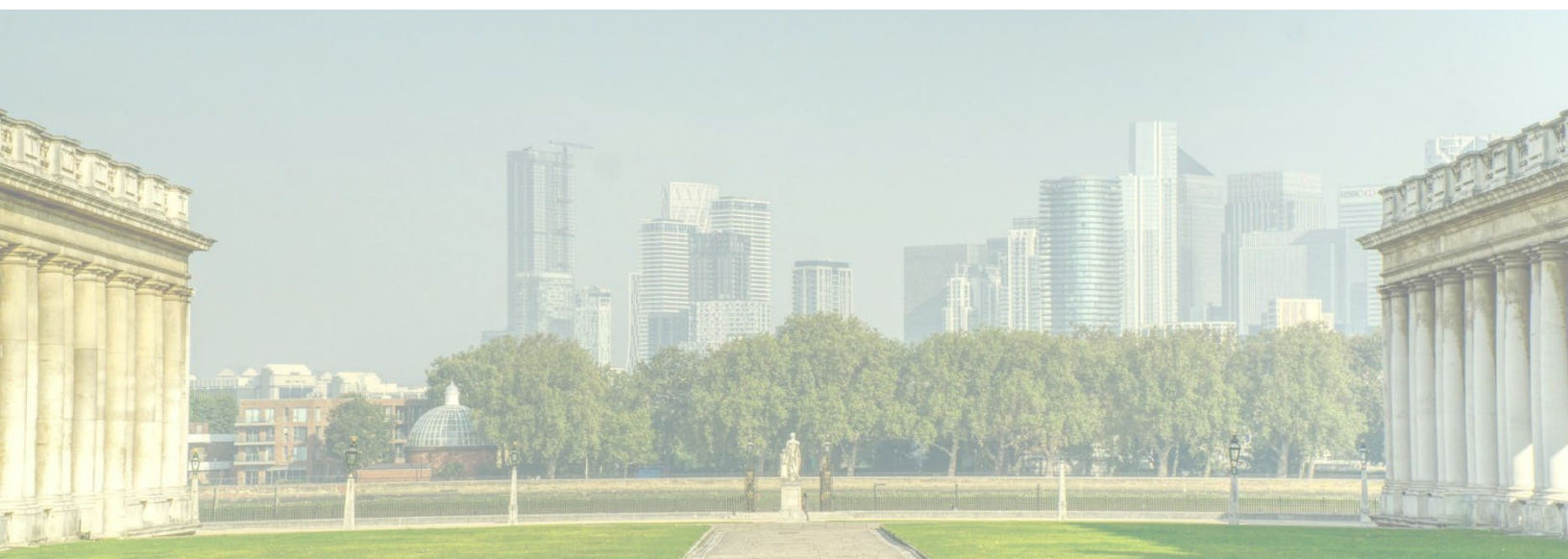# Building Data-Related Capabilities for More Equitable Pathways to College and Career

JUNE 2022 REPORT

Project Contacts:

Allison Forbes
Vice President of Research
aforbes@crec.net

Jennie Allison
Director of Networks and Partnerships
jallison@crec.net

CREC CENTER FOR REGIONAL ECONOMIC COMPETITIVENESS

Table of Contents

Summary

For the past 20 years, the Center for Regional Economic Competitiveness (CREC) has promoted data-related innovations that guide economic and workforce development and has informed evidence-based decision-making by connecting, training, and supporting thousands of professionals. This year and next, with support from the Bill & Melinda Gates Foundation,[1] CREC aims to expand access to labor market information for data-driven decision making in collaboration with organizations guiding students through high school, college, and career. CREC is working closely with the Building Equitable Pathways Community of Practice hosted by Jobs for the Future.[2]

---

[1] The views expressed are those of the author(s) and should not be attributed to the foundation.

[2] The views expressed are those of the author(s) and should not be attributed to JFF or the Building Equitable Pathways Community of Practice.

