



# Achieving Inclusive CTE: COMPANION MANUAL





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## Introduction

To support the expansion and acceleration of high-quality and equitable career pathways, JPMorgan Chase & Co. partnered with Advance CTE and Education Strategy Group in 2020 to launch the *New Skills ready network*, a five-year national initiative supporting six sites, each consisting of state, regional and local partners.

Career Technical Education (CTE) in the 21st century enables learners to chart their own pathways to education and career success. CTE programs of study and career pathways provide vertically aligned secondary and postsecondary coursework and career development experiences that enable learners to gain skills, earn valuable credentials, and build fulfilling careers with family-sustaining wages in occupations from business, information technology (IT) and health care to manufacturing and skilled trades.

Today's high-quality CTE programs and career pathways belie the outdated idea that CTE is a separate track for learners who do not have what it takes to succeed in advanced academics. In fact, CTE concentrators — learners who take multiple courses in one CTE program area are more likely than their peers to graduate high school, slightly more likely to enroll in postsecondary education, and just as likely to earn a degree or certificate.<sup>1</sup> CTE learners also experience career success: About 77 percent of employers from in-demand industries report hiring an employee because of knowledge and skills gained from the employee's CTE experience,<sup>2</sup> and individuals with associate degrees in CTE fields can earn the same over their lifetimes as some bachelor's degree holders.<sup>3</sup>

A key priority for the *New Skills ready network* initiative includes closing equity gaps. Meeting this goal requires sites to understand where gaps in access, enrollment, persistence and completion occur by population group in available career pathways and use that foundational knowledge to remove barriers to meaningful career opportunities for historically disadvantaged populations.



### New Skills ready network Priority Areas

### **The Evolution of CTE**

Any discussion of quality, access and inclusivity in CTE and career pathways must acknowledge that not all learners have been equitably served by CTE or its predecessor, vocational education. Twentieth-century vocational education was characterized by less rigorous, job-focused programs that "tracked" learners from lowincome families, female learners, learners with disabilities and learners of color into terminal programs that limited their opportunities.<sup>4</sup>

Since then, CTE programs and related career pathways initiatives have made great strides in improving quality and developing a more inclusive system that seeks to prepare all learners for both further education and careers. However, equity challenges persist in CTE, particularly in access to vertically aligned CTE programs of study and career pathways that lead to high-wage, in-demand occupations as well as in access to program elements such as high-guality work-based learning experiences. State and national CTE leaders report that high-quality CTE programs are often present in areas with more concentrated wealth, while CTE programs in underresourced communities can struggle to provide learners with access to top-of-the-line equipment, gualified instructors and work-based learning.<sup>5</sup> For some CTE programs and institutions, fierce competition for seats can crowd out historically marginalized learners.<sup>6</sup>

The passage of the Strengthening Career and Technical Education for the 21st Century Act (Perkins V) in 2018, which amended the Carl D. Perkins Career and Technical Education Act of 2006, puts even more focus on identifying and addressing gaps in access to and success within CTE for different learner groups. The legislation includes new data- and accountability-focused provisions,

#### **PERKINS V SPECIAL POPULATIONS**

Under current federal CTE legislation, states and I ocal recipients of funding must report accountability data disaggregated by race/ethnicity, gender, migrant status (secondary only), and the following special population groups:

- Individuals with disabilities
- Individuals from economically disadvantaged families, including low-income youth and adults
- Individuals preparing for non-traditional fields
- Single parents, including single pregnant women
- Out-of-workforce individuals
- English learners
- Individuals experiencing homelessness (as described in the McKinney-Vento Homeless Assistance Act)
- Youth who are in or have aged out of the foster care system
- Youth with a parent who is a member of the armed forces and on active duty (as defined in the United States Code)

such as the requirement for local recipients of funding to undertake at least every two years a needs assessment that evaluates program quality, access and equity, and alignment to the labor market; a new indicator on the secondary level that assesses program quality by considering work-based learning participation, recognized postsecondary credential attainment, and/or attainment of postsecondary credit within the learner's CTE program of study; and expanded categories of special populations for required reporting.

### **Equity in CTE Data and Accountability**

Perkins V accountability indicators are intended to bring attention to access and equity gaps across a variety of learner groups. However, understanding and addressing these gaps remains a work in progress, for several reasons:

 States and local CTE providers are required to report accountability data disaggregated by special populations and other learner groups but are not held accountable for the gaps revealed by disaggregation, with one exception: learners enrolled in CTE programs that are non-traditional for their gender. The emphasis on addressing gender disparities in CTE first appeared in federal CTE legislation in the 1970s and is reflected in the current iteration of the law through accountability indicators that consider the percentage of CTE concentrators in CTE programs and programs of study that lead to non-traditional fields as well as through a state funding set-aside aimed at supporting services for non-traditional learners.

- With data disaggregated by nine special populations and multiple racial, ethnic and gender learner groups, making meaning of the data and understanding where to prioritize funding and strategies can be difficult for CTE leaders.
- Perkins indicators measure access and performance within the population of CTE learners. They do not consider the demographics of the overall learner community in a state, district or institution and how representative CTE is — or is not — of the population it serves.
- Metrics under other federal education and workforce programs, such as the Workforce Innovation and Opportunity Act (WIOA), can be similarly difficult for state and local leaders to analyze from an inclusion perspective. For instance, WIOA includes 14 required reporting categories for individuals with barriers to employment.
- Broader career pathways systems may incorporate metrics from a variety of federal programs and additional measures informed by national organizations and initiatives, which can be challenging to integrate.

### Introducing the Achieving Inclusive CTE Goal-Setting Tool

Given these challenges, Advance CTE has been developing a suite of tools and resources to help state and local leaders develop stronger data systems and better analyze and use data to identify gaps and leverage resources to meet each learner's needs. This work is essential to ensure that each learner feels welcome in, is supported by, and has the means to succeed in the career preparation ecosystem — one of the five principles of Advance CTE's *Without Limits: A Shared Vision for the Future of Career Technical Education*. These resources include:

- The Career Readiness Data Quality and Use Policy Benchmark Tool, a comprehensive New Skills ready network resource designed with Education Strategy Group to assist state leaders in strengthening the quality and use of career readiness data. It provides a roadmap and tools for understanding the six elements of a high-quality career readiness data ecosystem.
- The <u>Career Readiness Metrics Framework</u>, which presents a comprehensive list of metrics that span middle school through adulthood and provides a standard for practitioners, policymakers and researchers to evaluate whether learners are on track for and progressing through their career pathways.
- Beyond the Numbers: A Toolkit for Communicating CTE Data, a resource developed with the Association for Career and Technical Education (ACTE) that contains guidance, best practices and tools that CTE leaders can use to create communications that help stakeholders better understand and act on CTE data.
- Train the Trainer: Opportunity Gap Workshop, a training that provides resources and support to help state leaders identify and address gaps in access to high-quality CTE. Selected participants participate in virtual workshops and access a suite of resources and tools to help them identify CTE opportunity gaps and conduct a root cause analysis and equity planning exercise in their own states.
- Building a Youth Apprenticeship Data Ecosystem: <u>A Starter Kit</u>, a product of Advance CTE developed through the Partnership to Advance Youth

Apprenticeship to help state and local intermediaries address challenges and improve the quality of their youth apprenticeship data capacity.

Advance CTE and Education Strategy Group's Achieving Inclusive CTE Goal-Setting Tool, developed as part of the *New Skills ready network* initiative, adds a new resource to the data toolbox for state and local CTE and career pathways leaders. It enables leaders at the secondary and postsecondary levels to assess and improve the representativeness of their state or local CTE or career pathways system in comparison to the broader learner population. It considers not only learners who already take part in CTE or other career pathway programs but also the full universe of learners who — with the appropriate recruitment and supports — could engage in career pathways and CTE programs of study, complete quality CTE experiences, and find success after CTE program completion.

This tool was informed by input from an expert workgroup. The workgroup met three times throughout 2021-22 to provide feedback on the purpose, design and functionality of an equity-focused data tool. An early version of the tool was piloted in Kentucky in partnership with the Kentucky Center for Statistics, in Michigan in partnership with the Michigan Department of Education and in Georgia in partnership with Georgia State University. A third pilot was conducted in Nashville, Tennessee, in partnership with Nashville Metro Public Schools, which informed the final version.

# Purpose of the Achieving Inclusive CTE Goal-Setting Tool

The Achieving Inclusive CTE Goal-Setting Tool is designed to help users assess and improve representativeness across three categories of indicators — access to CTE, success within CTE programs and CTE post-program outcomes — for various learner groups across a state or local CTE or career pathways system.

The tool considers 11 indicators for learner groups across race and ethnicity and key special populations learners with disabilities, economically disadvantaged learners, English learners and migrant learners. Users have the option to disaggregate by gender for each learner group, if they choose.

### 1

### 11 Goal-Setting Tool Indicators

#### **CTE Access**

- 1. CTE participation
- 2. CTE participation in high-wage, in-demand career pathways

#### Success Within CTE Program

- 3. CTE concentration
- 4. CTE concentration in high-wage, in-demand career pathways
- 5. Completion of sustained work-based learning experiences
- 6. Completion of advanced coursework
- 7. Completion of recognized credentials

#### **CTE Post-Program Outcomes**

- 8. Placement in postsecondary education, advanced training or the workforce
- 9. Placement in postsecondary education, advanced training or the workforce after completing high-wage, in-demand career pathways
- 10. Earning high wages
- 11. Earning high wages after completing high-wage, in-demand career pathways



- Multi-Racial Learners
   Male and Female
- Native American or Alaska Native Learners
   Male and Female
- White Non-Latinx Learners
   Male and Female
- Learners With Disabilities
   Male and Female
- Economically Disadvantaged Learners
   Male and Female
- English Learners
   Male and Female
- Migrant Learners
   Male and Female

The Achieving Inclusive CTE Goal-Setting Tool is an Excel workbook that guides users through a process of **entering data** and setting goals for each indicator and learner group — or for the subset of indicators or learner groups that are most relevant in a state or local context — and then shows users **how many more learners in each group would need to be engaged or supported** at each stage of the CTE pipeline to meet those goals. State and local leaders can integrate this goal-setting process with other program evaluation and continuous improvement processes such as equity audits, program review and monitoring, and the Perkins V Comprehensive Local Needs Assessment (CLNA) to identify strategies to increase the representativeness of learner groups in CTE and career pathways and ultimately improve learner outcomes.

