CREC

BRIDGING DATA DISPARITIES

How Intermediary Organizations Can Build Capacity to Support Equitable Education and Career Pathways

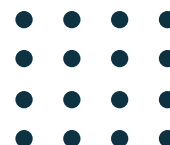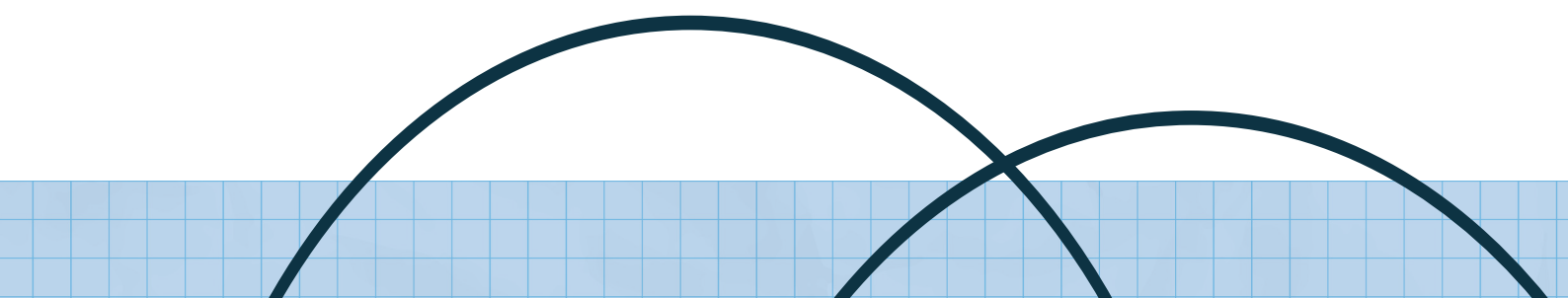# Table of Contents

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HERE 2 HERE

Connecticut State Colleges and Universities

Executive Summary

For two years, the Center for Regional Economic Competitiveness (CREC) worked alongside Jobs for the Future (JFF) and 14 workforce and education intermediary organizations participating in the Building Equitable Pathways (BEP) initiative to address information gaps and expand data-related capabilities. This cohort of intermediary organizations demonstrated the extent to which more coordinated and collaborative action is possible at the regional level and across regions nationwide to bolster workforce and education pathways for low-income, Black, and Latinx youth.

Who are these workforce and education intermediary organizations? These organizations connect ideas and resources across education and workforce systems and transform employment and training pathways. These organizations seek to shift the culture around data sharing to encourage more responsible, secure, flexible, and useful treatments of data disaggregated by race and ethnicity, but they can't accomplish a culture shift alone. State agency leaders also share these goals, and many are advancing new data sharing initiatives. That these are shared goals gives us confidence that leaders across our networks will continue to span professional boundaries for the benefit of their regions.

Simply put, labor market information systems need to adapt to meet the changing needs of students navigating college and career. It is clear, after working with organizations persistently seeking to put data to work in their regions, that a patchwork of federal, state, and private sector initiatives is not sufficient to obtain the more equitable results for young people that intermediary organizations are seeking.

Critical data-related capabilities can be built at the organizational, regional, and state levels with sufficient support, but that support is most effective when delivered in the context of real-time planning and problem solving. Building this data capacity with intermediaries at the intersection of education, workforce, and employment systems has the potential to deliver results for workforce and education organizations and agencies as well as employers. For example, participating organizations increased awareness of their state and local data ecosystems and strengthened their capacity to advance data-driven programming. Participating organizations used the process of developing key indicators to align programming and strategically link program data to the bigger picture. Their efforts generated community and business buy-in regarding the importance of more robust state and local data systems.

The future of this work is promising. While this project has come to an end, the possibilities for utilizing data to improve education and workforce pathways are just beginning. The recommendations outlined below provide more guidance on the critical shifts needed to bolster these capabilities.

CREC's Recommendations

1 | **Support state and local data ecosystem alignment efforts.**
Stronger relationships are needed across a broader set of actors to ensure data systems are better funded and utilized. Individual organizations should strategically engage actors in their ecosystem that are committed to evidence-based decision making. Federal and state agencies also need to invest in advanced research capabilities to support data users accessing, visualizing, and interpreting survey results and administrative data.

Key Audience: Intermediaries, State/Federal Agencies

2 | **Partner with networks of data professionals.** There are several professional networks, such as the Council for Community and Economic Research (C2ER) and the Labor Market Information Institute (LMII), that can bolster research capacity at the organizational level. These networks can provide continuous capacity building and critical peer-to-peer exchanges to sustain skills for designing demand-driven career pathways and for processing and analyzing data crucial to organizations' mission.

Key Audience: Intermediaries

3 | **Increase support for intermediary organizations' data access.**
Intermediaries are seeking to engage other data owners effectively to share data and gain consensus on common indicators of success for tracking student persistence and employment outcomes. Education, workforce development, and employer partners from within the regional labor market or state can support efforts to link education and workforce data in the long term with explicit commitments to shared goals for leveraging data as a strategic asset.

Key Audience: State/Federal Agencies, Post-Secondary and Employer Partners, other Data Owners/ Producers

4 | **Remove barriers to accessing employment information.**
Employment information can be shared purposefully and securely for explicit public benefits. Transparent processes for data sharing and addressing privacy concerns can help to increase buy-in from data owners/providers and stakeholders.

Key Audience: State/Federal Agencies, other Data Owners/Producers

Introduction

CREC has worked for more than 20 years to improve decision making and guide economic and talent development by connecting, training, and supporting thousands of economic and workforce development professionals as they produce and utilize data. CREC works in close partnership with professionals nationwide to ensure they have the skills and resources to foster regional competitiveness.

To do this, CREC has built and continues to maintain a library of training resources, in-house subject matter experts, instructional and facilitation capacity, and a network of leaders who promote data-driven development strategies. CREC offers training and networking experiences to professional data users at their points of greatest need — onboarding new staff, strategic planning, and evaluating network achievements.

How We Got Here

Two-year project in collaboration with Jobs for the Future and Building Equitable Pathways group

Worked with 14 data leads:

- Workforce development
- Higher education
- Pathways programs

Goals:

- Break barriers to data access, management, and communicating to key stakeholders
- Develop equitable pathways for Low-Income, Black and Latinx youth

In 2021, JFF invited CREC to provide technical assistance (TA) to participants in the Building Equitable Pathways (BEP) community of practice, preparing professionals in these intermediary organizations with the data skills needed "to create equitable pathway systems so that more Black and Latinx youth and young people experiencing poverty succeed in college and their future careers."[1] Over two years, CREC offered BEP participants a variety of learning experiences that helped them build a better understanding of how to use data effectively in promoting education and workforce systems change.

This project illustrates how data can help intermediary organizations communicate more effectively to decision makers, policymakers, and other stakeholders regarding disparities in career pathways. The following report reviews this work and the lessons learned, highlighting organizations that are leading their communities to more equitable, data-driven systems for young people navigating college and career. The report also includes resources developed through this work, as well as next steps for organizations looking to do similar work.

Background

There are critical steps missing in the career and college pathways for low-income youth and youth of color, many of whom need to work while enrolled in school, and for whom earn-and-learn opportunities are vital.[2] While there are examples of effective bridge programs, there is not yet consensus at the federal, state, and local levels about the level of investments necessary for both young people and businesses to succeed, or how to make those investments.

Through past work, CREC has observed the value of precise and timely information embedded in rich contextual knowledge about local labor markets. Historically, this data has been key to providing workforce intermediaries with a leading edge in negotiations with employers, service providers, and other key partners who seek to improve youth employment programs.

In this project, we wanted to better understand how intermediary organizations build these data-related capabilities. Our key questions included:

1. How do intermediaries learn to generate and utilize information (both quantitative and qualitative) in their negotiations and operations?

2. What do intermediaries need, in terms of personnel, relationships, skills, and support, to sustain a data-driven decision-making practice?

3. What are key systems change indicators that leading organizations have in common?

4. How can data infrastructure and data sharing practices respond to youth needs and perspectives?

This project was an opportunity for CREC to offer expertise around employment, training, and job quality, as well as activate networks of state and regional subject matter experts to answer these four questions. Two networks were critical to CREC's strategy: the Council for Community and Economic Research, a network of economic development organizations, community colleges, and other regional leaders contributing to the advancement of regional research methods; and the Labor Market Information Institute, a network of state labor market information agency managers, analysts, and stakeholders.

Defining Intermediaries

Intermediaries are organizations that advance cross-sector partnerships and initiatives. Through this project, CREC found that a variety of organizations have the potential to serve as intermediaries making connections across education and workforce systems.

From 2022-2023, CREC offered 14 organizations in the Building Equitable Pathways cohort a variety of training, networking, and technical assistance opportunities, all toward the goal of increasing each organization's data collection, management, access, analysis, and sharing capabilities in concrete ways. Doing so supported these organizations in better translating data and evidence into actionable improvement in regional pathways for young people pursuing college and career.

In the long run, we expect these capabilities will also help the organizations advocate for more open and more secure access to student persistence and outcomes data for the communities they serve through aligned data sharing agreements with partner organizations.

