's PFD to its citizens. The Permanent Fund was created in state law in 1976 to conserve a portion of the state's revenue from petroleum and mineral resources to benefit all generations of Alaskans, and annual fund dividends are paid to every resident of Alaska, regardless of age. To qualify for the PFD, Alaskans apply annually. The PFD database contains the name, date of birth, and address of every Alaskan who has ever applied for the dividend,¹² and SSNs for nearly all applicants. For the past 15 years the dividend has averaged well over \$1,000 per resident, so the incentive to apply is great. Also, because the state withholds 28% of the dividend for federal tax reporting if an applicant fails to supply a SSN, nearly all applicants include SSNs. Using data within the PFD database for matching disparate data sources enables Alaska to attain very high data matching rates, and allows Alaska to validate identifying information such as name and date of birth, and to attach an SSN to records that lack one. For example, while DEED does not collect SSNs, it does collect student names, birthdates, and information on the school the student attends. Matching those records with PFD data can then identify those students' SSNs, which can then be matched against the UI wage database.

Exhibit 2 contains the data elements effective in matching records across agencies. Not all data elements are captured for every agency database, but many contain these data elements at a minimum. Additional elements, such as previous names and mailing addresses, offer enhanced abilities to match datasets across agencies.

EXHIBIT 2. Primary Identifiers by Data Provider

Individual Identifiers	School Districts	DEED	UA	DOLWD	ACPE	PFD
SSN	No	No	Yes (with restrictions)	Yes	Yes	Yes
Agency-created Identifier	Locally created & OASIS #	OASIS #	UA Student ID	No	No	No
Name	Yes	Yes	Yes	No	Yes	Yes
Date of Birth	Yes	Yes	Yes	No	Yes	Yes
Location/Address ID	Mailing, School	School	Mailing, School	Work	Mailing, School	Mailing, Physical

Project Sustainability and Funding

As a functional responsibility of the agency whose operations are funded by ASLC, the Alaska SLDS will be housed and maintained at ACPE. ASLC, a public corporation and enterprise instrumentality of the State of Alaska, funds ACPE's programs through tax-exempt bond sales. It has a legal existence independent of the state and is governed by its own Board of Directors. SLDS operational costs will include sustainability funding for the Alaska SLDS after the grant ends, including costs of necessary hardware, software maintenance, and staff.

¹² To be eligible to receive the dividend, a person needs only to have been an Alaska resident as of January 1st of the dividend year, and maintained their residency for that calendar year with the intent of remaining an Alaska resident. Children born to or adopted by qualifying residents during the year are also eligible, as are resident aliens, and aliens granted refugee or asylee status.

Beginning in 2007, ACPE recognized the urgent need for an Alaska SLDS and began to plan for its development, including identifying costs and options to develop the infrastructure at a sustainable pace. Award of a grant under the 2011 RFA would significantly strengthen and accelerate ACPE's initiative. ACPE will continue to include in its budget planning the expansion of its Research and Analysis and Information Technology funding to support the Alaska SLDS into the future. The SLDS is considered a mission-critical component relevant to supporting access and success in postsecondary education for Alaskans. This funding is independent from State of Alaska general funds, allowing the SLDS to continue after the grant period without being forced to identify other funding sources—stability critical to the SLDS' long-term success.

Beyond the funding component, true SLDS sustainability requires commitment by state leadership. Alaska is poised to aggressively continue its development. On December 5, 2011, Alaska Governor Sean Parnell created the Education Data Sharing (EDS) Policy under Administrative Order 261 (see AO in Appendix B). Implementation of the EDS Policy will better leverage and build upon existing state statutes, which allow data linking and sharing across agencies, to not only permit but direct DEED, DOLWD, and ACPE to share data across agencies to improve education and workforce outcomes and assign responsibility to these agencies to manage the process. This process for bringing together individual-level data to better inform policymaking and evaluate state programs is the responsibility of the EDS policy team – which is composed of leaders from the three primary state agencies and chaired by ACPE's Executive Director.

Alaska's Critical Policy Questions

With the participation of a broad array of stakeholders, Alaska's leadership has identified a number of key policy questions, beyond the legislatively mandated APS report referenced earlier, to answer once access to linked data across the agencies is developed. Each of the following nine critical policy questions falls into a separate research area and has associated research questions. Utilizing a linked system, reports will be developed to fulfill these data needs as summarized in the table following these descriptions. Report frequency will be determined based on timing of data updates and information needs.

1) How many and which students are progressing through an education program/system to achieve college, workforce, and life readiness? Related data include: performance on periodic assessments, high school completion rates, college-going rates, remediation rates, credential achievement rates, workforce participation rates, and wage and industry information.

This is a comprehensive query which, when the capabilities are in place, will allow for many sub-queries arising from this initial data set. By incorporating the elements needed to respond to this query, linking the data will enable Alaska to examine student progress and outcomes over time, including students' preparation to meet the demands of postsecondary education and the twenty-first century workforce. To achieve this analytical capability Alaska must facilitate and enable data exchange among agencies and institutions within the state, as well as conduct analyses for policy purposes using these data. As a result, Alaska will be able to follow student progression through the education pipeline, distinguishing between successful program areas and

strategies and those which need improvement. Student progression will also be followed through academic completion, via degree, certificate or diploma, and into the workforce. Interest areas addressed by this question include: 1) graduation and dropout issues, 2) postsecondary preparedness, 3) measurement of the efficacy of intervention programs, and 4) workforce readiness and participation.

2) What are the migration rates and patterns for Alaskans accessing postsecondary programs outside of Alaska and subsequently returning to Alaska? Related data include: credential achievement rates, workforce participation rates, wage record information.

The approach to measuring related outcomes will start with a cohort of high school graduates, using resources such as the National Student Clearinghouse to track students who leave the state for postsecondary education. They will be monitored through the use of PFD data to determine if they return to the state, and, by using DOLWD wage record data, whether they are subsequently employed in the state. Additional characteristics will be associated with the students, such as those receiving financial aid grants or participating in peer mentoring programs, to enable tracking of specific outcomes for these student subgroups. Interest areas addressed by this question include: the relationship of out-of-state college attendance relative to the ability to retain human resource capital to support the state's economy.

3) Of those Alaskans who participated in and exited Alaska secondary or postsecondary institutions without credentials, how many are within three or fewer semesters to completion and what are their employment statuses and incomes? Related data include: secondary and postsecondary enrollment and exit data, workforce participation rates, wage record information, and rates of employment relative to field of study/training.

An examination of this subset of students' characteristics will produce information which, when common characteristics are identified, can be used predictively by institutions or other entities seeking to develop strategies and interventions to mitigate unsuccessful behavior in the student populations. Linking employment and wage data to "early exiters" and "nearly completers" will help demonstrate the ramifications of exiting school before the successful completion of a diploma, certificate, or degree program. Interest areas addressed by this question include: 1) graduation and dropout rates, and patterns, 2) postsecondary preparedness, and 3) measurement of the efficacy of intervention programs.

4) Of those Alaskans who receive education services from Alaska secondary and postsecondary institutions, how many remain in the state and contribute to the economy? Related data include: secondary and postsecondary enrollment and completion data, workforce participation rates, wage record information, and rates of employment relative to field of study/training.

This analysis will be cohort-based, following the cohort through Alaska's education system and subsequently into the workforce. This analysis will also play a role in identifying what happens to Alaska's students who drop out of the K-12 system, by identifying whether they complete GEDs or complete their educations through alternative means. Interest areas addressed by this

question include: 1) postsecondary preparedness, 2) measurement of the efficacy of intervention programs, and 3) retention of completers in the state to contribute to the state's economy.

5) What is the impact of financial aid on college access and success? Related data include: education loan utilization, scholarship and grant utilization, interventions, socioeconomic factors, credential achievement rates, time-to-degree information, workforce participation rates, wage record information, and rates of employment relative to field of study/training.

This effort will be cohort-based, monitoring and reviewing high school graduates, and distinguishing those who receive financial aid from those who do not to measure what impact these factors may have on postsecondary persistence and completion. Identifying differences in population persistence and completion behaviors based on amount, type, and timing of financial aid will enable the state to design efficient interventions and assistance programs and allocate state resources to maximize desired outcomes. Interest areas addressed by this question include: 1) graduation and dropout issues, 2) postsecondary preparedness, 3) measurement of the efficacy of intervention programs, 4) equity in access to postsecondary education, and 5) retention of completers in the state to contribute to the state's economy.

6) How effective are specific interventions and strategies to increase the rate at which students/citizens, particularly those from low income families, progress through an education program/system to achieve college, workforce, and life readiness? Related data, specific to intervention/strategy participants, include: interventions, performance on periodic assessments, high school completion rates, high school course-taking patterns, socioeconomic, education loan utilization, scholarship and grant utilization, college-going rates, remediation rates, credential achievement rates, workforce participation rates, and wage record information.

Expanding the amount of program data collected by the Alaska SLDS, especially exceptional student educational data and free/reduced priced lunch data, will facilitate the state's ability to evaluate its responsiveness to the student population as a whole related to varying interventions. Additionally, it will enable reviewers and others to drill down into the detail relating to specific program areas. The resulting information will enable the state to identify the most effective use of limited targeted program funds relative to the impact of those programs in effecting specific state goals for specific populations. For example, are interventions and programs utilized at the same rate, and do they result in the same outcomes, for low-income students, as compared to the universe of program participants? Interest areas addressed by this question include: 1) graduation and dropout issues, 2) postsecondary preparedness, 3) measure the efficacy of intervention programs, 4) equity in access to postsecondary education, and 5) keeping completers in the state to contribute to the state's economy.

7) How do Alaska's postsecondary institutions' educational program productivity and capacity align with Alaska's current and anticipated workforce needs? Related data include: credential achievement rates, workforce participation rates, programs of study, occupation data, teacher certification, district personnel data, and wage record information

An initial focus of this question is to analyze teacher preparation programs' effectiveness in producing an adequately trained teacher workforce. Results from this type of evaluation will not be limited to teacher preparation programs, but will also include other disciplines, such as nursing and engineering, and the programs' ability to produce a prepared workforce to be responsive to Alaska's workforce needs. This effort will not only require postsecondary completion data and workforce participation rates, but also K-12 educator data. An interest area addressed by this question: retention of completers in the state to contribute to the state's economy.

8) What is the private/public return on private/public investment in education?

Related data include: education loan utilization, scholarship and grant utilization, interventions, socioeconomic, credential achievement rates, workforce participation rates, and wage record information.

One measure for this question will take the average funds allocated per student and calculate a Return on Investment (ROI) based on the number of students completing high school with a standard diploma. Another measure is residents' hire rates by industry and their wages, in total and as compared to nonresident workers. The resulting analysis will require evaluating how many students complete high school and are subsequently employed in the state, as compared to the amount of state funds supporting the education system by student. Another measure may be calculated by examining completion or other success rates for populations receiving a specified intervention, or participating in a program of interest and comparing that success rate to the general population to determine if the intervention or program produces the intended results. Modifications or enhancements to the intervention strategies can then be implemented, further improving success rates. This analysis can also benefit from the unique aspect of Alaska's workforce data which includes not only industry data, but occupation information as well. Interest areas addressed by this question include: 1) graduation and dropout issues, 2) postsecondary preparedness, 3) measurement of the efficacy of intervention programs, 4) equity in access to postsecondary education, and 5) retention of completers in the state to contribute to the state's economy.

9) How does Alaska attract and retain the best teachers? Related teacher data include: credentials, participation in mentoring or support programs, certification, standardized exam scores, turnover and exit rates, and demographic information.

This query will extend the work described in policy question #7. It will include a cohort-based study beginning with simple comparisons that identify teachers of record who graduated during a recent block of time and identifying where they received their certification and teaching credentials. By linking K-12 teacher certification data, UA teaching program and placement data, DOLWD employment data, and NSC data, interest areas addressed by this question include: 1) teacher turnover and exit rates, 2) teacher migration, 3) teacher performance differentiated by education program, and 4) teacher longevity differentiated by education program.

Using Data to Inform Policy

The answer to a single research or policy question normally requires data sharing among several agencies, but that answer can be important to many different stakeholders and may be included in several different feedback reports. Exhibit 3 provides examples of the types of research

questions appropriate to Alaska’s policy questions, the partnering agencies needed to supply the data to answer the questions, and the feedback reports in which the answers would be included. The following abbreviations are used to identify the sources of the required data and the feedback reports in which the results of the analysis will be included.

KEY	Data Sources
DEED	AK Dept. of Education & Early Development
UA	University of Alaska System
CTP	Alaska Career, Technical and Private Schools
DOLWD	AK Dept. of Labor & Workforce Development
ACPE	AK Commission on Postsecondary Education
NSC	National Student Clearinghouse
PFD	Permanent Fund Dividend

KEY	Feedback Reports
HS	High School Feedback Reports
PS	Postsecondary Feedback Reports
EMP	Employment Outcomes for Graduates and Dropouts
CR	Career Readiness and Job Placement Reports
FA	Financial Aid Impact Reports
EM	Education Migration Reports
LM	Labor Migration Reports
EPL	Education Pipeline Loss Report
LPL	Labor Pipeline Loss Report
ROI	Return On Investment for Interventions

EXHIBIT 3.

Policy Questions, Examples of Related Research Questions, Data Sources and Inclusion in Feedback Reports	Data Sources	Example Feedback Reports
1. How many and which students are progressing through an education program/system to achieve college, workforce, and life readiness?		
How many students graduated from high school and pursued postsecondary education within two years of graduating?	DEED UA NSC CTP	HS PS ROI EPL
How many students pursuing postsecondary studies are attending full time?	UA NSC CTP	PS ROI EPL
Of those pursuing postsecondary education, how many dropped out after one year? After two years? Before completing their program?	UA NSC CTP	HS PS ROI EPL CR
Were students who pursued a career in their field of study less likely to experience periods of involuntary unemployment compared to students taking an unrelated job?	UA NSC CTP DOLWD	HS PS EMP ROI LPL CR
2. What are the migration rates and outcomes for Alaskans attending postsecondary programs outside of Alaska and subsequently returning to Alaska?		
How many Alaska high school graduates and GED completers pursue postsecondary studies outside of Alaska?	DEED DOLWD	HS PS EM LM EPL

	UA NSC	
Are students pursuing their education in Alaska more or less likely to complete their degree or certificate?	DEED UA NSC	HS PS ROI EPL
Of those pursuing studies outside the state, how many eventually return?	DEED NSC DOLWD PFD	HS PS ROI EM LM EPL LPL
Does the existence of Alaska's financial aid programs increase the number of students who attend school in Alaska? Who complete their program of study?	DEED UA CTP	HS PS ROI FA EM EPL CR
3. Of those Alaskans who participated in and exited Alaska secondary or postsecondary institutions without credentials, how many are within three or fewer semesters to completion and what are their employment status and income?		
How did the wages of high school graduates who went on to complete a degree or certificate program compare to those who did not pursue postsecondary education? To those who dropped out?	DOLWD UA NSC CTP DEED	HS PS EMP ROI EPL LPL CR
For both dropouts and graduates in secondary and postsecondary, in which occupations were these students most likely to be employed? In which industries?	DEED UA NSC DOLWD	HS PS EMP ROI LM EPL LPL CR
How many Alaska secondary students failed to graduate, but obtained a GED in Alaska within two years of their expected graduation year?	DEED DOLWD	HS EPL LPL
4. Of those Alaskans who receive education services from Alaska secondary and postsecondary institutions, how many remain in the state and contribute to the economy?		
Do teachers who received Alaska subsidized loans, particularly those focused towards the profession, exhibit different retention and turnover patterns than those teachers who did not receive these loans?	ACPE UA NSC DEED	HS PS EMP ROI FA EM EPL LPL
Do students returning after pursuing out-of-state postsecondary education make higher wages than those pursuing postsecondary education in Alaska? How many find employment in Alaska, and how does this compare to students pursuing postsecondary studies in state?	NSC PFD DOLWD UA CTP	HS PS EMP ROI EM LM EPL LPL CR
Were degree/certificate completers less likely to experience periods of involuntary unemployment compared to students not pursuing postsecondary education?	UA NSC CTP DOLWD DEED	HS PS EMP ROI LPL CR
5. What is the impact of financial aid on college access and success?		

Does the existence of Alaska's financial aid programs increase the number of students who take standardized tests (SAT/ACT/WorkKeys) to pursue a postsecondary education? Who fills out a FAFSA?	ACPE DEED	HS PS ROI FA EPL CR
Are postsecondary students receiving financial assistance more likely to attend school full time?	ACPE UA CTP NSC	ROI FA
Are postsecondary students receiving financial assistance less likely to work while attending school?	ACPE DOLWD	PS EMP ROI FA LPL
6. How effective are specific interventions and strategies to increase the rate at which students/citizens, particularly those from low-income families, progress through an education program/system to achieve college, workforce, and life readiness?		
How many remedial credit hours were taken by first-year post-secondary students? How many and what percentage of students required remedial classes?	DEED UA CTP	HS PS ROI
Are there socioeconomic or demographic differences among secondary students who qualify for and receive Alaska's performance-based scholarship? Alaska's needs-based grant?	DEED ACPE UA CTP	HS ROI FA
When student outcomes differed, were there differences in the attributes of those students?	DEED ACPE UA CTP NSC	HS PS EMP ROI EPL
7. How do Alaska's postsecondary institutions' educational program productivity and capacity align with Alaska's current and anticipated workforce needs?		
Of those pursuing postsecondary education, how many obtained their degree or certificate?	DEED UA CTP NSC	HS PS ROI EPL CR
How many Alaska secondary students were eventually employed in an occupation requiring licensure or certification?	DEED DOLWD	HS PS EMP LM LPL CR
Of the teachers teaching in Alaska, how many attended K-12 in the state? Resided in AK before beginning teaching? Do these teachers have higher retention/less turnover than those who didn't?	DEED PFD DOLWD	HS PS EMP ROI EM LM EPL LPL CR
8. What is the private/public return on private/public investment in education?		
What percentage of high-school graduates pursued postsecondary education? At what level? (Certificate, AA, BA, etc.)	EED UA CTP NSC	HS PS ROI EPL
How many Alaskans who earned a GED went on to pursue postsecondary education?	DEED DOLWD UA CTP NSC	HS EPL

Of those pursuing postsecondary education, how many filled an occupation that was aligned with their postsecondary program of study? Was that program of study available in Alaska? Was that program of study or occupation targeted by a financial aid program?	DEED UA CTP NSC DOLWD ACPE	PS EMP ROI FA EM LM EPL LPL CR
9. How does Alaska attract and retain teachers?		
What are the turnover and exit rates for teachers? Do certain districts have higher rates than others?	DEED DOLWD	HS PS EMP EM LM LPL CR
When teachers stop teaching in Alaska, how many move out of state? Remain employed in Alaska in a different occupation? Remain employed as teachers in a non-public school?	DEED PFD DOLD	HS PS EMP EM LM LPL
Do teachers trained in other states have higher turnover and/or exit rates than those trained in Alaska?	DEED DOLWD	HS PS EMP LM LPL CR

B) DELIVERABLES

Deliverable 1. Project Planning and Preparation

Key to Alaska's success in complex, multi-agency initiatives has been strong project management, emphasizing proper scoping, planning, and preparation. In preparation for creation of a statewide SLDS, Alaska's agencies have already begun tasks necessary to a strong project management structure and successful SLDS, including creating a governance structure, evaluating existing data systems, developing cross-agency record matching processes, and identifying critical questions the SLDS can be used to answer. The Alaska partner agencies have already mapped out the project planning and preparation stage of the SLDS project to ensure the system meets stakeholders' expectations within all time, data, and budget constraints. This first deliverable will formalize that mapping and ensure ongoing project management through the completion of the SLDS project.

1.1 Overall Project Plan

In order to ensure overarching management of all the project pieces, with special emphasis on appropriate scoping, critical path identification, business needs, and resource management so the system will meet stakeholder needs, Alaska proposes to identify and hire a consultant to facilitate the development of the project plan, general requirements, and framework.

1.2 Project Mission Statement and Project Methodology

Aided by the consultant, agency staff will build on the 2010 Alaska data summit vision statement to create a project mission statement, which will guide development of a project methodology plan describing the roles and responsibilities of the agencies and project staff and high level requirements for the project. This mission statement and project methodology will guide the entire project. Alaska will additionally work with the consultant to identify the best specific methodology for this project and ensure all project team members are fully trained on that

methodology. Any methodology must, at a minimum, adhere to ACPE's summary standards for project methodology (see ACPE Project Methodology Summary in Appendix B).

1.3 Develop and Deploy Governance Structure

Realizing project governance is a critical element, Alaska has done a great deal of preliminary work on developing a governance structure for the SLDS. Based on the 2010 work with Alaska stakeholders and WICHE and NCHEMS staff, the project design calls for a two-tiered structure. One is an executive level to set policy, determine research agendas, review requests for special projects using the SLDS data, and determine the scope of permitted reporting. The second is a data stewards governance level which coordinates with technical resources and stakeholders, makes certain data are accurate, and coordinates the updating and maintenance of the database. In this phase of the project this governance structure will be fleshed out and presented for approval to the stakeholders of the system and ultimately implemented. The data stewards' activities will be coordinated by the SLDS Project Management Office (PMO), whose responsibilities will include ensuring:

- meetings are regularly scheduled and attended,
- issues are appropriately and timely referred to the executive body as needed,
- stakeholder input mechanisms are regularly and actively deployed,
- research agendas are fully and compliantly implemented,
- annual independent third-party reviews of SLDS activities are conducted and reported to stakeholders, and
- appropriate change management documentation and controls are used.

1.4 Validate and Prioritize Critical Policy Questions

The initial set of critical policy questions will be vetted and reviewed with a variety of stakeholders ranging from the administration and legislature to individual teachers and parents. The vetting process will be managed and documented with the assistance of the project consultant, and conducted through surveys, a series of interviews, focus groups, and expert review to ensure the final versions of questions represent the most important questions to guide system development.

1.5 Analysis of State and Agency Needs for Reporting

The PMO will consult with stakeholders at every level to identify data needs for state, federal and other reporting. Following identification of reporting needs, detailed analyses will occur to identify appropriate data elements, proxies if needed, and data availability and the ability to meet reporting needs. The outcome of this sub-deliverable will be a detailed document re-circulated to stakeholders and ultimately submitted to the executive governance body for approval. Mechanisms to solicit input both in the development of the analysis and resulting document will include face-to-face interviews with agency staff and related stakeholders.

1.6 Identify Business and Technical Requirements

Once the preliminary planning process is completed a planning retreat will be held for partner agency staff and stakeholders to identify critical business and technical requirements in terms of system capabilities, access, and security requirements. The retreat product will be a system requirements document to drive development of the Alaska SLDS. One of the main technical

requirements document objectives will be to identify all regulatory requirements of the various agencies providing data to the SLDS and describe the compliance methodology or structure. Examples of such regulations may include FERPA, HIPAA, WRIS reporting requirements, and state and federal regulations regarding the release of wage and unemployment insurance records. This process will also include developing such business requirements as role-based access to SLDS data and similar essential security structures.

1.7 Analysis of Existing Data Systems

Another preparation step is to analyze the existing data systems that will feed the Alaska SLDS. This will include analysis to determine data quality, limitations and availability issues. The analysis will consist of profiling data from each of the current data systems to be included in the Alaska SLDS and identifying the data elements needed to answer the policy questions. If any data are not available, a determination will be made as to whether the data can be gathered in future data reporting. Documenting data in each system, compiling a data dictionary, and mapping the data model will be critical to developers and business analysts in understanding data that will populate the system and the timing for data gathering from each entity. This analysis will also continue the work begun in 1.5 to allow Alaska to evaluate data quality and constraints to determine which data elements should be included and where data quality could be improved. A key component will be to determine which data elements can be used to match across data systems. Once this data analysis is complete, a gap analysis of available data can be conducted. This will allow Alaska to fully evaluate its data needs to answer the guiding policy questions, identify data availability, and resolve any issues and establish priorities for including data within the system. Finally, alignment with the U.S. Department of Education's Common Education Data Standards (CEDS) across different sectors in Alaska as the state builds an integrated data warehouse will be critical, especially relative to potential future participation in multi-state initiatives or regional compacts.