### **Design Principles**

The Achieving Inclusive CTE Goal-Setting Tool is anchored by the following design principles:

It draws largely on existing data from federal, state or local reporting efforts. For instance, several of the indicators use data that is reported for Perkins accountability. Other indicators may align with WIOA measures or with state targets such as credential attainment goals.

The tool is adaptable to state and local contexts across K-12, postsecondary and adult systems. Users can choose to enter counts for learners in career pathways or CTE programs of study at the program, institution, district or state level and then redo the process for a different context, if desired. In addition, users can refine indicator definitions to match state or local parameters.

The workbook does not compare learner groups to each other but instead assesses the representativeness of each learner group in CTE programs and career pathways compared to that learner group's representativeness in the community. As such, the tool moves away from approaches that focus on divergence from the average or center whiteness as the default "normal" against which the performance of other learner groups is compared.

The tool incorporates multiple metrics across access to, experiences within and outcomes from CTE, showing how learner groups move through a pipeline from initial CTE participation to post-program outcomes and highlighting at which points in this pipeline state or local systems are losing members of particular learner groups.

The workbook values program and career pathways quality by incorporating measures related to sustained work-based learning, advanced coursework and credential attainment as well as indicators that look at access to and outcomes within high-wage, in-demand career pathways.

This tool is forward looking, enabling users not only to see the current representation of different learner groups in their CTE or career pathways system but also to set goals that will help them envision and strategize for a future system that is more representative and inclusive.

**The dashboard is easy to interpret,** enabling users to filter by each measure to see the learner groups that are most and least representative for that indicator as well as the numbers of learners who need to be engaged from each learner group to meet goals for inclusivity.

# State and local leaders can incorporate this tool into routines and processes that they already use to investigate and improve access and equity within career pathways and CTE programs.

#### These processes may include:

- Program review, approval and/or re-approval processes that require programs to consider representativeness;
- Civil rights monitoring (e.g., Methods of Administration) conducted by states;
- Equity audits within states, districts, institutions or career pathways systems;
- Equity gap analyses conducted on the state, district, institution or career pathway level;
- The examination of equity and disaggregated learner performance required as part of the Perkins V CLNA;
- Technical assistance aimed at identifying and addressing access and equity gaps;
- Competitive grants focused on identifying and addressing access and equity gaps; and
- Professional development that addresses understanding and using disaggregated data.

In whatever ways this workbook is integrated with other processes, it should be used in conjunction with other tools and data — both quantitative and qualitative — to understand disparities in representativeness, identify underlying root causes, and implement strategies to meet learner needs.

### Using This Tool in the New Skills ready network

All sites involved in the *New Skills ready network* are intentionally embedding equity throughout all initiatives. As sites continue to build on their progress in developing processes to identify equity gaps across career pathways within their institutions, the Achieving Inclusive CTE Goal-Setting Tool supports sites in understanding where gaps in access, enrollment, persistence and completion occur in available career pathways by population group.

The analyses this tool facilitates can be leveraged with sites' annual Action Plans focused on equity and inclusion to clarify the number of learners to be supported and engaged in career pathways. This tool's analyses also help signal to sites where they should investigate barriers facing under-represented learner populations and work to remove barriers to meaningful career opportunities by aligning equitable policy and practice to scale proven career pathways programs that ensure equity, access and inclusivity.

### Use Cases

The following are examples of how state or local systems might use this workbook on its own or as part of a larger data analysis and program improvement process. These are not the only potential examples; state and local leaders may find additional ways to use this tool to support inclusivity.

A state aims to increase rates of participation, concentration and placement in high-wage, indemand career pathways across all learners. It sets five-year goals of 50 percent CTE participation, 22 percent CTE concentration and 20 percent CTE placement across high-wage, in-demand career pathways for each learner group, and the workbook calculates the numeric and percentage-point growth needed. The state learned that the largest numeric growth is needed for Latinx learners and the greatest percentage-point increase is needed for Native American and migrant learners. The state holds focus groups with Latinx and migrant learners, develops recruitment materials in Spanish, and connects with Tribal organizations to determine how to better support Native American learners.

A school district superintendent is leading the development of a district-wide strategic plan to improve career pathways outcomes, paying particular attention to closing gaps for historically marginalized learners. Data and focus group findings highlight a lack of representation for learners with disabilities in advanced coursework and credential attainment. The district sets four-year goals of 12 percent credential completion and 15 percent advanced coursework completion for this learner group. The workbook calculates the number of credential completers and advanced coursework completers needed to meet these goals. The district strategic plan recommends targeted materials about credential and dual credit opportunities for learners with disabilities and more explicit communication with learners, families and counselors about available accommodations and modifications.

A high school wants to build a program in data science from the ground up that is representative of the community's population. School leaders aim to enroll 21 learners in the first year. Using this tool, they calculate the number of learners from each learner group that would need to enroll to be representative of the community. They follow up by developing a multipronged recruitment campaign at the high school, hosting recruitment tables at community centers and festivals, promoting the program to community organizations representing different learner groups, and sharing about the program on social media.

As part of the CLNA that school districts and community colleges must complete at least once every two years to be eligible for Perkins V funding, the workforce development arm of a community college conducts a gap analysis, which confirms the observation that few women are enrolling and concentrating in its IT programs. College workforce development leaders use this tool to set goals to increase the participation of women in IT programs from 12 percent to 14 percent (or 13 more female CTE participants) and concentration from 9 percent to 11 percent (or six more female CTE concentrators) by the next biannual CLNA. They engage with stakeholders, including community organizations that support women in science, technology, engineering and math, and conduct focus groups with current learners to find out how they can help them stay enrolled and achieve concentrator status. This work leads the college to expand recruitment efforts targeting young women at area high schools and to pursue funding for a series of scholarships for IT program participants.

### **Pairing This Tool With Gap Analysis**

Many state and local leaders are already using tools and processes to analyze equity data. Most commonly, this work takes the form of a gap analysis. Gap analysis considers opportunity gaps in enrollment as well as performance gaps on accountability indicators. Most gap analyses take the following approaches:

**Opportunity gaps:** When analyzing opportunity gaps, state or local leaders look at the gap between the percentage of career pathways enrollees, CTE participants or CTE concentrators who are members of a particular learner group and the percentage of learners in the community who are members of that learner group. For instance, if 4 percent of secondary CTE participants in a school district are Asian-Pacific Islander learners but 7 percent of the overall learner population are Asian-Pacific Islander learners, the opportunity gap is 3 percentage points.

**Performance gaps**: When considering performance gaps, state or local leaders analyze the gap between the percentage of learners in a particular learner group who meet a performance target and the percentage of all learners who meet that performance target. For instance, if 79 percent of a college's postsecondary CTE concentrators are earning recognized postsecondary credentials but the rate for Latinx postsecondary CTE concentrators is 65 percent, the performance gap is 14 percentage points.

Gap analysis considers opportunity and performance gaps within the universe of learners already engaged in career pathways and CTE programs of study (e.g., using CTE concentrators as the denominator).

This tool serves as a companion to the gap analysis process by focusing on representativeness within learner groups (i.e., using total population of each learner group as the denominator). More information on these calculations can be found in the appendix.

Another difference between a gap analysis and this tool is that, while a gap analysis shows the current state of equity within education programs, this workbook looks forward. It guides users through a goal-setting process to identify how many additional learners are needed to meet goals for representativeness, enabling leaders to envision a more inclusive future for their programs. For instance, if female learners make up 49 percent of the high school population in a state of 128,836 high school learners, 15 percent of those female learners are CTE concentrators, and state leaders aim to increase that percentage to 30 percent, they will need to engage about 9,470 more female learners at the concentrator level to meet that goal.

Together, these two analytical approaches can supercharge efforts to prioritize and strategize for a more equitable system that supports learners' career exploration and preparation needs.

#### **PRIVACY CONSIDERATIONS**

To make the most effective use of this tool, we recommend that state and local leaders and data staff use real numbers to identify where growth is needed to achieve inclusivity. Entering real values, even for small groups, enables users from a state or local system to analyze and set goals for representativeness for less populous learner groups as well as to consider representativeness at the individual program level.

Because this tool is intended to use real numbers, even for small populations, we suggest that it be used internally only. Privacy protections for small counts, such as n-size limitations, are important to protect learner privacy in public-facing data but can obscure current levels of representation and growth needed for smaller learner groups. If users desire to make this data public, we suggest using n-size limitations as recommended by your state department of education or postsecondary institution.

## Using the Tool: Steps and Guiding Questions

The Achieving Inclusive CTE Goal-Setting Tool guides users through a process of entering learner counts and setting goals for representativeness of learner groups and then shows users the growth needed to achieve those goals — both the numbers of learners who need to be engaged and the percentage-point gap that must be closed to meet goals. This information empowers state and local leaders to assess at which stages of the CTE pipeline particular learner groups are most under-represented, set goals to increase representativeness, and develop resources and supports targeted at specific points along the CTE pipeline as well as to the needs of specific learner populations.

The workbook was developed in Microsoft Excel, rather than in an interactive platform such as Tableau, because Excel is more likely to be accessible to a variety of state and local education agency users. It is compatible with Microsoft Office 2019 and 365 but may not be compatible with prior versions such as Office 2016.

