



MISSISSIPPI

# LIFETRACKS

*Connecting Data To **Power** Mississippi*

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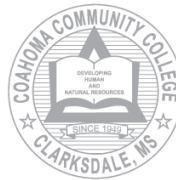
## DATA GOVERNANCE



## PARTNERS



STATE WORKFORCE INVESTMENT BOARD  
OFFICE OF THE GOVERNOR



STATE EARLY CHILDHOOD ADVISORY COUNCIL  
(SECAC) of Mississippi



Mississippi Department of Education  
"A Quality Education for Every Child... Every Child a Reader."

THE UNIVERSITY OF  
MISSISSIPPI  
MEDICAL CENTER



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# DATA GOVERNANCE

Over the past several years, the State of Mississippi has made substantial efforts in developing and establishing a statewide longitudinal data system (SLDS). This document organizes the information collected from stakeholders throughout the state for the purpose of outlining Mississippi SLDS governance. Upon completion of a focus group conducted on December 13, 2011, Mississippi SLDS data governance can be defined by six key building blocks: (1) scope, (2) data stakeholders, (3) application, (4) operational capacity, (5) leadership and accountability, and (6) sustainability. This document first provides a description of each building block and then aligns these building blocks with the governance structure.



## SCOPE

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The scope shall define the purpose of the SLDS and provide the general framework for supporting and institutionalizing its use. There is a growing consensus that in order to improve the education performance of Mississippi's students, the state needs better, timely information for improved decision making. This principle shall be at the heart of Mississippi's SLDS. Therefore, the scope shall be to improve education and employment outcomes for Mississippians to improve the quality of life across the state.

There is a consensus in Mississippi that an individual's education level is one of the key determinants of his or her quality of life and that education is the key to ameliorating many social problems. In today's economy, it is more important than ever to make good use of limited resources. As such, a well-designed, integrated education and workforce statewide longitudinal data system will generate timely information to help the state allocate education and workforce resources efficiently and effectively, with an eye toward improving educational achievement and economic competitiveness. The SLDS shall help answer questions at the core of educational performance and effectiveness or outcomes and shall fulfill the need to go beyond "simply collecting data."

## DATA STAKEHOLDERS

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A data stakeholder shall be an individual or organization that could affect or be affected by information generated from the SLDS and that aligned with the scope of the SLDS. Stakeholders shall be further categorized based upon their expertise, contribution of data, and use of information.

In Mississippi, data contributors should include but shall not be limited to:

- Mississippi Department of Education
- Mississippi Community College Board
- Coahoma Community College
- Copiah-Lincoln Community College
- East Central Community College
- East Mississippi Community College
- Hinds Community College
- Holmes Community College
- Itawamba Community College
- Jones County Junior College
- Meridian Community College
- Mississippi Delta Community College
- Mississippi Gulf Coast Community College
- Northeast Mississippi Community College
- Northwest Mississippi Community College
- Pearl River Community College
- Southwest Mississippi Community College
- Mississippi Institutions of Higher Learning
- Mississippi Department of Employment Security
- Delta Workforce Investment Area
- Mississippi Partnership
- Southcentral Mississippi Works
- Twin Districts Workforce Area
- Mississippi Development Authority

- Mississippi Department of Human Services
- Mississippi Head Start Association
- State Early Childhood Advisory Council
- Mississippi Department of Rehabilitation Services
- Mississippi Department of Corrections
- Mississippi Department of Health
- Mississippi Division of Medicaid
- Chambers of Commerce
- Mississippi National Guard
- Veterans' Affairs Board

SLDS shall be available to all stakeholders and the public within a “layered access” model wherein the availability of detailed information shall be limited to those with the appropriate permissions and reasons to have access to detailed information.

## APPLICATION

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To avoid any confusion or misuse, the SLDS shall only be used for activities directly aligned with its scope. The SLDS SHALL NOT be an accountability tool and SHALL NOT be used for political gain or become a replacement for existing data systems within a state or local agency.

