



Monthly Report for March 2016

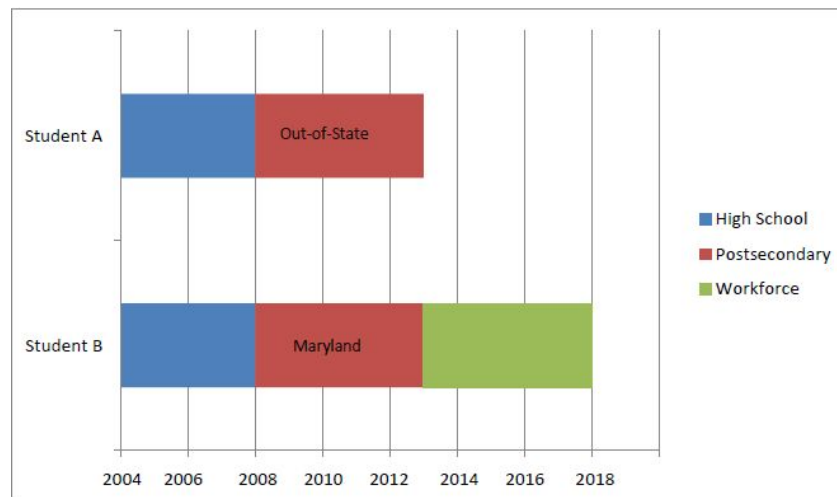
Submitted April 6, 2016

Data Management

Staff is currently beginning to work on implementing a requirement in state law that limits the linkage of student and workforce records as follows: *The linkage of student data and workforce data for the purposes of the Maryland Longitudinal Data System shall be limited to no longer than 5 years from the date of latest attendance in any educational institution in the State.* (see Ed. Art., § 24-702(c), Annotated Code of Maryland).

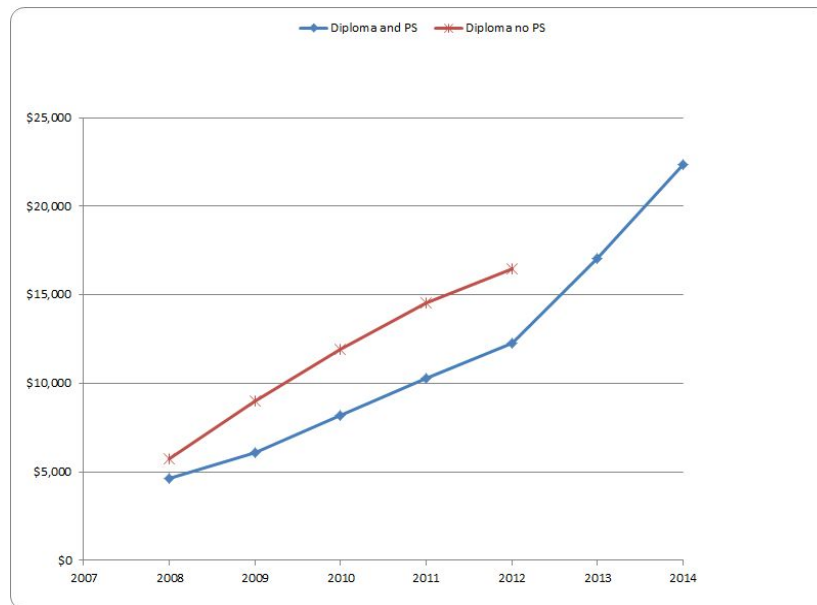
As part of the process, staff has done some analyses to determine the impact on the System's ability to report longitudinal workforce outcomes as a result of the de-linking. There are concerns that five years provides insufficient time to determine a person's workforce outcomes based on their educational outcomes. Below are two examples in which five years of workforce outcomes do not provide the complete picture of a person's earnings.

1. Student A (see table below) graduates from Maryland public high school in June 2008. Student A enrolls in an out-of-state 4-year college in Fall 2008 and graduates with a Bachelor's degree in Spring 2012. The student is employed in the state of Maryland in 2013, Quarter 4. The Center will record the out-of-state postsecondary enrollment. The link between K12 and postsecondary will remain in tact. However, since the student's last attendance in any educational institution in the state will be the date of high school graduation in June 2008 (year 4), state law does not allow the linkage of the 2013 Quarter 4 wages, which occur five years later. In comparison, since Student B stays in Maryland for postsecondary, the workforce data can be linked and wages can be reported for five years after completion.

