

U.S. Department of Education

Washington, D.C. 20202-5335



**APPLICATION FOR GRANTS
UNDER THE**

Statewide, Longitudinal Data Systems

CFDA # 84.372A

PR/Award # R372A120021

Grants.gov Tracking#: GRANT11026269

OMB No. , Expiration Date:

Closing Date: Dec 15, 2011

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This application was generated using the PDF functionality. The PDF functionality automatically numbers the pages in this application. Some pages/sections of this application may contain 2 sets of page numbers, one set created by the applicant and the other set created by e-Application's PDF functionality. Page numbers created by the e-Application PDF functionality will be preceded by the letter e (for example, e1, e2, e3, etc.).

Application for Federal Assistance SF-424		
* 1. Type of Submission: <input type="checkbox"/> Preapplication <input checked="" type="checkbox"/> Application <input type="checkbox"/> Changed/Corrected Application	* 2. Type of Application: <input checked="" type="checkbox"/> New <input type="checkbox"/> Continuation <input type="checkbox"/> Revision	* If Revision, select appropriate letter(s): <input type="text"/> * Other (Specify): <input type="text"/>
* 3. Date Received: <input type="text" value="12/15/2011"/>	4. Applicant Identifier: <input type="text"/>	
5a. Federal Entity Identifier: <input type="text"/>	5b. Federal Award Identifier: <input type="text"/>	
State Use Only:		
6. Date Received by State: <input type="text"/>	7. State Application Identifier: <input type="text"/>	
8. APPLICANT INFORMATION:		
* a. Legal Name: <input type="text" value="North Dakota Department of Public Instruction"/>		
* b. Employer/Taxpayer Identification Number (EIN/TIN): <input type="text" value="45-6002426"/>	* c. Organizational DUNS: <input type="text" value="8037550570000"/>	
d. Address:		
* Street1: <input type="text" value="600 E. Boulevard Ave, Dept 201"/>	Street2: <input type="text"/>	
* City: <input type="text" value="Bismarck"/>	County/Parish: <input type="text"/>	
* State: <input type="text" value="ND: North Dakota"/>	Province: <input type="text"/>	
* Country: <input type="text" value="USA: UNITED STATES"/>	* Zip / Postal Code: <input type="text" value="58505 0602"/>	
e. Organizational Unit:		
Department Name: <input type="text" value="ND Dept of Public Instruction"/>	Division Name: <input type="text" value="Management Information Systems"/>	
f. Name and contact information of person to be contacted on matters involving this application:		
Prefix: <input type="text" value="Mr."/>	* First Name: <input type="text" value="Steve"/>	
Middle Name: <input type="text"/>	* Last Name: <input type="text" value="Snow"/>	
Suffix: <input type="text"/>	Title: <input type="text" value="Director, MIS"/>	
Organizational Affiliation: <input type="text" value="North Dakota Department of Public Instruction"/>		
* Telephone Number: <input type="text" value="(701) 328-2189"/>	Fax Number: <input type="text" value="(701) 328-2255"/>	
* Email: <input type="text" value="fsnow@nd.gov"/>		

Application for Federal Assistance SF-424

*** 9. Type of Applicant 1: Select Applicant Type:**

A: State Government

Type of Applicant 2: Select Applicant Type:

Type of Applicant 3: Select Applicant Type:

* Other (specify):

*** 10. Name of Federal Agency:**

U.S. Department of Education

11. Catalog of Federal Domestic Assistance Number:

84.372

CFDA Title:

Statewide Data Systems

*** 12. Funding Opportunity Number:**

ED-GRANTS-092011-001

* Title:

Institute of Education Sciences (IES): Statewide, Longitudinal Data Systems Program CFDA Number 84.372A

13. Competition Identification Number:

84-372A2012

Title:

14. Areas Affected by Project (Cities, Counties, States, etc.):

Add Attachment

Delete Attachment

View Attachment

*** 15. Descriptive Title of Applicant's Project:**

North Dakota is seeking federal funding to expand their current SLDS project to better track students into post secondary and workforce

Attach supporting documents as specified in agency instructions.

Add Attachments

Delete Attachments

View Attachments

Application for Federal Assistance SF-424

16. Congressional Districts Of:

* a. Applicant

b. Program/Project

Attach an additional list of Program/Project Congressional Districts if needed.

17. Proposed Project:

* a. Start Date:

* b. End Date:

18. Estimated Funding (\$):

* a. Federal

* b. Applicant

* c. State

* d. Local

* e. Other

* f. Program Income

* g. TOTAL

*** 19. Is Application Subject to Review By State Under Executive Order 12372 Process?**

a. This application was made available to the State under the Executive Order 12372 Process for review on

b. Program is subject to E.O. 12372 but has not been selected by the State for review.

c. Program is not covered by E.O. 12372.

*** 20. Is the Applicant Delinquent On Any Federal Debt? (If "Yes," provide explanation in attachment.)**

Yes No

If "Yes", provide explanation and attach

21. *By signing this application, I certify (1) to the statements contained in the list of certifications and (2) that the statements herein are true, complete and accurate to the best of my knowledge. I also provide the required assurances** and agree to comply with any resulting terms if I accept an award. I am aware that any false, fictitious, or fraudulent statements or claims may subject me to criminal, civil, or administrative penalties. (U.S. Code, Title 218, Section 1001)**

** I AGREE

** The list of certifications and assurances, or an internet site where you may obtain this list, is contained in the announcement or agency specific instructions.

Authorized Representative:

Prefix: * First Name:

Middle Name:

* Last Name:

Suffix:

* Title:

* Telephone Number:

Fax Number:

* Email:

* Signature of Authorized Representative:

* Date Signed:

ASSURANCES - NON-CONSTRUCTION PROGRAMS

Public reporting burden for this collection of information is estimated to average 15 minutes per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to the Office of Management and Budget, Paperwork Reduction Project (0348-0040), Washington, DC 20503.

PLEASE DO NOT RETURN YOUR COMPLETED FORM TO THE OFFICE OF MANAGEMENT AND BUDGET. SEND IT TO THE ADDRESS PROVIDED BY THE SPONSORING AGENCY.

NOTE: Certain of these assurances may not be applicable to your project or program. If you have questions, please contact the awarding agency. Further, certain Federal awarding agencies may require applicants to certify to additional assurances. If such is the case, you will be notified.

As the duly authorized representative of the applicant, I certify that the applicant

1. Has the legal authority to apply for Federal assistance and the institutional, managerial and financial capability (including funds sufficient to pay the non-Federal share of project cost) to ensure proper planning, management and completion of the project described in this application.
2. Will give the awarding agency, the Comptroller General of the United States and, if appropriate, the State, through any authorized representative, access to and the right to examine all records, books, papers, or documents related to the award; and will establish a proper accounting system in accordance with generally accepted accounting standards or agency directives.
3. Will establish safeguards to prohibit employees from using their positions for a purpose that constitutes or presents the appearance of personal or organizational conflict of interest, or personal gain.
4. Will initiate and complete the work within the applicable time frame after receipt of approval of the awarding agency.
5. Will comply with the Intergovernmental Personnel Act of 1970 (42 U.S.C. §§4728-4763) relating to prescribed standards for merit systems for programs funded under one of the 19 statutes or regulations specified in Appendix A of OPM's Standards for a Merit System of Personnel Administration (5 C.F.R. 900, Subpart F).
6. Will comply with all Federal statutes relating to nondiscrimination. These include but are not limited to: (a) Title VI of the Civil Rights Act of 1964 (P.L. 88-352) which prohibits discrimination on the basis of race, color or national origin; (b) Title IX of the Education Amendments of 1972, as amended (20 U.S.C. §§1681-1683, and 1685-1686), which prohibits discrimination on the basis of sex; (c) Section 504 of the Rehabilitation Act of 1973, as amended (29 U.S.C. §794), which prohibits discrimination on the basis of handicaps; (d) the Age Discrimination Act of 1975, as amended (42 U.S.C. §§6101-6107), which prohibits discrimination on the basis of age; (e) the Drug Abuse Office and Treatment Act of 1972 (P.L. 92-255), as amended, relating to nondiscrimination on the basis of drug abuse; (f) the Comprehensive Alcohol Abuse and Alcoholism Prevention, Treatment and Rehabilitation Act of 1970 (P.L. 91-616), as amended, relating to nondiscrimination on the basis of alcohol abuse or alcoholism; (g) §§523 and 527 of the Public Health Service Act of 1912 (42 U.S.C. §§290 dd-3 and 290 ee- 3), as amended, relating to confidentiality of alcohol and drug abuse patient records; (h) Title VIII of the Civil Rights Act of 1968 (42 U.S.C. §§3601 et seq.), as amended, relating to nondiscrimination in the sale, rental or financing of housing; (i) any other nondiscrimination provisions in the specific statute(s) under which application for Federal assistance is being made; and, (j) the requirements of any other nondiscrimination statute(s) which may apply to the application.
7. Will comply, or has already complied, with the requirements of Titles II and III of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (P.L. 91-646) which provide for fair and equitable treatment of persons displaced or whose property is acquired as a result of Federal or federally-assisted programs. These requirements apply to all interests in real property acquired for project purposes regardless of Federal participation in purchases.
8. Will comply, as applicable, with provisions of the Hatch Act (5 U.S.C. §§1501-1508 and 7324-7328) which limit the political activities of employees whose principal employment activities are funded in whole or in part with Federal funds.

9. Will comply, as applicable, with the provisions of the Davis-Bacon Act (40 U.S.C. §§276a to 276a-7), the Copeland Act (40 U.S.C. §276c and 18 U.S.C. §874), and the Contract Work Hours and Safety Standards Act (40 U.S.C. §§327-333), regarding labor standards for federally-assisted construction subagreements.
10. Will comply, if applicable, with flood insurance purchase requirements of Section 102(a) of the Flood Disaster Protection Act of 1973 (P.L. 93-234) which requires recipients in a special flood hazard area to participate in the program and to purchase flood insurance if the total cost of insurable construction and acquisition is \$10,000 or more.
11. Will comply with environmental standards which may be prescribed pursuant to the following: (a) institution of environmental quality control measures under the National Environmental Policy Act of 1969 (P.L. 91-190) and Executive Order (EO) 11514; (b) notification of violating facilities pursuant to EO 11738; (c) protection of wetlands pursuant to EO 11990; (d) evaluation of flood hazards in floodplains in accordance with EO 11988; (e) assurance of project consistency with the approved State management program developed under the Coastal Zone Management Act of 1972 (16 U.S.C. §§1451 et seq.); (f) conformity of Federal actions to State (Clean Air) Implementation Plans under Section 176(c) of the Clean Air Act of 1955, as amended (42 U.S.C. §§7401 et seq.); (g) protection of underground sources of drinking water under the Safe Drinking Water Act of 1974, as amended (P.L. 93-523); and, (h) protection of endangered species under the Endangered Species Act of 1973, as amended (P.L. 93-205).
12. Will comply with the Wild and Scenic Rivers Act of 1968 (16 U.S.C. §§1271 et seq.) related to protecting components or potential components of the national wild and scenic rivers system.
13. Will assist the awarding agency in assuring compliance with Section 106 of the National Historic Preservation Act of 1966, as amended (16 U.S.C. §470), EO 11593 (identification and protection of historic properties), and the Archaeological and Historic Preservation Act of 1974 (16 U.S.C. §§469a-1 et seq.).
14. Will comply with P.L. 93-348 regarding the protection of human subjects involved in research, development, and related activities supported by this award of assistance.
15. Will comply with the Laboratory Animal Welfare Act of 1966 (P.L. 89-544, as amended, 7 U.S.C. §§2131 et seq.) pertaining to the care, handling, and treatment of warm blooded animals held for research, teaching, or other activities supported by this award of assistance.
16. Will comply with the Lead-Based Paint Poisoning Prevention Act (42 U.S.C. §§4801 et seq.) which prohibits the use of lead-based paint in construction or rehabilitation of residence structures.
17. Will cause to be performed the required financial and compliance audits in accordance with the Single Audit Act Amendments of 1996 and OMB Circular No. A-133, "Audits of States, Local Governments, and Non-Profit Organizations."
18. Will comply with all applicable requirements of all other Federal laws, executive orders, regulations, and policies governing this program.

* SIGNATURE OF AUTHORIZED CERTIFYING OFFICIAL Frank Snow	* TITLE Director, MIS
* APPLICANT ORGANIZATION North Dakota Department of Public Instruction	* DATE SUBMITTED 12/15/2011

Standard Form 424B (Rev. 7-97) Back

CERTIFICATION REGARDING LOBBYING

Certification for Contracts, Grants, Loans, and Cooperative Agreements

The undersigned certifies, to the best of his or her knowledge and belief, that:

(1) No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of an agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

(2) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure of Lobbying Activities," in accordance with its instructions.

(3) The undersigned shall require that the language of this certification be included in the award documents for all subawards at all tiers (including subcontracts, subgrants, and contracts under grants, loans, and cooperative agreements) and that all subrecipients shall certify and disclose accordingly. This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by section 1352, title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

Statement for Loan Guarantees and Loan Insurance

The undersigned states, to the best of his or her knowledge and belief, that:

If any funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this commitment providing for the United States to insure or guarantee a loan, the undersigned shall complete and submit Standard Form-LLL, "Disclosure of Lobbying Activities," in accordance with its instructions. Submission of this statement is a prerequisite for making or entering into this transaction imposed by section 1352, title 31, U.S. Code. Any person who fails to file the required statement shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

*** APPLICANT'S ORGANIZATION**

North Dakota Department of Public Instruction

*** PRINTED NAME AND TITLE OF AUTHORIZED REPRESENTATIVE**

Prefix: * First Name: Middle Name:

* Last Name: Suffix:

* Title:

* SIGNATURE:

* DATE:

SUPPLEMENTAL INFORMATION
REQUIRED FOR
DEPARTMENT OF EDUCATION GRANTS

1. Project Director:

Prefix:	* First Name:	Middle Name:	* Last Name:	Suffix:
Mr.	Steve		Snow	

Address:

* Street1: 600 E Boulevard Ave, Dept 201

Street2:

* City: Bismarck

County:

* State: ND: North Dakota

* Zip Code: 58505-0602

* Country: USA: UNITED STATES

* Phone Number (give area code) Fax Number (give area code)

701-328-2189 701-328-2189

Email Address:

fsnow@end.gov

2. Applicant Experience:

Novice Applicant Yes No Not applicable to this program

3. Human Subjects Research

Are any research activities involving human subjects planned at any time during the proposed project Period?

Yes No

Are ALL the research activities proposed designated to be exempt from the regulations?

Yes Provide Exemption(s) #:

No Provide Assurance #, if available:

Please attach an explanation Narrative:

Abstract

The abstract narrative must not exceed one page and should use language that will be understood by a range of audiences. For all projects, include the project title (if applicable), goals, expected outcomes and contributions for research, policy, practice, etc. Include population to be served, as appropriate. For research applications, also include the following:

- Theoretical and conceptual background of the study (i.e., prior research that this investigation builds upon and that provides a compelling rationale for this study)
- Research issues, hypotheses and questions being addressed
- Study design including a brief description of the sample including sample size, methods, principals dependent, independent, and control variables, and the approach to data analysis.

[Note: For a non-electronic submission, include the name and address of your organization and the name, phone number and e-mail address of the contact person for this project.]

You may now Close the Form

You have attached 1 file to this page, no more files may be added. To add a different file, you must first delete the existing file.

* Attachment:

Abstract

Postsecondary Education P-20W State Longitudinal Data System (PEP-20W SLDS) project was initiated to address gaps which have been hindering North Dakota to have a comprehensive P-20W State Longitudinal Data System. This project will address Priority 3, to develop and link postsecondary and/or workforce data with the State's K-12 data system. State agencies responsible for the direction and implementation of grant activities include; executive sponsoring agency- North Dakota University System (NDUS), State Education Agency- Department of Public Instruction (DPI), and Information Technology Department (ITD).

North Dakota SLDS has made measureable strides since its inception in 2007, and has expanded to include postsecondary education data for high school feedback information as required by State Fiscal Stabilization Fund Phase II (SFSF II). North Dakota University System (NDUS) has been an instrumental member of the SLDS and has proactively worked with DPI to prepare postsecondary student linkages to K-12 by matching students' IDs between systems. However information contributed to the SLDS is only capable of answering limited questions posed by SFSF II. Postsecondary data has been laboriously created and loaded in the SLDS to answer specific questions and the data is not capable of generating answers that vary the parameters of those questions. In order to achieve a data rich system capable of answering policy and research questions, an ambitious goal has been put in place to expand the SLDS with NDUS postsecondary data that will: **strengthen data-informed decisions for education policy and practice in North Dakota by developing and implementing an innovative feedback system linking postsecondary and K-12 education, as well as postsecondary and workforce data.**

This ambitious goal will be met with the following outcomes:

1. Define and operationalize the collection of data for the postsecondary subject area aligned with Common Education Data Standards
2. Establish workforce linkages in the SLDS to postsecondary students.
3. Creation of a robust data dictionary through an enhanced metadata management system
4. Development of a comprehensive and coordinated feedback reporting system, through the SLDS framework, enabling ND postsecondary education to communicate with high schools regarding college readiness and college-level performance of their graduates.
5. Expansion of the SLDS portal to include secured access of feedback reports to postsecondary institutions and include postsecondary reports for the public, legislature, and other state officials

Since North Dakota has already implemented a functioning SLDS, it is the intent of this project to provide outcomes, deliverables and tasks in order to supplement- not supplant- the current function of the North Dakota SLDS. Deliverables include: identifying data to evaluate effectiveness of standard high school for postsecondary education; expand the current delivery of postsecondary data to secondary schools through the SLDS framework; establish postsecondary linkages to employment data in the SLDS and provide feedback on employment patterns on established policy questions; align data element definitions using Common Education Data Standards; development of a comprehensive feedback reporting system enabling North Dakota postsecondary education to communicate with high schools regarding college readiness and college- level performance of graduates; and the expansion of the SLDS portal to accommodate public and policymaker views of reports.

Project Narrative File(s)

* Mandatory Project Narrative File Filename:

To add more Project Narrative File attachments, please use the attachment buttons below.

Add Optional Project Narrative File

Narrative: Postsecondary Education P-20W SLDS Project

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a. Need for Project

The North Dakota State Longitudinal Data System (SLDS) has been in place since 2007, with a multi-agency approach that supports, governs, and monitors uses and provides quality control of its data. Since its inception, milestones have been achieved with participating State agencies and projects. In 2009, the Department of Public Instruction (DPI) (K-12 system) received a SLDS grant from the Institute of Education Sciences to develop the North Dakota Statewide Educational Longitudinal Data System (ndSLEDS). The ndSLEDS project has been focusing on building a state K-12 data warehouse and reporting system. Job Service North Dakota (JSND) was a recipient of the Department of Labor Workforce Data Quality Initiative (WDQI) grant that uses a Master Index, where identifiers from other education and training programs track students entering and leaving the longitudinal data system.