CREC CENTER FOR REGIONAL ECONOMIC COMPETITIVENESS

I. Introduction

Students considering post-secondary career and education decisions have the world in front of them, an exciting and opportunity filled time in life. But which path is the right one? Last year, the credential transparency organization Credential Engine counted almost 1 million credentialing programs in the U.S. Earlier reports by scholars at Georgetown Center on Education and the Workforce have demonstrated that the differences in credentialing programs (for example, institution and topic choice) matter when it comes to employment and wage outcomes.

Additional evidence from qualitative research suggests that bridge programs, such as paid internships and apprenticeships, help to ensure young people are on a path to college and career. These bridges are strengthened when they are supported by community members and when teachers, mentors, and administrators directly address issues of diversity, equity, and inclusion. This is especially important when there are cultural and demographic differences across students and potential employers.

How can the student, teacher, advisor, employer ecosystem be improved to make the most promising opportunities known and available to everyone? Fourteen organizations, to whom we were recently introduced, are knitting together the resources and alliances necessary to support young people on their way to college and career. Many of these organizations are interested in demonstrating the value of bridge programs and identifying barriers. All the organizations are seeking more equitable results for low-income, Black, and Latinx students in their states and cities. And all are seeking to develop an evidence-based practice informed by programmatic and economic data.

Over the past six months, CREC has found that these organizations, dedicated to building more equitable pathways, are uniquely positioned to demonstrate the importance of linking secondary, postsecondary, and employment data. However, many of these organizations need additional resources and partnerships to identify and analyze data disaggregated by race and ethnicity. Even more challenging is ensuring the school administrators, teachers, advisors, students, and employers have access to the data they need to make informed decisions and provide support.

CREC CENTER FOR REGIONAL ECONOMIC COMPETITIVENESS

II. Getting to Know the BEP CoP Participants

As dedicated intermediaries, the 14 organizations that make up the Building Equitable Pathways Community of Practice (BEP-CoP) uniquely knit together partners and funding to identify critical gaps in pathways from education and training programs to employment. Serving Black, Latinx, and low-income youth, BEP-CoP participants seek to build data-related capabilities in their regions and in their states to better assess student and programmatic outcomes and to support continuous improvement of regional workforce and higher education systems.

A major BEP-CoP focus is the strategic use of disaggregate educational attainment, employment, and wage data to identify equity gaps by race and ethnicity. In developing the data capabilities of their regions and states, each organization faces unique political and socioeconomic conditions that affect goal setting, strategic planning and implementation, and opportunities for moving forward.

While customized data-driven practices (and supports) are needed, so are common approaches that can be broadly shared. Using data to set specific goals and build consensus for strategic action will be critical to sustained progress regardless of whether BEP participants are focused on analyzing data across public agencies, building new data sharing infrastructure, centering student-led approaches to data analysis, addressing employer pain points, or capacity building among partners.

After an in-depth review of all available information about BEP-CoP organizations and their data-related requirements, we have met our initial goal of identifying three capabilities required in support of their mission to build more equitable pathways:

- **Data management and sharing** *generally refers* to the collection, processing, analysis and securing of data.
- **Data governance** *refers to* setting and enforcing priorities for managing and using data as a strategic asset.
- **Data analysis and interpretation** *refers to* examining data, measuring outcomes, and communicating findings.

Developing these capabilities in house is not necessarily within the purview of the 14 intermediary organizations participating in the BEP CoP; capabilities will need to be developed through working relationships with state, city, and regional partners. In many cases, these organizations will rely on state agencies and third-party service providers to produce timely, relevant, and reliable information on jobs in demand, pathways to rewarding careers, and information on student outcomes.

In focusing their efforts, these 14 organizations will need to identify and respond to data-related capability and capacity gaps in regional systems, especially where these limit our understanding of how to improve career and college pathways for Black, Latinx, and low-income youth. In building capabilities, BEP participants and their partners are seeking to enhance two closely

CREC CENTER FOR REGIONAL ECONOMIC COMPETITIVENESS

related activities central to their data-driven practice:

- **Pathway design and assessment:** Designing and implementing training programs tailored towards connecting Black, Latinx, and low-income youth to employment in targeted industries and assessing effectiveness of these pathways.