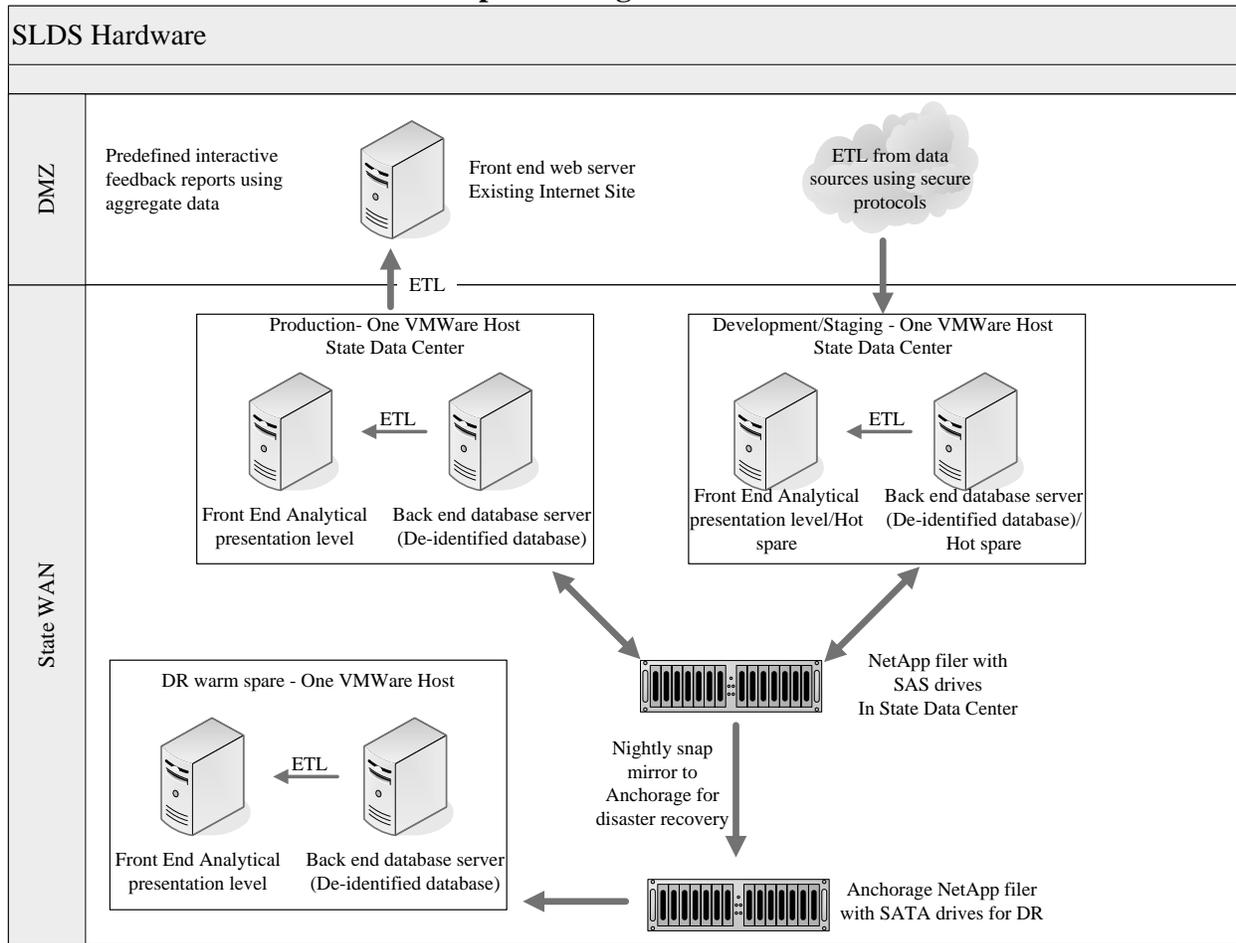
1.8 Develop Data Models for the SLDS

The next step in the project planning and preparation will be to develop data model options for the Alaska SLDS. Alaska will identify and secure external expertise in SLDS technical specifications to assist with the creation of the overall data model. The data architect, and agencies' research and technical teams will meet to discuss options, keys to link the data structures together, to catalog and define key metrics, and to develop an inventory of files and lookup tables needed. The product of these meetings will be design of the primary database and related data linkages.

Deliverable 2. Hardware Infrastructure

Alaska technical staff have conceptualized a hardware infrastructure for the SLDS robust enough to meet the expected demands upon the system, yet flexible enough to allow for future enhancements and expansion. It is understood this infrastructure may change during the planning phase as more information is gathered. This conceptual infrastructure, however, allows staff to estimate the hardware and software costs expected to be required. Exhibit 4 illustrates the current infrastructure concept.

EXHIBIT 4. Infrastructure Conceptual Design



2.1 Procure, Install and Test Server Hardware and Software

The first step in developing the SLDS infrastructure will be to establish the hardware and software platform according to the technical requirements of the project. The current design plan and budget includes three servers, operating systems, database software, development software and any other software deemed necessary to make the Alaska SLDS a reality. The hardware and software will be purchased under State of Alaska procurement policy, using various educational discounts to reduce costs. The final decision regarding servers and software will be made by the agencies' technical staff at the conclusion of the technical requirements process. Exhibit 4 illustrates use of a virtual server environment, providing redundancy with development and disaster recovery servers in the case of a production hardware failure or other disaster.

2.2 Procure, Install and Test the Networked Data Storage

A data system of this size and importance needs a large amount of storage space. A sufficient amount of secure networked data storage will be created to support the project. This will be the responsibility of the technical staff assigned to this project. As illustrated, the plan is to have two storage devices located in separate locations, allowing a nightly snap mirror of the data for disaster recovery purposes.

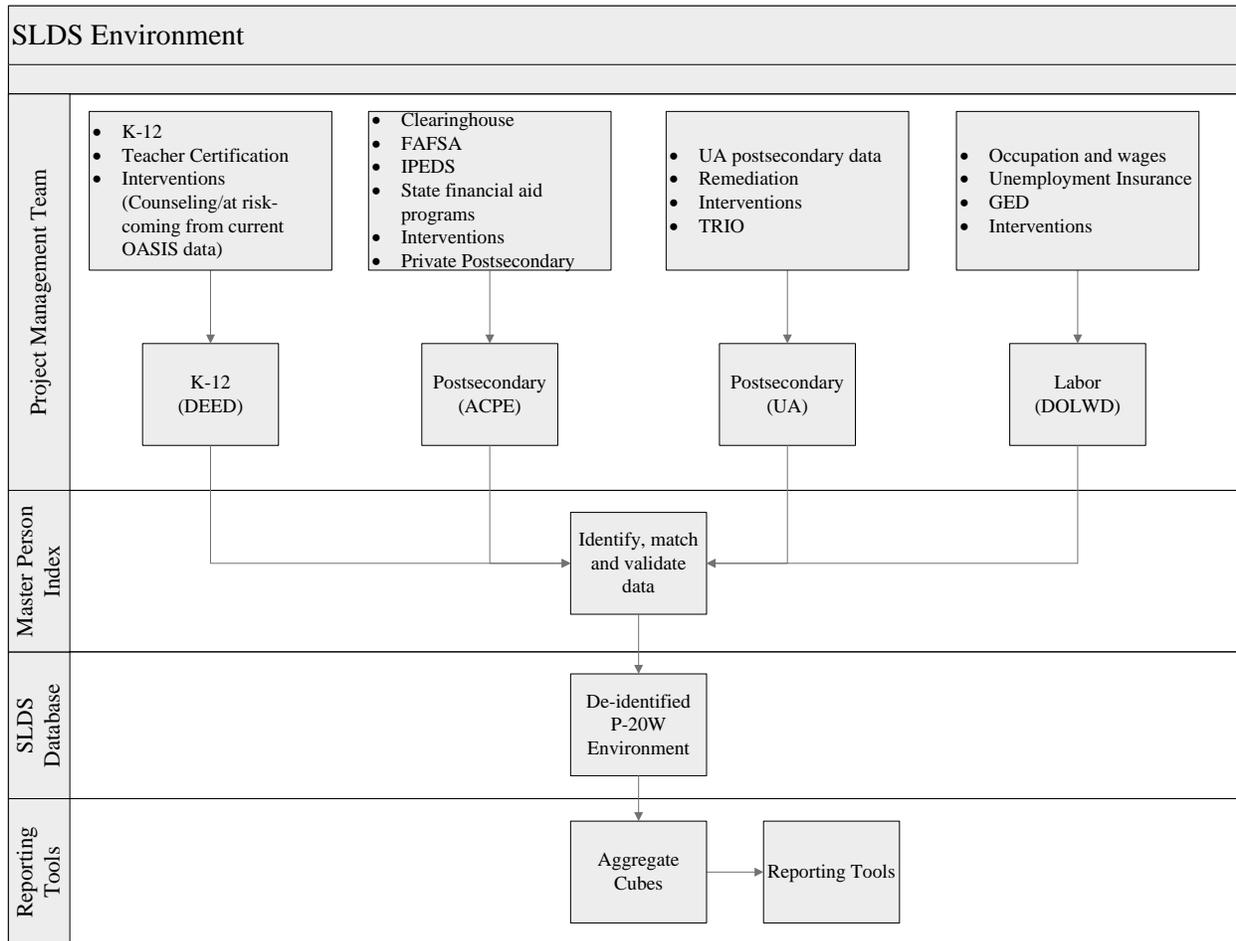
2.3 Install and Test Backup and Disaster Recovery Solution

Given the importance of the data residing in the Alaska SLDS a well-developed backup system is essential. The hardware and software to support the backup and disaster recovery requirements in the technical requirements document will be created by the technical staff assigned to this project. This backup solution will be built not only to accommodate the immediate needs of the Alaska SLDS but also to provide capacity for future growth.

Deliverable 3. Development

The development phase of the SLDS project is the most time consuming, in which all prior planning efforts are realized. Throughout this process a formal project methodology will be utilized as discussed in deliverable 1.2 to ensure project deliverables, dependencies, and critical paths are identified and tracked. Emphasis will be placed on data security, data availability, and system performance, as well as the interaction between data sources. Exhibit 5 illustrates the envisioned system processes that will make up the Alaska SLDS. Specifically, each of the four data providers will provide snapshot data to the PMO, which will identify, match, and validate data. The types of data from each provider are listed above the provider name. At the PMO, matched data will be assigned a P-20W SLDS identification number and be stripped of all other individually identifiable data. The de-identified data will be loaded into the SLDS following appropriate data validity and integrity tests as developed during the ETL project phase, and the original snapshot files will be destroyed.

EXHIBIT 5. SLDS Processes



3.1 Create Extract, Transform and Load (ETL) Processes

The first step in the development process is to create Extract, Transform and Load (ETL) processes to integrate snapshots of data from the current agency data systems into the SLDS. These ETL processes will be specific to each contributing agency. As agency data files are loaded into the system, cross-walk tables will be created that allow data to enter the system in multiple formats and be transformed into the formats described in the CEDS to ensure future opportunity to pursue data sharing potentials with other states, including the multi-state data project being developed in cooperation with WICHE.

3.2 Create a Master Person Index (MPI) Record Matching Process

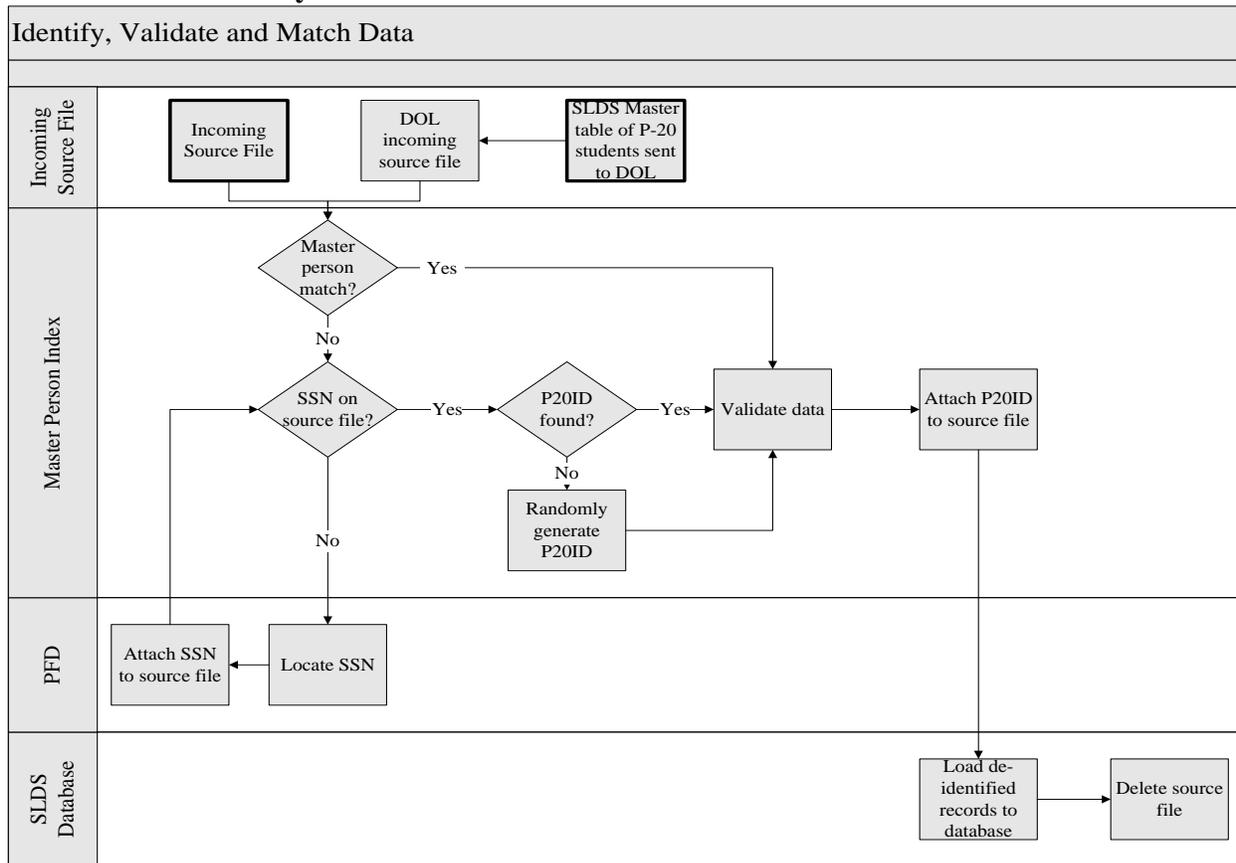
Technical staff will work with a security expert to build a secure and sequestered Master Person Index (MPI) process, incorporating custom matching algorithms and processes for matching individual records within the system and assigning unique P20 Identification Numbers (P20IDs) to individuals new to the system, or existing P20IDs to data from individuals already within the system. The process will include applications which facilitate the review of possible record matches by analysts in the event of partial matching criteria but below a defined minimum threshold to confirm a match within the MPI. The files agencies provide with identifiable data will be encrypted prior to transfer and transferred through a secure protocol. The personally identifiable information (PII) from these files will reside in the MPI, which will be maintained on

a separate secure hardware infrastructure from the P-20W SLDS to further limit access to the data. These files are used only for the matching process. Once data are de-identified and the PII moved to the MPI, the original files from the data providers will be destroyed. Exhibit 6 illustrates this process.

3.3 Create and Populate the Database Environments

The final outcome in the development phase is the creation of the SLDS database environments. A staging environment where incoming data can be analyzed for data quality issues prior to final loading into the SLDS will be included in this process for individual agency use. This staging environment will provide data audit or edit reports to the agencies to review for final approval (See Exhibit 6). In addition, technical staff will develop the unified P-20W database environment where data are brought together from all of the sources that can be linked together via the P20ID. Once the database environments are created, data will be processed through the ETL and MPI linking process and populate data tables so they can be tested and used for analysis and report writing.

EXHIBIT 6. SLDS System Processes



Deliverable 4. Data Reporting

To realize benefits from the costs and efforts required to build a SLDS, the information it contains must be accessible, understandable and accurate. However, these attributes mean different things to different people, depending on their needs and their experience working with data. For that reason, Alaskans and approved researchers will have several levels of access to

reports and data through its SLDS. The following diagrams illustrate the conceptual levels of access that Alaska intends the SLDS to provide. Alaska envisions three ways of accessing data from the SLDS based on users' roles and access levels (See Exhibit 7).

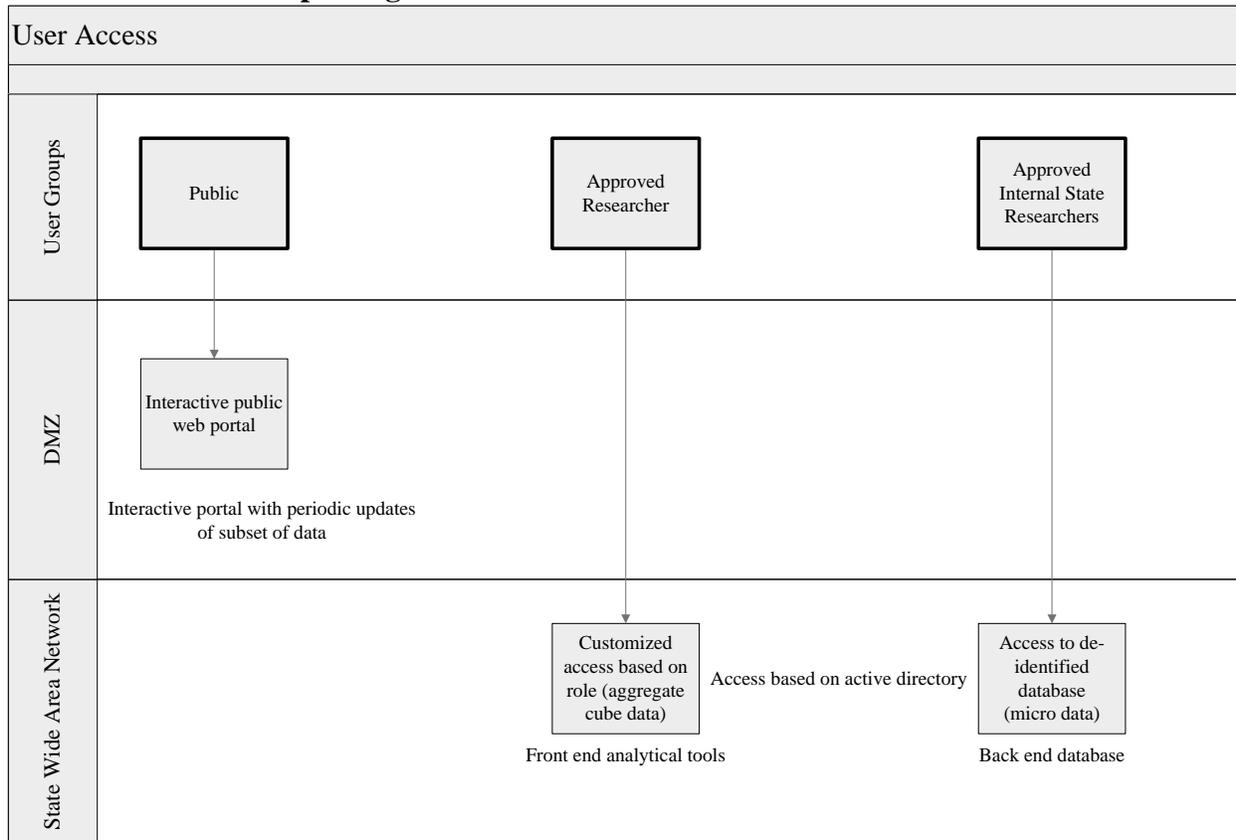
The majority of SLDS access will be via an interactive web portal. The general public will be able to access pre-defined interactive reports using aggregate data updated on a scheduled, standardized basis. The portal will be housed separately from the actual SLDS and will contain only data stripped of all PII and aggregated to levels that prevent the ability to infer information about an individual. This level maximizes data accessibility, and generates reports accompanied by narrative and graphic presentations of these data in order to ensure users understand its meaning, while maintaining confidentiality through de-identification and aggregation of the underlying data.

The second method of data access is for researchers who have presented a specific research project that requires the use of SLDS data and is approved by the Executive Governing Board. This level of access allows the researcher to log in to a system and use front end analytical tools to perform queries on de-identified data under the guidance of SLDS staff and from within the state's Wide Area Network. This level allows for more granular analysis of data contained in the SLDS, and provides researchers the ability to create special reports not available through the interactive portal, while maintaining data security thorough de-identification of the underlying data and staff monitoring. The results of the research using SLDS data must be vetted in a SLDS governance group review process to ensure compliance with all data privacy requirements prior to publication.

The third method of access is for approved internal state researchers, normally staff of a partnering agency. This access level requires the researcher to coordinate with SLDS staff to gain access to the de-identified unit record database for specific purposes. This type of access will be carefully monitored and controlled by SLDS staff, and research proposals will require approval of the Executive Governing Board.

This multi-level approach to access to reports and data housed within the Alaska SLDS will allow robust feedback to stakeholders. For the first time, all Alaskans will have access to de-identified aggregated information unavailable to them prior to this project through the secure public web portal, while more detailed research and analysis will be possible under the auspices and protection of the SLDS governance board. Exhibit 8 illustrates the data feedback expected once the system is operational.

EXHIBIT 7. Data Reporting and User Access



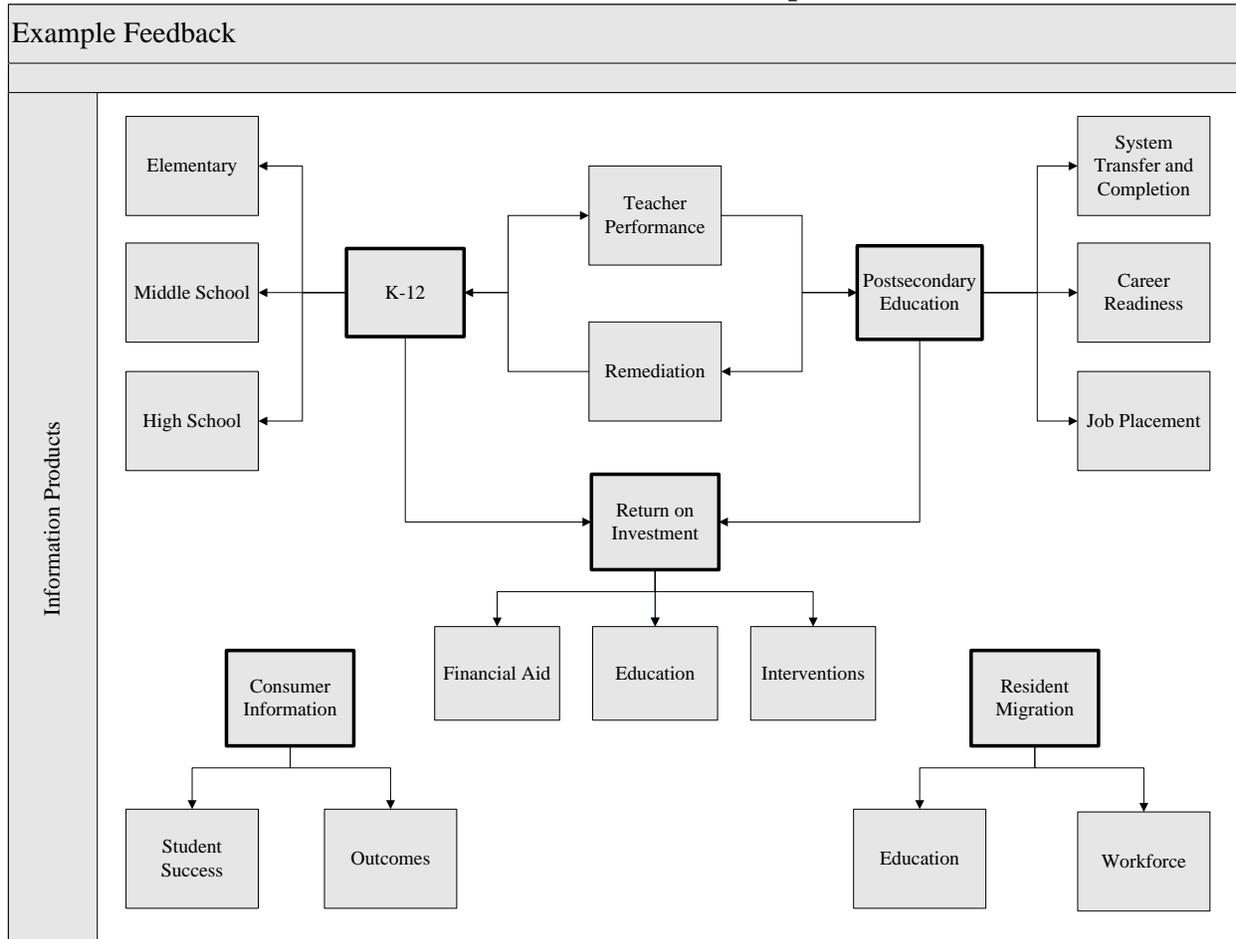
4.1 Determination and Development of Required Reports

Through discussions with and input solicitation from stakeholders, consultants, research partnering agencies and the SLDS governing boards, and using Alaska's existing critical policy questions as a starting point, the content and scope of the SLDS reporting instruments will be determined. From these efforts, and using current best reporting practices from other states operating a SLDS, Alaska will design the various feedback reports. Feedback reports will be designed to meet the needs of specific target audiences, including their area(s) of concern with regards to education and workforce outcomes, and their need for detail. Such reports will be incorporated into a SLDS reporting library, allowing for efficient information updating. For more detailed reporting needs, application code will be created and maintained so that internal researchers can retrieve and edit it to run more ad hoc queries.

