2017
Mississippi SWEAP Project
Final Report

SWEAP
State Workforce and Education Alignment Project
A NATIONAL SKILLS COALITION INITIATIVE
Introduction

More than a decade ago, Mississippi’s leaders began building a state longitudinal data system (SLDS) that would become the backbone for data-driven decision making in the state. Now, years after the successful launch of the state’s sophisticated SLDS, it is clear that Mississippi’s emphasis on data has paid dividends, particularly in education and workforce policy.

Mississippi’s leaders are committed to helping their constituents improve their quality of life, including facilitating access to high-quality education, training, and employment. Such a commitment requires a focus on the future, as more information is needed to connect people with opportunities for success. Specifically, the state’s vision requires more powerful, more detailed tools to analyze labor market needs and outcomes.

The State Workforce and Education Alignment Project (SWEAP) presented Mississippi with a framework to take the next step into the future. SWEAP focuses on the same education and workforce development efforts that Mississippi has been pursuing. As part of its plan for effecting positive change, SWEAP proposes the development of three specific types of data tools: dashboards, supply and demand reports, and pathway evaluators. With guidance from the National Skills Coalition, Mississippi has designed new data tools within each of these three categories. Once complete, these powerful tools will be capable of driving decisions related to workforce and education policy. The tools will also align remarkably well with initiatives underway in Mississippi. Prototypes of each tool are now being tested, and the results thus far show great promise. The SWEAP project has truly helped Mississippi to move forward into a new era of data-driven policymaking.

Data has become a valuable asset for promoting economic development and for developing policy that matters to our citizens ... data has real value when converted into actionable intelligence.

- The Honorable Phil Bryant, Governor of Mississippi
Purpose

The SWEAP project came along at a very opportune time for Mississippi. State leaders and policymakers were collaborating on the state’s Workforce Innovation and Opportunity Act (WIOA) plan. This plan, now complete and nearing full implementation, called for the creation of a common data hub to link key education and workforce agencies in Mississippi in order to improve the efficiency, efficacy, and security of education and workforce training in the state. SWEAP provided concepts for data tools that can work in harmony with the WIOA central hub system, allowing state leaders to evaluate the performance and effectiveness of the system in guiding Mississsippians into gainful employment. Mississippi saw potential in SWEAP as a means of building the next generation of powerful data tools and preparing a more streamlined and effective workforce system.

With the data tools developed under SWEAP, policymakers will be able to identify skill gaps in the labor market and career pathways that can be leveraged to fill those gaps. State leaders will also be able to evaluate the performance of workforce training programs in the state. Case managers will be able to sit down with clients and help them identify ideal career pathways based on their specific situation, experience, and interests. More than ever, citizens of Mississippi will be able to connect with the labor market to find optimal jobs and job training.

The SWEAP tools fill a real need to present scientific data analysis in a format that allows policymakers and service providers to connect the dots and make data-driven choices about programmatic and economic issues.

- Mimmo Parisi, Executive Director of NSPARC
The Mississippi SWEAP project has been a collaborative effort involving key agencies and entities in Mississippi. Numerous entities within the state have contributed to the conceptualization and design of the new data tools. The project has been overseen by the Mississippi SWEAP Coordination Team, which is comprised of several key state leaders and policymakers:

- **Mark Henry**  
  Chair, State Workforce Investment Board  
  Vice Chair, State Longitudinal Data System Governing Board

- **Dr. Laurie Smith**  
  Education and Workforce Policy Advisor, Office of the Governor

- **Senator Gray Tollison**  
  Chair, Senate Education Committee

- **Senator Jon Polk**  
  Chair, Senate Universities and Colleges Committee

- **Jay Moon**  
  President and CEO, Mississippi Manufacturers Association  
  Past Chair, State Workforce Investment Board

- **Dale Smith**  
  Deputy Director and Chief Operating Officer, Mississippi Department of Employment Security

- **Dr. Shawn Mackey**  
  Associate Executive Director for Workforce, Career, and Technical Education, Mississippi Community College Board

- **Dr. Domenico Parisi**  
  Executive Director, State Data Clearinghouse  
  Executive Director, National Strategic Planning and Analysis Research Center

- **Dr. Jesse Smith**  
  Co-Chair, Mississippi Educational Council  
  President, Jones County Junior College