- **BEP indicators for continuous improvement:** Establishing measurable indicators unique to an intermediary's region that are linked to the success of education systems and can be regularly tracked for ongoing assessment.

These data-driven activities will require partner and client buy-in: shared goals, vision, and success measures among partners will be critical to an effective data-driven practice. Many BEP-CoP participants already have strong regional partnerships, and many are seeking to further activate clients and program beneficiaries (students and employers) as partners in pathway design and interpretation of results. Key partnerships include:

- **Regional partnerships:** establishing and maintaining relationships with stakeholders within the region to leverage existing data capabilities and optimize the efficiency of future endeavors.

- **Partnerships with students and employers:** Using data in action to communicate with student and employer stakeholders and promote engagement to improve employment outcomes.

CREC CENTER FOR REGIONAL ECONOMIC COMPETITIVENESS

Many of the BEP-CoP participants have advanced regional partnerships, and many BEP CoP participants have tremendous potential to lead in questions of data production, management, and governance necessary to building more equitable pathways. Over the next year, CREC will be seeking additional resources, tools, and expertise to support these organizations in their work.

Figure 1 Collaboration for Continuous Pathways Improvement
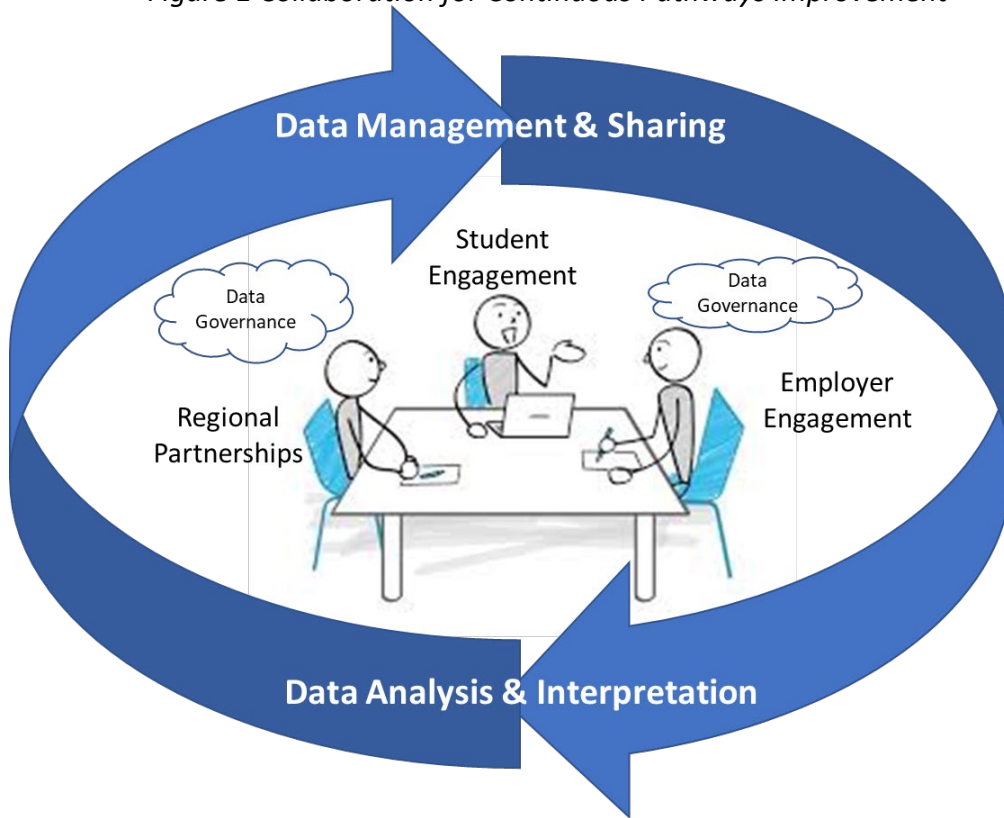
III. Opportunities and Challenges for Data-Driven Efforts

We anticipate these emerging opportunities to activate data for building more equitable pathways:

- There are several examples of student engagement that have the potential to center the voices and perspectives of students in interpreting data. Meaningful student engagement opportunities can help to build the data-related capabilities of the students as well as the schools and counselors who serve them. Organizations that run youth programs may find they can enhance their own programmatic data analysis with insights from students as students' analysis may more accurately reflect student experiences.