Goals

CREC worked closely with the participating organizations to improve six capabilities:

- Articulate program goals and key indicators of progress and success;

- Identify, interpret, and present labor market information to guide decision making;

- Engage other organizations effectively to share data;

- Access, connect, and analyze data essential to the organization's mission;

- Ask better questions and communicate findings effectively; and

- Use data for continuous improvement.

To better define and measure these broad capabilities, CREC developed six goals to accomplish with partner organizations:

1. Develop a theory of change and a set of key indicators appropriate to the organization's mission.

A theory of change is a comprehensive description of how and why a desired change is expected to happen in a particular context. In this instance, it is defined as both a conceptual model and a concrete product that reflects that model and identifies the work that needs to be done, signs of progress, possible pathways, and desired goals. Developing a theory of change makes explicit the collective assumptions regarding how the desired change is going to happen.

CREC's first goal was to help participant organizations develop targeted outcomes and steps toward achieving them, identify indicators and measurements of progress, and plan for anticipated challenges and continuous improvement. In program year one CREC provided TA to help organizations that were planning to implement a data and equity vision and beginning to take stock of data they were already collecting.

2. Gain a broad understanding of local labor markets and dynamics in targeted sectors to inform strategic planning and partner engagement.

The second goal was to assist participants in deepening their understanding of local labor markets so that they could operationalize their theory of change. The work with intermediary partners involved devoting significant energy to ensuring that TA was targeted so that all participants could

improve, no matter their starting point with this capability. Specifically, CREC provided TA to help organizations find different types of data and understand the origins and appropriate applications of the data, including spotting strengths and weaknesses of various data sources.

3. Engage other organizations effectively through an understanding of their data culture, leadership, operations, and individual roles.

The third goal was for organizations to make progress toward data sharing by first building an understanding of data infrastructure, governance, and use in different professional and industrial environments. Through peer learning and subject matter expert (SME) sessions, participants had the opportunity to observe a variety of different organizations and data cultures. In e-Learning and TA sessions, participants updated maps of their state and local data infrastructure systems and began conversations on how to engage data managers at other organizations and improve the data infrastructure in their region.

4. Connect and analyze data essential for the mission.

The fourth goal was to enhance participants' skills in data sourcing, data analysis, and transforming data into databases and visualizations. CREC aimed to ensure that participants had a solid understanding of where different types of data come from, and how they are best shared and connected. This included a focus on confidential data, how to manage personally identifiable data, and establishing standards for data sharing capacity building.

5. Communicate findings effectively and appropriately to various stakeholder audiences.

The fifth goal was to assist participant organizations in interpreting data and communicating their findings clearly to stakeholders and other data users. This included an emphasis on data storytelling and the use of data to test and validate claims about the labor market. This also laid the groundwork for the final goal by introducing new ideas around continuous improvement.

6. Operationalize the theory of change: use new knowledge and practices to support continuous evaluation and improvement.

The sixth and final goal of this project was to support organizations in starting to fully operationalize their theories of change. This was delivered through participant-driven, tailored TA and included problem-solving and addressing specific challenges that arose in data-sharing and access. A significant focus of this goal was building systems for continuous evaluation and improvement via data-driven methods and collaboration with other organizations.

Our Approach

As indicated above, CREC provided four main types of support to the participating organizations:

- SME workshops with data management and visualization experts so participants could learn from leading practitioners and experts nationwide;

- Peer learning workshops to exchange ideas, share resources, and build community;

- One-on-one TA from CREC staff in developing research agendas, key performance indicators (KPIs), and systems change planning to support incremental progress as well as customization of tools (data sourcing, mapping, visualization) and approaches; and

- e-Learning to support organizations in maintaining skills and sharing with partner organizations.

Figure 1: Collaboration for Continuous Pathways Improvement
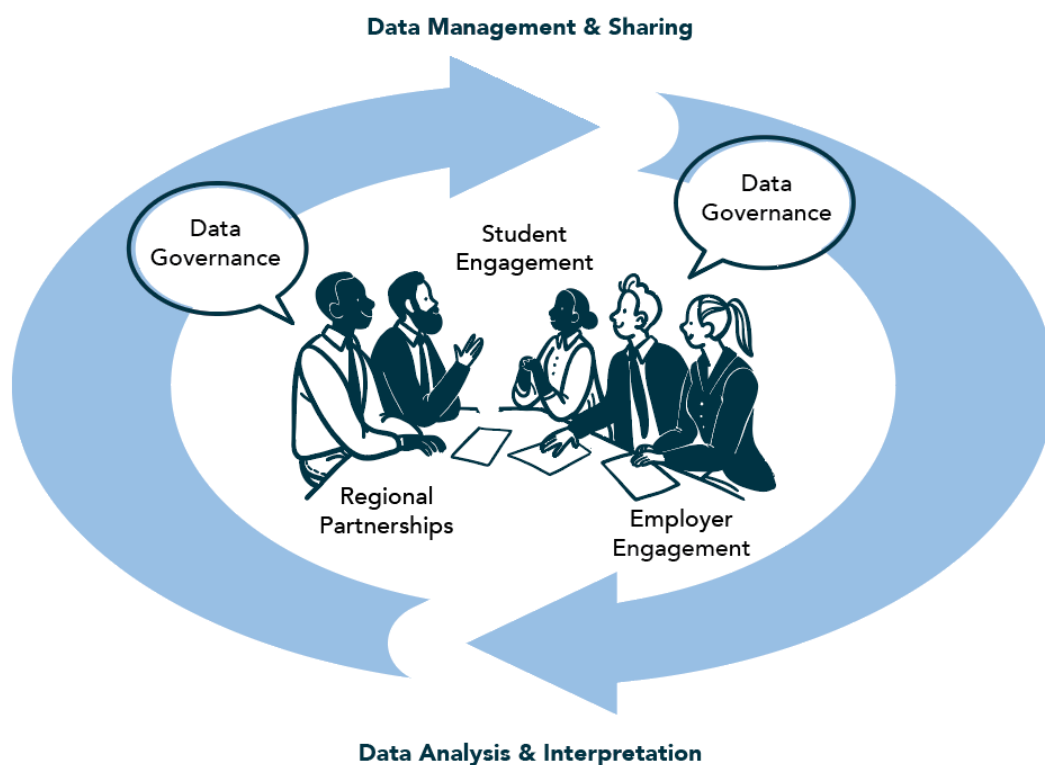
Learning experiences were designed to reinforce partnership opportunities and to highlight ways to build data capabilities across organizations in the same regional labor market.

Subject Matter Expert Workshops

SME-led virtual workshops with leading practitioners and experts guided participants through a series of discussions on building data management and visualization skills through case-based examples of leading practices. The full list of workshops is included in Appendix I, including:

- KYSTATS and Baltimore's Promise presented at the Data Sharing Workshop in year one, which bolstered important initiatives already in progress and had an immediate impact on data-driven policy change led by intermediary organizations. This included CityWorks DC's efforts to design and fund Washington DC's longitudinal data system with information from pre-school to college and career.

- An intensive two-day virtual workshop on data management led by Dr. Jamaal Green of the University of Pennsylvania in July 2022 (For Data Managers: Putting Our Data to Work) was pivotal to several organizations' progress, jumpstarting their work to build or refine data dictionaries and to improve data collection, reporting, and applications across their organizations.

See the expert case studies to learn more about SMEs that informed the work of participating organizations in year one.

Peer Learning Workshops

CREC also organized a series of peer learning workshops in which partner organizations could connect with other cohort members, exchange ideas, and discuss challenges they had encountered. March 2022 marked the inaugural peer meeting, introducing CREC as the TA provider for data capabilities and beginning a conversation about using student and wage data. Eleven more peer learning workshop sessions followed, including:

- Back-to-back sessions in 2022 that addressed how various organizations are seeking data from state agencies and whether state agencies and other partners might be interested in accessing their data for research purposes.

- Discussions about the extent to which participating organizations were able to access and use data disaggregated by race and ethnicity and how to manage the process of interpreting the results.

The full list of peer learning workshops is included in Appendix II.

One-on-One Technical Assistance

In the early months of the program, CREC delivered an initial TA curriculum to all participants, which included support for developing research agendas, KPIs, and systems change planning to support incremental progress. In January 2023, the start of program year two, CREC offered more intensive one-on-one attention to select participant organizations. This allowed CREC to tailor TA to each organization's unique challenges and support their specific goals and learning objectives.

There were several subjects that organizations reported as particularly helpful:

- Cultivating Data Leadership and Advocacy

- Utilizing Administrative Data for Strategic Decisions

- Metric Alignment for Programmatic Improvement

- Understanding and Leveraging Data Ecosystems

- Communicating with Stakeholders through Data Visualization

CREC's TA support encouraged participating organizations to develop inclusive strategies and pursue more equitable outcomes in employment, training, and job quality initiatives. Research and evaluation leaders at these intermediary organizations were uniquely positioned to demonstrate the importance of linking postsecondary and workforce data to improve outcomes for low income, Black, and Latinx youth. To illustrate this, participant case studies are provided below.

e-Learning

Finally, CREC released a suite of e-Learning options in Fall 2023, which leveraged insights from expert presentations and peer learning sessions offered earlier in the project. The courses covered four topics, described below.