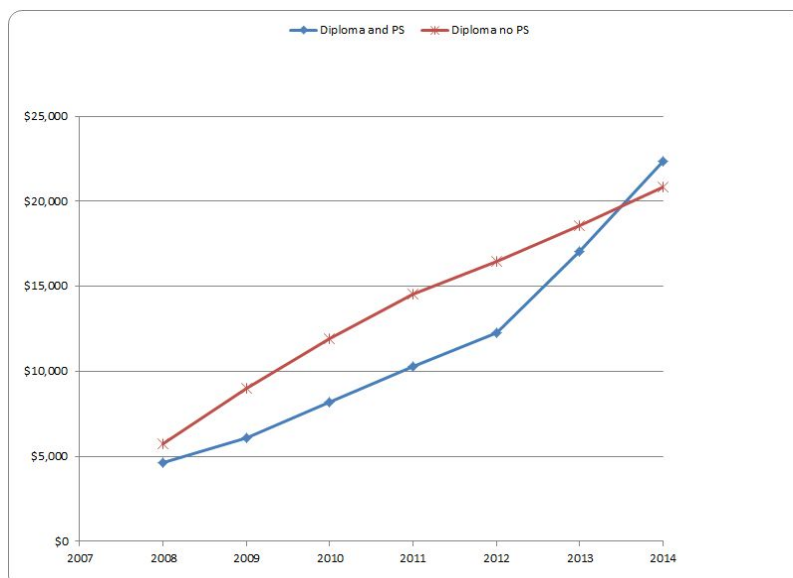


2. A student graduates from Maryland public high school in June 2008. The student does not pursue postsecondary education and goes directly into the workforce. Assuming the average age for high school graduates is 18, State law only allows the system to track workforce data for the student through the age of 23. This does not allow sufficient time in the system to see the impact of work experience over time. The tables below illustrate the trajectory workforce outcomes in the reported data with and without de-linked data.

**Figure 1: 2008 High School Graduates, Wage Outcomes,
by Postsecondary Enrollment Status
De-linked Education and Workforce Data After Five Years**



**Figure 2: 2008 High School Graduates, Wage Outcomes,
by Postsecondary Enrollment Status
Linked Education and Workforce Data for Greater than Five Years**



As Figure 1 demonstrates, de-linking the workforce data provides an incomplete trajectory of the student's earnings, and may even be misleading.

Center staff continues to analyze the impact of de-linking workforce data, and how it may affect previously published data and reports. Staff are exploring the best strategies to de-link the data, and ways to implement an automated de-linking process.

Reporting

Student Outcome Achievement Report

The Higher Education Commission (MHEC) is required to develop and submit a Student Outcome Achievement Report (SOAR) which examines the academic performance of recent Maryland high school graduates during their first year of study at a higher education institution. Center staff is working with MHEC to provide data for the report. Staff recently added new variables about high school graduates such as FARMS, special education, English language learners, dual enrollment, and SAT exam scores. Peter Hobbs is compiling and analyzing the data and drafting a number of data tables to make the data ready for use by MHEC in the report. Mr. Hobbs work on the SOAR will also lead to dashboards that the Center can publish on its website.

Dashboards

Staff have begun to analyze data in preparation for agenda question number 6 - "How likely are students placed in developmental courses to persist in postsecondary education and transfer and/or graduate?" Mr. Hobbs has began a template for a possible dashboard. Dr. Henneberger is also working on analyzing this question. Mr. Hobbs is conducting research to better understand the remedial course taking data for several institutions.

The team has also begun to analyze data in preparation for agenda question number 11 - "Which 4-year institutions are graduating students most effectively and in the timeliest fashion?"

Research

Dr. Angela Henneberger chaired a symposium entitled, "*Successful Transitions for At-Risk Adolescents: Using Research to Inform Education, Child Welfare, and Juvenile Justice Policy*" at the Society for Research on Adolescence conference. Dr. Henneberger also presented her analyses examining high school predictors of the need to take remedial coursework in college. Co-authors on the presentation were Ms. Susan Klumpner, Mr. Mathew Uretsky, and Dr. Michael Woolley. The next step is to finalize the analyses for the final release of the report.

The research team has also been involved in the following:

1. Working to produce analyses for a high school workforce report;
2. Reviewing and applying the data suppression rules;
3. Working with the IT team to improve the documentation and quality of data loaded into the system;
4. Analyzing and assessing data to determine if potential errors exist;
5. Working on various tasks to finalize its report on *Assessing the Early Childhood Care and Education Workforce in Maryland*; and
6. Establishing the Fiscal Year 17 Research Branch Budget.

