

Nevada P-20 to Workforce Research (NPWR) Grant Narrative

The Lincy Institute and Brookings Mountain West

Submitted to the Nevada Governor's Office of Workforce Innovation (GOWINN)

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Prepared by

David F. Damore, Ph.D.
Executive Director, The Lincy Institute and Brookings Mountain West
Professor, Department of Political Science, UNLV

William E. Brown, Jr.
UNLV Director, Brookings Mountain West

Magdalena Martinez, Ph.D.
Director of Education Programs, The Lincy Institute
Associate Professor, School of Public Policy and Leadership, UNLV

Fatma Nasoz, Ph.D.
Director of Data Science, The Lincy Institute
Associate Professor, Department of Computer Science, UNLV

Caitlin J. Saladino, Ph.D.
Director of Strategic Development, The Lincy Institute and Brookings Mountain West

Introduction

In December 2022, the State of Nevada Governor’s Office of Workforce Innovation (GOWINN) launched the Nevada P-20 to Workforce Research (NPWR) Data System. An opportunity for Nevada to modernize its data collection and analysis processes, the NPWR project offered competitive grants to researchers in the state to both test the functionality of the data system and use the available data to explore some of the state’s most pressing issues around education, employment, and economic development.

In March 2023, GOWINN awarded a combined \$100,000 to eight Nevada organizations through the NPWR research grant program. The Lincy Institute and Brookings Mountain West each received research grants. The Lincy Institute project examines variation in K-12 education performance and outcomes to consider the factors differentiating Nevada’s highest and lowest performing schools and districts. The Brookings Mountain West project focuses on the growing gender gap in K-12, higher education, and the workforce to determine the extent of the gap in Nevada and as appropriate, propose public policy interventions to improve educational and workforce outcomes.

The purpose of this document is to highlight the processes, successes, and barriers to using the NPWR data system. Researchers at The Lincy Institute and Brookings Mountain West are confident that the NPWR data system has potential to address important questions for the State of Nevada. We understand that improving the system will be an ongoing process. The volume of data available from initial partnering organizations include the Nevada Department of Education (NDE), the Nevada System of Higher Education (NSHE), and the Department of Employment, Training and Rehabilitation (DETR). The ability to integrate these data makes the NPWR data system a powerful tool for assisting public policy development related to K-12 and higher education, workforce, and economic development. For these reasons, researchers at The Lincy Institute and Brookings Mountain West are enthusiastic about the research findings that will be available to present by the end of 2023. As a first step, we offer a summary of our experiences to inform GOWINN about the user experience of the myNPWR online data system and offer recommendations to improve the existing process and data structure to better serve future awardees of NPWR research grants and public use of the data platform.

The document is organized as follows. Following the “Introduction,” the “About the Projects” section (pages 2-3) provides an overview of research projects from The Lincy Institute and Brookings Mountain West that were awarded funding in the inaugural NPWR research grant program. The “Project Timeline” section (pages 3-5) offers a comprehensive account of the events and steps experienced by researchers selected for the NPWR research grant program. The “Navigating the myNPWR Data System” section (pages 6-8) offers a summary of issues that researchers encountered navigating the online interface of the myNPWR data system. The “Navigating the Datasets” section (pages 9-12) explains the structural components of the datasets and notable challenges faced in obtaining them. The final section, “Recommendations,” (pages 13-15) offers recommendations for how the system, process, and data could be improved to facilitate more efficient and effective use of the NPWR data system.

About the Projects

The purpose of the NPWR projects is to support research on public policy problems in the areas of workforce development, economic diversification, and education in Nevada. The projects described below are designed to utilize analysis of NPWR data to answer research questions developed by the awardees, with the resulting work utilized in future NPWR initiatives.

