



# MLDS CENTER

Maryland Longitudinal  
Data System

Better Data • Informed Choices • Improved Results

## New Researcher Training

2025

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Coordinator and MSDE Liaison

**Dr. Angela K. Henneberger**, Research  
Director

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# Welcome and Introductions

Angie

# Introductions

Please introduce yourself!

- Name
- Institutional affiliation
- The MLDS project you're working on and your role with the project

# Agenda

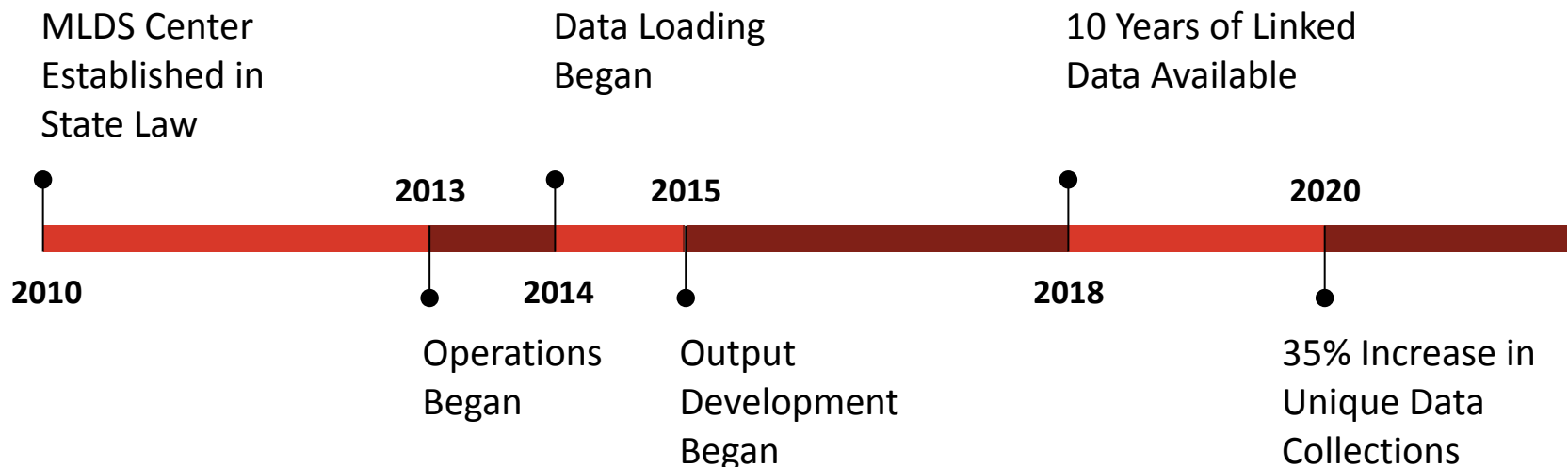
1. MLDS Center Overview, Governance, and Organization
2. Management of Approved Projects
3. MLDS Data and Research Agenda
4. Using MLDS Data
5. Dissemination and Research Products
6. Project Closeout
7. Questions and Next Steps

# MLDS Center Overview, Governance and Organization

Ross and Angie

# ***WHAT*** does the MLDS Center do?

- **Independent state agency** that **develops** and **maintains** a data system containing student and workforce data from all levels of public education and the State's workforce.
- **Generate timely and accurate information** about **student performance** that can be used to **improve the State's education system** and **guide decision makers at all levels.**



# HOW is the MLDS Center governed?



## MLDS Governing Board

- Established in state law for creating and managing the MLDS
- 15 Member Board
- Composition of Board ensures the success of the MLDS

