Strategy 4
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Introduction

So far, we have covered how employer collaboratives do the following:

- Determine their focus areas, particularly critical business functions and jobs (Strategy 1).
- Identify projected job openings (Strategy 2).
- Identify hiring requirements for filling those jobs (Strategy 3).

Producing this information provides more granular data that employers can use to close their skills gaps. It also helps build trust among employer collaborative members and proves that they can work together to produce actionable results.

However, while Strategies 2–3 are critical to determining demand, we now need to introduce supply into our data collection process. Every collaborative must answer the following critical questions:

- Where have we traditionally found talent?
- Do we have the necessary supply of talent from those providers to meet our projected demand?
- What is the potential capacity of this pipeline to meet our workforce needs now and into the future?
- What are other potential sources of talent that can help us meet our workforce needs, including increasing diversity?

These are the questions Strategy 4 addresses by showing how to conduct a **back mapping** exercise to clarify where the existing workforce has come from. This is a necessary step to engage in a more complex **talent flow analysis**, which determines the capacity of the collaborative's current and prospective providers to supply future needed talent.

Previous strategies concentrated on how to focus and communicate demand, but back mapping and talent flow analysis focus on supply. Strategy 4 shows how to identify current and prospective education and training providers that will be critical in helping employers fill open jobs. This strategy, based on leading business practices, encourages employers to use their own data to improve talent-sourcing strategies.

In addition, this is the first strategy in which employer collaboratives more directly engage current and future talent providers and government partners in gathering information about talent sources and pipeline capacity. Strategy 4 encourages employer collaboratives to compile and share information with their providers to promote a shared understanding of where they are in developing a talent pipeline capable of addressing employer needs now and in the future.

Strategy 4 Learning Objectives

1. Describe the role of back mapping and talent flow analysis in Talent Pipeline Management™ (TPM) and how this analysis differs from traditional government approaches to talent supply needs.
2. Identify the tiers and roles of talent providers within a talent provider network.
3. Conduct back mapping and talent flow analysis using employer data and other data sources.
4. Create tables, graphics, and other visualization tools that help map talent provider networks.

Key TPM Terms and Definitions

Here are the concepts that are most critical for understanding and executing Strategy 4. These terms appear in the order in which they are listed below and are highlighted in blue throughout the chapter.

Back Mapping
A TPM process that helps employer collaboratives identify the major sources of qualified talent on which employers currently rely.

Talent Flow Analysis
A TPM process that helps employer collaboratives work with government agencies and other data providers to analyze talent inflows and outflows to strengthen their talent pipelines. This includes all existing and potential sources of talent where data are available.

Capture Rate
The percentage of talent coming from the talent pipeline (identified providers) that is hired and retained by employers from the employer collaborative or employers within the same industry or geographic area over a designated time period.

Leakage Rate
The percentage of talent coming from the talent pipeline (identified providers) that is not hired or is hired but not retained by employers from the employer collaborative or employers within the same industry or geographic area over a designated time period.

Talent Inflows
The number and characteristics of people hired by an employer, an employer collaborative, employers within the same industry or industry sector of the collaborative, or employers within the major geographic area defined by the employer collaborative for recruiting talent.

Talent Outflows
The number and characteristics of people previously hired but no longer working for an employer, an employer collaborative, employers within the same industry or industry sector of the collaborative, or employers within the major geographic area defined by the employer collaborative for recruiting talent.

Provider Roles
The types of services provided by talent providers within the employer collaborative value stream, from career awareness and exploration to employee advancement and retention. Providers can play one or more roles in one or more tiers, although most play a predominate role in a single tier. For example, a Tier 1 provider that is a staffing agency can provide pre-employment training and onboarding services while also offering a small career preparation program for youth (see **Provider Tiers** definition).

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Provider Tiers

The position of providers within talent pipelines in relationship to the employer end-customer. Tier 1 providers (e.g., colleges, staffing agencies, other employers) deliver talent directly to employers, and Tier 2 providers (e.g., high schools) deliver talent to Tier 1, whereas Tier 3 providers (e.g., middle schools) deliver talent to Tier 2.

Value Stream

The process that a product or service goes through from beginning to end, with each step adding incremental value until the product reaches the end-customer.