Brookings Mountain West Project

Project Title:

The Gender Gap in Nevada: A K-12, Higher Education, and Workforce Study

Total Funding Awarded:

\$12,500.00

Research Focus:

Nevada, like many states, is facing a rising gender gap in K-12, Higher Education, and the Workforce. This project seeks to gather empirical data to determine the extent of this gender gap in Nevada and, as appropriate, propose public policy interventions to improve educational and workforce outcomes.

Project Narrative:

This research project will gather and compile available data on the gender gap in K-12 students, higher education students, and the Nevada workforce. Using this data, and in combination with collateral data provided by public educational institutions and workforce agencies in Nevada, scholars and students at Brookings Mountain West will evaluate Nevada's ranking among the fifty states and propose public policy interventions to improve educational and workforce outcomes. The data will be published in one or more fact sheets at [The Data Hub at The Lincy Institute and Brookings Mountain West](#). An example of this type of publication can be found at: [Education Gender Gaps in the Mountain West, 2022](#). A longer policy brief that analyzes the data and proposes public policy recommendations will be published by The Lincy Institute and/or Brookings Mountain West. This project will engage with Richard Reeves, Brookings Institution, Senior Fellow and author of, *Of Boys and Men: Why the Modern Male Is Struggling, Why It Matters, and What to Do about It*. Reeves' landmark volume was presented in part during [a lecture delivered at UNLV](#) in February 2023. Reeves is the leading public policy scholar researching and publishing in this important and somewhat controversial field of study. His expertise and interpretation of the data will add to the quality of our analysis and recommendations, assist in the national distribution of our written products, and enhance media interest in our findings. Data from all educational and employment agencies that participate as NPWR partners (DETR, NSHE, Department of Education) will be explored in this study, and we seek to enhance this data with current information we are able to secure from K-12, higher education, and workforce agencies, to best define the current environment in Nevada and propose meaningful public policy interventions.

The Lincy Institute Project

Project Title:

Nevada K-12 Performance and Implications for Economic Diversification

Total Funding Awarded:

\$17,500.00

Research Questions:

What factors differentiate Nevada's highest and lowest performing schools and districts in terms of on-time graduation rates, performance on standardized tests, and college-going rates?

Project Narrative:

External perceptions of K-12 education in Nevada are an obstacle to the state's economic diversification efforts. Nevada, particularly Southern Nevada, struggles to attract businesses that provide high-paying jobs outside of the region's core industry of gaming and hospitality. The purpose of this project is as follows: (1) to understand the factors that differentiate Nevada's best and worst performing schools and school districts; (2) to identify pockets of excellence that can be highlighted by the economic development community; and (3) to inform targeted policy interventions related to school governance, funding, and workforce development priorities that can elevate the performance of schools and districts that are lagging. The data included in the NPWR Data Dictionary will be augmented by contextual data collected by the research team. Combined, these data will allow researchers to develop a robust, multi-level analytical framework to assess the project's research question and to assess the effects of policy interventions that Nevada has implemented in recent years including all-day kindergarten, funding for Zoom and Victory schools, and the growth in charter schools. Project deliverables include fact sheets published to The Lincy Institute and Brookings Mountain West Data Hub, a policy brief released by The Lincy Institute, and a potential convening with education and economic development leaders.

NPWR Project Timeline

To begin, we offer a comprehensive timeline of the many events and steps experienced by researchers selected for NPWR Research Grant awards. Table 1 details the lifecycle of the NPWR Research Grant, including initial submission of the application, interfacing with GOWINN, UNLV OSP, UNLV IRB, and the myNPWR support team staff between the dates of December 22, 2022 and July 11, 2023.