# ***HOW*** is the MLDS Center organized?





# The Research Branch

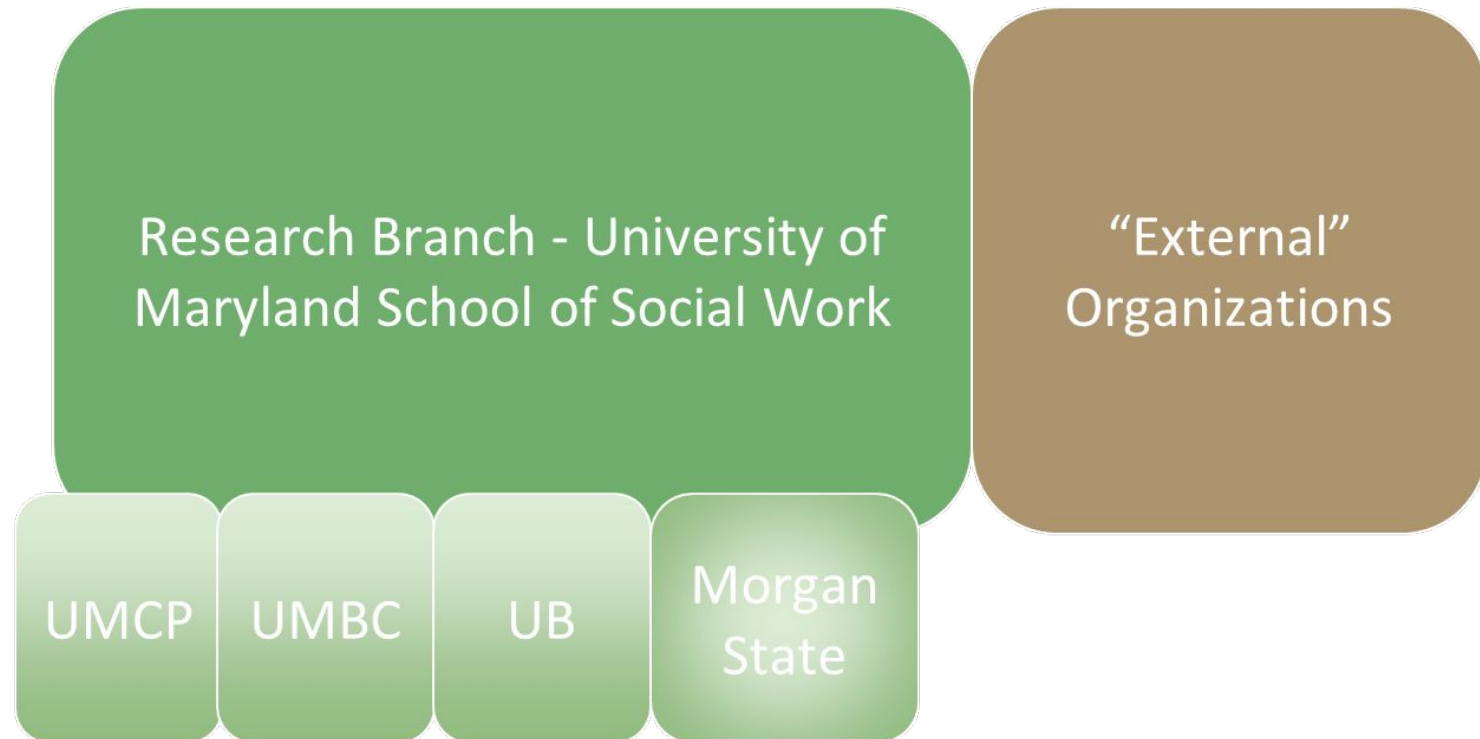
Angie

# The MLDS Center Research Branch



Research Branch -  
Provide advanced  
statistical analyses  
to help inform  
policy at the state  
and local levels.

# Research Branch Organization



# Approved MLDS Projects



## Approved MLDS Projects and Products

ERA #  PI Last Name  PI First Name  PI Institution  Title of Project  External Funding  Center Product  Project Status  [Clear all slicers](#)