System Management

1. Power Outage - The Grasmick Building, including the MSDE Data Center, underwent a total power shutdown April 1st through April 2nd. Center staff worked to completely power down the entire system and conducted a full restoration of all systems and services in time to be fully available

Monday morning. Arrangements were made to temporarily host the website offsite for the duration of the power outage.

2. Switches - MSDE Data Center completed the installation and implementation of switches for the Center. This will then allow the Center to be on its own separate network and move forward with firewall hosting at DoIT.
3. Domain - The Center will start working on changing over to a separate domain versus a centralized domain with MSDE.
4. Firewall - Staff is continuing to work with DoIT and Skyline to implement their firewall service solution. DoIT is in the process of moving their facilities. Once they move, which will be by end of April, the firewall project can be completed.
5. Offsite Backup – Center staff is moving forward with Amazon Web Services for the offsite backup solution. We have completed all procurement process. We are in process of conducting proof of concept for the operation of this in next couple of weeks. We are also having discussion with DoIT for their future plans for offsite backup.
6. Security Audit – Staff has compiled a list of internal audit requirements and is working with DoIT CISO to procure the services to conduct the audit. The audit requirements include the following:
 - Vulnerability Scan of data center environment
 - Penetration Test of data center environment now and following the implementation of the DOIT
 - Firewall SECaaS (security as a Service) capability
 - Review and audit of Technical Architecture Design
 - Review of ETL workflow from MFT to the ODS (deletion of processed files and encryption at rest and in flight)
 - Review of our MS/AD roles for Least Access
 - Review of MLDS Data Security and Safeguarding Plan (DSSP) and DSSP Implementation Plan (Is the plan complete and in compliance with DoIT security requirements and is the implementation plan complete and properly executed?)
 - Review of PII data security (encryption and masking) in MFT files, Staging Tables, Discard Tables, MDM database
 - Review of physical security
 - Review of IT inventory process
 - Review of System Access procedures (background checks, security training)
 - Review of VMWare environment to ensure proper hardening of passwords as well as monitoring VMs – MSDE data center currently have administrative privileges to maintain this for MLDSC
 - Review of the Log Aggregation process being implementing to meet auditing requirements
 - Review backup/recovery process
 - Verification that new versions of Windows, Oracle or critical security related patches are implemented on a timely basis.
 - Review external system access – different connections through virtual private networks and through MSDE network

Website

Through Google Analytics, staff is able to collect and assess website usage statistics. The highlights from the report, which cover 1/1/2015 through 3/30/2016, are that:

- 75% of Website usage is from Baltimore Metro area;
- 61% of total users are new users who accessing the website; and
- Last summer (May through July 2015) was the high peak usage for the MLDS Center website.

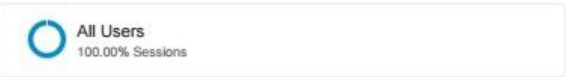
The full report is provided below.

Maryland Longitudinal Data System Center Website Analytics Report

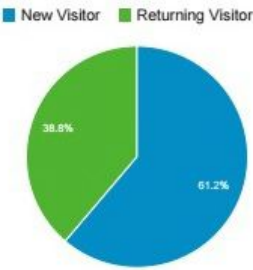
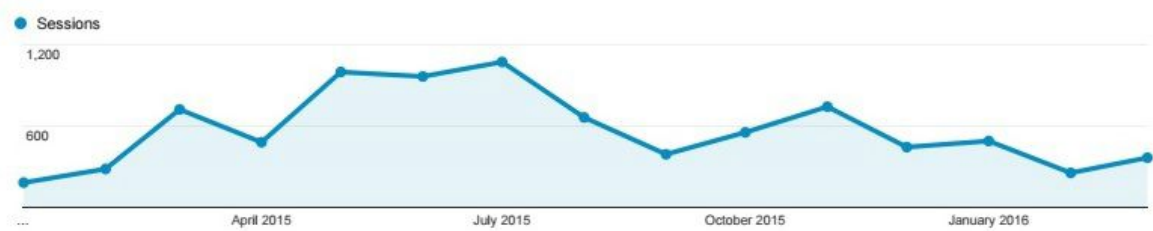
Jan 1 2015 - Mar 30, 2016