North Dakota SLDS has made measureable strides and has expanded to include postsecondary education data for high school feedback information as required by State Fiscal Stabilization Fund Phase II (SFSF II). North Dakota University System (NDUS- North Dakota's postsecondary system) has been an instrumental member of the SLDS and has proactively worked with Department of Public Instruction (DPI) to prepare postsecondary student linkages to K-12 by matching students IDs between systems. However information contributed to the SLDS is only capable of answering limited questions posed by SFSF II. Postsecondary data has been laboriously created and loaded in the SLDS to answer specific questions and the data is not capable of generating answers that vary the parameters of those questions. Gaps have been become apparent hindering North Dakota to have a comprehensive P-20W State Longitudinal Data System. In order to achieve a data rich system capable of answering policy and research questions such as those posed by SFSF II, an ambitious goal has been put in place to expand the SLDS with NDUS postsecondary data that will: **strengthen data-informed decisions for education policy and practice in North Dakota by developing and implementing an innovative feedback system linking postsecondary and K-12 education, as well as postsecondary and workforce data.**

This ambitious goal will be met with outcomes, deliverables and tasks provided by the Postsecondary Education P-20W State Longitudinal Data System (PEP-20W SLDS) project. Outcomes include:

1. Define and operationalize the collection of data for the postsecondary subject area aligned with Common Education Data Standards.
2. Establish workforce linkages in the SLDS to postsecondary students.
3. Create a robust data dictionary through an enhanced metadata management system.
4. Development of a comprehensive and coordinated feedback reporting system, through the SLDS framework, enabling ND postsecondary education to communicate with high schools regarding college readiness and college-level performance of their graduates.
5. Expansion of the SLDS portal to include secured access of feedback reports to postsecondary institutions and include postsecondary reports for the public, legislature, other state officials.
6. Promote two Senior Project staff to attend two-day meetings in DC- each year of the grant.

Currently, researchers and policymakers request information from the SLDS and participating members in an ad hoc method. This process does not provide a systematic way to track data in the SLDS, causing inconsistent information for decision making. It is the intent of this project to provide researchers and policymakers with an innovative feedback system linking postsecondary and K-12 education, as well as postsecondary and workforce data. In order to provide complete data regarding North Dakota's education and workforce, team leaders researched and constructed the following policy questions:

1. Postsecondary feedback:
 - a. Students graduating from a secondary school and attending a postsecondary institution (this information is currently being tracked however, based on specific cohorts of graduates for the SFSF and basic high school feedback reports):
 - i. What percentage of ninth graders enters college four years later?
 - ii. What percentage of high school graduates take remediation in postsecondary education?
 - b. Students taking developmental education:
 - i. In what content areas do students require remediation?
 - ii. What are the retention and degree completion rates of students who are placed in remedial coursework?
 - c. Students who are successful in postsecondary education:
 - i. What high school achievement level indicate a student is college ready
 1. Given that North Dakota will align high school course codes to state course code, what course taking patterns indicate college readiness.
 - a. What high schools have successful course taking patterns
 - ii. What students were academically prepared to enter college and complete their program or degree in a "timely" manner, i.e. "timely" 4 year degree attainment= 6 years, 2 year degree attainment= 3 years?
 1. Were these in degrees that are in demand in North Dakota?
 - iii. What is the relationship of a student's performance on the North Dakota State Assessment (NDSA) and postsecondary performance and graduation?
 - d. Students taking college preparation courses in high school:
 - i. How do dual-enrollment and advanced placement programs in high school affect college student's success?
2. Usage of workforce data:
 - a. Completers and Non-Completers:
 - i. How much do North Dakota high school and college graduates earn in the workforce over time?
 - ii. How much do North Dakota high school and college dropouts earn in the workforce over time?
 - b. Retention:
 - i. What percentage of North Dakota college graduates continue to work and live in North Dakota?
 - ii. Which industries employ the majority of North Dakota high school and college graduates?

- c. With the SLDS containing K-12 and Workforce data the inclusion of postsecondary student enrollments will allow for the evaluation of North Dakota student employment during and after degree attainment, as well as valuations of exiters and their employment engagements:
 - i. How many of North Dakota high school and college students are employed while they are in school and what kind of an impact does it have on their academic success?
- d. Follow-up of postsecondary completers: NDUS has aligned degrees to occupational codes which can provide valuable information to workforce development programs. Knowledge of workforce readiness, under and over employment will be used for high school feedback reports and economic development of resources available in a community.
 - i. Provide employment patterns of postsecondary students during certificate or degree obtainment.
 - ii. Provide postsecondary graduate follow-up on industry employment and retention of graduates in state.
 - iii. Provide average wages of postsecondary graduates by occupational degree.

Policy questions collected and tracked by the PEP-20W SLDS project during and beyond the course of the grant are ambitious and vital. According to a recent study provided by the Higher Education Research Institute (HERI), *Competing College: Assessing Graduation Rates at Four-Year Institutions* (2011), it is imperative to monitor and analyze postsecondary student characteristics to understand achievement gaps and academic persistence. In fact, the report stated, “Public colleges and universities are now called upon to address low graduation rates by their state legislatures, and both public and private institutions feel pressure by regional accrediting associations to improve retention” (DeAngelo, Franke, Hurtando, Pryor, & Tran, 2011).

Additionally, North Dakota is tracking current and future economic status regarding workforce and what prospective students need in the way of skills in coordination of degrees and credentials offered. According to *North Dakota’s K-12 STEM Ed Report Card 2011*, the following information was provided:

- Between 2008 and 2018, new jobs in North Dakota requiring postsecondary education and training will grow by 14,000 while jobs for high school graduates and dropouts will grow by 6,000.
- Between 2008 and 2018, North Dakota will create 120,000 job vacancies both from new jobs and from job openings due to retirement.
- 80,000 of these job vacancies will be for those with postsecondary credentials, 33,000 for high school graduates and 7,000 for high school dropouts.
- 70% of all jobs in North Dakota (277,000 jobs) will require some postsecondary training beyond high school in 2018.

Further, President Obama has proclaimed that by the year 2020, America will once again have the highest proportion of college graduates in the world (Chitty, 2009). In order to achieve state and national goals, students and families, policymakers, and researchers need more and better

information regarding student academic progression and completion. Therefore executive sponsoring agency North Dakota University System (NDUS), in conjunction with State Education Agency (SEA) applicant Department of Public Instruction (DPI), Information Technology Department (ITD) and other partnering State agencies, are proposing the PEP-20W SLDS project, providing North Dakota with data needed for invested stakeholders.

Governance and Policy Requirements

Need and Uses: North Dakota is currently meeting the needs and uses for a Statewide Longitudinal Data System with partnering statewide agencies. In fact, according to reports from the Data Quality Campaign, North Dakota has met two of the five “5 Game Changing Priorities:”

- Fulfill the 50-state commitment to implement the 10 Essential Elements by September 2011.
- Link K-12 with early childhood, postsecondary, and workforce data to answer critical policy questions (Data Quality Campaign, 2011).

While partnering State agencies work together, two agencies continue to meet the needs of education and workforce development policy questions; Workforce Development Council and the North Dakota University System.

The Workforce Development Council (WDC) services both the State and Local Workforce Investment Board as outlined in the Workforce Investment Act and is administered through Job Service North Dakota (JSND). JSND participates in a number of committees, including the SLDS Committee, to build partnerships to achieve its mission. WDC was established to meet the workforce intelligence needs of numerous stakeholders, including secondary and postsecondary education.

North Dakota University System (NDUS) is a unified system of higher education governed by the State Board of Higher Education. Organized in 1990, the system includes two research universities, four regional universities and five community colleges. Similar to WDC, NDUS participates in a number of committees, including the SLDS Committee and subcommittees. NDUS provides leadership and data, assist decision makers regarding postsecondary education questions at the state, system and institutional level.

While NDUS has been instrumental in the development and feedback of the SLDS, gaps have been identified regarding data availability. For example, data is generally not available at the student or consumer level, but this gap will be remedied through the PEP-20W SLDS project. The project will expand the SLDS portal, allowing postsecondary reports for the public, legislature, and other State officials while meeting Family Education Rights and Privacy Act (FERPA) requirements.

Governance: The State of North Dakota has established a multi-agency Statewide Longitudinal Data System (SLDS) Committee, first established and implemented under North Dakota state law. The SLDS Committee is responsible for overseeing the planning and operation of educational and workforce longitudinal systems. This legislatively mandated committee is comprised of representatives of key stakeholder organizations including Director of the North Dakota Workforce Development, Department of Public Instruction (DPI), Information

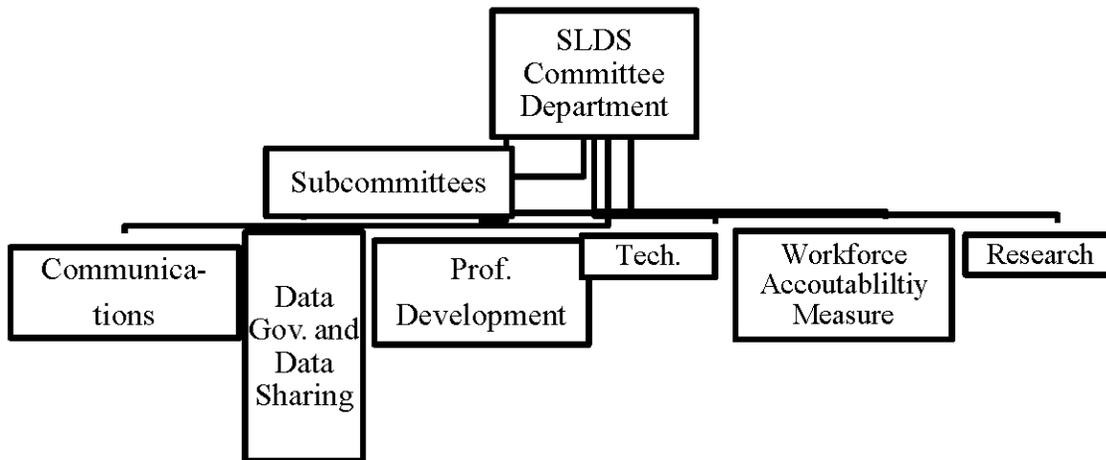
Technology Department (ITD), Job Service North Dakota (JSND) (**grantee recipients of the WDQI grant**), North Dakota University System (NDUS), the Commerce Department, Education Technology Council (ETC), Career and Technical Education (CTE), Department of Human Services (DHS), North Dakota Council of Educational Leaders (NDCEL) and two State legislators.

The SLDS Committee plays a key role in establishing standards for data sharing, privacy and security as well as developing *inter and outer-agency (outside the state) agreements* for the terms of data sharing. This is an important role in gaining the requisite participation of State agencies, establishing priorities and setting direction.

The committee’s mission is to “propose, develop, and govern a system for sharing longitudinal data that will maximize the usefulness of management information to stakeholders and partners of North Dakota education, training, employment and service systems while protecting the privacy and security of personal information.”

Six subcommittees are under the SLDS Committee Department, which has representatives from the following State agencies: Department of Public Instruction (DPI), Education Technology Council (ETC), Information Technology Department (ITD), Job Service North Dakota (JSND), and North Dakota University System (NDUS). Each subcommittee has duties and responsibilities towards the function and implementation of the SLDS.

North Dakota Statewide Longitudinal Data System Governance Structure



- Communications
 - Responsibilities: Identify stakeholders, develop communications plan, and provide key communications documents
- Data Governance and Data Sharing

- Responsibilities: Research and draft data sharing principles and agreements as well as processes for identifying and managing shared data. Research and develop policies and best practices regarding privacy, (e.g. Health Insurance Portability and Accountability Act (HIPPA)). Additional responsibilities include:
 - Review revisions of the Family Education Rights and Privacy Act (FERPA),
 - Manage issues and conflicts from data sharing,
 - Establish standards on the demographic identifiers for people,
 - Collection and load frequencies,
 - Manage data request process and the list of required reports, and
 - Potential deliverable: data governance document including ownership and management policies.
- Professional Development
 - Responsibilities: Focused on teacher professional development and whether or not it affects student's abilities and education.
- Technology
 - Responsibilities: Research and provide technical requirements and technical solutions along with ongoing costs and budget. Additionally, informing and discussion on the SLDS architecture.
- Workforce Accountability Measure
 - Responsibilities: Determine needed reports to meet accountability measures (potential deliverable is to create a data dictionary).
- Research
 - Responsibilities: Focus on what questions people are asking and whether or not the correct data is being utilized and collected.

The SLDS Committee and 6 subcommittees have identified entities responsible for the operation of the statewide data system. This includes an understanding of data management, data confidentiality, and access. In order to resolve differences among partners and establish an understanding of data ownership, State agencies have signed an Inter-Agency Data Sharing Agreement (*Inter-Agency Data Sharing Agreement*, Appendix A) explaining the duties and responsibilities of each partnering State agency.

Institutional Support: The State of North Dakota has taken a coordinated, systematic-agency approach to establishing longitudinal workforce and education databases. Record matching between education, training and workforce data to report on program outcomes and accountability measures has been underway for over fifteen years. However, in order to provide a more comprehensive and coordinated effort, North Dakota developed the SLDS Committee. The committee is comprised of relevant stakeholders within and outside the State postsecondary education governing organization/agency, and State workforce agencies (see *Governance and Policy Requirements* on pages 4-6 for full description). The Committee provides strategic direction, policy development and issue resolution at the highest level. The legislation governing the SLDS Committee directs to manage a longitudinal data system which: a) provides for dissemination of management information to stakeholders and partners of State education, training, and employment systems; and b) uses data from educational and workforce systems as central sources of longitudinal data. Groups formed by the SLDS committee work to develop

privacy and security policies, model interagency agreements, enable legislation and funding strategies.

Sustainability: The ND Governor and Legislature is committed to the SLDS, providing funding and full-time positions to the Information Technology Department (ITD). The 2007 legislature created the program manager position which expanded to 2 full-time employees (FTE) in 2009. Recently, the 2011 session created 3 additional FTE for research, report development and a data analyst.

Since it was first introduced, North Dakota planned the SLDS to be sustainable. A single enterprise infrastructure has been designed and continues to expand. Cost effective approaches to portals, reporting tools and databases are being used and most importantly, the SLDS does not implement vendor owned licenses of data nor data models. The funding of the SLDS through the centralized Information Technology Department (ITD) allows for shared resources in FTE and infrastructure. The centralization of the SLDS resources utilizes less FTE and is less prone to loss of departmental funding. The inclusion of economic development, workforce intelligence, human services and educational entities in the SLDS Governance promotes continued interest and investment in an SLDS.

Technical Requirements

Privacy Protection and Data Accessibility: Privacy Protection and Data Accessibility is a requirement that has been met with North Dakota's state statutes, specifically 15.1-02-18.1 and 15.1-02-18.2. The Information Technology Department houses and manages the SLDS in regards to data, and the state has put in statutes to protect and manage data accessibility. Statute 15.1-02-18.1 Statewide Longitudinal Data System-Information Technology Department-Power and Duties states that *Information Technology Department and the statewide longitudinal data system committee may, subject to federal and state privacy laws, enter interagency agreements, including agreements designating authorized representatives of the educational agencies participating in the system pursuant to the Family Educational Rights and Privacy Act (20 U.S.C. 1232g; 34 CFR 99).* Additionally, statute 15.2-02-18.2, State Agencies, Mandatory Provision of Information-Confidentiality states that *information technology department may request from any state agency all information required by 20 U.S.C. 9871 (e) (2) (D); any other educational information that statewide longitudinal data system committee determines is required for a longitudinal data system to comply with state or federal law.*

To further ensure privacy protection and data accessibility, State agencies signed an Inter-Agency Data Sharing Agreement (*Inter-Agency Data Sharing Agreement, Appendix A*). Participating state agencies include: Career and Technical Education, Department of Public Instruction, Job Service North Dakota, North Dakota Department of Human Services, North Dakota University System, and North Dakota Workforce Development Council. However, regarding the North Dakota legislature, if a specific report is requested the following guidelines are implemented: *information is provided only in aggregate and de-identified.*

Data Quality: The Data Quality requirement has been met with some of the State agencies, however NDUS has not implemented training for those entering or using data. This will be provided through the PEP-20W SLDS project; Outcome 3, creation of a robust data dictionary

through an enhanced metadata management system, and (Task 3.1.4) training on the use of tools and processes. This will ensure data is being collected, analyzed and reported appropriately.

NDUS has met the requirement of ensuring the integrity, security, and quality of data by following State statutes and the adoption of the Inter-Agency Data Sharing Agreement (*Inter-Agency Data Sharing Agreement*, Appendix A). Additionally, NDUS has implemented a common student information system (Oracle's PeopleSoft Campus Solutions application) and data warehouse for its eleven institutions. These systems, managed by System Information Technology Services (SITS), serves as the primary postsecondary data source for linking with other education and workforce data sources. Having a common system has enabled NDUS to assign and manage unique IDs for students system-wide. Under the data sharing agreement with the Department of Public Instruction, North Dakota University System successfully completed a pilot to match K-12 data with student data from NDUS' student information system. Work will continue to improve upon the approximately 85% success rate. Since NDUS captures Social Security Numbers as part of the student profile data, it is able to provide the means of linking students at the secondary and postsecondary levels with workforce.

State agency DPI is meeting this requirement through their ndSLEDS project. In Phase 4 of the ndSLEDS project, DPI will Conduct Statewide Roll-Out and Training of ndSLEDS. This roll-out encompasses, 1) working with the North Dakota LEAD Center (training organization) to develop a 3 year training plan, 2) districts will have their administrators, teachers and other relevant stakeholders trained as "super-users" who will train through a train-the-trainer model. They are working on a security structure that will allow district representatives to grant access to those lead educational agency personnel under their district, and 3) have an operational data store for training schedule in place by February 2012.

Job Service North Dakota is also meeting this requirement through their WDQI grant by implementing and using sharing agreements among state agencies.

Interoperability: North Dakota works with the Public Consulting Group (PCG) on Common Education Data Standards (CEDS). Initial element mappings have been implemented with the Department of Public Instruction's state collection application-State Automated Reporting System- (STARS), and currently tracking mapping and performing gap analysis. North Dakota University System has applied PeopleSoft Campus Solutions throughout all 11 postsecondary institutions, providing for common data elements and standards. Campus Solutions is used for Integrated Postsecondary Education Data Systems (IPEDS) and other State and Federal agencies. Proposed objectives, deliverables, and policy questions collected during the course of the grant will be added to the SLDS and mapped to the CEDS elements. A benefit of this mapping and data collection will enable the North Dakota SLDS to provide community and private colleges with required data elements based on the CEDS standards and IPEDS. This in turn will align public institution collections.

However, more work needs to be done in the area regarding postsecondary education and the alignment with Common Education Data Standards. The PEP-20W SLDS Project will meet this gap with outcomes, deliverables and tasks in order to define and operationalize the collection of data for postsecondary, while aligning subject areas with Common Education Data Standards.

Enterprise-Wide Architecture: North Dakota has a history and desire to implement enterprise architecture at all levels. In fact State funds, and enacted statutes, require all public schools, secondary and postsecondary, to implement common systems. PowerSchool is mandated for all K-12 and PeopleSoft Campus Solutions has implemented the eleven public postsecondary institutions.

