Requirements	Current	Describe Current Status
Covernance and Policy Requirement	te	
Needs and Uses: System provides	In	The 2000 SLDS Grant put in place the foundation for both the linking of K_{12} to
data and data-use tools that can be	nrogress	outside agencies moving the SLDS to a full P-20W system. Three of the original
used in education decision making at	progress	use cases developed as part of the LINK infrastructure were focused on putting
multiple levels, from policy to		deta in the hands of teachers and key decision makers in order to facilitate better
classroom instruction		planning and decision making. Although the PROVIDE place of the 2000 grant
		plaining and decision making. Annough the FKOVIDE piece of the 2009 grant
		the School Wiew TM Depart Teacher portal. The reporting and tools evaluable to
		LEA resources are used to set relieve and growide oritical data that influences
		LEA resources are used to set policy and provide critical data that influences
Common and Entities man angihla for	Commissional	The DISE Executive Steering Committee (DESC) continues to most monthly for
Governance: Entities responsible for	Completed	The RISE Executive Steering Commutee (RESC) continues to meet monthly for
the operation of the system are		the purpose of overall P-20 w governance as all agencies that are currently
Identified; common understanding of		sharing data are represented. The committee has been used to help design the
data ownersnip, data management		roadmap for the P-20w system while making critical decision related to the
and data confidentiality and access;		long-term sustainability of the system. Data Governance continues to be a core
means		focus of CDE the growing privacy and data use concerns of key stakeholders.
		Data governance within the SEA environment has been successfully
		implemented. Through RESE, CDE will leverage its success in the area of Data
		Governance to help advance the data governance in the other named state
		agencies that are currently sharing data with the CDE.
Institutional Support: SEA leadership	Completed	Through setting a clear vision for increasing student performance, CDE
and relevant internal and external		continually supports the advancement and improvement of the state's education
stakeholders support system,		system to prepare all learners for success in a rapidly changing global workplace.
including authorization to develop		Classroom teaching and school leadership are the strongest school-based factors
and implement SLDS, commitment		impacting student achievement. CDE has clear goals related to student
of necessary staff and other resource,		achievement, educator effectiveness and school/district performance – all aimed
and shared vision for deliverables		at preparing students for success after high school. CDE's Operational Data
and objectives related to expansion of		Management includes both internal leadership and external facing stakeholder
SLDS to include data from other		support structures to manage and expand the SLDS mission while assuring
systems		secure and effective data use of the data.
Sustainability: Ongoing commitment	Completed	The CDE Executive Team is committed to the long term sustainability of the P-

Appendix B: Current Status of Colorado's SLDS (RISE)

Requirements	Current	Describe Current Status
of staff and other resources for system maintenance, quality control and user training.	Status	20W system. The commitment was evident when CDE made the decision to bring what was supposed to be a statewide LINK infrastructure, back under the CDE governance umbrella to assure its long term sustainability. The CDE was able to again right size the LINK technology during the in sourcing process so that the cost of on-going maintenance could be absorbed in the existing budget levels. This would not have been possible without the commitment from the
		CDE Executive team and their vision for how the LINK infrastructure was to be absorbed into long-term goals of the department.
Technical Requirements		
Federal Reporting. System meets Federal reporting requirements and provides efficiencies that reduce the burden of Federal reporting for schools and districts.	Completed	The CDE continues to be a model state with its reporting to the EdFacts system. This record of on-time delivery of information can be accredited to the standard process put in place from the Data Warehouse foundation. The single largest effort in this area was through the implementation of the Data Pipeline application as part of the CAPTURE portion of the 2009 SLDS grant. Data Pipeline is a streamlined approach to efficiently move required education information from school districts to the Colorado Department of Education (CDE). Data Pipeline reduces data redundancy, captures closer to real-time data, streamlines the data collection process and allows districts to exchange information on transferred students.
Privacy Protection and Data Accessibility. System ensures confidentiality of student data, consistent with FERPA and other laws or regulations and includes public documentation that articulates what data will be accessible, to which users and for what purposes.	In- progress	CDE takes seriously its obligation to protect the privacy of data collected, used, shared and stored. CDE has adopted and adheres to data privacy and security procedures and also provides guidance and resources for various stakeholders. Pursuant to CDE's Information Security and Privacy Policy, all CDE agreements involving Personally Identifiable Information (PII) must undergo rigorous review processes at CDE. CDE's policies and standards also include requirements for protecting CDE data at rest and in transit within an environment at least as secure as protections in place at CDE. Those requirements are summarized in CDE's Data Security Assurances. On May 1, 2014, CDE instituted its data and security review processes. All contracts or agreements involving PII entered into, amended or extend on or after May 1 are posted on the CDE's website.
Data Quality. System ensures the integrity, security and quality of data;	Completed	All of the CDE's systems and associated data are built with data quality as one of the key requirements. The quality of the data increased through the use of