4.2 Deployment of a Reporting Platform

Alaska will deploy a reporting platform accessible to authorized research level users. This platform will allow researchers to build their own queries on the SLDS data through a graphical point-and-click interface. They will be able to access only data which have been de-identified (i.e., all PII removed). Alaska intends to use existing hardware to run this system but, if needed, is prepared to expand its hardware infrastructure. The technical staff associated with the Alaska SLDS will determine the software to be used and will install that platform as well as make any user software applications available to authorized users.

EXHIBIT 8. SLDS Feedback Information Product Examples

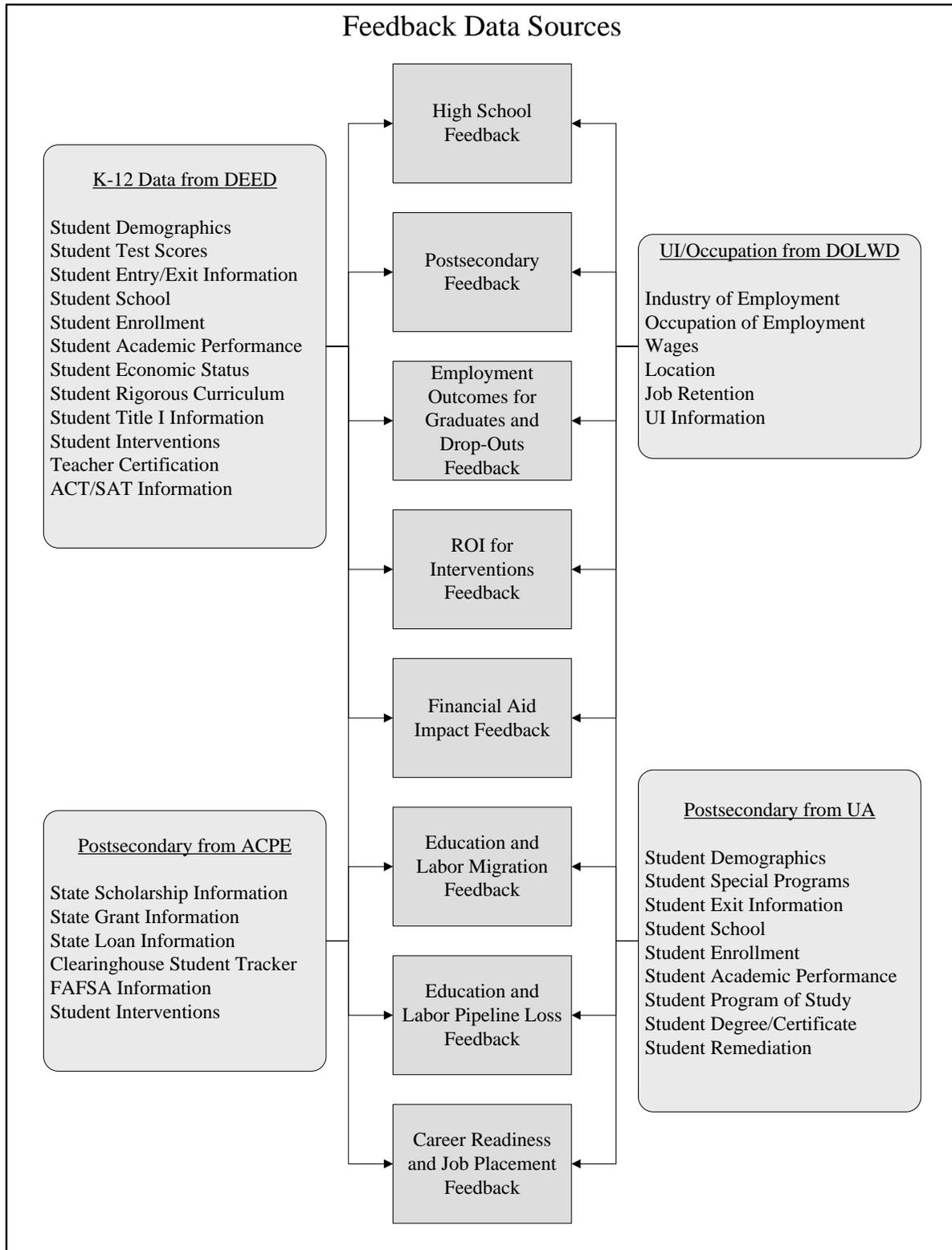


4.3 Creation of a Data Portal

Alaska will create a data portal to house reports and information products related to P-20W issues and initiatives. The portal itself will provide information available for general public access. Staff will utilize content area specialists to assist in the creation of specific reports in order to understand the appropriate measures and metrics to include. Alaska will create the requirements and general statistics and metrics to be displayed as well as rules for data re-disclosure and secondary suppression guidelines to ensure privacy protection for individuals is maintained. All reports placed on the publicly accessible data portal will be approved by the Executive Governing Board prior to release. The conceptualized flows of data into these feedback reports is presented in Exhibit 9.

Access will be monitored to maximize data security, including the assignment and use of user IDs and passwords, and a vetting process to ensure users performing more sophisticated analyses fully understand the data and its application to their areas of interest. In addition, the PMO will engage its analysts and work with the legislature to use data to review the impact of proposed legislation and/or otherwise inform state policy. A research agenda will be developed for annual approval by the Executive Governing Board to ensure ongoing public engagement with the data and best use of the data and analytical resources to inform current projects and initiatives.

EXHIBIT 9. Feedback Data Sources



Deliverable 5. Training and Professional Development

Alaska will provide targeted training and professional development to facilitate, informed use of the Alaska SLDS by a variety of interested user groups. Related events and products will include development of additional information products to meet user needs during and beyond the grant period. This deliverable includes researching and assessing staff, stakeholder, and other public users' needs to identify the most efficient and effective training methods and materials for each training audience. Training will be delivered in a variety of formats to best meet the needs of as large and diverse an audience as possible, using technology whenever possible to maximize accessibility while minimizing delivery costs.

5.1 Training Development for and by PMO

Consultants will provide the initial user level face-to-face system administration orientation and training to PMO staff. This includes administering user access and credentials as well as defining reports on the web portal. Training curricula and content will be fully documented by the PMO, and training responsibilities will extend to development and maintenance of online documents and web-based training for state researchers/analysts, approved researchers and the public. ACPE already benefits from an existing robust training unit staffed by professionals with extensive training skills and experience. The PMO will call on this group, as well as consultants, to develop and deploy/market these training tools. Additionally the PMO will be versed in all of the following levels of user access.

5.2 Training Development for Technical Manager and Staff

Consultants and ACPE will provide initial user level on-site hardware and software system management training. This will include all server and database updates including ETL and MPI processes. Training and procedure documentation will be created and securely maintained in the event of staff turnover.

5.3 Training for State Researchers/Analysts

Alaska will provide focused user level face-to-face software training on the reporting platform for authorized researchers/analysts from each agency. This agency researcher/analyst training will focus on available data, user interface and query creation for researchers. Researchers/analysts will be provided with an online handbook on all data dictionaries, mapping documentation and training guides. This handbook will be stored on the SharePoint project site and will be updated by the PMO as needed.

5.4 User Level Training for Approved Researchers

Alaska will provide the user-level training handbook developed under outcome 5.3 upon approval of the governance board. Web-based training will be provided and must be completed prior to having access granted to the front end analytical tool. This training will ensure the user understands protocols for gaining research/special studies approval, how to use the analytical tool, and how to interpret data.

5.5 Web-Based Training for New General Public Users

Training for general public users will be available through a variety of self-service media, including online tutorials; hosted, interactive webinars; and an online help functionality including a plain English data dictionary. Paper and PDF documents will also be available for

all system operations. Self-service tools will conform to protocols that allow information presentation in alternative formats for users requiring such accommodation. Each of the primary individual reports in the data portal will have an interactive web-based training associated with it. This training will ensure the user understands how to interpret the report and what, if any, caveats or limitations apply to the report and data used to generate the report.

Deliverable 6. Develop a Project Sustainability Plan

The last step in building the Alaska SLDS will be the development of a sustainability plan to ensure seamless operation after the grant. Planning for system sustainability has already started and will be a priority throughout the project development process. In this plan critical personnel will be identified for the continued maintenance, development and expansion of the system. Ongoing hardware and software costs will be identified for budgeting purposes. ASLC will provide sustainability funding for the project. A communications and expansion plan will be included as part of this sustainability plan to ensure continued use and development of the SLDS. In addition, identifying sources of funding for future expansion will be addressed in this plan. This plan, along with all SLDS activities, decisions, policies and procedures will be fully documented and available to all stakeholders, including the public, with the exception of materials that might compromise security. The sustainability plan will be formalized and finalized in the last quarter of the project; however, sustainability planning will be considered in every phase of project development.

6.1 Funding

As noted, ASLC will provide post-grant funding for the SLDS as a key component of ACPE's operating activities. Analysis of SLDS funding needs will become a regular component of ASLC/ACPE's annual budgeting cycle, and, as such, will be an open and public process.

6.2 Maintenance

Maintenance activities will include regular analysis of changes or upgrades needed relative to hardware, software, and infrastructure; as well as analysis of staffing needs, ranging from training and skills development for existing staff and any needs for additional staffing or external consultations. Maintenance will also include an annual report to the Alaska Legislature, and annual surveys of stakeholder groups (researchers, school districts, postsecondary providers, industry groups, Native organizations, etc.) to determine whether the SLDS continues to meet their needs and to solicit input on new uses or useful data sources.

6.3 Expansion

Expansion will be driven in part by responses to reports and surveys developed as part of the SLDS maintenance activities. As part of this phase, the PMO will develop for approval by the governing bodies and circulation to stakeholders a rolling five-year plan that describes expansion goals and annual plans to meet those goals. Examples of expansion activities include bringing in new data sources that can enhance the SLDS' utility, such as corrections or social services data, and developing new stakeholder reports.

6.4 Review and Assessment

Key to sustainability is continuous assessment and improvement. To facilitate accomplishment of these goals, the PMO intends to periodically contract with an independent third party with

SLDS-related expertise to review the Alaska SLDS and make recommendations for improvement, identify any gaps or risks and associated mitigation strategies, and to report its findings directly to the SLDS governance boards and the public.

C) TIMELINE FOR PROJECT DELIVERABLES

Alaska will link its existing K-12 data system with postsecondary and workforce data in order to more efficiently and effectively provide needed information to policy makers and educators about the linkages across the education and workforce systems through the accomplishment of the six deliverables enumerated above. Although all partner agencies will provide input and support to the accomplishment of these deliverables, the primary responsible parties for completion of the supporting tasks will be the Project Director and the Technical Project Manager; and completion of all deliverables will be approved by the Executive Governing Board, Data Stewards Governing Board, or other party as designated by the governing boards. Each of the six deliverables has a set of supporting tasks that will be performed during the three-year grant period. Exhibit 10 lists the deliverables, supporting tasks, responsible parties, and beginning and ending months for each deliverable and supporting task, assuming that funding becomes available in May 2012.

EXHIBIT 10. Project Timeline

Deliverable	Supporting Tasks	Responsible Party	Month Begin	Month End
Deliverable 1 - Project Planning and Preparation (months 1-9)	1.1 Overall Project Plan	Project Director	May 2012	Jul 2012
	1.2 Project Mission Statement and Project Methodology	Project Director	May 2012	Jul 2012
	1.3 Develop and Deploy Governance Structure	Project Director	May 2012	Jan 2013
	1.4 Validate Critical Policy Questions	Project Director	Jul 2012	Sep 2012
	1.5 Analysis of State and Agency Needs for Reporting	Project Director	Jul 2012	Sep 2012
	1.6 Identify Business and Technical Requirements	Project Director	Sep 2012	Nov 2012
	1.7 Analysis of Existing Data Systems	Technical Project Manager	Jul 2012	Oct 2012
	1.8 Develop Data Models for the SLDS	Technical Project Manager	Nov 2012	Jan 2013
Deliverable 2 - Hardware Infrastructure (months 10-12)	2.1 Order, Install and Test the Server Hardware and Software	Technical Project Manager	Feb 2013	Apr 2013
	2.2 Set Up the Networked Data Storage	Technical Project Manager	Feb 2013	Apr 2013

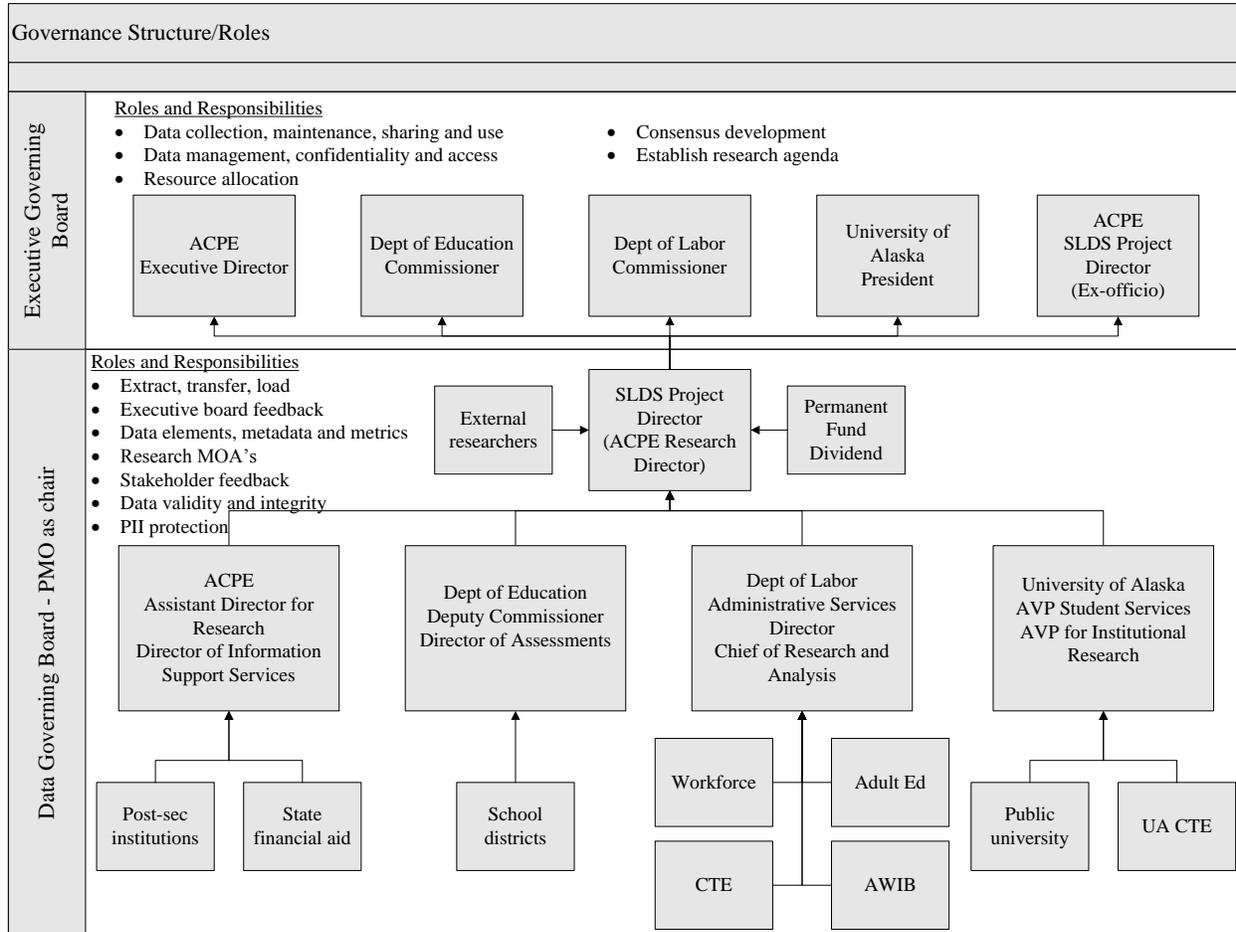
	2.3 Order, Install and Test the Backup Solution	Technical Project Manager	Feb 2013	Apr 2013
Deliverable 3 - Development (months 13-24)	3.1 Create Extract Transform and Load (ETL) Processes	Technical Project Manager	May 2013	Aug 2013
	3.2 Creation of a Master Person Index (MPI)	Technical Project Manager	May 2013	Dec 2013
	3.3 Creation and Population of the Database Environments	Technical Project Manager	May 2013	Apr 2014
Deliverable 4 - Data Reporting (months 25-30)	4.1 Determination and Development of Required Reports	Technical Project Manager	May 2014	Oct 2014
	4.2 Deployment of Reporting Platform	Technical Project Manager	May 2014	Oct 2014
	4.3 Creation of a Data Portal	Technical Project Manager	May 2014	Oct 2014
Deliverable 5 - Training and Professional Development (months 31-36)	5.1 Training Development for and by PMO	SLDS Project Director	Nov 2014	Jan 2015
	5.2 Training Development for Technical Manager and Staff	SLDS Project Director	Nov 2014	Feb 2015
	5.3 Training for State Researchers/Analysts	SLDS Project Director	Feb 2015	Apr 2015
	5.4 User Level Training for Approved Researchers	SLDS Project Director	Nov 2014	Apr 2015
	5.5 Web-Based Training for New General Public Users	SLDS Project Director	Nov 2014	Apr 2015
Deliverable 6 – Sustainability (months 34-36)	6.1 Funding	SLDS Project Director	Feb 2015	Apr 2015
	6.2 Maintenance		Feb 2015	Apr 2015
	6.3 Expansion		Feb 2015	Apr 2015
	6.4 Review and Assessment		Mar 2015	Apr 2015

D) PROJECT MANAGEMENT AND GOVERNANCE PLAN

The Alaska SLDS will be physically located within ACPE for support and sustainability purposes but will be governed and managed by cross-agency groups of Alaska officials (see Exhibit 11). Consistent with the EDS policy discussed in Section A, Project Sustainability and Funding, the Alaska SLDS will be collectively governed at the senior level by DEED, DOLWD,

ACPE, and UA. At the technical level, additional stakeholders will be incorporated to ensure representation in the SLDS governance for all key constituencies.

EXHIBIT 11. Alaska’s Governance Team



Executive Governing Board

The Executive Governing Board will function in Alaska as the governance body for the development of P-20W data sharing projects including the creation and maintenance of the SLDS which will be developed under this grant. The team itself is composed of the executives from each of the agencies as shown in Exhibit 12, or their designees, and the SLDS Project Director, who will function in an ex-officio role.

EXHIBIT 12. Alaska’s SLDS Executive Governing Board

Agency	Incumbent Member
Department of Education/Early Development	Commissioner Mike Hanley
Department of Labor/Workforce Development	Commissioner Click Bishop
ACPE	Executive Director Diane Barrans
University of Alaska	President Pat Gamble

Alaska's EDS policy was signed on December 5, 2011 and the EDS policy team had not formally met as such as of the December 15th grant application date. However they will convene in their dual roles as both EDS policy team and Alaska SLDS Executive Governing Board members at least quarterly to discuss issues related to their charge and the creation of a P-20W system. Their first meeting is scheduled in January of 2012 at which time they will decide on administrative protocols such as how future meetings will be organized, how decisions are made by the group, and the creation of the SLDS Data Stewards Governing Board, which includes agency leadership as well as the leadership of other state agencies identified in the EDS Policy and other stakeholders to provide input and feedback on the process and projects. The Executive Governing Board duties are envisioned to include:

- Determine memberships in the governing bodies, and respective duties and authorities.
- Determine ownership of data included in the SLDS, and therefore the agency responsible for its accuracy and for its maintenance.
- Determine how changes to the rules governing the SLDS are submitted, considered, acted upon and implemented.
- Determine who, and for what purposes, access to data will be granted. Define the categories of various users and data to which each role has access, and formulate a data disclosure policy providing for appropriate access to the SLDS data.
- Communicate with the public and data users about the SLDS, its value, the various uses for it, and the security of data it contains. Ensure the public perception of the SLDS is a positive one, and advocate for the SLDS and its mission as required.
- Ensure all SLDS data uses are open and transparent, and that data are not used for punitive or other inappropriate measures or to evaluate employee performance, either of individuals or groups of employees.
- In cooperation with the Data Stewards Governing Board, investigate complaints of the release of PII, following the process in place in State of Alaska regulations and associated protocols and procedures developed and documented by the PMO.

Data Stewards Governing Board

The Data Stewards Governing Board is composed of members of the principal data sharing organizations. Membership changes to the Board will be determined by the Executive Governing Board. This entity will be charged with making certain data are accurate and coordinating the updating and maintenance of the database. They will also monitor the SLDS to ensure the data security and that the system meets all regulatory requirements of the various agencies. The Data Stewards Governing Board duties are conceptualized to include:

- Determine and define data elements and metadata captured in the SLDS.
- Determine technical processes and policies relative to timing and methodology for data uploads from data providers.
- In cooperation with the Executive Governing Board, prioritize information requests.
- In cooperation with the Executive Governing Board, investigate complaints of misuse of or inaccuracies in SLDS data and reports. When complaints include release of PII, the investigation will follow the process required by Alaska law.
- Formulate the procedures required to approve special data requests within the data disclosure policies set forth by the Executive Governing Board. Set data access rules for the various user roles that meet the guidelines of the Executive Governing Board.

- As required and as approved by the Executive Governing Board, create Memoranda of Agreements for special research using SLDS data.

Project Management

The Alaska SLDS project will be managed by the Project Director with the SLDS Data Governing Board making essential project decisions on behalf of the collaborative of participating agencies. As fiscal agent, DEED will provide budgetary oversight.

The Project Director will manage the project using accepted project management processes including the creation of planning documents, a project plan and timeline, budget documents, and logs of issues to be resolved and agreements to changes to the project plan. These documents will be developed and maintained by the SLDS Project Manager. The Project Manager will manage a SharePoint site where all working and final documents are maintained, and where obsolete documents are archived.

Decision Making

The Executive and Data Governing Boards will make decisions based on consensus. The Project Director and Technical Project Manager will work to facilitate consensus on issues. If consensus cannot be reached, the decision moves up to the next level of approval to decide. In matters before the Executive Governing Board, a negotiated approach to reaching consensus will be used.

Communications

The Project Director is responsible for providing regular communication updates to the Executive Governance Board and other stakeholders to ensure everyone with a need to know is aware of project progress, milestones, and news. Specific communications include:

- Monthly status update reports to the Executive Governance Board on current progress, initiatives, progress, and issues that are being resolved.
- Quarterly status update reports to the wider audience of stakeholders that include information about progress indicators, goals, and milestones.
- Quarterly budget report to the Executive Governance Board jointly developed by the Project Director and Project Manager and the DEED budget designee for the project.