Fundamentals of Data Management and Governance This course provides an introductory understanding of key principles and best practices in data management and governance.	**Introduction to Data Visualization in Tableau** This course introduces learners to the fundamental concepts of data visualization using Tableau Desktop, one of the most popular tools for developing and sharing interactive charts and dashboards.
Public Data for Building Equitable Pathways This self-guided course is designed to provide participants with an overview of key LMI sources, including how to access and utilize publicly available data to derive insights and drive action to support equitable outcomes in pathways ecosystems.	**Intermediate Skills in Tableau** This course builds on the skills and knowledge from Introduction to Data Visualization in Tableau by introducing new types of charts and more advanced features like level of detail calculations and parameters.

To engage more organizations going forward, the e-Learning curriculum developed for this group will be available for an affordable fee through the Labor Market Information Institute and the Council for Community and Economic Research in 2024. These and other tools developed in collaboration with the participating organizations aim to support a broader network of leaders that recognize data as a strategic asset in their work.

Baltimore's Promise:
Data Leadership as a Catalyst for Change

Context

Baltimore's Promise is a nonprofit focused on improving outcomes for Baltimore's youth and their families and has been active for over 10 years.

Problem

Leaders at Baltimore's Promise identified a disparity in education and workforce outcomes for disadvantaged and historically marginalized youth in Baltimore. To assess the effectiveness of Baltimore's educational services, the organization needed access to data; however, integrating data for analysis was extremely challenging due to limitations in legislation and city data infrastructure.

Response

Responding to the challenge, Bridget Blount, Deputy Chief Executive Officer, and James Sadler, Director of Research, created the Baltimore City Youth Data Hub, which allows for data sharing at the individual-level and collaboration between different agencies and nonprofits regarding services, their effectiveness, and how to best utilize limited resources. Their process – which originated back in 2017 – began with information gathering. With tools from Actionable Intelligence for Social Policy (AISP), they identified important stakeholders in the community, including public schools, local government, nonprofit organizations, community leaders and members. These stakeholders received their own support from AISP to learn about data sharing and increase engagement. Baltimore's Promise worked with the stakeholders to create guiding principles to ensure all parties were comfortable with how data would be both shared and used. These principles emphasized the need for equity and understanding of the historical context while pledging that data sharing would be used to take on systemic challenges, not just individual ones.

A critical step of their journey was a legislative campaign. Given state laws around data privacy, the organization came to realize that it would take a legislative act to allow the group to share data on this scale. To aid their campaign, they established the governing and advising structure of the Baltimore City Youth Data Hub with data sharing

agreements and Memorandums of Understanding. While these documents were first created with the hopes that legislation was not needed, they were instrumental in the process once the organization needed to pivot. In 2022 the state legislature approved the Data Hub plan, allowing data sharing to begin.

Lessons Learned

Baltimore's Promise's story is one of people coming together, engaging, and building trust in the community to facilitate data sharing and achieve better outcomes for Black and Latinx youth. Bridget Blount, who is now Deputy CEO of Baltimore's Promise, shared these lessons:

Build and maintain relationships with all stakeholders. If people do not want to share their data with your organization, your organization is not going to succeed in becoming a data lead.

Understand all the laws regarding data sharing in your area. Gaining legal counsel early on can help organizations anticipate and navigate regulatory and statutory issues.

Be patient with your process. Building relationships with stakeholders, identifying people who will champion your cause, and getting organizations to be willing to share their data takes time. There are no shortcuts when it comes to building trust among stakeholders. With persistence and communication about the value of collaboration, and the right systems, more and more groups will be willing to share their valuable data with your organization.

To learn more about Baltimore's Promise Data Hub:
https://www.baltimorespromise.org/datahub

To learn more about Baltimore's Promise initiatives:
https://www.baltimorespromise.org/our-initiatives

KYSTATS:
Tailoring Data Needs to the Community

Context

KYSTATS was created in 2012 by the Kentucky state legislature to expand upon the work of the Kentucky P-20 Data Collaborative. KYSTATS is responsible for maintaining the Kentucky Longitudinal Data System (KLDS), a system that facilitates the integration of data from Kentucky's various educational, workforce, and other state agencies. KYSTATS has the authority to collect and link data in order to evaluate education and workforce efforts in the Commonwealth. This includes developing reports and providing statistical data about these efforts so policymakers, agencies, and the general public can make better informed decisions about the Commonwealth of Kentucky's education systems and training programs.

Problem

Kentucky's state government was unable to link data between its educational and workforce agencies due to a lack of a technical structure and limited authority to do so. Of particular interest was linking early childhood educational information to high school completion rates, as well as linking full educational history to employment data. To be able to create these links, Kentucky applied for, and received, State Longitudinal Data System (SLDS) funding through the National Center for Educational Statistics (NCES) and to establish the KLDS in 2009. With this tool created, the next task was to ensure that it could be maintained and even expanded. Initial policy-related goals included understanding how early childhood education could impact high school education rates; how high school graduation rates impacted Kentucky college admissions and workforce outcomes; how many KY college graduates stayed in the state; and how all of this impacted the broader economy.

Response

While KYSTATS must follow federal and state privacy laws with the data they house and distribute, they are empowered to acquire, store, and integrate individual-level data. To increase the number of state agencies and other partners who are willing to share data with KYSTATS they focus on value adds for data contributors. KYSTATS now hosts data from 47 different sources, which can be used to get a more complete picture of the

linkages between education and the workforce in Kentucky as well as understand the shortfalls in the outcomes for historically disadvantaged populations.

An important feature of KYSTATS operations is the ability for partner organizations to collaborate with KYSTATS about topics to include in the Research Agenda, which are renewed every two years. This approach allows KYSTATS to ask major partners what they would like to learn about, including data on building more equitable pathways for historically disadvantaged youth. For 2023 to 2025 the research agenda developed by partner agencies and approved by the board is focused on how to increase access, usage, and usability of the data set; incorporating an equity lens to the KLDS by looking at how outcomes are impacted by backgrounds, experiences, opportunities, and access; monitoring how significant events impact the birth to workforce continuum; and expanding the use of modeling and predictive analytics.

Lessons Learned

The KYSTATS story is an example of how data sharing that allows for more disaggregated analysis of populations can lead to more equitable outcomes. Scott Secamiglio, who at the time of our interview was the Visual Analytics and Strategy Director of KYSTATS, emphasized the importance of producing additional value for partners. People and agencies are more likely to share their data if they see a clear beneficial outcome for themselves. To replicate this in other states, the data must be available to all organizations through transparent processes and to the public after deidentification processes have anonymized the data to ensure privacy.

To learn more about KYSTATS research agenda:
https://kystats.ky.gov/About/Agenda

To learn more about KYSTATS data request process:
https://kystats.ky.gov/Reports/DataRequest

San Diego Regional Economic Development Corporation: Using Data to Redefine the Problem

Context

San Diego Regional Economic Development Corporation (EDC) mobilizes public, private, and civic organizations to promote inclusive economic development. They aim to inform data-driven decision-making that maximizes San Diego's economic prosperity and global competitiveness. Taylor Dunne, then-manager and now director for Talent Initiatives at San Diego Regional EDC, discussed challenges and opportunities that the organization identified when engaging employers to expand traditional employment pipelines to include historically excluded groups, including Black and Latinx youth. She also offered insights on how to maintain the program sustainably over time.

Problem

As of May 2022, 42,100 people were unemployed in San Diego, while the region had seen 75,630 unique job postings since the start of the year. While job postings data does not account for all open positions, a deeper understanding of this imbalance demonstrated that there was a critical mismatch between formal job requirements (i.e., minimum education) and the actual skills required for those jobs. For example, many job postings require a bachelor's degree, even when the actual responsibilities could be fulfilled by individuals without one. The extent of this gap in San Diego raised equity concerns, as racial and ethnic minorities are less likely to meet the educational requirements for these jobs. As of August 2022, San Diego Hispanic or Latino and Black youth had the lowest rate of college readiness at 38% and 41% respectively. Both groups, which represent more than 50% of San Diego's youth, also had the lowest high school graduation rates among all other races and ethnicities at 77% for Hispanic or Latino and 75% for Black youth.

Response

San Diego Regional EDC identified a key opportunity to invest in Black and Latinx youth to turn this talent shortage into a surplus. To realize this vision, San Diego Regional EDC created the Advancing San Diego program which incorporates three strategies: communication, adaptation, and access. The first step utilizes the Talent Pipeline Management® (TPM) framework developed by the U.S. Chamber of

Commerce Foundation, to promote active employer engagement in building high-performing talent pipelines. Adaptation refers to aligning education training programs with employers, which requires collaboration with all the higher education institutions and community colleges in San Diego. Taken together, these efforts aim to expand access to quality job opportunities for San Diego students. While Advancing San Diego is ongoing, San Diego Regional EDC's previous experience utilizing the TPM has demonstrated tremendous impacts and will help them both measure and obtain their goal of doubling the number of skilled workers every year through program completions and hiring statistics. As a result, Advancing San Diego is well positioned to create more equitable pathways for Black and Latinx youth and fill job openings.

Lessons Learned

San Diego Regional EDC recommended three approaches to ensure sustainability of this program:

Maintaining the "employer-driven" feature of this initiative is the cornerstone. "Employer-driven" refers to employers identifying the most promising opportunities for engagement regarding similar workforce needs.

Integrate labor market information and existing job postings along with employer validation to clarify and refine training programs so that they are aligned with current industry needs, thereby serving both employer demand and creating a diverse STEM workforce.