- **Yolonda Boone**  
  Senior Policy Analyst, State Workforce Investment Board
The SWEAP project will provide legislators and policymakers with timely information needed to drive decisions regarding workforce training and education policy. As such, the involvement of members from multiple state agencies and entities has been key to the project’s success. We would like to extend a special thanks to the following:

- **Mississippi Community College Board**
  - Dr. Andrea Mayfield
    - Executive Director
  - Sandy Crist
    - Director of Adult Basic Education/High School Equivalency
  - Raul Fletes
    - Assistant Executive Director for Research and Effectiveness
  - Dexter Holloway
    - Assistant Executive Director for Workforce and Economic Development

- **Mississippi Department of Education**
  - Deborah Donovan
    - Director of Data Analysis and Reporting
  - Kathryn Johnson
    - Strategic Data Fellow

- **Mississippi Department of Employment Security**
  - Robert Freeman
    - Area Director

- **Mississippi House of Representatives**
  - Representative Donnie Bell
    - Chair, Workforce Development Committee

- **NSPARC**
  - Dr. Jonathan Barlow
    - Associate Director for Design and Development
  - Zachary Krampf
    - Senior Programmer Analyst

- **State Workforce Investment Board**
  - James Williams
    - Executive Director
Data Tools

The goal of the SWEAP project is to improve the ability of legislators and policymakers to address labor market gaps in Mississippi through availability of accurate, relevant, and actionable information that paints a vivid picture of the state’s workforce and education systems. Three data tools were proposed as part of a best-practices solution for delivering this information: dashboards, supply and demand reports, and pathway evaluators. Used in conjunction, these tools can help policymakers quickly identify skill gaps in the workforce and understand the most effective pathways available to fill these gaps.

Dashboards

Dashboards provide the user with quick, at-a-glance status information about a particular system. With regard to workforce and education policy, dashboards can help answer the question, “Are people getting credentials that lead to jobs?”

Much of Mississippi’s work on SWEAP builds on the foundation of LifeTracks, Mississippi’s SLDS portal. Launched in 2013, LifeTracks provides access to a variety of reports on education at the PK-12, community college, and public university levels. The website effectively functions as a dashboard system for education data, reporting information on student demographics, educational progress, and education and workforce outcomes. Policymakers can use LifeTracks to evaluate the efficacy of educational institutions by examining the employability and earnings of Mississippians.

Through SWEAP, Mississippi builds on the foundation laid by LifeTracks to include a new set of reports focusing on workforce training. While existing LifeTracks reports provide information on workforce outcomes for postsecondary students seeking academic degrees, these new reports will provide similar information for individuals entering or completing non-credit workforce training. Using such reports, state leaders will be able to paint a better picture of the impact particular programs are having on communities and the state as a whole.
The new workforce training reports will function similarly to existing LifeTracks reports. When the user first accesses the Workforce Training Reports page, a list of the available reports will be displayed (see Figure 1).

**Figure 1: List of Workforce Training Reports**

The reports shown in Figure 1 are as follows:

- **Trainee Profile:** This report will provide information on the characteristics of trainees (gender, race and ethnicity, age group, etc.) in Mississippi’s workforce training programs.

- **Trainee Starting Condition:** This report will provide information on how trainees enter into the workforce training system and on the support services they are receiving when entering training (SNAP, TANF, Vocational Rehabilitation, etc.).

- **Subsequent Training/Credentialing:** This report will provide information on trainees who complete their training programs and enroll in further training.
College-Enrolled Completer Progress: This report will provide information about the success of trainees who complete their training programs and pursue postsecondary degrees.

Completers in the Workforce: This report will provide workforce outcome information on trainees who complete and then join the workforce. Such outcomes will include employment rate, earnings, retention rate, and rate of continued participation in support services.

Non-Completer Outcomes: This report will provide outcome information on trainees who do not complete their programs.

Once the user has found a report of interest, he or she will click the ‘Run Report’ button for that report. The user is then taken to the page for that report, and the first section or indicator in that report is presented with the most recent year’s data (see Figure 2).

Figure 2: Initial Report

Reports in LifeTracks are designed to present thorough and detailed information in a simple, understandable format. The Workforce Training Reports follow this design. The layout of each report, as illustrated in Figure 2’s example, is as follows:

1. The report header defines the context of the report, identifying the cohort being measured, the geographic area chosen, and the funding source represented. In Figure 2, the header indicates that the report focuses on individuals participating in WIA-funded training across the state in 2015. Instructions on how to read the report are located just
beneath the header.