Unit 4.1

The Role of Talent Flow Analysis in TPM

Talent flow analysis is when we start to build talent pipelines that have the capacity needed to address projected demand, setting the foundation for managing the pipeline, which we will cover in Strategy 5. This analysis ultimately answers the following question: What is the capacity for a collaborative's existing provider network to supply the talent employers need? There are two main components in Strategy 4: back mapping and talent flow analysis. These two components stand in contrast to more traditional efforts to analyze supply and demand and help unlock more granular, actionable data about the actual sources of supply your collaborative members currently rely on and could use in the future.

Back mapping and talent flow analysis strategies are different from more traditional approaches to supply-demand analysis. We covered traditional approaches to labor market projections in Strategy 2, but in Strategy 4 we introduce supply.

Most supply studies are based on crosswalking program enrollments and completers in a given geographic area—that are assumed to be the source of supply for employers in the same area—with occupational projections (using Standard Occupational Classification, or SOC). These numbers are commonly provided by state agency data systems to which universities, college, schools, and other government-recognized providers regularly report enrollment and completion data. These numbers are often reviewed alongside labor market projections to examine if supply is consistent with demand. Typically, this is done with university and college postsecondary credit programs, but can also be done with postsecondary non-credit programs, other training providers, and secondary school career and technical education programs.

These same data are often used by state government and economic development organizations to support business development and attraction efforts. The numbers are used to demonstrate that there is an available workforce in the area (e.g., a supply of newly credentialed engineers). See Table 4.1: Comparing Government Supply Analysis with Talent Flow Analysis for a side-by-side comparison.

Back Mapping

Talent flow analysis starts with analysis of the existing sources of hires that have been retained—we call this back mapping. It begins by identifying and mapping the existing talent provider networks for supplying the qualified talent needed to fill job openings. This includes reviewing all major sources of talent, including other employers. In addition, back mapping helps identify the relative position of the provider in the network, from the most direct resource for an employer (Tier 1) to a more indirect role (Tier 2). It also differentiates sources by the role they play based on the services they provide (e.g., pre-employment training). Figure 4.1: Example Talent Supply Chain Network provides a visual representation of back mapping.

Some employers, such as Boeing and Alcoa, are improving their recruitment of talent by analyzing from where they get their best talent, especially high performers who are most likely to be retained. These employers are doing this primarily by analyzing employee job performance data against hiring and applicant tracking data, both of which can be found in human resource information systems (HRIS) and applicant tracking systems (ATS), first mentioned in Strategy 3. TPM builds on these leading practices by providing employers with guidelines on how best to analyze performance and applicant tracking data to identify the most productive sources of talent.

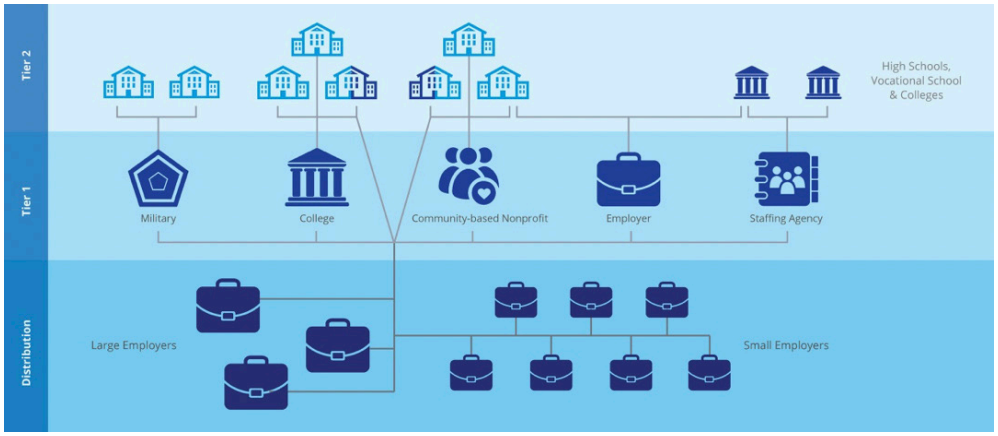
Back mapping focuses specifically on where a firm's existing workforce came from, rather than the strategies used to recruit and hire qualified talent from these sources. For example, many employers identify and hire qualified talent based on employee referrals or through recruiters. These are different tactics that might not tap the same sources of talent coming from other employers or education and training providers. In addition, back mapping analysis can be applied to different worker populations, such as experienced workers currently in the labor force, newly trained entrants, and experienced workers who have been out of the labor force for a while.

