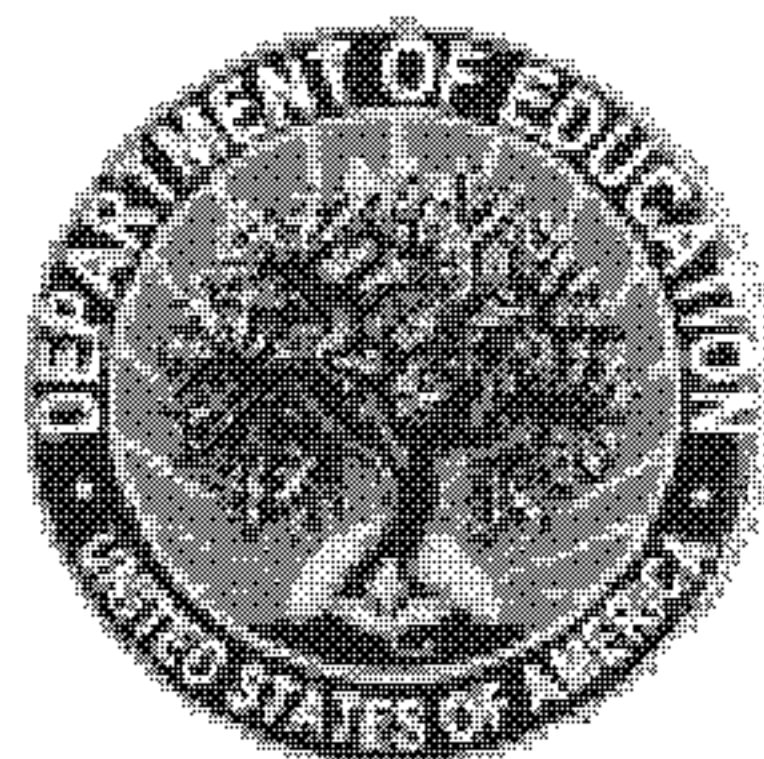


U.S. Department of Education

Washington, D.C. 20202-5335



APPLICATION FOR GRANTS UNDER THE

**STATEWIDE LONGITUDINAL DATA SYSTEM RECOVERY ACT GRANTS
CFDA # 84.384A
PR/Award # R384A100012**

Closing Date: NOV 19, 2009

****Table of Contents****

Forms

1. Application for Federal Assistance (SF-424)	e1
2. Standard Budget Sheet (ED 524)	e5
3. SF 424B - Assurances Non-Construction Programs	e7
4. Disclosure of Lobbying Activities	e9
5. ED 80-0013 Certification	e10
6. Dept of Education Supplemental Information for SF-424	e11

Narratives

1. Project Narrative - (Project Narrative - Project Abstract...)	e12
ND SLDS Grant Abstract Final	e13
2. Project Narrative - (Project Narrative - Project Narrative...)	e14
ND SLDS Grant Narrative	e15
3. Project Narrative - (Project Narrative - Appendix A, Optional Attach.....)	e45
ND Attachment A final	e46
4. Project Narrative - (Project Narrative - Appendix B Resumes of Key P.....)	e61
ND Resumes	e62
5. Project Narrative - (Project Narrative - Appendix C Current Status o.....)	e80
Apendix C	e81
6. Project Narrative - (Project Narrative - Appendix D Letters of Support...)	e88
ND Letters of Support	e89
7. Budget Narrative - (Budget Narrative - Budget Justification...)	e101
ND SLDS Budget Narrative	e102
8. Budget Narrative - (Budget Narrative - ED 524 Section C Spreadsheet...)	e106
ED524 Section C	e107

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

Version 02

* 1. Type of Submission	* 2. Type of Application:* If Revision, select appropriate letter(s):	
<input type="checkbox"/> Preapplication	<input checked="" type="checkbox"/> New	
<input checked="" type="checkbox"/> Application	<input type="checkbox"/> Continuation	* Other (Specify)
<input type="checkbox"/> Changed/Corrected Application	<input type="checkbox"/> Revision	

* 3. Date Received:	4. Applicant Identifier:
12/1/2009	

5a. Federal Entity Identifier:	* 5b. Federal Award Identifier:
	NA

State Use Only:

6. Date Received by State:	7. State Application Identifier:

8. APPLICANT INFORMATION:

* a. Legal Name: North Dakota Department of Public Instruction

* b. Employer/Taxpayer Identification Number (EIN/TIN):	* c. Organizational DUNS:
456002426	803755057

d. Address:

* Street1:	600 E. Boulevard Ave, Dept 201
Street2:	
* City:	Bismarck
County:	
State:	ND
Province:	
* Country:	USA
* Zip / Postal Code:	58505

e. Organizational Unit:

Department Name:	Division Name:
North Dakota Department of Public Instruction	Adminstrative Services

f. Name and contact information of person to be contacted on matters involving this application:

Prefix:	Mr.	* First Name:	Frank
Middle Name:	S		

* Last Name: Snow

Suffix:

Title: Director, Management of Information Systems

Organizational Affiliation:

North Dakota Department of Public Instruction

* Telephone Number: (701)328-2189 Fax Number: (701)328-2255

* Email: FSNOW@ND.GOV

Application for Federal Assistance SF-424

Version 02

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:

84.384A

CFDA Title:

Statewide Longitudinal Data System Recovery Act Grants

*** 12. Funding Opportunity Number:**

ED-GRANTS-072909-000

Title:

Statewide Longitudinal Data System Recovery Act Grant

13. Competition Identification Number:

Title:

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

multi-agency, statewide

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

ND is seeking federal funding to expand current efforts to plan, design, develop and implement a statewide LDS. The system will link records between K12, Early Childhood, Higher Education and WorkForce and provide information back to stakeholders.

Attach supporting documents as specified in agency instructions.

Attachment:

Title :

File :

Attachment:

Title :

File :

Attachment:

Title :

File :

Application for Federal Assistance SF-424

Version 02

16. Congressional Districts Of:

* a. Applicant: ND-All

* b. Program/Project: ND-All

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

Attachment:

Title :

File :

17. Proposed Project:

* a. Start Date: 4/1/2010

* b. End Date: 3/31/2013

18. Estimated Funding (\$):

a. Federal	\$
b. Applicant	\$
c. State	\$
d. Local	\$
e. Other	\$
f. Program Income	\$
g. TOTAL	\$ 0

*** 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.)**

Yes No

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: Mr. * First Name: Frank
Middle Name: S
* Last Name: Snow
Suffix:

Title: Director, Management of Information Systems

* Telephone Number: (701)328-2189 Fax Number: (701)328-2255

* Email: FSNOW@ND.GOV

* Signature of Authorized Representative: * Date Signed:

Application for Federal Assistance SF-424 Version 02

*** Applicant Federal Debt Delinquency Explanation**

The following field should contain an explanation if the Applicant organization is delinquent on any Federal Debt. Maximum number of characters that can be entered is 4,000. Try and avoid extra spaces and carriage returns to maximize the availability of space.



U.S. DEPARTMENT OF EDUCATION

BUDGET INFORMATION

NON-CONSTRUCTION PROGRAMS

OMB Control Number: 1894-0008

Expiration Date: 02/28/2011

Name of Institution/Organization:
North Dakota Department of Publi...