Table 1: Timeline of Events for Inaugural NPWR Research Grants

December 6, 2022	Researchers from Brookings Mountain West and The Lincy Institute participated in NPWR Research Forums where GOWINN officials presented information about NPWR and the value of the data system for Nevada.
December 15, 2022	The Interim Finance Committee approved \$100,000.00 in funding for the Nevada Governor’s Office of Workforce Innovation (GOWINN) to offer NPWR research grants, to support research opportunities using NPWR to find data-driven solutions for workforce questions.
January 2023	GOWINN staff provided additional information on the NPWR research funding opportunities for Nevada’s researchers, universities, and organizations to utilize NPWR data.
February 2023	The Lincy Institute and Brookings Mountain West submitted two separate grant proposals for NPWR research funding.
March 3, 2023	The Lincy Institute and Brookings Mountain West received notification from GOWINN that both grant proposals were selected for funding for the inaugural NPWR Research Grant awards.
April 10, 2023	The Lincy Institute and Brookings Mountain West received formal award packets from GOWINN, indicating that the awards would be disbursed as subawards.
April 10, 2023	The Lincy Institute started the online process with the UNLV Office of Research Integrity to request Institutional Review Board review of the NPWR project.
April 11, 2023	The Lincy Institute and Brookings Mountain West submitted initial paperwork with award packets and notices of award to the UNLV Office of Sponsored Projects (OSP).
April 15, 2023	Brookings Mountain West started the online process with the UNLV Office of Research Integrity to request Institutional Review Board review of the NPWR project.
April 17, 2023	The Office of Sponsored Projects identified a question related to an NDA required within the NPWR data system that required an authorized university official to complete. This required a review of both the NDA and Data Agreement and Use Policy (DAUP) by UNLV Legal Counsel.
April 18, 2023	The UNLV Office of Research Integrity provided The Lincy Institute with notice that the NPWR research was considered “excluded activity.” The UNLV Institutional Review Board (IRB) determined the request to work with NPWR data did not include “research with human subjects” and therefore this grant was excluded from the requirements of IRB review.

Table 1 continued: Timeline of Events Inaugural for NPWR Research Grants

April 21, 2023	The UNLV Office of Research Integrity provided Brookings Mountain with notice that the NPWR research was considered “excluded activity.” The UNLV Institutional Review Board (IRB) determined the request to work with NPWR data did not include “research with human subjects” and therefore was excluded from the requirements of IRB review.
May 23, 2023	The Office of Sponsored Programs contacted GOWINN requesting clarification of the required terms in the NPWR Data Use Agreement due to uncertainty about the scope of the agreement (whether it was for all of NSHE or just UNLV) and therefore who should be the appropriate contractor signatory.
May 24, 2023	Given the limited timeframe of the funding availability (project end date of June 30, 2023), the UNLV Office of Sponsored Programs determined that the timeline for adding their requested changes and / or providing institutional approval in the myNPWR data system would take too long. As a result, OSP granted an exception and allowed The Lincy Institute and Brookings Mountain West faculty to sign the data use agreement as is, without any additional university institutional approvals. The form also required notarization, but OSP confirmed with GOWINN that notarization would not be required on the form and were instructed to leave the notary section blank.
May 24, 2023	The Lincy Institute and Brookings Mountain West received project funds and OSP created university spending accounts to support the projects.
June 2, 2023	GOWINN provided email confirmation that a single request for data could be used to obtain data for both The Lincy Institute and Brookings Mountain West projects.
June 6, 2023	The Lincy Institute and Brookings Mountain West requested data from the NPWR system.
July 10, 2023	Grantees received full access to all data requested from the NPWR system. Five errors occurred during the data request process (see Table 2), necessitating multiple one-on-one meetings with myNPWR support team staff to gain access to requested data.
July 11, 2023	UNLV OSP submitted final invoices to GOWINN. In total, UNLV received three NPWR awards. GOWINN requested to pay the invoices as a fixed amount rather than a typical cost reimbursable grant. A manual invoice was created by OSP and submitted to GOWINN.

Navigating the myNPWR Data System

The NPWR Data System (mynpwr.nv.gov) contains a 12-step user interface with numerous tasks contained within each of the 12 steps. To begin, every researcher must create individual accounts on the data system. This allows researchers to access the projects for which they are a Principal Project Officer (PPO). Once individuals are logged in to the data system, they can provide the personal and institutional information requested under the “Step 1: Account” task.

