

# Levers of Systems Change

## Section 3

State leaders potentially have a number of tools in their toolbox to improve the quality and effective use of data. They can enact meaningful policy that addresses limitations in current statute or regulation. They can target funding and resources to build capacity through professional development or targeted investments in technology and infrastructure. And importantly, they can encourage a culture of data-driven decisionmaking among state and local partners.

While some of these options may be out of the control of state leaders, everyone can play a part in advancing data quality and effectiveness, and states can take a number of different approaches to proactively manage political, capacity or other limitations to achieve success.

This section describes the four key levers of systems change within the career readiness data ecosystem:

**Policy** • **Technology** • **People** • **Processes**

By focusing on these four levers, state leaders can begin to improve the quality of the career readiness data ecosystems in their states.



## LEVER 1: POLICY



Policy is a foundational component of the ecosystem. It not only creates the enabling environment for success, but it also sets the parameters within which the ecosystem must operate. State and federal policymakers establish the rules of engagement by making decisions about who can access and use data; who is accountable for collecting, analyzing and reporting data; and how that data must be used. Having a loose policy environment can create confusion and diffuse responsibility. Having a restrictive policy environment can tie the hands of practitioners and make using data effectively challenging for them. It is important for state policymakers to strike the right balance through legislation, executive actions and regulations to clarify roles and responsibilities, provide funding and resources to build capacity at the state level, and make certain that standard operating procedures are in place to ensure privacy and data security.

### Examples of enabling policies in a high-quality career readiness data ecosystem include:

- State statute authorizing the development and governance of a statewide longitudinal data system for education and/or workforce data (data systems can be either centralized – meaning the data is connected and warehoused in a single agency or data system – or federated – meaning the data is stored in separate data systems but connected temporarily or on an ad-hoc basis);
- Budget line items that fully fund state data systems and personnel;
- Guidance for understanding and adhering to federal or state policy such as FERPA;

- Inter-agency data sharing agreements for the exchange of learner-level education, workforce and/or social services data;
- Inter-state data sharing agreements for the exchange of learner-level education, workforce and/or social services data;
- Data dictionaries and business rules;
- Policies and guidance requiring the use of common course and career pathway codes (e.g., SCED, CIP); and
- Policies and guidance requiring the use of unique learner identifiers.

## LEVER 2: TECHNOLOGY



Technology is the other foundational piece of a high-quality career readiness ecosystem. To collect, access and use data effectively, states must have the right infrastructure in place. While all 50 states, the District of Columbia and Puerto Rico have the ability to connect data across sectors, only 16 states and the District of Columbia have a full P20W data system that can connect early learning, K-12, postsecondary and workforce data, effectively allowing states to track learners as they progress across their entire career pathway.<sup>1</sup>

Getting these pieces right is easier said than done. States have built up siloed data systems over decades to support sector-level activities and state or federal reporting requirements, and many are now working to retool these systems to meet cross-sector reporting and evaluation demands. Not to mention, myriad local student information systems may be in use at the district or college level, complicating data exchange between the local and state levels. These systems must be structured in such a way that they can be interoperable and can align data seamlessly to the state level.

### Examples of enabling technology in a high-quality career readiness data ecosystem include:

- Centralized or federated statewide longitudinal or P20W data systems;
- Student information systems that are interoperable across local jurisdictions and between the local and state levels;
- Interactive public data dashboards;
- Early warning systems (systems that draw on available data to identify learners who are at risk of dropping out);
- Cloud-based data storage and security systems; and
- Automated data management protocols for auditing inconsistencies.

## LEVER 3: PEOPLE



At every stage of the data process, from the initial data collection and submission to understanding and leveraging data in service of learner success, people make everything work (or not). State leaders must consider all of the individuals who support and/or are consumers of career readiness data and ensure that they are equipped to play their role effectively. Those who support data collection, processing and reporting at the local and state levels must have the proper training, time and resources to do their jobs accurately, reliably, and without risk to data security or learner privacy. These individuals include:

**State data analysts or research staff:** These individuals provide technical assistance and support, data analytics, professional development, public communications and more.