The North Dakota SLDS takes a consolidated approach to enterprise architecture in which data domains are stored longitudinally within a central system. The SLDS utilizes the Microsoft stack: SQL Server, Integration Services, SharePoint and Reporting services to provide an enterprise solution that is cost effective. This approach is robust enough to isolate agency data domains such as the North Dakota Job Service WDQI data warehouse being developed and the Department of Public Instruction (DPI) K-12 data warehouse in their secured databases. This process allows databases to contribute specific data elements to the SLDS through data marts or as federated sources (*P20 Databases, Appendix A*).

North Dakota implemented the OtisEd iMart framework and data models in the SLDS which is dimensional architecture. This means deploying slowly changing dimensions (SCD) in the warehouse to preserve data element history. Normally, SCD are type 6 (Ralph Kimball technique) which insert changes to the dimensions and update prior history to reflect the change date and current state of the elements. This approach of retaining history and designating the current dimensional elements define the longitudinal nature of the SLDS. Data sources are consumed either as flat files or directly against data sources through database connections and directly extract the data. The data is staged and validated prior to loading into an operational data store. Data validations can be configured at multi stages of data: 1) raw staging validation provides data type and definition integrity of the element; 2) conformed staging provides business rule validations such as valid code usage, lookups and 3) data transformations applied based on business rules configured.

North Dakota SLDS has sustained and continues to enhance its data linking or master data management strategy. An SLDS consumes data from many sources, varying in complexity from simple raw data sets to interfacing with other information systems. Partnering State agencies, which are the contributing source systems, work with SLDS members to implement identifiers and the business practices to manage identifiers at the source. For example, for many years DPI has had a state student ID assignment process, which was leveraged in the SLDS to automatically assign K-12 student identifiers within school districts student information systems. On a nightly scheduled routine, student identifiers are extracted from the Student Information System (SIS) and those that do not have state student IDs are matched through the SLDS using Department of Public Instruction (DPI) routines and parameters assigned in the SIS. This process continues to be refined through the current SLDS and works with multiple source systems: 1) The Department of Health to assign state student identifiers at birth, which will allow the master person strategy to be applied through early childhood programs and interventions; 2) Education Standards and Practices Board which licenses teachers and is the first contact with all ND licensed teachers; and 3), North Dakota Immunization Information System is interfacing with the SLDS where students are matched and immunization data is made available.

Department of Public Instruction (DPI) and North Dakota University System (NDUS) have gone through a process of historically matching K-12 and NDUS students to define a cross reference of their student identifiers and then implemented into the SLDS. North Dakota high school transcripts stored in the SIS have been modified to include the state student ID, providing NDUS with information during the application process. The ND eTranscript project, which is currently in development, utilizes the SLDS for source transcript data and will allow students to electronically direct their high school transcripts to postsecondary institutions. This student record exchange will contain both secondary and postsecondary identifiers, and expands on the business processes. This in turn will provide an aligned transition of students with their identifiers from secondary to postsecondary.

North Dakota has implemented and continues to expand on its master person index architecture (linking across data domains) in the SLDS. This approach is a multi-staged unique identifier assignment. Individual data sets such as K-12 students, Unemployment Insurance employee wages, and workforce development program participants are assigned a unique identifier within their own respective source data sets. Data sets are configurable algorithms that match and uniquely identify individuals. The data source is then configured to match against any other data domains in the SLDS, such as K-12 student to postsecondary student to Unemployment Insurance employees, resulting in a master person index across domains. This approach has many benefits, from a unique index within an agency or data domain available to the owners of the data, to a unique index of cross domain matched individuals available to the SLDS.

The SLDS is currently defining the best approach for public data dictionaries. Metadata (data about data) management is present in the iMart framework as well as the data modeling tools used by SLDS staff. This process tracks the source and destination of data elements and any transformations applied to the data. Managing this metadata and extracting public elements in a manageable process is challenging. It is an outcome of this grant to expand this into a robust metadata management system, providing data stewards within partnering State agencies a process and tools to interact with metadata and manage data dictionaries. This outcome will be met through the PEP-20W SLDS project, Outcome 3, creation of a robust data dictionary through an enhanced metadata management system.

Data Use Requirements: North Dakota SLDS is in the process of meeting this requirement. Currently, State agencies have the Inter-Agency Data Sharing Agreement (*Inter-Agency Data Sharing Agreement, Appendix A*), which states: *This longitudinal data system requires dissemination of management information to stakeholders and partners of state education, training, and employment system. In addition, it is required to use data from education and workforce systems as central sources of longitudinal data. Unless otherwise authorized by federal or state law, the data may be disclosed only in the aggregate, except that individually identifiable data may be disclosed when expressly authorized by federal or state law. The data may be disclosed only to a public official for use in the performance of the public official's duties and may be used only for research or analytical purposes, or other purposes expressly authorized or required by other federal or state law.*

Additionally, during the course of the grant, other data sharing agreements will be created with *inter and outer* State/federal agency policymakers. Access will be balanced with the need to

protect privacy and confidentially consistent with applicable privacy protection laws within data sharing agreements. Also, sharing agreements will emphasize that data remains the property of the original agency owner.

Data Use Deliverables: ND SLDS has made considerable strides regarding Data Use Deliverables, especially in the areas of K-12 and Consumer Information feedback. However gaps have been found with Postsecondary Feedback, which will be met with deliverables through the PEP-20W SLDS project.

K-12 Feedback: North Dakota has in place three key elements to link students and teachers which include, which aligns with the American Competes Act of 2007:

- unique statewide K-12 student identifier
- unique statewide K-12 teacher identifier (teacher licenses number)
- unique statewide postsecondary identifiers

Additionally, North Dakota has several recurring processes in place to extract, link and use student data, which also aligns with the America Competes Act (*the ability to link PK-12 data to higher education system data, for PK-12, disaggregate annual test results, data on students not tested, the ability to match teacher with students, transcripts, and college readiness test results, and for postsecondary education, disaggregate data related to PK-12 transition to postsecondary education, including remedial course data*)

- A nightly extract, transfer and load (ETL) process which pulls data (including student course information and teacher license number) from the state mandated student information systems into the State Longitudinal Data System (SLDS)
- K-12 sends student data files to North Dakota University Systems (NDUS) to match against their student data. Each agency retains the matched pair of unique identifiers. The process has matched back to 2005 with an 85% match rate.
- NDUS has sent preliminary files to identify remedial courses, indicators of timely enrollment in postsecondary (within 16 months of high school completion) and postsecondary credit completion.

Consumer Information: The Bank of North Dakota has funded the XAP Choices© career planner tool for use by all North Dakota K-12 students as a means to make informed college and career decisions. As part of the contract, XAP updates (on a yearly basis) the college cost (tuition, fees and financial aid) and federal and state job predictions and projected salaries. This information is provided free to North Dakota, and enables parents and students to make informed choices about enrolling in postsecondary institutions.

The PEP-20W SLDS project will also provide consumer information by the expansion of the SLDS portal to include postsecondary reports for the public, legislature, and other State officials.

Postsecondary Feedback: Postsecondary Feedback will be implemented through the PEP-20W SLDS, Outcome 4. The following policy questions will be tracked:

Table 1 Policy Questions Tracked

Outcome 4. Development of a comprehensive and coordinated feedback reporting system, through the SLDS framework, enabling ND postsecondary education to communicate with high schools regarding college readiness and college-level performance of their graduates.

Policy Questions Tracked

Postsecondary feedback:

- a. Students graduating from a secondary school and attending a postsecondary institution (this information is currently being tracked however, based on specific cohorts of graduates for the SFSF and basic high school feedback reports):
 - iv. What percentage of ninth graders enters college four years later?
 - v. What percentage of high school graduates take remediation in postsecondary education?
- b. Students taking developmental education:
 - vi. In what content areas do students require remediation?
 - vii. What are the retention and degree completion rates of students who are placed in remedial coursework?
- c. Students who are successful in postsecondary education.
 - viii. What high school achievement level indicates a student is college ready?
 - 1. Given that North Dakota will align high school course codes to state course code, what course taking patterns indicate college readiness
 - a. What high schools have successful course taking patterns
 - ix. What students were academically prepared to enter college and complete their program or degree in a timely manner?
 - 1. Were these in degrees that are in demand in North Dakota?
 - x. What is the relationship of a student's performance on the North Dakota State Assessment (NDSA), postsecondary performance, and graduation?
- d. Students taking college preparation courses in high school:
 - xi. How do dual-enrollment and advanced placement programs in high school affect college student's success?

3. Usage of workforce data:

- a. Completers and Non-Completers:
 - i. How much do North Dakota high school and college graduates earn in the workforce over time?
 - ii. How much do North Dakota high school and college dropouts earn in the workforce over time?
- b. Retention:
 - i. What percentage of North Dakota college graduates continue to work and live in North Dakota?
 - ii. Which industries employ the majority of North Dakota high school and college graduates?
- c. With the SLDS containing K-12 and Workforce data the inclusion of postsecondary student enrollments will allow for the evaluation of North Dakota student employment during and after degree attainment. Evaluations of exiters

and their employment engagements.

- i. How many of North Dakota high school and college students are employed while they are in school and what kind of an impact does it have on their academic success?
- d. Follow-up of postsecondary completers: NDUS has aligned degrees to occupational codes which can provide valuable information to workforce development programs. Knowledge of workforce readiness, under and over employment will be used for high school feedback reports and economic development of resources available in a community.
 - i. Provide employment patterns of postsecondary students during certificate or degree obtainment.
 - ii. Provide postsecondary graduate follow-up on industry employment and retention of graduates in state.
 - iii. Provide average wages of postsecondary graduates by occupational degree.

Training on Use of Data Tools and Products: The SLDS modeling design allows multi products to utilize the data in the SLDS. Through research, observations and collaboration with other states, as well as the Business Intelligence Competency Center present at ITD, there is not one single data analytics or reporting tool that will satisfy every type of user in the Longitudinal Data System or any data warehouse. Researchers require data mining and analytics and typically have their own preference of products for which data marts will be developed. Nd SLEDS' target audience of secondary administrators and teachers have little interest in ad hoc reporting or analytics, they primarily desire parameterized reports delivered. Therefore, for these report users of the SLDS, online training through the portal will be developed on the reporting tool as well as district level training available through a train-the-trainer model that will be implemented. ND also uses Cognos as a Business Intelligence reporting tool that will be available to agency level users. This is an extensive Business Intelligence tool that works well on the dimensional models present in the SLDS and enables State agency users to develop their own reports. Through grants and internal training funds, State agency staff will be trained on the use of the Business Intelligence tool and additionally work with the SLDS Business Intelligence staff and report writers to understand their data.

An enterprise Business Intelligence tool is expensive and requires training on the tool and data and therefore is not a candidate for public access. However, there exist smaller communities that have interest and need for ad hoc reporting and analytics for specific subjects in the SLDS, such as finance. The SLDS will begin to build out these de-identified data marts available through the portal and develop training and instructions on the use of an ad hoc data tool such as performance point, which is cost effective and compatible with the SLDS portal.

Professional Development on Data Use: The ndSLEDS project is establishing the structure, resources and content for professional development on data driven decision making (DDDM). ND has organizations that provide DDDM professional development through courses offered throughout the state, training materials, and individual district consulting. Much of this professional development is offered through the North Dakota Leadership and Educational Administration Development (LEAD) Center and the 8 regional education associations. NDSLEDS is working with these organizations to transition SLDS applicable training into the

SLDS portal where data use content will be made available and used by ND Lead and the North Dakota Regional Education Associations (REA) to conduct training. These organizations are eager to use the SLDS for training and have formed a partnership with the SLDS. Additionally, the ndSLDS has funded a training position which will be responsible for coordinating and developing these training programs. PEP-20W SLDS will leverage and expand on these efforts, as postsecondary data becomes present in the SLDS. The PEP-20W SLDS will develop additional training material on usage of data and work with these organizations to incorporate this material into their professional development activities.

Evaluation of Data Products, Training and Professional Development: The PEP-20W SLDS will be managed and directed by the Project Planning Team. This team consists of Marsha Krotseng-Executive Sponsor, Michael Pytlik- North Dakota University System Project Director, Tracy Korsmo- SLDS Program Manager, and Steve Snow-Department of Public Instruction Project Director. This team will have the ability to evaluate data projects, training and professional development through different levels. The Project Planning Team will track and monitor if reports are being implemented and applicable to answer policy questions. Additionally, the team will be able to report if data *is or is not* enabling decision makers to provide more concrete choices on North Dakota's education and workforce. Also, the team will be able to monitor: 1) the defining and operation with collection of data for the postsecondary domain aligned with Common Education Data Standards; 2) established workforce linkages in the SLDS to postsecondary students; 3) the creation of a robust data dictionary through an enhanced metadata management system; 4) development of a comprehensive and coordinated feedback reporting system, through the SLDS framework, enabling North Dakota postsecondary education to communicate with high schools regarding college readiness and college-level performance of their graduates; and 5) expansion of the SLDS portal to include postsecondary reports for the public, legislature, and other state officials while tracking secured access of feedback reports to postsecondary institutions. Also, team leaders will track if the training of tools and processes, and online training for reports and portal uses for the education communities are applicable.

Partnerships with Research Community: Partnerships with Research Community have already been met in two different methods. First, State agency partners adopted the Inter-Agency Data Sharing Agreement (*Inter-Agency Data Sharing Agreement, Appendix A*) which has established partners with internal research groups to assist in answering questions that can inform policy and practice. The State has implemented the SLDS Committee which establishes standards for data sharing, privacy and security, and the development of outer/inter-agency data sharing agreements.

In fact, research has already been identified in the community, and will be aligned with the PEP-20W SLDS project. The Bush Foundation is providing funding for research on improving teacher effectiveness and preparation in the North Dakota postsecondary education. In partnership with the Value Added Research Center (VARC), a value added growth model is being developed using 2 North Dakota colleges, tracking graduates into employment as K-12 instructors. This project is dependent on NDUS postsecondary data on teacher preparation and K-12 student assessments. Today, this research is conducted by 2 individual colleges sending VARC information on students that have received teacher certifications, and individual districts are sending data on their students and assessments. As the SLDS builds data capacity, this

information will be available in the SLDS for VARC and provide the capacity to expand this to all campuses, providing teacher preparation programs and all public students available in the SLDS.

Hess Corporation is providing funding to North Dakota Regional Education Associations (REA) with the goal to reduce developmental (remedial) in postsecondary and increase high school and postsecondary graduation rates. This project will utilize North Dakota SLDS data on both K-12 and postsecondary data. The REA will work with member districts on several forms of intervention, curriculum, parental and student planning, etc. This project will utilize the data in the SLDS to measure districts progress in meeting goals, identify success, and provide reports to the REA's districts and community on progress.

Additionally, North Dakota University System (NDUS) has expressed interest in developing research data marts for students enrolled in education graduate programs. With the SLDS containing all North Dakota public students with enrollment, course and grades as well as teacher linkages will be available to support this research.

Sustainability Plan: Since North Dakota has a legislature supported SLDS, sustaining the PEP-20W SLDS project will be manageable after the completion of the grant. Currently, involved Statewide agencies have committed their resources and expertise to ensure the success of the North Dakota SLDS and its future sustainability (*Letters of Support, Appendix B*).

Also, to assist with sustainability, DPI will supply staff to the project to coordinate K-12 data needs and use. The Information Technology Department will provide staff to the project and coordinate any work with the WDQI and ndSLEDS projects. Job Service North Dakota, through the structure of the SLDS Committee, will oversee the Workforce data needs and use on the project (*Letters of Support, Appendix B*).

In order to further ensure the sustainability of the PEP-20W SLDS project, training will be provided during the grant for current State agencies and SLDS staff on the following outcomes and deliverables:

Outcome 1. Define and operationalize the collection of data for the postsecondary domain aligned with Common Education Data Standards; Deliverable 1.2 Expand and operationalize current delivery of post-secondary data from the NDUS to DPI and secondary schools, and develop delivery of data from secondary schools and DPI to the NDUS, through the SLDS framework.

Outcome 3. Creation of a robust data dictionary through an enhanced metadata management system; Deliverable 3.1 Align data element definitions in the NDUS data dictionary with definitions in the SLDS data dictionary, using Common Education Data Standards (CEDS) as a framework ; identify and document gaps between two systems. Deliverable 3.2 Identify common data element definitions among postsecondary and workforce data. Identify and document gaps between two systems.

Outcome 4. Development of a comprehensive and coordinated feedback reporting system, through the SLDS framework, enabling ND postsecondary education to communicate with high schools regarding college readiness and college-level performance of their graduates.

Deliverable 4.5 Develop online training for reports and portal uses; provide training for the education communities on the usage of data contained in the education reports and SLDS.

Outcome 5. Expansion of the SLDS portal to include postsecondary reports for the public, legislature, other state officials and secured access of feedback reports to secondary institutions
 Deliverable 5.1 Expand SLDS portal to accommodate public and policymaker views of reports and analysis.

Outcome 6. Two Senior Project staff to attend two-day meetings in DC- each year of the grant.

b. Project Deliverables Related to System Requirements and Implementation

As previously stated, the North Dakota SLDS has been in place since 2007. Since the implementation of the SLDS, expansion and projects have been achieved with participating State agencies. However gaps have become apparent, hindering the North Dakota SLDS to have a more complete reporting system. In order to achieve a more seamless system the North Dakota University System, Department of Public Instruction, Information Technology Department, in conjunction with other State agencies, have developed the PEP-20W SLDS project. The primary goal of the project is to **strengthen data-informed decisions for education policy and practice in North Dakota by developing and implementing an innovative feedback system linking postsecondary and K-12 education, as well as postsecondary and workforce data.**

Considering North Dakota has already implemented a functioning SLDS, it is the intent of this proposal to provide outcomes, deliverables and tasks in order to supplement- not supplant- the current function of the North Dakota SLDS. Therefore, not every system requirement will be directly affected by the proposal’s outcomes, deliverables and tasks. For clarity, the following system requirements are not considered directly affected by the PEP-20W SLDS project and currently being met with the function of the North Dakota SLDS:

Governance and Policy Requirements

- Governance
- Institutional Support
- Sustainability

Technical Requirements

- Privacy Protection and Data Accessibility
- Data Use Deliverables- *K-12 Feedback*

All other system requirements will be implemented into the grant proposal. A table with descriptions has been provided in order to describe how each outcome, deliverable and task will supplement the current North Dakota SLDS.