The tool is not pre-populated with data; users must enter their own state or local data to see any output in the dashboard. Screenshots with sample data are included throughout this section as examples.



**Excel Terms** The following terms appear throughout this manual in directions for using the Achieving Inclusive CTE Goal-Setting Tool.

- Workbook: The Achieving Inclusive CTE Goal-Setting Tool Excel file.
- **Tab:** Each individual worksheet within the workbook. Tabs are visible at the bottom of the page. Click on tab names to navigate between tabs.
- Unhiding a tab: When the workbook is initially opened, the tabs that are visible are User Instructions, Indicator Definitions, Counts Entered by User, Goals Entered by User and Dashboard. Additional tabs featuring background calculations are hidden. To unhide a tab, right click on any tab name, select "Unhide" and choose the tab name you would like to view. More information on hidden tabs can be found in the appendix.
- Unprotecting a tab: Unprotecting a tab allows users to make changes to that tab but also opens the
  door to accidental deletions or changes. We recommend that users do not unprotect tabs, as this can
  lead to unintended changes to the data. If you do need to unprotect a tab, right click on the tab name
  and select "Unprotect." No password is required in the original version of the Achieving Inclusive CTE
  Goal-Setting Tool, but users may choose to add a password later.
- **Dropdown menu:** To select an indicator from the dashboard dropdown menu, click on the dropdown menu (highlighted light blue). A down arrow will appear. Click on the down arrow to select an indicator.

Having trouble reading the workbook? Try zooming in or out (find the zoom toggle in the bottom right-hand corner of your Excel window) or scrolling left, right, up or down.

# Step 1: Review Indicator Definitions

Users should begin by opening the workbook in Excel and reviewing the User Instructions and Indicator Definitions tabs. We recommend users review the definition for each indicator and make any changes to better fit their state or local context.

#### DIRECTIONS

- 1. Click on the workbook tab titled "Indicator Definitions."
- 2. To change a definition, type the preferred definition in column B for that indicator. This will update the definition that appears in the dashboard.

	A	В
1	Definitions of Indicators Review the definitions for each indicator. To make any changes that better fit your state or local context, click on the cells in Column B to to type your preferred definition for each indicator.	NEW SKILLS READY NETWORK
3	Indicator	Definition
4	CTE Participation	lumber of CTE participants as calculated for Perkins V
5	HWHD CTE Participation	lumber of CTE participants as calculated for Perkins V enrolled in high-wage, in-demand career pathways
6	CTE Concentration	lumber of CTE concentrators as calculated for Perkins V
7	HWHD CTE Concentration	lumber of CTE concentrators as calculated for Perkins V enrolled in high-wage, in-demand career pathways
8	WBL Completion	lumber of CTE concentrators who have completed sustained work-based learning experiences such as internships, apprenticeships and/or clinicals
9	Advanced Coursework Completion	Aumber of CTE concentrators who have completed advanced coursework such as Advanced Placement, International Baccalaureate, and/or dual or oncurrent enrollment courses (secondary); number of learners who have completed higher-level coursework (postsecondary)
10	Credential Completion	lumber of CTE concentrators who have earned recognized postsecondary credentials such as industry certifications, postsecondary certificates ind/or degrees
11	Placement	lumber of CTE concentrators placed in postsecondary education, advanced training or the workforce after completing a CTE program as calculated or Perkins V
12	HWHD Placement	Number of CTE concentrators who were enrolled in high-wage, in-demand career pathways and were placed in postsecondary education, advanced aining or the workforce after completing a CTE program as calculated for Perkins V
13	Wages	lumber of CTE concentrators who, after completing a CTE program, earned at or above the state's definition of "high wage"
14	HWHD Wages	lumber of CTE concentrators who, after completing a CTE program, earned at or above the state's definition of "high wage" and were enrolled in high- vage, in-demand career pathways
15 16		
17		
19		State Leaders Connecting Learning to Work

### **Options for Defining Indicators**

The Achieving Inclusive CTE Goal-Setting Tool incorporates 11 indicators to enable state and local leaders to consider a complete picture of how different learner groups move through their career pathways and CTE experiences, from initial participation to the completion of quality experiences such as work-based learning to post-program outcomes.

# The following definitions are flexible and can be refined within the workbook to better align with existing datasets and goals, such as:

- State-specific definitions for Perkins, WIOA or other federal accountability indicators;
- State accountability indicators;
- State designations of high-wage, in-demand career pathways;
- State thresholds for high-wage earnings;
- Specific timeframes for data collection (e.g., how long after program completion wage data is collected); and
- State goals for postsecondary credential attainment.

More guidance on these definitions and areas of alignment with existing datasets can be found in the <u>appendix</u>. \*

CTE Access	<b>CTE Participation:</b> Number of CTE participants as calculated for Perkins V
	<b>HWHD CTE Participation:</b> Number of CTE participants as calculated for Perkins V enrolled in high-wage, in-demand career pathways
Success	<b>CTE Concentration:</b> Number of CTE concentrators as calculated for Perkins V
Within CTE Programs	<b>HWHD CTE Concentration:</b> Number of CTE concentrators as calculated for Perkins V enrolled in high-wage, in-demand career pathways
-	<b>WBL Completion:</b> Number of CTE concentrators who have completed sustained work-based learning experiences such as internships, apprenticeships and/or clinicals
	Advanced Coursework Completion: Number of CTE concentrators who have completed advanced coursework such as Advanced Placement, International Baccalaureate, and/or dual or concurrent enrollment courses (secondary)
	Number of learners who have completed higher-level coursework (postsecondary)
	<b>Credential Completion:</b> Number of CTE concentrators who have earned recognized postsecondary credentials such as industry certifications, postsecondary certificates and/or degrees
CTE Post-Program	<b>Placement:</b> Number of CTE concentrators placed in postsecondary education, advanced training or the workforce after completing a CTE program as calculated for Perkins V
Outcomes	<b>HWHD Placement:</b> Number of CTE concentrators who were enrolled in high-wage, in-demand career pathways and were placed in postsecondary education, advanced training or the workforce after completing a CTE program as calculated for Perkins V
	<b>Wages:</b> Number of CTE concentrators who, after completing a CTE program, earned at or above the state's definition of "high wage"
	<b>HWHD Wages:</b> Number of CTE concentrators who, after completing a CTE program, earned at or above the state's definition of "high wage" who were enrolled in high-wage, in-demand career pathways

# Step 2: Enter Counts

Next, users enter counts for each indicator and learner group as well as total counts for each learner group in the community and for each indicator. This tool gives users the flexibility to choose data for the initial learner counts based on users' context and needs. The following section provides options and guiding questions to help users define initial counts.

### DIRECTIONS

- 1. Consult the options for learner counts and guiding questions in this section to help you select initial counts.
- 2. Click on the workbook tab titled "Counts Entered by User".
- **3.** Enter counts for each learner group for each indicator (**cells E4-AH14**). You may copy and paste or enter counts directly into the worksheet. Counts entered should be whole numbers.

В	С	D	E	F	G	н	I.	J	К	L	м	Ν	0	Р
NEV REA	V SK DY NET	<b>ILLS</b> WORK	Ø.											
Fotal Population for Each Indicator	Male	Female	Asian or Pacific Islander	Asian or Pacific Islander Male	Asian or Pacific Islander Female	Black Non- Latinx	Black Non- Latinx Male	Black Non- Latinx Female	Latinx	Latinx Male	Latinx Female	Multiracial	Multiracial Male	Multirac Fernak
										10				
	NEV REA	NEW SK READY NET	NEW SKILLS READY NETWORK	NEW SKILLS	NEW SKILLS	NEW SKILLS	NEW SKILLS	ORE POPULATION FOR A STATE ALIAN OF PACIFIC ALIAN OF PACI	OREW SKILLS OF A SIAN OF Parties Asian o	OREADY NETWORK	Otal Population for	OEL Population for the former Asian or Pacific Asian or Pacific Black Non- Black Non- Black Non-	OREF DEVICES D	OEB Population for the formation of Pacific Atian or Pacific Atian or Pacific Black None Black None Black None International Atian or Pacific Atian or Pacific Atian or Pacific Black None Black None Black None International Atian or Pacific Black None Black None Black None International Atian or Pacific Black None Black None Black None International Atian or Pacific Atian or Pacific Atian or Pacific Atian or Pacific Black None Black None Black None International Atian or Pacific Atian or Pacific Atian or Pacific Black None Black None Black None International Atian or Pacific Atian or Pacific Atian or Pacific Black None Black None Black None International Atian or Pacific Atian or Pacific Atian or Pacific Black None Black None Black None International Atian or Pacific Black None Black None Black None International Atian or Pacific Atian or Pacific Atian or Pacific Black None Black None Black None International Atian or Pacific Atian or Pacific Atian or Pacific Black None Black None Black None International Atian or Pacific Atian or Pacific Atian or Pacific Black None Black None Black None International Atian or Pacific Black None Black None Black None International Atian or Pacific Atian or Pacific Atian or Pacific Black None Black None Black None International Atian or Pacific Black None Black None Black None International Atian or Pacific Atian

4. Enter total male learners, total female learners and overall total counts for each indicator (cells B4-D14).

A	В	С	D	E	F	G	н	1	J	К	L	М	N	0	Р
Counts Entered by User Enter counts for each learner group for each Indicator (cells E4-AH4). You may copy and paste	NEV	V SK	WORK	Ø:											
or enter count directly into the workshoet. In addition, only to take the second second second second (cells 84-01/34 and total counts for each harmer group in the community (cells 83-443). The workshoet will give you a waring below the table, in red. If there is a discrepancy between the counts entered for particular texture groups and total counts.	Total Population for Each Indicator	Male	Female	Asian or Pacific Islander	Asian or Pacific Islander Male	Asian or Pacific Islander Female	Black Non- Latinx	Black Non- Latinx Male	Black Non- Latinx Female	Latinx	Latinx Male	Latinx Female	Multiracial	Multiracial Male	Multira Femal
Total Population for Each Learner Group															
CTE Participation															
HWHD CTE Participation															
CTE Concentration															
HWHD CTE Concentration															
8 WBL Completion															
Advanced Coursework Completion															
0 Credential Completion															
1 Placement															
2 HWHD Placement															
3 Wages															
4 HWHD Wages															