ERA #	PI First Name	PI Last Name	PI Institution	Title of Project	External Funding	Center Product	Project Status	Products
1	Rachel	Durham	NDMU	Pathways into Adulthood for Baltimore City Students	x	RS	Further Development	
3	Angela	Henneberger	UMB	The Relationship between School Concentration of Poverty and Individual Student Poverty and Long-Term Outcomes		RR	Further Development	
5	David	Blazar	UMD	A Model of Minority Teacher Supply: Increasing Educational Opportunity for Racial- and Ethnic-Minority Students	x	RS	Further Development	
6	David	Blazar	UMD	The Effect of School-Based Diversity on Long-Term Economic Opportunity	x	RS	Further Development	
7	Jane	Lincove	UMBC	High School Determinants of STEM College and Career Pathways			Approved	
13	David	Blazar	UMD	Long-Run Relationships between Teachers, their Characteristics, and Student Outcomes	x	RS	Further Development	
14	Tracy	Sweet	UMD	Using Data Science Methods to Predict Student Outcomes in Maryland		MG	Further Development	
17	Rachel	Durham	NDMU	Postsecondary and Labor Market Effects of CTE in Baltimore City	x	RS	Further Development	<a href="https://mldscenter.maryland.gov/egov/Publications/ResearchSeries/2023/December/Stein_et_al_CTE_inBaltimoreCity_Dec2023.pdf">https://mldscenter.maryland.gov/egov/Publications/ResearchSeries/2023/December/Stein_et_al_CTE_inBaltimoreCity_Dec2023.pdf</a>
18	Eric	Hedberg	ABT Associates	Best Practices for Modeling the Multilevel STEM Learning Environment	x	MG	Further Development	
34	Angela	Henneberger	UMB	Long-Term Effects of PBISPlus: A Randomized Controlled Trial in Maryland Elementary Schools	x		In-Progress	
35	Mathew	Uretsky	UMB	Pathways and Patterns of Education and Workforce Participation in Maryland	x	RS	Further Development	
45	Wade	Jacobsen	UMD	School Discipline and the Transition to Adulthood in Maryland			In-Progress	
47	Jane	Lincove	UMBC	The Effects of State and Local Discipline Policies on Suspensions		DC	Further	

[Definitions](#)

[College Names](#)

Refresh Date: 08/07/2024

[mldscenter.maryland.gov](https://mldscenter.maryland.gov)

[Click here](#) to download the comprehensive data table for this dashboard.

# Congratulations!

If you are receiving this training, you are a member of the team for an approved project!

# Management of Approved Projects

Ross

# MLDS Project Approval Procedures

## Research Administration

Project Tracking

Research Agenda

Annual Priorities

Research Team

Researcher Resources

External Research Projects

Project Approval and Management Procedures

Policy on External Data for Research Projects

## Project Approval and Management Procedures

The Project Approval and Management Procedures were developed to ensure that all projects, which seek to use the MLDS, provide information and analyses that conform to the requirements of Maryland law and the [Research Agenda](#) established by the MLDS Governing Board. The procedures also ensure that projects: (a) are subject to a fair and consistent process of review; (b) squarely address the needs of Maryland policymakers and practitioners; (c) necessitate the use of MLDS cross-sector data; and (d) are being proposed by qualified individuals.

These procedures are required for all projects that seek to use MLDS data, including projects proposed by staff of the MLDS Center, members of the MLDS Center Research Branch, and researchers or analysts who are not affiliated with the MLDS Center. These procedures do not apply to a [data request](#).

To use the MLDS for your project, please follow these steps:

1. Carefully review the [Project Approval and Management Procedures](#);
2. If needed\*, schedule a meeting with someone at the MLDS Center about your project (email: [MLDS.Center@maryland.gov](mailto:MLDS.Center@maryland.gov));
3. Complete the [Project Approval - Detailed Application](#);
4. Complete the [Project Approval - Online Application](#) and upload the **Detailed Application** and all supporting materials; and
5. Once your application is submitted, the review process will begin pursuant to the [Project Review Schedule](#). The project review is guided by the [MLDSC Internal Review Form](#).

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# Overview of Requirements for the PI of Approved Projects (Section 4.1)

- a. Establish and submit a project **timeline**;
- b. Ensure that the principal investigator and all project team members who need access to the MLDS have submitted a ***Staff Authorization and Access Form***;
- c. For research projects:
  - i. Comply with the **Institutional Review Board** requirements as specified in section 4.7 below; and
  - ii. Ensure that all project team members have completed the relevant ***Collaborative Institutional Training Initiative (CITI) Training*** and submitted documentation of course completion.
- d. Finalize and sign off on agreed **reimbursement amount or request a waiver**;
- e. Review and complete the **Restricted Use Data Agreement**;
- f. Schedule and complete the **mandatory new researcher/analyst training** [that is today's training]; and
- g. Submit **quarterly reports** as specified in Section 4.8.