Talent Flow Analysis

Talent flow analysis goes beyond back mapping and addresses the capacity of existing providers (e.g., actual or potential enrollments in training programs) and identifies other potential providers that should be explored in developing a talent pipeline that meets the needs of the employer collaborative.[1]

Talent flow analysis uses the information the collaborative collected under Strategy 2 to determine whether there is a sufficient supply of qualified talent among existing talent sourcing providers to address the needs of all employers in the collaborative. It addresses (1) the "bandwidth" of the pipeline in terms of the number of qualified people completing and enrolling in programs from existing and potential talent providers and their potential enrollment capacity, and (2) the effective utilization of this pipeline, such as **capture and leakage rates** of qualified talent coming from these talent providers.

Figure 4.1: Example Talent Supply Chain Network



[1] This unit is based on a U.S. Chamber Foundation publication and is provided as a background resource on the TPM website: Andrew Reamer, Robert Sheets, and David Stevens, Analyzing Talent Flow: Identifying Opportunities for Improvement (Washington, D.C.: U.S. Chamber of Commerce Foundation, 2015).

Talent Flow Analysis: New Employer-Driven Approach to Demand-Supply Analysis

Employer collaboratives can build on existing back mapping practices and develop a more sophisticated approach to analyzing the flows of talent. This includes the flow of talent into and out of the collaborative's employer members.

This more advanced practice uses data held by both employers and government partners to map overall flows into and out of collaboratives and larger regions for both existing and potential talent providers. It provides insight into the capacity of existing and potential providers to meet the projected demand for talent.

Combined with what is outlined in Strategies 2 (Engage in Demand Planning) and 3 (Communicate Competency and Credential Requirements), talent flow analysis provides the basis for a new, employer-driven approach to demand-supply analysis. As you will recall, just as Strategies 2 and 3 provided a new approach to communicating demand, talent flow analysis provides the basis for a new approach to analyzing the talent supply.

What makes this approach different is that it focuses only on the supply of talent (e.g., number of graduates or program completers) that employers themselves identify as existing or potential sources of talent for their most critical positions, rather than the total supply of talent from providers compiled by government (see Table 4.1: Comparing Government Supply Analysis with Talent Flow Analysis for a side-by-side comparison).

In contrast, providers on government lists are assumed to be suppliers because they (1) have related education and training programs based on government crosswalks between government occupational classification systems (e.g., SOC, as discussed in Strategy 2) and provider/program coding systems (e.g., Classification of Instructional Programs, or CIP), and (2) have physical locations within the geographic area that government assumes to be the labor market area within which employers hire. But these assumptions often don't prove to be useful in terms of actual talent supply.

Talent flow analysis is more focused on determining the actual supply of talent by using data to determine real and projected flows to employers within or outside of the collaborative and region.

As a result, talent flow analysis may provide very different estimates of the actual supply of qualified talent within a region compared with traditional government supply estimates.

For example, talent flow analysis may determine that only a few of the many providers within the geographic area defined by government actually provide qualified talent to the employer collaborative. This could be because some providers are not addressing the jobs identified by the employer collaborative or addressing the competencies and credentials required by employers. It also could be that some providers are physically located near employers, but most learners are from other regions and therefore return home after graduation.

Talent flow analysis can also identify actual providers outside of the geographic area defined by government supply estimates, providing a more accurate depiction of where employers get their most-qualified talent.

For example, some healthcare providers may not recruit nurses from all nursing programs within a metropolitan area defined as a labor market area for government supply data. Instead, they might recruit from one or more nursing programs in another metropolitan area, where they get nurses who are a better fit and have higher rates of retention. The nursing programs from this metropolitan area would not be counted in government supply estimates where these healthcare providers are located.

Advanced practices in talent flow analysis can also help identify potential sources of talent from outside a state or region when the available labor force is insufficient to enroll more talent in the programs of state and regional education and training providers. This is common in some regions of the country and in rural areas with declining labor pools and low unemployment rates. Advanced practices also can help identify alternative, nontraditional sources of talent, including nonprofit organizations that provide services to adult populations. Often, employer collaboratives assume that high schools are the major sources of future talent. However, declining school-age populations in many states and regions require employers to focus more attention on adult populations.