Table 2 Goal, Outcomes, Deliverables and Tasks

Goal, Outcomes, Deliverables and Tasks	Project Deliverables Related to System Requirements and Implementation
Goal: Strengthen data-informed decisions for education policy and practice in North Dakota by developing and implementing an innovative feedback system linking postsecondary and	

<p>K-12 education, as well as postsecondary and workforce data.</p>	
<p>Outcome 1. Define and operationalize the collection of data for the postsecondary domain aligned with Common Education Data Standards</p> <p>Deliverable 1.1 Identify data maintained by the North Dakota University System needed by K-12 schools to evaluate effectiveness of standard high school for postsecondary education</p> <p>Deliverable 1.2 Expand and operationalize current delivery of postsecondary data from the NDUS to DPI and secondary schools, and develop delivery of data from secondary schools and DPI to the NDUS, through the SLDS framework</p> <p>Task 1.1.1 Identifying data, analyzing, and extracting current NDUS student information</p> <p>Task 1.1.2 Establish a postsecondary domain and data model in the SLDS where NDUS student information would be stored.</p> <p>Task 1.2.1 Establish standard processes to populate postsecondary data in the SLDS; extract, transfer and load (ETL) process</p>	<p>Interoperability, Sustainability</p>
<p>Outcome 2. The WDQI grant has established employment information on individuals in ND, with postsecondary data in the SLDS, ND will have foundational information that will be utilized for postsecondary graduate outcomes: <i>Retention of graduates by degree and associated occupation, industry of employment of graduates and postsecondary exiters reentering workforce training and IHE to obtain further credentials.</i> This information will be foundational for economic development and workforce development as these entities are able to provide information on individuals within communities in the future.</p> <p>Deliverable 2.1 Establish postsecondary linkage to employment data in the SLDS and provide feedback on employment patterns and outcomes on established policy questions:</p> <ol style="list-style-type: none"> 1. Provide employment patterns of postsecondary students during certificate or degree obtainment 2. Provide postsecondary graduate follow-up on industry employment and retention of graduates in state 3. Provide average wages of postsecondary graduates by occupational degree <p>Task 2.1.1 Data sharing agreements will be created to accommodate this research</p>	<p>Data Quality, Data Use Deliverables- <i>Postsecondary Feedback</i></p>
<p>Outcome 3. Creation of a robust data dictionary through an enhanced metadata management system</p> <p>Deliverable 3.1 Align data element definitions in the NDUS data dictionary with definitions in the SLDS data dictionary,</p>	<p>Data Quality, Enterprise-Wide Architecture, Training on Use of Data Tools</p>

<p>using Common Education Data Standards (CEDS) as a framework ; identify and resolve gaps between systems Task 3.1.1 – Research current strategies employed by other states to expand and maintain a metadata management system and data dictionary Task 3.1.2 – Determine the process, software and/or vendor necessary to expand and maintain the metadata management system and data dictionary Task 3.1.3 – If necessary, draft a RFI/RFP for vendor proposals to expand and maintain a metadata management system and data dictionary Task 3.1.4 – Train data stewards on use of tools and processes (should be part of any vendor contract awarded)</p>	<p>and Products, Professional Development on Data Use, Partnerships with Research Community, and Sustainability</p>
<p>Outcome 4. Development of a comprehensive and coordinated feedback reporting system, through the SLDS framework, enabling ND postsecondary education to communicate with high schools regarding college readiness and college-level performance of their graduates Deliverable 4.1 Develop authenticated/secured reports for secondary and postsecondary on preparation and outcomes of their students based on deliverables 1.1, 1.2, and 3.1 Deliverable 4.2 Develop reports and an analysis framework based on deliverables 2.1 and 2.2 to ensure reliable, repeatable exchange of information between post-secondary education and workforce. Deliverable 4.3 Implement data marts for research partners. Deliverable 4.4 Develop online training for reports and portal uses; provide training for the education communities on the usage of data contained in the education reports and SLDS. Task 4.1.1 Purchasing software to meet deliverables 4.1-4.5</p>	<p>Data Use Deliverables- <i>Postsecondary Feedback, Training on Use of Data Tools and Products, Sustainability</i></p>
<p>Outcome 5. Expansion of the SLDS portal to include secured access of feedback reports to postsecondary institutions and include postsecondary reports for the public, legislature, other state officials Deliverable 5.1 Expand SLDS portal to accommodate public and policymaker views of reports and analysis in 4.1. Task 5.1.1. Expand the portal including the portal design and security</p>	<p>Governance and Policy Requirements- <i>Needs and Uses, Data Use Deliverables- Consumer Information, and Sustainability</i></p>
<p>Outcome 6. Two Senior Project staff to attend a two-day meeting in DC- each year of the grant Task 6.1.1 During the life of the project, two senior project staff attend two-day meeting in DC and participate in site visits and recurring project update phone calls</p>	<p>Sustainability</p>

Outcome 1. Define and operationalize the collection of data for the postsecondary domain aligned with Common Education Data Standards

Interoperability:

As stated in the needs section of this grant, postsecondary data currently received by the SLDS provides summary data of individual cohorts which answer specific questions, such as *2010 high school graduates that enrolled within one year of graduation and obtained 1 year of college credit within 2 years*. While this data is useful, it does not allow for variations of the measures to allow empirical research and analytics providing insight and discovery on secondary preparation.

As part of the analysis phase, the PEP-20W SLDS project must determine the best approach of sourcing data from Campus Solutions. North Dakota University System (NDUS) has implemented a data warehouse on Campus Solutions which will be evaluated to determine if it currently provides the data subjects and elements required. The results of this analysis will determine how data is sourced from: 1) Campus Solutions; 2) directly from the warehouse; through utilizing and expanding on Extract, Transfer and Load (ETL) present; or 3) by creating new extractions. The final recommendation may consist of a combination of these options. Currently, data provided by NDSU is manually built and sent to the SLDS through uploads. This time-consuming process requires NDUS developers and staff to prepare and validate the data, hindering the goal to increase frequency due to time requirements.

The completion of this outcome will operationalize the Campus to SLDS environments, establishing automated data extractions through industry standard ETL tools. It is a goal of the PEP-20W SLDS project to provide feedback on high school reports regarding postsecondary enrollments and developmental (remediation) needs by subject in the fall for spring high school graduates. For example, the project will track incoming postsecondary students on developmental needs by subject. This will be done during the fall semester, providing secondary schools information by the following spring semester. Providing feedback within 1 semester of graduation will allow high schools early feedback on policy, curriculum and staff changes made at the local level.

Evaluation of Data Products, Training and Professional Development:

Team leaders will be able to track and monitor if the collection of data by subject area for postsecondary education is aligning with the Common Education Data Standards. Additionally, team leaders will be able to track if feedback to high school reports on postsecondary graduate enrollments and developmental needs by subjects are taking place. Established tracking and feedback will enable high schools to provide early feedback on necessary policy, curriculum and staff changes.

Sustainability

Sustainability is a key goal of North Dakota after the completion of any project or grant. In order to meet sustainability in the PEP-20W SLDS proposal, team leaders have established outcomes, deliverables and tasks that can be sustained after the conclusion of the grant. In fact, after the completion of Outcome 1, Campus Solutions to SLDS will be operationalized, establishing automated data extractions.

Outcome 2. Establish workforce linkages in the SLDS to postsecondary students.

Data Use Deliverables- *Postsecondary Feedback:*

As previously stated, this grant is driven by policy questions in order to provide more concrete and systematic data for researchers and policymakers. Outcome 2 is focused on implementing and answering policy questions, while establishing workforce linkages in the SLDS to postsecondary students.

Job Service North Dakota (JSND), recipient of the Department of Labor Workforce Data Quality Initiative (WDQI) grant, established employment information on individuals in North Dakota, with postsecondary data in the SLDS. North Dakota will have foundational information that will be utilized for postsecondary graduate outcomes: *retention of graduates by degree and associated occupation, industry of employment of graduates and postsecondary exiters reentering workforce training and postsecondary education to obtain further credentials*. This information will be foundational for economic development and workforce development.

Additionally, North Dakota University System (NDUS) programs of study are coded in accordance with the 2010 Classification of Instructional Program (CIP) system. Although in its very early stages, for the purpose of collecting, calculating, or disseminating data, NDUS program completions have been linked to the most recent Standard Occupational Classification (SOC) system. Early stages were minimal steps toward a future resource that would assist the state of North Dakota in bridging the language gap between postsecondary education and the workforce. A future system would eventually collect and maintain up-to-date information detailing occupational categories that could be used by a variety of audiences, including career counselors, students making career decisions, parents assisting their child with career decisions, businesses considering a specific location, employers making staffing decisions, training programs, and curriculum developers. The data collected and provided would also meet the needs of related state and federal reporting, including programs supported by funding from the Departments of Labor, Education, and Health and Human Services.

Data Quality:

In order to secure and monitor research provided under this outcome, additional data sharing agreements will be created.

Outcome 3. Creation of a robust data dictionary through an enhanced metadata management system

Data Quality:

As mentioned, postsecondary education has not implemented training for those entering or using data, however, through this outcome, this requirement will be met. Training will be provided to those entering and/or using the data collected in order to read and effectively implement information.

Enterprise-Wide Architecture:

It is an outcome of this grant to expand the current ND SLDS Enterprise-Wide Architecture by implementing a metadata management system, providing data stewards within partnering State agencies a process and tools to interact with metadata and manage data dictionaries. The goal of this outcome is to enable the SLDS to align data element definitions in the NDUS data dictionary with definitions in the SLDS data dictionary, using Common Education Data Standards (CEDs). Additionally, have the ability to research current strategies employed by other states to expand

and maintain a metadata management system and data dictionary. However, to implement this outcome, software and/or vendor will become necessary to expand and maintain the metadata management system and the data dictionary.

Training on Use of Data Tools and Products:

Training on Use of Data Tools and Products will be implemented through this outcome. Team leaders recognize in order to sustain this project, training is key to State partners and other SLDS staff on the use of tools and processes.

Professional Development on Data Use:

Through this outcome, users for the SLDS will receive online training to develop reporting tools as well as district level training which will be available through a train-the-trainer model. ND also uses Cognos as a Business Intelligence reporting tool that will be available to agency level users. This is a broad Business Intelligence tool that works well on the dimensional models present in the SLDS and enables State agency users to develop their own reports. Through internal training, State agency staff will be trained on the use of the Business Intelligence tool and additionally work with the SLDS Business Intelligence staff and report writers to understand their data.

An enterprise Business Intelligence tool is expensive and requires training on the tool and data and therefore is not a candidate for public access. However, there are other communities needing ad hoc reporting and analytics for specific subjects in the SLDS, such as finance. The SLDS will begin to build out these de-identified data marts available through the portal and develop training and instructions on the use of an ad hoc data tool such as performance point.

Evaluation of Data Products, Training and Professional Development:

In order to evaluate Outcome 3, team leaders will track and monitor the creation of a data dictionary through an enhanced metadata management system. Team leaders will be able to monitor if alignment of data element definitions in the NDUS data dictionary with definitions in the SLDS data dictionary is being applied using Common Education Data Standards (CEDS).

Additionally, as previously mentioned, training and professional development will also take place during the course of Outcome 3. Team leaders will evaluate if training and professional development is applicable and effective.

Sustainability:

Sustainability will be achieved through this outcome in a number of ways. First, training will be provided for those who are entering and/or using the data. Additionally, State partners and other SLDS staff will be trained on the use of tools and process to sustain the data dictionary. Second, after this outcome is completed, the SLDS will have the ability to align data element definitions in the NDUS data dictionary with definitions in the SLDS data dictionary, using Common Education Data Standards (CEDS) as a framework.

Also, funding of the SLDS through the centralized Information Technology Department (ITD) allows for shared resources of hired full time employees (FTE) and infrastructure. The centralization of the SLDS resources utilizes less FTE and is less prone to loss of departmental funding. The inclusion of economic development, workforce intelligence, human services and

educational entities in the SLDS Governance promotes continued interested and investment in the SLDS.

Outcome 4. Development of a comprehensive and coordinated feedback reporting system, through the SLDS framework, enabling ND postsecondary education to communicate with high schools regarding college readiness and college-level performance of their graduates

Data Use Deliverables- *Postsecondary Feedback*:

This outcome is driven by Data Use Deliverables- *Postsecondary Feedback*, which is directed by researched policy questions. (see pages 12-13 for policy questions). With tracking policy questions, reliable and secured reports for secondary and postsecondary users will be developed on preparation and outcomes of students based on deliverables 1.1, and 1.2. Additionally, reports will be developed and an analysis framework based on deliverables 2.1 and 2.2 ensuring reliable, repeatable exchange of information between postsecondary education and workforce. An implementation of data marts for research partners will also be enabled.

Initial focus will be on tracking students who need developmental (remediation) assistance at a college level and information reported back to the secondary school they graduated from. Further analysis would focus on high school coursework completed, the need for development, and eventual success in postsecondary education.

Additional areas the project will track are gaps between higher education and workforce. For example, track students that have attained a postsecondary education. It is the intent of this proposal to track graduated students, and discover if degrees are relating back to their chosen career field. If degrees are not relating back to chosen career field, track additional time it took to realign their credentials to employable fields.

Training on Use of Data Tools and Products:

As mentioned, the North Dakota SLEDS project is establishing the structure, resources and content for professional development on data driven decision making (DDDM). North Dakota has organizations that provide DDDM professional development through courses offered throughout the state, training materials, and individual district consulting. Much of this professional development is offered through the North Dakota Leadership and Educational Administration Development (LEAD) Center and the 8 regional education associations. NdSLEDS is working with these organizations to transition SLDS applicable training into the SLDS portal where data use content will be made available and used by North Dakota Lead and the North Dakota Regional Education Associations (REA) to conduct training. Organizations are willing to use the SLDS for training and have formed a partnership with the SLDS. Additionally, the ndSLDS has funded a training position which will be responsible for coordinating and developing these training programs. PEP-20W SLDS will leverage and expand on these efforts, as postsecondary data becomes present in the SLDS. Furthermore, PEP-20W SLDS will develop additional training material on usage of data and work with these organizations to incorporate material into their professional development activities.

Evaluation of Data Projects, Training and Professional Development:

Team leaders will be able to evaluate Outcome 4 by monitoring if policy questions are being tracked and reports are being generated. Tracking of policy questions is one of the key factors of this grant, and will be monitored closely, ensuring reliable data is available.

Additionally, this outcome will provide training on the use of data tools and projects for reports and portal uses for the education communities on the usage of data provided by the SLDS. Team leaders will monitor the implementation of the portal, making sure education communities receive and have the ability to interpret data generated by the SLDS.

Sustainability:

PEP-20W SLDS will have a one-time purchase of software for the current SLDS to have the ability to develop a comprehensive and coordinated feedback reporting system. After the implementation of the software, the SLDS will have the capacity to track current and future policy questions, providing secondary and postsecondary users with authentic and reliable reports.

Outcome 5. Expansion of the SLDS portal to include postsecondary reports for the public, legislature, other state officials and secured access of feedback reports to postsecondary institutions

Governance and Policy Requirements- *Needs and Uses*

While NDUS has been instrumental in the development and feedback of the SLDS, gaps have been identified regarding data availability; such as data not being available for the student or consumer level. However, with the expansion of the SLDS portal, this will allow postsecondary reports to be available for the public, legislature, and other State officials.

Data Use Deliverables- *Consumer Information*

Additionally, Outcome 5 will meet Data Use Deliverables-*Consumer Information*. The expansion of the SLDS portal will include postsecondary reports providing consumer information for the public and key stakeholders.

Evaluation of Data Programs, Training and Professional Development:

Team leaders will monitor Outcome 5, making sure a successful expansion of the SLDS portal to include postsecondary reports, enabling the public, legislature and other State officials with applicable information regarding postsecondary education. Additionally, team leaders will track the implementation and expanded securities.

Sustainability:

North Dakota already has a functioning SLDS portal, however, after the conclusion of this grant and implementing enhanced security, reports will be able to be generated at the consumer level, which will include the legislature, and other State officials. Additionally, improved security will be provided on feedback reports to postsecondary institutions, allowing institutions to track key information.

Outcome 6. Two Senior Project staff to attend a two-day meeting in DC- each year of the grant

Sustainability

During the life of the project, two senior project staff members will attend two-day meetings in Washington, DC and participate in site visits and recurring project update phone calls. This outcome will provide sustainability by meeting and receiving guidance from fellow SLDS colleagues regarding tracking, implementation, and other key priorities necessary to be successful during and after the life of the project.

c. Timeline for Project Deliverables

The outcomes identified in Section b, will be achieved through coordinated efforts of North Dakota University System (NDUS), Department of Public Instruction (DPI), Information Technology Department (ITD) and other North Dakota State agencies. The Timeline for Project Deliverables (below) provides schedules for the implementation and completion of outcomes, deliverables and tasks needed to achieve the project, including parties responsible for completing tasks for each outcome. Additionally, the roles responsibilities of the project listed in the Timeline are further described in (d) Project Management and Governance Plan.

Table 3 Timeline for Project Deliverables

Goal: Strengthen data-informed decisions for education policy and practice in North Dakota by developing and implementing an innovative feedback system linking postsecondary and K-12 education, as well as postsecondary and workforce data.	Assigned To	Start	End
Postsecondary Education P-20W SLDS	Project Planning Team/Campus and SLDS Evaluation Team	7/2/12	8/21/15
Planning Phase	Project Planning Team/ Campus and SLDS Evaluation Team	7/2/12	12/14/12
Establish team	Project Planning Team/ Campus and SLDS Evaluation Team	7/2/12	11/16/12
Create project plan	Project Planning Team/ Campus and SLDS Evaluation Team	7/2/12	12/14/12
Preliminary analysis	Project Planning Team/ Campus and SLDS Evaluation Team	8/27/12	12/14/12
Execution Phase		11/19/12	6/26/15

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Outcome 1. Define and operationalize the collection of data for the postsecondary domain aligned with Common Education Data Standards	NDUS Staff Members/SLDS and Contractual Staff	12/17/12	8/23/13
Deliverable 1.1 Identify data maintained by the North Dakota University System needed by K-12 schools to evaluate effectiveness of standard high school for postsecondary education	NDUS Staff Members/SLDS and Contractual Staff	12/17/12	3/8/13
Deliverable 1.2 Expand and operationalize current delivery of postsecondary data from the NDUS to DPI and secondary schools, and develop delivery of data from secondary schools and DPI to the NDUS, through the SLDS framework	NDUS Staff Members/SLDS and Contractual Staff	12/17/12	8/23/13
Task 1.1.1 Identifying data, analyzing, and extracting current NDUS student information	NDUS Staff Members/SLDS and Contractual Staff	8/27/12	8/23/13
Task 1.1.2 Establish a postsecondary domain and data model in the SLDS where NDUS student information would be stored.	NDUS Staff Members/SLDS and Contractual Staff	3/11/13	8/23/13
Task 1.2.1 Establish standard processes to populate postsecondary data in the SLDS; extract, transfer and load (ETL) process the data	NDUS Staff Members/SLDS and Contractual Staff	3/11/13	8/23/13
Outcome 2. The WDQI grant has established employment information on individuals in ND, with postsecondary data in the SLDS, ND will have foundational information that will be utilized for postsecondary graduate outcomes: <i>Retention of graduates by degree and associated occupation, industry of employment of graduates and postsecondary exiters reentering workforce training and postsecondary education to obtain further credentials.</i> This information will be foundational for economic development and workforce development as these entities are able to provide information on individuals within communities in the future.		7/1/13	9/20/13
Deliverable 2.1 Establish postsecondary linkage to employment data in the SLDS and provide feedback on employment patterns and outcomes on established policy questions:		7/1/13	9/20/13

Postsecondary Education P-20W SLDS Project (PEP-20W SLDS)