Requirements	Current	Describe Current Status
	Status	
includes an ongoing plan for training		standard Data Warehouse practices that are followed when any and all data is
those entering or using the data and		incorporated into that infrastructure. This standard process provides a basis for
procedures for monitoring the		the long-term sustainability by making the process repeatable and predictable for
accuracy of information.		all the downstream uses of the data. The Data Pipeline application was
		developed with a Statistical Process Control (SPC) functionality that is used to
		detect potential problems in LEA data before they are accepted by the system.
		The feature uses multi-year trend analysis to identify issues in the data that may
		not be visible to even the data owners.SPC is a layer of verification that
		identifies illogical data submitted by school districts to CDE. SPC performs
		multi-year trend analysis to identify logical errors that cannot be identified using
		simple validation edits for valid values or cross row edit validations. It allows
		comparative analysis of current year reported data to be performed against
		historical data. Deloitte's SPC solution framework can be seamlessly integrated
		with state education agencies data collection systems.
Interoperability. System uses a	In-	The Data Pipeline and its operational data store were built using the Ed-Fi
common set of data elements with	Progress	database model in an effort to take advantage of tools and technology being
common data standards to allow		developed in other states. The CDE Data Warehouse is comparted with the
interoperability and comparability of		CEDS standards with every release to identify potential gaps or identify areas of
data among programs and had the		improvement. Interoperability is key for the Data Warehouse and all data storage
capacity to exchange data between		to allow CDE to leverage the work being done in other states. CDE is currently
the SEA and LEAs, as well as among		working on a project to re-design / architect the Data Warehouse that includes an
LEAs or with other appropriate State		effort to gap the CEDS schema against the current DW schema. This effort will
agencies or educational entities.		produce a roadmap for moving the DW in a direction that addresses both current
		and future needs for data while addressing data privacy and governance.
Enterprise-wide Architecture. System	Completed	The CDE Data Warehouse meets or exceeds all of the elements of the
includes an enterprise-wide data		Enterprise-wide architecture. The CDE has had a unique student identifier since
architecture that links records across		2004. The purpose of the Record Integration Tracking System is to assign each
information systems and data		student in the state of Colorado a unique student ID that will stay with the
elements across time and allows of		student for the life of their public school career. CDE has had a Data Dictionary
longitudinal analysis. Architecture		since 2007 that includes all the data elements within the data warehouse and the
includes, at a minimum, a system for		associated collections for which they are captured.
assigning unique student identifiers, a		

Requirements	Current Status	Describe Current Status
data dictionary, a data model, and business rules. The system makes data dictionaries publicly available.		
Data Use Requirements		
Secure Access to Useful Data for Key Stakeholder Groups. The system provides appropriate and secure access to data to key stakeholder groups (including policymakers, SEA program staff, external researchers, district administrators and school- level educations). The system must access balance with the need to protect student privacy and confidentiality consistent with applicable privacy protection laws.	Completed	In addition to expanding and refining the SLDS technology infrastructure, the 2009 grant drove the adoption and refinement of numerous policies and procedures regarding Data Governance and data security and privacy. CDE adopted a formal Educational Data Governance Program, which includes formalized Data Governance positions, working and decision-making committees, data collection processes, escalation processes and formal data request processes with associated reviews/approvals. Data Governance operates under the motto of, "Decisions are only as good as the data on which they are based." Data Governance works to ensure that data is properly handled from collection to reporting. Data Governance also ensures quality of data as well as enforces proper representation and interpretation. The data governance pieces that include both privacy and security described above were put in place to assure that data is protected appropriately while making data available to inform and advance the goals of the CDE.
Data Use Deliverables. The system includes deliverables to meet end- user needs (to inform decision- making and evaluate policies and programs) such as reporting and analysis tools. Design of these deliverables is informed by early and sustained engagement of representatives from user groups.	Completed	As detailed in the narrative, CDE uses a formal structure of Data Governance committees designed to advance effective and consistent data management. This includes an executive level Data Policy Committee and a Data Management Committee chaired by CDE's Data Governance Manager. This structure allows for effective and timely decision-making, with formal escalation options as needed.
<u>Products</u> . The system includes a professional development program to help end-users effectively	n- progress	and documentation designed to fit the needs of the key stakeholders. All of the SchoolView TM products (Colorado Growth Model, Data Center, Data Lab and Colorado Education Data Analysis and Reporting System (CEDAR) have help tools available for end users. CDE utilizes a number of mediums depending on