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

Table with 7 columns: Budget Categories, Project Year 1(a), Project Year 2 (b), Project Year 3 (c), Project Year 4 (d), Project Year 5 (e), Total (f). Rows include Personnel, Fringe Benefits, Travel, Equipment, Supplies, Contractual, Construction, Other, Total Direct Costs, Indirect Costs, Training Stipends, and Total Costs.

*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? [X] Yes [] No

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

Period Covered by the Indirect Cost Rate Agreement: From: 7/1/2008 To: 6/30/2011 (mm/dd/yyyy)

Approving Federal agency: [X] ED [] Other (please specify): _____ The Indirect Cost Rate is 12%

(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 0%



U.S. DEPARTMENT OF EDUCATION

BUDGET INFORMATION

NON-CONSTRUCTION PROGRAMS

OMB Control Number: 1894-0008

Expiration Date: 02/28/2011

Name of Institution/Organization:
North Dakota Department of Publi...

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 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	\$ 199,543	\$ 199,543	\$ 199,543	\$ 0	\$ 0	\$ 598,629
2. Fringe Benefits	\$ 39,742	\$ 39,742	\$ 39,742	\$ 0	\$ 0	\$ 119,226
3. Travel	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
4. Equipment	\$ 263,200	\$ 411,400	\$ 0	\$ 0	\$ 0	\$ 674,600
5. Supplies	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
6. Contractual	\$ 11,990	\$ 13,200	\$ 13,200	\$ 0	\$ 0	\$ 38,390
7. Construction	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
8. Other	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
9. Total Direct Costs (lines 1-8)	\$ 514,475	\$ 663,885	\$ 252,485	\$ 0	\$ 0	\$ 1,430,845
10. Indirect Costs	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
11. Training Stipends	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
12. Total Costs (lines 9-11)	\$ 514,475	\$ 663,885	\$ 252,485	\$ 0	\$ 0	\$ 1,430,845

ASSURANCES - NON-CONSTRUCTION PROGRAMS

Standard Form 424B (Rev.7-97)

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
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 sub-agreements.
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 (Clear Air) Implementation Plans under Section 176(c) of the Clear 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. "1721 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

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 the 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.

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 Representative:

Name of Authorized Certifying Representative: Wayne G. Sanstead

Title: State Superintendent

Date Submitted: 10/19/2009

Disclosure of Lobbying Activities

Complete this form to disclose lobbying activities pursuant to 31 U.S.C. 1352

1. Type of Federal Action: <input type="checkbox"/> Contract <input checked="" type="checkbox"/> Grant <input type="checkbox"/> Cooperative Agreement <input type="checkbox"/> Loan <input type="checkbox"/> Loan Guarantee <input type="checkbox"/> Loan Insurance	2. Status of Federal Action: <input type="checkbox"/> Bid/Offer/Application <input checked="" type="checkbox"/> Initial Award <input type="checkbox"/> Post-Award	3. Report Type: <input type="checkbox"/> Initial Filing <input type="checkbox"/> Material Change For Material Change only: Year: 0 Quarter: 0 Date of Last Report:
4. Name and Address of Reporting Entity: <input type="checkbox"/> Prime <input type="checkbox"/> Subawardee Tier, if known: 0 Name: Address: City: State: Zip Code + 4: - Congressional District, if known:	5. If Reporting Entity in No. 4 is a Subawardee, Enter Name and Address of Prime: Name: Address: City: State: Zip Code + 4: - Congressional District, if known:	
6. Federal Department/Agency:	7. Federal Program Name/Description: CFDA Number, if applicable:	
8. Federal Action Number, if known:	9. Award Amount, if known: \$0	
10. a. Name of Lobbying Registrant (if individual, last name, first name, MI): Address: City: State: Zip Code + 4: -	b. Individuals Performing Services (including address if different from No. 10a) (last name, first name, MI): Address: City: State: Zip Code + 4: -	
11. Information requested through this form is authorized by title 31 U.S.C. section 1352. This disclosure of lobbying activities is a material representation of fact upon which reliance was placed by the tier above when this transaction was made or entered into. This disclosure is required pursuant to 31 U.S.C. 1352. This information will be reported to the Congress semi-annually and will be available for public inspection. Any person who fails to file the required disclosure shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.	Name: Wayne G. Sanstead Title: State Superintendent Applicant: North Dakota Department of Public Instruction Date: 10/19/2009	
Federal Use Only:		Authorized for Local Reproduction Standard Form LLL (Rev. 7-97)

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 any 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 or 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: Dr First Name: Wayne Middle Name: G
Last Name: Sanstead Suffix:
Title: State Superintendent

Signature: _____ Date: 10/19/2009

**SUPPLEMENTAL INFORMATION
REQUIRED FOR
DEPARTMENT OF EDUCATION GRANTS**

1. Project Director:

Prefix: * First Name: Middle Name: * Last Name: Suffix:
Mr. Frank S Snow

Address:

* Street1: 600 E. Boulevard Ave., Dept. 201
Street2:
* City: Bismarck
County:
* State: ND* Zip / Postal Code: 58505 * Country: USA

* Phone Number (give area Fax Number (give area
code) code)
(701)328-2189 (701)328-2189

Email Address:

FSNOW@ND.GOV

2. Applicant Experience

Novice Applicant Yes No Not applicable

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:

Attachment:

Title :
File :

Project Narrative

Project Narrative - Project Abstract

Attachment 1:

Title: **ND SLDS Grant Abstract Final Pages: 1** Uploaded File: **C:\Documents and Settings\fsnow\Desktop\Grant Submission\ND SLDS grant abstract final .pdf**

5. Project Abstract: ND EdSmart Data System

North Dakota proposes to build a state longitudinal data system (SLDS) to enhance its ability to provide accountability reporting to leaders and stakeholders. This initiative, named ND EdSmart, provides the planning, development, and coordination efforts that are required to realize a data repository that unifies key data from public PK-12, higher education, and workforce development initiatives and provides the analytical insight to ensure that students transition successfully from K-12 to higher education and the workforce and to foster educational improvement statewide.

The EdSmart data system – a powerful combination of an easy-to-use business intelligence tool and a state data warehouse populated with select data from multiple agencies—will empower and enlighten state leaders by providing answers to questions that are essential for meeting North Dakota’s education and workforce goals. Outcomes of this initiative include:

1. A SLDS data warehouse incorporating metrics from K-12, postsecondary and workforce will be implemented
2. A secure, robust system will be in production to link records based on standards for exchanging data
3. A robust business intelligence system will be in place for developing and publishing reports
4. The SLDS Committee and key stakeholders will be trained
5. A data quality process will be in place
6. Automated systems will be in place to capture source data

The ND EdSmart data system will build on the capabilities of the K-12 data system currently being implemented in North Dakota. ND EdSmart will meet the required capabilities and elements not met by that K-12 system.

As part of the project, data linkages will be built to identify teachers with the postsecondary program where they received their degree to correlate with teacher-student outcomes. Linkages between K-12 and post secondary records will provide information about the preparation for and transition to college. Data linkages will also be established to link K-12 and post secondary students (graduates and drop outs) to employment records and the military. Pre-K to K-12 linkages will also be built.