## Timeline (Section 4.2)

- PI must submit a project timeline that includes the project start date, milestones, and completion.
- This timeline may be amended later in the project if needed
- PI will report on progress on this timeline in each quarterly progress report [more later]

# Staff Authorization and Access (Section 4.3)

- All individuals needing access to the MLDS must complete the *staff authorization form*.
- Why is this required?
  - ☐ Education Article § 24-703(g) - “Direct access to data in the MLDS shall be restricted to *authorized staff of the Center*.”
- Components for full access
  - ☐ Rules of Security Behavior
  - ☐ Criminal History Background Investigation
  - ☐ CyberSecurity Training
  - ☐ FERPA Training
  - ☐ Acknowledgement and Receipt of Required Documents
  - ☐ Department of Labor Confidentiality Certificate
  - ☐ User Access Form
    - ☐ Secure WiFi
    - ☐ Secure Computer

# Staff Authorization - View Only Access

- Allows an authorized user to screen share pre-released content with a view only user
- Components for view only access
  - ☐ Rules of Security Behavior
  - ☒ ~~Criminal History Background Investigation~~
  - ☒ ~~CyberSecurity Training~~
  - ☐ FERPA Training
  - ☒ ~~Acknowledgement and Receipt of Required Documents~~
  - ☒ ~~Department of Labor Confidentiality Certificate~~
  - ☒ ~~User Access Form~~
    - ☒ ~~Secure WiFi~~
    - ☒ ~~Secure Computer~~

# Restricted Use Data

## Agreement (RUDA) (Section 4.4)

- A RUDA is required and must be signed by an authorizing official at the institution of the PI and team members. If there are multiple organizations involved, each organization should have a signed RUDA with the MLDS Center.
- Signed by Institution
- Limits use of system to the approved project
- Requires delivery of Center Product [more on this later]
- Data Rights and Publication - ensures that:
  - ❑ Right to use Research Output
  - ❑ Right to Further Develop the work
  - ❑ Further Development Notice is Required [more on this later]
- Data Access
- Limitations on disclosure
- Liability

# Reimbursement, Training, and IRB (4.5, 4.6, and 4.7)

- Projects should provide reimbursement to the MLDS Center for costs incurred in the administration and support of the project. The Executive Director will provide a cost estimate.
- The project team must complete a training session outlining the MLDS data system, its acceptable use, and the guidelines for suppression requirements. [This is today's training.]
- All projects should provide IRB approval or a waiver from their institution's IRB.

## Progress Report (4.8)

The principal investigator shall submit quarterly progress reports on:

1. Work completed and whether the project is on schedule;
2. Changes to project personnel; and
3. Whether, during the next quarter:
  - a. The project team wants to meet with MLDS stakeholders to review findings or ask questions; or
  - b. Any data tables will need to be reviewed for suppression compliance.
4. Also asks about conference presentations and publications.

Each PI will receive a google form to complete quarterly.

## Data Usage (4.10)

1. The project team may only use MLDS data for the project as specified in the project application. Access to and use of MLDS data is granted for a fixed amount of time and may be renewed if needed at the discretion of the Executive Director.
2. The Executive Director will immediately terminate access in cases where there is significant risk of unauthorized disclosure of confidential information, violation of security guidelines, or use of data in a manner that is not consistent with project application.



# Project Changes (4.11)

1. Changes to the approved project plan require approval from the Executive Director. Changes include:
  - a. Changes to or the inclusion of **additional research questions**;
  - b. Changes to the proposed **methodology**;
  - c. Changes to the **data sets** requested for the project; or
  - d. Changes to the project **funding**.
2. Change requests can be filed on the quarterly progress report.
3. After reviewing the change, the Executive Director will:
  - a. **Approve** the change upon determining that the requested change is **minor** in scope and does not significantly alter the purpose or nature of the project that was originally submitted and reviewed; or
  - b. **Deny** the change upon determining that the change is **substantial** in scope and materially changes the purpose and nature of the project beyond what was originally reviewed.
4. If the change is denied, the principal investigator may either continue pursuant to the original project application or submit a new application for approval.

# Questions about project management

Any questions about:

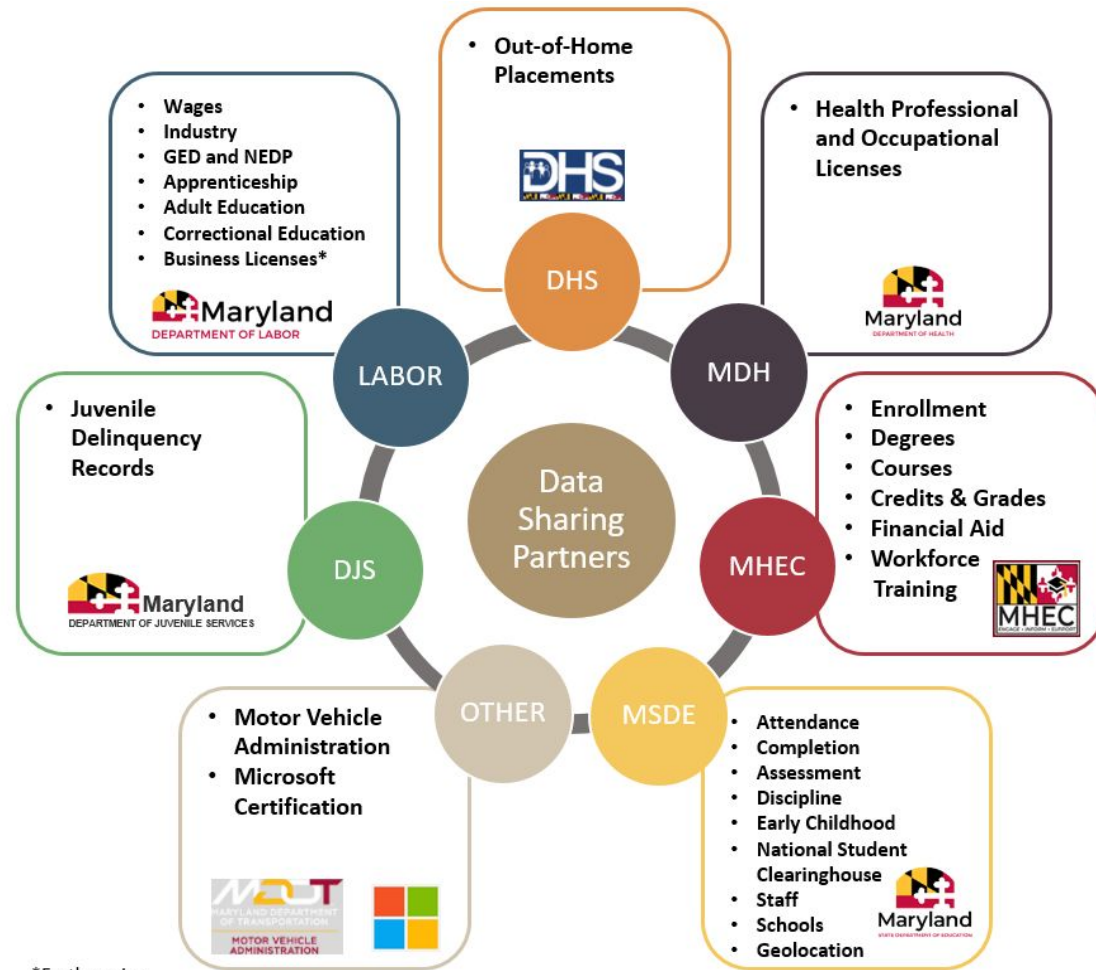
- Project timeline
- Staff authorization
- RUDA
- Reimbursement
- Training requirements
- IRB
- Progress reports
- Progress changes