Requirements	Current	Describe Current Status
	Status	requirements of the professional development. Webinar, recorded webinars, videos, presentations, and general documentation are typically provided and posted on the web for easy access.
Professional Development on Data Use. The system includes a professional development program to help end-users interpret and apply the data to inform decision-making and improve practices.	Completed	The specific professional development for data use is typically developed by the CDE business division responsible for the data. Supporting districts, and schools in using data to inform them at a level that allows them to utilize the data to make better decisions and to improve their processes are key. This includes providing professional development and technical assistance in understanding and interpreting data (in the aggregate and disaggregated by student subgroups) and using data within improvement planning and resource allocation areas.
Evaluation of Data Products, <u>Training and Professional</u> <u>Development</u> . The system includes a process for evaluating the effectiveness of the data use deliverables and training and professional development programs	Completed	Through the rollout of numerous education programs, CDE has developed a process that allows stakeholders to evaluate the effectiveness of those programs. A recent example is CDE's extensive work with a variety of stakeholders to design, develop, pilot and refine a model system to implement state law related to educator effectiveness evaluations. Local districts have the option of using the state model system or creating a local system that adheres to state statute and rules. CDE's management of the process of developing this model system featured extensive engagement of stakeholders through a collaborative process and a commitment to continuous improvement. Colorado's approach to engaging key stakeholders in the development of a new evaluation system was highlighted in an August 2012 case study by the National Comprehensive Center for Teacher Quality.
Partnerships with Research Community. State has a policy in place for processing request for data for research purposes and communicating the scope of data available for analysis. State establishes partnership with internal and/or external research groups to assist with answering questions that can inform policy and practice. State	Completed	 CDE defines research to include data analyses, survey results, program evaluations, literature reviews, and formal research studies that provide answers to critical questions that help CDE advance its strategic goals. CDE has worked with a range of research partners who have helped us address critical questions, including: WestEd and the Southwest Comprehensive Center RELCentral Education Innovation Institute at the University of Northern Colorado Colorado Department of Higher Education Colorado Department of Health and Human Services and other state

Requirements	Current	Describe Current Status
	Status	
actively disseminates research and analysis findings to the public while ensuring confidentiality of individual student data.		 agency partners Early Childhood Outcome Center Institutions of Higher Education Hanover Research Principles to Guide CDE's Approach to Research CDE's research team will examine student performance data targeted within the state's strategic education plan for areas needing greater attention. Discerning research questions will be assembled by relevant units across the organization. The team will then prioritize those that have the greatest likelihood of dramatically improving student performance. CDE's research team will prepare a draft research agenda for review and approval by Cabinet. Upon approval, the research agenda questions will guide the work of the research team, outreach to partners, and engagement in grants/studies.
<u>Sustainability Plan.</u> System includes a plan for sustaining the deliverables and training beyond the life of the grant	Completed	Sustainability will be a key focus area for the entire grant period. The requirements that were created from the objectives and outcomes have been approached from the perspective of sustainability. The CDE will develop repeatable and predictable set of processes that will utilize a standard set of tools to allow them to do more with less. These standards will allow the CDE staff to develop expertise and knowledge required to sustain an otherwise unmanageable set of applications and stakeholder requests. The funds allocated for training purposes within the grant will allow the existing staff members to obtain the necessary skills on the established standardized tools. That training will help in the knowledge transfer process as each of the CDE staff to achieve a high level of understanding about the tools before taking on the specific development and maintenance tasks for the systems being put in place by this grant.