Major activities in the project will be the design and development of the SLDS. Major components of the system will be a data warehouse, a “master data management” solution to link records, and a business intelligence system to produce reports. Broad training programs will be implemented so that key stakeholders are skilled at data governance as well as using the data. A process for validating and continuous auditing of the data will be developed so that match rates can be improved and confidence in the data can be assured. In addition, improvements will be made to source systems in local districts, the Center for Distance Education, and the North Dakota University System, to facilitate the sharing of information.

Project Narrative

Project Narrative - Project Narrative

Attachment 1:

Title: **ND SLDS Grant Narrative Pages: 30** Uploaded File: **C:\Documents and Settings\fsnow\Desktop\Grant Submission\ND SLDS grant narrative.pdf**

Narrative: ND EdSmart Data System

Table of Contents

6. Project Narrative:.....	1
6. (a) Need for project.....	1
Background / Current Status	1
Current State and local data systems.....	2
Current data exchange system.....	4
Need for the Project / Gaps.....	4
6. (b) Outcomes.....	9
Outcomes Aligned with Requirements	9
Outcomes Detail.....	10
Outcome 1:.....	10
Outcome 2:.....	11
Outcome 3:.....	13
Outcome 4:.....	14
Outcome 5:.....	15
Outcome 6:.....	16
6. (c) Timeline for Project Outcomes	19
6. (d) Project Management and Governance Plan.....	23
Overview	23
Project Sponsor	24
Executive Steering Committee	24
Project Manager	24
Project Business Case, Charter and Plan	24
Project Team	25
Subject Matter Experts / Data Stewards.....	25
Large Project Oversight.....	25
Prior Successful Experience	26
Collaboration with Other States.....	26
Project Sustainability	26
6. (e) Staffing	27

6. Project Narrative:

6. (a) Need for project

The State of North Dakota is working towards the goals of improving student achievement in K-12 schools and ensuring that K-12 students transfer successfully from K-12 to postsecondary education and the workforce. To that end, the State is requesting this grant in order to deploy the technical infrastructure for a State Longitudinal Data System - the North Dakota EdSmart Data System. Today the State has limited capabilities for analyzing student outcomes over time, using systems running on inadequate technology. In addition, stakeholders need training in governance and data quality processes to have consistent, reliable information for analysis. Significant work is also needed to implement automated systems to capture source data for the North Dakota Center for Distance Education, Pre-K programs, K-12 school districts, postsecondary and workforce programs.

Background / Current Status

The State of North Dakota has already initiated a number of programs that can contribute toward achieving the goal of providing comprehensive, statewide, P-20 longitudinal data reporting and analysis.

- The State of North Dakota has established a multi-agency Statewide Longitudinal Data System (SLDS) Committee that is responsible for the establishment and ongoing management of data governance standards and practices. This is an important step in gaining the requisite participation of state departments and agencies, establishing priorities and setting direction so that the SLDS goals can be successfully attained. The legislation regarding the SLDS Committee and its membership is found in Appendix A.
- The State of North Dakota Department of Public Instruction (DPI) applied for and received a \$6.7 million grant award to meet the demands of K-12 longitudinal reporting via the ndSLEDS project. The State has established a standard for deploying a Student Information System (SIS) with the PowerSchool application to collect data at the local level. That application is already in production at a number of the State's schools and the State is committed to full implementation in all schools by 2014. However, the State determined that this needs to be accelerated. Data from the individual school SIS applications is consolidated in the State Automated Reporting System (STARS). At present, schools that are not yet live on PowerSchool enter data directly into STARS, effectively attempting to use that application to accomplish some of the tasks of a full-featured SIS.
- The State has experience linking educational and workforce data with the current Follow-up Information on North Dakota Education and Training (FINDET) System. While the FINDET technical architecture needs to be replaced, the state agencies involved with FINDET have experience working

together that will be leveraged when implementing ND EdSmart, the new SLDS.

- The North Dakota University System, made up of the eleven state colleges and universities, has a single student information system and is currently implementing a data warehouse to capture postsecondary data for reporting purposes.

Current State and Local Data Systems

North Dakota prides itself on creating and maintaining an accountability system that meets the federal reporting requirements of *EDFacts* and the Family Educational Rights and Privacy Act (FERPA). North Dakota has invested over \$3 million in developing its statewide data collection systems. DPI began building an online system, the State Automated Reporting System (STARS) for collecting data to meet No Child Left Behind (NCLB) requirements and establishing a state student identifier. STARS also provides the data collection and calculations required for State Foundation Aid. The online collection system has been rewritten to meet heightened data needs as demands for data required by the Education Data Exchange Network (EDEN)/ *EDFacts*, technology standards and data quality issues have increased.

The second generation STARS, upgraded in 2008, expands the state collection system in program areas to meet more *EDFacts* requirements and increase data validations and quality enhancements to improve the data. STARS has created a strong foundation to build on as North Dakota moves toward collecting the data elements and quality audits needed to provide a robust collection system for a statewide longitudinal data system.

The State hosts PowerSchool, a student information system, for local districts and is piloting automated reporting from PowerSchool to STARS. In 2009, the Legislature mandated that all school districts use PowerSchool as the State standard. Until that time it was voluntary. However, the Legislature did not fund adequate resources to implement PowerSchool in less than five years. Having the same student information system across the State will facilitate the adoption of standard interfaces and data collections.

Via the PowerSchool SIS and STARS application, the State of North Dakota has established a strong foundation for K-12 reporting by establishing standards for reporting key fields of entities such as School, Student, Teacher, and Course in order to provide the basis for reporting and analysis of metrics related to major events such as student enrollment, transfer, withdrawal, testing, graduation, and disciplinary action. Full adoption of PowerSchool by all North Dakota primary and secondary schools will improve data consistency and is key to integration.

In 2009, DPI received an SLDS grant from IES to develop the North Dakota Statewide Educational Longitudinal Data System (ndSLEDS). The ndSLEDS project is focused on building a state K-12 data warehouse and reporting system, with limited data exchanges with other partners. It does provide for the collection of student level test scores and

assessment data, linking students to teachers and the collection of identifying information to link K-12 information to post secondary. Appendix C indicates the current status of the requirements and also those that are being addressed by the ndSLEDS project. The ndSLEDS data warehouse will serve as the primary K-12 source for the proposed ND EdSmart data system. The outcomes identified in this grant application will build on the work done in the ndSLEDS project by enhancing the linkages with postsecondary, workforce and Pre-K.

The North Dakota University System (NDUS) has implemented ConnectND, a common SIS based on Oracle's PeopleSoft Campus Solutions application. This has enabled NDUS to assign and manage unique IDs for students systemwide. NDUS has successfully completed a pilot to match K-12 data supplied by DPI with student data managed by NDUS' ConnectND student system. The pilot has proven the feasibility of achieving a high degree of match (approximately 80% success rate) in order to align the statewide K-12 student ID with the ConnectND student ID. The state will seek to employ more sophisticated matching techniques and algorithms to achieve higher match rates through the policies and data quality efforts proposed in this project and the ndSLEDS project. The data sharing agreement between DPI and NDUS that governs this current cooperative effort is found in Appendix A.