5. Enter total counts for each learner group in the community (cells B3-AH3).

A	В	С	D	E	F	G	н	1	J	К	L	М	N	0	
Counts Entered by User Enter counts for each learner group for each Indicator (cells E4AHT4). You may copy and paste	<b>NEV</b> REA	V SK	WORK	Ø.											
or entir counts directly into the worksheel. In addition, entry total male harms, total female learners and overall total counts for each indicator (cells B-614) and total counts for each learner group in the community (cells B3-443). The workhook will give you a warring below the table, in red, if there is a discrepancy between the counts entered for particular harmer groups and total counts.	Total Population for Each Indicator	Male	Female	Asian or Pacific Islander	Asian or Pacific Islander Male	Asian or Pacific Islander Female	Biack Non- Latinx	Black Non- Latinx Male	Black Non- Latinx Female	Latinx	Latinx Male	Latinx Female	Multiracial	Multiracial Male	Mu F
Total Population for Each Learner Group															
CTE Participation															-
HWHD CTE Participation															
CTE Concentration															
HWHD CTE Concentration															
WBL Completion															
Advanced Coursework Completion															
Credential Completion															
Placement															
HWHD Placement															
Wages															
HWHD Wages															1

**NOTE:** The workbook will give you a warning below the table, in **red**, if there is a discrepancy between the counts entered for particular learner groups and total counts.

A	В	С	D	E	F	G	Н	1	J
Counts Entered by User Enter counts for each indicator and learner group as well as total counts for each learner group in the community (row 3) and for each indicator (column 8).	NEW	V SK	WORK	Ø:					
The workbook will give you a warning below the table, in red, if there is a discrepancy between the counts entered for particular learner groups and total counts.	Total Population for Each Indicator	Male	Female	Asian or Pacific Islander	Asian or Pacific Islander Male	Asian or Pacific Islander Female	Black Non- Latinx	Black Non- Latinx Male	Black Non- Latinx Female
3 Total Population for Each Learner Group	20,035	11,165	8,870				8,741	5000	3741
CTE Participation	6,713	4,257	2,456				3,073	2305	768
HWHD CTE Participation	5,257		1,961				2,449		612
CTE Concentration	1,309	843	466		8		626	469	157
HWHD CTE Concentration	1,030	653	377				496	372	124
WBL Completion	755	463					132	100	34
Advanced Coursework Completion	1,061	648	413			113	470	352	118
0 Credential Completion	1,064	717	347				470	400	118
1 Placement	1,296	835	461				626	469	157
2 HWHD Placement		576	351				393	295	98
3 Wages	245	153	92				120	90	30
4 HWHD Wages	197	124	73				101	76	25
5     6       7     7       8     1       9     1       10     1       11     1       12     1       12     1       13     1       14     1       14     1       15     1       16     1       17     1       18     1       19     1	772 753 927	1,459 765	292 526	113	_		612 134 518		
2	ADVANCE State Leaders Connecting Lean			Ition Strategy Grou	p				

**NOTE:** If you do not have data about a particular indicator or learner group, or do not intend to develop goals for a particular indicator or learner group, **leave all cells pertaining to that indicator or learner group blank** — **including the total population for that indicator (column B) or learner group (row 3)**.

A	В	С	D	E	F	G	н	1	J	К	L	м	N	0	Р	Q
Counts Entered by User Enter counts for each indicator and learner group as well as total counts for each learner group in the community (column B).	NEV	V SK	ILLS WORK	Ø:	V										<u></u>	0
The workbook will give you a warning below the	otal Population for Each Indicator	Male	Female	Asian or Pacific Islander	Asian or Pacific Islander Male	Asian or Pacific Islander Female	Black Non- Latinx	Black Non- Latinx Male	Black Non- Latinx Female	Latinx	Latinx Male	Latinx Female	Multiracial	Multiracial Male	Multiracial Female	Native Americar Alaska Na
Total Population for Each Learner Group	20,035	11,165	8,870				8,741	5000	3741	5,607	2804	2803	313	138	175	19
CTE Participation	6,713	4,257	2,456				3,073	2305	768	2,222	1111	1111	77	37	40	2
HWHD CTE Participation	5,257	3,296	1,961				2,449	1837	612	1,628	814	814	61	30	31	2
CTE Concentration	1,309	843	466				626	469	157	355	178	177	14	7	7	1
HWHD CTE Concentration	1,030	653	377				496	372	124	258	129	129	8	4	4	1
WBL Completion	755	463	292				134	100	34	116	60	56	3	2	1	0
Advanced Coursework Completion	1,061	648	413				470	352	118	275	138	137	10	5	5	0
Credential Completion	1,064	717	347				470	352	118	275	175	100	10	5	5	0
Placement	1,296	835	461				626	469	157	355	178	177	14	7	7	1
HWHD Placement	927	576	351				393	295	98	258	129	129	8	4	4	1
Wages	245	153	92				120	90	30	65	33	32	0	0	0	0
HWHD Wages	197	124	73				101	76	25	45	20	25	0	0	0	0

It is important that these initial counts are accurate. Please double check your work before moving to the next step. If you are skipping a learner group or an indicator, leave ALL cells pertaining to that learner group or indicator blank, including totals in column B or row 3.

### **Options for Learner Counts**

As noted previously, the Achieving Inclusive CTE Goal-Setting Tool provides flexibility for users to define initial learner counts based on their context and needs.

- Level: Users can input counts for each indicator and learner group at the individual program or career pathway level, school or college level, district level or state level — as long as the level chosen is consistent across the dataset. For instance, a postsecondary administrator interested in examining representation across a community college would use institution-level counts for each indicator and learner group and for the total learner population that could be engaged in CTE or career pathways. A state leader would use the comparable state data.
- Indicators: While we recommend entering counts for all the indicators to show a complete picture of inclusivity — from initial access to success within programs to post-program outcomes — users who lack data about a particular indicator should refrain from entering data for that indicator both when entering counts and, later, when setting goals. This choice will not affect the calculations for representativeness for the other indicators. For example, if a local leader does not

have data about completion of sustained work-based learning experiences, they may leave those cells blank both in the initial counts and when developing goals.

Learner groups: While we recommend entering counts for all learner groups, including intersectional data (e.g., counts disaggregated by race/ethnicity/special population status as well as gender, such as counts for Asian or Pacific Islander females and Asian or Pacific Islander males, etc.) to enable users to set goals that take into account overlapping categories of identity, users may refrain from entering data for a particular learner group both when entering counts and, later, when setting goals. This choice will not affect the calculations for representativeness for other learner groups. For instance, a state CTE representative may choose to enter data for the learner groups required for disaggregation under Perkins V, leaving cells that ask for intersectional data blank both in the initial counts and when developing goals.

• Years of data: Users may input counts from one program year, or a combination of years, for which they have the highest quality and most complete data. For instance, one user may input data from the most recent

program year, while another user whose data systems have a longer lag time may need to go back two years. Another user may decide to average data across several years to eliminate noise.

### **Guiding Questions**

The following questions and considerations can help users decide which counts to use for this step of the workbook.

### Q1: How should I define the total population?

A: Choosing a broader definition for the total learner population who could be engaged in CTE enables a more realistic assessment of representativeness compared to the state or local community. One way to define the total population is all learners who could be CTE participants. On the secondary level, this number is best captured by including the number of learners in the grades that can attain CTE participant status. For instance, this number could be the full population of high school learners, if CTE participation starts in grade 9, or it could be grades 8-12 or 10-12, if CTE participation starts earlier or later. Area technical center directors may look at a different population, depending on the grade level at which learners begin taking courses at the tech center. On the postsecondary level, the total population could be defined as all learners enrolled in the institution or system or, even more broadly, as all adults of working age in the community.

However you define the population, remember to take into account barriers to access, such as eligibility and admissions requirements, that may affect learners' ability to participate in CTE programs or career pathways.

### Q2: Should I input data for each of the 11 indicators?

A: Using data for each indicator will give you a wider view of the CTE pipeline to identify where learners from different groups are disengaging generally and within high-wage, in-demand programs and career pathways specifically. We encourage users to collaborate with other state or local agencies to access data across the full spectrum of CTE and career pathways inputs and outcomes.

However, if despite these efforts, you are unable to access data for a particular indicator, you may skip counts and goals for that measure without affecting the rest of the workbook. For more guidance on how to construct each indicator, please see the appendix.

### Q3: Should I use intersectional data?

A: Using data disaggregated by race/ethnicity/special population status as well as by gender enables you to set goals and develop strategies to increase representativeness that take into account learners' multiple, overlapping identities. We encourage users to input disaggregated counts for all learner groups listed in the tool so that the goals you set and strategies you develop to meet those goals and increase inclusivity are responsive to learners' intersectional identities.

However, if despite your efforts, you are unable to include disaggregated data for a particular learner group, you may skip counts and goals for that learner group without affecting the rest of the workbook.

#### Q4: Which year(s) of data should I use?

A: Using data from the most recent reporting year for which you have quality data for each indicator is one option and the simplest approach. In many states and local areas, this may mean the data was collected at different times, owing to lags in reporting for certain indicators, particularly for post-program placement and wage data.

Another approach is to average multiple years of data. Averaging multiple years is a best practice because it enables you to reduce the impact of outliers or data quality issues that may have affected a particular program year. However, you may not have data for all the indicators for that length of time.