2. The indicator header specifies what the report is measuring. In Figure 2, the report is measuring the total number of participants in workforce training.

3. Each indicator report displays a large number, a chart, or both at the top of the report to represent the most pertinent information in the report. In Figure 2, the most pertinent value is the total number of participants in the chosen training—in this case, 3,761 participants.

4. The subgroup table breaks down the main number(s) of the report into subpopulations, including gender, race and ethnicity, and age groups (see Figure 3 for the full breakdown).

Figure 3: Subgroup Table
A control panel at the top of each report page allows the user to adjust the parameters of the report, including the time period and geographic area measured, the specific section of the report he or she wishes to view, and whether to show trends in the data over time (see Figure 4).

**Figure 4: Control Panel**

The control panel contains the following components:

1. The tabs at the top of the control panel allow the user to select the geographic area represented by the report. The default area is statewide. Authorized users may access more specific areas, including WIOA regions and individual counties, as their permissions allow. Authorized users may also build a custom region made up of multiple counties to view aggregate statistics for that region.

2. The time controls allow the user to explore multiple years of data for the chosen report. The year selector allows the user to view values for a specific year. If the user wishes to view trends over time, he or she may check the historical trends checkbox to view changes in the data over all available years.

3. The funding-source selector allows the user to view values for training taken under a particular funding stream.

4. Each report is broken up into a number of different sections called indicators. When the report is loaded, the first indicator in that report is loaded by default. The user can use the radio buttons to choose which indicator report to view.

5. The user can use the export control to export the report in PDF or XLSX format.

Currently, the Total Participants indicator in the Trainee Profile report has been implemented as a prototype. Most of the functionality available in existing LifeTracks reports has also been implemented in the prototype, with the exception of the historical trends view, the custom region selection, and exporting. As work continues
on the prototype, these three functions will be added. A second indicator may also be added to the prototype to further demonstrate the capabilities of the tool.

The prototype currently uses data for WIOA Title I training (formerly WIA training). These data go back to 2004. However, there are a number of other funding streams that could be incorporated into this tool, including Vocational Rehabilitation, SNAP Employment and Training, and Mississippi Works Fund training. Data from these programs are being explored to determine if they would fit well within this tool.

Once full implementation of these reports is complete, they will be capable of delivering critical non-credit workforce training information into the hands of state leaders. The Trainee Profile Report can show which populations are participating in training. Subsequent Training/Credentialing and College-Enrolled Completer Progress can provide insight on career pathways for workforce training completers and show how training programs prepare individuals for the next step in their success plans. Completers in the Workforce, particularly when coupled with Trainee Starting Condition, can show how training has benefited those who have completed and moved into the workforce. Non-Completer Outcomes can help demonstrate the value of workforce training programs by providing a comparison in outcomes between those who complete training and those who do not.

**Supply and Demand Reports**

Supply and demand reports show the demand for a particular occupation versus the supply of workers who will be qualified to fill that demand, allowing users to identify skill gaps in the labor market. These reports help answer the question, “How many more skilled workers do we need?”

While Mississippi began SWEAP with a strong dashboard system, the state lacked an automated reporting tool for determining labor market supply and demand. In the past, determining which sectors and occupations face a shortage of qualified workers has been a function of traditional data analysis. SWEAP presents an opportunity for Mississippi to design a new tool that will significantly reduce the amount of time and effort required to estimate supply and demand in the labor market. Using data from Mississippi’s own labor exchange system coupled with data from the SLDS, a new prototype tool has been created to explore supply and demand for the state’s target industrial sectors. Supply and demand comparisons can be made at the sector level and at the occupation-level for the top occupations in the state within a particular sector.

When the user first accesses the tool, he or she is presented with the latest supply and demand numbers for Mississippi’s target sectors at the statewide level (see Figure 5).
The layout of the report is as follows:

1. The report header provides context for the report, indicating what the report measures and which geographic region the report represents.

2. The sector headings each display the name of a sector and the approximate current middle-skill gap for that sector, if applicable. Since this is an approximation of the skill gap, the tool will only report significant gaps, that is, when supply accounts for less than 95 percent of the demand.

3. The bar graphs show the current supply and demand values, helping to visualize the size of the skill gap for a given sector.