Employers help identify the skills that are truly necessary for skilled workers and shape curricula suitable for both classroom teaching and on the job learning. This clarifies employer expectations around the necessary skills for a particular job, expanding the labor pool by eliminating inflated requirements such as bachelor's degrees for entry-level positions.

Read the full case study by the U.S. Chamber of Commerce Foundation: https://www.forwardontalent.org/stories/advancing-san-diego-a-match-maker-for-employers-talent-suppliers/

Find out what San Diego Regional EDC is doing now: https://www.sandiegobusiness.org/blog/san-diego-regional-edc-and-talent-pipeline-management/

CityWorks DC:
Collaboration for Sustainable Data Systems

Challenge

[CityWorks DC,](#) a Washington D.C.-based nonprofit seeking to improve early career outcomes for local youth and young adults of color, set out to collaboratively tackle the challenge of needing a stronger mechanism to track the workforce outcomes of residents served by the city's education and workforce systems. Without this mechanism, DC policy makers do not know the impact of current education and workforce programs on residents' employment outcomes, residents do not have public information on outcomes that can enable them to make informed decisions, and employers struggle to access reliable information on providers of talent.

Response

Dr. Erin Bibo, CityWorks DC's Vice President of Strategic Initiatives, collaborated with CREC in 2022 to advance their work to establish this data system. CREC supported the engagement effort in two ways: 1) helping CityWorks DC access localized labor market data from Lightcast, to inform stakeholders about the types of employment and workforce data available; and 2) offering Subject Matter Experts (SME) sessions to inform the design of the P-20W system.

"Our big project was to establish a P20W data system in DC in partnership with the city's Deputy Mayor for Education, which was very high–risk, high–reward going in, and against all odds, we made it happen. In September, the mayor's office announced the establishment of a new office, which is the Office of Education through Employment Pathways."

— ERIN BIBO, CITYWORKS DC

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3. The Education to Employment data system is a state-level longitudinal educational database that was created for understanding student data from preschools into future workforce.

Impact

DC's Mayor proposed $3.8M in local funding to launch the Education to Employment Data System[3], which was subsequently approved by the DC Council. The Mayor also signed the Council-introduced legislation needed to establish the system. In January, 2024, the city officially announced the launch of [DC's Office of Education Through Employment Pathways](#), which is responsible for leading the development of DC's Education Through Employment Data System. At its core, this work is focused on building understanding of the opportunities and supports that set DC residents on a path to economic mobility.

Lessons Learned

As data lead, Bibo's strong commitment to engaging her colleagues and partners across the city notably improved the city's data-related capacity building and her organization's effectiveness. Her efforts will ensure that CityWorks DC and other DC-based organizations can be more effective advocates for the students they serve.

Bibo also advocates for the enhancement of privacy, access and interpretation of data, as well as data-driven decision-making. Bibo's influence, supported by CREC, demonstrated the potential for progress in leveraging data as a strategic asset, integral to building equitable career pathways for historically underrepresented youth.

EmployIndy:
Building a Foundation for Strategic Action

Challenge

EmployIndy believes that a strong advising system is key in ensuring that all students have access to career pathways and opportunities to explore the best fit for their future in the workforce. Limited information contributes to inequitable access to career pathways for historically underrepresented youth. Implementation of a more robust, equitable system would include customized, high-quality information for decision-making, and assistance with navigating the inevitable challenges as they arise. EmployIndy joined the Building Equitable Pathways project to learn how to create a data system that provides advisors and students with accurate, timely data to make accurate decisions. To that end, EmployIndy also needed to understand policy, security, technical, and strategy considerations to incorporate into the system's planning, design, and implementation.

"Identifying the different processes of data management has helped us understand the strategy and get our house in order to be able to jump when an opportunity presents itself. Two years ago, we would not have been ready to handle some of the sensitive data that would really benefit our programs and our partners."

– KRISTEN BARRY, EMPLOYINDY

Response

Kristen Barry, VP of Research and Strategy and the data lead for EmployIndy, initially sought to connect information that would allow them to identify and address gaps in student participation, completion, and outcomes by gender, race, and ethnicity. One of the first sessions she attended was a multiday data management workshop designed to help participants take stock of available data and internal data systems. Barry gained perspective on how EmployIndy's data appears to others and how to assess data quality within the organization.

While continuing efforts to form data partnerships with local educational institutions, EmployIndy experienced a major re-organization resulting in new staffing to support internal data governance and management systems. A new strategic plan also prioritized the data as a strategic asset. Barry participated in continuing technical assistance focused on refining new metrics for strategic impact and building sustainable systems for program evaluation including access to state LMI data and using public data sources from the Department of Labor (i.e., Registered Apprenticeship Partners Information Data System (RAPIDS) and Participant Individual Recovery Layout data (PIRL)).

Impact

EmployIndy has gained capacity in governing and managing data. With increased capabilities, they can utilize data as a strategic asset and are positioned to act on future opportunities to access data, conduct research on program impact, and utilize data effectively as a programming tool.

Proof of concept can be found in the data incorporated into a custom data platform to facilitate work-based learning services in Indianapolis Public Schools (IPS). Through a data-sharing agreement, EmployIndy and IPS were able to connect this platform to the district's student information system, allowing for tracking and reporting work-based learning activities alongside existing information, combining both academic and career interests and training activities. The integration of this data will provide career advisors with more complete information to personalize their guidance and improve students' decision-making. In this way, strong internal data systems are leading to strong advising systems and more equitable access to career pathways.

Lessons Learned

In a final TA session, Kristen Barry reflected that the most important lesson learned through this process is that, while it is tempting to jump right into goals for data sharing or usage, it is important to work from a solid foundation, both in terms of knowledge of how the data will be used and keeping data secure. Overall, EmployIndy found participating in the program, learning about the process, and integrating their data will help build more equitable education and career pathways for Black, Latinx and historically underrepresented youth.

YouthForce NOLA:
Bolstering Internal and External Data Capacity

Challenge

YouthForce NOLA is an organization in New Orleans, Louisiana, that works alongside a network of partner schools dedicated to helping public school students in the city gain access to high-wage, high-demand careers. The region's limited data capacity, due in part to various organizational silos and a lack of infrastructure, hampered the organization's ability to obtain education and workforce development information and address the underlying equity issues among Black, Latinx and low-income youth. YouthForce NOLA joined the Building Equitable Pathway cohort to increase this regional capacity and promote more equitable pathways to colleges and careers for New Orleans students.

Response

YouthForce NOLA began working with CREC in 2022 and participated in a series of TA sessions and Subject Matter Experts (SMEs) sessions with CREC regarding how to use data effectively to promote workforce system changes and achieve more equitable career pathways for Black, Latinx, and historically underprivileged youth. Topics included identifying data sources, data strategy, data analysis, accessing and sharing data, data communication, and data governance and management. These TA sessions helped YouthForce NOLA increase their capacity to understand, interpret, and leverage LMI to deliver data-driven solutions.

Impact

According to feedback from YouthForce NOLA's data leads, CREC's TA sessions made a valuable impact on their day-to-day work. Simon Spadaro-Bliss, former Director of Data Strategy at YouthForce NOLA, reported that participating in TA sessions builds confidence in data management, as well as enhances data sharing and data analysis capacity. These improvements allow the organization's leadership to provide instruction on optimizing their goals for internal analysis to foster wide-reaching impact.

David Shepard, the Director of Policy at YouthForce NOLA, discussed how his organization leveraged K12 data to shape more equitable policies. He also highlighted progress made in leveraging an external partnership to facilitate research using K12 data. Additionally, the legislative advancement of Louisiana Act 567, which enables state education agencies to build a shared database, could be transformational for YouthForce NOLA. The new act allows university-based research partners to access that data, allowing matching education records to employment records through the age of 26. This advancement left YouthForce NOLA with the task of establishing a partnership with a research institution focusing on gaining data access for internships, credential attainment, and soft skills development.

"When I first started, one thing in particular that was helpful was the supply chain mapping exercise where we talked through key questions: Who's the data producer? What are they? What do they produce? Who uses it? Having an understanding of our own ecosystem will allow us to conduct further longitudinal employment analysis."

–ALICIA DAGOSTINO, YOUTHFORCE NOLA

Alicia Dagostino, the Director of Impact Evaluation for YouthForce NOLA led this work moving forward. Networking with her counterparts at organizations nationwide and CREC support helped Alicia quickly acclimate to the current and prospective network and partners for the organization and informed how to advance her partnership with a local university to shape the analysis of postsecondary outcomes from educational programs.

Lessons Learned

YouthForce NOLA learned both the challenges and ultimately the rewards of leveraging a combination of tools, people, and organizations when solving challenges pursuing a longitudinal employment data analysis strategy. Consistent participation in TA sessions was key to their success, as the support provided helped YouthForce NOLA maintain its resilience during leadership changes.

YouthForce NOLA also demonstrated progress improving the organization's and the region's CTE data capacity, which is essential for their mission. They also improved their ability to manage personally identifiable information and quickly identify useful variables to further expand access to equitable education and career pathways for historically underrepresented youth.