The most robust option is to use a cohort approach. If you have access to a state longitudinal data system, you can construct a cohort of learners in your state or local system who became CTE participants in a particular year and follow that same group of individuals through to their post-program outcomes. Even without a longitudinal system, you can use a semi-cohort approach that incorporates older CTE participation data; data about CTE concentration and completion of work-based learning, advanced coursework and credential attainment from one or two years later; and data about post-program outcomes from one or two years after that. If you choose a cohort or semi-cohort approach, the overall population counts for each learner group should ideally match the first year of the cohort.

# Step 3: Set Goals

In this step, users enter goals for each indicator and learner group. These goals are the percentages of learners in each learner group across the state or local community that leaders aim to engage for each indicator — the percentages that users aim to become participants, become concentrators, take part in various quality experiences, and achieve post-program outcomes — to grow the universe of learners in career pathways and CTE programs in a way that prizes inclusivity.

### DIRECTIONS

- 1. Click on the workbook tab titled "Goals Entered by User."
- 2. Scroll down to review the current percentage representation for each learner group for each indicator (cells B20-AH30) based on the learner counts you entered in the previous step. A heatmap will show you where representation is higher (green) and lower (red).

A	В	С	D	E	F	G	н	1	J	К	L	М	N	0	Р	Q	R	S
17 18 Current Representation																		
Shown here for reference (cells B20-AH30). This is the current count of learners for each indicator expressed as a percentage.	Total Population for Each Indicator	Male	Female	Asian or Pacific Islander	Asian or Pacific Islander Male	Asian or Pacific Islander Female	Black Non- Latinx	Black Non- Latinx Male	Black Non- Latinx Female	Latinx	Latinx Male	Latinx Female	Multiracial	Multiracial Male	Multiracial Female	Native American or Alaska Native	Native American or Alaska Native Male	Native American or Alaska Native Female
20 CTE Participation	33.51%	38.13%	27.69%				35.16%	46.10%	20.53%	39.63%	39.62%	39.64%	24.60%	26.81%	22.86%	10.53%	10.00%	11.11%
1 HWHD CTE Participation	26.24%	29.52%	22.11%				28.02%	36.74%	16.36%	29.04%	29.03%	29.04%	19.49%	21.74%	17.71%	10.53%	10.00%	11.11%
22 CTE Concentration	6.53%	7.55%	5.25%				7.16%	9.38%	4.20%	6.33%	6.35%	6.31%	4.47%	5.07%	4.00%	5.26%	10.00%	0.00%
23 HWHD CTE Concentration	5.14%	5.85%	4.25%				5.67%	7.44%	3.31%	4.60%	4.60%	4.60%	2.56%	2.90%	2.29%	5.26%	10.00%	0.00%
24 WBL Completion	3.77%	4.15%	3.29%				1.53%	2.00%	0.91%	2.07%	2.14%	2.00%	0.96%	1.45%	0.57%	0.00%	0.00%	0.00%
25 Advanced Coursework Completion	5.30%	5.80%	4.66%				5.38%	7.04%	3.15%	4.90%	4.92%	4.89%	3.19%	3.62%	2.86%	0.00%	0.00%	0.00%
6 Credential Completion	5.31%	6.42%	3.91%				5.38%	7.04%	3.15%	4.90%	6.24%	3.57%	3.19%	3.62%	2.86%	0.00%	0.00%	0.00%
7 Placement	6.47%	7.48%	5.20%				7.16%	9.38%	4.20%	6.33%	6.35%	6.31%	4.47%	5.07%	4.00%	5.26%	10.00%	0.00%
8 HWHD Placement	4.63%	5.16%	3.96%				4.50%	5.90%	2.62%	4.60%	4.60%	4.60%	2.56%	2.90%	2.29%	5.26%	10.00%	0.00%
29 Wages	1.22%	1.37%	1.04%				1.37%	1.80%	0.80%	1.16%	1.18%	1.14%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
0 HWHD Wages	0.98%	1.11%	0.82%				1.16%	1.52%	0.67%	0.80%	0.71%	0.89%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Color Legend for Current Representation     Lowest Value (in population group)     Midpoint (in population group)     Highest Value (in population group)	ADVANC State Leaders Connection			SG Educ	ntion Strate;	gy Group												

3. Consult the options for setting goals and guiding questions in this section to help you select goals.

**NOTE:** The cells to AH continue off of the page so the user needs to scroll over to see those cells.

4. Enter goal percentages for each learner group for each indicator (cells C4-AH14).

A	В	С	D	E	F	G	н	1	J	К	L	M	N	0	Р	Q	R
Goals Entered by User Enter goal percentages for each learner group for each indicator (cells C4AH14) and for the total population for each indicator (cells B4E14).	NEW READY	<b>SKILL</b> NETWO	S O														
If you do not have dats for an indicator or a learner group, leave the cells blank. All dats in row 3 is imported from the "counts Entered by User" its and <u>should not be channed</u> , unless you are omitting a participant of the channed analysis. The current representation is provided in the table below as a reference.	Total Population for Each Indicator	Maie	Female	Asian or Pacific Islander	Asian or Pacific Islander Male	Asian or Pacific Islander Female	Black Non- Latinx	Black Non- Latinx Male	Black Non- Latinx Female	Latinx	Latinx Male	Latinx Female	Multiracial	Multiraciai Male	Multiracial Female	Native American or Alaska Native	Nat Americ Ala Native
Total Population for Each Learner Group																	
CTE Participation																	
HWHD CTE Participation											1						
CTE Concentration																	
HWHD CTE Concentration																	
WBL Completion																	
Advanced Coursework Completion																	
Credential Completion																	
Placement																	
HWHD Placement																	
Wages																	
HWHD Wages																	-

### And for the total population for each indicator (cells B4-B14.)

Goals Entered by User Enter goal percentages for each learner group for each indicator (ceils C4-AH4) and for the total population for each indicator (ceils B4-8H4).	NEW S	SKILL	S O														
If you do not have data for an indicator or a harmer group, leave the calls blank. All data in row 3 is imported from the "Counts Entered by User" that and <u>should not be channed</u> , unless you are omitting a particular learner group from the analysis. The current representation is provided in the table below as a reference.	Total Population for Each Indicator	Maie	Female	Asian or Pacific Islander	Asian or Pacific Islander Male	Asian or Pacific Islander Female	Black Non- Latinx	Black Non- Latinx Male	Black Non- Latinx Female	Latinx	Latinx Male	Latinx Female	Multiracial	Multiracial Male	Multiracial Female	Native American or Alaska Native	Natin America Alasi Native I
Total Population for Each Learner Group																	
CTE Participation																	
HWHD CTE Participation																	
CTE Concentration																	
HWHD CTE Concentration																	
WBL Completion																	
Advanced Coursework Completion																	
Credential Completion																	
Placement																	
HWHD Placement																	
Wages																	
HWHD Wages																	

**NOTE:** The current representation of each learner group in the community (row 3) is provided as a reference. All data in row 3 is imported from the "Counts Entered by User" tab and should not be changed, unless you are omitting a particular learner group from the analysis.

1	Goals Entered by User Enter goal percentages for each learner group for each indicator (cells C4-AH14) and for the total population for each indicator (cells B414).	NEW S	SKILL	S O														
2	If you do not have data for an indicator or a learner group, <u>leave the cells blank</u> .	Total Population for Each Indicator	Male	Female	Asian or Pacific Islander	Asian or Pacific Islander Male	Asian or Pacific Islander Female	Black Non- Latinx	Black Non- Latinx Male	Black Non- Latinx Female	Latinx	Latinx Male	Latinx Female	Multiracial	Multiracial Male	Multiracial Female	American or	Native American or Alaska Native Male
3	Total Population for Each Learner Group																	
4	CTE Participation																	
5	HWHD CTE Participation																	
6	CTE Concentration																	
7	HWHD CTE Concentration																	
8	WBL Completion																	
9	Advanced Coursework Completion																	
10	Credential Completion																	
11	Placement																	
12	HWHD Placement																	
13	Wages																	
14	HWHD Wages																	
15 16	-																	

Note: If you do not have data about a particular indicator or learner group, or do not intend to develop goals for a particular indicator or learner group, leave all cells pertaining to that indicator or learner group blank
 — including the total population for that indicator (column B) or learner group (row 3). This is the only instance in which you should change data in row 3.

A Goals Entered by User Enter your parcentages for each harmer group for Enter your parcentages for each hidanter (oils 64-AH1) and for the total apputation for each indicator (cells 64-BH1).	READY I	© SKILL NETWO			F	G	н	1	J	К	L	М	N	0	P	Q	R	S
If you do not have data for an indicator or learner group. <u>Java the cells blank</u> . All data in row 3 is imported from the "Counte Entreme by User" tab and <u>absult not be changed</u> unless you are omitting a particular learner group from the analysis. The current representation is provided in the table bub ours as a reference.	Total Population for Each Indicator	Male	Female	Asian or Pacific Islander	Asian or Pacific Islander Male	Asian or Pacific Islander Female	Biack Non- Latinx	Black Non- Latinx Male	Black Non- Latinx Female	Latinx	Latinx Male	Latinx Female	Multiracial	Multiracial Male	Multiracial Female	Native American or Alaska Native	Native American or Alaska Native Male	Native American o Alaska Native Female
Total Population for Each Learner Group	100.00%	55.73%	44.27%				43.63%	24.96%	18.67%	27.99%	14.00%	13.99%	1.56%	0.69%	0.87%	0.09%	0.05%	0.04%
CTE Participation	60.00%	40.00%	80.00%				60.00%	40.00%	80.00%	60.00%	40.00%	80.00%	60.00%	40.00%	80.00%	60.00%	40.00%	80.00%
HWHD CTE Participation	55.00%	50.00%	60.00%				55.00%	50.00%	60.00%	55.00%	50.00%	60.00%	55.00%	50.00%	60.00%	55.00%	50.00%	60.00%
CTE Concentration	30.00%	25.00%	35.00%				30.00%	25.00%	35.00%	30.00%	25.00%	35.00%	30.00%	25.00%	35.00%	30.00%	25.00%	35.00%
HWHD CTE Concentration	27.00%	24.00%	30.00%				27.00%	24.00%	30.00%	27.00%	24.00%	30.00%	27.00%	24.00%	30.00%	27.00%	24.00%	30.00%
WBL Completion																		
Advanced Coursework Completion																		
Credential Completion																		
Placement																		
HWHD Placement																		
Wages																		
HWHD Wages																		

It is important that the goals entered accurately reflect your intentions. Please double check your work before moving to the next step. If you are skipping a learner group or an indicator, leave ALL cells pertaining to that learner group or indicator blank, including totals in column B or row 3.