<p>1. Provide employment patterns of postsecondary students during certificate or degree obtainment</p> <p>2. Provide postsecondary graduate follow-up on industry employment and retention of graduates in state</p> <p>3. Provide average wages of postsecondary graduates by occupational degree</p>			
<p>Outcome 3. Creation of a robust data dictionary through an enhanced metadata management system</p>	<p>NDUS Staff Members/SLDS and Contractual Staff</p>	<p>11/19/12</p>	<p>12/13/13</p>
<p>Deliverable 3.1 Align data element definitions in the NDUS data dictionary with definitions in the SLDS data dictionary, using Common Education Data Standards (CEDS) as a framework; identify and resolve gaps between systems</p>	<p>NDUS Staff Members/SLDS and Contractual Staff</p>	<p>11/19/12</p>	<p>12/13/13</p>
<p>Task 3.1.1 – Research current strategies employed by other states to expand and maintain a metadata management system and data dictionary</p>	<p>NDUS Staff Members/SLDS and Contractual Staff</p>	<p>11/19/12</p>	<p>3/8/13</p>
<p>Task 3.1.2 – Determine the process, software and/or vendor necessary to expand and maintain the metadata management system and data dictionary</p>	<p>NDUS Staff Members/SLDS and Contractual Staff</p>	<p>12/1/12</p>	<p>2/28/13</p>
<p>Task 3.1.3 – If necessary, draft a RFI/RFP for vendor proposals to expand and maintain a metadata management system and data dictionary</p>	<p>NDUS Staff Members/SLDS and Contractual Staff</p>	<p>3/11/13</p>	<p>6/28/13</p>
<p>Task 3.1.4 – Train data stewards on use of tools and processes (should be part of any vendor contract awarded)</p>	<p>NDUS Staff Members/SLDS and Contractual Staff</p>	<p>7/1/13</p>	<p>12/13/13</p>
<p>Outcome 4. Development of a comprehensive and coordinated feedback reporting system, through the SLDS framework, enabling ND postsecondary education to communicate with high schools regarding college readiness and college-level performance of their graduates</p>	<p>NDUS Staff Members/SLDS and Contractual Staff</p>	<p>3/11/13</p>	<p>6/26/15</p>
<p>Deliverable 4.1 Develop authenticated/secured reports for secondary and postsecondary on preparation and</p>	<p>NDUS Staff Members/SLDS and Contractual</p>	<p>3/11/13</p>	<p>6/26/15</p>

Postsecondary Education P-20W SLDS Project (PEP-20W SLDS)

outcomes of their students based on deliverables 1.1, 1.2, and 3.1	Staff		
Deliverable 4.2 Develop reports and an analysis framework based on deliverables 2.1, and 2.2 to ensure reliable, repeatable exchange of information between post-secondary education and workforce	NDUS Staff Members/SLDS and Contractual Staff	3/11/13	6/26/15
Deliverable 4.3 Implement data marts for research partners.	NDUS Staff Members/SLDS and Contractual Staff	9/23/13	12/12/14
Deliverable 4.4 Develop online training for reports and portal uses; provide training for the education communities on the usage of data contained in the education reports and SLDS.	NDUS Staff Members/SLDS and Contractual Staff	9/23/13	7/25/14
Task 4.4.1 Purchasing software to meet deliverables 4.1-4.5	NDUS Staff Members/SLDS and Contractual Staff	3/1/13	9/30/13
Outcome 5. Expansion of the SLDS portal to include secured access of feedback reports to postsecondary institutions and include postsecondary reports for the public, legislature, other state officials	NDUS Staff Members/SLDS and Contractual Staff	12/17/12	12/12/14
Task 5.1.1. Expand the portal including the portal design and security	NDUS Staff Members/SLDS and Contractual Staff	12/17/12	12/12/14
Outcome 6. Two Senior Project staff to attend two-day meetings in DC- each year of the grant	Project Director and Program Manager	Duration of Grant	
Task 6.1.1 During the life of the project, two senior project staff attend two-day meeting in DC and participate in site visits and recurring project update phone calls	Project Director and Program Manager	Duration of Grant	

d. Project Management and Governance

The PEP-20W SLDS project seeks to implement numerous outcomes, objectives, and tasks, which would seem difficult to oversee within the projected timeline and budget without the proper infrastructure. However, North Dakota is fortunate to have the governance and management infrastructure to successfully oversee and accomplish the project in accordance with the proposed timeline and within budget.

Program and Project Oversight

The PEP-20W SLDS project identified certain individuals who are in charge of the overall management and implementation of the project. Dr. Marsha Krotseng is the Executive Sponsor and reports to the SLDS Committee on the progress, problems, and operation of the project. Michael Pytlik is the NDUS Project Director who is in charge of the day-to-day operation of the project as it relates to NDUS, and reports to Dr. Marsha Krotseng. Tracy Korsmo, SLDS Program Manager, and Steve Snow, DPI Project Director will work in coordination with Michael Pytlik regarding the day to day operation of the project in their respective areas.

The specific grant outcomes and individual(s) responsible are outlined in the table below. Please note that some individuals have been specifically identified as responsible, and others have been identified by positions. Positions that do not have a designated individual will be identified during the Planning Phase of the grant.

Table 4 Outcome/Deliverable/Task-Individual(s) Responsible

Outcome/Deliverable/Task	Individual (s) Responsible
Postsecondary Education PEP-20W SLDS; Planning Phase; Establish team; Create project plan; Preliminary analysis	Marsha- Executive Sponsor Michael-NDUS Project Director Steve-SLDS Program Manager Tracy-ITD Program Manager, Campus and SLDS Evaluation Team- SLDS Data Analyst, Warehouse Data Base Analyst, Programmer Analyst, NDSU Business Analysts and Programmer Analyst - Campus Solutions, Data Warehouse Architect
Execution Phase	
Outcome 1. Define and operationalize the collection of data for the postsecondary domain aligned with Common Education Data Standards; Deliverable 1.1 and 1.2; Task 1.1.1, 1.1.2, and 1.2.1.	NDUS Staff Members- Business Analyst and Programmer Analyst to identify postsecondary elements, subjects and CEDS alignment SLDS and Contractual Staff- Project Manager SLDS staff, Project Manager contractual staff, Data Analyst, Business Intelligence Analyst, Database Administrators for the SLDS, Data Warehouse architect, Program Manager, Extract Transform and Load developers
Outcome 2. The WDQI grant has established employment information on individuals in ND, with postsecondary data in the SLDS. Deliverable 2.1	NDUS Staff Members, Business Analyst to identify postsecondary student cohorts

	<p>SLDS and Contractual Staff, Project Manager SLDS staff, Project Manager contractual staff, Data Analyst, Research Analyst, Database Administrators for the SLDS, DW architect, Program Manager, Extract Transform and Load developers</p>
<p>Outcome 3. Creation of a robust data dictionary through an enhanced metadata management system; Deliverable 3.1, Task 3.1.1, 3.1.2, 3.1.3, and 3.1.4</p>	<p>NDUS Staff Members, Business Analyst and Programmer Analyst to identify postsecondary elements, subjects and CEDS alignment SLDS and Contractual Staff, Project Manager SLDS staff, Project Manager contractual staff, Data Analyst, Business Intelligence Analyst, Database Administrators for the SLDS, Data Warehouse architect, Program Manager, Extract Transform and Load developers</p>
<p>Outcome 4. Development of a comprehensive and coordinated feedback reporting system, through the SLDS framework, enabling ND postsecondary education to communicate with high schools regarding college readiness and college-level performance of their graduates; Deliverable 4.1, 4.2, 4.3, and 4.4. Task 4.1.1</p>	<p>NDUS Staff Members, Business Analyst providing input, review and quality assurance of reports, Research Analyst providing guidance, analysis and validation of reports SLDS and Contractual Staff, Project Manager SLDS staff, Project Manager contractual staff, Data Analyst, Report Developers, Data Base Analyst, Data Warehouse architect, Program Manager, Data Warehouse training, and Research Analyst</p>
<p>Outcome 5. Expansion of the SLDS portal to include secured access of feedback reports to postsecondary institutions and include postsecondary reports for the public, legislature, and other state officials. Task 5.1.1</p>	<p>NDUS Staff Members Research Analyst SLDS and Contractual Staff, Project Manager SLDS staff, Project Manager contractual staff, Portal/Web designer, SLDS staff to maintain and support the portal, Data Base Analyst for performance tuning and evaluation of data</p>

Outcome 6. Two Senior Project staff to attend a two-day meeting in DC- each year of the grant; Task 6.1.1	Project Director and Program Manager
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Each individual of the project will work directly with their respective Project Director or Project Manager. Positions listed under the NDUS Staff Members will report to the NDUS Project Director, and all positions listed under SLDS and Contractual Staff reports to their designated Project Director/Program Manager.

North Dakota has implemented the North Dakota Century Code which requires all projects of this size to follow the state standards on project management based on the Project Management Institute’s Project Management Book of Knowledge (PMBOK). Additionally, the size of this project requires Large Project Oversight, a formal process for reporting on projects over \$250,000. The Legislative Information Technology Committee monitors projects on a quarterly basis. Vendors and contractors who participate in the project are required to utilize this common framework of project management which has resulted in many successful projects in North Dakota. This process will ensure the project will remain within its timeline and within budget.

Governance

All projects and funded grants related to the SLDS reports to the SLDS Committee, and the PEP-20W SLDS will also follow this protocol. As mentioned, the SLDS Committee is a legislatively mandated inter-agency committee which is responsible for overseeing the planning and operation of North Dakota’s SLDS. The committee is the main governing body of the SLDS and will provide the final direction, priorities, and governance on the project as it relates to the SLDS. The SLDS Committee plays a key role in establishing standards for data sharing, privacy and security as well as developing *inter and outer-agency* (outside the state) agreements for the terms of data sharing.

Additional governance on this project will be shared by three state entities: the North Dakota University System (NDUS), the Department of Public Instruction (DPI), and Information Technology Department (ITD). NDUS will act as the executive sponsoring agency on the project, and will be responsible for the day-to-day governance and operation of the project. DPI will be responsible for the grant administration duties as required of the applicant. Also, DPI will supply staff to the project to coordinate K-12 data needs and use. The Information Technology Department will provide staff to the project and coordinate any work with the WDQI and ndSLEDS projects. Job Service North Dakota, through the structure of the SLDS Committee, will oversee the Workforce data needs and use on the project (Letters of Support, *Appendix B*). In order to make sure all data is secured and following the protocols and statutes provided by the SLDS Committee, data sharing agreements will be provided.

Postsecondary Education PEP-20W SLDS- Planning

The planning and preliminary analysis of the project will be implemented by the Project Planning Team and the Campus and SLDS Evaluation Team. Individuals from the Project Planning Team and Campus and SLDS Evaluation Team will monitor and create the project plan. This plan includes developing the project schedule, identifying resources of the North Dakota SLDS staff and contracted support resources, and initiating the project governance. Additionally, preliminary analysis of Campus Solutions, data elements and subject areas will be

achieved during the planning phase to provide information on the project plan and resource allocations. This analysis will determine where postsecondary data should be obtained, such as through the NDUS warehouse, staging area, and/or directly from Campus Solution extracts.

Outcome 1. Define and operationalize the collection of data for the postsecondary domain aligned with Common Education Data Standards

Outcome 1, including deliverables and tasks will define and operationalize the collection of data for the postsecondary domain aligned with Common Education Data Standards (CEDS). Individuals will expand on the efforts performed during the analysis phase. Data warehouse architects will develop the data models to be implemented in the warehouse, and the models and processes for joining postsecondary to K-12 and workforce domains. Software licenses and tools will be identified and staff members trained on their usage for extracting the data from Campus Solutions. The result of Outcome 1 will be an automated data collection process running at scheduled periods in a given year.

Outcome 2. The WDQI grant has established employment information on individuals in North Dakota, with postsecondary data in the SLDS

Outcome 2, including deliverables and tasks will prepare and build data marts on postsecondary and workforce subjects allowing for research to be conducted on completers. After postsecondary students are available in the SLDS, the matching algorithms will link across these domains and provide the capacity to build data marts. Research and Policy questions will utilize this foundational data mart for its research as described in this grant.

Outcome 3. Creation of a robust data dictionary through an enhanced metadata management system

Outcome 3, including deliverables and tasks will evaluate metadata management. Individuals will manage the process of Common Education Data Standards (CEDS) data alignment tools and gauge the process to the data dictionary and metadata management. The conclusion of this research will result in business processes, software and potentially an RFP to purchase and procure a data dictionary. It is the intent of this effort to lead to a product, process or solution where data stewards will actively engage in the management of data element, and the governance of the data elements.

Outcome 4. Development of a comprehensive and coordinated feedback reporting system, through the SLDS framework, enabling ND postsecondary education to communicate with high schools regarding college readiness and college-level performance of their graduates

Outcome 4, which includes deliverables and tasks, will develop reports which will be iterations of data made available to the SLDS. Requirements and use case specifications will be developed by NDUS and Data Analysts. This outcome will produce research data marts that are secured and made available to only those conducting research.

Individuals will also implement online training content created for reports and portal users. Training content will also address the data and appropriate use of the data. Following the K-12 model for training, regional training will be conducted through collaborate training efforts being conducted for the K-12 SLDS. A train the trainer model will be implemented. Additional training will be conducted for the NDUS staff on the usage of postsecondary data in the SLDS.

Outcome 5. Expansion of the SLDS portal to include secured access of feedback reports to postsecondary institutions and include postsecondary reports for the public, legislature, and other state officials.

Outcome 5, including its task will expand the SLDS portal for postsecondary information. Involved individuals will manage the secured access (authenticated) for K-12 and postsecondary users; public access to postsecondary outcomes and preparation; and data dictionary which will be publically available through the portal in a user-friendly engagement. The overall planning and design of the portal will begin in year 1 to provide input into the report design and implementation outcomes, and continue through year 3 as new reports or subject areas are available through the SLDS.

e. Staffing

Project Management Team and Qualifications

Appendix C contains the resumes of the management team members listed.

Dr. Marsha Krotseng, Executive Sponsor. Dr. Marsha Krotseng is the Vice Chancellor for Strategic Planning and Executive Director, College Technical Education Council. Dr. Krotseng has the education, experience, and background to take the position of Executive Sponsor for the PEP-20W SLDS project. She is currently the Chair on the SLDS Communication subcommittee, and on the Workforce Accountability subcommittee, enabling her to make reports and recommendations to the SLDS Committee regarding the project. Her day-to-day responsibilities as Vice Chancellor include working with the University System's numerous stakeholders to plan for the future of North Dakota's public universities and colleges through processes such as the Higher Education Roundtable. She has led the development of and monitors the strategic plan for the System which comprises two research universities, four regional universities, and five community colleges. As Executive Director of the College Technical Education Council, convene the Community College Presidents and State Director of Career and Technical Education to address state workforce needs and economic development. She also oversees system grant development, college access, and STEM initiatives (*Resume, Appendix C*).

Michael Pytlik, North Dakota University System Project Director. Mr. Pytlik has extensive experience and would be highly qualified to be the North Dakota University System Project Director. He is currently the Executive Director of ConnectND. He provides direction and oversight for ConnectND, the NDUS' administrative information systems. He supervises system directors, plans for future system extensions and enhancements including implementation of a data warehouse, data presentation and analysis tools. He communicates with various constituent and oversight group. He serves as a liaison to state Office of Management and Budget, Information Technology Department, and K-12 education agencies. Additionally oversee efforts to connect higher education data with K-12 (*Resume, Appendix C*).

Steve "Frank" Snow, Project Director for the Department of Public Instruction. Mr. Snow is currently the Director, Management Information System for the North Dakota Department of Public Instruction, and has the experience and background to be the Department of Public Instruction Project Director over the PEP-20W SLDS project. He is the department's designated representative on State Longitudinal Data System (SLDS) committee. Also, is the Director SLDS (K-12 Domain) project (4 year, \$6.7M). Additionally, develops and implements technology plan

Postsecondary Education P-20W SLDS Project (PEP-20W SLDS)

for DPI; manages a \$2M biannual budget; directs multi-unit IT projects; assists North Dakota education agencies with IT and data issues; and supervises a 12 person unit (*Resume, Appendix C*).

Tracy Korsmo, SLDS Program Manager. Mr. Korsmo has the background and experience to be the SLDS Project Manager over the PEP-20W SLDS Project. He is currently the SLDS Program Manager, and Business Intelligence Program Manager, and Enterprise Architect with ITD. He also provides statewide technology planning and project oversight. Also, he assists agencies with the implementation of best practices related to technology planning and management; provides consulting; develops guidelines and white papers; provides research coordination; acts as staff to the legislative IT committee by conducting policy research and making recommendations; and directs enterprise initiatives. Additionally, he has responsibilities with the formation of a Business Intelligence Competency Center (BICC); and planning and implementation for the ND Statewide Longitudinal Data System consisting of coordinating contractors and agencies and school districts (*Resume, Appendix C*)

Table 5 Project Management Team

Project Management Team		
Personnel		
Name	Agency	Position/Role
Dr. Marsha Krotseng	North Dakota University System	Executive Sponsor
Michael Pytlik	North Dakota University System	North Dakota University System Project Director
Tracy Korsmo	North Dakota State	SLDS Program Director
Frank ‘Steve’ Snow	Department of Public Instruction	Department of Public Instruction Project Director
TBD	North Dakota University System	North Dakota University System Research Analyst
TBD	North Dakota University System	North Dakota University Programmer Analyst
TBD	North Dakota University System	North Dakota University System Business Analyst
	ITD Contractual	
TBD		Request For Proposal Writer
TBD		SLDS Project Manager
TBD		ND Enterprise Project Oversight
TBD		Data Base Analyst and Extract Transform Load developer
TBD		Report developers
TBD		Data Analyst
TBD		SLDS Research Analyst
	SLDS Contractors	
TBD		Data Warehouse Project Manager

Postsecondary Education P-20W SLDS Project (PEP-20W SLDS)

TBD		Data Warehouse Architect
TBD		Portal/Web Designer
TBD		Data Warehouse Extract Transform Load Engineer
TBD		Data Warehouse Business Intelligence Analyst/Report Developer
TBD		Trainer

Roles, Responsibilities, and Time Commitments

Position	Description	Time Commitments
Executive Sponsor	Responsible for conflict resolution, authorizing changes, managing contingencies, managing stakeholder expectations, and ensuring expected benefits are realized.	3% -In Kind
North Dakota University System Project Director	Responsible for keeping the project aligned with user needs; and assisting the sponsor, and the program manager with strategic decisions. He is the primary contact with postsecondary institutions and is responsible for producing any reports or materials required by the federal grant. The project director may be asked to produce deliverables regarding governance, training, and strategy decisions.	5%-In-Kind
SLDS Program Manager	Responsible for coordinating the work of the project in relation to the SLDS program, and assisting the sponsor and the Executive Steering Committee with integrating the project work into the strategic program vision.	15% In-Kind
Department of Public Instruction Project Director	Responsible for keeping the project aligned with user needs; and assisting the sponsor and the program manager with strategic decisions. He is the primary contact with K-12 institutions.	5% In-Kind
North Dakota University System Research Analyst	Responsible for identifying postsecondary student cohorts for research on outcomes.	10% In-Kind
North Dakota University System Programmer Analyst	Provide postsecondary data to SLDS, input, review, and quality assurance of reports	10% In-Kind