Say Yes Buffalo:
Refining Data-Related Capabilities to Advance Programming

Challenge

[Say Yes Buffalo](#) assists historically underrepresented students in the Buffalo area reach their full potential by removing barriers to educational attainment. By expanding access to family-sustaining and wealth-building careers with improved economic mobility, the region will experience a more equitable and thriving economy. To that end, Say Yes Buffalo introduced the Careerwise Greater Buffalo apprenticeship program to the Buffalo Public School District in 2021, which serves as a talent pipeline for employers while allowing students to gain hands-on experience working alongside industry professionals. The program activities and data-related activities are new to the organization, so establishing the program's data systems was critical for assessing the program's lasting effects, enhancing its implementation, and motivating employers to engage actively.

Response

Christopher Lee, Data Director at Say Yes Buffalo, participated early on in CREC's TA sessions and SME sessions. A tragic mass shooting in Buffalo in 2022 required the organization to temporarily divert resources away from TA in favor of supporting other community programs. Yet despite these events, Christopher's dedication to engaging students, schools, and employers to improve pathways to wealth-building careers as a method for improving the well-being of the community at large never wavered.

When Christopher reengaged, he consistently participated in learning opportunities and appreciated exposure to other organizations' dashboards and data management resources, all of which enhanced the organization's capabilities in data governance,

"I utilized the Power BI dashboard system to help the local school district build their own data tool. Since I am working to bring the CareerWise model to the Buffalo level, that student level data from the local school district has been used to inform this process."

–CHRISTOPHER LEE,
SAY YES BUFFALO

data cleaning, standardization, effective communication practices, and data collection processes. Christopher believes that strengthened data-related capabilities will enable Say Yes Buffalo to make data-driven policymaking decisions to help historically underrepresented students in their community. Participation with the Building Equitable Pathways group and attendance at the C2ER Conference helped Christopher identify additional metrics for equity in the region related to wealth-building careers, including access to health insurance and savings plans. He analyzed the data Say Yes already had and through a gap analysis identified missing data points, and successfully incorporated that data collection into the Careerwise Greater Buffalo program data systems.

Impact

Say Yes Buffalo has had great success in formalizing strong data practices in individual programs to benefit the organization. Christopher's technical skills were recognized in his successful creation of a dashboard for the school district, which helped solidify its status as a trusted partner in its networks and with other local education institutions, providing a great opportunity to secure sustainable funding. His increased confidence and leadership brought about strategic decisions to create a new position for internal data systems and program evaluation.

Another major achievement for Say Yes Buffalo was expanded capacity for data collection and analysis in the Careerwise Greater Buffalo program. The Careerwise Greater Buffalo research goals expect to demonstrate employers' return on investment for participation, providing a clearer direction for the organization while building the case for expanded data access.

Lastly, with CREC's assistance in employer engagement strategy, the data collection and entry process of apprentices' biannual skills assessments was improved. This led to an increase of 45% in the response rates of assessments from apprentices and employers, which expands their capacity to recruit new cohorts, ensuring students have access to education and workforce participation and helping to sustain these programs as they grow.

Lessons Learned

Say Yes Buffalo achieved these goals with the following practices:

Intentional timing of the hiring cycle. Although a student has a short period of time to select a higher educational institution, this is a crucial time for Say Yes Buffalo to seize the opportunity as it requires a split of education and apprentice time.

Mastering essential data storytelling skills. Christopher reflected that storytelling is an important part of the work, especially when the organization is entering the new field of apprenticeship. Employers and stakeholders are willing to contribute data when they understand the benefits, such as developing their own workforce or proving the ROI of participation. Organizations are more willing to commit resources to build data infrastructure and research when there is a success story about a pilot to demonstrate the value and utility of the program.

Strong commitment of the data lead. In a mission-driven organization, an operational specialist must advocate for increased data-related capacity to a team that may not fully recognize the technical resources required. Christopher's dedication in building data capacity for Say Yes Buffalo was integral for its achievements. His strong commitment helped him better understand his organization and utilize the data available to create new data that helped carry out the mission of the organization.

CareerWise Colorado: Aligning Programming Through Collective Metric and Evaluation Tools

Challenge

CareerWise Colorado works to build and grow a youth apprenticeship system by integrating work-based apprenticeships in a variety of careers into K12 and higher education systems. CareerWise Colorado faced an equity issue that it wished to understand better through data collection and analysis.

Response

CareerWise Colorado began to work with CREC in 2022 and became one of the most involved participants in the series of TA sessions and SMEs sessions. They were particularly engaged regarding data usage in response to CareerWise Colorado's priorities. Over the course of the program, their one-on-one sessions with CREC evolved to focus on a data-related communications strategy. While continuing to attend sessions, including a multiday data management workshop to build internal capacity for data processes, CareerWise began exploring data sharing with other organizations in Colorado. This is important because they currently work primarily with state and federal data but can enhance their learning by gathering data from other sources which are more directly related to their services.

"A big lesson from this year and past years is really about the unique nature of each community, its context, and the way that their apprenticeship programs need to respond. We've made a lot of progress fleshing out that structure and will continue to refine that over the coming year."

– MANDANA NAKHAI, CAREERWISE

Impact

Enhancing peer learning and further organizing their data to serve programmatic purposes has had a tremendous positive impact on the internal workings of CareerWise Colorado. Armed with new evaluation tools, they have been able to identify key metrics and specific language to better understand the gaps in the apprenticeship program. These are important strides towards ensuring robust data and evaluation systems are in place to align programming with intended outcomes, identify the root causes of career gaps regarding Black and Latinx youth, and track the metrics most important to CareerWise's overall mission. Because of this work they are focused on building the confidence of their staff and credibility of their data storytelling.

CareerWise Colorado has used this increased data capacity to take a broader look at their organization. They were able to develop a logic model to help focus on key inputs, activities, and metrics across their program delivery sites. This has been expanded into a national best practices logic model to lay out inputs, outputs, and long-term goals of the CareerWise programs across the country. While they plan work with an external evaluator to unify CareerWise communities with common references, their data leaders seek to center data for decision making in young adult programming and call attention to ways that information gathering, reporting, and evaluation could be improved. All these actions strengthen the organization and its networks so that CareerWise Colorado can better understand and address the racial, ethnic, and gender disparities in apprenticeship outcomes.

Lessons Learned

Mandana Nakhai, Senior Manager of Research at CareerWise Colorado shared these lessons:

Broader data systems change is needed. Currently data only flows in one direction. More sharing of data, and incorporation of ground level producers of data, will improve data collection and interpretation.

Sticking with the original problem at hand can be challenging. Data issues are often in flux and need to be intentionally connected to the larger programmatic strategies and initiatives at the organization level. As those larger strategies shift, the problem may also shift in terms of scope and direction.

An external lens can be helpful in revealing how evidence may be interpreted. Getting perspective from a partner organization or other consultant in the data ecosystem can provide important feedback on how all the pieces fit together.

Education Systems Center at Northern Illinois University: Investing in Data Tools to Increase Stakeholder Buy-In

Challenge

The Education Systems Center (EdSystems) at Northern Illinois University (NIU) is a policy development and program implementation center operating across state and local levels to advocate for advancing racial equity and prepare more youth for productive careers in a global economy. EdSystems had a high level of data capacity when it entered the cohort, but the static nature of a dashboard showing measures of college pathway success was preventing its network of communities from exploring their local and statewide data in a meaningful way. Local school districts were unable to easily view historical trends in their data, or to view multiple measures at a time or in context.

Response

To improve its data visualization capabilities, EdSystems began participating in CREC's one-on-one TA sessions and SME sessions to optimize its data dashboard. Topics included data communication and improved technical software skills such as Lightcast, Tableau, and R. CREC also leveraged expertise with LMI data to help EdSystems improve data products and communicate key LMI indicators to audiences with non-technical backgrounds. With this assistance, EdSystems could communicate secondary and postsecondary education outcomes data more effectively to K-12 districts and develop more effective data protection measures for Personally Identifiable Information (PII).

Impact

Thanks to CREC's one-on-one TA and SME sessions, EdSystems has enhanced and solidified its data visualization capabilities. The organization can now independently develop Tableau dashboards internally without relying on external parties. This upgrade has empowered EdSystems to take greater control over its data and enable routine updates and refinements to the dashboard as needed. Specifically, EdSystems has developed and shared its new Career Success Network Dashboards with stakeholders which link K-12 and postsecondary data to highlight key indicators of academic progress. Stakeholders have also acknowledged EdSystems' achievements and asked for additional dashboards summarizing student-level data. Moreover, EdSystems strengthened data storytelling capabilities has facilitated stronger connections with its stakeholders, allowing them to re-evaluate their metrics to make a more meaningful impact promoting racial equity in education. Ultimately, these efforts have enabled pathways focused school districts in Illinois to channel decision-making information to the local level, thus helping to build more equitable education pathways for historically underserved youth.

Lessons Learned

Participating in CREC's TA and SME sessions offers both technical and non-technical advantages. On the one hand, EdSystems has expanded its data visualization skills to communicate with stakeholders more effectively regarding building equitable education pathways for historically underrepresented youth. On the other hand, EdSystems demonstrated resilience while undergoing leadership change. This smooth transition has allowed the organization to continue carrying out its mission.

"We were able to bring communities from Northern Illinois to a meeting place to talk about their data. And in one of those groups there were people that hadn't spoken to each other in a number of months. Through talking about remediation data, they were able to realize that the Community College had been offering free tutoring services that the high school could utilize. That conversation was able to foster those realizations."