### **Options for Setting Goals**

Setting goals is likely to be the most challenging part of this workbook for many users. We recommend that users take a collaborative approach to determining targets by consulting with colleagues and stakeholders. The following are several different goal-setting scenarios that state and local teams may consider:

- Equal representation across all learner groups: In this scenario, users set goals for equal representation across learner groups. For instance, a school district CTE team may set goals such as 50 percent CTE participation across all learner groups; 30 percent CTE concentration across all learner groups; 22 percent CTE concentration in high-wage, in-demand career pathways; 20 percent completion of work-based learning; and so on.
- Higher goals for one or more under-represented learner groups: In this scenario, users aim to increase representation for one or more under-represented learner groups. For instance, a team of technical college workforce development administrators may, when considering data showing large disparities between male and female learners, set higher goals for female learners for each indicator. In this case, users have the

option to set lower goals for other learner groups males, in this scenario — or omit goals for other learner groups.

 Goals across a set of targeted indicators or populations: In this scenario, users set targets for one, two or three indicators and omit goals for the other indicators. For instance, leaders in a career pathways system may focus on setting goals for participation, concentration and outcomes in high-wage, in-demand career pathways across all learner groups and omit goals for the other indicators. Or if their data shows particular disparities in outcomes for Latinx learners, they may aim to double the percentage of Latinx learners earning credentials of value, again omitting goals for other indicators and learner groups.

Goals can be easily changed, so teams can run through a variety of scenarios to see the potential real-world impacts of different targets.

### **Contrast With Perkins Performance Targets**

User goals for this step will look very different from other targets, such as those set for Perkins accountability, for several reasons:

- Perkins performance targets are established for the entire body of CTE concentrators rather than for separate learner groups.
- Perkins performance targets are established without reference to the percentage of learners from a particular population in the broader state or local community.
- The aim for many Perkins targets is that all or almost all CTE concentrators will achieve targets on indicators such as academic proficiency, graduation and postprogram placement on the secondary level and credential attainment and post-program placement on

the postsecondary level (target levels are often lower for secondary program quality indicators and the nontraditional learner measures). On the other hand, targets in this tool reflect, in many state and local contexts, a narrowing percentage of learners from different learner groups who choose to take part in CTE programs and career pathways and who complete career development experiences at deepening levels of intensity.

### **Guiding Questions**

The following questions and considerations can help users decide which goal-setting scenarios are relevant for their needs and context.

### Q1: What should I consider when setting goals?

A: When setting goals, the first step is to look at current representation (cells B20-AH30) to identify the learner groups and indicators where under-representation is most pervasive. Use the following table to record your team's takeaways about current representation.

Are any learner groups consistently under- represented or over-represented across indicators? If so, which learner groups are most often under- represented or over-represented?	
Which indicators are least representative across learner groups? Which indicators show the largest gaps in representation among different learner groups?	
Which indicators are most representative across learner groups? Which indicators show the smallest gaps in representation among different learner groups?	
How does the under- and over-representation shown here compare to data from other sources, such as federal accountability indicators and disparities identified through opportunity gap analysis or other equity analyses? Where do you see similar gaps in representation? Where do you see differences?	
How do findings about representation from this workbook align with previously determined state or local goals?	

# Q2: Should I aim for equal representation across learner groups or target particular learner groups for increased representation when setting goals?

A: Setting goals for equal representation does not prioritize one learner group over another, aiming instead to increase representativeness across the board. This scenario may be particularly relevant if the disparities in representation among learner groups in your state or local community are narrower. On the other hand, you may consider targeting one or more specific learner groups with higher goals if you see large disparities in representation or if the program you are analyzing is aimed at under-represented learners, such as a career development program for English learners. We do not recommend setting goals to increase representation by the same percentage across all learner groups — for instance, a 10 percent increase across the board, regardless of initial levels of representation — as this approach can replicate existing disparities in representativeness.

#### Q3: Should I set goals for each indicator or for a subset of indicators?

A: Setting goals for each indicator will enable you to target increased representativeness of learner groups across your system holistically. However, you may find that focusing on a subset of indicators is appropriate if some indicators show particularly large disparities among learner groups or if you are prioritizing indicators that are in line with existing continuous improvement efforts or state goals.

#### Q4: How ambitious or conservative should my goals be?

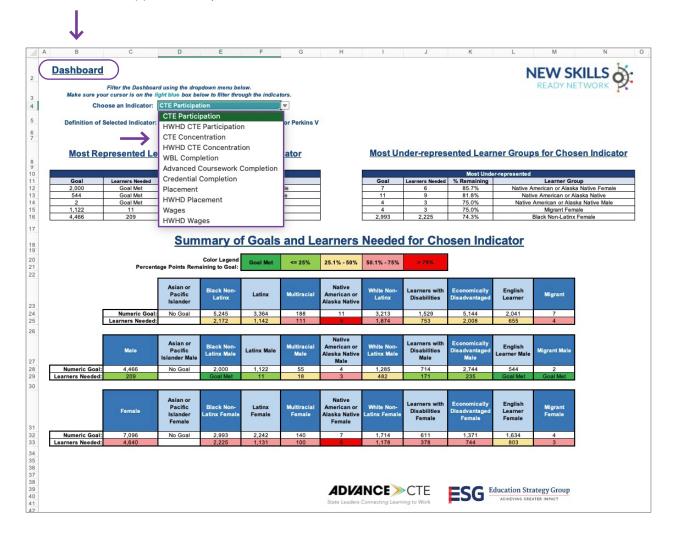
A: This answer will depend on timelines and strategies you may implement to bring about change. Ambitious goals for increased representation enable you to aim high but may take multiple years and will likely rely on multiple, often high-impact strategies to bring to fruition. More conservative goals are more likely to be achievable in the short term — two years or less — and may be more amenable to narrower strategies that can be implemented fairly quickly.

# Step 4: Review the Dashboard

In this final step, you can identify learner groups that are most and least representative for each indicator and see how many more learners need to be engaged to meet your goals. After reviewing the dashboard, continue to the next section of this manual to begin analyzing findings and mapping out next steps.

#### DIRECTIONS

- 1. Click on the workbook tab titled "Dashboard."
- 2. Choose the indicator you want to view using the **dropdown menu**. The definition of the selected indicator will appear below your selection.

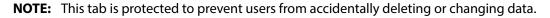


- 3. See a table showing the **five learner groups that are most represented** (on the left) and a table showing the **five learner groups that are most under-represented** (on the right) for that indicator.
- 4. Within these tables, see the numeric goal you set for that learner group, the number of learners needed to achieve your goal for that learner group, and the gap remaining to achieve 100 percent of your goal for that learner group.

-	Dashboard					NEW SKILLS
	Filter the Dashboard using the dr Make sure your cursor is on the light blue box b					READY NETWORK
Choose an Indicator: CTE Participation						
	Definition of Selected Indicator: Number of C	TE participants as calculated for Perkins V				
	· · · · · · · · · · · · · · · · · · ·				- V	
	Most Represented Learner Gro	oups for Chosen Indicator	<u>Most U</u>	nder-repres	ented Learn	ner Groups for Chosen Indicate
	Most Represented Learner Gro	•	<u>Most U</u>	nder-repres		ner Groups for Chosen Indicato
	. Most Repres Goal Learners Needed % Remaining	anted	Most U <sub>Goal</sub>	Learners Needed	Most Unde % Remaining	r-represented Learner Group
	Most Repres	ante d			Most Unde	r-represented
	Most Repres Goal Learners Needed % Remaining	anted	Goal		Most Unde % Remaining	r-represented Learner Group
	Goal         Learners Needed         % Remaining % Remaining           2,000         Goal Met         0.0%	ented Learner Group Black Non-Latinx Male	Goal 7	Learners Needed	Most Unde % Remaining 85.7%	r-represented Learner Group Native American or Alaska Native Female
	Goal Learners Needed % Remaining 2,000 Goal Met 0.0% 544 Goal Met 0.0%	onted Learner Group Black Non-Latinx Male English Learner Male	Goal 7	Learners Needed	Most Unde % Remaining 85.7% 81.8%	r≺reprosented Learner Group Native American or Alaska Native Female Native American or Alaska Native

5. Below the tables, see the numeric goal and the number of learners needed to achieve your goal for each learner group for that indicator. The heat map shows where you are closest to and farthest from your goal as a percentage, with green used to indicate when you are closer to 100 percent of the goal and red when you are farther from 100 percent of the goal for that learner group. If no additional learners are needed to meet the goal for that learner group for that indicator, the dashboard reports "Goal Met." If counts and/or goals have been left blank, the dashboard reports "No Goal."