Postsecondary Education P-20W SLDS Project (PEP-20W SLDS)

Position	Description	Time Commitments
North Dakota University System Business Analyst	Provide input, review and quality assurance of reports. Work with team on defining data elements of source system.	10% In-Kind
Contractual Positions		
ITD Contractors		
Request For Proposal Writer	Writer for all RFPs connected to the project	Contract 10% Year 1 Part-Time
SLDS Project Manager	Overseeing the day to day operation of the project	Contract 70% Part-Time
ND Enterprise Project Oversight	Responsible for ensuring the project complies with state project standards	Contract 70% Part-Time
Data Base Analyst and Extract Transform and Load Developer	Performance tuning and evaluation of data, responsible for source data extraction, transformations and loading data into the warehouse	Contract 25% Year 1, and 50% Years 2 and 3 Part-Time
Report developers	Responsible for requirements, use cases, and development of secured reports	Contract 20% Year 1, and 50% Years 2 and 3 Part-Time
Data Analyst	Responsible for data elements, and understanding data sources definitions, data dictionary and data usage	Contract 50% Year 1, 70% Year 2, and 40% Year 3 Part-Time
SLDS Research Analyst	Responsible for requirements for data marts and conducting research on the SLDS	Contract 10% Year 1, 25% Year 2, and 50% Year 3 Part-Time
SLDS Contractors		
Data Warehouse Project Manager	Project management services for outside contracts	Contract 30% Part-Time
Data Warehouse Architect	Responsible for assessing data warehouse requirements, and providing guidance on architecture and strategy	Contract 10% Year 1, 20% Year 2, and 15% Year 3 Part-Time
Portal/Web Designer	Responsible for the portal and web design and development	Contract 25% Year 1, and 40% Years 2 and 3 Part-Time
Data Warehouse Extract Transform and Load Engineer	Responsible for extracting, transforming, and loading data into the data warehouse	Contract 15% Year 1, 60% Year 2, and 50% Year 3 Part-Time
Data Warehouse Business Intelligence Analyst/Report Developer	Responsible for data and report requirements, use cases, and development of secured reports.	Contract 50% Year 1 Part-Time, 100% Year 2 Full-Time, and 75% Year 3 Part-Time

Postsecondary Education P-20W SLDS Project (PEP-20W SLDS)

Position	Description	Time Commitments
Trainer	Developing training materials and conducting training	Contract 20% Year 1, 50% Year 2, and 50% Year 3 Part-Time

References

Chitty, H. (2009). *NASFAA Prepares to Help Meet President Obama's 2020 Challenge*. National Association of Student Financial Aid Administrators. Retrieved September 8, 2010, from <http://www.nasfaa.org/publications/2009/anobamaspeechpr022509.html>

DeAngelo, L., Franke, R., Hurtando, S., Pryor, J., & Tran, S. (2011). *Completing College: Assessing Graduation Rates at Four-Year Institutions*. Higher Education Research Institute, Graduate School of Education & Information Studies, University of California, Los Angeles.

Data Quality Campaign, (2010). *North Dakota: 2010 DQC State Analysis*. Retrieved November 14, 2011 <http://www.dataqualitycampaign.org/stateanalysis/states/ND/>

North Dakota's K-12 STEM Ed Report Card 2011. (2011). *Jobs & Economic Prosperity Through STEM Education*. Retrieved December 1, 2011 from <http://stemconnector.org/sites/default/files/sbs/ASTRA%20STEMEd%20NorthDakota%202011.pdf>

Other Attachment File(s)

* Mandatory Other Attachment Filename:

To add more "Other Attachment" attachments, please use the attachment buttons below.

INTER-AGENCY DATA SHARING AGREEMENT

1. This Data Sharing Agreement is entered into by and between the participating agency members of the North Dakota statewide longitudinal data system, each a “party” and together, “parties.”

2. Purpose of Agreement
 - a. N.D.C.C. § 15.1-02-18 requires the North Dakota Information Technology Department, at the direction of the statewide longitudinal data system committee, to maintain a statewide longitudinal data system among education, workforce, and training entities. This longitudinal data system requires dissemination of management information to stakeholders and partners of state education, training, and employment system. In addition, it is required to use data from educational and workforce systems as central sources of longitudinal data. Unless otherwise authorized by federal or state law, the data may be disclosed only in the aggregate, except that individually identifiable data may be disclosed when expressly authorized by federal or state law. Except for formatting, data may not be altered or amended without the consent of the submitting party. The data may be disclosed only to a public official for use in the performance of the public official's duties and may be used only for research or analytical purposes, or other purposes expressly authorized or required by other federal or state law.

- b. It is also the purpose of this agreement to establish terms under which the North Dakota Information Technology Department is designated by the party, North Dakota University System, and the other educational agency parties, as an authorized representative of the state educational agencies according to federal and state law for purposes of hosting, maintaining, accessing, and compiling student data for research purposes.
- c. It is also the purpose of this agreement to establish terms under which Job Service and other workforce and training agency parties maintain, access, and compile data for research and for state and federally required reporting purposes.
- d. For the party, North Dakota University System, and other educational agency parties, the data may be used only for research, analysis, studies or reports to track students, monitor and evaluate student progress or outcomes, or other research and analysis to assist in improving instruction or as otherwise authorized under the Family Educational Rights and Privacy Act (FERPA) [20 U.S.C. 1232g; 34 C.F.R. 99] or other governing law.
- e. The information technology department must incorporate in the design of the longitudinal data system network architecture rules of access in accordance with these requirements as well as security measures as required by federal and state law. It is further understood that the

longitudinal data system advisory committee must approve the network architecture rules of access.

3. Period of Agreement

The period of this agreement shall extend from November 1, 2010, until terminated in writing by parties.

4. Description of Data

The data elements to be exchanged are specifically identified for each party in Exhibit A. If additional elements are needed the parties may amend this agreement by mutual consent, in writing, at any time.

5. Method of Transfer

Methods of transfer employed by the parties are subject to review and approval by the parties. The parties will employ and maintain security measures that protect the data from unauthorized physical and electronic access during transfer.

6. Security of Data

The parties must assume responsibility of data received from each other and must employ and maintain security measures to protect data from unauthorized physical and electronic access. Methods employed to maintain the security of data are subject to review and approval by each party.

The parties must comply with all applicable federal and state laws and regulations protecting the privacy of individuals, including FERPA.

The parties must be notified in the event the security, confidentiality or integrity of the data exchanged is, or is reasonably believed to have been, compromised. Notification of the party whose data was improperly disclosed or otherwise compromised must take place within twenty-four hours of discovery. Appropriate course(s) of action regarding further notice of breach will be determined based on the recommendations of all affected parties.

Exchange of data between the parties and third party contractors is subject to the requirements set forth in this agreement.

The North Dakota Information Technology Department may not redisclose personally identifiable information in student records, except as authorized by FERPA or other applicable law, and under direction of the responsible educational agency party. The North Dakota Information Technology Department may not redisclose confidential or personally identifiable information that is not a student record to any party except as authorized by law.

7. Job Service Requirements

Information that may be disclosed to participating agency members under this Agreement by Job Service is limited to the Job Service information described in

attachment A and may be used only for the purpose of carrying out the Longitudinal Data System Law.

Access to information disclosed by Job Service under this Agreement must be limited to individuals who are employees or agents of participating agency members with a need for access to carry out the purposes of the Agreement.

The methods and timing of access to Job Service information and the format for transmission of this information shall be set forth in a separate addendum to this Agreement.

Disclosure of Job Service unemployment compensation information that is not for the benefit of the unemployment compensation system must be paid for as required by 20 C.F.R. § 603.8.

Any participating agency and any employee or agent of a participating agency member to which Job Service information is disclosed must safeguard that information as required by 20 C.F.R. § 603.9.

Any participating agency and any employee or agent of a participating agency member to which Job Service information is disclosed must permit Job Service to conduct on-site inspections to assure compliance with requirements of state law and this Agreement.

The Information Technology Department and any participating agency and any employee or agent of a participating agency member to this Agreement may use Job Service Information only as authorized by and subject to the limitations in (a) N.D.C.C. § 52-01-03(3) and (b) title 20 Code of Federal Regulations, part 603.

8. Breach and Other Violations

If any participating member, or the agent of a member, fails to comply with any provision of this agreement, including if applicable, timely payment for use of a participating member's information, that member's participation in this agreement may be temporarily suspended and further disclosure of information to the longitudinal data system is prohibited, until the participating member is satisfied that corrective action has been taken and there will be no further breach or violation of this agreement. In the absence of prompt and satisfactory corrective action, the participating member may cancel its participation in this Agreement.

9. Enforcement

Except as otherwise provided by federal or state law, the longitudinal data system committee shall have final authority to rule on any alleged breach or violation of this agreement, appropriate corrective action for any breach, and compliance with any remedial action required.

In addition to the actions authorized under section 8 of this agreement, a participating member may undertake enforcement action authorized by other state or federal law to enforce this agreement and secure compliance with other applicable state or federal law.

10. Disposition of Data

The parties must destroy all data when no longer needed to achieve the purpose of the project as set forth in this agreement and in N.D.C.C. Title 54. Written notification will be sent to the parties when completed.

11. Signature in Counterparts

This Agreement may be signed in counterparts, each of which must be treated as and considered to be an original, with the same effect as if the signatures to the Agreement were upon the same instrument.

12. Signatures

Party JOB SERVICE NORTH DAKOTA

(b)(6)

Maren Daley
Typed Name

Executive Director
Title

12-28-10
Date

Party

Signature

Typed Name

Title

Date

Party

Signature

Typed Name

Title

Date

Party

Signature

Typed Name

Title

Date

11. Signature in Counterparts

This Agreement may be signed in counterparts, each of which must be treated as and considered to be an original, with the same effect as if the signatures to the Agreement were upon the same instrument.

12. Signatures

ND Workforce Development Council

Party

(b)(6)

Signature

Party

Signature

Paul Govig

Typed Name

Typed Name

Interim Director

Title

Title

12/29/10

Date

Date

ND Workforce Development Council

Party

(b)(6)

Signature

Party

Signature

Beth Zander

Typed Name

Typed Name

Director, Workforce Development Div.

Title

Title

12-29-10

Date

Date

11. Signature in Counterparts

This Agreement may be signed in counterparts, each of which must be treated as and considered to be an original, with the same effect as if the signatures to the Agreement were upon the same instrument.

12. Signatures

Party
(b)(6)
Signature

Carol K Olson
Typed Name
Executive Director
ND Department of Human Services
Title
1/3/2011
Date

Party

Signature

Typed Name

Title

Date

Party

Signature

Typed Name

Title

Date

Party

Signature

Typed Name

Title

Date

11. Signature in Counterparts

This Agreement may be signed in counterparts, each of which must be treated as and considered to be an original, with the same effect as if the signatures to the Agreement were upon the same instrument.

12. Signatures

Party
(b)(6)

Wayne Kutzer

Typed Name

State CTE Director

Title

12/29/2010

Date

Party

Signature

Typed Name

Title

Date

Party

Signature

Typed Name

Title

Date

Party

Signature

Typed Name

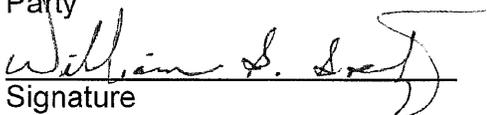
Title

Date

11. Signature in Counterparts

This Agreement may be signed in counterparts, each of which must be treated as and considered to be an original, with the same effect as if the signatures to the Agreement were upon the same instrument.

12. Signatures

Party

Signature

William G. Goetz
Typed Name

Chancellor, ND University System
Title

January 28, 2011
Date

Party

Signature

Typed Name

Title

Date

Party

Signature

Typed Name

Title

Date

Party

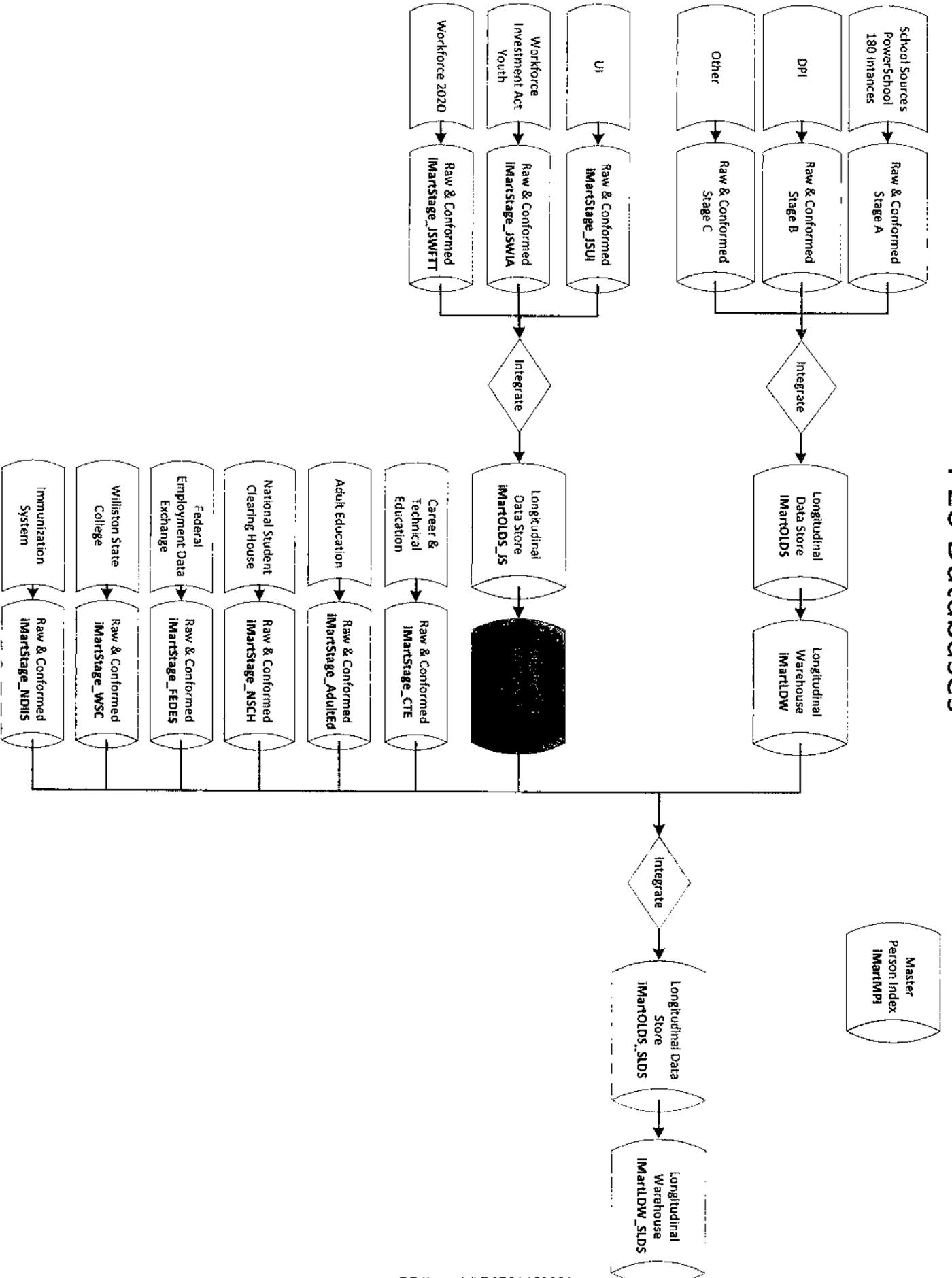
Signature

Typed Name

Title

Date

P20 Databases





— State of —
North Dakota
Office of the Governor

Jack Dalrymple
Governor

December 14, 2011

Dr. Tate Gould
Institute of Education Science: Statewide, Longitudinal Data System
U.S. Department of Education
1990 K Street, NW, RM 9032
Washington, DC 20006-5651

Dear Dr. Tate:

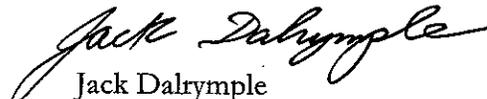
The North Dakota State Longitudinal Data System (SLDS) has been in place since 2007 with many milestones achieved with participating State agencies and projects. In 2009, the Department of Instruction (DPI) received a SLDS grant from the Institute of Education Sciences to develop the North Dakota Statewide Educational Longitudinal Data System (ndSLEDS). Additionally, Job Service North Dakota (JSND) was a recipient of the Department of Labor Workforce Data Quality Initiative (WDQI).

While the North Dakota SLDS has made measureable strides, and included postsecondary education data for high school feedback information as required by State Fiscal Stabilization Fund Phase II (SFSF II), the SLDS is only capable of answering limited questions. Postsecondary data has been laboriously created and loaded in the SLDS to answer specific questions and the data is not capable of generating answers that vary the parameters of those questions. Gaps have become apparent hindering North Dakota to have a comprehensive P-20W State Longitudinal Data System.

I am in support of the Postsecondary Education P-20W State Longitudinal Data System (PEP-20W SLDS) project, with a priority foci on developing and linking postsecondary and/or workforce data with the State's K-12 data system. The project will strengthen data-informed decisions for education policy and practice in North Dakota by developing and implementing an innovative feedback system linking postsecondary and K-12 education.

This project will be able to align and answer policy questions in order to provide concrete data for policymakers, parents, students, and other stakeholders. Currently, researchers and policymakers request information from the SLDS in an ad hoc manner, which does not provide a linear or a progressive way to track data causing barriers and inconsistent decision making.

Sincerely,


Jack Dalrymple
Governor

37:66:59

December 14, 2011

Dr. Tate Gould
Institute of Education Science: Statewide, Longitudinal Data System
U.S. Department of Education

Dear Dr. Gould:

On behalf of the North Dakota University System, I am pleased to support the Postsecondary Education P-20W State Longitudinal Data System (PEP-20W SLDS) project. This project will strengthen data-informed decisions for education policy and practice in North Dakota by developing and implementing an innovative feedback system linking postsecondary and K-12 education. It will enable the North Dakota University System (NDUS) and our partner agencies to align and answer critical policy questions, generating meaningful data for policymakers, parents, students, and other stakeholders.

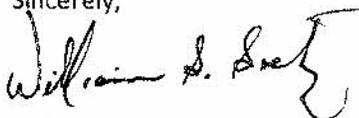
The North Dakota State Longitudinal Data System (SLDS) has been in place since 2007, and the North Dakota University System has partnered with entities including the Department of Public Instruction, Job Service North Dakota, and the state's Information Technology Department to support and provide required data. While the North Dakota SLDS has made measureable strides and included postsecondary education data for high school feedback information as required by State Fiscal Stabilization Fund Phase II, the SLDS is only capable of answering limited questions at the current time. This grant addresses areas that are needed to produce a fully operational and aligned system.