– MEMUSI NTORE, EDSYSTEMS NIU

Delaware Department of Education – Career & Technical Education:
Streamlined Data Systems for Programmatic Change

Challenge

Delaware Pathways is a state program linking education and workforce development programs to provide work-based learning for students in high-demand career pathways. An important component of the Delaware Pathways initiative is making high-value Career and Technical Education (CTE) accessible to all students. Delaware Department of Education (DDOE) Office of CTE administers K-12 Local Education Agencies (LEAs) that provide CTE programming. DDOE identified three challenges as they build more equitable pathways: 1) difficulties engaging students around questions of future career; 2) unequal educational or economic return on investment for postsecondary education options, and 3) a lack of diversity, equity, and inclusion (DEI) for historically underrepresented youth. Delaware Pathways sought to explore and better understand how the intersection of policy, student racial equity, and data can be used to improve program design and organizational practice for data-driven decision-making. This included engaging with more students, especially historically underserved youth, to gain their perspectives regarding education and career pathways.

Response

To address these issues DDOE CTE began working closely with CREC in mid-2023 and participated in CREC's Technical Assistance (TA) sessions seeking to leverage their access to K-12 data to inform state-wide CTE policy. Jon Wickert, Director of DDOE CTE directed the team's work toward developing a system to use student participation data in conjunction with LMI in a new CTE curricula review process. This allowed the organization to focus more on equity issues within the school district. The team grew an appreciation for the vast amount of data available and their organization's technical capabilities, while exploring the potential stories the data could tell.

"A big win is our data organization matrix that we put together. It is an internal tool that we created to take all of our data points and put them in one place. From there, we can figure out where those data points are going to be used and who they're used for, who's the audience, how they are aggregated, and how they are disaggregated."

– BART GILL, DDOE

Impact

CREC's one-on-one TA expanded DDOE data-related capacity and its role in advancing racial equity. Specifically, the Delaware Department of Education adopted the Inclusive Goal Builder, a tool developed by Advance CTE, a national organization that publishes enrollment and completion data categorized by state and demographics. This tool captures aspects of historically underrepresented youth, non-native speakers, and low-income youth thus establishing high-level indicators for equity. The tool will be used by the state Program of Study review committees and will be available to LEAs as they incorporate student data and LMI into their region-specific programs. The DDOE team then focused on building efficient and sustainable systems for organizing their student data, including an internal guide to data related to indicators that will be most relevant to program and policy decision-making.

Consequently, DDOE improved its data efficiency, and enabled DDOE to focus on data-driven policy making. Wickert stated that participation in TA built their ability to think of data as an asset for decision-making, rather than simply a requirement of federal law.

Lessons Learned

DDOE has learned the following lessons from participating in CREC's TA sessions:

Not reinventing the wheel. The Delaware Department of Education has multiple data points available. With CREC's assistance, Delaware Pathways could utilize existing resources from Advance CTE, specifically the Inclusive Goal Builder tool, to integrate data to promote racial equity. This approach saves time for DDOE for more stakeholder engagement.

Facilitation in stakeholder engagement. When engaging with stakeholders, taking the initiative, and guiding them throughout the process is crucial. This approach fosters deeper understanding between stakeholders and provides an opportunity to share insights that can largely improve the program. Ultimately, it could lead to more effective and sustainable long-term outcomes.

Create and maintain organized documentation. Organizing and updating documents about data sources, limitations, and important indicators helped DDOE manage information during staff turnover and ensure smooth knowledge transfer.

Results

Several important patterns emerged after two years of engagement with this cohort of intermediary organizations. Overall, organizations that are trying to build data infrastructure at both state and local levels were adept at picking from the suite of technical assistance options to meet their specific needs. On the other hand, those organizations most focused on their own data management and governance structures benefited from a variety of intensive technical assistance and peer learning sessions as they worked to advance their systems and introduce new innovations. Some organizations were operating in both spaces, necessitating a blended approach. Regardless, each organization must now figure out how to allocate scarce resources for skill building moving forward and determine the intended effect they want to have in their state and region.

The examples above represent a few ways participating organizations use data to increase effectiveness. Several organizations worked hard to generate community and business buy-in to elevate the importance of state and local data systems for long-term accountability and learning processes. For those in this space, early exposure to data infrastructure experts at the state level was most valuable. Other organizations focused on building foundational data management and governance skills as building blocks for future data-related work. Several organizations reported that participation in an intensive data management governance course, as well as regular communication with a facilitator at CREC, helped to advance these goals.

Additionally, several organizations found that internal and external capacity must be built simultaneously. An organization's internal work to redefine an agenda may require a state policy change, and vice versa, and the skills and knowledge required for both internal and external capacity building may be complementary. For example, organizations that gained awareness of their state and local data ecosystem were able to strengthen capacity to advance data-driven programming. By understanding current data gaps and potential solutions, participants gained an understanding of their organization's challenges in a broader context.

Lastly, developing collective metric and evaluation tools was essential for a few organizations, pushing them to align programming across program delivery sites and strategically link program data to the bigger picture. One-on-one coaching with CREC staff allowed these organizations to think through key audiences and refine which data to use. This helped build internal data capacity to engage partner organizations and increase buy-in. Overall, fostering data efficiencies helped to make data-related capabilities sustainable. Accountability helped ambitious organizations execute data-related actions on their timeline.

When viewed in totality, CREC found that at the end of two years most organizations were making progress toward their intended outcomes and had defined KPIs, though many still needed to gain buy-in from staff and partners regarding the validity and importance of the KPIs. They were able to access and analyze data for regular reporting processes though not necessarily to engage specific stakeholder groups on a regular basis. At the end of two years, some participating organizations had improved data-driven decision-making by improving their initial line of questioning, yet further progress is needed, especially at the regional level.

Regardless of organization type, most participating organizations experienced challenges accessing secure wage data systems to understand the employment outcomes of the youth they aim to serve. While organizations may be well positioned to work with data in terms of their core capabilities, oftentimes they do not have the time or capacity to devote to this work. These insights, among others, point to the underlying issue that data work is time and resource intensive, especially to present labor market data in appropriate context. Moving forward, it is important to recognize that these results from participating organizations, including K12 and university systems, are ultimately contributing to a feedback system that could hold them, as well as other direct service providers, accountable for further actions and progress made in this space. Their continued leadership advancing transparent and inclusive capacity building processes in their states and regions will be critical to their success, as well as the success of the students they serve.

Lessons Learned

The Building Equitable Pathways project provides several important lessons about the effectiveness of data-related technical assistance offerings. While critical data-related capabilities can be built at the organizational and regional level with sufficient support, that support is most effective when delivered in the context of real-time planning and problem solving. Some challenges, however, cannot be surmounted by individual organizations acting independently. Breakthroughs in data access and agreement on key indicators will require dialogue and coordinated action.

Some challenges, however, cannot be surmounted by individual organizations acting independently. Breakthroughs in data access and agreement on key indicators will require dialogue and coordinated action.

Additional takeaways include the need for stronger federal, state, and regional data systems and a shared data culture that supports learning and improvement. Intermediary organizations need state partners to leverage useful data, as well as data-forward leadership from local employers, schools, and students. Participating organizations were more successful when they had explicit audiences in mind for their data reporting and support from not only their CEO but also from other staff and partners that could help to make time and resources available for data analysis and its interpretation.

Looking forward, CREC sees a need for four concrete improvements that will support the development of data capacity in organizations working toward expanding education and career pathways for low-income, Black, and Latinx youth:

- State and local alignment;

- Stronger networks of data professionals;

- More effective support for intermediary organizations' data access; and

- Programs that remove barriers to accessing employment information.

The following pages offer detailed observations and recommendations related to each of these improvements.

State and Local Alignment

CREC and Jobs for the Future identified key "data enabling" conditions for building more equitable pathways—data inputs, data capacity (availability, access, and applications), and a data culture to leverage data as a strategic and community asset (see Figure 2). Individual organizations cannot solve the data challenges they face alone. They will need to engage an ecosystem of actors that is committed to evidence-based decision making. As mentioned previously, the participating organizations ran into many barriers accessing state wage data, suggesting a need for stronger relationships across a broader set of actors to ensure data systems are better funded and utilized.

Developing more extensive state and regional partnerships, driven by explicit goals to examine and refine more equitable programs and career pathways, will be critical to effective, evidence-based regional decision-making and sustained improvements across school and employment systems. To make better use of the data that is already collected on a regular basis, research capacities need to increase, which will require that leaders of intermediary organizations and their funding partners understand the complexity of the work and the resources needed to staff data analysis and support data users. Capabilities need to increase across federal and state agencies as well, so that data users have support in accessing, visualizing, and interpreting survey results and administrative data. In addition to increased capabilities, a shared learning or "research" agenda and learning culture will be necessary to sustain the work.

Figure 2: Critical Data Ecosystem Conditions

This graphic is adapted and sourced from JFF's report, [Data Enablers: Critical Conditions to Design, Deliver, and Evaluate Equitable Pathways.](#)

Stronger Networks of Data Professionals

CREC partners with two professional networks that are key to generating and sustaining data sharing at the state and regional level. The Council for Community and Economic Research and the Labor Market Information Institute represent two constituencies for advancing data-driven decision making for more equitable pathways: researchers and analysts at state and local economic development organizations (EDOs), and state labor market information analysts. These professional networks can bolster research capacity at the organizational level and provide critical insights for designing demand-driven career pathways and for processing and analyzing data crucial to their mission. Intermediaries and other organizations with limited research capacity should consider partnering with these types of networks to bolster both individual and organizational data-related capabilities.