Because of these important differences, employer collaboratives should use talent flow analysis as the final determination of actual and potential supply of talent in managing talent pipelines.

Table 4.1: Comparing Government Supply Analysis with Talent Flow Analysis

Feature	Traditional Supply-Demand Analysis	Talent Flow Analysis	Unique Benefits Achieved by Talent Flow Analysis
Objective	To determine the total number of education and training program completers identified as potential sources of supply for an occupation within a geographic area relative to projected demand	To determine the actual and potential number of qualified hires or qualified applicants from education and training programs identified by collaboratives as sources of talent for critical positions relative to projected demand (see Strategy 2)	To understand which talent sources employers in the collaborative make use of and at what level
Data Source	State reporting systems for the number of completers from state-financed and regulated providers, including schools, colleges, and universities	Direct from employer collaborative members, supplemented by data from providers and state reporting systems	Employers in the collaborative make available their human resources data for data aggregation and analysis.
Time Period Covered	Annual supply estimates reported in time periods consistent with demand estimates and government reporting requirements	Annual supply estimates reported in time periods consistent with demand estimates and based on employer talent sourcing needs	Employers signal what time period is preferred for their workforce planning efforts.
Targeted Jobs	State occupation and occupational clusters defined by SOC system	Selected by employer collaborative members; coverage uneven across occupations	Can be at the business function level and are consistent with how employer members organize occupations and address workforce needs
Key Assumptions	National and state SOC and Classification of Instructional Programs (commonly referred to as CIP code) crosswalks identify which programs produce completers qualified for selected jobs. Education and training providers within the same government-defined labor market area are the major suppliers of talent for employers within that labor market area.	Employers are capable of producing and sharing data on sources of qualified hires and qualified applicants and can define the geographic reach of their talent recruiting. Collaboratives can work with government data partners to integrate data and estimate both actual and potential talent flows within an employer-defined labor market area.	Data exposes talent sourcing trends and patterns among employer collaborative members that can be used to make critical talent management decisions based on historical hiring decisions and practices.

Exercise 1

Supply-Demand Analysis Exercise

The example below illustrates why employer collaboratives should use talent flow analysis in managing the talent pipeline and not rely exclusively on traditional supply-demand data to determine available supply.

A healthcare collaborative was recently formed to address a critical skills shortage of nurses, particularly registered nurses. This position requires a bachelor of science in nursing (BSN). Newly formed, the collaborative had just completed a needs assessment survey and found that in the next two years it will need 95 new nurses. It now wishes to review the available supply to see if its needs can be met within this time frame.

To get started, the collaborative contacted its state agency partners to get information on available supply. The collaborative was formed in a community where there is a major public university, with a college of nursing. The state agency partners looked at the available education and credentialing programs near the collaborative and compiled a supply report, which was then sent to the collaborative.

Reviewing the report, two data points stood out:

- The university enrolled a total of 550 nurses in its programs.
- On average, about 45 nurses graduated each year with a BSN.

The collaborative also noted that the report did not include a public university that, while located two counties away, was well known to be a source of nursing talent. In addition, the report referenced a grant made three years ago by the state's workforce agency to the university and community college to expand the capacity of the nursing programs to address a nursing shortage. Given the previous grant investment and the high number of enrollments, the state agency partners were surprised that the healthcare collaborative members were still experiencing a shortage.

After reviewing the exercise, discuss the following:

1. Based on the scenario above, explain the assumptions that have been made about supply versus demand for nurses. What information, if any, is missing?

2. What are some reasons why a nursing shortage has persisted for the healthcare collaborative?

3. Would you recommend talent flow analysis to the collaborative? If so, why?

Unit 4.2

Identifying the Tiers and Roles of Talent Providers in Talent Pipelines

Talent pipelines are best understood in terms of **provider roles** and **provider tiers**. In TPM, Tier 1 providers are those that supply qualified workers directly to employers. Tier 1 providers could be job boards, staffing agencies, or education and training programs that provide direct placement to employers. Tier 1 can also include other employers.

Tier 2 providers feed talent to Tier 1 providers, forming a value chain with education and training services, adding incremental value at each stage of development. For example, a Tier 2 provider such as a high school or community college may refer or transition learners to other colleges, universities, and employment and staffing agencies for additional value-adding services before they reach employers through Tier 1 providers. (See Figure 4.1: Example Talent Supply Chain Network for visual representation).