NDUS also captures student profile data, including Social Security Number, from the ACT performance assessment and from student enrollment/registration demographic information. This places NDUS in the position of being able to provide the means of linking students at the secondary and postsecondary levels with workforce.

Further, NDUS has licensed and, in 2009, will begin implementing a data warehousing and business intelligence system that will enable data from all NDUS colleges and universities to be loaded into a common repository that will serve as the primary Higher Ed source for the proposed ND EdSmart data system. The three modules chosen for the current implementation focus on enrolled students, their financial information and employees of the NDUS. In order to fulfill the data requirements associated with the grant proposal it is essential that NDUS also implements the Student Admissions and Recruitment Module.

While NDUS captures all students taking classes for credit, they do not have a standard solution for capturing students in non-credit workforce training programs. The North Dakota Workforce Training System (TrainND) provides business and industry specific training. Currently there is not a standard application nor data definitions for the data collected through TrainND throughout North Dakota. Implementation of a common system could provide North Dakota with another data source to create metrics regarding educational preparation.

Job Service North Dakota operates the Unemployment Insurance (UI) program for the State. The UI operational system runs on a 30 year old mainframe. UI data is downloaded to a personal computer where a single individual is responsible for developing and running reports using FoxPro. Wage data records are keyed by SSN but

demographic data such as name, gender, birth date, etc. are not collected on a consistent basis making linkage to K-12 records difficult.

Current data exchange system

The current system for exchanging data across agencies is called FINDET or Follow-up Information on North Dakota Education and Training. FINDET is administered by the NDUS through a state agency steering committee formed to provide information regarding the status of graduates and program completers of North Dakota educational programs. FINDET was originally modeled after Florida's program and has been in place for more than 15 years. Many of the reports that are provided by FINDET are required by state or federal law. FINDET has two research analyst positions responsible for collecting the data and creating the reports. The system runs on a standalone computer and is highly dependent on the availability and knowledge of the limited staff that understand its operation.

FINDET uses two primary sources of data to "find" students. The first is the PeopleSoft student information system used by all eleven institutions of North Dakota University System (NDUS). Enrollment and graduation data is extracted for each fall and spring semester. The other primary data source is the Unemployment Insurance (UI) information from Job Service. This data is used to match students to employment and wages in North Dakota

Other agencies can supply data to FINDET to match against the NDUS and UI data. Follow-up reports are provided back to the agency at a summary level without personally identifiable information. FINDET reports, including longitudinal data studies, are reported in aggregate form to state agencies in full compliance with all state and federal regulations regarding privacy information, including FERPA, HIPPA, and CIPSEA.

In the 2007 session, the legislature created the State Longitudinal Data System Committee and asked it to study the issue and create a recommendation regarding the long term role of FINDET, as well as plan for an SLDS, the North Dakota EdSmart data system, incorporating educational and workforce data. The State hired Claraview to develop a roadmap which has become the basis for moving forward. Claraview recommended replacing FINDET with a robust SLDS system. The SLDS Committee recognized that getting a K-12 longitudinal system in place and developing an NDUS data warehouse were necessary first steps in evolving from FINDET into a more robust system. The State began working toward designing and implementing a K-12 SLDS system (the ndSLEDS project) with 2009 IES SLDS grant funds and is using State resources to begin implementing the NDUS data warehouse.

Need for the Project / Gaps

While North Dakota has made some progress toward building an SLDS, gaps remain before it can produce the type of reporting and analysis necessary to promote improvements in student outcomes. Appendix C identifies the status of each requirement identified in the RFA. With this grant, North Dakota plans to address five of the seven capabilities and six of the twelve elements prescribed by the America

Grant Application CFDA Number 84.384
 North Dakota EdSmart Data System

Competes Act. Once this project is complete, North Dakota will have addressed all the requirements to a large extent. The EdSmart data system will also address the second requirement of the State Fiscal Stabilization Fund: Establishing Pre-K-to college and career data systems that track progress and foster continuous improvement.

The following table summarizes the gaps that exist related to requirements.

Requirements (7 System Capabilities)	Needs / Gaps
<p>The system must enable States to examine student progress and outcomes over time, including students' preparation to meet the demands of postsecondary education, the 21st century workforce, and the Armed Forces. Such a system must include data at the individual student level from preschool through postsecondary education and into the workforce (e.g., employment, wage, and earnings information).</p>	<p>The current FINDET system was established in 1995 specifically for the purpose of following postsecondary students into the workforce. Since 1995, FINDET has provided a statistical analysis and reporting mechanism with limited capability to examine student progress and outcomes over time. The FINDET system does not have a data warehouse for storing and reporting longitudinal data. The disaster recovery capability is limited. Security is based on limiting physical access to one or two people.</p> <p>DPI will build a data warehouse for K-12 purposes as part of the ndSLEDs project and NDUS will implement a data warehouse for higher education purposes. North Dakota needs an-SLDS data warehouse to extend the K-12 and higher education data warehouses to capture additional information about Pre-K, workforce and transition metrics.</p>
<p>The system must facilitate and enable the exchange of data among agencies and institutions within the State and between States so that data may be used to inform policy and practice. Such a system would support interoperability by using standard data structures, data formats, and data definitions to ensure linkage and connectivity among the various levels and types of data.</p>	<p>FINDET reporting is generally limited to what is required by State and federal law. There is no capability for anyone other than FINDET staff to generate reports for analysis. Little information makes its way back to school districts where it could impact classroom practices. Data exchanges are not standardized or documented in a consistent manner. Data exchanges with Pre-K programs have not been established. The ndSLEDs project will prepare the K-12 data warehouse to accept postsecondary and UI data but additional work is needed to enhance postsecondary and UI systems to provide quality data.</p> <p>Several additional gaps exist with regard to exchange of data capabilities between agencies, institutions, and interstate data exchange. Resolution of field data definitions across agencies is an ongoing process that must be completed before an SLDS reporting system can become functional. Additional work is needed to</p>

Grant Application CFDA Number 84.384
North Dakota EdSmart Data System

	develop meaningful data sharing agreements and establish consistent data standards.
The system must link student data with teachers, i.e., it must enable the matching of teachers and students so that a given student may be matched with the particular teachers primarily responsible for providing instruction in various subjects.	This requirement will be met by the ndSLEDS project and is not addressed by this grant application.
The system must enable the matching of teachers with information about their certification and teacher preparation programs, including the institutions at which teachers received their training.	No data exists today that matches teachers with information about teacher preparation programs. The ndSLEDS project will match student data with the teacher but it does not extend to teacher background information. Data linkages and exchanges need to be established to match teachers to their preparation program.
The system must enable data to be easily generated for continuous improvement and decision-making, including timely reporting to parents, teachers, and school leaders on the achievement of their students.	<p>Many but not all school districts use PowerSchool student information system to communicate with parents about individual students. The ndSLEDS project will establish a business intelligence system for reporting K-12 state level data to stakeholders. No business intelligence tool exists for easily generating reports for stakeholders of metrics about the transition between educational systems and the workforce.</p> <p>The PowerSchool student information system needs to be implemented on an accelerated schedule to have statewide data available for linking. The North Dakota Center for Distance Education also needs an automated student information system to capture student data and provide information to stakeholders.</p> <p>The ndSLEDS project will deploy a business intelligence tool for generating reports for stakeholders of K-12 educational systems. To be able to combine data mining with sophisticated offline analysis to create research studies capable of influencing data driven decisions regarding program quality and improvement, North Dakota needs to extend the implementation of a BI tool to the multi-agency data in the ND EdSmart data system.</p>
The system must ensure the quality and integrity of data	The FINDET system does not have a mechanism for providing stakeholders information about the quality of