4. Each sector entry can be expanded to view supply and demand values historically for the sector and supply and demand values for the top occupations within the sector (see Figure 6 for an example of expanded section details).
The top graph in Figure 6 shows trends in supply and demand. Viewing changes over time can help policymakers evaluate the success of policy changes that were enacted or identify previously undetected changes that somehow impacted a sector. These graphs can also warn policymakers of a sector on a trajectory toward a skill gap in the near future. One feature that will be added to the prototype is projection data, which will make it even easier for the user to see the trajectories of supply and demand values in these graphs.

Beneath the historical trends graph, the top 10 occupations in Mississippi for the selected sector are listed, each with its own supply and demand information. These occupations represent the 10 most common occupations in the state within the chosen sector. The skill gap for each of these occupations is displayed, and historical information for each occupation is available by expanding the detail section below the bar graph.

Currently, the prototype only includes data for two of Mississippi’s target sectors: Advanced Manufacturing and Healthcare Support. As work on the prototype continues, more sectors will be added to this list.
At the top of the supply and demand report prototype, a control panel gives the user the ability to select the year for which he or she would like to view supply and demand values (see Figure 7). The user can also use the export control to export a given report in PDF or XLSX format. Another feature that will be added to the control panel is a control allowing the user to select which geographic area he or she is interested in examining. This feature will give the user the ability to look at supply and demand values for a particular WIOA region.

A number of data sources have been incorporated into the current version of this tool. Demand is currently driven by job-openings data from Mississippi’s labor exchange system, Mississippi Works. Supply is currently a combination of community college graduates, CTE graduates, and active job seekers in the labor exchange. A number of additional sources of supply and demand data are being considered for inclusion in the final tool. One of the difficulties of calculating supply and demand in the labor market is determining the best method of performing the calculation, including deciding which data to include. As development continues and new data sources are added, a checkbox system has been discussed that will allow the user to choose which sources of supply and demand data to include in the calculations.

Once this report is fully implemented, state leaders will be able to detect current and potential skill gaps in the labor market so they can begin to formulate strategies to address those gaps. The tool can also be used to track long-term, real-world effects of policy changes.

**Pathway Evaluators**

Pathway evaluators are tools that determine which career pathways have most effectively served particular populations. Pathway evaluators help answer the question, “Who is being served well?” Mississippi LifeTracks includes employment and earnings information for people entering the workforce from different exit points in the education system, allowing for a very general, high-level evaluation of career pathways. Such a high-level exploration, however, is not specific enough to
sufficiently address skill gaps for particular industries and occupations. Addressing specific skill gaps requires a tool that can drill deeper into data on specific paths through the education and workforce systems and the outcomes experienced by those who took the paths.

Areas looking to attract new businesses must be able to both quantify local/regional workforce and identify the skills and interests of workers on the fly ... this type of data gets businesses excited. It’s not extrapolated from the Census. It’s real time.

- William “Skip” Skaggs, Executive Director of the Monroe County Chamber of Commerce

To fill this need, two tools are being developed through SWEAP that will allow users to examine career pathways: the Career Pathway Analyzer and the Career Pathway Constructor. The first tool, the Career Pathway Analyzer, returns pathways for a particular population sorted along a particular metric (e.g., retention rate) as defined by the user. First, the user defines a starting point, an exit point, or both by selecting values for particular sets of criteria. For starting points, criteria may include demographics information, education information, training received, or work experience to define the condition of the population of interest upon beginning the career pathway. Exit-point criteria could include employment sector or occupation and target salary. The tool then analyzes established career pathways along a variety of metrics and sorts them according to the metric selected by the user.
When first loaded, the tool presents the user with two forms, one for entering starting-condition criteria and one for entering exit-condition criteria (see Figure 8). When the user clicks “Add additional criteria” in one of the forms, the user will see a menu with criteria that he or she may add. Selecting a criterion creates a form inside of the appropriate criteria box. The user fills out the information requested and submits the completed form, applying selected criteria to the analysis. As the user submits criteria in these boxes, the number of individuals that fit the specified profile is determined and shown in the Current Cohort Size box (see Figure 9).
Once the user is satisfied with the criteria entered, he or she will click the Run Analysis button. The tool then finds career pathways within the data that fit the specified criteria. These pathways are displayed, and the values for the core metrics are calculated based on aggregate statistics from individuals who traversed each pathway (see Figure 10). Only pathways that have had more than 10 individuals can be analyzed due to concerns regarding privacy and statistical significance.
The default sorting criteria for the report is average annual earnings in descending order, which means the report will display the highest-paying pathway first. The pathway number is shown followed by a list of the steps involved in the career pathway. Beneath the pathway steps, the user may view the metrics associated with the pathway. These aggregate metrics are calculated from the combination of data on individuals who traversed the pathway. The larger numbers within the metrics panel represent outcomes one year after the completion of training. There are six core metrics represented in the panel:

1. **Average Time to Employment**: This represents the average amount of time required to fully traverse the pathway from the start of the first step to the first day of employment. This value is broken down by event type (an event is defined as a step in the pathway). Event types include education, training, military, and employment.