In addition, all Executive and Data Governing Board members will have access to a SLDS Project SharePoint site maintained by the project manager. All officially approved documents, plans, and resource materials will be maintained on this site as well as serving as the primary hub for issue logs and documenting project plan changes and other decisions. The site is not public and is intended for project leadership only.

E) STAFFING

Section D, Project Management and Governance Plan, provides information about governance members and project management personnel qualifications to manage and implement the deliverables outlined. Many of the other personnel identified for Alaska's SLDS project are part of the grant application team and have worked with K-12, postsecondary, or workforce data systems, reporting tools, and policy analysis. The application's Budget Information Non-Construction Programs (ED 524) – Section C lists all of the positions required to develop

Alaska’s SLDS and details the corresponding time commitments, percent of FTE by project year, and cost. Exhibit 13 contains an abbreviated version of ED 524 Section C and details the time commitments of SLDS project personnel by percent of full-time employee (FTE) for State of Alaska employees and number of contract days for contract positions.

EXHIBIT 13. Abbreviated ED 524 Section C

Grant Period	Year 1				Year 2				Year 3				Totals			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Years FTE	Number of Days		
Position Title	Time Commitment (% FTE for personnel and # of days for contactual)															
Project Director	100%												3.00			
Project Manager	62.5	62.5	62.5	62.5	62.5	62.5	62.5	62.5	62.5	62.5	62.5	62.5		750.00		
Research Analyst	100%												3.00			
Technical Project Manager	25%												0.75			
Business Analyst #1	100%												3.00			
Business Analyst #2	-	-	62.5	62.5	62.5	62.5	62.5	62.5	62.5	-	-	-		437.50		
System Architect	-	-	31.25	31.25	15.25	16	15.25	16	-	-	-	-		125.00		
Database Administrator	-	-	15.25	16	15.25	16	15.25	16	15.25	16	15.25	16		156.25		
SQL Developer #1	-	-	100%										2.50			
SQL Developer #2	-	-	62.5	62.5	62.5	62.5	62.5	62.5	62.5	62.5	62.5	62.5		625.00		
Application Developer	-	-	-	-	100%								-	-	1.50	
Report Writer/ Dashboard Developer	-	-	-	-	-	-	100%						1.50			
Technical Staff to Support Agencies	-	-	125	125	125	125	125	125	125	125	-	-		1,000.00		
Agency Project Managers																
DEED	50%								-	-	-	-	1.00			
UA	50%								-	-	-	-	1.00			
DOLWD	50%								-	-	-	-	1.00			
SLDS Consultant	-	-	15.25	16	15.25	16	-	-	-	-	-	-		62.50		
Economic Data Analyst	-	-	-	-	-	-	-	-	15.25	16	-	-		31.25		

Exhibit 14 identifies each team member’s organizational affiliations, position description, and the incumbent’s qualifications to successfully manage and implement the proposed Alaska SLDS project. Many of these individuals were involved in the development of this application and will become key personnel of Alaska’s SLDS project. Appendix C contains the resumes of the named agency personnel listed in the following table.

EXHIBIT 14. Alaska’s SLDS Project Team

Position	Description
Project Director 100% (Brian Rae, ACPE)	The Project Director position was created at ACPE specifically to provide management and expertise relative to SLDS activities and will be responsible for managing all aspects of the grant deliverables and staff

Assistant Director for Research, grant funded/in-kind)	assigned to the project to ensure successful project completion while adhering to identified requirements. Responsibilities include mitigating risk, working with leadership to resolve changes to the project plan or issues, and working with IES staff on all activities related to reporting project progress. Mr. Rae has over 16 years of project management experience while overseeing the collection, compilation and analysis on data elements using both internal and external data sources. He is skilled in strategic planning and outcomes reporting based on confidential information. He currently serves as Alaska’s representative at the annual federal SLDS meetings.
Project Manager 750 days (contract, grant funded)	The Project Manager will develop and maintain SLDS project documentation, the project plan, budget documents, and other artifacts including issue, decisions, and change logs; and develop required reporting documentation to provide updates to stakeholders about project progress. This position will assist the Project Director in facilitating and communicating the workflow, project progress, and any issues that may impact successful completion of deliverables.
Technical Project Manager 25% (Kenneth Dodson, ACPE Director of Information Support Services, in-kind)	The Technical Project Manager will manage technical aspects of the project, including technical staff supervision; technical staff assignments; approval of technical requirements; design and prioritization of technical deliverables; and general oversight of all technical aspects of this project. This position will work with the Project Director and Agency Project Managers to ensure all technical design issues are appropriately identified and addressed. Mr. Dodson has over 20 years of IT leadership and program and project management experience in higher education and information technology. He has extensive experience and knowledge of advanced principles and platforms of complex computer operations and networks and can provide the ability to ensure FERPA compliance throughout systems, programs, policies, and procedures.
Research Analyst 100% (vacant, ACPE Research Analyst, in-kind)	This position gathers data for the purpose of further research and analysis. The Research Analyst will develop queries against the relational databases, makes statistical calculations, and create complex formulas in spreadsheets. The skills required are ability to gather data, conduct data analysis, develop deliverables (written, spreadsheet, presentation) and meet time-sensitive delivery goals. The research analyst must be well-versed in information technology, information security, business applications, uses of technology, and data analysis. This position will assist with the development of reports and other information products using the system, and create ad hoc analyses to respond to data requests.
Business Analyst #1 100% (Jamie Oliphant, ACPE Business Analyst, in-kind)	This position will work with each data-providing entity and is responsible for gathering, analyzing, defining and documenting data elements. The position will provide project management relative to the data element analysis and transfer to the SLDS, which will include documentation of scope, high level requirements, developing a business design, creating test plans, and ensuring appropriate and complete project

	<p>methodology. The business analyst will act as the liaison between the project director and the technical director and developers, and with data “owners” at each data-providing entity. This position also conducts the project testing and documents and validates results, and makes recommendations relative to training needs. Ms. Oliphant has over seven years of analysis and project management experience. She is knowledgeable of multidimensional models with on-line analytical processing OLAP cubes utilizing business intelligence tools. She has expertise in defining and documenting project methodology developing data dictionaries and mapping documentation, and developing and delivering related training.</p>
<p>Business Analyst #2 437.5 days (contract, grant funded)</p>	<p>See description for Business Analyst 1. The Business Analyst 2 position will work closely with the Business Analyst 1 to perform the duties listed under the Business Analyst 1 position description. There will be a concerted effort to ensure both Business Analyst positions collaborate to ensure complete knowledge transfer related to the project and individual deliverables takes place.</p>
<p>System Architect 125 days (contract, grant funded)</p>	<p>The architect establishes the basic structure of the system, defining the essential core design features and elements that provide the SLDS framework. This position is responsible for interfacing with the user and stakeholders in order to determine evolving needs and generate system requirements based on the user's needs and constraints such as cost and schedule. The architect will also develop standards and ensure best practices creating the actual system design, component specification, schemas, and models.</p>
<p>Database Administrator 156.25 days (contract, grant funded)</p>	<p>The primary job duties of the database administrator are building, maintaining, administering and supporting the SLDS databases. This position is also responsible for keeping data secure by managing access, privileges and information migration. The database administrator installs and configures database management software, translates database designs, and diagnoses database performance issues. Other responsibilities include evaluating new tools and technologies, analyzing user needs, making training recommendations, and presenting findings to management.</p>
<p>SQL Developer #1 100% (Joseph Wolner, ACPE Programmer/Analyst, in-kind)</p>	<p>The SQL developer develops applications and integrates data into the SLDS environment using the Microsoft SQL Server platform. Additional responsibilities include developing reports, data warehousing duties, and similar data-related functions. This position will also be responsible for performing quality checks on reports and exports, and creating and maintaining documentation for all database projects. Mr. Wolner has 21 years of analysis/design experience, 25 years of programming and data warehousing experience and 16 years of Internet development experience. He currently manages several database servers and supports the underlying data and manages information systems disaster recovery projects. He is experienced with documenting, implementing and monitoring standards to ensure quality, security, data</p>

	integrity, and regulatory compliance in the programming environment.
SQL Developer #2 625 days (contract, grant funded)	See description for SQL Developer 1. The SQL Developer 2 position will work closely with the SQL Developer 1 to perform the duties listed under the SQL Developer 1 position description. There will be a concerted effort to ensure both SQL Developers collaborate to ensure complete knowledge transfer related to the project and individual deliverables takes place.
Application Developer 100% (Jim Weidemaier, ACPE Deputy Director Information Support Services, in-kind)	The application developer is responsible for designing, building, testing, documenting and implementing software code-based solutions to create programs which fulfill functions identified in the business requirements. The application developer will be responsible for turning user needs into web-based and stand-alone applications to support the overall project goals and system automation. Mr. Weidemaier has 21 years of analysis experience, 17 years of project management experience, and 26 years of programming experience. He is experienced with data modeling concepts to create consistent and predictable data designs. He has also designed and implemented third-party data transfer protocols to maximize data security and integrity
Report Writer/Dashboard Developer 100% (Jeff Wockenfuss, ACPE Programmer/Analyst, in-kind)	The report writer is responsible for the creation, documentation, and support of reports and other information products using the SLDS. The report writer will also coordinate end-user training on report writing software and support users in ad-hoc report creation. This position works closely with end-users to gather report requirements and ensure proper testing/validation. Mr. Wockenfuss has 22 years of programming analysis experience and 17 years of project management experience. He is experienced in VSAM databases, SQL Server databases, JAVA programming; XML; COLBOL; CICS; and XML Schema development; Internet related technologies such as ASP.Net and HTML.
Technical Staff to Support Agencies 1,000 days (contract, grant funded)	These are contract technical positions who will support the efforts at each of the four agencies involved in the project. They will essentially perform the same duties as the SQL Developers, listed SQL Developer #1 and #2 positions, at the agency level to create the processes needed to extract and prepare data to move from the agency systems to the SLDS.
Agency Project Managers 50% (Erik McCormick, DEED Director of Assessments, grant funded) 50% (Vacant, UA Research Analyst, grant funded) 50% (Robert Kreiger,	The agency project manager positions will act as the project leaders and liaisons at the collaborating agencies. Existing staff at three of the partnering agencies will be allotted to the SLDS project: DEED, DOLWD, and UA. ACPE is otherwise included in this budget item in that the Project Director and Technical Project Director are staff of ACPE and will fulfill the role of agency project manager. The Agency Project Managers will coordinate and manage the SLDS project planning and development at the agency level and work closely with the SLDS Project Director and Project Manager. The agency Project Managers will work within the framework adopted by the Executive and Data Stewards Governing Boards. Mr. McCormick has 16 years of experience in education information. He served as the OASIS project manager and coordinator for the Alaska Student Identification System (ASIS). His

DOLWD Economist, grant funded)	role involves significant interaction with IT staff to ensure data is collected, stored and appropriately reported. Mr. Kreiger has 10 years' experience performing economic and market research. He currently manages the Research and Analysis Publications unit which includes monthly publication of Alaska Economic Trends magazine. He has also managed the daily operation of a large database which houses Alaskan wage, occupation, and place of work information for all employees covered under unemployment insurance.
SLDS Consultant 62.5 days (contract, grant funded)	A SLDS consultant will evaluate the overall project plan, recommend areas for improvement or consideration in the planning phase, and advise Alaska as it designs and builds the SLDS. This consultant will also work with Alaska stakeholders to review and validate the state's critical policy questions and to identify related training needs. The SLDS consultant will assist agency staff in the planning development of a secure and sequestered Master Person Index (MPI) process that incorporates custom matching algorithms and processes for matching individual records within the system using best practices from existing SLDS.
Economic Data Analyst 31.25 days (contract, grant funded)	The economic data analyst will assist agency staff with the development of economic reports and analyses, with emphasis on the use of education and labor force data to spur state and regional economic growth and development, and related training needs.

Additional expectations are that ACPE's and UA's internal training staff will design and develop training tools and resources, as informed by the work of the SLDS staff and consultants. ACPE intends to leverage its training staff and its community liaison and education outreach staff to fully penetrate the statewide stakeholder community relative to soliciting input on training needs, measuring community engagement, and testing training tools and resources for effectiveness in meeting needs.

Conclusion

The requested grant funding, combined with the work accomplished to date and the in-kind efforts both underway and planned during the grant period, will provide Alaska with the resources needed to develop and deploy a robust and critically-needed SLDS to link K-12, postsecondary, and workforce data. The SLDS will enable Alaska to evaluate the state's educational pipeline and its outcomes, answering pressing policy questions so Alaska can determine what works and better allocate increasingly scarce resources to maximize student opportunity – and therefore the state's opportunity – for success.

ALASKA STATEWIDE LONGITUDINAL DATA SYSTEM

Project Narrative

On behalf of the state of Alaska, the Alaska Department of Education and Early Development (DEED) is applying for \$4,000,000 from the Institute for Education Sciences (IES) Statewide Longitudinal Data Systems grant under Priority 3 for linking Alaska's K-12 data system with postsecondary and workforce data in order to provide policymakers and educators needed information about the linkages across the education and workforce systems. Total project costs are budgeted at \$5,678,746, with the difference being allocated to ACPE as in-kind contributions to the project.

A) NEED FOR THE PROJECT

As an expansive and geographically challenging state with a resource extraction-based economy, Alaska faces a number of unique challenges. In the early decades of this relatively young state's history there was a wealth of high-wage jobs that required minimal education beyond high school, luring many young Alaskans into the workforce instead of pursuing postsecondary education. This situation has encouraged a high in-migration of nonresident workers who compete for jobs requiring higher skills and education, but who are not permanent Alaska residents. Nearly 20% of workers in Alaska each year migrate from outside the state. While some level of nonresident hiring is to be expected, such high rates impose costs to the state, and emphasize the need to prepare Alaska youth for high-wage employment opportunities in more highly skilled jobs.

This influx of highly skilled and trained workers has resulted in Alaska having one of the highest proportions of adults age 25 and over with a high school diploma or above (90 percent).¹³ However, the outcomes for resident youth are not as encouraging. Alaska is ranked 51st in the nation in the rate of high school graduates going to college (45.7%)¹⁴ and has the second highest public high school dropout rate in the nation (7.3%).¹⁵ The picture is clear – many jobs requiring higher skills and education are being filled by nonresidents, while Alaska ranks at or near the bottom in training its own residents. Alaska ranks 42nd in terms of the percentage of ninth graders who graduate from high school,¹⁶ and 50th in terms of the number of ninth graders who complete a bachelor's degree within ten years.¹⁷

Low levels of educational attainment clearly have an implication for employment opportunities for Alaska's youth. Although our statewide unemployment rate remains well below the national average, we have the 13th highest rate of 16 to 19-year-olds not in school and not working.¹⁸ This situation is even more troubling as we consider future employment prospects in the state. The Alaska Department of Labor and Workforce Development (DOLWD) projects that for those jobs with the brightest growth prospects and greatest number of openings over the next ten years

¹³ NCES Digest of Education Statistics: 2010, Table 11.

¹⁴ NCES Digest of Education Statistics: 2010, Table 211.

¹⁵ NCES Digest of Education Statistics: 2010, Table 113.

¹⁶ NCES Trends in High School Dropout and Completion Rates in the United States: 1972-2008, Table 13.

¹⁷ Research conducted by NCHEMS, based on NCES data.

¹⁸ Annie E. Casey Foundation, Kids Count Data Center, information for 2007.

that pay above median wages, over one-half will require at least an associate's degree, and one-third will require a bachelor's degree or greater. Teen dropouts lacking employment opportunities are the root cause of even more devastating social ills in Alaska. Our child and teenage injury/death rate is the highest in the nation – 70% higher than the national average.¹⁹ Suicide and attempted suicides are the leading cause of death and hospitalization among 15 to 19-year-olds in Alaska.²⁰

Obviously, many opportunities exist to improve Alaskans' quality of life by improving educational opportunities and outcomes that prepare our youth for highly-skilled, high-paying jobs. To effectively leverage these opportunities, however, data sharing and analysis must occur among the state's K-12, postsecondary and labor force agencies to ensure potential workers have the opportunities and resources required to enhance their skills and knowledge in those areas in demand in the labor market. Alaska has been building the infrastructures to better collect and utilize data about students in our systems, with technical support and guidance from the IES SLDS program. Still, the data infrastructures that would allow us to understand how people transition from sector to sector are too limited in terms of capacity to provide the kinds of data needed to adequately inform policymakers and educators.

Education Funding and Outcomes

While in some states poor educational outcomes may be associated with lower levels of funding, this is not the case in Alaska. Providing educational services in Alaska is expensive. The system serves a largely rural, geographically isolated population. More than one-quarter of Alaska's 500 public schools serve fewer than 50 students. One school district covers more square miles than the state of Minnesota yet serves fewer than 2,000 children spread across ten villages. Providing high quality educational resources across all these small schools is expensive and challenging. Many school consolidation efforts possible in other states simply have not been a possibility in Alaska because of its size and geography.

Given this challenge, it is not surprising Alaska has one of the highest education funding levels in the country. Alaska ranks first in terms of per capita funding of state and local government dollars for education for all educational general expenditures (\$4,387 per capita compared to the U.S. average of \$2,717), second in elementary and secondary expenditures (\$3,258 compared to the U.S. average of \$1,860) and eighth in terms of college and university expenditures (\$1,004 compared to the U.S. average of \$734).²¹ According to the Delta Cost Project, Alaska currently spends more than twice the national average to produce a credential at four-year institutions -- \$141,705 at public research institutions and \$107,398 at public comprehensive universities, compared to national expenditures of \$64,179 and \$54,167, respectively. This is about four and one-half times as much to produce a credential at a community college -- \$223,231 on average per credential compared to \$46,759 nationally.

With funding levels near the top of the nation producing such low outcomes in terms of educational attainment, Alaska needs better information to find ways to serve every student more effectively. This requires data that cross agency boundaries and the ability to follow students as

¹⁹ Annie E. Casey Foundation, Kids Count Yearbook, 2010.

²⁰ Annie E. Casey Foundation, Kids Count Yearbook, 2006-2007, 2010.

²¹ NCES Digest of Education Statistics: 2010, Table 32.

they transition from K-12 to postsecondary and into the workforce. It is impossible to increase college-going rates without a good idea of which students are least likely to attend college and which students and schools need to be the focus of attention. It is also impossible to understand where alignment issues exist between the education systems and employment needs without first identifying and understanding what types of students are entering and staying in the workforce, and what the job markets require for the workforce of the future.

Alaska Data Systems

Alaska has longitudinal data systems within each of the four participating agencies (DEED, ACPE, UA, and DOLWD) for this project. These will serve as the foundation blocks for the Alaska SLDS. The system will integrate data from these four sources. This initiative is well-timed given the recent amendments to the Family Education Rights and Privacy Act (FERPA). The revised regulations provide guidance to the SLDS project by clarifying Alaska's abilities to share data across agencies, and the responsibilities the state assumes by doing so. The clarification of FERPA occurred at an opportune time as we work to build an efficient, powerful and protected system to perform longitudinal research in the state.

K-12 Data Systems

In FY06, DEED received a \$3.5 million award from the IES, to build a statewide K-12 longitudinal data system. This fueled a statewide effort to meet NCLB's present and future challenges regarding education data by unifying over 20 disparate data collections, involving schools using myriad reporting methodologies, into one unified data structure, utilizing uniform reporting methods, and delivering accurate, timely and accessible K-12 student-level data to stakeholders. A major goal of that undertaking, the Unity Project, was to create a statewide longitudinal system for Alaska's K-12 students to allow for more effective decision-making among K-12 professionals. The K-12 SLDS goal was broad in scope with a total of seven phases, only the first four of which were funded in the FY06 federal grant. Although the federal grant period has ended, Alaska has continued work on Phases V and VI. Components of Phase VII, specifically the certified and classified staffing data collections, were completed in Phase IV. The completion of Phase VII will allow staff to facilitate linkages between teachers and the students they teach. Regulations are currently being promulgated to define the components of rigorous curricula as they relate to eligibility for the state's new merit based scholarship. It is expected that efforts to collect student transcript data and teacher linkages will be significantly enhanced as the state's new Alaska Performance Scholarship (APS) becomes part of the Alaska education culture. However, it is also imperative that momentum on the Alaska SLDS project not be slowed as the state fully implements APS. The next logical step is linking the increasingly robust OASIS (Online Alaska School Information System) data sets with postsecondary and workforce data, so Alaska can answer pressing policy questions to determine what works and better allocate increasingly scarce resources to maximize student opportunity for success.

The deployment of OASIS accomplished several goals critical to the functionality of a P-20W²² longitudinal data system. It electronically eliminated barriers to district-level reporting and

²² Relative to P-20W linking, it should be noted that pre-school in Alaska is provided in a de-centralized fashion and will be addressed in a later expansion effort relative to SLDS. Nevertheless, SLDS development in Alaska will be undertaken with the expectation that pre-kindergarten information will be included in the future.

created statewide data snapshots. It also enhanced the state-level framework for collecting individually identifiable records for all public K-12 students by automating and establishing common protocols for the process. Alaska proposes to leverage the foundational K-12 work to design and deploy the K-12 SLDS into other areas of education, including institutions of higher education, and to coordinate with other state agencies to track student outcomes once they leave Alaska's education system and progress (or fail to progress) on to additional education or employment. DEED work to date on OASIS, cultivated stakeholder buy-in—an essential element given Alaska's isolated districts and historically disparate methods for sharing information.

These prior efforts have set the stage and the State of Alaska considers this new proposal a priority, recognizing the importance of moving forward now with the SLDS expansion to avoid the costs associated with delaying progress and the risk of losing momentum.

Postsecondary Data Systems

As the context within which postsecondary data is proposed to be shared and governed within the Alaska SLDS, it is helpful to understand Alaska's higher education administrative and governance model. The University of Alaska (UA) is the state's higher education system. The system's president serves as UA's chief executive officer, and is Alaska's academic State Higher Education Executive Officer (SHEEO). The institution is organized around three main administrative units, each of which has responsibilities for administering multiple satellite campuses spread across a state that is one-third the size of the contiguous 48 states. UA data are managed through the system offices under the purview of the UA president's office.

The Alaska Commission on Postsecondary Education (ACPE), funded by the Alaska Student Loan Corporation (ASLC), is an enterprise agency of the State of Alaska, charged in statute with administering student financial aid, licensing postsecondary institutions to operate in Alaska, and promoting access to and success in education and career training beyond high school. ACPE's executive director is Alaska's SHEEO relative to student financial aid administration and institutional authorization. The Commission's administrative staff serves as the staff of the Corporation. They carry out ASLC activities through the delegated authority of the ASLC Executive Officer, who is also the Executive Director of ACPE.

At the postsecondary level, UA's statewide office maintains access to individual-level records for all its enrollees. Due to the limited number of non-UA providers²³ of postsecondary education in Alaska, UA has information on the vast majority of in-state postsecondary participants. Yet apart from linking data in order to respond to federal reporting requirements, such as for Perkins participants, there have been few efforts to link student data across the K-12 and postsecondary levels. In part, this has been caused by the fact that such linkages are difficult because the student information systems at UA and DEED use different student identifiers, and Social Security Numbers (SSNs) are not available from both systems. Only UA captures students'

²³ The University of Alaska system, including Price William Sound Community College, enrolls approximately 95% of all the postsecondary students in the state. Alaska has one tribal college (Ilisagvik College in Barrow), one private collegiate institution (Alaska Pacific University in Anchorage), and two proprietary institutions (Charter College and Alaska Career College, both in Anchorage). DOLWD also operates AVTEC (Alaska Vocational Technical Education Center), Alaska's public postsecondary career training institution, located in Seward.

SSNs for reporting related to tuition tax credits for the Internal Revenue Service; DEED does not.

Also at the postsecondary level, ACPE, relative to its mission, maintains access to individual-level data specific to: education loan borrowers, state scholarship and grant recipients, and Institutional Student Informational Reports (ISIRs, which summarize FAFSA information) for Alaska residents and students attending Alaska postsecondary institutions; Alaska's authorized postsecondary institutions; and National Student Clearinghouse for Alaska high school graduates; as well as aggregate data on students receiving ACPE outreach services and interventions.