The primary application of the SLDS shall be to generate timely, accurate, and policy-compliant information from data collected and stored by different local and state educational and workforce entities for the purpose of conducting activities within the scope.

### The top applications for the SLDS shall be:

- **State Policy Development**
  - Allocating funding for targeted priority areas
  - Demonstrating programmatic value
  - Providing a source of context for strategic vision
- **Aligning Education with Workforce Needs and Expectations**
  - Identifying emerging markets and trends in education and workforce
  - Developing curricula relevant to job and employer needs and demands
  - Providing a way to measure outcomes for educational and workforce training programs
- **Economic Development and Local Strategic Planning**
  - Aligning economic resources with workforce needs by region
  - Marketing new and existing businesses
  - Mapping assets to determine potential locations for future economic development
  - Providing data points for grant applications
- **Aligning Resources and Programs**
  - Highlighting best practices and success
  - Evaluating how well planning matches allocated resources and outcomes
  - Identifying areas in terms of performance and needs and targeting resources appropriately
  - Reducing or eliminating duplication of efforts across the education and workforce spectrum

- **Forecasting**
  - Providing a baseline for education and employment measures
  - Predicting job growth and skill gaps
  - Identifying trends and predicting supply and demand in regard to workforce and education
  - Developing regional plans for economic development
  - Creating an early-warning system for a variety of at-risk populations

## OPERATIONAL CAPACITY

Operational capacity shall be referred to as the ability to fulfill the scope of the SLDS while ensuring individual privacy and confidentiality of data. Such capacity shall be established by data and technical expertise, legal and compliance expertise, formal agreements, policies and procedures for the data life cycle, research expertise, and the creation of a Center of Excellence to carry out all activities that define the operational capacity of the SLDS.

**Data and technical expertise.** The development, operation, and maintenance of the SLDS shall be conducted by staff with significant expertise and experience in data analysis and database administration. This expertise is critical because data come in many forms and formats. Technical expertise must also include staff with information technology (IT) experience to manage hardware and secure networks. Programming and software development expertise shall also be part of this capacity.

**Legal and compliance expertise.** The SLDS shall include staff with experience in legal and compliance issues around the use of sensitive data. FERPA does not prohibit the use of educational data as part of an SLDS. It simply requires that the identities of students remain, at all times, protected. Expertise in this area shall help avoid unnecessary confusion and facilitate the generation of information consistent with the scope of the SLDS.

**Formal agreements.** Establishing memoranda of understanding (MOU) is a large part of the operational capacity. An MOU must clearly specify the scope, the data to be shared, and roles and responsibilities in handling the data. MOUs shall clearly outline data ownership and stewardship. The MOU shall also be a legal document that clearly states that the data contributors maintain ownership of their own data.

**Policies and procedures for the data lifecycle.** The data lifecycle shall include procedures that outline the transferring, inventorying, validation, de-identification, and access of data while engaging in activities for auditing and monitoring the process and assessing associated risks. The data lifecycle shall reflect the model in Figure 1.

Figure 1: SLDS Data Lifecycle





The data lifecycle shall begin with the secure **transfer of data** from data stakeholders to the state data clearinghouse as governed by MOUs. The data transfer process shall be managed through a highly secure method of exchanging data between partners that meets industry-standard compliance requirements. Data transfer shall be provided via a platform-independent secure web-based file transfer gateway that contains technical safeguards for protecting data and controlling access to those data. Email communication shall be sent to document each transfer so that a record of the transfer activities can be maintained for auditing and monitoring purposes.

After the transfer process is completed, the transferred data shall be saved to secure servers and inventoried. The **data inventory** process shall be a business-oriented process that involves managing and tracking the flow of data assets transferred to the state data clearinghouse. The data inventory process itself shall include identifying all the data sets that comprise the SLDS and summarizing the information contained within the various data sets.

Once data are inventoried, the **data validation** process shall begin. This phase shall be an integral part of data processing and maintenance and shall entail a two-step process designed to detect and correct inaccurate or incomplete records to create reliable data that are consistent with other data sets in the system. The data validation process shall be a dual-level process that involves both human and automated system processes.