- While there is limited data that is disaggregated by race and ethnicity, there is still much statistical survey data that is underutilized, such as demographic data from the American Community Survey. There are also several accessible examples of administrative databases which can be used to build skills and anticipate challenges as organizations seek to work with larger and more complex sets of administrative data in the future.

- Quick access to federal and state data can be achieved through subscriptions to third party data processors and modelers (Emsi-Burning Glass, Public Insight, JobsEQ) and, working together, BEP CoP participants may be able to influence the way the data is presented to include more demographic information to better meet their needs.

As we move forward, we will keep these emerging challenges in mind:

- While we have witnessed tremendous technical efforts by states to develop new data infrastructure, there are few examples of non-governmental organizations that have access to timely and detailed data to improve services to students. What are the pain points and challenges that are most urgent for policymakers, program administrators, and students themselves? The answers to these questions will inform how state agencies and other data processors can more effectively provide disaggregated data for decision making amongst student-serving organizations.

- Students depend on the education systems and employers in their region and their pathways to college and career criss-cross multiple organizations at the sub-state, regional level. Taking responsibility for improving how data informs student pathways requires addressing complexity regional systems and a patchwork of data capabilities across state, local and regional stakeholders. Data from the state on education and employment trends may be limited or inaccessible in the near term; relationships and

CENTER FOR REGIONAL ECONOMIC COMPETITIVENESS

new capabilities may need to be built over the long term, long after current cohorts of students are seeking to connect to the job market.

- Employer-provided information will be critical to the mission of building more equitable pathways, and there are opportunities for closer partnerships with employers. But employer-provided information, critical to the successful design and implementation of bridge programs between high school, college, and career, requires relationships of trust between employers and their representatives and is consistently difficult to source and maintain at the scale needed regardless of geography.

VI. Delivering Data-Related Support to Intermediaries

More inclusive strategies and outcomes in employment, training, and job quality initiatives now require that intermediary organizations, serving businesses and job seekers, have data awareness, management, analysis, and procurement skills and sustain data sharing partnerships to drive their systems change work.

According to a BMFG Survey, about half of pathway organizations in the BEP CoP feature dedicated data staffing while others have limited or no dedicated staff time. The teams with little or no internal support indicate that disaggregating data, leveraging labor market information, protecting student privacy, and establishing processes are top priorities.

A question moving forward is how these organizations will choose to build capacity within their economic regions to support the Building Equitable Pathway (BEP) objectives. Several have identified external partners to generate and process information for this purpose. All would benefit from deepening rapport and building consensus across their regional networks, with state agencies, colleges, and civic leaders, regarding data practices for their shared BEP goals.

An exchange of ideas across Pathway organizations from different parts of the country will aid in identifying data-driven decision-making practices that work for building more equitable pathways, preparing leading organizations to facilitate the robust feedback loops needed to improve their education systems. Peer learning will be particularly fruitful for this group. There are many leaders that have examples of effective practices and learners that are eager to learn more and apply lessons learned.

CENTER FOR
REGIONAL ECONOMIC
COMPETITIVENESS

VI. Reflections

CREC's previous projects have focused on building better data sharing systems, but we have not had the opportunity to test whether these systems help constituent organizations, such as community colleges and non-profit training providers, to advance their work, or whether better data sharing systems help shape programs that result in better outcomes for students and their communities.