# The MLDS Data and Research Agenda

Molly

# WHAT data are collected?

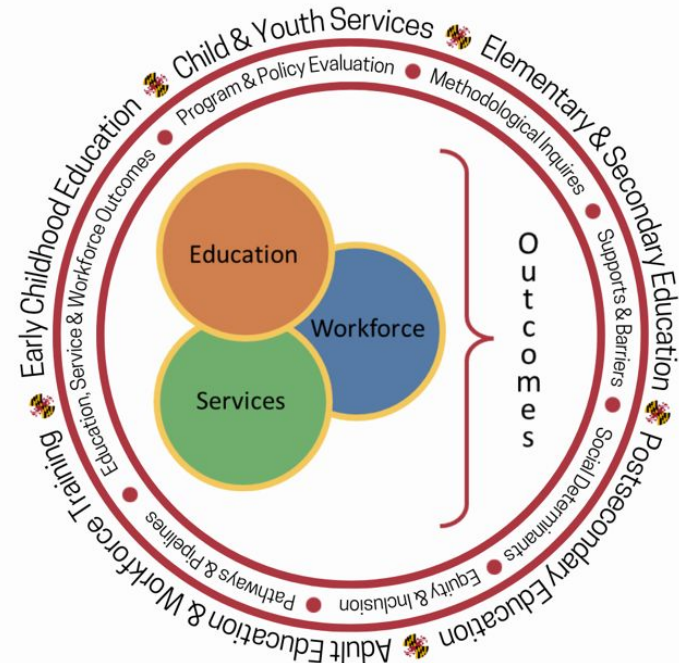
## MLDS Data Delivery System



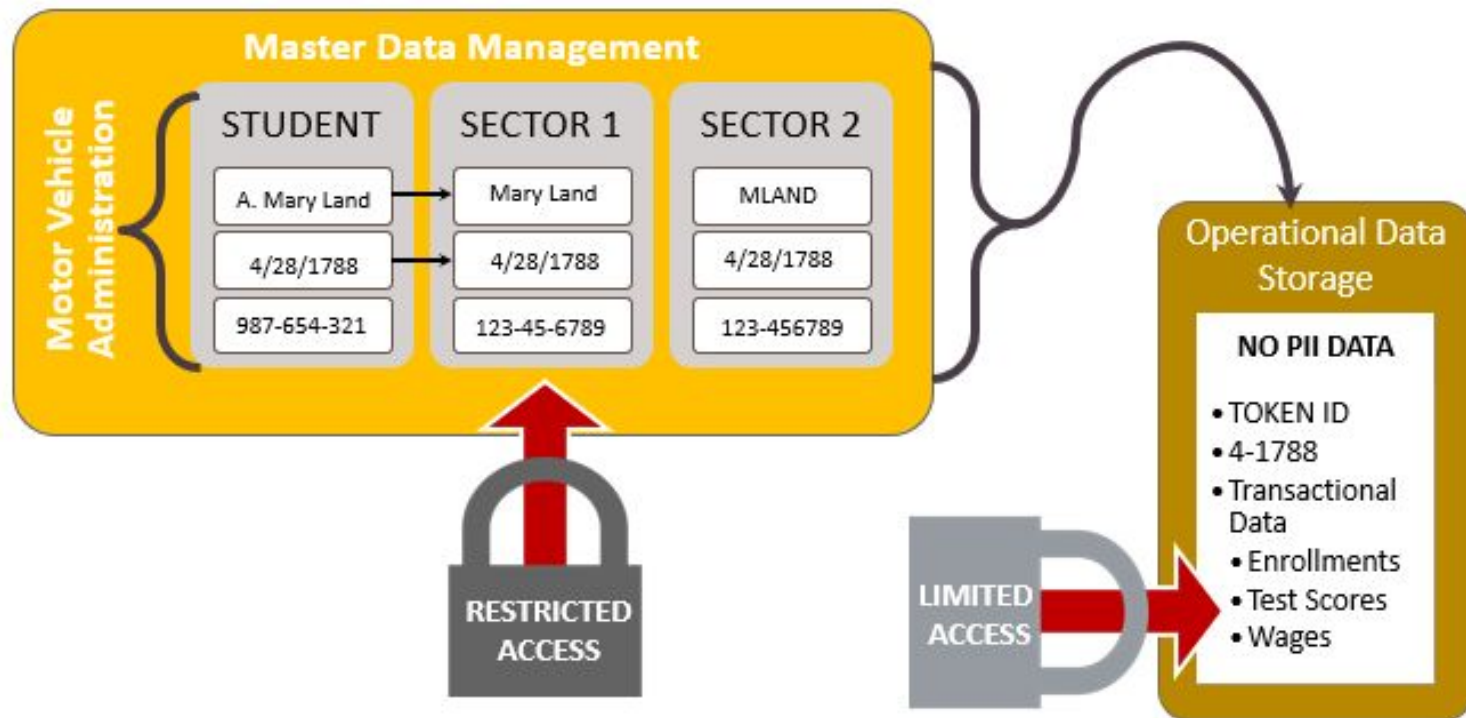
# WHAT guides data usage?

## Research Categories

- **Pathways & Pipelines:** The entry, transition, and exit points students take into specific education, service and labor sectors.
- **Educational, Service & Workforce Outcomes:** Student-level and/or institutional-level characteristics and the importance of these characteristics in predicting outcomes.
- **Program & Policy Evaluations:** Determines whether a given program or policy has been successful.
- **Methodological Inquiries:** Improves the selection and application of research and statistical methods when using MLDS data.