The **de-identification and anonymization** of the data shall involve the removal or obscuration of information in individual records so that the remaining information shall not identify any individual and so that there shall be no reasonable basis to believe the information could be used to identify an individual. To help alleviate privacy concerns, data classified as containing personally identifiable information (PII) in the data inventory phase shall be de-identified or anonymized before inclusion in the SLDS by reducing the number of variables on which a match to an individual might be made. In order to protect the privacy of individuals in the SLDS, PII data fields shall not be imported into the SLDS database. The SLDS shall utilize a custom 10-digit unique identifier that is assigned to the individual when the data are imported into the SLDS.

**Access** to data and information in the SLDS shall be through a public one-stop portal, which will be enhanced with a custom business intelligence (BI) system that taps into the physical model populated with de-identified data. Access shall be role-based, and de-identified individual data points shall not be available through the system. Individual-level records shall be made available only to individuals, agencies, or organizations that have authorized access to these records. The system shall produce aggregate statistics but will not allow access to individual-level information or records.

The **auditing and monitoring** of data shall be conducted throughout the data lifecycle to alleviate concerns about handling sensitive data. Auditing and monitoring shall include implementing data loss prevention technology, access control technology, and storage area security solutions. Strict controls on access and permission for data folders using security access control settings shall be employed along with state-of-the-art software designed to monitor access to sensitive drives, folders, and datasets.

**Risk management and training** shall be two integral components of a comprehensive data management and security program. These components require an appreciation of the risks associated with handling sensitive information and are tied directly to the other aspects of the data lifecycle. The goal of an effective risk management and training program shall be to balance potential risks with the mission and scope of the SLDS. Thus, it shall require protecting IT and data assets while allowing the SLDS to perform its primary function. This function starts with training so that data stakeholders, data clearinghouse employees, and end users shall understand compliance requirements and embrace risk



management responsibility. Transparency regarding potential and significant risks shall be essential to building a culture that inherently minimizes risks to handling sensitive data. To guard against unforeseen system damage or inability to access local systems, a physical backup of all data shall be maintained. A "hot" disaster recovery site in another city, where all data and software are continuously replicated, shall be established. In the event of a prolonged power outage or disaster, the SLDS shall be able to seamlessly shift to another operating location.

**Research expertise.** Research shall be conducted by staff who can apply scientific techniques for producing technical reports and providing overall descriptive pictures of basic statistics and trends. The SLDS shall also require expertise for conducting basic and applied research at a major research university.

**SLDS Center of Excellence.** The SLDS operational capacity shall be embodied within a Center of Excellence to support the development and establishment of the SLDS. The Center of Excellence shall act as the state data clearinghouse. The state data clearinghouse shall be an organization designed to increase flexibility, streamline resources, share best practices, and establish common processes and standards for data security and integration. The clearinghouse shall become a place for sharing resources with all data stakeholders; define the technical standards and process for data integration and data governance; and provide technical and scientific resources aligned with the scope for appropriate use of the SLDS.

## LEADERSHIP AND ACCOUNTABILITY

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Having strong leadership and the appropriate levels of accountability in place shall be critical to operating and maintaining the SLDS. The Mississippi perspective is clear that SLDS leadership and accountability shall rest squarely with the establishment of the SLDS Governing Board to provide a single point of leadership and accountability for the system (see Appendix A). The SLDS Governing Board shall ensure that project leadership reflects the interest of the whole state rather than being too narrowly focused on or geared toward special interests. The SLDS Governing Board shall not assume ownership of any data provided by data stakeholders. Data ownership shall remain wholly with the data contributor. The SLDS Governing Board shall be the stewards of the SLDS itself and be responsible for establishing and maintaining the necessary partnerships and managing communications with all parties about the importance of supporting and benefitting from information available through the SLDS.