**State information technology staff:** State career readiness data offices can range in size from a few people to an entire team. These individuals have

a wide range of responsibilities including database administration, technical assistance and support, professional development and more.

**Practitioners:** This group includes teachers, faculty, administrators, counselors, career advisers, and other local-level staff who affect or influence learners' experiences in their career pathways.

**Local data administrators:** These institution-based individuals are responsible for the administration of local data. In smaller and more remote districts and institutions, they may have other responsibilities aside from data collection and use.

Additionally, states must consider the end users of the data and target information, tools and training to help diverse audiences understand and make the most of the data. Each consumer has different expertise and needs. For example, researchers might be expected to have a high level of skill in interpreting and analyzing data, whereas learners and families might need the data to be simplified and contextualized in a way that is relevant and actionable to them. The best approach state leaders can take to supporting their data consumers is to identify their priority audiences and then build targeted communication, reporting and, if appropriate, training for each based on their needs.

Broadly, career readiness data consumers include:

**Learners/families:** Learners and families often use data to navigate college and career plans and to understand which career pathways are available and whether they lead to high-wage, in-demand occupations. Learners should also be able to access their own data.

**Practitioners:** This category includes teachers, faculty, administrators, counselors, career advisers, and other local-level staff who support career pathways. Depending on their role, these individuals can use data to improve instructional practice, align local programs with labor market needs, recruit learners into high-quality programs, or improve equitable access and success.

**Employers:** Career readiness data can help employers understand which career pathways are available in their community, how many learners are in the talent pipeline in their given industry, and what return on investment career pathways programs can provide.

**Policymakers:** Policymakers at the state and local levels must be able to access reliable, timely data to make data-informed decisions.

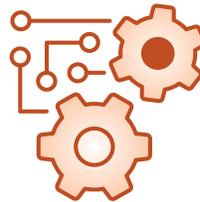
**The media/general public:** Using data to tell a story of impact can help build awareness of and support for career pathways among the general public. This increased awareness and support among the general public can in turn result in greater support among state policymakers and bolster recruitment efforts across the state. This category of data consumers also includes advocates for special populations, including learners with disabilities, learners from economically disadvantaged families, under-represented learner groups, learners experiencing homelessness, English learners, etc.

**Researchers:** Through formal partnerships with state or local education agencies and institutions, researchers analyze the data to identify patterns and understand the impact of different career readiness programs and interventions.

States can influence and engage the individuals in the career readiness data ecosystem by providing robust, high-quality professional development and by coordinating stakeholder engagement activities. Professional development ensures that the individuals involved in collecting, validating, analyzing and reporting data understand best practices and are fully informed about statewide policies and expectations. A comprehensive professional development and training program can also help state and local institutions withstand

staffing changes. Additionally, the best way that state leaders can ensure that their data systems are meeting the needs of consumers is through ongoing stakeholder engagement. Getting input early and often from key constituents ensures that decisions are thoughtful, responsive and actionable.

## LEVER 4: PROCESSES



The last piece of the career readiness data ecosystem is the processes that ensure the integrity of the data and support its effective use. Effective data management means having clear standards and procedures for everything from the collection and processing of career readiness data to reporting and access. These processes should build upon the available technology and draw in relevant people at critical junctures to ensure that the career readiness data ecosystem is meeting the needs of its consumers.

### Examples of high-quality processes in a career readiness data ecosystem include:

- Data collection cycles;
- Data audits and validation checks;
- Matching processes;
- The development and publication of reports (including report cards, dashboards, feedback reports and other tools);
- Equity analysis;
- Labor market crosswalks;
- The Perkins V CLNA; and
- Program review and approval.

**Policy, technology, people and processes create the enabling conditions** for a high-quality career readiness data ecosystem. These factors will vary from state to state, but it is important for state leaders to identify these different components and how they work together. Defining the specific conditions can help state leaders identify dysfunctions in the ecosystem and make adjustments.