From 2016 to 2018, CREC worked with policymakers in five states – Iowa, Minnesota, South Carolina, Utah, and Wisconsin – to develop strategies for cross-agency cooperation and data sharing. Activities included creating inventories of state agency data resources, creating data sharing MOU templates, drafting legislation, interviewing stakeholders, establishing joint committees, and assessing norms of behavior across agencies. CREC found that state agencies made progress by addressing cultural barriers, clearly articulating existing laws and governance, dedicating resources to data sharing, capacity building across the organization, and standardizing data sharing processes. "User understanding and access" and "integrating quality data and program metrics" were recognized challenges in all the participating states. CREC's report suggested states work on "informing data users of what data is and is not available" as well as to "integrate data sharing with program outcomes including discussions about how to articulate the most relevant metrics and how administrative data can help to validate program outcomes to internal and external audiences."

Since that report, there have been additional reports on strategies for better state data sharing infrastructure to serve students and large inventories of state-level activity supported by IES grantmaking to enhance state longitudinal data systems. Despite the increase in activity, and a rapidly expanding field of data intermediation, little additional information has been reported regarding whether any of the data that was produced led to program change for better student outcomes. There is still little information about when and how data state agency data informs decision making and no consensus on which information is most important to BEP goals.

The BEP-CoP participants' heightened focus on providing better services to low-income, Black, and Latinx youth, could help to identify what works. Participants are looking at models for data infrastructure designs that prioritize end users as well as models for client voice that could put students at the center of programming and decision making by policymakers. Each of the BEP-CoP participants is a leader in one of the areas discussed above and described in the table below. As we learn about the role each organization plays in its region (or regions), CREC will be seeking to identify how data-related capabilities can be better distributed across state and local organizations to serve regional economies.

Table 1. Leader Characteristics: Applying the Leader-Learner Framework

Data Capability and Engagement Capacity Category	Leadership Characteristics	How This Works in Practice
Data Management & Sharing	Leading organizations in this category utilize their own data effectively for internal decision-making. They are also able to link their data to other information sources and have processes for sharing their data with partners for the purpose of building equitable pathways.	A state education agency provides appropriate data and related training to school district staff, who in turn assist students and teachers in accessing data and identifying barriers to student success. Detailed data is available for timely decision making by faculty and administrators.
Data Governance	Organizations that lead in this category establish norms that allow them to gather data from various organizations and demonstrate data integrity, which promotes trust between collaborators and facilitates data exchange for building equitable pathways.	The staff at a public-private partnership promote data sharing by demonstrating applications of data sharing agreements (e.g., reports) that generate new knowledge and/or action, gaining the respect and trust of employers, educators, policymakers, and other stakeholders committed to building more equitable pathways.
Data Analysis & Interpretation	Leaders in data analysis and interpretation are able to analyze local, state, and national education and labor market datasets and communicate findings that are used to inform and influence programming.	A non-profit organization works with stakeholders to identify three metrics that track student progress and uses these to engage stakeholders in regularly assessing and addressing barriers to more equitable pathways.
Pathway Design & Assessment	Leading organizations can identify theoretical pathways to target jobs and are able to interrogate the validity of those pathways for low-income, Black, and Latinx youth based on quantitative and qualitative evidence.	A community college engages students and employers to examine real entry-level employment that is within reach for program graduates and to identify real routes for advancement based on previous employees' actual pathways and training/education history.
BEP Indicators for Continuous Improvement	Leaders for BEP Indicators for Continuous Improvement have: • Access to relevant data and the ability to track important indicators of individual, programmatic and institutional progress/outcomes • Obtained consensus among key stakeholders around the importance	A workforce board builds a dashboard of indicators that employers have identified as critical to their assessment of equitable pathways and to which the employers themselves contribute data. These indicators are used by the employers to

CREC CENTER FOR REGIONAL ECONOMIC COMPETITIVENESS

Data Capability and Engagement Capacity Category	Leadership Characteristics	How This Works in Practice
	of those indicators. • Actively use indicators in decision-making	inform resource allocation on a quarterly basis.
Regional Partnerships, Employer Engagement, Student Engagement	Organizations that lead in this category understand the assets and pain points of stakeholders and effectively use data to underpin these relationships.	A summer bridge program provides information to students on student recruitment, retention, and completion information so that students can make informed recommendations to improve outreach, engagement, and support services.