## SUSTAINABILITY

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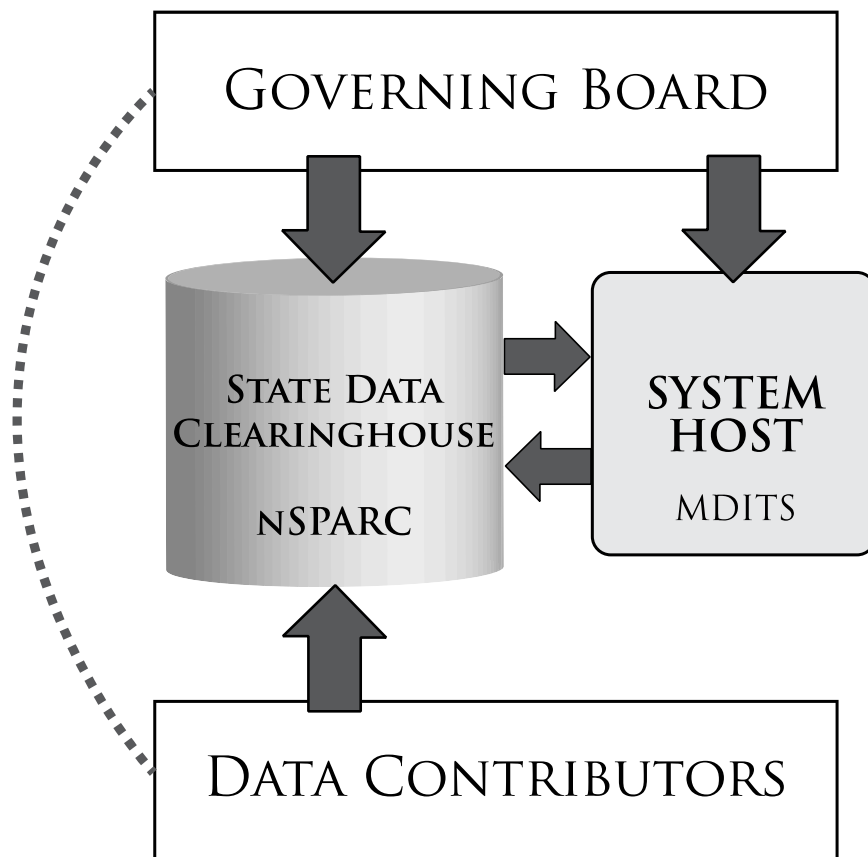
Sustainability shall be established through legal authority. This authority shall rest in the legislation passed in 2011 (see Appendix A) and Executive Order 1015 (see Appendix B). Sustainability shall also include activities to maintain ongoing operational capacity over time, continuous system innovation, ongoing training, and availability of resources. The SLDS must be able to evolve in a way that meets the changing needs of the state.

## MISSISSIPPI SLDS GOVERNANCE STRUCTURE

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The six building blocks of Mississippi SLDS governance shall provide the foundation to implement SLDS governance. Current legislation shall provide the basic framework around which such structure shall be built (see Figure 2).

Figure 2: Mississippi SLDS Organizational Structure



**Governing board.** This board shall be composed of a representative from each agency or entity providing data to the system. The board shall embody the state ownership of the SLDS and shall be responsible for safeguarding the integrity of the SLDS scope. The board shall maintain active communication with all data stakeholders. The board shall have the responsibility of developing formal processes for reviewing and approving research requests and non-standard or ad hoc reporting requests. The governing board shall have responsibility for determining conflict resolution procedures and practices regarding any aspects, from data transfers to dissemination of information, of the SLDS. The board shall provide leadership to keep data contributors engaged with the system and oversee the data clearinghouse and the system host. The board shall be authorized to contract with a third party to manage and maintain the system and to ensure the governing policies and procedures herein are enforced.

**Data contributors.** Data contributors shall have responsibility of transmitting data to the data clearinghouse following the guidelines set forth in their MOUs and shall act independently from the system in managing their own data. They shall also provide program subject matter experts and contribute to identifying critical data and information needs.