Workforce Data Systems

Labor data is the third critical component in the state's data alignment goals. Alaska's DOLWD currently maintains several unique and confidential administrative data stores. As in most states, the primary workforce data source is historical unemployment insurance (UI) wage records. These wage records are maintained for most wage and salary workers in the state and contain the worker's employer, industry, place of work, and quarterly earnings, using the SSN as the unique individual identifier. In addition, DOLWD collects an employee's occupation, one of only a handful of states to do so. This information presents a unique opportunity to match a student's program of study to the occupation they eventually pursue, a powerful tool to track the efficacy and outcomes of various training programs. DOLWD is also responsible for training, testing, and certifying GED recipients in Alaska, and shares data with DEED to identify those non-graduating secondary school students who go on to earn this equivalency certificate.

Preparatory Work to Date

To better prepare Alaska students to be successful in the twenty-first century workforce, state agencies have long understood that tracking student progression from the K-12 environment, through postsecondary into the workforce is a vital capability as a means to effectively measure the education pipeline's performance and the effectiveness of various programs and interventions. The proposed SLDS will take Alaska's long history of project-specific data linkages to the next level, formalizing agreements to persist over time and ensuring ongoing identification of policy questions and data measurement at levels of interest to policymakers, researchers, and the public.

ACPE first began work on policy questions in 2009 by hosting a multi-agency SLDS project scoping meeting in Anchorage, facilitated by Peter Ewell of NCHEMS and David Longanecker of WICHE and attended by Alaska stakeholders, including representatives from current partner agencies, research organizations, school districts, teacher outreach programs, and broader education stakeholders. This data summit began the process of gathering information and developing consensus on the need to develop a statewide longitudinal data system spanning three sectors: kindergarten through twelfth (K-12) grade, postsecondary education, and labor/employment. At that time, the group adopted the goal for Alaska to build capacity to respond to key public policy questions relating to the efficacy of its education and workforce training systems in preparing citizens to be successful in our economy and society. Those key questions that Alaska must be able to answer address graduation and dropout issues (who, and more important for dropout prevention, why), postsecondary preparedness (students' need for

remediation, increasing retention and graduation rates), measurement of the efficacy of intervention programs, and retention of completers to contribute to the state's economy.

Alaska's agencies concluded the next step was to obtain external expertise and examine where Alaska was in terms of its readiness to develop a larger P-20W SLDS project. Alaska further engaged WICHE and NCHEMS to conduct a landscape review of existing data systems to include the data elements maintained, how they are being used, and the degree to which information held by individual state agencies is shared among them. The results of the review confirmed Alaska's preparedness to move forward in expanding the SLDS to support transparency, accountability, and educational improvement, and set the stage for Alaska's 2009 SLDS grant application. Although that grant was not funded, Alaska continued to move toward linking education /workforce pipeline data by reconvening the primary data partners.

In 2010 ACPE facilitated a partners' retreat in Boulder, Colorado, with WICHE and NCHEMS' guidance, to further develop the SLDS plans. This two-day meeting was moderated by the presidents of the hosting organizations. Two SLDS State Support Team members, Jeff Sellers and Robin Taylor, also attended, sharing expertise on SLDS development and suggesting next steps for Alaska. One of the retreats many outcomes is Alaska's SLDS vision statement (see Boulder Outcomes Document in Appendix B). The vision statement articulates the system's purpose as "Facilitate the state's ability to describe the outcomes of its investments in the education system, both in aggregate and at the student's level, and to identify opportunities to improve it while protecting individual privacy." Other recommendations from the retreat included guiding policy questions the system could answer, governance structure, data security, system design, data providers and users identification, and data reporting. In addition a Memorandum of Agreement (MOA) among the four data partners was developed and approved at each agency (see APS MOA in Appendix B). The outcomes of that retreat have been invaluable in the SLDS planning process for Alaska.

In addition to these more recent SLDS-development collaborations, over the past decade Alaska has developed a strong history of collaboration through existing relationships with Alaska Native organizations and community organizations. CASHE (Coalition of Alaskans Supporting Higher Education), developed by ACPE, UA, and Native organizations, has demonstrated success in coalition building by attracting a Lumina grant to bring College Goal Sunday to Alaska. Another example is the Alaska Career Information System (AKCIS), an interactive Web-based career planning tool made available to Alaska school districts and the public at no charge through the collaboration of ACPE, DOLWD and DEED to share responsibility for development, deployment, and maintenance of this statewide career planning resource.

Finally, Alaska has refined the policy questions identified in 2009 to ensure they continue to express stakeholder needs. To that end, ACPE's Research and Analysis staff surveyed stakeholders to validate and prioritize policy questions, and to identify overlaps and any critical gaps. The results are summarized in the 2010 "Focusing Educational Research in Alaska" report (see Appendix B).

Current Data Linking: Alaska Performance Scholarship

While Alaska currently lacks a system linking data across agencies, other required reports and analyses have resulted in development of manual processes to link data from multiple sources. While these are labor and time-intensive processes, state agencies have taken the opportunity to develop a number of “proof of concept” efforts to better learn how well data link together and to identify any limitations in terms of moving forward with a set of “best practices” in matching records. For an example of one such data sharing project and the information it provided, see the article from Alaska Economic Trends, Tracking Alaska’s Students, in Appendix B.

A recent and notable need to share data relates to the Alaska Performance Scholarship (APS) mentioned earlier. APS is a 2011 program designed to positively influence the education culture in Alaska by incenting and rewarding students who complete a rigorous high school curriculum and meet certain grade and test score benchmarks with scholarships of up to \$4,755 per year for four years. The scholarship legislation required unit-level data sharing among DEED, ACPE, and UA to determine and track student scholarship eligibility, and to report on student outcomes. Data sharing protocols are in place and resulted in a successful program implementation; however, the protocols are highly manual, are limited to APS-related data, and are governed by time- and project-limited MOAs, underscoring the growing need for a robust SLDS with associated agreements.

Meeting Reporting Requirements

Although matching individual data at the K-12 and postsecondary levels in Alaska had been infrequent prior to APS implementation, there have been several projects linking educational data and workforce information. The America COMPETES requirements provide strong incentives to link K-12 and postsecondary data.

Alaska has already taken the next step to ensure K-12 and postsecondary data can be linked with workforce data. Through multiple Memoranda of Understanding (MOUs), DOLWD has accessed individual-level data from DEED and UA. These MOUs are separately negotiated between DOLWD and one or more other state agencies. Some have been in place for many years, while other MOUs are fresh and have little history. Originally, MOUs were developed to answer a discrete question or meet a specific reporting requirement. Recently developed MOUs have allowed for more open-ended arrangements without specific termination dates, although the parties retain the ability to unilaterally terminate the agreement at any time. Under these arrangements, DOLWD matches the other agencies' data to the Alaska Permanent Fund dividend (PFD) database (described in a later section) and with its own data (usually the UI database) to examine former students' experiences in the labor market. Match rates of resident students and workforce data are very high, generally exceeding 90%.

Although the very high match rates document successful linking outcomes, the process can be difficult and time consuming. DOLWD’s Research and Analysis data warehouse has documented its capacity to meet both DOLWD’s needs and the needs of partner organizations, relative to data matching projects (see Trends report in Appendix B). However, the limitations of the MOU structure may result in each match having to be treated like a separate project and additional requests relative to a specific request may result in the agreement having to be created anew. In addition, as these projects are developed on an “as needed” basis, they are not

standardized or automated. For example, different agencies may be involved in producing the data in different projects making it difficult to reproduce matches every time and thus provide comparable data over time and across reports. Alaska needs a system where these data can be linked together so standing reports exist to provide accurate, timely information about key education and career pipeline transitions to inform public policy and improve the education to employment processes.

To date, Alaska meets eight of the twelve elements identified in the America COMPETES Act (see Exhibit 1). While the state does have the ability to match student-level, K-12 and higher education data, to date this is achieved only through manual processes on an as-needed basis. Without a P-20W SLDS, this is considerably time and resource intensive and making it difficult to use the data because any changes or efforts to disaggregate it often require matching the records again to add the new data elements needed for analysis.

EXHIBIT 1. Alaska’s America COMPETES Act Results

Element Met?	Element
Yes	Statewide Student Identifier
Yes	Student-Level Enrollment Data
Yes	Student-Level Graduation and Dropout Data
Yes	Capacity to Communicate with Higher Education Data Systems
Yes	A State Data Audit System
Yes	Student-Level Test Data
Yes	Information on Untested Students
No	Statewide Teacher Identifier with a Teacher-Student Match
No	Student-Level Course Completion (Transcript) Data
Yes	Student-Level SAT, ACT, and Advanced Placement Exam Data
No	Information on Secondary to Postsecondary Transition, Including Remediation
No	Information on Alignment & Adequate Preparation for Postsecondary Success

Although the state’s 2009 grant request to complete the two outstanding elements was not funded, the state continues to move forward in these areas. The 2011 APS implementation extends progress towards meeting these four elements because the scholarship requires districts confirm a student completed a specific rigorous high school curriculum with a minimum GPA in order to be eligible. To date, initial multi-agency meetings among DEED, UA, and ACPE have been conducted to hear presentations on various electronic transcript collection products and to

discuss potential options to expand transcript data collection and analysis. In addition, the state will be collecting information in OASIS relative to student completion of the rigorous curriculum. Also relating to the new APS requirements, DEED has issued regulations defining the specific courses that meet the rigorous curriculum requirements, which is an essential step toward common definition across school districts. The outcome of initial discussions relative to teacher-student matching is that this goal would be most efficiently accomplished as a component of transcript data collection, to include teacher information associated with each course.

Included in the state law establishing APS is a provision for mandatory legislative reporting relative to the impacts of the scholarship on student performance both at the secondary and postsecondary levels. As with the reporting for America COMPETES, APS outcomes reporting is accomplished through a series of relatively cumbersome data match processes. While this activity has been positive in advancing the level of discussion around the reports' value for all stakeholders, it has also illustrated the inefficiency and inherent challenges of having to work outside of an interoperable P-20W SLDS environment.

Alaska Advisory Task Force on Higher Education & Career Readiness

Underscoring the heightened awareness of the need for, and importance of an Alaska SLDS is the April 2011 Final Report of the Alaska Advisory Task Force on Higher Education & Career Readiness (HECR), which included a specific recommendation that ACPE, DEED, DOLWD, and UA collaborate in development of a statewide longitudinal data system. The HECR task force was established by the Alaska Legislature in 2010 as a time-limited task force, charged with, among other things:

- Compiling research on reducing remediation, and improving retention and graduation rates;
- Identifying likely causes for inadequate readiness for college/career ; and
- Identifying best practices for increasing student readiness for college.

HECR members, representing legislative leaders, education leaders, and stakeholders statewide, convened in various venues around Alaska. The HECR heard from state and national subject-matter experts who presented on topics such as remediation, assessment, completion, and financial aid; as well as from members of the public who gave oral and written comment.

At the conclusion of the fact-finding and public testimony, the HECR developed recommendations to the Alaska Legislature in four focus areas: student success, career path guidance, strengthening schools, and predictable and sustainable funding. Key to the strengthening schools section was the recommendation the state develop a SLDS to inform development of action plans to ensure that every Alaska student completes high school with sufficient skills to enter the workforce or pursue a postsecondary course of study.

Permanent Fund Dividend (PFD) Database

Like other states, Alaska faces the problem of linking records across various databases without the benefit of a unique identifier (See Exhibit 2). Matching via the more common administrative records – driver's license, FAFSA submittals, data-to-data comparisons, etc. – is an option in Alaska. However, the Alaska PFD database provides a large, broader-based data repository to match records across Alaska's data systems with incompatible identifiers. The PFD Division is a

component unit of the Alaska Department of Revenue, charged with administering annual payment of the state's PFD to its citizens. The Permanent Fund was created in state law in 1976 to conserve a portion of the state's revenue from petroleum and mineral resources to benefit all generations of Alaskans, and annual fund dividends are paid to every resident of Alaska, regardless of age. To qualify for the PFD, Alaskans apply annually. The PFD database contains the name, date of birth, and address of every Alaskan who has ever applied for the dividend,²⁴ and SSNs for nearly all applicants. For the past 15 years the dividend has averaged well over \$1,000 per resident, so the incentive to apply is great. Also, because the state withholds 28% of the dividend for federal tax reporting if an applicant fails to supply a SSN, nearly all applicants include SSNs. Using data within the PFD database for matching disparate data sources enables Alaska to attain very high data matching rates, and allows Alaska to validate identifying information such as name and date of birth, and to attach an SSN to records that lack one. For example, while DEED does not collect SSNs, it does collect student names, birthdates, and information on the school the student attends. Matching those records with PFD data can then identify those students' SSNs, which can then be matched against the UI wage database.

Exhibit 2 contains the data elements effective in matching records across agencies. Not all data elements are captured for every agency database, but many contain these data elements at a minimum. Additional elements, such as previous names and mailing addresses, offer enhanced abilities to match datasets across agencies.

EXHIBIT 2. Primary Identifiers by Data Provider

Individual Identifiers	School Districts	DEED	UA	DOLWD	ACPE	PFD
SSN	No	No	Yes (with restrictions)	Yes	Yes	Yes
Agency-created Identifier	Locally created & OASIS #	OASIS #	UA Student ID	No	No	No
Name	Yes	Yes	Yes	No	Yes	Yes
Date of Birth	Yes	Yes	Yes	No	Yes	Yes
Location/Address ID	Mailing, School	School	Mailing, School	Work	Mailing, School	Mailing, Physical

Project Sustainability and Funding

As a functional responsibility of the agency whose operations are funded by ASLC, the Alaska SLDS will be housed and maintained at ACPE. ASLC, a public corporation and enterprise instrumentality of the State of Alaska, funds ACPE's programs through tax-exempt bond sales. It has a legal existence independent of the state and is governed by its own Board of Directors. SLDS operational costs will include sustainability funding for the Alaska SLDS after the grant ends, including costs of necessary hardware, software maintenance, and staff.

²⁴ To be eligible to receive the dividend, a person needs only to have been an Alaska resident as of January 1st of the dividend year, and maintained their residency for that calendar year with the intent of remaining an Alaska resident. Children born to or adopted by qualifying residents during the year are also eligible, as are resident aliens, and aliens granted refugee or asylee status.

Beginning in 2007, ACPE recognized the urgent need for an Alaska SLDS and began to plan for its development, including identifying costs and options to develop the infrastructure at a sustainable pace. Award of a grant under the 2011 RFA would significantly strengthen and accelerate ACPE's initiative. ACPE will continue to include in its budget planning the expansion of its Research and Analysis and Information Technology funding to support the Alaska SLDS into the future. The SLDS is considered a mission-critical component relevant to supporting access and success in postsecondary education for Alaskans. This funding is independent from State of Alaska general funds, allowing the SLDS to continue after the grant period without being forced to identify other funding sources—stability critical to the SLDS' long-term success.

Beyond the funding component, true SLDS sustainability requires commitment by state leadership. Alaska is poised to aggressively continue its development. On December 5, 2011, Alaska Governor Sean Parnell created the Education Data Sharing (EDS) Policy under Administrative Order 261 (see AO in Appendix B). Implementation of the EDS Policy will better leverage and build upon existing state statutes, which allow data linking and sharing across agencies, to not only permit but direct DEED, DOLWD, and ACPE to share data across agencies to improve education and workforce outcomes and assign responsibility to these agencies to manage the process. This process for bringing together individual-level data to better inform policymaking and evaluate state programs is the responsibility of the EDS policy team – which is composed of leaders from the three primary state agencies and chaired by ACPE's Executive Director.

Alaska's Critical Policy Questions

With the participation of a broad array of stakeholders, Alaska's leadership has identified a number of key policy questions, beyond the legislatively mandated APS report referenced earlier, to answer once access to linked data across the agencies is developed. Each of the following nine critical policy questions falls into a separate research area and has associated research questions. Utilizing a linked system, reports will be developed to fulfill these data needs as summarized in the table following these descriptions. Report frequency will be determined based on timing of data updates and information needs.

1) How many and which students are progressing through an education program/system to achieve college, workforce, and life readiness? Related data include: performance on periodic assessments, high school completion rates, college-going rates, remediation rates, credential achievement rates, workforce participation rates, and wage and industry information.

This is a comprehensive query which, when the capabilities are in place, will allow for many sub-queries arising from this initial data set. By incorporating the elements needed to respond to this query, linking the data will enable Alaska to examine student progress and outcomes over time, including students' preparation to meet the demands of postsecondary education and the twenty-first century workforce. To achieve this analytical capability Alaska must facilitate and enable data exchange among agencies and institutions within the state, as well as conduct analyses for policy purposes using these data. As a result, Alaska will be able to follow student progression through the education pipeline, distinguishing between successful program areas and

strategies and those which need improvement. Student progression will also be followed through academic completion, via degree, certificate or diploma, and into the workforce. Interest areas addressed by this question include: 1) graduation and dropout issues, 2) postsecondary preparedness, 3) measurement of the efficacy of intervention programs, and 4) workforce readiness and participation.

2) What are the migration rates and patterns for Alaskans accessing postsecondary programs outside of Alaska and subsequently returning to Alaska? Related data include: credential achievement rates, workforce participation rates, wage record information.

The approach to measuring related outcomes will start with a cohort of high school graduates, using resources such as the National Student Clearinghouse to track students who leave the state for postsecondary education. They will be monitored through the use of PFD data to determine if they return to the state, and, by using DOLWD wage record data, whether they are subsequently employed in the state. Additional characteristics will be associated with the students, such as those receiving financial aid grants or participating in peer mentoring programs, to enable tracking of specific outcomes for these student subgroups. Interest areas addressed by this question include: the relationship of out-of-state college attendance relative to the ability to retain human resource capital to support the state's economy.

3) Of those Alaskans who participated in and exited Alaska secondary or postsecondary institutions without credentials, how many are within three or fewer semesters to completion and what are their employment statuses and incomes? Related data include: secondary and postsecondary enrollment and exit data, workforce participation rates, wage record information, and rates of employment relative to field of study/training.

An examination of this subset of students' characteristics will produce information which, when common characteristics are identified, can be used predictively by institutions or other entities seeking to develop strategies and interventions to mitigate unsuccessful behavior in the student populations. Linking employment and wage data to "early exiters" and "nearly completers" will help demonstrate the ramifications of exiting school before the successful completion of a diploma, certificate, or degree program. Interest areas addressed by this question include: 1) graduation and dropout rates, and patterns, 2) postsecondary preparedness, and 3) measurement of the efficacy of intervention programs.

4) Of those Alaskans who receive education services from Alaska secondary and postsecondary institutions, how many remain in the state and contribute to the economy? Related data include: secondary and postsecondary enrollment and completion data, workforce participation rates, wage record information, and rates of employment relative to field of study/training.

This analysis will be cohort-based, following the cohort through Alaska's education system and subsequently into the workforce. This analysis will also play a role in identifying what happens to Alaska's students who drop out of the K-12 system, by identifying whether they complete GEDs or complete their educations through alternative means. Interest areas addressed by this

question include: 1) postsecondary preparedness, 2) measurement of the efficacy of intervention programs, and 3) retention of completers in the state to contribute to the state's economy.

5) What is the impact of financial aid on college access and success? Related data include: education loan utilization, scholarship and grant utilization, interventions, socioeconomic factors, credential achievement rates, time-to-degree information, workforce participation rates, wage record information, and rates of employment relative to field of study/training.

This effort will be cohort-based, monitoring and reviewing high school graduates, and distinguishing those who receive financial aid from those who do not to measure what impact these factors may have on postsecondary persistence and completion. Identifying differences in population persistence and completion behaviors based on amount, type, and timing of financial aid will enable the state to design efficient interventions and assistance programs and allocate state resources to maximize desired outcomes. Interest areas addressed by this question include: 1) graduation and dropout issues, 2) postsecondary preparedness, 3) measurement of the efficacy of intervention programs, 4) equity in access to postsecondary education, and 5) retention of completers in the state to contribute to the state's economy.

6) How effective are specific interventions and strategies to increase the rate at which students/citizens, particularly those from low income families, progress through an education program/system to achieve college, workforce, and life readiness? Related data, specific to intervention/strategy participants, include: interventions, performance on periodic assessments, high school completion rates, high school course-taking patterns, socioeconomic, education loan utilization, scholarship and grant utilization, college-going rates, remediation rates, credential achievement rates, workforce participation rates, and wage record information.

Expanding the amount of program data collected by the Alaska SLDS, especially exceptional student educational data and free/reduced priced lunch data, will facilitate the state's ability to evaluate its responsiveness to the student population as a whole related to varying interventions. Additionally, it will enable reviewers and others to drill down into the detail relating to specific program areas. The resulting information will enable the state to identify the most effective use of limited targeted program funds relative to the impact of those programs in effecting specific state goals for specific populations. For example, are interventions and programs utilized at the same rate, and do they result in the same outcomes, for low-income students, as compared to the universe of program participants? Interest areas addressed by this question include: 1) graduation and dropout issues, 2) postsecondary preparedness, 3) measure the efficacy of intervention programs, 4) equity in access to postsecondary education, and 5) keeping completers in the state to contribute to the state's economy.

7) How do Alaska's postsecondary institutions' educational program productivity and capacity align with Alaska's current and anticipated workforce needs? Related data include: credential achievement rates, workforce participation rates, programs of study, occupation data, teacher certification, district personnel data, and wage record information

An initial focus of this question is to analyze teacher preparation programs' effectiveness in producing an adequately trained teacher workforce. Results from this type of evaluation will not be limited to teacher preparation programs, but will also include other disciplines, such as nursing and engineering, and the programs' ability to produce a prepared workforce to be responsive to Alaska's workforce needs. This effort will not only require postsecondary completion data and workforce participation rates, but also K-12 educator data. An interest area addressed by this question: retention of completers in the state to contribute to the state's economy.

8) What is the private/public return on private/public investment in education?

Related data include: education loan utilization, scholarship and grant utilization, interventions, socioeconomic, credential achievement rates, workforce participation rates, and wage record information.

One measure for this question will take the average funds allocated per student and calculate a Return on Investment (ROI) based on the number of students completing high school with a standard diploma. Another measure is residents' hire rates by industry and their wages, in total and as compared to nonresident workers. The resulting analysis will require evaluating how many students complete high school and are subsequently employed in the state, as compared to the amount of state funds supporting the education system by student. Another measure may be calculated by examining completion or other success rates for populations receiving a specified intervention, or participating in a program of interest and comparing that success rate to the general population to determine if the intervention or program produces the intended results. Modifications or enhancements to the intervention strategies can then be implemented, further improving success rates. This analysis can also benefit from the unique aspect of Alaska's workforce data which includes not only industry data, but occupation information as well. Interest areas addressed by this question include: 1) graduation and dropout issues, 2) postsecondary preparedness, 3) measurement of the efficacy of intervention programs, 4) equity in access to postsecondary education, and 5) retention of completers in the state to contribute to the state's economy.

9) How does Alaska attract and retain the best teachers? Related teacher data include: credentials, participation in mentoring or support programs, certification, standardized exam scores, turnover and exit rates, and demographic information.

This query will extend the work described in policy question #7. It will include a cohort-based study beginning with simple comparisons that identify teachers of record who graduated during a recent block of time and identifying where they received their certification and teaching credentials. By linking K-12 teacher certification data, UA teaching program and placement data, DOLWD employment data, and NSC data, interest areas addressed by this question include: 1) teacher turnover and exit rates, 2) teacher migration, 3) teacher performance differentiated by education program, and 4) teacher longevity differentiated by education program.

Using Data to Inform Policy

The answer to a single research or policy question normally requires data sharing among several agencies, but that answer can be important to many different stakeholders and may be included in several different feedback reports. Exhibit 3 provides examples of the types of research

questions appropriate to Alaska’s policy questions, the partnering agencies needed to supply the data to answer the questions, and the feedback reports in which the answers would be included. The following abbreviations are used to identify the sources of the required data and the feedback reports in which the results of the analysis will be included.