2. **Employment Rate**: This calculates the percentage of individuals who traversed the specified path and became employed within a certain time frame after completing the last step before exit. Employment Rate is measured six months, one year, three years, five years, and ten years after pathway completion. These time frames are a combination of measures used in other LifeTracks reports and measures.
specified in Mississippi’s WIOA plan for tracking short- and long-term outcomes.

3. **Average Annual Earnings:** This reports the average earnings of individuals who traversed the pathway and became employed within a certain time frame after completing the last step before exit. Average Annual Earnings is measured in the same time frames as Employment Rate.

4. **Retention Rate:** This reports the percentage of individuals who traversed the pathway, became employed within six months after the last step, and remained with the same employer for a certain amount of time. Retention Rate is also measured in the same time frames as Employment Rate.

5. **Portion of Cohort:** This measures the percentage of the identified cohort of individuals who met the overall criteria specified by the user and chose to traverse the specific pathway being measured. This metric can be used to indicate the reliability of the other metrics. Metrics on a pathway that has been traversed by more individuals will be more reliable.

6. **Skill Gains:** This uses icons to report degrees and credentials that are obtained by traversing the pathway.

Together, these six metrics can be used to evaluate and compare different but similar career pathways. The first five can be used as sorting criteria, allowing the user to view pathways sorted by each metric.

The Career Pathway Analyzer will inform the user of effective pathways based on user-entered criteria, but there may also be cases where the user is interested in evaluating a very specific pathway. In such cases, the user may turn to a companion tool, the Career Pathway Constructor.

The Career Pathway Constructor allows the user to build a custom pathway and then calculates the six pathway metrics based on individuals who have traversed that particular pathway. The initial state of the Constructor is similar to that of the Pathway Analyzer, except that the user always begins by defining a starting condition (see Figure 11). The form for entering starting-condition criteria functions the same as the corresponding form in the Career Pathway Analyzer.
As soon as the user begins to define criteria for the pathway, the system reports the cohort of individuals in the data whose pathways match the entered criteria, just like the cohort panel in the Career Pathway Analyzer. However, in this tool, the system also begins populating the metrics in the panel beneath the cohort. Once the user has finished inputting criteria for the starting condition, he or she may add a new step in the pathway. To do so, he or she must click the Add Pathway Choice control to the right of the starting-condition form. A menu then appears allowing the user to select what type of step this will be. Choices include education, training, or employment. When the user selects one of these options, a new box appears in the pathway with a form for entering criteria appropriate to the selected step. Again, as the user defines new criteria, the cohort and metrics continue to update. The user continues adding steps and criteria until the desired pathway is defined. At that point, the metrics displayed at the bottom of the screen will be the metrics for the chosen pathway (see Figure 12).
When metrics are calculated in the Career Pathway Constructor, an analysis occurs based on the starting and exit conditions of the pathway, similar to the process in the Career Pathway Analyzer. The buttons beneath each of the metrics then indicate where the pathway ranks in the list of paths that fit the starting and exit criteria defined by the user. If the user clicks one of the buttons, he or she will be taken to the Career Pathway Analyzer with the starting condition, exit condition, and sorting information already filled in so that he or she can view information on pathways that may be more advantageous than the custom pathway entered.

The Career Pathway Analyzer will provide state leaders the ability to determine effective pathways to fill particular needs in the labor market. The Career Pathway Constructor will allow policymakers and legislators to examine the efficacy of specific pathways. Together, these two tools will facilitate the reduction of skill gaps in the labor market, more informed funding decisions for training programs, and an
increased ability for every Mississippian to navigate the labor market and obtain better employment.