A PPO can use either the “Team” tab or the “Step 2: Team Members” task under the “Tasks” tab to add names and contact information for other researchers who will work on the project. All researchers added to a team need to be approved by the GOWINN NPWR administrative team before they are granted access to a project. A non-disclosure agreement (NDA) must also be completed and submitted by each project member.

The “Step 3: Research Purpose” task asks researchers to provide detailed narrative information about the research project, including a project description and purpose, how the project aligns with the NPWR research agenda, project funding sources, target samples, and data sources. This information is then submitted for approval by the GOWINN NPWR administrative team in “Step 4: Research Purpose Submission.”

Once the research purpose is approved, “Step 5: DAUP” asks the researchers to provide detailed information required by the Data Agreement and Use Policy (DAUP). This information includes the project description and purpose, the reason for requiring restricted-use data, the individuals who will access the restricted-use data, the expected uses and users of the project's results, the methods for protecting the restricted-use data, the procedures for data management and analysis, the specific data elements requested from each agency, and the Institutional Review Board (IRB) approval. The DAUP document also contains a section where notarization is required. This information is submitted for approval in “Step 6: DAUP Management.”

After the DAUP submission is approved, researchers can use the Data Request Tool (DRT) and view the definitions from the data dictionary in “Step 7: Data Requests” to compile data requests. Data requests are compiled separately for each agency (i.e., the Department of Adult Education, Department of Employment, Training & Rehabilitation, Nevada Department of Education, and Nevada System of Higher Education). In the data system there is a request to submit a criminal background check before accessing data from the Department of Employment, Training & Rehabilitation.

Multiple data requests are packaged in “Step 8: Data Packages” for submission. The status of the data package requests can be viewed, and the datasets in the approved packages can be downloaded from “Step 9: Data Package Approval” and “Step 10: Data Results.”

User Experience Navigating the myNPWR Data System

As shown in Table 2, the timeline of activity on the myNPWR data system took nearly three months from the approval of the research purpose (“Step 3”) to the eventual acquisition of data (“Step 10”). Table 2 also details the number of errors that occurred within the myNPWR data system as we requested particular datasets. Ultimately, five errors occurred during the data request process, necessitating multiple one-on-one meetings with myNPWR support team staff to gain access to requested data.

Data administrators instructed researchers at The Lincy Institute and Brookings Mountain West to request 1 year at a time in data requests, to avoid any potential issues with the download. Nevertheless, multiple errors occurred. Additionally, training videos on the myNPWR data system state that data files are only available for download for a maximum of 10 days after approved. This can be an additional hurdle based on the details provided in the paragraph that follows.

Once researchers reach “Step 10: Data Results,” there is also no way to prepare in advance for the size and format of the data files that are received. Although there is a training resource titled “Understanding the Data” that aims to provide an advanced look at the data results file structure, the link to this resource is dead. At this time, it is not possible to predetermine the amount of data available in each download through software programs such as Microsoft Excel. For example, Microsoft Excel has a limit of 2 million records, and the DETR download alone included 4 million records. As a result, the use of alternative data software was required to download and begin mining the DETR data.

Table 2: Timeline of Activity on myNPWR System:

April 19, 2023	The research purpose for ‘Nevada K-12 Performance and Implications for Economic Diversification’ is approved
April 20, 2023	Approval received for 4 of 5 research team members for ‘Nevada K-12 Performance and Implications for Economic Diversification’
May 18, 2023	‘NWPR004 Brookings UNLV’ contract is assigned to ‘Nevada K-12 Performance and Implications for Economic Diversification’
June 1, 2023	NDA’s are approved for ‘Nevada K-12 Performance and Implications for Economic Diversification’ team members
June 2, 2023	The final team member for ‘Nevada K-12 Performance and Implications for Economic Diversification’ is approved
June 6, 2023	The DAUP for research purpose Nevada K-12 Performance and Implications for Economic Diversification is approved. Initial data requests are made in NPWR system for all datasets for a common period of 11 years (2010 to 2021)
June 8, 2023	DETR Data Package #1 with 7 data requests (years 2016 through 2022) is returned successfully. DETR Data Package #2 with 4 data requests (years 2010, 2012, 2014, 2015) is returned successfully. DETR Data Package #3 with 1 data request (year 2011) is returned successfully. Adult Education Data Package #1 with 1 data request (all years) is returned successfully. NSHE Data Package #1 with 7 data requests (years 2015 through 2018 & years 2020 through 2022) is returned with error. NSHE Data Package #2 with 6 data requests (years 2010 through 2014 & year 2019) is returned successfully for 1 data request (year 2014) and with error for 5 data requests (years 2010 through 2013 & year 2019)
June 12, 2023	DETR Data Package #4 with 1 data request (year 2013) is returned successfully.
June 13, 2023	NDE Data Package #1 with 7 data requests (years 2009-2010 through 2015-2016) is returned successfully. NDE Data Package #2 with 6 data requests (years 2017-2018 through 2021-2022) is returned successfully for 5 data requests (years 2017-2018 through 2020-2021) and with error for 1 data request (year 2021-2022) Data requests are made for packages that are returned with errors.
June 14, 2023	NDE Data Package #3 with 1 data request (year 2021-2022) is returned with error. Data requests are made for packages that are returned with errors.
June 16, 2023	NSHE Data Package #3 with 5 data requests (years 2010 through 2014 & year 2019) is returned successfully. NSHE Data Package #4 with 7 data requests (years 2015 through 2018 & years 2020 through 2022) is returned successfully. NDE Data Package #4 with 1 data request (year 2021-2022) is returned with error.
July 10, 2023	Data request is made through the back-end system (not through the myNPWR data system) for the NDE dataset that keeps being returned with an error. NDE Data Package #5 with 1 data request (year 2021-2022) is returned successfully.

Navigating the Datasets

Once the data files were made fully available on July 10, 2023, researchers at The Lincy Institute and Brookings Mountain West identified several opportunities and challenges in navigating the datasets contained in the NPWR system. In this section, we provide a comprehensive account of the nuances uncovered in each of the agency datasets, the importance of this data access, and the challenges faced by researchers.

DETR Data is Key

The overall success of the NPWR system is linked to the quality of data available from the Department of Employment, Training and Rehabilitation (DETR). The ability to access and analyze data on the employment history of Nevadans is essential to evaluate the success of economic development and diversification initiatives and to assess education and workforce training programs. Local and state government officials, scholars and educators, print and electronic media professionals, and – most importantly – the general public deserve accurate, timely information on economic and educational policy programs.

Employment data available through DETR, in combination with related data from other state agencies, provides information critical to long- and short-term studies on private and public employment in the Silver State. The ability of researchers to request, obtain, and analyze anonymous employment-related data places Nevada in the forefront of states demonstrating the value of government transparency.

Data from DETR, when combined with information on K-12 and higher education workforce training programs, for example, can provide elected leaders and appointed officials with invaluable information to evaluate the allocation of local and state funds to these essential public services.

The research grants funded by GOWINN in 2023 allow researchers to explore the use of data from participating state agencies, as well as to contribute recommendations on the scale of government infrastructure needed to facilitate the use of this data from a growing number of state agencies in Nevada. As the number of state agencies providing access to their rich data resources expands, researchers will be encouraged to explore numerous topics of value to government operations and programs.

DETR, with its current and future modernization activities, can be a bellwether for its sister state agencies, leading Nevada state government into a new era of openness and transparency. Nevada state government can serve as a model for other states interested in providing its citizens with accurate, verifiable information on the workings of state agencies and departments.

Data Challenges

While there are several exciting strengths and opportunities within the NPWR datasets, there are also numerous challenges that researchers face in trying to access and utilize the data. Because researchers at

The Lincy Institute and Brookings Mountain West requested all available data files dating from 2010 to present, we can provide a thorough account of the challenges that researchers may experience, even when requesting a small portion of the available data.