Session Summary

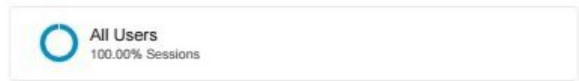
Audience Overview



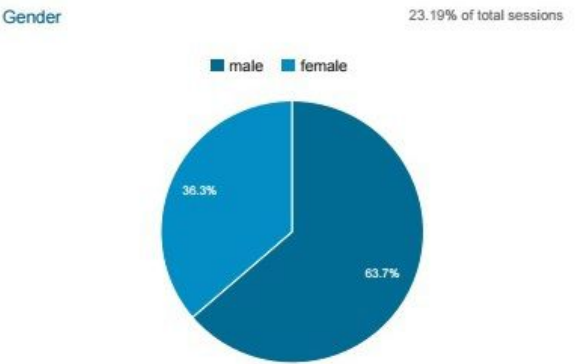
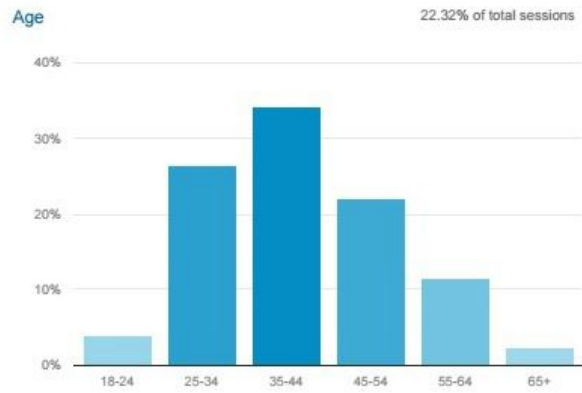
Overview



Demographics: Overview



Key Metric:



Page Views by City in Maryland

City	Sessions	New Users	Pageviews
Baltimore	2201	561	6004
Gaithersburg	201	48	348
Annapolis	123	92	225
College Park	101	39	211
Owings Mills	23	6	42
Towson	20	17	40
Pikesville	19	3	27
Woodlawn	18	17	26
Arnold	16	3	23
Cumberland	15	7	19
Lake Shore	15	2	30
Bowie	14	8	22
Columbia	13	9	27
Cape Saint Claire	13	2	20
Eldersburg	12	5	17
Elkridge	11	8	15
Rockville	11	9	18
Bethesda	9	4	14
Catonsville	8	4	18
Hagerstown	8	5	14
Silver Spring	8	3	10
Centreville	7	6	11
Ellicott City	7	7	14
Germantown	7	3	10
Lexington Park	6	3	20
Salisbury	6	5	6
Severna Park	6	1	11
Cockeysville	5	5	5
Edgewater	5	4	14
Frederick	5	4	6
Reisterstown	5	1	14
Carney	5	4	6
Crofton	4	3	11
Glenwood	4	3	10
Greenbelt	4	3	4
Aspen Hill	4	4	4
Ferndale	4	3	4
Greater Landover	4	1	6
Wheaton-Glenmont	4	2	7
Damascus	3	2	3
Edgewood	3	2	4
Hyattsville	3	3	3

Lutherville-Timonium	3	2	5
Odenton	3	2	4
Stevensville	3	3	5
Takoma Park	3	2	4
Bel Air South	3	3	5
Cloverly	3	2	5
Lake Arbor	3	3	3
Largo	3	2	3
Milford Mill	3	0	4
North Laurel	3	2	4
Parole	3	3	10
Aberdeen	2	0	2
Bel Air	2	1	2
Funkstown	2	2	2
Hampstead	2	2	4
Havre de Grace	2	1	2
Linthicum Heights	2	2	4
Perry Hall	2	0	10
Upper Marlboro	2	2	4
Bel Air North	2	2	9
Rossville	2	2	2
(not set)	1	1	1
Capitol Heights	1	1	1
Clarksburg	1	0	1
Clarksville	1	1	1
Clinton	1	1	1
Dundalk	1	1	1
Easton	1	1	1
Glyndon	1	1	2
Huntingtown	1	1	1
Middle River	1	1	2
Princess Anne	1	1	1
Randallstown	1	0	1
Riverdale Park	1	1	1
Severn	1	1	1
Suitland-Silver Hill	1	1	1
White Hall	1	1	1
Colesville	1	1	1
Kettering	1	1	1
Lochearn	1	1	1
New Carrollton	1	1	4
North Bethesda	1	1	1
North Kensington	1	0	7
North Potomac	1	1	6
West Laurel	1	1	1
White Oak	1	1	1
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