Providers can sometimes play both Tier 1 and Tier 2 roles with different programs and graduates for different employers. Tier 3 providers, such as middle schools, boot camps, or high schools, feed talent into Tier 2 providers.

Defining Roles

In the TPM context, roles refer to the specific services that add value to employers and learners. For example, some providers offer employment services that recruit, screen, and refer qualified workers to employers, whereas others provide education, training, and credentialing services. Still other providers offer career awareness and exploration services without providing education and training or recruitment services directly tied to employment, but feed into programs that do. In some cases, providers deliver several services and play multiple roles.

Back mapping and talent flow analysis help identify the various roles that existing or potential providers play at different tiers of the talent pipeline. These processes provide the necessary starting point for building future talent pipelines that have the capacity to meet the needs projected in demand planning. They provide an important baseline analysis that can help do the following:

- Identify the key roles and tiers of the major existing talent sourcing providers and their relative impact on talent pipelines.
- Identify other talent sourcing providers and their potential roles in future efforts to diversify and expand talent pipelines.

Exercise 2

Analyzing Talent Pipelines Exercise

The exercise below demonstrates how providers can play various roles at different tiers of the talent pipeline.

Faced with a chronic shortage of skilled machinists in their region, the Southcentral Manufacturing Consortium used a back mapping process to determine where members got their qualified CNC machining talent. It found that collectively, members had hired 200 qualified employees over the past three years.

The survey responses provided the following information:

- Eighty employees came directly from the DEF employment agency, 60 directly from other regional manufacturers, 50 from the Southcentral Community College CNC Machining Program, and 10 from a regional high school career and technical education program.
- Sixty-four of the DEF-sourced employees received their CNC training and credentials from Southcentral Community College's CNC Machining Program, as did 30 of the employees who were sourced directly from other regional manufacturers.
- Half of those employees who received training from the community college program entered the program directly from manufacturing technology programs offered by two of the four regional high schools, including the high school career and technical education program referenced above.
- A quarter of the same group entered the college directly from the Southcentral community-based agency that provides a manufacturing boot camp for low-income adult residents.

After reviewing the exercise, discuss the following:

1. Identify the Tier 1 and Tier 2 providers and what roles they play.

2. Which provider, if any, plays more than one tier or role?

3. Name examples of Tier 1 and Tier 2 providers in your community for an employer or employer collaborative. In addition to their tier, identify the roles they play.

Unit 4.3

Conducting Back Mapping with Employer Collaboratives

With an understanding of the tiers and roles that make up talent pipelines, we now turn to conducting basic and advanced levels of back mapping using employer data. Here are three important decisions that will determine the scope of any back mapping survey:

1 **Choosing a Population to Study**
The first decision is the talent population to be analyzed, which can include (1) the highest-performing (top talent) qualified hires who were successfully retained, (2) all qualified hires who were successfully retained, or (3) all qualified applicants who met hiring requirements. All three focuses can provide a different view of where talent is and could be coming from. This information can be broken down further by subgroups, such as women, minorities, veterans, and individuals with disabilities. In addition to analyzing by type of hire and population, you can also analyze the data based on work experience, such as (1) incumbent workers hired from different jobs within the firm (e.g., promotions); (2) experienced outside workers; or (3) newly trained and credentialed workers with limited work experience hired from high schools, colleges, universities, and other training providers.

2 **Determining the Time Period to Analyze**
The second decision is the time period for analysis. This should be between one and five years. The time period should be sufficient to know whether qualified hires were productive and were retained by employers for a normal or expected length of employment.

3 **Selecting the Number of Tiers**
The third decision is how far back to map in the talent pipeline. The simplest approach is to identify only Tier 1 sources and where workers from those sources received their most recent training and credentials that made them qualified applicants. An advanced approach would identify additional tiers, including feeder schools and programs.

Basic versus Advanced Surveys

Because most employers have never done back mapping of their talent sources and don't have HRIS that do this for them, employer collaboratives should start with a basic approach and then move to more advanced practices later (see Table 4.2: Basic Approach: New Hire Tier 1 Providers/Sources and Education and Training Providers and Table 4.3: Advanced Approach: Hire and Applicant Providers/Sources and More Tiers for examples of each approach).