Table 3 offers details of the data files provided by each Nevada agency, including the Nevada Department of Education, the Nevada System of Higher Education, the Department of Employment, Training and Rehabilitation, and Adult Education. The table shows the number of data files produced, the timeframe of the data sets, the name of the files, the structure of the data, and notable issues with each data file.

As Table 3 makes clear, there are challenges working with these data. The data dictionary is an inadequate tool for navigation of the datasets that needs to be augmented by codebooks. Because the unit of analysis and unit of time differs both between and within agency datasets (i.e., completion of a program, course, exam milestone, annual, quarterly, semester, etc.), the data require significant cleaning and recoding. Some of the files are particularly cumbersome to work with. For instance, the DETR wage data uses NAICS 5-digit job codes. Including the 3-digit codes would facilitate easier data management and analysis.

These data can be used to conduct robust policy evaluation. However, their use requires advanced data hygiene, analytics, and management skills. Stata 18 was used for data management and analysis. The software was able to handle the largest datasets with some slowed computational capacity. It would be challenging if not impossible to execute the merging and collapsing of the individual datasets needed to conduct longitudinal analysis using spreadsheet-based file system.

Table 3: Details of the NPWR Dataset

Provided Data	File Name	Data Structure	Notable Issues
Adult Education			
FY 2016-2017 through FY 2021-2022 (combined file for all years)	Student Outcomes	Individuals who competed an adult education program	<i>No information about individuals who began but did not complete a program.</i>
Nevada Department of Education			
FY 2009-2010 through FY 2020-2021 (five files for each year)	Students EarlyChildhood	Unknown	<i>Files requested but not provided</i>
	SLDS CTE Report	Individuals who completed a CTE program	<i>Data missing for FY 2009-10</i>
	SLDS NDE Report Assessment	Student outcomes on standardized assessments	<i>Data missing for FY 2009-10 and some variable codes are unclear</i>
	sldsReportNDE_Course	Individual course completions for high school students	<i>Data missing for FY 2009-10 and coding of ethnicity variables is unclear.</i>
	sldsReportNDE_Graduation	Individual high school graduates	<i>Data missing for FY 2009-10; some variables load into incorrect columns and coding for completion type is unclear</i>
	StudentsDemographics	Demographic characteristics for high school seniors	<i>Data missing for FY 2009-10</i>

Table 3 continued: Details of the NPWR Dataset

Provided Data	File Name	Data Structure	Notable Issues
Nevada Department of Education			
FY 2009-2010 through FY 2021-2022 (five files for each year)	SLDS NSHE CPP View	Individual courses for enrolled students	<i>Coding for “academiclevelcode” and “academicplancode” is unclear</i>
	SLDS NSHE Enrollment View	Each course completed by a student enrolled at an NSHE institution STUDENT	<i>Unclear how to parse these data because they capture a student’s history of course completions that can date back decades, as well as how transfer/ap credits are accounted for in the data</i>
	SLDS NSHE Cohort View	Current NSHE students with separate line of data for each terms student was enrolled	<i>Unclear how to parse these data because they capture a student’s enrollment history that can date back decades, as well as how transfer/ap credits are accounted for in the data</i>
	SLDS Completions View	Annual student completions by institution by term by major, minor, and certificate	<i>None</i>
	SLDS STUDENT VIEW	Provides a snapshot of current NSHE students by gender, by race/ethnicity, by institutions, and by terms enrolled.	<i>The collection of race and ethnicity is akin to the two-question census approach, but only one category is assigned to each student</i>
Nevada Department of Employment, Training and Rehabilitation			
Calendar Year 2010 through 2022	Employee Wage Reporting Table.	Quarterly wages earned by Nevada workers	<i>The occupation data are unwieldy given that the six-digit NAICS codes; data included for people who work out of state; county identifiers are missing for many observations</i>

Overall Recommendations

To conclude, we offer three main recommendations to improve the myNPWR data system, and the overall process of participating in the NPWR research grant program. We begin by discussing our recommended structural and navigational changes to the myNPWR data system. Then, we discuss our recommendation to improve the support and guidance for researchers awarded these grants. Finally, we discuss the ways to strengthen the data available through the NPWR data system, including the improvement of data clarity, accessibility, and usability.