**Data clearinghouse.** The stewardship responsibility of the SLDS shall lie with this entity, which shall have the responsibility of establishing MOUs with the data contributors. The clearinghouse is also responsible for carrying out all activities associated with the data life cycle and providing support to maintain the SLDS.

**System host.** The system host is responsible for providing access to the SLDS and, therefore, hosting the hardware components of the system. It also provides the network and other infrastructure needed to access the one-stop portal through the custom BI.

## APPENDIX A

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MISSISSIPPI LEGISLATURE  
2011 Regular Session  
To: Education  
By: Senator(s) Carmichael

### Senate Bill 2371

#### *(As Sent to Governor)*

AN ACT TO PROVIDE FOR THE DEVELOPMENT OF A STATE LONGITUDINAL DATA SYSTEM (SLDS) TO ESTABLISH A MULTIAGENCY DATABASE TO TRACK EDUCATION AND STUDENT OUTCOMES IN THE WORKFORCE; TO PROVIDE FOR INTERAGENCY COOPERATION WITH THE SLDS; TO PROVIDE FOR A SLDS GOVERNING BOARD; AND FOR RELATED PURPOSES.

BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF  
MISSISSIPPI:

#### **SECTION 1. State Longitudinal Data System (SLDS);**

**establishment.** (1) To improve quality of life, education and employment opportunities for all citizens, the appropriate agencies of the State of Mississippi listed in subsection (2) of this section shall develop and maintain a State Longitudinal Data System (SLDS). The system will allow stakeholders and policymakers access data on state residents from birth to the workforce to drive accountability and investment decisions. The system will include data from multiple state agencies and entities. The system will provide decision makers a tool to develop policies to support objectives, including, but not limited to:

(a) Enabling Mississippians to secure and retain employment and receive better pay after completing training or postsecondary degrees;

(b) Enabling Mississippi to meet the education and job skill demands of business and industry;

(c) Developing an early warning system, which allows the state to intervene early, improving the graduation rates in high school and college;

(d) Identifying teachers, teaching methods and programs that lead to positive student outcomes; and

(e) Encouraging the sharing of electronic data across educational and other entities.

(2) Individual state agencies and state entities will send data from their internal system to the Statewide Longitudinal Data System. These initial agencies and entities shall provide data to the SLDS under the provisions developed by the SLDS Governing Board established in Section 2 of this act:

(a) Mississippi Department of Education (MDE);

(b) State Board for Community and Junior Colleges (SBCJC);

(c) Board of Trustees of State Institutions of Higher Learning (IHL);

(d) State Workforce Investment Board (SWIB);

(e) Mississippi Department of Employment Security (MDES);

(f) Mississippi Department of Human Services (MDHS);

and

(g) State Early Childhood Advisory Council (SECAC).



Any agencies or entities added to SLDS shall provide a representative to the SLDS Governing Board and be governed in the same manner as the initial agencies and entities.

(3) The system will be based on an existing system currently housed, developed and maintained by the National Strategic Planning and Analysis Research Center (nSPARC) at Mississippi State University. The initial agencies participating in the SLDS Governing Board and nSPARC have worked collaboratively to secure funding through the United States Department of Education to expand and enhance the capacity of the state's existing technology infrastructure for the purposes of developing the SLDS. The State Data Center, operated by the Mississippi Department of Information Technology Services (ITS), will provide application hosting services for the SLDS until such time the SLDS Governing Board approves that another entity should perform these services.

**SECTION 2. Governance.** (1) The SLDS will be governed by a SLDS Governing Board (the board), which shall be composed of a representative from each agency or entity providing data to the system. Each agency or entity will appoint their representative to sit on the Governing Board. For the two (2) years following the implementation of this act, the State Workforce Investment Board Chair will also serve as Chair of the SLDS Governing Board. In subsequent years, the SLDS Governing Board will elect a chair from among its members. The Chair of the SLDS Governing Board will serve a two-year term.

(2) The SLDS Governing Board shall develop and promulgate all rules and regulations governing the activities of the SLDS in accordance with applicable state and federal laws. The board is authorized to contract with a third party to manage and maintain the system and to insure the policies and procedures developed by the board are enforced.