A basic survey, as demonstrated in Table 4.2, starts with recent qualified hires who were successfully retained and asks employers to identify only the Tier 1 provider and the source of the education, training, and credentialing that led to the individuals being qualified for the target job if that source is not the Tier 1 provider.

For example, a community college may be the Tier 1 provider and also deliver the education, training, and credentialing that meets an employer's hiring requirements. In contrast, a Tier 1 provider may be a staffing service that identifies qualified talent from universities and colleges but does not directly deliver training. It is important to note that what makes hires qualified may be completing a program and earning a credential or taking specific courses associated with a program.

An advanced survey, as illustrated in Table 4.3, allows employers to address not only recent qualified hires but also all qualified applicants who applied for positions. It also distinguishes one or more types of talent based on experiences, such as newly trained workers, experienced workers, and incumbent workers. Furthermore, an advanced survey also allows employers to map multiple tiers that make up the individual's career pathway so that they can see where Tier 1 and even Tier 2 providers are sourcing their people.

For example, an advanced survey would allow employers to identify the Tier 2 or Tier 3 high schools that feed learners to university and community college programs, and even the middle schools that feed these high schools. This information is important if, for example, employers wish to target career awareness and exploration investments in a way that improves their existing talent pipeline providers. Finally, an advanced survey allows employers to select one or more groups, such as veterans or women, or show demographic breakdowns by gender, age, and racial/ethnic group, or other demographic characteristics.

Table 4.2: Basic Approach: New Hire Tier 1 Providers/Sources and Education and Training Providers

Population	Number of New Hires	Tier 1	Education and Training Providers
Hires	50	Employment Agency A (20)	Community College A (12)
			Community College B (8)
		Community College A (24)	
		Community College B (6)	

Table 4.3: Advanced Approach: Hire and Applicant Providers/Sources and More Tiers

Population	Number of New Hires	Tier 1	Tier 2	Tier 3
Experienced Workers	20	Employment Agency A (20)	Community College A (12)	High School A (6)
				High School B (6)
			Community College B (8)	Boot Camp (8)
Newly Trained/ Credentialed Workers	30	Community College A (24)	High School A (16)	Middle School A (10)
				Middle School B (6)
			High School B (8)	Middle School C (8)
		Community College B (6)	High School C (6)	Middle School D (6)

Back Mapping Steps

With these key decisions made about the scope of your survey, we can begin the three-step back mapping process:

1 **Employers Analyze Their Data**
Each employer in the collaborative analyzes its individual-level data on where it sources qualified talent based on either a basic or advanced survey. These data should cover a baseline period of one to five years. Employers can collect these data from their HRIS, ATS, or other types of data sources. Employers also can interview or survey qualified workers recently hired into the targeted positions, or analyze their resumes in their personnel files.

2 **Host Organization Aggregates the Data**
Employers then provide data to the host organization managing the collaborative so they can be aggregated further and shared with other collaborative members in a manner that protects proprietary information. The data can be formatted in summary tables and figures for the selected time period. As with any information, back mapping data on recent hires and qualified applicants should be treated as confidential, proprietary data that should never be shared with other employers and partners.

3 **Talent Flows Are Analyzed**
The employer collaborative then analyzes the employer back mapping aggregated results to identify opportunities for improving talent flows. This step can include identifying the most widely used talent providers and those that are underutilized or not used at all by members of the collaborative. Employers may also identify other providers that have not been used and could be included in talent flow analysis. This information can be included as potential future providers that can help address the need for more capacity in the talent pipeline or to accomplish other objectives, such as diversifying the talent pool. This analysis provides the basis for moving to advanced levels of back mapping and more comprehensive talent flow analysis.

Employer collaboratives can choose to conduct the needs assessment (demand planning and hiring requirements) survey(s) described in Strategies 2 and 3 and the talent flow analysis survey outlined in Strategy 4 at the same time or separately. Employer collaboratives may want to conduct these surveys separately at first and then combine them later as employers become more experienced in completing and using these surveys and becoming more focused on the targeted jobs and providers they are addressing.

Unit 4.4

Conducting Talent Flow Analysis with Other Data Partners

Back mapping is designed to help improve how employers source talent in several ways, such as strengthening partnerships with talent sources that have demonstrated providing qualified talent. But there are limits. Back mapping does not, for example, provide data on the bandwidth or capacity of the existing sources of talent that might not be fully utilized by the employer collaborative. It also does not capture data on providers that are not identified by employers and may provide alternative sources of talent in the future. Finally, it does not address where qualified talent goes after leaving employer partners and whether talent is retained in the region.