Recommendation #1: Make Structural and Navigational Changes to myNPWR

The myNPWR system can be improved and streamlined to reduce the amount of time it takes to ultimately access the NPWR datasets. For instance, many of the myNPWR tasks are redundant and could easily be combined. As currently structured, many “tasks” require NPWR researcher approval before the subsequent task is released to the researcher. In some cases, these approval periods took days, halting the momentum of researchers to answer the required question fields. We recommend that the approval period between “tasks” either be automated or reduced to allow researchers to complete all required steps in one sitting.

There is also inconsistent navigational infrastructure in the myNPWR system. Sections sometimes guide the users through to completion, but others do not, such as the sections used to create data requests and data packages. Further, in the event that researchers were unable to advance to the next “task” due to system glitches or navigational restrictions, researchers were instructed to “ignore” and select options (e.g., “yes” to completing background checks that were not completed) in order to advance to the next step. Similarly, researchers were instructed to ignore needing to notarize documents that appear to require notarization in order to advance the system to the next steps necessary to acquire data. We recommend removing these steps within the myNPWR system, as they create additional barriers in the process of accessing data sets.

Another structural nuance we encountered is that the NPWR data system is only accessible in the United States. While this is likely the case for cyber security reasons, it restricts the ways that researchers may be able to access their projects while traveling abroad. We recommend clearly indicating this in introductory information provided to researchers so they can plan accordingly.

Recommendation #2: Enhance Institutional Support for Researchers

Each state agency manages data differently given their own priorities, resources, and parameters. This can present unintended end-user hurdles related to data access and usability. Given the complexity of the data and uniqueness of each individual data source (various agency formats/structures), an ongoing relationship with and access to data system administrators can significantly minimize challenges with the process of data requests, acquisitions, and usability.

There are several ways to strengthen communications between state agency data system administrators and end-user researchers. For instance, NPWR can convene a comprehensive bootcamp/workshop between state agency data system administrators and researchers. NPWR held open office hours to assist with navigating the myNPWR data system. In addition to this strategy, a bootcamp/workshop can provide additional information on the data sources, specific state agency data codebooks, and a better understanding

of the state agency’s parameters regarding data collection and access. Another recommendation is the creation of tutorials with screen recordings showing how to request data, overview of state agency datasets, directions on where to find additional information on codebooks, and previous reports using datasets. The videos can be viewed as needed by researchers. Further, a contact form through which users can submit user interface challenges, and data quality and access issues could be useful not only to users but to the myNPWR data system administration team; a cohesive collection of user challenges would be gathered and centralized through a contact form of this type, allowing system administrators to keep track of and quickly respond to issues as they arise.

Given the limited resources of many state agencies, we recognize that engaging state agencies beyond their current role may be difficult. GOWINN may wish to build out the existing data governance structure that oversees the existing longitudinal system and include state agency representatives on sub-committees. For instance, the Virginia Longitudinal Data System data governance model includes at least four sub-committees:

- Technical Subcommittee: ensures the continued technical development of the data system and its ability to guarantee privacy and security that complies with current and emerging standards for technology.
- Research Subcommittee: identifies ways to foster more data system research through communications and marketing to the research community by offering various types of assistance to researchers.
- Communications Subcommittee: manages all the strategic public facing communications as it relates to the data system. The objective is that there is a positive and consistent message whenever data system is referenced.
- Legislative Subcommittee: explores the ways and means for obtaining funding through the General Assembly to finance the maintenance and expansion of the data system.