<p>contained in the system.</p>	<p>their data or the match rate. While a steering committee is in place, the ability to create and maintain standards, establish data quality processes and use data to inform policy is lacking.</p> <p>Ongoing experience with enterprise level educational data systems in North Dakota has identified significant issues yet to be resolved regarding data quality and integrity. For instance, operators and programmers of systems currently in use cannot easily identify and rectify data quality issues because they are not visible to the operators, and data cannot be easily sub-summarized for contextual view and visualization.</p> <p>Missing field data, data that do not comply with field definitions and other issues are difficult to correct except on individual records. Stakeholders need to be trained in data governance and data quality. A policy manual needs to be developed to formalize the decisions of the SLDS Committee.</p>
<p>The system must provide the State with the ability to meet reporting requirements of the Department, especially reporting progress on the metrics established for the State Fiscal Stabilization Fund and the reporting requirements included in the <i>EDFacts</i> data collection and reporting system.</p>	<p>This requirement has been met by DPI and is not addressed by this grant application.</p>

Requirements (12 Data Elements)	Needs / Gaps
<p>A unique statewide student identifier that does not permit a student to be individually identified by users of the system (except as allowed by Federal and State law)</p>	<p>This requirement has been met by DPI and is not addressed by this grant application.</p>
<p>Student-level enrollment, demographic, and program participation information</p>	<p>Data for students in educational programs is captured except for Pre-K students. Data exchanges for Pre-K students need to be designed and developed as part of the ND EdSmart data system.</p>
<p>Student-level information about the points at which</p>	<p>Data for students that enter and exit educational programs is captured except for Pre-K students. Data</p>

Grant Application CFDA Number 84.384
 North Dakota EdSmart Data System

students exit, transfer in, transfer out, drop out, or complete P-16 education programs	exchanges for Pre-K students need to be designed and developed as part of the ND EdSmart data system.
The capacity to communicate with higher education data systems	<p>The FINDET system is based on ad-hoc extracts supplied by NDUS. Only Career and Technical Education students are matched to post secondary data. The ndSLEDS project will identify the fields necessary for matching student records and prepare the K-12 data warehouse to accept data.</p> <p>Additional work is necessary to enhance the higher education data systems to provide quality data. Most of this work will be advanced through the initial data warehouse efforts of the NDUS and those additions needed to provide data for the SLDS through this grant.</p>
A State data audit system assessing data quality, validity, and reliability	The FINDET system does not have a mechanism for providing stakeholders information about the quality of their data or the match rate. Data audits need to be done to assess data quality and make improvements. Reports need to be developed to provide feedback to source data providers and an ongoing training program needs to be established to raise awareness of data quality issues.
Yearly test records of individual students with respect to assessments under section 1111(b) of the Elementary and Secondary Education Act of 1965	This requirement will be met by the ndSLEDS project and is not addressed by this grant application.
Information on students not tested, by grade and subject	This requirement will be met by the ndSLEDS project and is not addressed by this grant application.
A teacher identifier system with the ability to match teachers to students	This requirement will be met by the ndSLEDS project and is not addressed by this grant application.
Student-level transcript information, including information on courses completed and grades earned	This requirement will be met by the ndSLEDS project and is not addressed by this grant application.
Student-level college readiness test scores	This requirement will be met by the ndSLEDS project and is not addressed by this grant application. Since the ndSLEDS project, the North Dakota legislature created a requirement for ACT and / or Workkeys test data.

Data that provide information regarding the extent to which students transition successfully from secondary school to postsecondary education, including whether students enroll in remedial coursework	North Dakota has not established metrics that indicate successful transition or created a definition for remedial coursework. Hence, only anecdotal information is available today. Standard data definitions need to be developed as well as reports showing information about students transitioning to postsecondary education.
Data that provide other information determined necessary to address alignment and adequate preparation for success in postsecondary education	K-12 student information including course taking and test scores will be available as a result of the ndSLEDS project. The ND EdSmart project will leverage these metrics, including ACT and Workkeys scores, as indicators of K-12 preparation. Reports correlating K-12 student information with postsecondary success do not exist and need to be developed.

6. (b) Outcomes

Outcomes Aligned with Requirements

North Dakota has identified six major outcomes to be accomplished with funding from this grant.

1. A SLDS data warehouse incorporating metrics from K-12, postsecondary and workforce will be implemented
2. A secure, robust system will be in production to link records based on standards for exchanging data
3. A robust business intelligence system will be in place for developing and publishing reports
4. The SLDS Committee and key stakeholders will be trained
5. A data quality process will be in place
6. Automated systems will be in place to capture source data

The first three outcomes establish a robust, sustainable infrastructure for linking data and reporting education and workforce metrics to stakeholders. The chart in Appendix A shows a conceptual model of the ND EdSmart data system architecture. The fourth outcome will be delivery of a training program to governance committees and stakeholders to ensure well thought-out policies are in place and stakeholders know how to use data to inform educational improvement decisions. The fifth outcome will establish a data audit process to ensure that data quality continues to improve over time. To ensure that student data is collected efficiently, automated systems will be implemented statewide as the sixth outcome.

The six outcomes are interrelated and dependent upon each other. The end result, once all six outcomes are achieved, is that North Dakota will have a comprehensive P-20 system in place that permits the generation and use of accurate and timely data, supports analysis and provides for informed decision-making at all levels of the

education system. It will also increase the efficiency with which data may be analyzed to support the continuous improvement of education services and outcomes, facilitate research to improve student academic achievement and close achievement gaps, support education accountability systems, and simplify the processes used by State educational agencies to make education data transparent through Federal and public reporting.

The chart in Appendix C summarizes the outcomes and their relationship to the requirements of the RFA. The six major outcomes include a number of intermediate outcomes. These outcomes also align with the needs identified for each requirement in the table above.

Outcomes Detail

Outcome 1:

1. The ND EdSmart data warehouse incorporating metrics from Pre-K, K-12, postsecondary and workforce

Other Outcomes:

- Completion of a UI data mart
- Postsecondary transition metrics defined and captured in the SLDS data warehouse
- Postsecondary preparation and outcome metrics defined and captured in the ND EdSmart data warehouse

A key component of the ND EdSmart data system architecture will be a data warehouse that can easily manage data. P-20 individual record data will be integrated in a data warehouse that facilitates research and longitudinal data access. As part of this grant, North Dakota will extend the data modeling work being done in the ndSLEDS project to capture the additional data elements. Integration of ndSLEDS data and student records data from NDUS will serve as a foundation for the proposed EdSmart project. As part of the ND EdSmart data system, the state intends to deploy a robust P-20 SLDS data warehouse that will provide the foundation for disaggregated reporting and detailed analysis of education and training performance and effectiveness for appropriate education administrators.