To address these issues, collaboratives can execute a comprehensive talent flow analysis that combines employer data with other data sources, including the government and talent providers. As with back mapping surveys, employer collaboratives should start with a basic approach and then move to advanced practices.

Basic Approach: Analyzing Talent Pipeline Capacity

The most basic approach analyzes the number of people enrolling in and completing programs. (This can be thought of as the bandwidth of the pipeline.) This is important because employer collaboratives should initially focus on programs that have historically provided qualified hires and that have the potential capacity to meet projected demand. When soliciting data, employer collaboratives should include both existing and potential providers and their possible enrollment capacity. This basic approach involves three major steps:

1. **Employer Collaboratives Gather Data from State Agencies.** Members of the employer collaborative compile a list of providers and their programs based on the back mapping results. Specifically, this process identifies the sources that provided the education, training, and credentials for candidates to be considered qualified for openings for the targeted position. This list should include physical locations of the sources.

   The collaborative sends this information to the state higher education agency (typically the entity that submits data to the Integrated Postsecondary Education Data System, commonly known as IPEDS) that is responsible for producing supply data. The collaborative then asks the agency to work with other education and workforce agencies to provide data on the number of completers from both credit and noncredit programs for (1) these identified providers and programs and (2) other providers and programs that have the same or similar programs as defined by government program classification systems (e.g., Classification of Instructional Programs codes).

   The employer collaborative should ask for a minimum of three to five years of data to better understand trends. The employer collaborative should request data on (1) the number of graduates or completers receiving credentials and (2) the number of program enrollees.

2 **Employer Collaboratives Gather Data from Talent Providers.** The employer collaborative then sends these data to selected talent providers to validate or confirm the information provided by state agencies for the selected time period and to ask them for supplemental data, when needed, on program enrollees and completers. This will be necessary in many states that do not have complete information on all types of talent providers and all types of programs offered by these providers, such as noncredit programs offered by universities and community colleges. Employer collaboratives also may ask for information on additional courses, rather than full programs, that prepare people for the targeted jobs. Courses can be as effective of a metric to consider as programs if a particular course results in qualified hires. This can be particularly useful for those in STEM-related fields for career technical education programs. Take note, however, that the number of course-takers can include duplicates who may be enrolled in courses that are part of more than one program.

These talent providers also should be encouraged to provide data on additional programs that they feel might be related to the targeted jobs. These program-level data are very important because employers recruit from specific programs that are related to specific jobs, in most cases. One alternative is to collect all program information directly from talent providers if available without engaging state agencies.

3 **Employer Collaboratives Analyze the Data and Produce Supply Reports.** The employer collaborative then analyzes the bandwidth of the existing or potential pipeline and compares it with projected demand over the same time period. This analysis should focus on completers but also look into the potential capacity resulting from leveraging more enrollees and course-takers, and identify trends for incorporation into the performance measures in Strategy 5.

Table 4.4: Talent Pipeline Capacity Analysis offers a visual representation of communicating data on potential yields to collaborative members.

Table 4.4: Talent Pipeline Capacity Analysis

Provider/Program	Enrollees		Completers	
	Three-Year Average	Trend	Three-Year Average	Trend
University A, Program A	20	↑	15	↑
Community College A, Program B	20	↓	18	↑
Community College B, Program A	40	↑	30	↑
Community College B, Program B	30	↑	25	↑
Total	110	↑	88	↑

Advanced Practice: Analyzing Talent Inflows and Outflows

After analyzing talent pipeline capacity, some employer collaboratives might want to move to advanced practice in using state longitudinal data systems to analyze **talent inflows** and **talent outflows**. Over the past 10 years, most states have built state longitudinal data systems that link individual-level data from publicly funded and approved education and training programs with employment data from their state unemployment insurance wage record systems.

These additional data sources add two important pieces of information:

- **Talent Leakage from Tier 1 Providers:** Back mapping captures flows of talent only from Tier 1 providers to collaborative members. It does not, however, provide information on talent inflows that were captured by other employers within or outside the region.

- **Talent Leakage from Collaborative Employers:** Employers' data might not provide information on where qualified talent goes after leaving them. Talent flow analysis can capture this information and shed light on whether talent is retained by other members of the collaborative or region.