The Council for Community and Economic Research is the nationally recognized, trusted leader in the community, economic and workforce research field.

The Council for Community and Economic Research (C2ER) supports community prosperity by promoting excellence and leadership in community, economic, and workforce research through professional development and networking; unique quality products; and the availability, analysis and use of data.

The Labor Market Information Institute is the pre-eminent resource for supporting the development, interpretation, and use of labor market information. The Labor Market Information Institute (LMII) supports and promotes the production and use of high-quality workforce and employment information by providing training and professional development to state and other LMI professionals, improving the knowledge, skills, and understanding of LMI customers, offering management, staffing, and coordination to support the nationwide LMI infrastructure, and fostering and encouraging the use of local, state, and national LMI in decision-making related to workforce development, economic development, education, and other relevant policy areas.

More Effective Support for Intermediary Organizations' Data Access

CREC's individualized assistance ensured that skills were learned "on the job" in context of problem solving; however, some important data-related capabilities are difficult to "teach" while others require additional resources and tools. Lessons learned for future program design include:

- Organizations engaged in data process improvement efforts benefited from a variety of assistance, including training and peer learning; and

- Expert-led sessions were most useful when connections were leveraged immediately to inform ongoing work with targeted applications.

Participating organizations with specific audiences and objectives in mind were better able to process new information and identify data and data infrastructure solutions that were "fit for purpose." For some organizations, this meant working within the context of organizational challenges; for others it meant leveraging outside expertise. The peer learning sessions challenged organizations to describe and accept feedback on their approaches to building more equitable pathways in real time. This prompted some organizations to consider utilizing more disaggregated data on a regular basis to inform programming.

CREC identified three areas where it was particularly difficult to make progress, where specific conditions had to be met – engaging other data owners effectively to share data, gaining consensus on common indicators of success, and accessing/analyzing student persistence and employment outcomes information. These challenges will need to be addressed through programming in collaboration with state and regional partners. For example, to better support progress at the regional level across all participating organizations, CREC invited data leads to identify partners from their regional labor market or state to participate as partners with them in CREC programming. For future cohorts, these partner commitments could be designed into the project from the start with explicit shared goals for leveraging data as a strategic asset in the state or region.

State and federal agencies are important but require additional infrastructure and delivery upgrades to provide relevant data to key stakeholders. By improving ease of use, public data from these sources can be utilized as an important placeholder if state data systems such as KYSTATS (see example above) are not realistic. These partnerships, particularly those with state agencies, will be especially important for the intermediary organizations that aim more directly for data system change at the state and regional level and require partners dedicated to building complementary capabilities.

Programs that Remove Barriers to Accessing Employment Information

Participating organizations had difficulty accessing confidential data because they did not have the necessary funding, partnerships, and technical language, or the pre-requisite data management skills. Some are also operating in states where minimal support is provided by state agencies.

Employment information is critical for understanding the outcomes of program participants. It must be shared purposefully and securely for explicit public benefits. The cases above demonstrate that data sharing and analysis in context can lead to a deeper understanding of education and employment dynamics for young people. Organizations and state agencies are more likely to share their data if they see a clear beneficial outcome for students and job seekers. Transparent processes for data sharing and addressing privacy concerns can help to ensure buy-in from data providers, program managers, and other stakeholders.

Given this persistent barrier, CREC has pivoted to exploring ways for intermediaries to access this wage data through partners such as the Coleridge Initiative. In 2023, CREC introduced a potential partnership with the Coleridge Initiative and data access requirements for Administrative Data Research Facilities (ADRF) participation. This partnership could be particularly helpful for states that do not have funding to improve their own data systems. Several intermediary organizations have expressed interest and provided information about their ability and/or willingness to meet the requirements related to sharing data, data maintenance, and data security.

Reducing Risks and Sustaining Progress

The greatest risk to this project was that the disruptions from environmental, economic, political, and social events would distract participants and partners from making incremental progress toward larger systems change goals. COVID was a pressing issue for many organizations during this initiative. Gun violence disrupted communities across the country and affected organizational priorities to varying degrees.

During this time there was also an influx of federal funding for education, economic development, and infrastructure (including funding targeted to these activities and to workforce and social services that states and localities have received through the Treasury State and Local Fiscal Relief fund) which provided the opportunity and threat of a shift in focus. In some cases, these investments added to and in others distracted from the need to target investment through evidence-based decision making. CREC's strategy was to help organizations sustain their priority work as they pivoted to address urgent needs by providing relevant curriculum.

A final risk was that CREC might fail to identify, center, and support the expertise of individuals from participating organizations and the communities they serve. If their voices and expertise were not centered, there was a risk that our contributions could undermine rather than bolster the broader systems change work these organizations are seeking. For this reason, CREC relied on and continues to seek counsel from established intermediary organizations and leaders from Black, Latinx, and low-income backgrounds to inform necessary change and the future shape of the labor market information ecosystem.

Major changes are still required to sustain the data-related work of these education and workforce intermediaries and deliver value to young people seeking to pursue college and career. For example, state labor market information agencies could streamline data sourcing and analysis but would need more sizable funding to reverse decades of disinvestment and improve this critical component of the nation's LMI data infrastructure. Without an infusion of funding, partner organizations must enable state agency leaders and analysts to introduce more innovative processes and products to serve their clients while building their reputation and credibility as trusted data providers.

There is significant work to be done, and intermediary organizations have much to contribute to a more robust and collaborative research and learning agenda that engages students as well as federal and state agencies. This collaboration has the potential to deliver more effective evidence-based investments for regional economies nationwide.

Ready For Action: An Intermediary Organization's First Steps

For organizations and regional leaders planning to invest in data as a strategic asset, these tools can improve results.

Learn About LMI

What is Labor Market Information? Where does it come from?

This LMI Primer (pdf) contains a broad view of the many sources Labor Market Information, including the agencies, data sources, and use cases. It is a resource created for Building Equitable Pathways Community of Practice and included in the Public Data for Building Equitable Pathways eLearning course.

Get familiar with LMI data sources with CREC eLearning course

Interested in learning even more about how to access and analyze any of the datasets described above (or how to use LMI to inform your pathway work more broadly)? Check out our eLearning course: Public Data for Equitable Pathways (pdf). This course may qualify for points toward a Certified Economic Research Professional certification.

Key LMI data source for building equitable pathways research: SLDS

Does your state have a State Longitudinal Data System (SLDS)? Check the status on the Education Commission of the States (ECS) SLDS State Profiles webpage. Use this website to find out if your SLDS contains information from early learning, K-12, postsecondary, and workforce systems.

Next Steps

1. Learn about publicly available data & labor market information (LMI)

2. Assess data management capabilities

3. Connect with others to share resources and success stories

Assess data management capabilities

Start with an activity to understand your organization's data management and governance practices. Keep in mind your organization's unique data needs and solutions, and work through the following questions:

1. What is your data management vision – what is the purpose of the data you collect?

2. Who has access to what information, when, and why?

3. What tools do you have to share information about the data you collect and store?

For many organizations, developing a data dictionary is a first step to understanding and sharing information about data collected and available for analysis. Do you have a data dictionary or other inventory that is easy for data users (e.g., staff and partners) to understand?

The following resources may be useful for data-driven leaders and technical staff at your organization:

-   Review this introduction to Data Management & Governance (pdf).

-   If you work with sensitive or data that identifies individual program participants, reflect on your organization's data security with this checklist (pdf) and check out this more comprehensive self-assessment (pdf).

-   Who is responsible for your organization's internal data system? Start with this worksheet (pdf) to identify key knowledge areas and responsibilities.

Build a strong foundation with a CREC eLearning course

Now that you have a high-level vision and issues in mind for improving your organization's data management and governance, next comes the hard work of putting it into practice! If you are looking for a larger overview of the concepts and principles behind data management and governance, check out our eLearning course: Fundamentals of Data Management and Governance (pdf).

Connect With Other Data and Research Professionals to Share Resources and Success Stories

Join a community and share your success!

In organizations where staff and resources are focused on service provision, the operational data and research professionals are the champions for daily governance of the data used for program evaluation, advocacy, and systems change. You may be the only dedicated data or research professional at your organization, but you are not alone!

Participating in a community or joining a professional association is a great way to get inspired with new ideas, learn about evidence-based practices, collaborate with other professionals and organizations toward a common goal, and demonstrate your leadership skills.

CREC partners with two professional networks: The Council for Community and Economic Research (C2ER) and the Labor Market Information Institute (LMII). C2ER promotes excellence and leadership in community, economic, and workforce research through professional development and networking; unique quality products; and the availability, analysis and use of data. LMII supports and promotes the production and use of high-quality workforce and employment information by providing training and professional development to state and other LMI professionals.

Receive C2ER/LMII updates: Learn about state and federal initiatives; data systems change advocacy; cutting-edge community development research; analysis of up-to-date Cost of Living Index data; upcoming in-person and remote trainings; certification opportunities; and annual conference updates.Subscribe here.

Attend the C2ER Annual Conference/LMI Institute Annual Forum – with a Building Equitable Pathways track!

The annual C2ER conference provides economic and workforce development researchers a forum to discuss innovate ways to use data, hear about leading practices in the field, and network with a larger community.