Work on prototypes for these two tools continues. Career pathway data originates from Mississippi’s labor exchange system and is organized for analysis using a graph database system. Challenges have arisen in determining the best methods for performing the data analysis, but steady progress is being made. Once implementation is complete, Mississippi’s leaders will have access to two powerful new tools for addressing challenges in the labor market.

**Policy Leader Engagement**

One of Mississippi’s key advantages, perhaps even more vital than the SLDS itself, is the spirit of trust and cooperation that has been established in the state as a byproduct of building the SLDS. That spirit of cooperation helps support a number of innovative projects and initiatives that constantly move Mississippi forward. The same has held true for SWEAP. While much of the prototype implementation has been led by the state data clearinghouse, a number of state leaders have made critical contributions to the project.

During the design phase of the prototypes, end-user input was key. A crucial step in the design phase was taking the designs to the state leaders who would be using the system to ensure that the tools being developed would help address the needs of the state. Data tool developers met with agency directors, the State Workforce Investment Board, and key officials in Governor Phil Bryant’s administration to discuss the new tools and the benefits they could provide to the state. The resulting feedback was overwhelmingly positive. The stakeholders were all very interested in the tools being developed and were eager for implementation to begin. These stakeholders have also been instrumental as subject matter experts in their respective areas, helping the project team anticipate and overcome obstacles, particularly regarding data analysis.

A number of state entities also sent representatives to the SWEAP state forums to learn more about the project and remain engaged in discussion on data tools and policy changes. These agencies included the Mississippi Legislature, the State Workforce Investment Board, the Mississippi Department of Employment Security, the Mississippi Department of Education, and the Mississippi Community College Board.

The most significant engagement of state leaders took place during Mississippi’s inaugural data summit, A Data-Driven State. The summit, which took place on September 23, 2016, was attended by 200 individuals, including legislators, economic developers, educators, and other policymakers. The data summit focused on the use of data in various aspects of education, workforce, and economic development in Mississippi. Many key state leaders explained the impact that data-driven policymaking has had and will continue to have in their organizations and in the state as a whole. The event, which was made possible by funding from SWEAP,
helped paint a very detailed picture of how the informed use of data has improved life in Mississippi and provided a glimpse of possibilities on the horizon.

The first session focused on data in education and workforce training. Agency leaders shared examples of how data have changed education and training in Mississippi. Dr. Laurie Smith described how LifeTracks data revealed a connection between third-grade literacy and high school graduation rates. Now, Mississippi leads the nation in third-grade literacy because of such actionable data.

Next, Bryan Wilson, state policy director of the National Skills Coalition, moderated a panel of legislators. The panel discussed the need for actionable information in a concise, intuitive format. Data that require time and effort to parse and process are not useful during a demanding legislative session.

Following the panel, the Honorable Philip Gunn, the Mississippi Speaker of the House, described how performance-based budgeting is leveraging data to ensure that effective programs are supported. The Honorable Tate Reeves, Lieutenant Governor of Mississippi, then shared numerous examples of how the practical application of data has improved the quality of life of Mississippians.

The next session focused on data in economic development. Dr. Domenico Parisi spoke about the “Workforce on Demand” initiative that empowers Mississippi to
quickly showcase workforce potential to businesses interested in expanding within the state.

Four breakout sessions covered topics of specific interest. The first, led by Bryan Wilson of the National Skills Coalition, explored the use of data tools to address policy questions and included a demonstration of Mississippi’s new data tools designed under SWEAP. The second session discussed data and local economic development, the third provided an overview of LifeTracks, and the fourth demonstrated Mississippi Works, the state’s labor exchange system.

The data summit provided a forum to discuss key topics regarding data-driven policymaking. Many individuals in the state learned about the extensive array of tools already at their disposal as well as the new tools that will soon be available. This annual event will help sharpen Mississippi’s focus on a data-driven future.

**Policy Impacts**

The new data tools proposed by SWEAP will make Mississippi’s education and workforce data more accessible and more actionable than ever before. The tools developed as part of the SWEAP project will give legislators and policymakers further opportunity to effect positive impacts in the state with information garnered from these tools.