An expansion of the data governance may strengthen greater buy-in from state agencies and create stronger links to research communities. Each state’s data governance model should meet the needs and priorities of its constituents and government leaders. Additional models from [California](#), [New Mexico](#), [Utah](#), and [Oregon](#) can also serve as examples of how other states are creating data governance structures and state agency engagement to support their state’s longitudinal priorities. The Education Commission of the States also provides a [state profiles resource on statewide longitudinal data systems](#). Site visits to a few states may provide additional insights on how other states strengthened their data governance models.

Recommendation #3: Improve Data Clarity, Accessibility, and Usability Considerations

With a diverse economy ranging from tourism to technology, the demand for a skilled workforce is growing in Nevada. Data analytics is a powerful tool to get real-time insights into industry demands, evolving skill requirements, and educational outcomes. It can help align the educational outputs with industry needs by mapping curriculums with emerging industries, identifying skill gaps in the existing workforce, or strategizing for future economic growth. Having an abundance of data is only a small part of the equation when it comes to generating valuable insights and analysis. Without the proper clarity, even vast amounts of data can become a tangled, indecipherable web, rather than a tool for informed decision-making. Data clarity refers to the quality and comprehensibility of data. It involves ensuring that data are clear, accurate, complete,

consistent, relevant, and well-documented. Clear data can be easily interpreted, analyzed, and used to make informed decisions. By emphasizing data clarity, we ensure that data is not just collected but curated, cleaned, and translated into actionable intelligence. This process enables more nuanced understanding, targeted strategies, and effective solutions, turning raw numbers into meaningful narratives that can guide Nevada's education and workforce development toward success. Below are how principles of data clarity would help with this goal:

Accuracy: *Data should be free from errors or mistakes. It should reflect the actual values or information it represents.* This will provide a true reflection of students' skills, abilities, and performance, enabling educators to design curricula that meet industry needs, allowing employers to understand the real competencies of the available workforce, and leading to better hiring and training practices.

Completeness: *Data should be complete, meaning it includes all the necessary information and does not have missing values or fields that are crucial for analysis or decision-making.* This will ensure that all relevant factors are considered, from emerging industry trends to shifting educational paradigms and facilitate comprehensive planning and strategic alignment, ensuring that no critical aspect is overlooked.

Consistency: *Data consistency refers to uniformity and conformity across different datasets or data sources. It ensures that the same data elements are represented and organized in a similar manner.* This will help to create a common language and standards between education and workforce sectors, fostering collaboration and ensure that comparisons and benchmarking are meaningful, allowing for effective monitoring and continuous improvement.

Clarity of Representation: *Data should be presented in a clear and understandable format. This includes using appropriate labels, units, and visualizations to convey the information effectively.* This will enable both educators and employers to understand the data without ambiguity, ensuring that they are working from the same understanding of the current landscape. This clarifies communication between education and industry, leading to collaboration and shared goals.

Relevance: *Data clarity also involves ensuring that the data collected and analyzed are relevant to the intended purpose or objective. Irrelevant or extraneous data can lead to confusion and hinder decision-making.* This will ensure that the focus remains on what truly matters for alignment, filtering out noise and extraneous information and allowing for agile response to changing industry demands, ensuring that educational outputs remain aligned with current workforce needs.

Documentation: *Clear documentation is essential to understand the context and reliability of the data. This includes documentation of data sources, collection methods, transformations, and assumptions.* This will provide transparency and context, ensuring that data can be trusted and that the basis for decision-making can be understood by all stakeholders. It enables continuity and scalability, ensuring that successful strategies can be replicated and adapted as needed.

The synergy between these principles creates a dynamic and responsive system where educational outputs are not just theoretically aligned with workforce needs, but practically and strategically tuned to meet real-world demands. This alignment ensures that education is not operating in a vacuum but is intimately connected with the economic and social fabric of the state, preparing students for success in the workforce and ensuring that employers have access to the talent they need to thrive.