At the 2024 conference, you will have the chance to:

- Hear from speakers and attend workshops targeted at Building Equitable Pathways organizations

- Rub shoulders with federal agency decision-makers

- Learn from the most innovative and inspiring practitioners

- Take home real, actionable steps to advance equitable pathways through data

For more information, read about a collaborator's experience: Reimagining Data Ecosystems at the C2ER Conference. Registration and conference agenda for the 2024 conference is available here.

Meet our Partners in Building Equitable Pathways

Jobs for the Future was the convening organization of the Building Equitable Pathways Community of Practice. Their Resource Library contains resources relevant to all strands of the community of practice, including Data & Infrastructure.

Equal Measure served as the learning and evaluation partner to the BEP initiative, developing the Equitable Pathways Intermediary Framework and corresponding surveys for intermediary staff and partners. Read their report from June 2023 that describes the Equitable Pathways Intermediary Framework as it relates to the Building Equitable Pathways Community of Practice and view the framework graphic below.[4]

Figure 3: Equitable Pathways Intermediary Framework
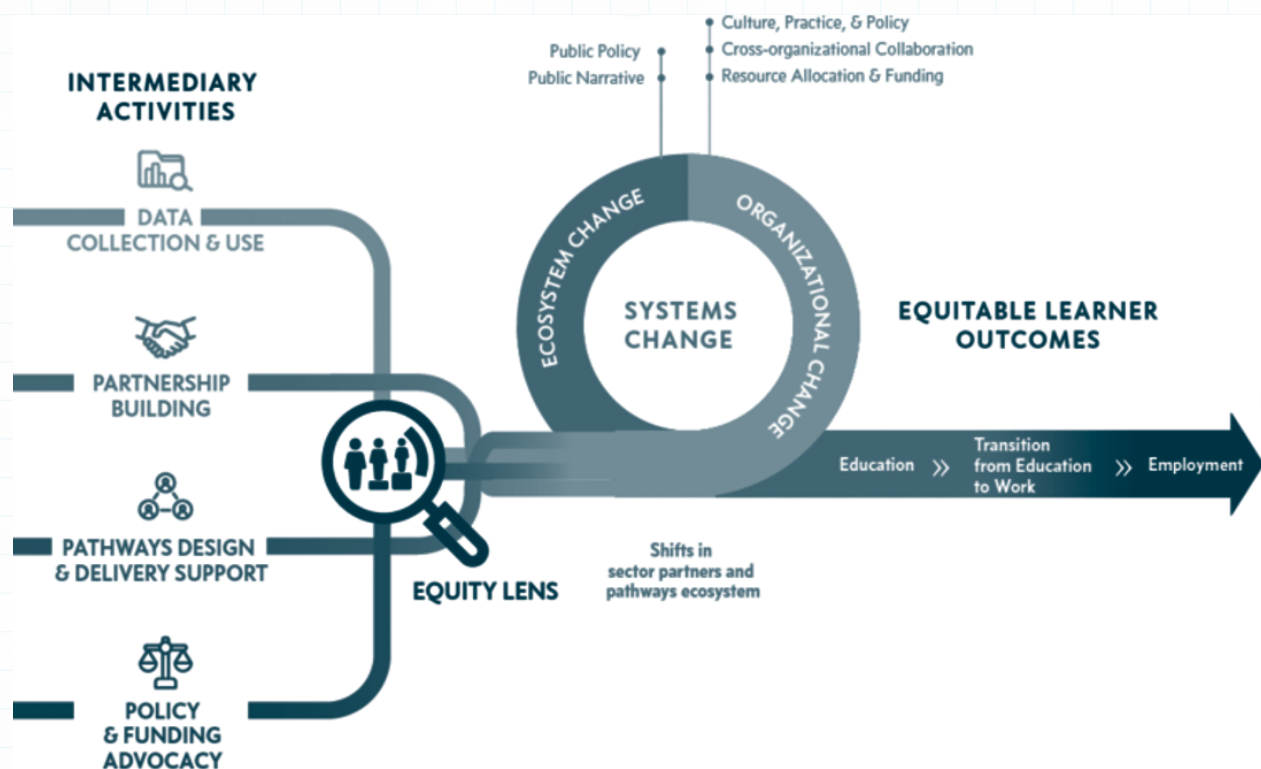
The Center for Innovation in Education (CIE) (a.k.a. Leading with Learning) provided education- and equity-focused technical assistance to the Community of Practice. Visit their Resources page to learn about their latest insights into the national, state, and local education landscape.

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4. The graphic is slightly adapted from Equal Measure's Equitable Pathways Intermediary Framework.

Appendix I: Subject Matter Expert Session Tables

SME Session Name	SME Session Description
LMI Data Tools (Days 1 & 2)	Facilitated by the CREC Team who introduced participants to JobsEQ, Public Insight, and Lightcast tools.
Third Party Data Tools	Facilitated by Joshua LaFon, Director of Client Success, Strategic Accounts at Lightcast and Dan Quigg, CEO of Public Insight. Josh and Dan provided an orientation to their subscription-based platforms with scenarios relevant to Building Equitable Pathways participants.
Data Sharing for Data Leads	Facilitated by Bridget Blount, Chief Impact Officer at Baltimore's Promise, James Sadler, Director of Research and Analytics at Baltimore's Promise, and Scott Secamiglio, Visual Analytics and Strategy Director at Kentucky Center for Statistics (KYSTATS). Bridget and James gave participants insight on how data sharing agreements work through a discussion of major stakeholders, building relationships with these stakeholders, relevant SOPs/policies that should be in place, and overall planning. Scott walked through key factors that play a role in their ongoing data-sharing efforts with members of the community.
Getting to High-Quality Employer Engagement and the Role of Data	Facilitated by Taylor Dunne, Manager at Talent Initiatives for San Diego Regional Economic Development Corporation (SDEDC). Taylor facilitated a discussion on strategies toward high-quality employer engagement.
Communicating Your Data; Policy-relevant Data Visualizations w/ Jonathan Schwabish	Facilitated by Jonathan Schwabish, Senior Fellow in The Urban Institute's Income and Benefits Policy Center. Jonathan covered best practices for communicating data and addressing visualization obstacles that arise during the process.

SME Session Name	SME Session Description
Privacy and Sensitivity: How to work with Government Partners to Access Non-Public Data	Facilitated by Ahu Yildirmaz, President and CEO at the Coleridge Initiative; Diana Barrett, Data Officer at Indiana Department of Workforce Development. Ahu and Diana discussed their data sharing practices and goals and building capacity for sharing data across state agencies.
Applied Indicators training - Theory and Practice for Choosing Indicators, What Data to Display and How	Facilitated by Alan Spell, Assistant Professor EXTNS at the University of Missouri Exceed - Regional Economic and Entrepreneurial Development. Alan discussed factors in determining key indicators for regional analysis.
For Data Managers: Putting Our Data to Work (Days 1 & 2)	Facilitated by Dr. Jamaal Green, Assistant Professor at the University of Pennsylvania. Jamaal facilitated a two-day workshop on key data management considerations, such as acquiring, processing, storing and providing data towards building equitable pathways.

Appendix II: Peer Learning Session Tables

Peer Learning Session Name	Session Description
Sessions open to all organizations	
Managing Your Own Data and Data Sharing	Attendees discussed their organizations' metrics, how they relate to their goals, and how they were developed.
Managing K-12 Data and Data Sharing **Spotlights: Educate Texas, CSCU, and Delaware DOE**	Attendees discussed systems for accessing and communicating K12 data and using data dashboards to enhance regional work-based learning evaluation.
Managing K-12 Data and Policies for Equity **Spotlights: YouthForce NOLA and Delaware DOE**	Attendees discussed using K-12 and Perkins CTE data for longitudinal analysis and progress monitoring.
Practice, Measurable KPIs & Results **Spotlights: Say Yes Buffalo, NIU EdSystems**	Attendees discussed progress and ongoing challenges with internal and external data systems, including weighing the costs and benefits of building dashboards and identifying data sources to answer research questions related to job quality.

Peer Learning Session Name	Session Description
Data Sharing Infrastructure & Indicators Peer Learning Group	
Kick-Off	This was the first meeting of the group, introducing TA offerings and discussing models attendees use for designing data sharing systems, how they used data in decision making, and system design elements needed to support progress towards Building Equitable Pathways goals.
Data in Decision Making	Attendees assessed their priority data clients, how they use data related to metrics their customers seek, and how they assess the usefulness of selected metrics on an on-going basis.
Evaluating the Effectiveness of Dashboards	Attendees different frameworks to evaluate the effectiveness of data dashboards to communicate outcomes to grantee constituencies.

Peer Learning Session Name	Session Description
Managing Your Own Data & Data Sharing Peer Learning Group	
Setting the agenda	This was the first meeting of the group: introducing TA offerings, discussing current gaps, and identifying needed resources for building capacity.
Getting Access to Government Data	Attendees focused on the process to obtain data state and local agencies, including identifying a point of contact and an overview of a research plan/proposal that outlines goals for the data and data governance for the agency to review.
Who's Using Your Organization's Data	Attendees discussed their primary data clients and how to enhance data usage to serve Building Equitable Pathways goals.
Data Governance and Equitable Pathways: Conducting a Needs Assessment	Attendees worked through a brief needs assessment to focus on best practices for data governance and accessing sensitive data.