The data tools developed as part of the SWEAP project will be valuable to a number of new policies being explored and implemented in Mississippi. Perhaps the most ambitious of these new developments is the Smart Start Career Pathway Model, which is Mississippi’s plan to implement the Workforce Innovation and Opportunity Act (WIOA). The Smart Start Career Pathway integrates the data sets of multiple key Mississippi agencies, including the Mississippi Department of Employment Security, the Mississippi Community College Board, the Mississippi Department of Rehabilitation Services, and the Mississippi Department of Human Services. These agencies will share data on the individuals whom they serve. The common data hub will then facilitate greater cooperation and easier communication among these agencies. The new plan will leverage this improved communication by allowing case workers within each of the agency partners to set up cross-agency success plans for participants. These success plans will function as custom-built career pathways, using services from each of the partner agencies to set up a pathway to unsubsidized employment for each individual according to his or her needs. Mississippians will have better access to education, training, and labor market assistance than ever before.

During the drafting of Mississippi’s WIOA plan, concepts from SWEAP were incorporated into the reporting aspect of the Smart Start Career Pathway Model. The workforce training reports will serve as a means of evaluating the success of training under various funding streams connected with partner agencies. By leveraging supply and demand reports, agency partners can determine which sectors and occupations are facing supply shortages and can direct individuals toward these
careers, putting job seekers on track toward high-demand occupations and decreasing skill gaps. Once a desired exit point has been identified, the pathway evaluator tools can be used to help establish a success plan for an individual to pursue of his or her chosen occupation. Used together, the SWEAP tools will provide strong support for Mississippi’s new streamlined workforce model.

SWEAP tools can also provide support for upcoming policy changes in the state’s plans for credentialing. Mississippi’s State Workforce Investment Board (SWIB) is planning a new system for vetting credentials in the state. The new system will officially recognize credentials that have proven market value in the Mississippi economy and will help develop and give legitimacy to these credentials. As this new system is created the pathway evaluator tools can be leveraged to help evaluate credentials, and the workforce training reports can be used to report on the efficacy of SWIB-endorsed credentials.

Coupled with this increased focus on credentialing is an increased focus on early career awareness, especially for high-demand occupations. Efforts are underway in Mississippi to increase PK-12 students’ access to career information and guidance. Beginning in middle school, students in Mississippi will be engaged in discussions about occupations and career pathways, allowing them to begin their career planning relatively early in life. The supply and demand report and pathway evaluator tools can be used to help drive these efforts by informing students and officials about which jobs are most needed in Mississippi and which pathways most often lead to employment in those fields.

Another relatively new initiative in Mississippi has been the establishment of the Mississippi Works Fund. This initiative sets aside funds each year to support on-the-job training that addresses an immediate need, such as a new business committing to locate in Mississippi or an in-state expansion of an existing business. Outcomes for the training performed under this funding stream will likely be monitored through the workforce training reports. These reports are designed to specifically report outcome information for training performed under a particular funding stream, and the Mississippi Works Fund is currently one of the funding streams of interest.

A current topic of interest in the Mississippi Legislature is performance-based budgeting in which a program or initiative is funded based on its ability to achieve measurable results and goals. The workforce training reports and pathway constructor could be leveraged by the legislature to evaluate the performance of various training programs, and these evaluations could help the legislators ensure that effective programs continue to receive adequate funding.

The State Early Childhood Advisory Council (SECAC) is developing a new model for working with families in need of child care assistance. In the past, these families would be accepted into the system and then receive a periodic payment to support the cost of child care. The new model, based on the Smart Start Career Pathway Model framework, will function as more of a support system, allowing representatives of various partner agencies to prepare family success plans for families that address the educational and health needs of the children and the career needs of parents. The new system will work with approved child care providers to
ensure each family’s needs are met and, at the same time, will assist child care providers in providing training and career-growth opportunities for staff members. Agency representatives will be able to use the new pathway evaluator tools to assess career pathways leading to employment in the child care industry. The results of these evaluations can then inform the training and education opportunities offered to staff of child care centers. In this way, the tools can both help child care staff grow professionally and help improve the day-to-day environment for thousands of children across the state.

Challenges and Responses

The new data tools proposed by SWEAP have truly opened the eyes of many in Mississippi to the future of data usage in the state. The stakeholder agencies are excited about the information that the new tools will put at their fingertips. All of this excitement has helped drive steady progress on the development of these tools. The process has not been without challenges, however, including questions about sources of data, definitions of key concepts, and how data can measure effectiveness. Dealing with these challenges has only strengthened the state’s knowledge of its own data assets and sharpened its aptitude in leveraging data for practical applications.