	Percent	age Points Rem	Color Legend aining to Goal:	Goal Met	<= 25%	25.1% - 50%	50.1% - 75%	> 75%			
		Asian or Pacific Islander	Black Non- Latinx	Latinx	Multiracial	Native American or Alaska Native	White Non- Latinx	Learners with Disabilities	Economically Disadvantaged	English Learner	Migrant
	Numeric Goal:	No Goal	5,245	3,364	188	11	3,213	1,529	5,144	2,041	7
	Learners Needed:		2,172	1,142	111	9	1,874	753	2,008	655	4
	Male	Asian or Pacific Islander Male	Black Non- Latinx Male	Latinx Male	Multiracial Male	Native American or Alaska Native Male	White Non- Latinx Male	Learners with Disabilities Male	Economically Disadvantaged Male	English Learner Male	Migrant Male
						Male					
Numeric Goa		No Goal	2,000	1,122	55	4	1,285	714	2,744	544	2
Numeric Goa Learners Neede		No Goal	2,000 Goal Met	1,122 11	55 18		1,285 482	714 171	2,744 235	544 Goal Met	2 Goal Met
		No Goal Asian or Pacific Islander Female				4					
	209 Female	Asian or Pacific Islander	Black Non-	11 Latinx	18 Multiracial	4 3 Native American or Alaska Native	482 White Non-	171 Learners with Disabilities	235 Economically Disadvantaged	Goal Met English Learner	Goal Met Migrant



More information about the calculations used in this tool can be found in the appendix.  $\star$ 

- **NOTE:** A maximum of five learner groups are reported in the dashboard in the most represented table and five learner groups in the most under-represented table. In the instance of a "tie" in which multiple learner groups are over- or under-represented, some learner groups that are highly under- or over-represented may not appear in these tables. Please review the second section of the dashboard, which shows goals and the number of learners needed to achieve goals for each learner group, to identify additional populations that are under- or over-represented.
- **NOTE 2:** In addition, extremely small populations one learner per learner group may cause the dashboard to report "No Goal," even when counts and/or goals have been entered. This notification is shown for calculations that result in fractional goals (less than one learner needed to meet goals).



### Why Show Growth as a Number and a Percentage?

Numeric growth shows you the real-world numbers of learners in each learner group that need to be engaged to meet your goals.

Considering change as percentage points remaining to the goal shows you a more relative picture of growth needed to meet your goals. This approach can be particularly impactful when looking at small learner groups. For instance, take a hypothetical case in which the numeric growth needed to achieve representativeness for Native American learners in a school district for an indicator is four learners — an increase from one learner to five learners. This number of learners is small and may be easy for users to overlook when deciding where to focus strategies for increasing inclusivity. But when you consider the percentage points remaining until you achieve 100 percent of your goal, you realize that you need to close a gap of 80 percentage points.

# Analyzing and Leveraging Results

Identifying the numerical and percentage-point growth needed to achieve representativeness in CTE programs and career pathways is just the first step in the process of increasing inclusivity in a state or local system. Use the following guiding questions and action planning tools to help you analyze these results, integrate them with additional data sources and information, and begin to identify strategies to improve representation.

# Record Growth Needed to Meet Goals

Record the most and least representative learner groups as well as the growth needed for each learner group from each indicator in the table below.

Highlight the indicators and learner groups for which the most growth is needed numerically and as a percentage-point increase.help you gain more information and map out strategies to meet your goals.

Indicator	Most <b>Represented</b> Learner Groups and Growth Needed (# and %)	Most <b>Under-Represented</b> Learner Groups and Growth Needed (# and %)
CTE Participation		
HWHD CTE Participation		
CTE Concentration		
HWHD CTE Concentration		



Indicator	Most <b>Represented</b> Learner Groups and Growth Needed (# and %)	Most <b>Under-Represented</b> Learner Groups and Growth Needed (# and %)
WBL Completion		
Advanced Coursework Completion		
Credential Completion		
Placement		
HWHD Placement		
Wages		
HWHD Wages		

### **Identify Priorities**

With your colleagues and stakeholders, identify three to five priorities for action. Each priority should include at least one learner group and at least one indicator as well as when you hope to achieve this goal. For example, one priority might be "increase representation of Latinx learners in CTE participation by 300 learners and CTE concentration by 175 learners over three years."

**Priorities** (include at least one learner group, one indicator and a time range)

1.	
2.	
3.	
4.	
5.	

### Plan Next Steps

Discuss the following guiding questions with your colleagues and stakeholders to help you gain more information and map out strategies to meet your goals.

What additional information, such as institutionor program-level data, do you need to deepen your understanding of the underlying root causes of over- and under-representation and develop strategies to increase inclusivity?

Which stakeholders can you collaborate with to help you better understand the reasons behind data trends?

What methods, such as surveys and focus groups, can you use to engage stakeholders to identify the root causes and potential solutions?

How are you currently directing resources and supports to serve learners identified as under-represented according to this tool?

What measures are you using to evaluate the effectiveness of these resources and supports? Are they working and, if so, why or why not?

What education agencies, community organizations and other partners are you working with to better serve under-represented learners? Whom else could you partner with? What strategies, resources and/or supports could you put in place relatively quickly to support learner groups identified as under-represented through this tool?

What longer-term strategies, resources and/or supports could you pursue?

What additional capacity, such as professional development, new staff or braided funding with partners, do you need to support under-represented learners effectively?

At what intervals will you use this workbook to measure progress toward your goals?

How can you integrate this workbook or the broader process of goal setting into regular evaluation and improvement processes, such as the biannual CLNA or program review/monitoring, to assess progress toward goals for increased inclusivity?

### **Develop an Action Plan**

Use the preceding information to help you develop an action plan to meet your goals.

Action	Owner	Timeline	Resources Needed	Partners to Engage

## Engaging Stakeholders in Data Analysis

Quantitative data tells only part of the story. Stakeholders, including learners, families, community members and employer partners, can help state and local leaders better understand data trends, identify root causes and find strategies to increase inclusivity. Advance CTE has produced several resources that leaders can use to more effectively engage stakeholders and leverage their feedback to improve CTE programs and career pathways:

### With Learners, Not for Learners: A Toolkit for Elevating Learner Voice in CTE,

developed with ACTE, provides state and local CTE leaders with actionable resources, guidance and tools to ensure that CTE learner voices are elevated and heard to improve CTE policies and practices.

### Brave Dialogues: A Guide to Discussing Racial Equity in Career Technical

**Education** equips CTE leaders with language and tools to engage in discussions around racial equity in CTE.

**Engaging Representatives of Learners with Special Population Status Through Perkins V** helps states establish processes and routines for systematically engaging representatives of learners with special population status at the state level.

**Opportunities to Advance Statewide Industry Collaboration and Engagement in Career Technical Education** describes state strategies to systematically engage business and industry leaders in support of CTE through Perkins V.

### **Indicator Definitions**

The following chart defines each indicator and suggests potential areas of alignment with existing definitions and datasets.

CTE ACCESS	POTENTIAL AREAS OF ALIGNMENT
<b>CTE Participation:</b> Number of CTE participants as calculated for Perkins V	State-specific calculations for a Perkins V CTE participant, which is defined in the law as an individual who completes not less than one course in a CTE program or program of study of an eligible recipient.
<b>HWHD CTE Participation:</b> Number of CTE participants as calculated for Perkins V enrolled in high-wage, in- demand career pathways	State-specific calculations for a Perkins V CTE participant. State designations of enrollment in high-wage, in-demand career pathways.
SUCCESS WITHIN CTE PROGRAMS	
<b>CTE Concentration:</b> Number of CTE concentrators as calculated for Perkins V	<ul> <li>State-specific calculations for a Perkins V CTE concentrator, which is defined in the law as:</li> <li>At the secondary school level, a student who is served by an eligible recipient and has completed at least two courses in a single CTE program or program of study.</li> <li>At the postsecondary level, a student who is enrolled in an eligible recipient and has (i) earned at least 12 credits within a CTE program or program of study or (ii) completed such a program if the program encompasses fewer than 12 credits or the equivalent in total.</li> </ul>
<b>HWHD CTE Concentration:</b> Number of CTE concentrators as calculated for Perkins V enrolled in high-wage, in-demand career pathways	State-specific calculations for a Perkins V CTE concentrator. State designations of enrollment in high-wage, in-demand career pathways.
WBL Completion: Number of CTE concentrators who have completed sustained work-based learning experiences such as internships, apprenticeships and/or clinicals	State-specific calculations for the Perkins V secondary work-based learning participation indicator (5S3), which is defined in the law as the percentage of CTE concentrators graduating from high school having participated in work-based learning.

#### SUCCESS WITHIN CTE PROGRAMS continued

### Advanced Coursework Completion:

Number of CTE concentrators who have completed advanced coursework such as Advanced Placement, International Baccalaureate, and/or dual or concurrent enrollment courses (secondary)

Number of learners that have completed higher-level coursework (postsecondary)

#### Credential Completion:

Number of CTE concentrators who have earned recognized postsecondary credentials such as industry certifications, postsecondary certificates and/or degrees State-specific calculations for the Perkins V postsecondary credit attainment indicator (5S2), which is defined in the law as the percentage of CTE concentrators graduating from high school having attained postsecondary credits in their CTE program or program of study through a dual or concurrent enrollment program or another credit transfer agreement.

State-specific calculations for Perkins V credential attainment indicators. These measures are defined in the law as:

- 5S1: The percentage of CTE concentrators graduating from high school having attained a recognized postsecondary credential.
- 2P1: The percentage of [postsecondary] CTE concentrators who receive a recognized postsecondary credential during participation in or within one year of program completion.

State-specific calculations for the WIOA credential attainment indicator (D), which is defined as the percentage of those participants enrolled in an education or training program (excluding those in on-the-job training and customized training) who attain a recognized postsecondary credential or a secondary school diploma, or its recognized equivalent, during participation in or within one year after exit from the program. A participant who has attained a secondary school diploma or its recognized equivalent is included in the percentage of participants who have attained a secondary school diploma or its recognized equivalent only if the participant also is employed or is enrolled in an education or training program leading to a recognized postsecondary credential within one year after exit from the program.

State goals for postsecondary credential attainment.