In addition to educational data sources, the project will include activities to identify and incorporate data from early childhood and Pre-K programs as well as workforce data from the Commerce Department, the Department of Human Services and most importantly JSND UI data. Common accountability measures are required and have been developed for twenty workforce training programs. Data required for these accountability measures is not stored in a data warehouse today. As part of the ND EdSmart project it will be uploaded to the ND EdSmart system and made available for longitudinal analysis.

Data that is captured from Pre-K, K-12, post secondary programs and workforce programs will be loaded through extract, transform and load (ETL) processes to ensure

data integrity and consistency. Secure access will be provided based on user profiles and data will be structured to facilitate reporting and analytical requirements.

Activities involved in deploying the ND EdSmart data warehouse will be the design of the data warehouse, including the incorporation of a UI data mart, the development of the data warehouse, data conversion, testing, implementing, and training users. ETL design and development activities will also be included.

As part of designing the data warehouse, decisions will need to be made about the metrics to be included. Activities will involve defining the metrics and ensuring that the data is available from source systems. Of particular importance will be the inclusion of metrics regarding the preparation for and transition to postsecondary. K-12 test scores will be captured as part of the ndSLEDS project and correlated with postsecondary data in the ND EdSmart project. Committees are already in place looking at improving the transition from K-12 to postsecondary. As stakeholders who will be analyzing the data, they will be heavily involved in the development of these metrics.

Outcome 2:

2. A secure, robust system in production to link records based on standards for exchanging data

Other Outcomes:

- Documented standards for the exchanging data
- Reports showing metrics about the correlation of teacher preparation programs to student outcomes
- A system in place for linking data about students as they transition from Pre-K to K-12 education
- A system in place for linking data about students as they transition from K-12 to postsecondary

Another key component of the ND EdSmart data system architecture is the Master Data Management (MDM) solution, a tool used to track students entering and leaving the ND EdSmart data system through numerous feeder systems and applications. MDM will provide consolidation, cleansing, governance, and standards-based, secure data sharing on individuals throughout their interactions with the P-20 application systems.

With a statewide MDM solution, we will be able to:

- Unify data about an individual consistently across state's systems to form a complete accurate profile
- Provide for entity resolution across all systems to create a master record in the ND EdSmart data system along with a cross-reference of the IDs found in the source systems.
- Track the relationships of an individual with the participating agencies and identify and view the source of the data in the master data management system
- Provide sophisticated matching algorithms and postal address validation.
- Distribute constituent data to all subscribing systems that are interested in updates to core data

Grant Application CFDA Number 84.384
North Dakota EdSmart Data System

- Support batch and publish/subscribe interfaces to maintain consistent data in real time

The MDM repository will be critical to our ability to integrate constituent data as individuals transition between various systems that record the attributes essential to this P-20 project.

Implementing the technology is only part of the work involved however. Other activities include developing and documenting standards for exchanging data, defining the business rules for linking the data and testing the exchanges.

As part of the ND EdSmart project, North Dakota will develop linkages between Pre-K and K-12 students, K-12 and postsecondary students, all students and workforce (UI) data, and K-12 teachers and their postsecondary preparation programs.

To develop linkages between teachers and their preparation programs, data will be captured by the Education and Standards Board when teachers apply for licensure. This will make it possible to link to data captured by NDUS about the teacher preparation programs. This data will also be linked to data that DPI captures about teacher course assignments and from there to student data - creating a rich body of information for analysis.

To develop linkages between early childhood programs and later K-20 outcomes, effort will be needed to identify processes for collecting data and to establish meaningful metrics and reports. DPI and the ND Department of Human Services (DHS) which administers IDEA Part C, Temporary Aid to needy Families (TANF) and Food Stamps (FS) have jointly implemented a Master Data Management (MDM) Entity Resolution (ER) system for matching TANF and FS school aged children to LEA enrolled students to determine FDA free-lunch eligibility. This system will be used to identify children receiving early intervention services through IDEA part C and register them in STARS assigning a state student ID number to allow for the longitudinal linkage as the child transitions through other early childhood programs such as Head Start through the enrollment of IDEA part B and into the LEA.

In addition, the North Dakota State Administrator of Head Start Collaboration Office and the directors of North Dakota Head Start Programs and Early Head Start Programs are familiar with the state longitudinal efforts and are proactively seeking relationships with the LEA and SEA to determine measurable outcomes of their programs and meeting statewide school readiness initiatives. This grant will provide the ability to link data about ND Head Start children by expanding the SEA State Automated Reporting System (STARS) to include Early Head Start and Head Start programs in North Dakota. STARS will allow the programs to:

- Register all children and assign a state student ID (ND Head Start programs are familiar with the SEA STARS and state-wide Individual Education Plan (IEP) system TIENET due to their cooperative work with ND special education units).

The registration will provide the longitudinal linkage that is fundamental to the ND EdSmart data system.

- Head Start program directors will determine a core set of data to be commonly collected throughout the state and reported through STARS which will allow for the secure record exchange of this data as students move between Head Start programs and the data necessary to transition into preschool and primary school settings. An important measurement to be captured is IEPs that are dismissed by the time the student transitions into primary education. Additionally a study to align Pre-K assessments will be performed to provide recommendations on a standardized assessment capable of providing the readiness measures for kindergarten.

While the ndSLEDS project provides for linking higher education with K-12 data, more work is needed on the higher education side to modify their systems to collect key fields and improve the quality of the data and the match rate. With regard to UI data, again, the ndSLEDS project will prepare the K-12 system but more work is needed to enhance the UI data system to improve the match rate by using other linkages to build more comprehensive index data. Once fully deployed, the functionality of FINDET, North Dakota's 15 year-old application for managing a database for employment and training, will be replaced by the EdSmart data system.

Outcome 3:

3. A robust business intelligence system in place for developing and publishing reports

Other Outcomes:

- Produce reports currently delivered by FINDET
- Additional reports addressing the transition through the educational systems and into the workforce.

The third architectural component necessary for the ND EdSmart data system is the implementation of an enterprise reporting solution with access via a web portal. To support our overall goal of improving student achievement and ensuring a successful transition to college and the workforce, North Dakota stakeholders and decision makers will be provided with comprehensive analyses on a continuous basis. Reporting developed as part of the EdSmart data system will focus on metrics developed from linkages between systems. Web based and paper reports will deliver information to teachers, administrators, parents, legislators and other stakeholders so that they can make informed decisions to improve the educational system. A BI system gives users, within their security limitations, the ability to generate ad hoc reports, create charts, and further analyze the data. Role based security will be implemented to ensure that all state and federal privacy and confidentiality regulations are followed regarding the treatment of personal information. Activities necessary to deploy a business intelligence system include selecting, implementing, and testing the system as well as training users.

While each agency that interacts with ND EdSmart data may require unique output formats, the BI toolset is flexible enough to ensure that the data exchanged with that organization is seamless. We expect that we will deliver data via dashboards, portals, email, Microsoft Office suite and the usual paper format.