This advanced level of talent flow analysis provides valuable information when implementing the remaining TPM strategies, which focus on managing performance, providing incentives, and continuously improving talent supply chains. It might require working with more than one state when collaboratives source talent from multiple states. This is especially important in metropolitan areas or larger rural regions that span more than one state.

See Table 4.5: Talent Provider Capture Rate for examples of additional data to include.

Table 4.5: Talent Provider Capture Rate

Provider/Program	Number of Graduates with Required Credentials in Past Three Years			
	Employed by Collaborative Employers in Region	Employed in Region but Not by Collaborative Employers	Employed Outside of Region	Not Employed/ Unknown
University A, Program A	53	5	25	2
College A, Program A	45	10	5	5
College B, Program A	14	6	2	0
Vocational School A, Program A	10	19	10	5

Advanced practices can be extended even further to identify potential recruitment sources from outside the state or region, particularly when there is an insufficient labor pool available within an employer's state or region. This could involve identifying outside states and regions where talent providers have been successful in recruiting learners. It also could involve analyzing working-age population migration patterns to identify potential recruitment states and regions, and then identifying providers that have related programs in these states and regions.

Exercise 3

Talent Flow Analysis Employer Collaborative Exercise

The example below illustrates how employer collaboratives can transition from back mapping to talent flow analysis.

The healthcare collaborative referenced in the first exercise has decided to proceed with a talent flow analysis survey for nursing, with a focus on registered nurses. The host organization convening the collaborative surveyed employer members to determine from where they sourced their recent qualified hires to get a better understanding of the collaborative's talent-sourcing patterns. Member employers were asked to identify the nursing programs that were the sources of their nursing hires over the past two years.

Each employer reviewed its HRIS records and provided information on the total number of hires for each nursing program and any feeder program that the hires completed. The employer collaborative host organization then compiled the data, resulting in a list of three BSN providers and two associate of science in nursing (ASN) feeder programs. One BSN program and its ASN feeder program were within the metropolitan area, but two were from outside the region supplied by the same ASN feeder program.

Next, the employer collaborative requested information on the total number of enrollments and graduates in these programs. It also requested information from another BSN program with which it did not have a relationship, but given the diverse student population, sourcing from the program could help collaborative members further diversify their front-line workforce, which is a priority for them.

Last, the collaborative requested information from its state labor agency to merge employment data with provider data to ascertain how much talent it was capturing from each provider.

The host organization compiled the results of the survey and shared the findings with its employer members. The findings are presented in Tables A–C. After reviewing the findings, discuss the following:

1. Based on the scenario above, what types of insights do employers have now that they did not have before, compared with the original supply-demand analysis provided in Exercise 1?
2. What decisions could employers consider based on this new information?
3. What information is missing or what questions still need to be addressed before employers begin making decisions about who will be in their talent supply chain moving forward?

Table A: Healthcare Collaborative Back Mapping Results

Population	Tier 1	Tier 2
New Hires	University A, in region: 15	Community College A, in region: 12
	University B, outside region: 25	Community College B, outside region: 15
	University C, outside region: 10	Community College B, outside region: 6

Table B: Healthcare Collaborative Talent Pipeline Capacity Analysis

Provider	Enrollees	Completers
University A, in region	550	45
University B, outside region	400	76
University C, outside region	225	93
Community College A, in region	250	30
Community College B, outside region	378	85

Table C: Healthcare Collaborative Talent Flow Analysis

Provider	Employed by Collaborative	Employed in Region but Not by Collaborative	Employed Outside of Region	Not Employed, Unknown
University A, in region	10	5	18	12
University B, outside region	20	10	33	13
University C, outside region	15	5	50	23

Ready for Next Steps?

Before you move to the next strategy, make sure you have achieved the learning objectives necessary to move forward. Ensure that when you go back to your community, you will be able to execute the following activities:

- Explain why talent flow analysis is integral to managing a talent supply chain.
- Identify Tier 1 and Tier 2 providers and their relationship to one another.
- Conduct back mapping with your collaborative members.
- Request and use data from state data partners for talent pipeline capacity analysis and talent flow analysis.
- For those using the TPM web tool, develop reports and generate visualization tools depicting the flow of talent from providers to your collaborative members.

NOTES