(3) The SLDS Governing Board shall be responsible for, but not limited to, the following objectives:

(a) Identifying critical research and policy questions that need to be addressed by education (P-20) and workforce programs;

(b) Identifying reports and other information that should be available to education and workforce entities and other public stakeholders;

(c) Developing a funding mechanism for sustaining the system after it is developed;

(d) Defining and maintaining standards for privacy, confidentiality and security of data; and

(e) Performing other advisory functions that are necessary for the successful continuation and management of the longitudinal data system.

(4) Nothing in this act shall prevent an individual agency or entity from maintaining control of their agency's individual data.

(5) All data provided to the SLDS shall be provided in accordance with all local, state and federal laws governing the

**SECTION 3.** This act shall take effect and be in force from and after July 1, 2013.

### EXECUTIVE ORDER NO. 1015

**WHEREAS**, the Mississippi Legislature has declared in Section 37-1-2 of the Mississippi Code of 1972, as amended, that the policy of the State is that the students, parents, general citizenry, local schoolteachers and administrators, local governments, local school boards, and state government have a joint and shared responsibility for the quality of education delivered through the public education system in the State of Mississippi; to encourage the common efforts of students, parents, teachers, administrators and business and professional leaders for the establishment of specific goals of performance; and that the return on public education which is the single largest investment for the state be the effectiveness of the delivery system and the product it is designed to produce; and

**WHEREAS**, the Mississippi Department of Education and the Mississippi Institutions of Higher Learning have developed central reporting systems for maintaining information concerning student level education-related information (state educational data systems); and

**WHEREAS**, the Family Educational Rights and Privacy Act (FERPA), 20 U.S.C. Section 1232(g) and 34 CFR Part 99, is a federal law that protects the privacy of student education records but allows educational agencies (defined as the local educational agency or institution) to disclose personal identifiable information without prior parental consent under certain exemptions; and

**WHEREAS**, that the Mississippi Department of Education (state educational agency) and the Mississippi Institutions of Higher Learning (state higher education authority) require legal authority to act on behalf of the local educational agencies or institutions to enter into agreements for the release of personal identifiable information from education records without prior written parental consent under the FERPA exemptions; and

**WHEREAS**, Section 37-153-7 of the Mississippi Code of 1972 recognizes the authority of the Governor, as the Chief Executive Officer of the state, to enforce cooperation among all entities within the state that utilize federal or state funding for the conduct of workforce development activities.

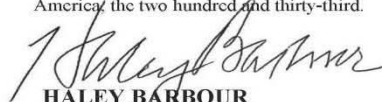
**NOW, THEREFORE**, I, Haley Barbour, Governor of the State of Mississippi, pursuant to the authority vested in me do hereby issue this Executive Order to declare the following:

- a) That the Mississippi Department of Education, subject to the approval of the State Superintendent, and the Mississippi Institutions of Higher Learning have authority to re-disclose educational records for authorized FERPA purposes on behalf of local educational agencies and institutions, including but not limited to providing data for the longitudinal tracking system developed and managed by the State Workforce Investment Board;
- b) That P-12 schools and post-secondary institutions have authority to share with each other educational records that the receiving system needs for evaluation purposes;
- c) That the Mississippi Department of Education, subject to the approval of the State Superintendent, has authority to enter into agreements with research organizations for studies to improve instruction and to disclose education records to research organizations under those agreements for the benefit of schools and school districts throughout the state;
- d) That the Mississippi Department of Education, subject to the approval of the State Superintendent, and local educational agencies or institutions is authorized to release education records to a former school if needed for evaluation or accountability purposes.



IN WITNESS WHEREOF, I have hereunto set my hand and caused the Great Seal of the State of Mississippi to be affixed.

DONE in the City of Jackson, the twelfth day of March, in the year of our Lord two thousand nine, and of the Independence of the United States of America, the two hundred and thirty-third.

  
**HALEY BARBOUR**  
GOVERNOR