The outcomes and deliverables have been developed by the NDUS in collaboration with the partners identified above. The NDUS will work to ensure implementation of the stated outcomes which include:

- Defining and operationalizing postsecondary data collection in alignment with Common Education Data Standards
- Developing a comprehensive and coordinated feedback reporting system, through the SLDS framework, enabling North Dakota postsecondary education to communicate with high schools regarding college readiness and college-level performance of their graduates
- Expanding the SLDS portal to allow educational institutions secured access to their feedback reports in addition to aggregate reports that will be made available to policymakers and the general public.

This grant will enable North Dakota to significantly advance the capabilities of our SLDS to produce meaningful data linking K-12 and higher education student outcomes. Thank you for your consideration.

Sincerely,



William G. Goetz
Chancellor

G:\Terry\goetz\letters\postsecondary slds agency letter dec. 2011.docx



Information Technology Department

600 E Boulevard Ave., Dept 112 • Bismarck, ND 58505 • (701) 328-3190

December 9, 2011

Dr. Tate Gould
Institute of Education Science: Statewide Longitudinal Data Systems
U.S. Department of Education
Washington, DC 20208

Dear Dr. Gould:

On behalf of the North Dakota Information Technology Department (ITD), I welcome the opportunity to support North Dakota's application, the Postsecondary Education P-20W State Longitudinal Data System (PEP-20W SLDS) project.

North Dakota began planning for a statewide longitudinal data system in 2007 with the statutory designation of the ND Statewide Longitudinal Data System Committee. Since then, the committee has been actively meeting and planning the implementation of a system that includes education data and workforce data. In 2009, the State received an NCES grant to implement the PreK-12 portion of the system and has successfully completed the initial implementation of that project.

The PEP-20W SLDS initiative will enable the development of dynamic longitudinal capabilities between the North Dakota University System and the PreK-12 system to serve as a key component of the overall North Dakota State Longitudinal Data System (SLDS).

ITD has and will play a major role in longitudinal data systems. ND has a consolidated technology infrastructure where all state government data systems are hosted and maintained at ITD. As part of that infrastructure, ITD supports the data systems and applications for the ND SLDS. Likewise, ITD maintains the state network that connects all state agencies, political subdivisions, higher education institutions, and K-12 schools. The synergies created by this consolidation of data, systems, expertise, and governance allow ND to efficiently and effectively create shared systems that benefit the citizens of ND.

In closing, I am ensuring ITD's commitment and long-term support for the North Dakota Statewide Longitudinal Workforce Data System and the Postsecondary Education P-20W State Longitudinal Data System project.

Sincerely,

(b)(6)

Lisa Feldner, PhD, CIO

State of North Dakota

www.nd.gov/itd/

PR/Award # R372A120021

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Department of Public Instruction

600 E Boulevard Ave., Dept. 201, Bismarck, ND 58505-0440
(701) 328-2260 Fax -- (701) 328-2461
<http://www.dpi.state.nd.us>

Dr. Wayne G. Sanstead
State Superintendent

Statewide Longitudinal Data System Grant Review Committee
Institute of Education Sciences
National Center for Educational Statistics
1990 K Street, NW, Room 9067
Washington, DC 20006

December 2, 2011

Dear Review Committee:

The North Dakota State Longitudinal Data System (SLDS) is working to link data across multiple agencies with the goal of creating a comprehensive P-20W SLDS. The SLDS will be the focal point used to answer policy and research questions. The Department of Public Instruction (DPI) and the North Dakota University System (NDUS) have worked together to match unique identifiers across our respective systems. DPI and NDUS have also exchanged minimal data to respond to State Fiscal Stabilization Fund Phase II requirements for college feedback reports.

This is a good start, but only meets minimal data needs. In order to completely achieve the goal, the SLDS will need to expand the amount and granularity of the data. The seamless linking of data across the K12, Post-Secondary and Workforce data systems is critical. This will provide much of the data necessary to make informed decision at all levels.

We see the work planned in this grant application as taking a great step toward achieving this goal. Our agency wholeheartedly supports SLDS Grant and asks that you look favorably on this application.

Sincerely,

(b)(6)

Dr. Wayne G. Sanstead
State Superintendent

The Department of Public Instruction does not discriminate on the basis of race, color, national origin, sex, disability, or age in its programs and activities. For inquiries regarding nondiscrimination policies, please contact: David G. Massey, Assistant Superintendent, Department of Public Instruction, 600 E Boulevard Avenue, Dept 201, Bismarck, ND 58505-0440, 701-328-3600.

School for the Deaf
Devils Lake, ND
(701) 662-9000

School for the Blind
Grand Forks, ND
(701) 765-2700

State Library
Bismarck, ND
(701) 328-2492



Beth Zander, Director
Workforce Development Division
North Dakota Department of Commerce
1600 East Century Avenue
Bismarck, ND 58502

December 7, 2011

Dr. Tate Gould
Institute of Education Science: Statewide, Longitudinal Data System
U.S. Department of Education

Dear Dr. Gould:

The North Dakota State Longitudinal Data System (SLDS) has been in place since 2007, and the North Dakota Department of Commerce has been a partner in the development and success of the system. While the North Dakota SLDS has made measureable strides, significant additional effort is needed to bring it to its full function as a system of data collection and analysis, resulting in improved decision making and outcomes.

For example, postsecondary data has been periodically loaded in the SLDS to answer specific questions and the data is not capable of generating answers that vary with the parameters of those questions. This project will allow North Dakota to align and answer policy questions in order to provide concrete data for educators, policymakers, parents, students, and other stakeholders.

The North Dakota Department of Commerce Workforce Development Division supports the Postsecondary Education P-20W State Longitudinal Data System project, with its priority on developing and linking postsecondary and/or workforce data with the State's K-12 data system. The project will strengthen data-informed decisions for education policy and practice in North Dakota by developing and implementing an innovative feedback system linking postsecondary and K-12 education.

Sincerely,

(b)(6)

Beth Zander

"We lead North Dakota's efforts to attract, retain and expand wealth."

North Dakota
Council of
Educational Leaders

Date: December 7, 2011

Dr. Tate Gould
Institute of Education Science: Statewide, Longitudinal Data System
U.S. Department of Education

M. Douglas Johnson
North Dakota Council of Educational Leaders
121 E Rosser Ave
Bismarck, ND 58501

Dear Dr. Tate:

The North Dakota State Longitudinal Data System (SLDS) has been in place since 2007, and the North Dakota Council of Educational Leaders, has been in partnership with other State agencies in support and providing data as needed. Since its inception, milestones have been achieved with participating State agencies and projects. In 2009, the Department of Instruction (DPI) received a SLDS grant from the Institute of Education Sciences to develop the North Dakota Statewide Educational Longitudinal Data System (ndSLEDs). Additionally, Job Service North Dakota (JSND) was a recipient of the Department of Labor Workforce Data Quality Initiative (WDQI).

While the North Dakota SLDS has made measureable strides, and included postsecondary education data for high school feedback information as required by State Fiscal Stabilization Fund Phase II (SFSF II), however the SLDS is only capable of answering limited questions. Postsecondary data has been laboriously created and loaded in the SLDS to answer specific questions and the data is not capable of generating answers that vary the parameters of those questions. Gaps have become apparent hindering North Dakota to have a comprehensive P-20W State Longitudinal Data System.

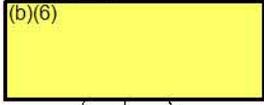
The North Dakota Council of Educational Leaders is in support of the Postsecondary Education P-20W State Longitudinal Data System (PEP-20W SLDS) project, with a priority foci on developing and linking postsecondary and/or workforce data with the State's K-12 data system. The project will strengthen data-informed decisions for education policy and practice in North Dakota by developing and implementing an innovative feedback system linking postsecondary and K-12 education for school administrators and local boards of education. Further, with this project, North Dakota University System, in partnership with State agencies, will be able to align and answer policy questions in order to provide concrete data for policymakers, parents, students, and other stakeholder. Currently, researchers and policymakers request information

from the SLDS in an ad hoc manner, which does not provide a linear or a progressive way to track data causing barriers and inconsistent decision making. It is the intent of this project to provide researchers and policymakers with more linear data, creating a more aligned P-20W SLDS data system.

Considering the grant is focused on postsecondary education, most of the outcomes and deliverables have been developed in the NDUS office, in partnership with other State agencies. However, NDUS is the driving force behind the grant, making sure stated outcomes and deliverables will be managed and implemented. This letter is to ensure that the following outcomes and deliverables will be met:

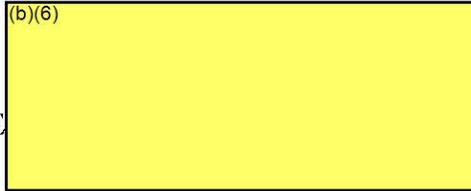
Sincerely,

(b)(6)

A yellow rectangular redaction box covers the signature area. The text "(b)(6)" is printed in the top-left corner of the box.

M. Douglas Johnson
Executive Director

MARSHA VAN DYKE KROTSENG



Education

Ed.D., Higher Education, The College of William and Mary, Williamsburg, Virginia, 1987
M.Ed., Educational Administration, The College of William and Mary, Williamsburg, Virginia, 1981
B.A., Spanish (minor in German), The College of William and Mary, Williamsburg, Virginia, 1977

Higher Education Experience

Vice Chancellor for Strategic Planning and Executive Director, College Technical Education Council

North Dakota University System 2007 –

Responsible for working with the University System’s numerous stakeholders to plan for the future of North Dakota’s public universities and colleges through processes such as the Higher Education Roundtable. Led development of and monitor the strategic plan for the System which comprises two research universities, four regional universities, and five community colleges. As Executive Director of the College Technical Education Council, convene the Community College Presidents and State Director of Career and Technical Education to address state workforce needs and economic development. Oversee system grant development, college access, and STEM initiatives.

Valdosta State University, Valdosta, Georgia
Associate Vice President 2002-2007

West Liberty State College, West Liberty, West Virginia
Vice Provost and Executive Assistant to the President 1999-2002

Cleveland State University, Cleveland, Ohio
Associate Provost for Strategic Planning, Analysis, Assessment, and Program Review 1998-1999

State College and University Systems of West Virginia, Charleston, West Virginia
Director of Research and Information Systems 1991-1998
Interim Director of Finance and Facilities August 1995-December 1995

The University of Hartford, West Hartford, Connecticut
Assistant Director, Planning and Institutional Research 1989-1991

The University of Mississippi, Oxford, Mississippi
Institutional Research Associate, University Planning and Institutional Research 1987-1989

Professional Activities

North Dakota Workforce Development Council	(2009-)
North Dakota Workforce Intelligence Council	(2008-)
American Council on Education Network Executive Advisory Board	(2008-)
Association for Institutional Research	
President	(1999-2000)
Board of Directors	(1998-2001)
Executive Committee	(1992-94)
Nominating Committee	(2009)
Association for the Study of Higher Education	
Site Selection Chair	(1990-93)
Board of Directors	(1987-90)
Program Committee	(1987-89)
National Postsecondary Education Cooperative	(1995-98)
Executive Committee for Banner Software Implementation, West Liberty State College	
IPEDS Technical Review Panel on Most Desirable Data Products	
Delaware National Faculty Study Advisory Committee	
Evaluation of the Institutional Research Function. Glenville State College, Glenville, West Virginia	(2001)
Evaluation of Office of Institutional Research & Planning Analysis. Virginia Tech, Blacksburg, Virginia	(1997)

Published Book

Developing Executive Information Systems in Higher Education. San Francisco: Jossey-Bass, Spring 1993. With Robert H. Glover.

L. Michael Pytlik

(b)(6)

Professional Experience

North Dakota University System

Executive Director of ConnectND **May 2007 – Present**

Provide direction and oversight for ConnectND, the NDUS' administrative information systems. Supervise system directors, plan for future system extensions and enhancements including implementation of a data warehouse and data presentation and analysis tools, communicate with various constituent and oversight groups, serve as a liaison to state OMB, ITD, and K-12 education agencies, oversee efforts to connect higher education data with K-12.

Director of Financial Systems **September 1995 – May 2007**

Provided leadership for operation of the NDUS financial system (ConnectND Financials), analyzed user needs and determine ways to address those needs, supervised financial system business analysts, coordinated development and maintenance tasks with financial system developers, and communicated with various constituent groups.

Led implementation of ConnectND financials, led definition and analysis of requirements for system replacement, analyzed campus business processes, recommended system changes to enhance efficiency and effectiveness, researched current and emerging accounting issues to determine their applicability to the University System. Led implementation of first NDUS data warehouse.

Director of Finance **September 1994 – September 1995**

Analyzed campus annual budgets, consolidated budgets into system-wide documents, and assisted in preparation of budget requests, testimony, and background information.

Financial Systems Trainer **September 1993 – September 1994**

Designed and delivered end-user training, analyzed campus business processes, recommended system changes to enhance efficiency and effectiveness of processes, researched current and emerging accounting issues to determine their applicability to the University System, assisted Director of Financial Systems in planning for system replacement.

Valley City State University

Accountant **March 1988 – September 1993**

Prepared internal and external financial reports, prepared accounting transactions, performed financial analysis, and prepared information for annual and biennial budgets.

Lecturer **August 1988 – May 1994**

Taught accounting and finance courses.

Professional Certifications and Training

Certified Public Accountant – North Dakota Certificate 2154

Graduate – Central Association of College and University Business Officers Collegiate Management Institute

Attendee – National Association of College and University Business Officers workshops on change management, reengineering business processes, and implementation of new administrative systems

Attendee – Educause New Directors and Directors Leadership Seminars

Education

University of North Dakota, Grand Forks, ND

December 1987

Bachelor of Business Administration in Accounting

Professional and Community Activities

Product Advisory Group (PAG) member – Higher Education User Group (HEUG – the national user group for PeopleSoft in Higher Education)

Chair – HEUG Procure-to-Pay and Combined Financials PAGs

Presenter – PeopleSoft Connect Conference (PeopleSoft's national user conference)

Presenter – HEUG/Alliance Conference (HEUG's national user conference)

City Commissioner – City of Valley City, North Dakota

President – West Fargo Middle School and Washington Elementary PTA

Coach and Club Treasurer – West Fargo Soccer Club

TRACY KORSMO

EDUCATION

1987 B.S. Computer Science, University of North Dakota, Grand Forks, ND

Positions and Projects

State of North Dakota, Information Technology Department

2007 – Present

SLDS Program Manager, Business Intelligence Program Manager, Enterprise Architect, Information Technology Department

Provide statewide technology planning and project oversight; develop and maintain statewide technology standards and policies; assist agencies with the implementation of best practices related to technology planning and management; provide consulting; develop guidelines and white papers; provide research coordination; support the initiatives of the CIO; act as staff to the legislative IT committee by conducting policy research and making recommendations; direct enterprise initiatives.

Responsibilities include the formation of a Business Intelligence Competency Center(BICC); planning and implementation for the ND Statewide Longitudinal Data System consisting of coordinating contractors and agencies and school districts.

Team member for the preparation of grant proposals and request for proposals.

Manage the members of the BICC responsible for analysis, design and development of data warehouses; coordinate the BI cross-functional teams involved in data warehouse and BI projects.

Architectural member on the design of ND Master Data Management initiatives such as the Master Person Index being implemented by the Department of Human Services and the integration with Public Instruction Students for identifying eligible students for free and reduced meals.

State of North Dakota, Department of Public Instruction

August 2006 – 2007:

Director, Management Information Systems - Information Systems Administrator II, Department of Public Instruction

Responsibilities include the management of 12 staff members, the development and implementation of technology plans, development of technology budgets, writing proposals and approving department technology purchases. Lead a data advisory committee, which works with school districts.

Accomplishments

Written and presented testimony to the Legislature in regards to mainframe system replacements.

Co-wrote a grant with Food and Nutrition, which was awarded for the Direct Certification of TANF and Food stamp recipients.

Overseeing the rewrite of the state's student reporting system in .Net. This has included project management, contract management, large project reporting as well as overseeing and participating in the design of the product.

Co-authored the RFI and subsequent RFP for a statewide Individual Education Plan with the Special Education unit and evaluate vendor proposals.

Worked with the Department of Human Services in the evaluation of a statewide Master Client Index solution.

Collaborated with other education entities such as Career and Technical Education and the Educational Standards and Practices Board on consolidating data collection systems and improving data quality.

Forum member of the Council of Chief State School Officers and the National Center of Education Statistic of which I am a task force member of Longitudinal Data Systems

State of North Dakota, Information Technology Department

September 2003 – August 2006:

Designing and developing interfaces to FileNet P8 Enterprise Content Management and Business Process Management for multiple state agencies.

Consulted with the ND Secretary of State to replace an AS400 system with a .Net system developed in North Carolina. My responsibilities have included the review, installation and modification of the system; analysis of software, GAP analysis of business processes, cost estimates and the negotiation of license and working with NC to define a collaborative effort on software sharing. As a result of my work with the Secretary of State I have represented them at a National Conference and continue to represent them on negotiations with their software agreements.

Performed research and business analysis for the ND Department of Public Instruction to determine a means of defining a common data dictionary for DPI, as a result of the Paper Work Reduction Act. The results of the analysis produced cost analysis and system recommendations for the creation of a Common Data Dictionary. Presented findings and design at national conference hosted by the National Center of Educational Statistics in Washington DC. The design was accepted and will be available for all states to produce a common data dictionary.

Designed and developed the ND Game and Fish online boat renewals to augment their existing J2EE web application. The application was deployed in December 2004 and is currently recognizing a successful percentage of online usage.

Performed analysis, research and design for the ND Job Service Employer Claims System regarding web services and integration of heterogeneous systems.

Performed a feasibility study, which included a cost benefit plan, system requirements and vendor recommendations, for the ND Department of Public Instruction Child and Adult Care Food Program regarding online claim form submission.

Redesigned and developed the ND Secretary of States' online Business Entity Search in a J2EE architecture, originally developed in SilverStream.

Designed and implemented a J2EE WebSphere Application for the North Dakota Game & Fish Department's online Lottery System. Design and development utilized UML, IBM's WebSphere Studio V5.1, Jakarta Struts, Oracle 9i and PowerDesigner for data modeling.

May 2003 – August 2003:

Developed a J2EE WebSphere Application for the Department of Human Services (DHS) which allows Medicaid Providers to upload and download files for DHS processing including HIPAA and Non-HIPAA compliant files. Additional project to develop an HTTPS service which allows 3rd party vendors the ability to connect to the ND State servers for processing HIPAA compliant files in a real-time environment.

eSoft Technologies, Inc. (eSoft)

May 2002 – May 2003:

Designed and implemented a Web application for the North Dakota Department of Human Services to provide shared Care Plans between all State Human Services, County Social Services, Public School Systems and select private agencies. Analysis performed using UML utilizing Use Cases, Class Diagrams, Data Models and Sequence Diagrams. This project used Jakarta Struts to implement the MVC architecture and tag libraries. This project required Facilitating meetings of large user-groups representing their respective departments throughout the state. Project management included financial, analysis, design and development.

November 2001 – May 2002:

State of North Dakota: Designed and developed the ND Motor Vehicle Online Registration System using IBM WebSphere, Visual Age for Java 4.0 and Java Server Pages for the presentation with a Model View Controller methodology. Produced UML Use Cases, Class and Sequence Diagrams for analysis and design.