One of the challenges encountered during the designing of the data tools was finding the best source of employment data. While Mississippi does incorporate wage data in the SLDS, those data do not contain occupation codes, only industry designations, making the formulation of pathways very difficult. Eventually, the idea was proposed to enrich SLDS data with additional data from Mississippi Works, the state’s labor exchange system. The addition of labor exchange data has added critical career pathway details, including occupation codes, for hundreds of thousands of individuals, providing the necessary foundation for the pathway evaluator tools.

Credentialing has been a challenging topic to address. Currently, Mississippi does not have a central repository of credentialing data, making it difficult to leverage these data for career pathway evaluation or for tracking labor market supply. Mississippi’s State Workforce Investment Board is currently working, however, to revolutionize the state’s credentialing system. A new process will provide much more information on credentials and on the outcomes of those who earn them. While credentialing is currently a difficult subject to study from a data perspective, new policies will soon open up avenues for accessing and exploring credential attainment and outcomes.

Discussions with agency partners raised questions about how to report on non-credit workforce training. Mississippi’s workforce training programs do not currently use a standard classification system in order to identify the specific training being received. There is also no standardized system for tracking outcomes. Those same agency partners, however, have expressed a willingness to work together to create a standardized system to handle non-credit training. Such a system would significantly
improve the state’s ability to track the outcomes of individuals completing specific workforce training programs.

Key Lessons Learned

The SWEAP project has allowed Mississippi to take the next important step in the world of data tool development and in the realm of data-driven policymaking. As such, the project has proven to be educational in a variety of ways. The most significant lessons have been related to the complexities involved in labor market analysis. Tasks that at first seemed fairly straightforward turned out to be exceptionally complex. A significant amount of time was devoted to discussions regarding differences in sources of data and data analysis techniques. Many of these challenges have been overcome over the course of the project. There is still much to learn, but each challenge brings us closer to a more transparent and efficient workforce system.

One challenge that arose was the calculation of supply and demand in the labor market. At first, such calculations seemed fairly simple, but as work began on the design of the tool and the implementation of the prototype, it became clear that there were numerous sources available from which to pull data on both supply and demand and a number of different ways of combining these data and performing calculations. The use of a particular data source in the calculations would often cause the data to be nuanced in some way, particularly with demand calculations. Much discussion went into deciding which data sources would produce the most useful, actionable results for the state. These discussions are still underway, but the level of scrutiny driving this process has instilled a much higher level of confidence in the data sources that are included and in the information reported by the prototype.

Another ongoing challenge is the task of defining, analyzing, and comparing career pathways. The data being used to drive the pathway evaluator prototypes include information on many hundreds of thousands of Mississippians. However, the number of unique pathways can make it challenging to find explicit pathways that have been traversed enough to make for a statistically significant analysis. As such, new rules are being discussed that will govern the pathway evaluation process. The purpose of these rules will be to generalize career pathways enough to make statistically significant analyses and comparisons possible without compromising aspects of the pathways that could be significant to the outcomes. In the end, having these rules in place to generalize certain aspects of the pathways should result in an even more effective tool than one that would evaluate very specific pathways, as the generalizations will highlight the most significant events.
Timeline and Plans for Sustainability

Work on the data tools designed under the project will continue well into the future. From the beginning, the SWEAP project was integral to the state’s WIOA plan, ensuring that development of the featured data tools will be a priority. In the coming months, development on the prototypes will advance, with functionalities being rounded out and new data sources being added. The next step will be to present the tools to the SLDS Governing Board. This board governs everything that involves Mississippi’s SLDS, including what is included in the LifeTracks portal. Currently, the plan is to present the data tool prototypes to the board early this summer (2017) for approval. Once approved, the tools will be fully implemented and housed in Mississippi LifeTracks. The tools will use data from the SLDS but will also benefit from data relating to Mississippi’s Smart Start Career Pathway system and the Mississippi Works labor exchange. SLDS data are updated annually, which will likely also be the case for the workforce training reports. The supply and demand report and pathway evaluator tools, however, will likely be updated weekly or even daily with new data, ensuring these reports remain useful and relevant throughout the year.

Conclusion

The SWEAP project has aided Mississippi in taking the next step toward data-driven decision-making. The tools produced under this project are poised to have a great impact on the state’s education and workforce systems, and a number of policy changes are already underway that can greatly benefit from the information that the new data tools will deliver. The SWEAP project may be drawing to a close, but the benefits Mississippi has gained from participation in the project will be felt for years to come.