KEY	Data Sources
DEED	AK Dept. of Education & Early Development
UA	University of Alaska System
CTP	Alaska Career, Technical and Private Schools
DOLWD	AK Dept. of Labor & Workforce Development
ACPE	AK Commission on Postsecondary Education
NSC	National Student Clearinghouse
PFD	Permanent Fund Dividend

KEY	Feedback Reports
HS	High School Feedback Reports
PS	Postsecondary Feedback Reports
EMP	Employment Outcomes for Graduates and Dropouts
CR	Career Readiness and Job Placement Reports
FA	Financial Aid Impact Reports
EM	Education Migration Reports
LM	Labor Migration Reports
EPL	Education Pipeline Loss Report
LPL	Labor Pipeline Loss Report
ROI	Return On Investment for Interventions

EXHIBIT 3.

Policy Questions, Examples of Related Research Questions, Data Sources and Inclusion in Feedback Reports	Data Sources	Example Feedback Reports
1. How many and which students are progressing through an education program/system to achieve college, workforce, and life readiness?		
How many students graduated from high school and pursued postsecondary education within two years of graduating?	DEED UA NSC CTP	HS PS ROI EPL
How many students pursuing postsecondary studies are attending full time?	UA NSC CTP	PS ROI EPL
Of those pursuing postsecondary education, how many dropped out after one year? After two years? Before completing their program?	UA NSC CTP	HS PS ROI EPL CR
Were students who pursued a career in their field of study less likely to experience periods of involuntary unemployment compared to students taking an unrelated job?	UA NSC CTP DOLWD	HS PS EMP ROI LPL CR
2. What are the migration rates and outcomes for Alaskans attending postsecondary programs outside of Alaska and subsequently returning to Alaska?		
How many Alaska high school graduates and GED completers pursue postsecondary studies outside of Alaska?	DEED DOLWD	HS PS EM LM EPL

	UA NSC	
Are students pursuing their education in Alaska more or less likely to complete their degree or certificate?	DEED UA NSC	HS PS ROI EPL
Of those pursuing studies outside the state, how many eventually return?	DEED NSC DOLWD PFD	HS PS ROI EM LM EPL LPL
Does the existence of Alaska's financial aid programs increase the number of students who attend school in Alaska? Who complete their program of study?	DEED UA CTP	HS PS ROI FA EM EPL CR
3. Of those Alaskans who participated in and exited Alaska secondary or postsecondary institutions without credentials, how many are within three or fewer semesters to completion and what are their employment status and income?		
How did the wages of high school graduates who went on to complete a degree or certificate program compare to those who did not pursue postsecondary education? To those who dropped out?	DOLWD UA NSC CTP DEED	HS PS EMP ROI EPL LPL CR
For both dropouts and graduates in secondary and postsecondary, in which occupations were these students most likely to be employed? In which industries?	DEED UA NSC DOLWD	HS PS EMP ROI LM EPL LPL CR
How many Alaska secondary students failed to graduate, but obtained a GED in Alaska within two years of their expected graduation year?	DEED DOLWD	HS EPL LPL
4. Of those Alaskans who receive education services from Alaska secondary and postsecondary institutions, how many remain in the state and contribute to the economy?		
Do teachers who received Alaska subsidized loans, particularly those focused towards the profession, exhibit different retention and turnover patterns than those teachers who did not receive these loans?	ACPE UA NSC DEED	HS PS EMP ROI FA EM EPL LPL
Do students returning after pursuing out-of-state postsecondary education make higher wages than those pursuing postsecondary education in Alaska? How many find employment in Alaska, and how does this compare to students pursuing postsecondary studies in state?	NSC PFD DOLWD UA CTP	HS PS EMP ROI EM LM EPL LPL CR
Were degree/certificate completers less likely to experience periods of involuntary unemployment compared to students not pursuing postsecondary education?	UA NSC CTP DOLWD DEED	HS PS EMP ROI LPL CR
5. What is the impact of financial aid on college access and success?		

Does the existence of Alaska's financial aid programs increase the number of students who take standardized tests (SAT/ACT/WorkKeys) to pursue a postsecondary education? Who fills out a FAFSA?	ACPE DEED	HS PS ROI FA EPL CR
Are postsecondary students receiving financial assistance more likely to attend school full time?	ACPE UA CTP NSC	ROI FA
Are postsecondary students receiving financial assistance less likely to work while attending school?	ACPE DOLWD	PS EMP ROI FA LPL
6. How effective are specific interventions and strategies to increase the rate at which students/citizens, particularly those from low-income families, progress through an education program/system to achieve college, workforce, and life readiness?		
How many remedial credit hours were taken by first-year post-secondary students? How many and what percentage of students required remedial classes?	DEED UA CTP	HS PS ROI
Are there socioeconomic or demographic differences among secondary students who qualify for and receive Alaska's performance-based scholarship? Alaska's needs-based grant?	DEED ACPE UA CTP	HS ROI FA
When student outcomes differed, were there differences in the attributes of those students?	DEED ACPE UA CTP NSC	HS PS EMP ROI EPL
7. How do Alaska's postsecondary institutions' educational program productivity and capacity align with Alaska's current and anticipated workforce needs?		
Of those pursuing postsecondary education, how many obtained their degree or certificate?	DEED UA CTP NSC	HS PS ROI EPL CR
How many Alaska secondary students were eventually employed in an occupation requiring licensure or certification?	DEED DOLWD	HS PS EMP LM LPL CR
Of the teachers teaching in Alaska, how many attended K-12 in the state? Resided in AK before beginning teaching? Do these teachers have higher retention/less turnover than those who didn't?	DEED PFD DOLWD	HS PS EMP ROI EM LM EPL LPL CR
8. What is the private/public return on private/public investment in education?		
What percentage of high-school graduates pursued postsecondary education? At what level? (Certificate, AA, BA, etc.)	EED UA CTP NSC	HS PS ROI EPL
How many Alaskans who earned a GED went on to pursue postsecondary education?	DEED DOLWD UA CTP NSC	HS EPL

Of those pursuing postsecondary education, how many filled an occupation that was aligned with their postsecondary program of study? Was that program of study available in Alaska? Was that program of study or occupation targeted by a financial aid program?	DEED UA CTP NSC DOLWD ACPE	PS EMP ROI FA EM LM EPL LPL CR
9. How does Alaska attract and retain teachers?		
What are the turnover and exit rates for teachers? Do certain districts have higher rates than others?	DEED DOLWD	HS PS EMP EM LM LPL CR
When teachers stop teaching in Alaska, how many move out of state? Remain employed in Alaska in a different occupation? Remain employed as teachers in a non-public school?	DEED PFD DOLD	HS PS EMP EM LM LPL
Do teachers trained in other states have higher turnover and/or exit rates than those trained in Alaska?	DEED DOLWD	HS PS EMP LM LPL CR

B) DELIVERABLES

Deliverable 1. Project Planning and Preparation

Key to Alaska's success in complex, multi-agency initiatives has been strong project management, emphasizing proper scoping, planning, and preparation. In preparation for creation of a statewide SLDS, Alaska's agencies have already begun tasks necessary to a strong project management structure and successful SLDS, including creating a governance structure, evaluating existing data systems, developing cross-agency record matching processes, and identifying critical questions the SLDS can be used to answer. The Alaska partner agencies have already mapped out the project planning and preparation stage of the SLDS project to ensure the system meets stakeholders' expectations within all time, data, and budget constraints. This first deliverable will formalize that mapping and ensure ongoing project management through the completion of the SLDS project.

1.1 Overall Project Plan

In order to ensure overarching management of all the project pieces, with special emphasis on appropriate scoping, critical path identification, business needs, and resource management so the system will meet stakeholder needs, Alaska proposes to identify and hire a consultant to facilitate the development of the project plan, general requirements, and framework.

1.2 Project Mission Statement and Project Methodology

Aided by the consultant, agency staff will build on the 2010 Alaska data summit vision statement to create a project mission statement, which will guide development of a project methodology plan describing the roles and responsibilities of the agencies and project staff and high level requirements for the project. This mission statement and project methodology will guide the entire project. Alaska will additionally work with the consultant to identify the best specific methodology for this project and ensure all project team members are fully trained on that

methodology. Any methodology must, at a minimum, adhere to ACPE's summary standards for project methodology (see ACPE Project Methodology Summary in Appendix B).

1.3 Develop and Deploy Governance Structure

Realizing project governance is a critical element, Alaska has done a great deal of preliminary work on developing a governance structure for the SLDS. Based on the 2010 work with Alaska stakeholders and WICHE and NCHEMS staff, the project design calls for a two-tiered structure. One is an executive level to set policy, determine research agendas, review requests for special projects using the SLDS data, and determine the scope of permitted reporting. The second is a data stewards governance level which coordinates with technical resources and stakeholders, makes certain data are accurate, and coordinates the updating and maintenance of the database. In this phase of the project this governance structure will be fleshed out and presented for approval to the stakeholders of the system and ultimately implemented. The data stewards' activities will be coordinated by the SLDS Project Management Office (PMO), whose responsibilities will include ensuring:

- meetings are regularly scheduled and attended,
- issues are appropriately and timely referred to the executive body as needed,
- stakeholder input mechanisms are regularly and actively deployed,
- research agendas are fully and compliantly implemented,
- annual independent third-party reviews of SLDS activities are conducted and reported to stakeholders, and
- appropriate change management documentation and controls are used.

1.4 Validate and Prioritize Critical Policy Questions

The initial set of critical policy questions will be vetted and reviewed with a variety of stakeholders ranging from the administration and legislature to individual teachers and parents. The vetting process will be managed and documented with the assistance of the project consultant, and conducted through surveys, a series of interviews, focus groups, and expert review to ensure the final versions of questions represent the most important questions to guide system development.

1.5 Analysis of State and Agency Needs for Reporting

The PMO will consult with stakeholders at every level to identify data needs for state, federal and other reporting. Following identification of reporting needs, detailed analyses will occur to identify appropriate data elements, proxies if needed, and data availability and the ability to meet reporting needs. The outcome of this sub-deliverable will be a detailed document re-circulated to stakeholders and ultimately submitted to the executive governance body for approval. Mechanisms to solicit input both in the development of the analysis and resulting document will include face-to-face interviews with agency staff and related stakeholders.

1.6 Identify Business and Technical Requirements

Once the preliminary planning process is completed a planning retreat will be held for partner agency staff and stakeholders to identify critical business and technical requirements in terms of system capabilities, access, and security requirements. The retreat product will be a system requirements document to drive development of the Alaska SLDS. One of the main technical

requirements document objectives will be to identify all regulatory requirements of the various agencies providing data to the SLDS and describe the compliance methodology or structure. Examples of such regulations may include FERPA, HIPAA, WRIS reporting requirements, and state and federal regulations regarding the release of wage and unemployment insurance records. This process will also include developing such business requirements as role-based access to SLDS data and similar essential security structures.

1.7 Analysis of Existing Data Systems

Another preparation step is to analyze the existing data systems that will feed the Alaska SLDS. This will include analysis to determine data quality, limitations and availability issues. The analysis will consist of profiling data from each of the current data systems to be included in the Alaska SLDS and identifying the data elements needed to answer the policy questions. If any data are not available, a determination will be made as to whether the data can be gathered in future data reporting. Documenting data in each system, compiling a data dictionary, and mapping the data model will be critical to developers and business analysts in understanding data that will populate the system and the timing for data gathering from each entity. This analysis will also continue the work begun in 1.5 to allow Alaska to evaluate data quality and constraints to determine which data elements should be included and where data quality could be improved. A key component will be to determine which data elements can be used to match across data systems. Once this data analysis is complete, a gap analysis of available data can be conducted. This will allow Alaska to fully evaluate its data needs to answer the guiding policy questions, identify data availability, and resolve any issues and establish priorities for including data within the system. Finally, alignment with the U.S. Department of Education's Common Education Data Standards (CEDS) across different sectors in Alaska as the state builds an integrated data warehouse will be critical, especially relative to potential future participation in multi-state initiatives or regional compacts.

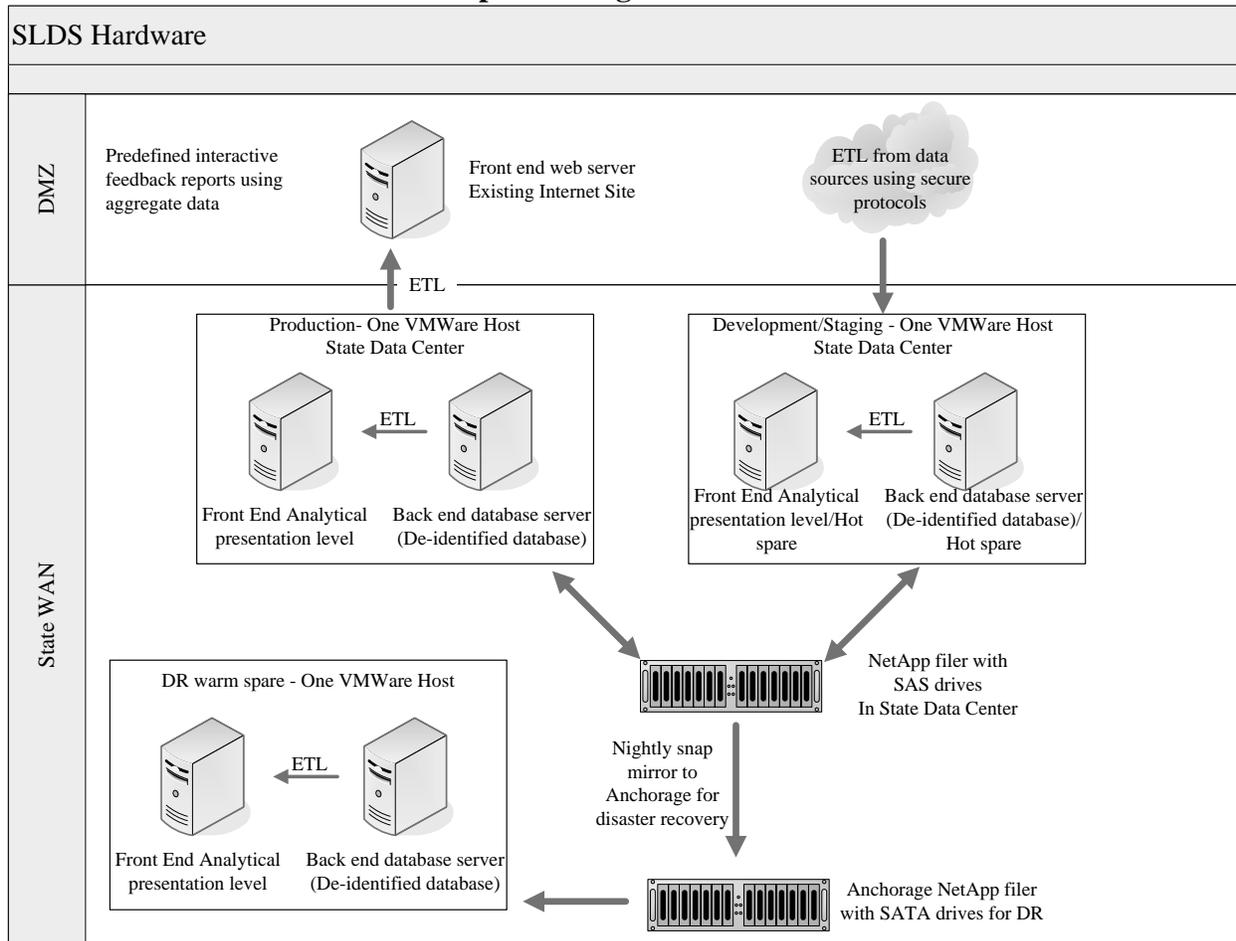
1.8 Develop Data Models for the SLDS

The next step in the project planning and preparation will be to develop data model options for the Alaska SLDS. Alaska will identify and secure external expertise in SLDS technical specifications to assist with the creation of the overall data model. The data architect, and agencies' research and technical teams will meet to discuss options, keys to link the data structures together, to catalog and define key metrics, and to develop an inventory of files and lookup tables needed. The product of these meetings will be design of the primary database and related data linkages.

Deliverable 2. Hardware Infrastructure

Alaska technical staff have conceptualized a hardware infrastructure for the SLDS robust enough to meet the expected demands upon the system, yet flexible enough to allow for future enhancements and expansion. It is understood this infrastructure may change during the planning phase as more information is gathered. This conceptual infrastructure, however, allows staff to estimate the hardware and software costs expected to be required. Exhibit 4 illustrates the current infrastructure concept.

EXHIBIT 4. Infrastructure Conceptual Design



2.1 Procure, Install and Test Server Hardware and Software

The first step in developing the SLDS infrastructure will be to establish the hardware and software platform according to the technical requirements of the project. The current design plan and budget includes three servers, operating systems, database software, development software and any other software deemed necessary to make the Alaska SLDS a reality. The hardware and software will be purchased under State of Alaska procurement policy, using various educational discounts to reduce costs. The final decision regarding servers and software will be made by the agencies' technical staff at the conclusion of the technical requirements process. Exhibit 4 illustrates use of a virtual server environment, providing redundancy with development and disaster recovery servers in the case of a production hardware failure or other disaster.

2.2 Procure, Install and Test the Networked Data Storage

A data system of this size and importance needs a large amount of storage space. A sufficient amount of secure networked data storage will be created to support the project. This will be the responsibility of the technical staff assigned to this project. As illustrated, the plan is to have two storage devices located in separate locations, allowing a nightly snap mirror of the data for disaster recovery purposes.

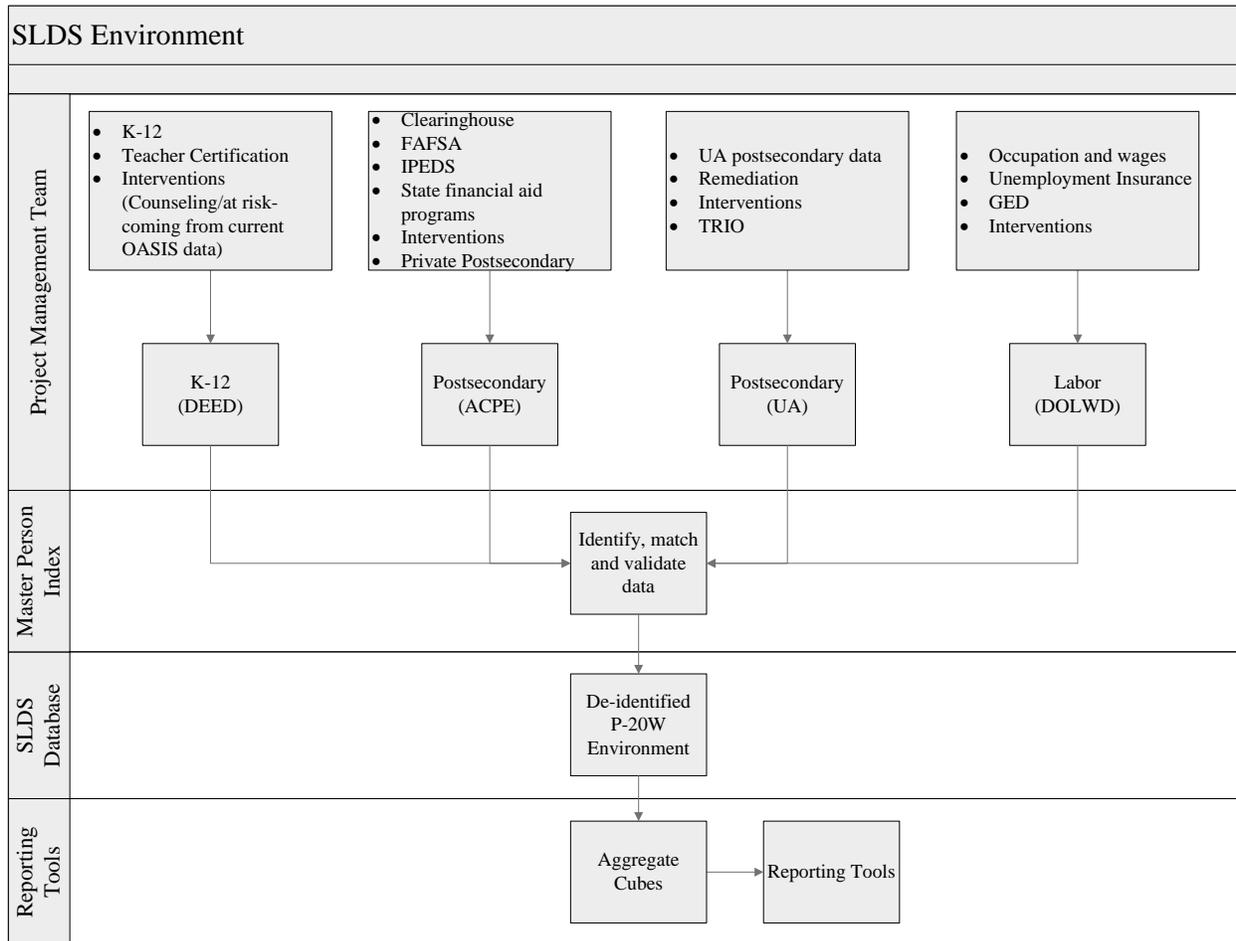
2.3 Install and Test Backup and Disaster Recovery Solution

Given the importance of the data residing in the Alaska SLDS a well-developed backup system is essential. The hardware and software to support the backup and disaster recovery requirements in the technical requirements document will be created by the technical staff assigned to this project. This backup solution will be built not only to accommodate the immediate needs of the Alaska SLDS but also to provide capacity for future growth.

Deliverable 3. Development

The development phase of the SLDS project is the most time consuming, in which all prior planning efforts are realized. Throughout this process a formal project methodology will be utilized as discussed in deliverable 1.2 to ensure project deliverables, dependencies, and critical paths are identified and tracked. Emphasis will be placed on data security, data availability, and system performance, as well as the interaction between data sources. Exhibit 5 illustrates the envisioned system processes that will make up the Alaska SLDS. Specifically, each of the four data providers will provide snapshot data to the PMO, which will identify, match, and validate data. The types of data from each provider are listed above the provider name. At the PMO, matched data will be assigned a P-20W SLDS identification number and be stripped of all other individually identifiable data. The de-identified data will be loaded into the SLDS following appropriate data validity and integrity tests as developed during the ETL project phase, and the original snapshot files will be destroyed.

EXHIBIT 5. SLDS Processes



3.1 Create Extract, Transform and Load (ETL) Processes

The first step in the development process is to create Extract, Transform and Load (ETL) processes to integrate snapshots of data from the current agency data systems into the SLDS. These ETL processes will be specific to each contributing agency. As agency data files are loaded into the system, cross-walk tables will be created that allow data to enter the system in multiple formats and be transformed into the formats described in the CEDS to ensure future opportunity to pursue data sharing potentials with other states, including the multi-state data project being developed in cooperation with WICHE.