May 2001 – August 2001:

Provided architecture consulting and development assistance for a Visual Basic and Microsoft ASP application used by power companies.

- data issues
 - Supervise 12 person unit
- NATO and Air Force Inspector General inspection team member *Aug 04 – Jan 08*
- Performed inspections on communications systems at US Air Force Europe (USAFE) installations
 - Performed inspections on communications systems on member nations of the North Atlantic Treaty Organization (NATO)
 - Led international team redesign of Czech Republic's deployable secure data/voice infrastructure
 - Led international team with design and installation of fiber backbone and data/voice infrastructure for Malacky AB, Slovakia
- Director, Network Infrastructure, *USAF, RAF Mildenhall, UK* *Aug 06 – Jan 08*
- Directed/performed daily maintenance on \$40 million Foundry and CISCO based network infrastructure; including Voice over IP and network servers (classified and unclassified networks)
 - Analyzed/directed projects affecting network design/modifications, ensured strict security requirements maintained; developed most cost effective solutions
 - Managed \$7.5K yearly budget
- Director, Deployable Infrastructure, *USAF, RAF Mildenhall, UK.* *Aug 04 – Aug 06*
- Designed and implemented CISCO based network infrastructure and REDCOM based voice networks at various deployed sites; directed and performed modification and maintenance actions
 - Control \$7.5M equipment account
 - Primary trainer for 42 assigned team members
 - Managed \$100K yearly budget
 - Directly supervised 23 people
- Director, Airfield Systems, *USAF, RAF Mildenhall, UK* *Jan 04 – Aug 04*
- Directed the modifications and daily maintenance of airfield communications systems
 - Supervised 3 sections/18 people
-

- Received highest rating during two Air Force level inspections

Manager, Maintenance Control Section, USAF, *Spangdahlem AB, Germany.* *Jul 03 – Jan 04*

- Directed all maintenance actions for 150-man squadron
- Monitored maintenance database, produced reports for management personnel
- Managed training of 150-man squadron
- Directly supervised 5-man team

Manager, Voice Systems, USAF, *Spangdahlem AB, Germany/Hill AFB, UT*

- Designed and implemented of voice networks
- Directed modification and maintenance actions for voice systems
- Control \$2.5M equipment account

Dec 00 – Jul 03

Voice System Technician, USAF, *Hill AFB, UT*

Jan 96 – Dec 00

- Supervised 3; monitored training/equipment qualifications of 42 person team
- Performed daily maintenance, management/modification of \$100K contingency voice communications infrastructure including telephone switches (AF proprietary), data infrastructure (Bay Network switches), bulk and point-to-point encryption systems, secure and non-secure telephone units, fax machines, network equipment and copper and fiber optics cabling

Manager, Intelligence Systems, USAF, *Osan AB, Republic of Korea*

Dec 94 – Jan 96

- Performed modification and maintenance actions for UNIX based SunSPARC systems, display units, tape drives, encryption systems, and air to ground communications system

Telecommunications Systems Technician, USAF, *Ellsworth AFB, SD*

Dec 86 – Dec 94

- Performed modifications and maintenance actions for ITT based mainframes, display units, disc drives, patch panels, encryption systems, and power supplies to the component level

Appendix D

Acronym List

Business Intelligence Competency Center (BICC)
Career and Technical Education (CTE)
Classification of Instructional Program (CIP)
Common Education Data Standards (CEDS)
Department of Human Services (DHS)
Department of Public Instruction (DPI)
Development on Data Driven Decision Making (DDDM)
Education Technology Council (ETC)
Extract, Transfer and Load (ETL)
Family Education Rights and Privacy Act (FERPA)
Full Time Employee (FTE)
Health Insurance Portability and Accountability Act (HIPPA)
Higher Education Research Institute (HERI)
Information Technology Department (ITD)
Institutions of Higher Education (IHE)
Integrated Postsecondary Education Data Systems (IPEDS)
Job Service North Dakota (JSND)
Leadership and Educational Administration Development (LEAD)
North Dakota Council of Educational Leaders (NDCEL)
North Dakota State Assessment (NDSA)
North Dakota Statewide Educational Longitudinal Data System (ndSLEDS)
North Dakota University System (NDUS)
Postsecondary Education P-20W State Longitudinal Data System (PEP-20W SLDS)
Project Management Institute's Project Management Book of Knowledge (PMBOK)
Public Consulting Group (PCG)
Regional Education Associations (REA)
Slowly Changing Dimensions (SCD)
Standard Occupational Classification (SOC)
State Automated Reporting System (STARS)
State Education Agency (SEA)
State Fiscal Stabilization Fund Phase II (SFSF II)
Statewide Longitudinal Data System (SLDS)
Student Information System (SIS)
System Information Technology Services (SITS)
Value Added Research Center (VARC)
Workforce Data Quality Initiative (WDQI)
Workforce Development Council (WDC)

Budget Narrative File(s)

* Mandatory Budget Narrative Filename:

To add more Budget Narrative attachments, please use the attachment buttons below.

Budget Narrative

Planning and preliminary analysis

This phase will create the project plan; develop the project schedule; identify resources of ND SLDS staff and contracted support resources; and initiate the project governance. Preliminary analysis of Campus Solutions, data elements and subject areas will be performed in the planning phase to provide information on the project plan and resource allocations, when and where resources will be needed. This analysis will determine where appropriately postsecondary data should be obtained; through the NDUS warehouse; staging area; and or directly from Campus extracts

Project Planning Team

Project Managers
Sponsor, Project Directors
Program Manager

Campus and SLDS Evaluation team

SLDS Data Analyst
Warehouse DBA
Programmer Analyst
NDSU Business Analysts and Programmer Analyst - Campus Solutions
DW Architect

Execution

Outcome 1

This phase will define and operationalize the collection of data for the postsecondary domain aligned with Common Education Data Standards. Expanding on the efforts performed during the analysis phase; data sources, elements and their definitions aligned with the CEDS data elements will be identified. Data warehouse architects will develop the data models to be implemented in the warehouse, the models and processes for joining postsecondary to K12 and workforce domains will be produced. Software licenses and tools will be identified and staff members trained on their usage for extracting the data from Campus Solutions. The result of outcome 1 will be defined postsecondary subject areas and automated data collection process running at scheduled periods in a given year.

NDUS Staff Members

- Business Analyst and Programmer Analyst to identify postsecondary elements, subjects and CEDS alignment

SLDS and Contractual Staff

- Project Manager SLDS staff
- Project Manager contractual staff
- Data Analyst
- BI Analyst
- Database Administrators for the SLDS
- DW architect
- Program Manager
- ETL developers

Outcome 2

Prepare and build datamarts on postsecondary and workforce subjects allowing for research to be conducted on completers. After postsecondary students are available in the SLDS, the matching algorithms will link across these domains and provide the capacity to build datamarts. Research and Policy questions will utilize this foundational datamart for its research as described in this RFA.

NDUS Staff Members

- Business Analyst to identify postsecondary student cohorts

SLDS and Contractual Staff

- Project Manager SLDS staff
- Project Manager contractual staff
- Data Analyst
- Research Analyst
- Database Administrators for the SLDS
- DW architect
- Program Manager
- ETL developers

Outcome 3

The SLDS team will evaluate metadata management tools and data dictionary's used in the industry and by other states and develop a strategy. The CEDS data alignment tool, when available, will be evaluated as to the value in contributing to the data dictionary and metadata management. The conclusion of this research will result in business processes, software and potentially an RFP to purchase and procure a data dictionary. It is the intent of this effort to lead to a product, process or solution where data stewards will actively engage in the management of data

elements and governance of the data elements. Training will be conducted for those managing and contributing to the data dictionary solution.

NDUS Staff Members

- Business Analyst and Programmer Analyst to identify postsecondary elements, subjects and CEDS alignment

SLDS and Contractual Staff

- Project Manager SLDS staff
- Project Manager contractual staff
- Data Analyst
- BI Analyst
- Database Administrators for the SLDS
- DW architect
- Program Manager
- ETL developers

Outcome 4

Development of a comprehensive and coordinated feedback reporting system

Reports will be developed in iterations on data made available to the SLDS. Requirements and use case specifications will be developed by NDUS and Data Analysts. Report developers will develop, test and deploy reports per use-case specifications.

This outcome will additionally produce research datamarts that are secured and made available to only those conducting research on postsecondary workforce outcomes and secondary college preparation. Results of research will be made available through the SLDS de-identified.

Online training content will be created for reports and portal users. Training content will also address the data and appropriate use of the data. Following the K12 model for training, regional training will be conducted through collaborative training efforts being conducted for the K12 SLDS. A train the trainer model will be implemented. Additional training will be conducted for the NDUS staff on the usage of postsecondary data in the SLDS

NDUS Staff Members

- Business Analyst providing input, review and quality assurance of reports
- Research Analyst providing guidance, analysis and validation of reports

SLDS and Contractual Staff

- Project Manager SLDS staff
- Project Manager contractual staff
- Data analyst
- Report Developers
- DBA for performance tuning and evaluation of data
- DW architect

- Program Manager
- DW training and
- Research Analyst

Outcome 5

Expansion of the SLDS portal for postsecondary information will include: Secured access (authenticated) for K12 and postsecondary users; Public access to postsecondary outcomes and preparation; Data Dictionary publically available through the portal in a user-friendly engagement. The overall planning and design of the portal will begin in year 1 to provide input into the report design and implementation outcomes and continue through year 3 as new reports or subject areas are available through the SLDS.

NDUS Staff Members

- Business Analyst providing input and review of the information and end-user experience

SLDS and Contractual Staff

- Project Manager SLDS staff
- Project Manager contractual staff
- Portal/ Web designer
- SLDS staff to maintain and support the portal
- DBA for performance tuning and evaluation of data

Section C of Form 524

	2012 Year 1	2013 Year 2	2014 Year 3	Total Budget	Total In Kind	
1. Personnel						
Executive Sponsor	\$3,875	\$3,875	\$3,875	\$0	(b)(4)	
Program Manager	\$12,000	\$12,000	\$12,000	\$0		
Project Director	\$7,000	\$7,000	\$7,000	\$0		
K12 Project Director	\$3,250	\$3,250	\$3,250	\$0		
NDUS Research Analyst	\$6,700	\$6,700	\$6,700	\$0		
NDUS Programmer Analyst	\$6,800	\$6,800	\$6,800	\$0		
NDUS Business Analyst	\$6,500	\$6,500	\$6,500	\$0		
Sub Total	\$46,125	\$46,125	\$46,125	\$0		
2. Fringe Benefits						
Executive Sponsor	\$1,163	\$1,163	\$1,163	\$0		
Program Manager	\$3,600	\$3,600	\$3,600	\$0		
Project Director	\$2,100	\$2,100	\$2,100	\$0		
K12 Project Director	\$975	\$975	\$975	\$0		
NDUS Research Analyst	\$2,010	\$2,010	\$2,010	\$0		
NDUS Programmer Analyst	\$2,040	\$2,040	\$2,040	\$0		
NDUS Business Analyst	\$1,950	\$1,950	\$1,950	\$0		
Sub Total	\$13,838	\$13,838	\$13,838	\$0		
3. Travel						
Annual Trip to DC (2 people)						
Airfare	\$2,000	\$2,000	\$2,000	\$6,000		
Lodging (3 nights)	\$4,050	\$4,050	\$4,050	\$12,150		
Transportation / Parking	\$300	\$300	\$300	\$900		
Meals / Incidentals	\$1,260	\$1,260	\$1,260	\$3,780		
BI Training (3 people)						
Airfare	\$3,000	\$3,000		\$6,000		
Lodging (4 nights)	\$10,800	\$10,800		\$21,600		
Transportation / Parking	\$600	\$600		\$1,200		
Meals / Incidentals	\$3,360	\$3,360		\$6,720		
Contractor Travel (3 people - 4 trips per year)						
Airfare	\$12,000	\$12,000	\$12,000	\$36,000		
Lodging (4 nights)	\$4,800	\$4,800	\$4,800	\$14,400		
Transportation / Parking	\$600	\$600	\$600	\$1,800		
Meals / Incidentals	\$2,208	\$2,208	\$2,208	\$6,624		
Sub Total	\$44,978	\$44,978	\$27,218	\$117,174		
4. Equipment						
Servers						
Warehouse Servers/ License/ Storage						
	\$59,300	\$11,860	\$11,860	\$83,020		
Portal SharePoint Licenses	\$6,000	\$1,200	\$1,200	\$8,400		
BI Tool	\$0	\$0	\$0	\$0		
Data Modeling - Metadata Management licensing						
	\$20,000	\$0	\$0	\$20,000		
Sub Total	\$85,300	\$13,060	\$13,060	\$111,420		
5. Supplies						
General Office Supplies	\$2,500	\$3,000	\$4,000	\$9,500		
Sub Total	\$2,500	\$3,000	\$4,000	\$9,500		

6. Contractual

ITD Contract

RFP Writer	\$20,900	\$0	\$0	\$20,900
SLDS Project Manager	\$119,700	\$119,700	\$119,700	\$359,100
ND Enterprise Project Oversight	\$25,000	\$0	\$0	\$25,000
System Engineer (hosting support)	\$8,550	\$17,100	\$17,100	\$42,750
DBA and ETL developer	\$42,750	\$85,500	\$85,500	\$213,750
Report developer	\$45,600	\$114,000	\$114,000	\$273,600
Data Analyst	\$114,000	\$159,600	\$91,200	\$364,800
SLDS Research Analyst	\$22,800	\$57,000	\$114,000	\$193,800
SLDS Contractors				
DW Project Manager	\$74,100	\$74,100	\$74,100	\$222,300
DW Architect	\$42,750	\$85,500	\$64,125	\$192,375
Portal/ Web Designer	\$71,250	\$114,000	\$114,000	\$299,250
DW ETL Engineer	\$45,600	\$182,400	\$152,000	\$380,000
DW BI Analyst/Report Developer	\$152,000	\$304,000	\$228,000	\$684,000

Trainer and training material development

\$60,800	\$152,000	\$152,000	\$364,800
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Sub Total	\$845,800	\$1,464,900	\$1,325,725	\$3,636,425
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7. Construction	\$0	\$0	\$0	\$0
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8. Other

BI Tool Training	\$9,000	\$9,000		\$18,000
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Sub Total	\$9,000	\$9,000	\$0	\$18,000
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9. Total Direct Costs (lines 1-8)	\$987,578	\$1,534,938	\$1,370,003	\$3,892,519
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In Kind	\$59,963	\$59,963	\$59,963	\$3,965,273
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10. Indirect Costs	\$25,407	\$25,477	\$21,871	\$72,754
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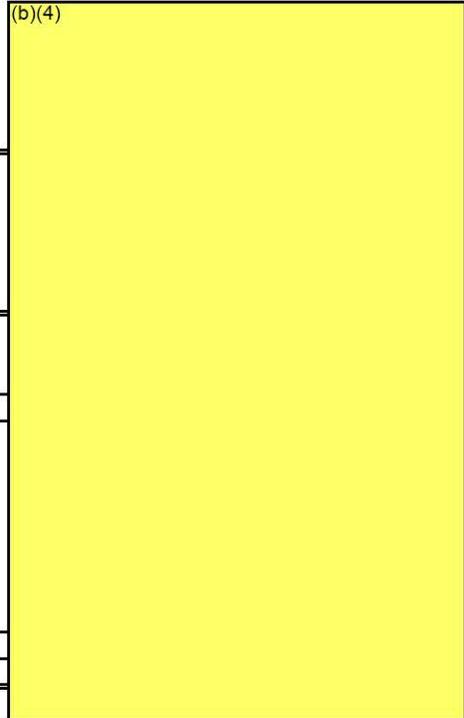
In Kind	\$0	\$0	\$0	
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11. Training Stipends	\$0	\$0	\$0	\$0
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12. Total Costs (lines 9-11)	\$1,012,985	\$1,560,415	\$1,391,874	\$3,965,273
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In Kind	\$59,963	\$59,963	\$59,963	
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Project Total	\$1,072,947	\$1,620,377	\$1,451,836	
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**U.S. DEPARTMENT OF EDUCATION
BUDGET INFORMATION
NON-CONSTRUCTION PROGRAMS**

OMB Number: 1894-0008
Expiration Date: 02/28/2011

Name of Institution/Organization

North Dakota Department of Public Instruction

Applicants requesting funding for only one year should complete the column under "Project Year 1." Applicants requesting funding for multi-year grants should complete all applicable columns. Please read all instructions before completing form.

**SECTION A - BUDGET SUMMARY
U.S. DEPARTMENT OF EDUCATION FUNDS**

Budget Categories	Project Year 1 (a)	Project Year 2 (b)	Project Year 3 (c)	Project Year 4 (d)	Project Year 5 (e)	Total (f)
1. Personnel	0.00	0.00	0.00			0.00
2. Fringe Benefits	0.00	0.00	0.00			0.00
3. Travel	44,978.00	44,978.00	27,218.00			117,174.00
4. Equipment	85,300.00	13,060.00	13,060.00			111,420.00
5. Supplies	2,500.00	3,000.00	4,000.00			9,500.00
6. Contractual	845,800.00	1,464,900.00	1,325,725.00			3,636,425.00
7. Construction	0.00	0.00	0.00			0.00
8. Other	9,000.00	9,000.00	0.00			18,000.00
9. Total Direct Costs (lines 1-8)	987,578.00	1,534,938.00	1,370,003.00			3,892,519.00
10. Indirect Costs*	25,407.00	25,477.00	21,871.00			72,755.00
11. Training Stipends	0.00	0.00	0.00			0.00
12. Total Costs (lines 9-11)	1,012,985.00	1,560,415.00	1,391,874.00			3,965,274.00

***Indirect Cost Information (To Be Completed by Your Business Office):**

If you are requesting reimbursement for indirect costs on line 10, please answer the following questions:

(1) Do you have an Indirect Cost Rate Agreement approved by the Federal government? Yes No

(2) If yes, please provide the following information:

Period Covered by the Indirect Cost Rate Agreement: From: To: (mm/dd/yyyy)

Approving Federal agency: ED Other (please specify):

The Indirect Cost Rate is %.

(3) For Restricted Rate Programs (check one) -- Are you using a restricted indirect cost rate that:

Is included in your approved Indirect Cost Rate Agreement? or, Complies with 34 CFR 76.564(c)(2)? The Restricted Indirect Cost Rate is %.

Name of Institution/Organization North Dakota Department of Public Instruction	Applicants requesting funding for only one year should complete the column under "Project Year 1." Applicants requesting funding for multi-year grants should complete all applicable columns. Please read all instructions before completing form.	
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**SECTION B - BUDGET SUMMARY
NON-FEDERAL FUNDS**

Budget Categories	Project Year 1 (a)	Project Year 2 (b)	Project Year 3 (c)	Project Year 4 (d)	Project Year 5 (e)	Total (f)
1. Personnel	(b)(4)					
2. Fringe Benefits						
3. Travel						
4. Equipment						
5. Supplies						
6. Contractual						
7. Construction						
8. Other						
9. Total Direct Costs (lines 1-8)						
10. Indirect Costs						
11. Training Stipends						
12. Total Costs (lines 9-11)						

SECTION C - BUDGET NARRATIVE (see instructions)