We plan to provide an extensive metadata repository for the BI consumers to leverage to understand the metrics and attributes being presented in reports, and that the information available from the BI tool will be the data relevant to their role and job title.

At a minimum, this project will also include activities to reproduce the reports currently generated by the FINDET system. Additional reports will be created to show the correlation between early childhood programs and later education outcomes. Metrics about the correlation between teacher preparation programs and student outcomes as well as metrics regarding the transition to postsecondary and the workforce will also be reported.

Outcome 4:

4. The SLDS Committee and key stakeholders will be trained

Other Outcomes:

- Delivery of data governance training to key stakeholders
- Development of a policy manual

It is critical that the ND EdSmart data system be managed by a knowledgeable team of decision makers and that stakeholders throughout the data collection and reporting process understand their role. North Dakota will contract with a vendor to develop and deliver training to the governance committees so that they can govern effectively. In addition, the contractor will facilitate the development of a policy manual so that the committee can experience the act of data governance under the guidance of a knowledgeable expert. The policy manual will encompass standards for the exchange of data between agencies and policies to ensure the privacy and security of data.

Training will occur in two tiers:

- **Strategic Training** – This will focus on high level policy makers. It will examine what is already in place: governance, stewardship, privacy laws and regulations, change control, architectures, quality programs, access management practices, and more -- then introduce governance approaches that will be effective without adding layers of bureaucracy.
- **Traditional Governance Training** – This will focus on direct data managers and data stewards. It will examine concepts, models, patterns, and practices of industry standard data governance. It will focus on organizational structures, scope decisions and terminologies.

The training/mentoring topics will include the following topics:

- Core Data Governance and Stewardship concepts
 - Options for data governance/stewardship organizational bodies

- Designing roles, responsibilities, and decision rights for data governance/stewardship
- Creating a roadmap for a data governance/stewardship program
- Understanding governance/ stewardship industry trends
- Demonstrating Value
 - Understanding governance/ stewardship value propositions
 - Establishing/improving governance communications
 - Governance metrics and success measures
- Core Governance Processes and Activities
 - Standardizing data definitions
 - Aligning data governance, taxonomies, and information architecture
 - Using the metadata repository to store risk, compliance, and governance information
 - Setting up a help desk for data
- Aligning Governance with Other Efforts
 - Building aligned data governance and data quality programs
 - Aligning data governance, risk management, compliance, security, and privacy programs
 - Building aligned data governance and data quality programs
 - Designing data governance to support master data management and Service Oriented Architecture
 - Building governance into software development and project management

Outcome 5:

5. A data quality process will be in place

Other Outcomes:

- Exception reporting process implemented
- Audit conducted on existing data to identify improvement efforts
- Delivery of data quality training to key stakeholders

For the ND EdSmart data system to become a trusted tool for making educational improvement decisions, the information provided must be reliable, consistent and verifiable. North Dakota will develop a data audit process and put it into operation on an ongoing basis. A key feature of this process will be exception reports to give feedback to source data providers so that they can improve their own processes.

Initially, an audit will be conducted on existing data to identify improvement areas to be addressed. This information will be used to clean up source data that may be converted as the data warehouse is built. It will also be used to improve processes for capturing the data.

Training will also be delivered to all providers of source data and data “handlers” so that they understand the importance of their role in maintaining the confidentiality as well as the quality of the data. Source data providers include local school districts, higher education institutions, and workforce programs among others. Data handlers include anyone who has access to the data from the point it is collected until it is reported. For

example, school administrators, ND EdSmart system administrators, and research analysts, to name a few, are all people who contribute to the success of the project.

Outcome 6:

6. Automated systems will be in place to capture source data

Other Outcomes:

- Implementation of a web-based Virtual School Management System for North Dakota Center for Distance Education (ND CDE)
- Accelerated implementation of PowerSchool student information system in all schools in North Dakota
- Implementation of a system to capture workforce training offered through state colleges and universities
- Implementation of an additional NDUS data warehouse module

In order to capture data at the source automated systems are necessary. Then the data can be exchanged with other systems following the standards developed by the State. Two K-12 student data collection and reporting gaps will be filled using funds from the ND EdSmart project ARRA grant once the following outcomes are achieved:

1. Implementation of a web-based virtual school management system for the North Dakota Center for Distance Education (ND CDE) and
2. Accelerated implementation of PowerSchool student information system in all schools in North Dakota.

Additional work is also needed in the area of higher education data collection and reporting systems. North Dakota proposes two projects to enhance the capacity to communicate with higher education data systems:

1. Implementation of a system to capture workforce training offered through state colleges and universities and
2. Implementation of an additional NDUS data warehouse module.

Web-based Virtual School Management System for ND CDE

The ND CDE is North Dakota's online high school. ND CDE enrolls 4,200 students each year from 48 states and 30 foreign countries. 1,400 of those enrollments are North Dakota students. Most of those ND students take one or two courses through ND CDE because either the course is not available through the local school or they need the credits to graduate. ND CDE interactions with its students are complex, involving initial online contacts with prospective students and their parents, course enrollment, materials purchase and payment processes, online teaching and learning interactions with ND CDE teachers and staff, online notifications of student progress, course completion/graduation processes, and student data collection and reporting.

ND CDE is regularly required to report data about their students to entities in multiple states:

1. Local schools – the home schools of the ND CDE students,
2. State education agencies including ND DPI,

3. Home-school associations,
4. Transcripts to public and private colleges and universities nationwide,
5. The U.S. military,
6. Social Security Administration,
7. Job Service, and
8. Public and private employers nationwide.

Currently ND CDE collects, stores, and reports student data using a patchwork of legacy systems based on database solutions customized on an ad hoc basis over the last 13 years. The data and other business demands on online schools are increasing and ever-changing. ND CDE needs a new foundation for their business model in order to meet those demands.

ND CDE proposes to move to a new web-based virtual school management system that is based on current technology and makes the collection and reporting of student information more efficient, effective and secure. ND CDE proposes to implement a customized virtual school management system based on .net or similar technology. The new system will allow ND CDE to meet the increased demands for secure, accurate and timely reporting of data on its students to multiple agencies within North Dakota (using existing state-level unique student identifiers) and out of state. The new system will integrate seamlessly with ND CDE's course delivery system and provide better access by parents, school officials, state entities and other external stakeholders.

Accelerated Implementation of PowerSchool and LDS Training for P-12 Schools

A critical source of data for DPI's ndSLEDS and the proposed ND EdSmart data system is the student data generated in local schools. North Dakota established PowerSchool as its statewide student information system for all public schools in 2009. To complete implementation of PowerSchool in all schools with funding that is currently available will take over four years. The state legislature provided funding for PowerSchool implementation staff, but in order to begin meeting the mandates of ARRA and the new requirements of the U.S. Department of Education we propose accelerating that implementation timeline.

To accelerate the implementation of PowerSchool in all the remaining schools in the state, we request ARRA grant funding for two additional implementation staff for three years. This will reduce implementation time by over a year. With the additional temporary staff, all North Dakota schools will be using PowerSchool before end of 2011.

In addition to basic implementation of the statewide student information system, these grant funded staff will be transitioned into training positions to assist schools in analyzing data from the new ND EdSmart data system to improve student results.