3.2 Create a Master Person Index (MPI) Record Matching Process

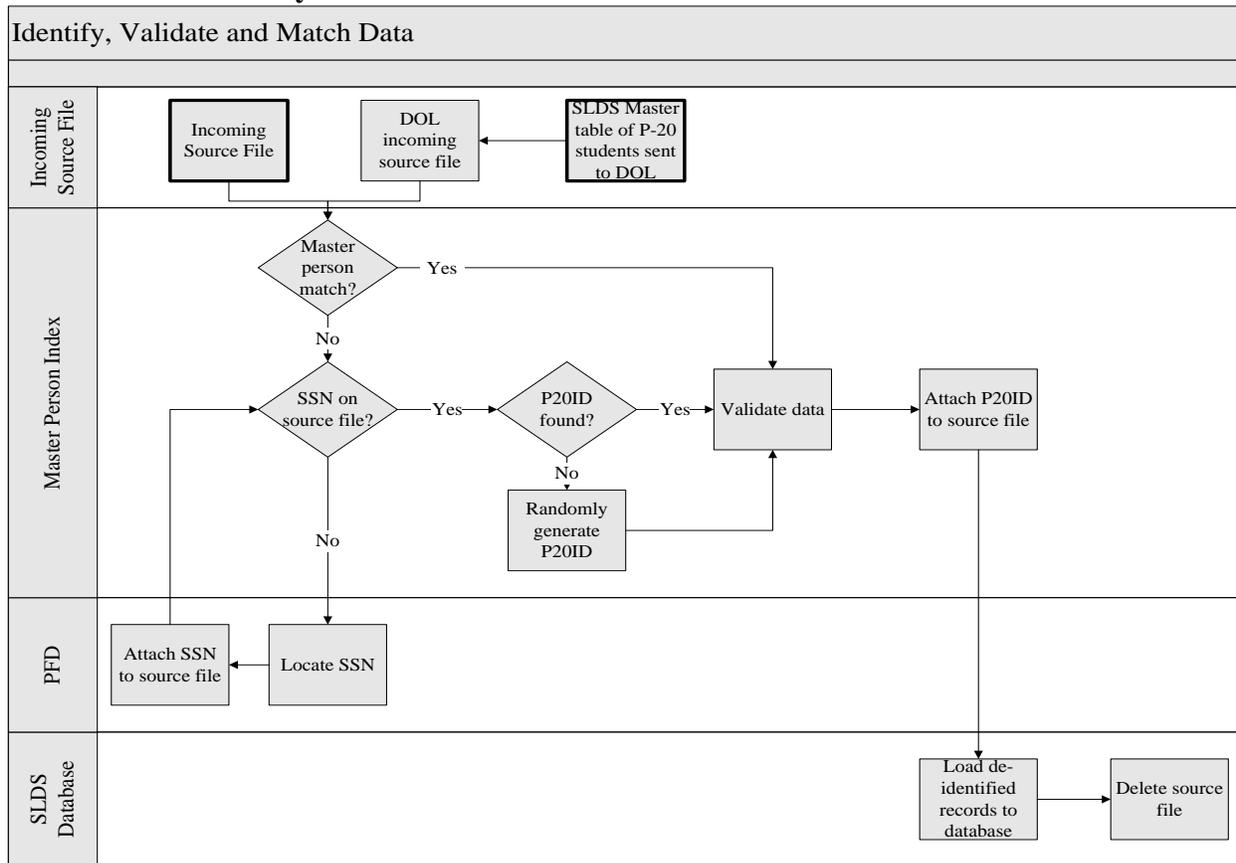
Technical staff will work with a security expert to build a secure and sequestered Master Person Index (MPI) process, incorporating custom matching algorithms and processes for matching individual records within the system and assigning unique P20 Identification Numbers (P20IDs) to individuals new to the system, or existing P20IDs to data from individuals already within the system. The process will include applications which facilitate the review of possible record matches by analysts in the event of partial matching criteria but below a defined minimum threshold to confirm a match within the MPI. The files agencies provide with identifiable data will be encrypted prior to transfer and transferred through a secure protocol. The personally identifiable information (PII) from these files will reside in the MPI, which will be maintained on

a separate secure hardware infrastructure from the P-20W SLDS to further limit access to the data. These files are used only for the matching process. Once data are de-identified and the PII moved to the MPI, the original files from the data providers will be destroyed. Exhibit 6 illustrates this process.

3.3 Create and Populate the Database Environments

The final outcome in the development phase is the creation of the SLDS database environments. A staging environment where incoming data can be analyzed for data quality issues prior to final loading into the SLDS will be included in this process for individual agency use. This staging environment will provide data audit or edit reports to the agencies to review for final approval (See Exhibit 6). In addition, technical staff will develop the unified P-20W database environment where data are brought together from all of the sources that can be linked together via the P20ID. Once the database environments are created, data will be processed through the ETL and MPI linking process and populate data tables so they can be tested and used for analysis and report writing.

EXHIBIT 6. SLDS System Processes



Deliverable 4. Data Reporting

To realize benefits from the costs and efforts required to build a SLDS, the information it contains must be accessible, understandable and accurate. However, these attributes mean different things to different people, depending on their needs and their experience working with data. For that reason, Alaskans and approved researchers will have several levels of access to

reports and data through its SLDS. The following diagrams illustrate the conceptual levels of access that Alaska intends the SLDS to provide. Alaska envisions three ways of accessing data from the SLDS based on users' roles and access levels (See Exhibit 7).

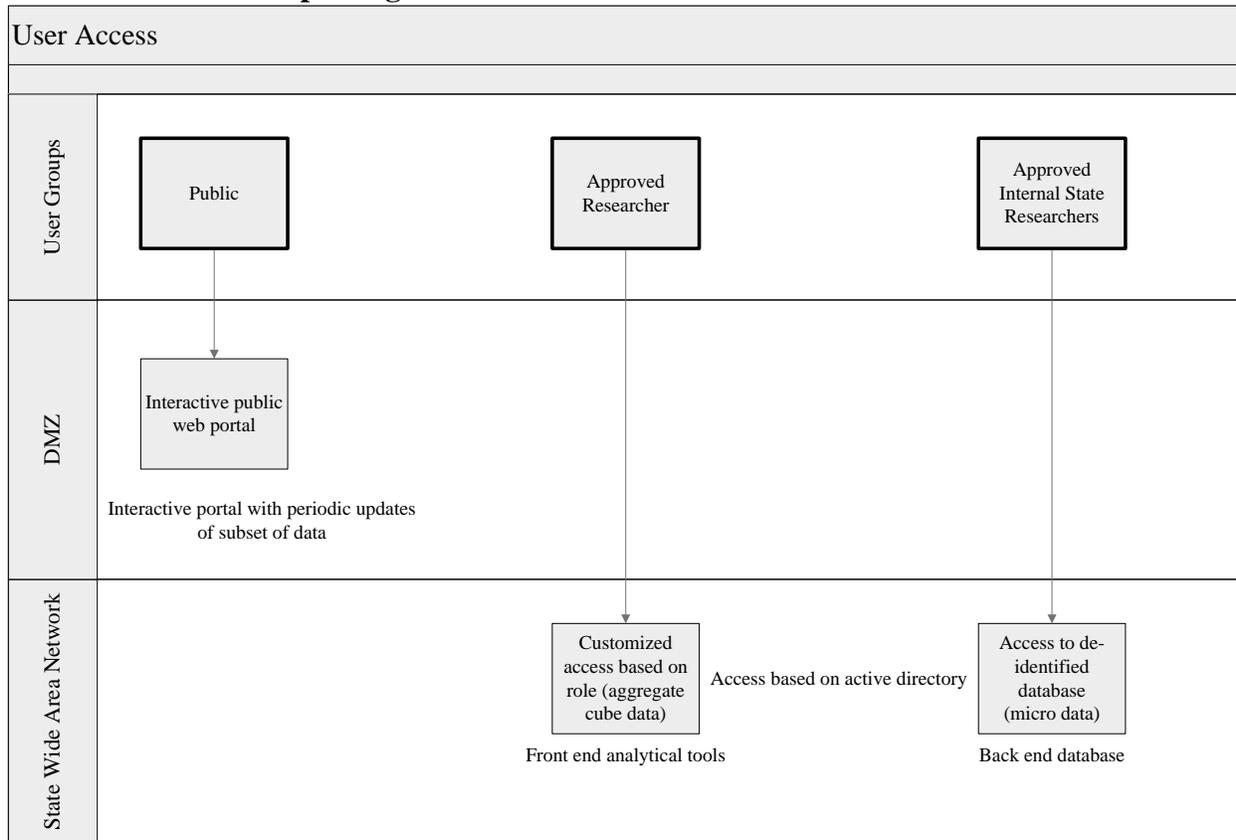
The majority of SLDS access will be via an interactive web portal. The general public will be able to access pre-defined interactive reports using aggregate data updated on a scheduled, standardized basis. The portal will be housed separately from the actual SLDS and will contain only data stripped of all PII and aggregated to levels that prevent the ability to infer information about an individual. This level maximizes data accessibility, and generates reports accompanied by narrative and graphic presentations of these data in order to ensure users understand its meaning, while maintaining confidentiality through de-identification and aggregation of the underlying data.

The second method of data access is for researchers who have presented a specific research project that requires the use of SLDS data and is approved by the Executive Governing Board. This level of access allows the researcher to log in to a system and use front end analytical tools to perform queries on de-identified data under the guidance of SLDS staff and from within the state's Wide Area Network. This level allows for more granular analysis of data contained in the SLDS, and provides researchers the ability to create special reports not available through the interactive portal, while maintaining data security thorough de-identification of the underlying data and staff monitoring. The results of the research using SLDS data must be vetted in a SLDS governance group review process to ensure compliance with all data privacy requirements prior to publication.

The third method of access is for approved internal state researchers, normally staff of a partnering agency. This access level requires the researcher to coordinate with SLDS staff to gain access to the de-identified unit record database for specific purposes. This type of access will be carefully monitored and controlled by SLDS staff, and research proposals will require approval of the Executive Governing Board.

This multi-level approach to access to reports and data housed within the Alaska SLDS will allow robust feedback to stakeholders. For the first time, all Alaskans will have access to de-identified aggregated information unavailable to them prior to this project through the secure public web portal, while more detailed research and analysis will be possible under the auspices and protection of the SLDS governance board. Exhibit 8 illustrates the data feedback expected once the system is operational.

EXHIBIT 7. Data Reporting and User Access



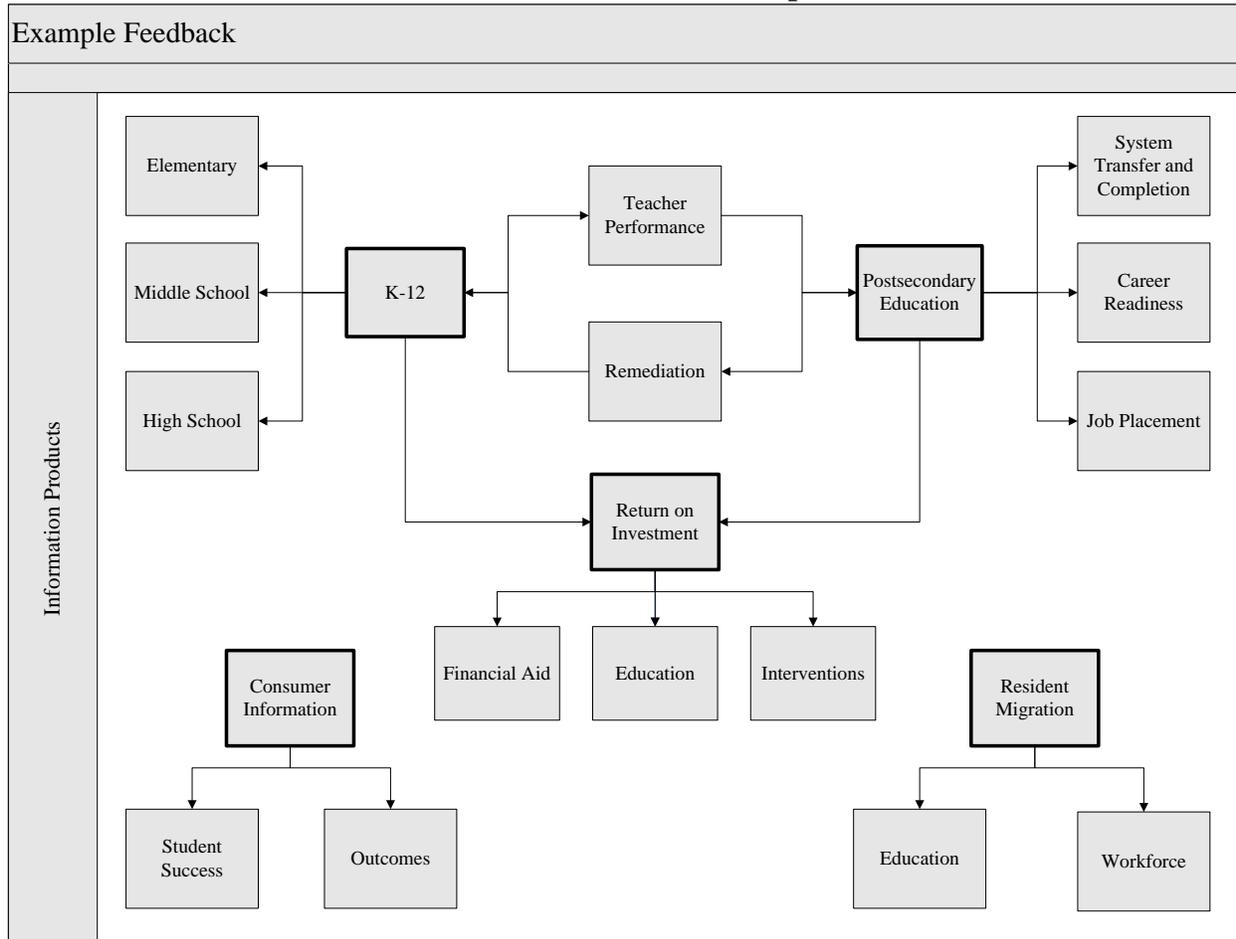
4.1 Determination and Development of Required Reports

Through discussions with and input solicitation from stakeholders, consultants, research partnering agencies and the SLDS governing boards, and using Alaska's existing critical policy questions as a starting point, the content and scope of the SLDS reporting instruments will be determined. From these efforts, and using current best reporting practices from other states operating a SLDS, Alaska will design the various feedback reports. Feedback reports will be designed to meet the needs of specific target audiences, including their area(s) of concern with regards to education and workforce outcomes, and their need for detail. Such reports will be incorporated into a SLDS reporting library, allowing for efficient information updating. For more detailed reporting needs, application code will be created and maintained so that internal researchers can retrieve and edit it to run more ad hoc queries.

4.2 Deployment of a Reporting Platform

Alaska will deploy a reporting platform accessible to authorized research level users. This platform will allow researchers to build their own queries on the SLDS data through a graphical point-and-click interface. They will be able to access only data which have been de-identified (i.e., all PII removed). Alaska intends to use existing hardware to run this system but, if needed, is prepared to expand its hardware infrastructure. The technical staff associated with the Alaska SLDS will determine the software to be used and will install that platform as well as make any user software applications available to authorized users.

EXHIBIT 8. SLDS Feedback Information Product Examples

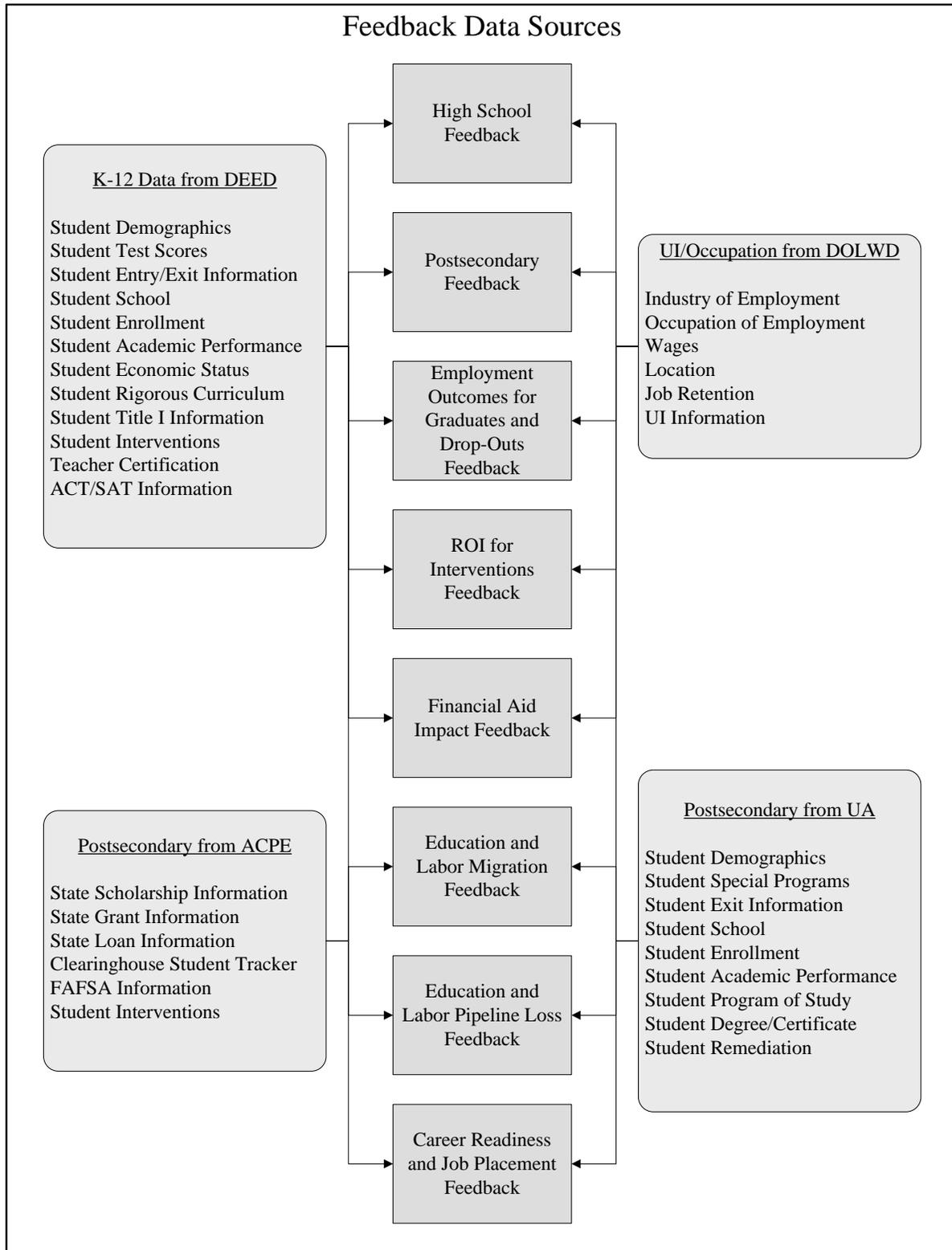


4.3 Creation of a Data Portal

Alaska will create a data portal to house reports and information products related to P-20W issues and initiatives. The portal itself will provide information available for general public access. Staff will utilize content area specialists to assist in the creation of specific reports in order to understand the appropriate measures and metrics to include. Alaska will create the requirements and general statistics and metrics to be displayed as well as rules for data re-disclosure and secondary suppression guidelines to ensure privacy protection for individuals is maintained. All reports placed on the publicly accessible data portal will be approved by the Executive Governing Board prior to release. The conceptualized flows of data into these feedback reports is presented in Exhibit 9.

Access will be monitored to maximize data security, including the assignment and use of user IDs and passwords, and a vetting process to ensure users performing more sophisticated analyses fully understand the data and its application to their areas of interest. In addition, the PMO will engage its analysts and work with the legislature to use data to review the impact of proposed legislation and/or otherwise inform state policy. A research agenda will be developed for annual approval by the Executive Governing Board to ensure ongoing public engagement with the data and best use of the data and analytical resources to inform current projects and initiatives.

EXHIBIT 9. Feedback Data Sources



Deliverable 5. Training and Professional Development

Alaska will provide targeted training and professional development to facilitate, informed use of the Alaska SLDS by a variety of interested user groups. Related events and products will include development of additional information products to meet user needs during and beyond the grant period. This deliverable includes researching and assessing staff, stakeholder, and other public users' needs to identify the most efficient and effective training methods and materials for each training audience. Training will be delivered in a variety of formats to best meet the needs of as large and diverse an audience as possible, using technology whenever possible to maximize accessibility while minimizing delivery costs.

5.1 Training Development for and by PMO

Consultants will provide the initial user level face-to-face system administration orientation and training to PMO staff. This includes administering user access and credentials as well as defining reports on the web portal. Training curricula and content will be fully documented by the PMO, and training responsibilities will extend to development and maintenance of online documents and web-based training for state researchers/analysts, approved researchers and the public. ACPE already benefits from an existing robust training unit staffed by professionals with extensive training skills and experience. The PMO will call on this group, as well as consultants, to develop and deploy/market these training tools. Additionally the PMO will be versed in all of the following levels of user access.

5.2 Training Development for Technical Manager and Staff

Consultants and ACPE will provide initial user level on-site hardware and software system management training. This will include all server and database updates including ETL and MPI processes. Training and procedure documentation will be created and securely maintained in the event of staff turnover.

5.3 Training for State Researchers/Analysts

Alaska will provide focused user level face-to-face software training on the reporting platform for authorized researchers/analysts from each agency. This agency researcher/analyst training will focus on available data, user interface and query creation for researchers. Researchers/analysts will be provided with an online handbook on all data dictionaries, mapping documentation and training guides. This handbook will be stored on the SharePoint project site and will be updated by the PMO as needed.

5.4 User Level Training for Approved Researchers

Alaska will provide the user-level training handbook developed under outcome 5.3 upon approval of the governance board. Web-based training will be provided and must be completed prior to having access granted to the front end analytical tool. This training will ensure the user understands protocols for gaining research/special studies approval, how to use the analytical tool, and how to interpret data.

5.5 Web-Based Training for New General Public Users

Training for general public users will be available through a variety of self-service media, including online tutorials; hosted, interactive webinars; and an online help functionality including a plain English data dictionary. Paper and PDF documents will also be available for

all system operations. Self-service tools will conform to protocols that allow information presentation in alternative formats for users requiring such accommodation. Each of the primary individual reports in the data portal will have an interactive web-based training associated with it. This training will ensure the user understands how to interpret the report and what, if any, caveats or limitations apply to the report and data used to generate the report.

Deliverable 6. Develop a Project Sustainability Plan

The last step in building the Alaska SLDS will be the development of a sustainability plan to ensure seamless operation after the grant. Planning for system sustainability has already started and will be a priority throughout the project development process. In this plan critical personnel will be identified for the continued maintenance, development and expansion of the system. Ongoing hardware and software costs will be identified for budgeting purposes. ASLC will provide sustainability funding for the project. A communications and expansion plan will be included as part of this sustainability plan to ensure continued use and development of the SLDS. In addition, identifying sources of funding for future expansion will be addressed in this plan. This plan, along with all SLDS activities, decisions, policies and procedures will be fully documented and available to all stakeholders, including the public, with the exception of materials that might compromise security. The sustainability plan will be formalized and finalized in the last quarter of the project; however, sustainability planning will be considered in every phase of project development.

6.1 Funding

As noted, ASLC will provide post-grant funding for the SLDS as a key component of ACPE's operating activities. Analysis of SLDS funding needs will become a regular component of ASLC/ACPE's annual budgeting cycle, and, as such, will be an open and public process.

6.2 Maintenance

Maintenance activities will include regular analysis of changes or upgrades needed relative to hardware, software, and infrastructure; as well as analysis of staffing needs, ranging from training and skills development for existing staff and any needs for additional staffing or external consultations. Maintenance will also include an annual report to the Alaska Legislature, and annual surveys of stakeholder groups (researchers, school districts, postsecondary providers, industry groups, Native organizations, etc.) to determine whether the SLDS continues to meet their needs and to solicit input on new uses or useful data sources.

6.3 Expansion

Expansion will be driven in part by responses to reports and surveys developed as part of the SLDS maintenance activities. As part of this phase, the PMO will develop for approval by the governing bodies and circulation to stakeholders a rolling five-year plan that describes expansion goals and annual plans to meet those goals. Examples of expansion activities include bringing in new data sources that can enhance the SLDS' utility, such as corrections or social services data, and developing new stakeholder reports.

6.4 Review and Assessment

Key to sustainability is continuous assessment and improvement. To facilitate accomplishment of these goals, the PMO intends to periodically contract with an independent third party with

SLDS-related expertise to review the Alaska SLDS and make recommendations for improvement, identify any gaps or risks and associated mitigation strategies, and to report its findings directly to the SLDS governance boards and the public.

C) TIMELINE FOR PROJECT DELIVERABLES

Alaska will link its existing K-12 data system with postsecondary and workforce data in order to more efficiently and effectively provide needed information to policy makers and educators about the linkages across the education and workforce systems through the accomplishment of the six deliverables enumerated above. Although all partner agencies will provide input and support to the accomplishment of these deliverables, the primary responsible parties for completion of the supporting tasks will be the Project Director and the Technical Project Manager; and completion of all deliverables will be approved by the Executive Governing Board, Data Stewards Governing Board, or other party as designated by the governing boards. Each of the six deliverables has a set of supporting tasks that will be performed during the three-year grant period. Exhibit 10 lists the deliverables, supporting tasks, responsible parties, and beginning and ending months for each deliverable and supporting task, assuming that funding becomes available in May 2012.