### **CTE POST-PROGRAM OUTCOMES**

#### **Placement:**

Number of CTE concentrators placed in postsecondary education, advanced training or the workforce after completing a CTE program as calculated for Perkins V State-specific calculations for Perkins V placement indicators. These measures are defined in the law as:

- 3S1: The percentage of CTE concentrators who, in the second quarter after exiting from secondary education, are in postsecondary education or advanced training, military service, or a service program under the National and Community Service Act; are volunteers in the Peace Corps; or are employed.
- 1P1: The percentage of [postsecondary] CTE concentrators who, during the second quarter after program completion, remain enrolled in postsecondary education; are in advanced training, military service, or a service program under the National and Community Service Act; are volunteers in the Peace Corps; or are placed or retained in employment.

State-specific calculations for WIOA employment rate and education and employment rate indicators, which are defined as:

- A. Employment Rate Second Quarter After Exit: The percentage of participants who are in unsubsidized employment during the second quarter after exit from the program (for Title I youth, the indicator is the percentage of participants in education or training activities or in unsubsidized employment during the second quarter after exit).
- A-1. <u>Title I Youth Education and Employment Rate Second</u> <u>Quarter After Exit:</u> The percentage of Title I youth program participants who are in education or training activities or in unsubsidized employment during the second quarter after exit from the program.
- B. Employment Rate Fourth Quarter After Exit: The percentage of participants who are in unsubsidized employment during the fourth quarter after exit from the program (for Title I youth, the indicator is the percentage of participants in education or training activities or in unsubsidized employment during the fourth quarter after exit).
- B-1. <u>Title I Youth Education and Employment Rate Fourth</u> <u>Quarter After Exit</u>: The percentage of program participants who are in education or training activities or in unsubsidized employment during the fourth quarter after exit from the program.

### **CTE POST-PROGRAM OUTCOMES** continued

HWHD Placement: Number of CTE concentrators who were enrolled in high-wage, in-demand career pathways and were placed in postsecondary education, advanced training or the workforce after completing a CTE program as calculated for Perkins V	State-specific calculations for Perkins V placement indicators and for WIOA employment rate and education and employment rate indicators. State designations of enrollment in high-wage, in-demand career pathways.
<b>Wages:</b> Number of CTE concentrators who, after completing a CTE program, earned at or above the state's definition of "high wage"	State threshold for high-wage earnings.
HWHD Wages: Number of CTE concentrators who, after completing a CTE program, earned at or above the state's definition of "high wage" and were enrolled in high-wage, in-demand career pathways	State threshold for high-wage earnings. State designations of enrollment in high-wage, in-demand career pathways.

### **Worksheet Instructions and Formulas**

WorkSheet Histia		
User Instructions:	Read the instructions for using the Achie	eving Inclusive CTE Goal-Setting Tool.
Indicator Definitions:	See the definition for each indicator. You typing the preferred definition in colum update the definition that appears in the	n B for that indicator. This change will
Counts Entered by User:	and paste or enter counts directly into the learners, total female learners and overa D14) and total counts for each learner g	each indicator (cells E4-AH14). You may copy ne worksheet. In addition, enter total male Il total counts for each indicator (cells B4- roup in the community (cells B3-AH3). The v the table, in red, if there is a discrepancy ar learner groups and total counts.
	If you do not have data about a particula intend to develop goals for a particular i pertaining to that indicator or learner gr for that indicator (column B) or learner g	ndicator or learner group, leave all cells oup blank — including the total population
Current Representation:	AH14) and for the total population for ea	ent users from accidentally deleting or
	FORMULA	EXAMPLE
	Count for each indicator and learner group	Number of male learners who are CTE participants
	÷ Count for each learner group in the community	÷ Number of male learners in the community
Goals Entered by User:	the "Counts Entered by User" tab and sho omitting a particular learner group from	ach indicator (cells B4-B14). The current the community (row 3) is imported from ould not be changed, unless you are

representation is higher (green) and lower (red).

(cells B20-AH30) is provided as a reference. A heatmap will show you where

If you do not have data about a particular indicator or learner group, or do not intend to develop goals for a particular indicator or learner group, **leave all cells pertaining to that indicator or learner group blank** — **including the total population for that indicator (column B) or learner group (row 3).** This is the only instance in which you should change data in row 3.

Numeric Goals:See goals for each learner group for each indicator (cells C4-AH14) and for the total<br/>population for each indicator (cells B4-B14) as a number based on the goal percentages<br/>you entered in the "Goals Entered by User" tab. The current representation of each learner<br/>group in the community (row 3) is provided as a reference. If you omit counts and/or<br/>goals for a learner group or an indicator, the tool reports "No Goal." This tab is protected<br/>to prevent users from accidentally deleting or changing data. (This tab is hidden but can<br/>be revealed by the user, if desired.)

FORMULA	EXAMPLE
Count for each learner group in the community *	Number of male learners in the community *
Goal percentage for each indicator and learner group	Goal percentage of male learners for CTE participation

#### **Count Remaining to Goal:**

See how many more learners need to be engaged to meet goals for each learner group for each indicator (cells B4-AG14). A color scale highlights where the percentage-point increase needed to meet the goal is highest (dark red) and lowest (dark green) to help you prioritize. If no additional learners are needed to meet the goal for that learner group for that indicator, the tool reports "Goal Met." If you omitted counts and/or goals for a learner group or an indicator, the tool shows empty cells. This tab is protected to prevent users from accidentally deleting or changing data. (*This tab is hidden but can be revealed by the user, if desired.*)

FORMULA	EXAMPLE
Goal count for each learner group and indicator – Current count for each learner group and indicator	Number of male learners who need to be engaged as CTE participants to achieve goals – Current number of male learners who are CTE participants

#### Percent Remaining to Goal:

See how many more learners need to be engaged to reach goals for each learner group for each indicator as a percentage (cells B61-AG71). A color scale highlights where the percentage-point increase needed to meet the goal is highest (dark red) and lowest (dark green) to help you prioritize. If no additional learners are needed to meet the goal for that learner group for that indicator, the tool reports "Goal Met." If you omitted counts and/or goals for a learner group or an indicator, the tool shows empty cells. This tab is protected to prevent users from accidentally deleting or changing data. (*This tab is hidden but can be revealed by the user, if desired.*)

FORMULA	EXAMPLE
100%	100%
-	-
(Current count for each learner	(Current number of male
group and indicator	learners who are CTE
÷	participants
Goal count for each learner	÷
group and indicator)	Number of male learners who
	need to be engaged as CTE
	participants to achieve goals)

#### **Dashboard:**

Choose the indicator you want to view using the dropdown menu. The definition of the selected indicator will appear below your selection.

See a table showing the five learner groups that are most represented (on the left) and a table showing the five learner groups that are most under-represented (on the right) for that indicator. Within these tables, see the numeric goal you set for that learner group, the number of learners needed to achieve your goal for that learner group, and the gap remaining to achieve 100 percent of your goal for that learner group.

Below the tables, see the numeric goal and the number of learners needed to achieve your goal for each learner group for that indicator. The heat map shows where you are closest to and farthest from your goal as a percentage, with green used to indicate when you are closer to 100 percent of the goal and red when you are farther from 100 percent of the goal for that learner group. If no additional learners are needed to meet the goal for that learner group for that indicator, the dashboard reports "Goal Met." If counts and/or goals have been left blank, the dashboard reports "No Goal."

This tab is protected to prevent users from accidentally deleting or changing data.

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This resource was developed through JPMorgan Chase & Co.'s New Skills ready network , a partnership of Advance CTE and Education Strategy Group. New Skills ready network , launched by JPMorgan Chase & Co. in 2020, bolsters the firm's efforts to support an inclusive economic recovery, as part of both their \$350 million, five-year New Skills at Work initiative to prepare people for the future of work and their <u>new \$30 billion commitment</u> to advance racial equity. Advance CTE and Education Strategy Group are working with sites to improve student completion of high-quality career pathways in six US communities.

The six New Skills ready network sites are: Boston, Massachusetts; Columbus, Ohio; Dallas, Texas; Denver, Colorado; Indianapolis, Indiana; and Nashville, Tennessee. These sites are formulating new partnerships between local school systems, higher education, employers, and government entities to develop pathways and policy recommendations that give underserved students access to higher education and real-world work experiences that lead to high-wage, in-demand jobs.

## End Notes

- <sup>1</sup> National Center for Education Statistics. (n.d.). *Common core of data: Table 1. Public high school 4-year adjusted cohort rate.* <u>https://nces.ed.gov/ccd/tables/ACGR\_RE\_and\_characteristics\_2017-18.asp;</u> U.S. Department of Education. (2019, September). *Bridging the skills gap: Career and technical education in high school.* <u>https://www2.ed.gov/datastory/cte/index.html</u>
- <sup>2</sup> Advance CTE. (2021, October). *Shifting the skills conversation*. <u>https://cte.careertech.org/sites/default/files/files/resources/</u> EmployerResearchReport\_100621\_small.pdf
- <sup>3</sup> Carnevale, A. P., Cheah, B., & Wenzinger, E. (2021). *The college payoff: More education doesn't always mean more earnings*. Georgetown University Center on Education and the Workforce. <u>https://cew.georgetown.edu/cew-reports/</u> <u>collegepayoff2021/#data</u>
- <sup>4</sup> Advance CTE. (2018, September). *Making good on the promise: Understanding the equity challenge in CTE*. <u>https://careertech.org/</u><u>resource/understanding-equity-challenge-cte</u>
- <sup>5</sup> Ibid.
- <sup>6</sup> Hodge, E., Dougherty, S., & Burris, C. (2020, February). *Tracking and the future of career and technical education: How efforts to connect school and work can avoid the past mistakes of vocational education*. National Education Policy Center. <u>https://nepc.colorado.edu/sites/default/files/publications/PB%20Hodge%20CTE%202.25.pdf</u>