Implementation and Hosting of a Workforce Training (TrainND) and Reporting System for Non-Credit Activities

In reviewing the data needs for a Statewide Longitudinal Data System for education that collects data from relevant sectors and provides feedback to K-12 (DPI), a significant

missing piece is the standardized collection of data for non-credit work through TrainND for workforce development.

The North Dakota Workforce Training System (TrainND) provides business and industry with the training their employees need to enhance productivity and competitiveness in today's fast changing economy. Currently there is not a standard application nor data definitions for the data collected through TrainND throughout North Dakota. This proposal will provide for the acquisition, implementation, software, and operational training of a standard application and collection of source data to feed the ND EdSmart data system.

An application system will be acquired and implemented that will meet the following general requirements:

- Allow the TrainND operational units and the other institutions of the North Dakota University System to manage and administer their workforce training, workforce development, and related learning activities;
- Handle all logistics for managing and administering training activities, including courses, sessions, instructors, registrations, transcripts, and reporting;
- Facilitate displaying offerings on the web, as well as handle secure registrations of participants on the web;
- Interface with the NDUS Oracle Peoplesoft student application for credit work, NDUS supported learning management system, and NDUS supported collaborative learning technology;
- Ability for each institution to have their own reporting and for the NDUS to pull global data; and
- Provide for data collection consistency and ability to export data to the SLDS.

Without the implementation of a consistent application across the workforce development learning areas, it is unlikely data will be available to the ND EdSmart data system in a manner that allows for the analysis with other sectors of the educational community providing data.

Admissions and Recruitment Data Warehouse Module

The North Dakota University System, consisting of eleven institutions, is implementing three modules of Oracle's Campus Solutions Data Warehouse to compliment its current Oracle Peoplesoft application products for Student, Finance, and Human Resources and Management Systems. In addition, it has licensed some Oracle Business Intelligence tools for internal use.

The Campus Solutions data warehouse initiative was undertaken to address the need to analyze, measure, and report on its students, employees, and financial data in a timely manner. The pressure on public higher education to respond to demands from internal, regulatory, external, and financing stakeholders that want better insight into the operational aspects of the University System required a different approach to storing

and mining data. The Campus Solutions Warehouse will allow the NDUS to capture data in a single environment.

The three modules prioritized for the current implementation are the Student Records Mart, Student Financials Mart, and Workforce Profile Mart. All three of these modules focus on enrolled students, their financial information and employees of the NDUS. In order to fulfill the data requirements associated with the grant proposal it is essential that the NDUS also implement the Student Admissions & Recruitment Module.

The Student Admissions and Recruiting Mart records information from the recruiting process and admissions lifecycle through to enrollment. Many students apply to multiple institutions and also many never enroll at any institution in the NDUS. This module will allow the admissions data and recruiting data to be captured in the warehouse where selected information can then be shared with the ND EdSmart data system. This module includes high school information such as institution, GPA and core courses taken, test scores, and converted GPA's. It also includes transfer information similar to the high school information that can be used to help trace a student's entire record from K-12 to higher education and even multiple higher education institutions.

In order to facilitate access to this information the NDUS will also need to expand the licensing for Business Intelligence software tools, add hardware and disk storage to accommodate the Admissions and Recruitment Mart, and obtain consulting assistance with the mart implementation.

NDUS has the licensing rights to the Admissions and Recruitment Mart but does not have any source of funding for implementation or expansion of the data warehouse effort beyond current planned efforts. Using grant funds to add this mart of the data warehouse will provide a complete data picture for students of the NDUS and data can then be shared, as provided in appropriate data-sharing agreements, through the ND EdSmart data system to stakeholders state-wide.

6. (c) Timeline for Project Outcomes

The following section identifies the activities and timelines proposed for the EdSmart project. The project plan for this project will be closely coordinated with the ndSLEDS project (2009 grant). Key project team members will participate in both projects, including the project manager and data architect. Activities in the ndSLEDS project related to procurement of technical infrastructure and tools will be leveraged in the EdSmart project to reduce cost and standardize the architecture. The project will begin as soon as funds are available and will be completed in three years.

1. The ND EdSmart data system incorporating metrics from K-12, postsecondary and workforce will be implemented.

Activity	Year 1				Year 2				Year 3			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Develop RFP	X											
Procure software, and		X										

Grant Application CFDA Number 84.384
North Dakota EdSmart Data System

consulting												
Develop architecture requirements		X										
Evaluate hardware options and design configuration		X										
Procure & install hardware			X									
Gather data requirements			X									
Define key metrics			X	X								
Develop data model and design ETL processes				X	X							
Create ETL processes						X	X	X				
Cleanse & load data							X	X	X			
Test & refine								X	X			
Move to production										X		
Establish access controls										X	X	

2. A secure, robust system will be in production to link records based on standards for exchanging data.

Activity	Year 1				Year 2				Year 3			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Develop RFP	X											
Procure software, hardware and consulting		X										
Install hardware			X									
Train users			X									
Develop data model and business rules for linkages			X	X	X							
Modify STARS to collect Pre-K data				X								
Implement Pre-K data collection and train users					X							
Enumerate					X	X						

Grant Application CFDA Number 84.384
North Dakota EdSmart Data System

postsecondary												
Enumerate Pre-K						X	X					
Enumerate workforce						X	X					
Test MDM solution						X	X	X	X			
Move to production									X	X		

3. A robust business intelligence system will be in place for developing and publishing reports.

Activity	Year 1				Year 2				Year 3			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Develop RFP	X											
Procure software, hardware and consulting		X										
Implement BI tool			X									
Train users				X	X							
Refine reporting requirements					X	X	X	X				
Develop & test FINDET reports									X	X		
Develop & test K-12 to postsecondary transition reports										X	X	X
Develop & test reports regarding teacher prep programs										X	X	
Develop & test Pre-K outcome reports											X	X
Develop & test UI & workforce reports										X	X	X

4. The SLDS Committee and key stakeholders will be trained.

Activity	Year 1				Year 2				Year 3			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Develop RFP and procure consulting	X											
Deliver governance training		X	X						X			
Mentor SLDS Committee			X	X	X	X	X	X				

Grant Application CFDA Number 84.384
North Dakota EdSmart Data System

Develop policy manual			X	X	X	X	X	X				
Develop data sharing agreements				X	X	X	X					
Maintain governance processes									X	X	X	X

5. A data quality process will be in place.

Activity	Year 1				Year 2				Year 3			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Procure and install data quality tools	X	X										
Develop RFP and procure consulting	X											
Conduct audit of current data		X										
Identify requirements			X	X								
Establish data quality process					X	X	X					
Design and develop validation reporting							X	X	X			
Test and implement the data quality process and reports									X	X	X	X

6. Automated systems will be in place to capture source data.

Activity	Year 1				Year 2				Year 3			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Develop RFP for ND CDE SMS	X											
Procure software, hardware and consulting		X										
Install hardware, software			X									
Develop ND CDE SMS			X	X	X	X						
Test and implement ND CDE SMS							X	X				
Train SMS users								X	X			
Develop linkage to SMS									X	X	X	
Hire FTEs for accelerated PowerSchool implementation	X											