# ***HOW*** are the MLDS data securely linked and stored?



# Using MLDS Data

Bess

## Software (4.9)

1. The MLDS Center provides each researcher with a virtual machine with SAS Studio.
2. The principal investigator may request that the MLDS Center IT Team load other software programs on the virtual machine needed for the project. The principal investigator is responsible for the software license and any costs associated with the software that will be needed in support of the work on the project.

Contact for loading software: [bosedefatukasi@maryland.gov](mailto:bosedefatukasi@maryland.gov)



# Tour of the Virtual Desktop

Confidential information - no screenshots or recording

- What is a virtual desktop?
- Accessing the virtual desktop
  - Get support: [bosedede.fatukasi@maryland.gov](mailto:bosedede.fatukasi@maryland.gov)
- O drive and P drive
- “Getting started” - O:\Researchers Shared Data\Getting Started
- Data dictionary

# Release of Research Products

## (4.12) - Suppression

- The principal investigator and members of the project team are responsible for compliance with [MLDS Center Suppression Guidelines](#). MLDS Center Staff will review, but not do the suppression work.
- The Center will work with the principal investigator to find the best possible solution to meet both the project needs and disclosure avoidance.
- The project team is prohibited from removing any materials from the data system.
- When the project team is ready to remove materials from the data system, the principal investigator shall make a request to the Executive Director, using the online [suppression review request form](#).

# Suppression Review Policy

## Data Suppression Rules

The Maryland Longitudinal Data System Center (MLDSC) must ensure that the data reported on its website complies with the federal Family Education Rights and Privacy Act (FERPA), the Maryland Public Information Act (Maryland Code, §4-101, et seq. of the General Provisions Article), and the Federal-State Unemployment Compensation Program (20 C.F.R. Part 603). FERPA (20 U.S.C. § 1232g; 34 C.F.R Part 99) prohibits the release of an individual's personally identifiable information to the public. The MLDSC must conduct research using student data and workforce data to improve the State of Maryland's education system and guide decision making by State and local governments, educational agencies, institutions, teachers, and other education professionals. Maryland Code, §24-703(f), Education Article. The MLDSC may only use de-identified data in its analysis, research, and reporting, and it may only release aggregate data in reports and in response to data requests. Maryland Code, §24-703(g). Data in any research or reports produced by the MLDSC may not include any data that may be identifiably based on the size or uniqueness of the population under consideration. The MLDSC follows the data suppression recommendations set forth by the National Center for Education Statistics (NCES) in its December 2010 Technical Brief entitled, "Statistical Methods for Protecting Personally Identifiable Information in Aggregate Reporting." The guidance and methods set forth by the NCES apply with equal force to workforce data collected by the MLDSC. You may access the Technical Brief at: [following link](#)

## Suppression Review Request

Please use this **Form** to submit a Suppression Review Request to the MLDS Center Director. The request should be in compliance with the Center's data suppression standards.

1. [National Center for Education Statistics, IES - SLDS Technical Brief, Guidance for Statewide Longitudinal Data System](#)
2. [Memorandum from Dawn O'Croinin, Counsel to MLDS Center \(March 3, 2015\) - Dashboard and Reporting Suppression Rules](#)

<https://mldscenter.maryland.gov/ResearcherSuppressionRequest.html>

# Suppression Continued (4.12) - Review Outcome

The Executive Director will only authorize release of materials upon a determination that:

1. Confidential information is not disclosed; and
2. The product is consistent with the project application.

If release is not authorized because of a determination that confidential information is being exposed, the project team will be directed to fully address the issue and resubmit for review.

If release is not authorized because the work is inconsistent with the project application:

3. The principal investigator will be directed to make necessary modifications to the project to conform it to the original project application; or
4. If the product is substantially different from the original project application, the project will be terminated and the principal investigator will be denied further system access.

# Dissemination of Research Products

Angie


# Center Product and Further Development

Section 4.13 of the management procedures.

- **Center Product**
  - A product, described by the researcher in the Project Application;
  - Provide value to the State; and
  - Allows for the dissemination of the approved project findings and outcomes to MLDSC stakeholders.
  - Includes the data sets, tables, analytic code, and other work product used to develop the center product.
- **Further Development**
  - Is developed after the Center product has been completed; and
  - Is based on the research questions stated in the Project Application and uses the analytic data set created for the Center project.