In the near term, these organizations are juggling a medley of data types from a variety of sources. Which information is most critical to glean from existing sources and what are the possibilities for improving the information available to guide college and career planning? In the short term, we have observed how these organizations translate data and evidence to improve regional pathways structures, for example, by recognizing gaps in student success and creating programs to fill the gaps. In the long run, these organizations need secure access to information on the college and career outcomes of the students they serve.

Pathway organizations play the important role of building capabilities across employers who are growing and providing good jobs and across education/training institutions that are offering high quality programs, helping to shift how we interpret skill and experience, improving training and employment opportunities, revealing blind spots in our talent development systems, and creating rewarding opportunities for employers and partners to deliver results for their communities.

Most critical to CREC's mission, these Pathway organizations can help to improve evidence-based systems that enhance regional economic competitiveness, creating and sharing data and putting pressure on data providers to produce the detailed information that is necessary for program evaluation. To enhance their work, these organizations need to be data savvy, and through this partnership, CREC is honored to play a role in increasing organizational and regional, inter-organization data capabilities, indirectly serving the next generation of data-savvy leaders who are currently considering their college and career options.

CREC CENTER FOR REGIONAL ECONOMIC COMPETITIVENESS

VII. References

Equal Measure. (April 30, 2021). "About the Equitable Pathways Intermediary Framework."

President's Management Agenda. (July 2020). *Federal Data Strategy: Data Governance Playbook*. Retrieved on May 25, 2022 from https://resources.data.gov/assets/documents/fds-data-governance-playbook.pdf.

VIII. Appendix A: Detail on Data Capabilities Central to the Mission

Data management & sharing, data governance, data analysis and interpretation are three capabilities that are central to the BEP mission:

Data Management & Sharing

A key advantage of the BEP CoP is that many of the participants are data producers as well as data consumers. About half of the BEP CoP participants run their own programs or otherwise manage program data. As these organizations seek to access data from partners and state agencies and to advance data sharing systems, they can leverage their own experiences as good stewards and sharers of their own data.

Data management and sharing activities include collecting, processing, securing and analyzing programmatic and learner participation data to inform and assess career pathway programming; activating data in service of BEP; and supporting better systems-level data management for BEP goals. (Language from Equal Measure)

Participants in this group will work with their own data to produce key statistics for BEP programming and discuss data sharing practices to strengthen their own BEP practice and partnerships. Technical assistance for this group will focus on:

- Mapping internal and network data sources with potential to produce key BEP indicators – Map and refine in conversation with stakeholders
- Understanding administrative data – Explore data characteristics and availability.
- Improving data practices – Implementing practices to improve the quality of administrative data for program analysis, improvement and related research

CENTER FOR REGIONAL ECONOMIC COMPETITIVENESS

- Describing, transforming, and analyzing data – Use BEP and sample data to respond to BEP research questions and to inform action.
- Developing data management and data sharing practices for BEP organizations and BEP communities – Discuss and build consensus amongst participants; exchange and enhance knowledge of common practices.
- Identifying key tools and processes for data collection, storage, manipulation, analysis, and sharing – share guidelines for procedural efficiency and enhancement.
- Introduction to Data Governance
  - Leading standards for data governance -- Navigate privacy/access issues, advance agreements
  - Developing data sharing practices for BEP organizations and BEP communities – discussion and consensus building

Data Governance

We will explore which approaches to data privacy and access are most effective for BEP work and how to build capabilities and capacity at key partner organizations for effective data governance.

Data governance activities include exchanging data with (sector) partners to support learner development and monitor pathway progression, collecting longitudinal data about learners, capturing learner movement throughout the pathway.

Participants in this group will advance their work to build stronger data systems through partnerships, technical, political, and capacity-building solutions, and data sharing agreements. Technical assistance for this group will be tailored towards:

- Conducting data asset inventory – accurately identify and catalog available data in BEP indicators; compare to other localities and states.
- Identifying data users – describe and verify use cases
- Improving data processes – developing or revising existing guidelines for data collection, integrity, quality, security, intent, and use.
- Monitoring data – exploring ways to identify and address barriers to effective data production and use.
- Learning from past data infrastructure projects - building products with end-user communication in mind
- Improving data sharing agreements – Reviewing existing agreements and exploring the strategic development of future agreements.