EXHIBIT 10. Project Timeline

Deliverable	Supporting Tasks	Responsible Party	Month Begin	Month End
Deliverable 1 - Project Planning and Preparation (months 1-9)	1.1 Overall Project Plan	Project Director	May 2012	Jul 2012
	1.2 Project Mission Statement and Project Methodology	Project Director	May 2012	Jul 2012
	1.3 Develop and Deploy Governance Structure	Project Director	May 2012	Jan 2013
	1.4 Validate Critical Policy Questions	Project Director	Jul 2012	Sep 2012
	1.5 Analysis of State and Agency Needs for Reporting	Project Director	Jul 2012	Sep 2012
	1.6 Identify Business and Technical Requirements	Project Director	Sep 2012	Nov 2012
	1.7 Analysis of Existing Data Systems	Technical Project Manager	Jul 2012	Oct 2012
	1.8 Develop Data Models for the SLDS	Technical Project Manager	Nov 2012	Jan 2013
Deliverable 2 - Hardware Infrastructure (months 10-12)	2.1 Order, Install and Test the Server Hardware and Software	Technical Project Manager	Feb 2013	Apr 2013
	2.2 Set Up the Networked Data Storage	Technical Project Manager	Feb 2013	Apr 2013

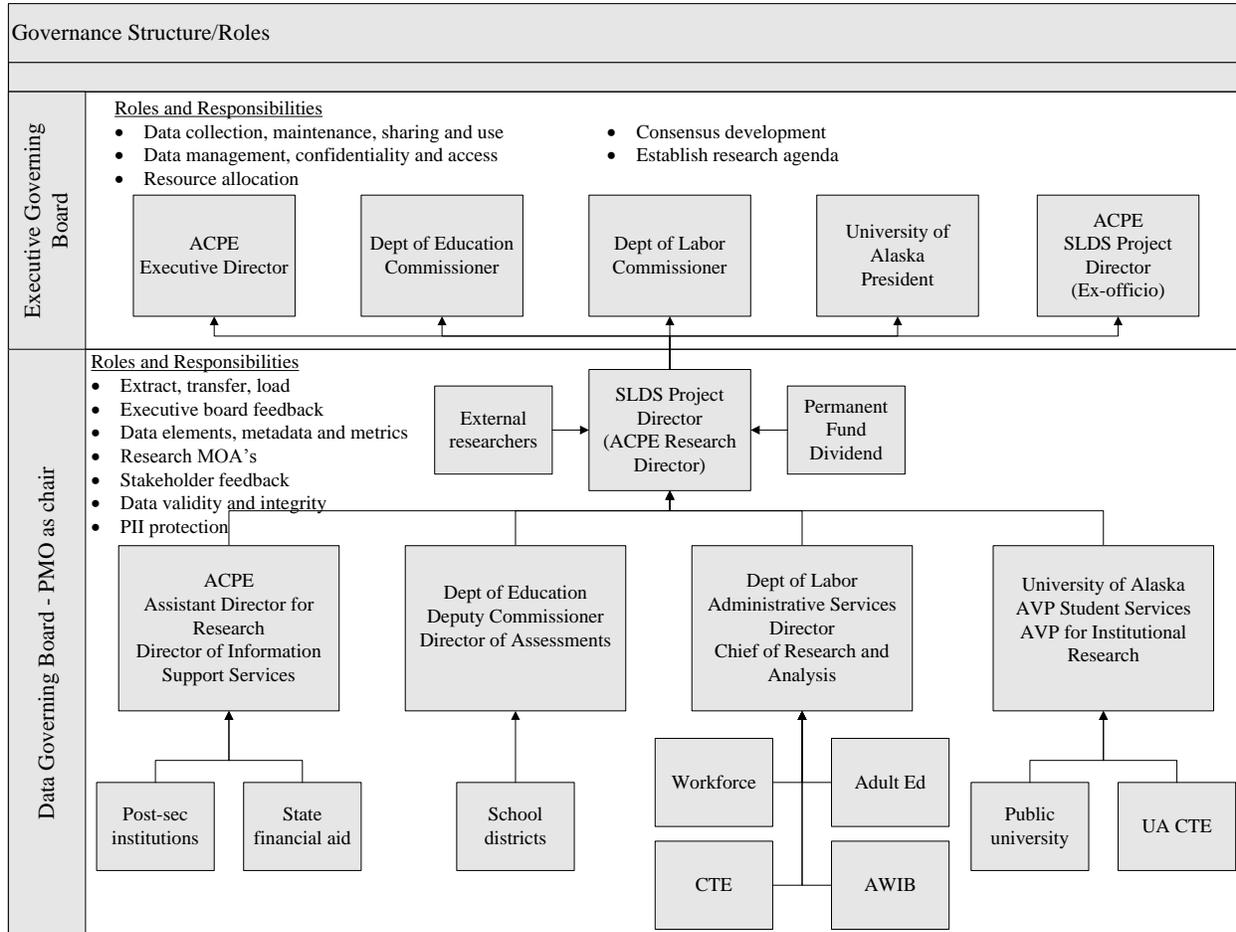
	2.3 Order, Install and Test the Backup Solution	Technical Project Manager	Feb 2013	Apr 2013
Deliverable 3 - Development (months 13-24)	3.1 Create Extract Transform and Load (ETL) Processes	Technical Project Manager	May 2013	Aug 2013
	3.2 Creation of a Master Person Index (MPI)	Technical Project Manager	May 2013	Dec 2013
	3.3 Creation and Population of the Database Environments	Technical Project Manager	May 2013	Apr 2014
Deliverable 4 - Data Reporting (months 25-30)	4.1 Determination and Development of Required Reports	Technical Project Manager	May 2014	Oct 2014
	4.2 Deployment of Reporting Platform	Technical Project Manager	May 2014	Oct 2014
	4.3 Creation of a Data Portal	Technical Project Manager	May 2014	Oct 2014
Deliverable 5 - Training and Professional Development (months 31-36)	5.1 Training Development for and by PMO	SLDS Project Director	Nov 2014	Jan 2015
	5.2 Training Development for Technical Manager and Staff	SLDS Project Director	Nov 2014	Feb 2015
	5.3 Training for State Researchers/Analysts	SLDS Project Director	Feb 2015	Apr 2015
	5.4 User Level Training for Approved Researchers	SLDS Project Director	Nov 2014	Apr 2015
	5.5 Web-Based Training for New General Public Users	SLDS Project Director	Nov 2014	Apr 2015
Deliverable 6 – Sustainability (months 34-36)	6.1 Funding	SLDS Project Director	Feb 2015	Apr 2015
	6.2 Maintenance		Feb 2015	Apr 2015
	6.3 Expansion		Feb 2015	Apr 2015
	6.4 Review and Assessment		Mar 2015	Apr 2015

D) PROJECT MANAGEMENT AND GOVERNANCE PLAN

The Alaska SLDS will be physically located within ACPE for support and sustainability purposes but will be governed and managed by cross-agency groups of Alaska officials (see Exhibit 11). Consistent with the EDS policy discussed in Section A, Project Sustainability and Funding, the Alaska SLDS will be collectively governed at the senior level by DEED, DOLWD,

ACPE, and UA. At the technical level, additional stakeholders will be incorporated to ensure representation in the SLDS governance for all key constituencies.

EXHIBIT 11. Alaska’s Governance Team



Executive Governing Board

The Executive Governing Board will function in Alaska as the governance body for the development of P-20W data sharing projects including the creation and maintenance of the SLDS which will be developed under this grant. The team itself is composed of the executives from each of the agencies as shown in Exhibit 12, or their designees, and the SLDS Project Director, who will function in an ex-officio role.

EXHIBIT 12. Alaska’s SLDS Executive Governing Board

Agency	Incumbent Member
Department of Education/Early Development	Commissioner Mike Hanley
Department of Labor/Workforce Development	Commissioner Click Bishop
ACPE	Executive Director Diane Barrans
University of Alaska	President Pat Gamble

Alaska's EDS policy was signed on December 5, 2011 and the EDS policy team had not formally met as such as of the December 15th grant application date. However they will convene in their dual roles as both EDS policy team and Alaska SLDS Executive Governing Board members at least quarterly to discuss issues related to their charge and the creation of a P-20W system. Their first meeting is scheduled in January of 2012 at which time they will decide on administrative protocols such as how future meetings will be organized, how decisions are made by the group, and the creation of the SLDS Data Stewards Governing Board, which includes agency leadership as well as the leadership of other state agencies identified in the EDS Policy and other stakeholders to provide input and feedback on the process and projects. The Executive Governing Board duties are envisioned to include:

- Determine memberships in the governing bodies, and respective duties and authorities.
- Determine ownership of data included in the SLDS, and therefore the agency responsible for its accuracy and for its maintenance.
- Determine how changes to the rules governing the SLDS are submitted, considered, acted upon and implemented.
- Determine who, and for what purposes, access to data will be granted. Define the categories of various users and data to which each role has access, and formulate a data disclosure policy providing for appropriate access to the SLDS data.
- Communicate with the public and data users about the SLDS, its value, the various uses for it, and the security of data it contains. Ensure the public perception of the SLDS is a positive one, and advocate for the SLDS and its mission as required.
- Ensure all SLDS data uses are open and transparent, and that data are not used for punitive or other inappropriate measures or to evaluate employee performance, either of individuals or groups of employees.
- In cooperation with the Data Stewards Governing Board, investigate complaints of the release of PII, following the process in place in State of Alaska regulations and associated protocols and procedures developed and documented by the PMO.

Data Stewards Governing Board

The Data Stewards Governing Board is composed of members of the principal data sharing organizations. Membership changes to the Board will be determined by the Executive Governing Board. This entity will be charged with making certain data are accurate and coordinating the updating and maintenance of the database. They will also monitor the SLDS to ensure the data security and that the system meets all regulatory requirements of the various agencies. The Data Stewards Governing Board duties are conceptualized to include:

- Determine and define data elements and metadata captured in the SLDS.
- Determine technical processes and policies relative to timing and methodology for data uploads from data providers.
- In cooperation with the Executive Governing Board, prioritize information requests.
- In cooperation with the Executive Governing Board, investigate complaints of misuse of or inaccuracies in SLDS data and reports. When complaints include release of PII, the investigation will follow the process required by Alaska law.
- Formulate the procedures required to approve special data requests within the data disclosure policies set forth by the Executive Governing Board. Set data access rules for the various user roles that meet the guidelines of the Executive Governing Board.

- As required and as approved by the Executive Governing Board, create Memoranda of Agreements for special research using SLDS data.

Project Management

The Alaska SLDS project will be managed by the Project Director with the SLDS Data Governing Board making essential project decisions on behalf of the collaborative of participating agencies. As fiscal agent, DEED will provide budgetary oversight.

The Project Director will manage the project using accepted project management processes including the creation of planning documents, a project plan and timeline, budget documents, and logs of issues to be resolved and agreements to changes to the project plan. These documents will be developed and maintained by the SLDS Project Manager. The Project Manager will manage a SharePoint site where all working and final documents are maintained, and where obsolete documents are archived.

Decision Making

The Executive and Data Governing Boards will make decisions based on consensus. The Project Director and Technical Project Manager will work to facilitate consensus on issues. If consensus cannot be reached, the decision moves up to the next level of approval to decide. In matters before the Executive Governing Board, a negotiated approach to reaching consensus will be used.

Communications

The Project Director is responsible for providing regular communication updates to the Executive Governance Board and other stakeholders to ensure everyone with a need to know is aware of project progress, milestones, and news. Specific communications include:

- Monthly status update reports to the Executive Governance Board on current progress, initiatives, progress, and issues that are being resolved.
- Quarterly status update reports to the wider audience of stakeholders that include information about progress indicators, goals, and milestones.
- Quarterly budget report to the Executive Governance Board jointly developed by the Project Director and Project Manager and the DEED budget designee for the project.

In addition, all Executive and Data Governing Board members will have access to a SLDS Project SharePoint site maintained by the project manager. All officially approved documents, plans, and resource materials will be maintained on this site as well as serving as the primary hub for issue logs and documenting project plan changes and other decisions. The site is not public and is intended for project leadership only.

E) STAFFING

Section D, Project Management and Governance Plan, provides information about governance members and project management personnel qualifications to manage and implement the deliverables outlined. Many of the other personnel identified for Alaska's SLDS project are part of the grant application team and have worked with K-12, postsecondary, or workforce data systems, reporting tools, and policy analysis. The application's Budget Information Non-Construction Programs (ED 524) – Section C lists all of the positions required to develop

Alaska’s SLDS and details the corresponding time commitments, percent of FTE by project year, and cost. Exhibit 13 contains an abbreviated version of ED 524 Section C and details the time commitments of SLDS project personnel by percent of full-time employee (FTE) for State of Alaska employees and number of contract days for contract positions.

EXHIBIT 13. Abbreviated ED 524 Section C

Grant Period	Year 1				Year 2				Year 3				Totals			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Years FTE	Number of Days		
Position Title	Time Commitment (% FTE for personnel and # of days for contactual)															
Project Director	100%												3.00			
Project Manager	62.5	62.5	62.5	62.5	62.5	62.5	62.5	62.5	62.5	62.5	62.5	62.5		750.00		
Research Analyst	100%												3.00			
Technical Project Manager	25%												0.75			
Business Analyst #1	100%												3.00			
Business Analyst #2	-	-	62.5	62.5	62.5	62.5	62.5	62.5	62.5	-	-	-		437.50		
System Architect	-	-	31.25	31.25	15.25	16	15.25	16	-	-	-	-		125.00		
Database Administrator	-	-	15.25	16	15.25	16	15.25	16	15.25	16	15.25	16		156.25		
SQL Developer #1	-	-	100%										2.50			
SQL Developer #2	-	-	62.5	62.5	62.5	62.5	62.5	62.5	62.5	62.5	62.5	62.5		625.00		
Application Developer	-	-	-	-	100%								-	-	1.50	
Report Writer/ Dashboard Developer	-	-	-	-	-	-	100%						1.50			
Technical Staff to Support Agencies	-	-	125	125	125	125	125	125	125	125	-	-		1,000.00		
Agency Project Managers																
DEED	50%								-	-	-	-	1.00			
UA	50%								-	-	-	-	1.00			
DOLWD	50%								-	-	-	-	1.00			
SLDS Consultant	-	-	15.25	16	15.25	16	-	-	-	-	-	-		62.50		
Economic Data Analyst	-	-	-	-	-	-	-	-	15.25	16	-	-		31.25		

Exhibit 14 identifies each team member’s organizational affiliations, position description, and the incumbent’s qualifications to successfully manage and implement the proposed Alaska SLDS project. Many of these individuals were involved in the development of this application and will become key personnel of Alaska’s SLDS project. Appendix C contains the resumes of the named agency personnel listed in the following table.

EXHIBIT 14. Alaska’s SLDS Project Team

Position	Description
Project Director 100% (Brian Rae, ACPE)	The Project Director position was created at ACPE specifically to provide management and expertise relative to SLDS activities and will be responsible for managing all aspects of the grant deliverables and staff

Assistant Director for Research, grant funded/in-kind)	assigned to the project to ensure successful project completion while adhering to identified requirements. Responsibilities include mitigating risk, working with leadership to resolve changes to the project plan or issues, and working with IES staff on all activities related to reporting project progress. Mr. Rae has over 16 years of project management experience while overseeing the collection, compilation and analysis on data elements using both internal and external data sources. He is skilled in strategic planning and outcomes reporting based on confidential information. He currently serves as Alaska’s representative at the annual federal SLDS meetings.
Project Manager 750 days (contract, grant funded)	The Project Manager will develop and maintain SLDS project documentation, the project plan, budget documents, and other artifacts including issue, decisions, and change logs; and develop required reporting documentation to provide updates to stakeholders about project progress. This position will assist the Project Director in facilitating and communicating the workflow, project progress, and any issues that may impact successful completion of deliverables.
Technical Project Manager 25% (Kenneth Dodson, ACPE Director of Information Support Services, in-kind)	The Technical Project Manager will manage technical aspects of the project, including technical staff supervision; technical staff assignments; approval of technical requirements; design and prioritization of technical deliverables; and general oversight of all technical aspects of this project. This position will work with the Project Director and Agency Project Managers to ensure all technical design issues are appropriately identified and addressed. Mr. Dodson has over 20 years of IT leadership and program and project management experience in higher education and information technology. He has extensive experience and knowledge of advanced principles and platforms of complex computer operations and networks and can provide the ability to ensure FERPA compliance throughout systems, programs, policies, and procedures.
Research Analyst 100% (vacant, ACPE Research Analyst, in-kind)	This position gathers data for the purpose of further research and analysis. The Research Analyst will develop queries against the relational databases, makes statistical calculations, and create complex formulas in spreadsheets. The skills required are ability to gather data, conduct data analysis, develop deliverables (written, spreadsheet, presentation) and meet time-sensitive delivery goals. The research analyst must be well-versed in information technology, information security, business applications, uses of technology, and data analysis. This position will assist with the development of reports and other information products using the system, and create ad hoc analyses to respond to data requests.
Business Analyst #1 100% (Jamie Oliphant, ACPE Business Analyst, in-kind)	This position will work with each data-providing entity and is responsible for gathering, analyzing, defining and documenting data elements. The position will provide project management relative to the data element analysis and transfer to the SLDS, which will include documentation of scope, high level requirements, developing a business design, creating test plans, and ensuring appropriate and complete project

	<p>methodology. The business analyst will act as the liaison between the project director and the technical director and developers, and with data “owners” at each data-providing entity. This position also conducts the project testing and documents and validates results, and makes recommendations relative to training needs. Ms. Oliphant has over seven years of analysis and project management experience. She is knowledgeable of multidimensional models with on-line analytical processing OLAP cubes utilizing business intelligence tools. She has expertise in defining and documenting project methodology developing data dictionaries and mapping documentation, and developing and delivering related training.</p>
<p>Business Analyst #2 437.5 days (contract, grant funded)</p>	<p>See description for Business Analyst 1. The Business Analyst 2 position will work closely with the Business Analyst 1 to perform the duties listed under the Business Analyst 1 position description. There will be a concerted effort to ensure both Business Analyst positions collaborate to ensure complete knowledge transfer related to the project and individual deliverables takes place.</p>
<p>System Architect 125 days (contract, grant funded)</p>	<p>The architect establishes the basic structure of the system, defining the essential core design features and elements that provide the SLDS framework. This position is responsible for interfacing with the user and stakeholders in order to determine evolving needs and generate system requirements based on the user's needs and constraints such as cost and schedule. The architect will also develop standards and ensure best practices creating the actual system design, component specification, schemas, and models.</p>
<p>Database Administrator 156.25 days (contract, grant funded)</p>	<p>The primary job duties of the database administrator are building, maintaining, administering and supporting the SLDS databases. This position is also responsible for keeping data secure by managing access, privileges and information migration. The database administrator installs and configures database management software, translates database designs, and diagnoses database performance issues. Other responsibilities include evaluating new tools and technologies, analyzing user needs, making training recommendations, and presenting findings to management.</p>
<p>SQL Developer #1 100% (Joseph Wolner, ACPE Programmer/Analyst, in-kind)</p>	<p>The SQL developer develops applications and integrates data into the SLDS environment using the Microsoft SQL Server platform. Additional responsibilities include developing reports, data warehousing duties, and similar data-related functions. This position will also be responsible for performing quality checks on reports and exports, and creating and maintaining documentation for all database projects. Mr. Wolner has 21 years of analysis/design experience, 25 years of programming and data warehousing experience and 16 years of Internet development experience. He currently manages several database servers and supports the underlying data and manages information systems disaster recovery projects. He is experienced with documenting, implementing and monitoring standards to ensure quality, security, data</p>

	integrity, and regulatory compliance in the programming environment.
SQL Developer #2 625 days (contract, grant funded)	See description for SQL Developer 1. The SQL Developer 2 position will work closely with the SQL Developer 1 to perform the duties listed under the SQL Developer 1 position description. There will be a concerted effort to ensure both SQL Developers collaborate to ensure complete knowledge transfer related to the project and individual deliverables takes place.
Application Developer 100% (Jim Weidemaier, ACPE Deputy Director Information Support Services, in-kind)	The application developer is responsible for designing, building, testing, documenting and implementing software code-based solutions to create programs which fulfill functions identified in the business requirements. The application developer will be responsible for turning user needs into web-based and stand-alone applications to support the overall project goals and system automation. Mr. Weidemaier has 21 years of analysis experience, 17 years of project management experience, and 26 years of programming experience. He is experienced with data modeling concepts to create consistent and predictable data designs. He has also designed and implemented third-party data transfer protocols to maximize data security and integrity
Report Writer/Dashboard Developer 100% (Jeff Wockenfuss, ACPE Programmer/Analyst, in-kind)	The report writer is responsible for the creation, documentation, and support of reports and other information products using the SLDS. The report writer will also coordinate end-user training on report writing software and support users in ad-hoc report creation. This position works closely with end-users to gather report requirements and ensure proper testing/validation. Mr. Wockenfuss has 22 years of programming analysis experience and 17 years of project management experience. He is experienced in VSAM databases, SQL Server databases, JAVA programming; XML; COLBOL; CICS; and XML Schema development; Internet related technologies such as ASP.Net and HTML.
Technical Staff to Support Agencies 1,000 days (contract, grant funded)	These are contract technical positions who will support the efforts at each of the four agencies involved in the project. They will essentially perform the same duties as the SQL Developers, listed SQL Developer #1 and #2 positions, at the agency level to create the processes needed to extract and prepare data to move from the agency systems to the SLDS.
Agency Project Managers 50% (Erik McCormick, DEED Director of Assessments, grant funded) 50% (Vacant, UA Research Analyst, grant funded) 50% (Robert Kreiger,	The agency project manager positions will act as the project leaders and liaisons at the collaborating agencies. Existing staff at three of the partnering agencies will be allotted to the SLDS project: DEED, DOLWD, and UA. ACPE is otherwise included in this budget item in that the Project Director and Technical Project Director are staff of ACPE and will fulfill the role of agency project manager. The Agency Project Managers will coordinate and manage the SLDS project planning and development at the agency level and work closely with the SLDS Project Director and Project Manager. The agency Project Managers will work within the framework adopted by the Executive and Data Stewards Governing Boards. Mr. McCormick has 16 years of experience in education information. He served as the OASIS project manager and coordinator for the Alaska Student Identification System (ASIS). His

DOLWD Economist, grant funded)	role involves significant interaction with IT staff to ensure data is collected, stored and appropriately reported. Mr. Kreiger has 10 years' experience performing economic and market research. He currently manages the Research and Analysis Publications unit which includes monthly publication of Alaska Economic Trends magazine. He has also managed the daily operation of a large database which houses Alaskan wage, occupation, and place of work information for all employees covered under unemployment insurance.
SLDS Consultant 62.5 days (contract, grant funded)	A SLDS consultant will evaluate the overall project plan, recommend areas for improvement or consideration in the planning phase, and advise Alaska as it designs and builds the SLDS. This consultant will also work with Alaska stakeholders to review and validate the state's critical policy questions and to identify related training needs. The SLDS consultant will assist agency staff in the planning development of a secure and sequestered Master Person Index (MPI) process that incorporates custom matching algorithms and processes for matching individual records within the system using best practices from existing SLDS.
Economic Data Analyst 31.25 days (contract, grant funded)	The economic data analyst will assist agency staff with the development of economic reports and analyses, with emphasis on the use of education and labor force data to spur state and regional economic growth and development, and related training needs.

Additional expectations are that ACPE's and UA's internal training staff will design and develop training tools and resources, as informed by the work of the SLDS staff and consultants. ACPE intends to leverage its training staff and its community liaison and education outreach staff to fully penetrate the statewide stakeholder community relative to soliciting input on training needs, measuring community engagement, and testing training tools and resources for effectiveness in meeting needs.

Conclusion

The requested grant funding, combined with the work accomplished to date and the in-kind efforts both underway and planned during the grant period, will provide Alaska with the resources needed to develop and deploy a robust and critically-needed SLDS to link K-12, postsecondary, and workforce data. The SLDS will enable Alaska to evaluate the state's educational pipeline and its outcomes, answering pressing policy questions so Alaska can determine what works and better allocate increasingly scarce resources to maximize student opportunity – and therefore the state's opportunity – for success.