# Center Product and Further Development (4.13)

- Under researcher resources on the MLDS website
- 3-5 pages
- Aimed at the lay person
- Research Brief
  - Title, Authors, Contact
  - Key Takeaways
  - What We Studied
  - How We Analyzed the Data
  - What We Discovered
  - Policy/Practice Implications
  - References
  - Resources



RESEARCH BRIEF

mldscenter.maryland.gov/

Month, Year

Title Here

[List Authors Here]

**Author 1**  
[Enter Home Institution or Lab]

**Author 2**  
[Enter Home Institution or Lab]

**Author 3... (you get the idea)**

**Contact** [mlds.center@maryland.gov](mailto:mlds.center@maryland.gov)  
[AUTHOR: You can change this to your own email address if you prefer] if you have any questions about this brief.

**Key Takeaways:**

- Here on the left is where I would put your most important/notable findings
- Avoid adding statistics or numbers and lean towards description unless it's a very important statistic
- Anywhere between three and five takeaways will be plenty

**What We Studied**

Introducing the topic of the paper. Please use first person, active language (e.g., "We examined..." rather than "The study examined..."; "I conducted regression analyses..." rather than "Regression analyses were conducted..."). Here is where you should lay out what you are actually studying and any useful background information about the topic. I would lean towards the descriptive side in this section as the reader probably will not have as much context as you do. In that same sense, if you have any terminology you use in your study, you can identify the term(s) here and define them.

The audience for this brief will be pretty broad, so it's probably best to assume less background knowledge and to tone down some of the academic language. You should also provide policy or practice context that motivates the study.

Please keep this first page limited to one page. In total, a good length for this brief would be around 3 to 5 pages. I would tend to err to around three pages of text with a few helpful graphs or visual aids.

1



# Further Development Notice (14 days)



## Researcher Resources

Below are resources that will help MLDS Center staff researchers.

[Suppression Review Request](#)

[Notification of Further Development](#)

[Staff Authorization and Access Procedure](#)

[Research Brief Template](#)

## Notification of Further Development

Researchers shall provide the Center with a copy of any proposed publications or presentations that further develop research conducted for the Center using MLDS data. Publications or presentations must be submitted to the Center 14 days in advance of submission for publication or presentation. The Center shall have 5 business days after receipt to review and comment. While unlikely, it may be necessary for the Center to request the delay of a publication or presentation in order to comply with legal restrictions surrounding the source data. In this instance, the Center will inform the researcher of the legal restriction and will require the researcher to delay publication or presentation until the legal matter is resolved.

Researchers fill in the online form [HERE](#).

<https://mldscenter.maryland.gov/NotificationOfFurtherDevelopment.html>



# Acknowledgement Necessary for Further Developed Products

This research was supported by the Maryland Longitudinal Data System (MLDS) Center. We are grateful for the technical assistance provided by the MLDS Center. All opinions are the authors' and do not represent the opinion of the MLDS Center or its partner agencies.

# Questions about working with the MLDS data

Any questions about:

- Secure linkage and storage
- Virtual desktop
- Software
- Data usage restrictions
- Suppression
- Center product
- Further development

# Project Closeout

Angie

# Project Closeout (4.14)

1. Access to the MLDS workstations and secure environment will be rescinded on the approved project end date or an earlier date if the project concludes before the project end date. When access is rescinded, physical access to the workstations will expire along with login permissions. All researcher folders/workspace files will be kept for a period of five years then destroyed.
2. The principal investigator should indicate that the project has been completed on the quarterly report.
3. Any materials that the project team wishes to remove from the MLDS, including statistical program code or syntax, must follow suppression review procedures.
4. If a member of the project team leaves the project prior to completion, the project lead must inform the Executive Director immediately so access can be terminated.

# Next Steps

Angie

# Questions and Contacts

- Questions about administrative issues - Email Angie [angela.henneberger@maryland.gov](mailto:angela.henneberger@maryland.gov) and/or Ross [ross.goldstein@maryland.gov](mailto:ross.goldstein@maryland.gov)
- Questions about your project or coding, Email your project PI
- Questions about MLDS data - Email Bess [bess.rose@maryland.gov](mailto:bess.rose@maryland.gov)
- Questions about memory, RAM, or loading software - Email Tejal Cherry (CIO) at [tejal.cherry@maryland.gov](mailto:tejal.cherry@maryland.gov) or Bosede Fatukasi at [bosede.fatukasi@maryland.gov](mailto:bosede.fatukasi@maryland.gov)

# Questions and Contact

<http://mldscenter.maryland.gov>



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