CREC CENTER FOR REGIONAL ECONOMIC COMPETITIVENESS

Data Analysis and Interpretation

Identifying the right data at the right time is critical to the effectiveness and efficiency of developing useful programmatic solutions. Data analysis and interpretation will focus on using collected local, state, and national education and labor market data to analyze, inform and assess career pathway programming. Specifically, this group will target the task of disaggregating data by race, ethnicity, and other relevant demographic characteristics to understand whether career pathways have an equitable impact. Technical assistance will address:

- Using appropriate datasets – Focusing on research questions and BEP pathway designs that can be addressed by available data.
- Developing measurable research questions – tailoring questions to be relevant, specific, and assessable.
- Establishing key indicators for BEP practice – determining practical objectives.
- Communicating data finding – practicing how to interpret data outcomes to various audiences.

Data tools are increasingly helpful with gaining access and interpreting local, state, and federal data sources to understand trends, gaps, and opportunities for learner engagement in local labor market pathways. This topic will also include:

- Review of data tools - discussing data tools that are most useful for BEP pathway design, program tracking, and process/outcome evaluation. And a review of Excel, Access, Tableau, Google Data Studio, Power BI, other Dashboard tools
- Review of 3rd-party data providers – a look into EMSI-Burning Glass, Public Insight, JobsEQ, and other modeling software
- Review of LinkedIN, Employer and Alum Surveys, Youth Apprenticeship model, National Student Clearinghouse data collection tools and methods
- Discuss needed data tools for BEP work

IX. Appendix B: Detail on Data-Driven Decision Making and Key Partnerships

Both **pathway design and assessment** as well as **determining BEP indicators for continuous improvement** are activities central to building equitable pathways. The sustainability of these data-driven decision-making activities will depend on **regional partners** and **on-going engagement with students and employers** who can move from data analysis into action. Several organizations had plenty of data but aren't sure how to use it to advance their work to build more

CREC CENTER FOR REGIONAL ECONOMIC COMPETITIVENESS

equitable pathways. Some organizations are seeking to better articulate the role of their own programs or how pathways crisscross multiple organizations in a regional system; others seek to create information feedback loops that serve their mission; and some need to inspire further research related to barriers to college and employment.

Pathway Design and BEP indicators for continuous improvement

Many organizations are seeking access to student employment and wage outcome data, but when this information is acquired, it may tell us little about student pathways – what works well and what are key barriers. What indicators can we track that demonstrate progress or setbacks so that stakeholders can respond and improve outcomes? What indicators are important for explaining "what happened" to students (and student cohorts) navigating high school, college, and career?

Commitments to measure key indicators can motivate and sustain progress. Developing BEP indicators for continuous improvement may require engaging students and employers in identifying and committing to measure and evaluate their own activities, building consensus toward more broadly shared measurement and evaluation by larger more influential institutions.

Regional Partners

Regional partnerships are key to leading and supporting data-driven systems change.

BEP CoP participants tend to have strong regional partners committed to advancing the following goals: to design and implement data systems to support continuous improvement and to develop data sharing practices across organizations in their communities through discussion and consensus building.

Employer Engagement

Employer-provided information will be critical to the mission of building more equitable pathways. Employers are clients of the education system as well as potential partners.

BEP CoP participants are developing their employer engagement and data sharing practice to deliver on the following goal: to leverage leading employer engagement and data-driven practices from sector strategies, talent pipeline management, economic development organizations, chambers of commerce, and future of work initiatives.

CREC CENTER FOR REGIONAL ECONOMIC COMPETITIVENESS

Student Engagement

Collecting and sharing feedback from learners of color and learners experiencing poverty and their families about their experiences with career pathway programming to improve the design of programming.

BEP CoP participants are developing their student engagement and data practice to deliver on the goal to engage students, teachers, and school districts in data analysis and interpretation.

CREC CENTER FOR REGIONAL ECONOMIC COMPETITIVENESS