

# Aligning to **OPPORTUNITY**

State Approaches to Setting  
High Skill, High Wage and In Demand

JANUARY 2020





# Introduction

The Strengthening Career and Technical Education for the 21st Century Act (Perkins V) places a strong emphasis on the alignment of Career Technical Education (CTE) programs of study with state, regional and local economies. Specifically, the legislation requires Perkins-funded programs to prepare students for “high-skill, high-wage, or in-demand occupations.” These terms — *high skill*, *high wage* and *in demand* — are foundational to Perkins V, appearing in both the purpose of the law and the definition of CTE.

While these terms were present in the previous law and increasingly have been part of state efforts to develop and prioritize CTE pathways, Perkins V puts a much firmer stake in the ground around the importance of labor market alignment. States and local recipients can no longer merely declare that their programs are responsive to employer demand but now must use labor market information (LMI) to demonstrate the alignment of programs to high-skill, high-wage and/or in-demand careers.

Further, Perkins V specifies that states’ plans must include a determination of how aligned their programs and programs of study are to the needs of the state, regional or local economy, along with a description of how they will use labor market data to show that alignment. State plans must also describe the criteria and processes states will use to approve eligible recipients for funding, including verifying that funds will be used to promote preparation for high-skill, high-wage or in-demand industry sectors or occupations identified through comprehensive local needs assessments.

As with many Perkins V requirements, the responsibility of defining these terms rests solely with states, providing them with a major opportunity to set a meaningful bar for determining which career opportunities anchor their CTE programs. The stronger focus on labor market alignment compels state CTE leaders to ensure that all program offerings are relevant to today’s economy and that learners will participate in CTE programs with data-driven and validated labor market value.

Not only does this requirement support a focus on the quality of programs, but it also provides an opening for collaboration across all state systems — K-12, postsecondary and workforce development — to establish a common understanding and use of LMI, which can promote cross-sector alignment. For example, as part of the legislation’s emphasis on encouraging greater ties to the provisions of the Workforce Innovation and Opportunity Act (WIOA), Perkins V replaces the Perkins IV term *high demand* with the term used in WIOA — *in demand*.<sup>1</sup> Moreover, statewide definitions and shared data help to send clear signals to learners, families and employers that CTE offerings are designed to lead to economic opportunity.

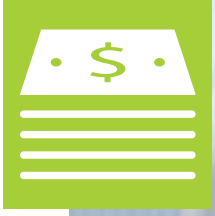
The process of developing clear, consistent and meaningful definitions for these terms is complicated work, requiring collaboration, quality data and leadership to draw a line that may leave some CTE programs unfunded. Specifically, states are grappling with:

- How should they **define** *high skill, high wage* and *in demand*?
- Which **data sources** should they use to make determinations about whether programs meet one or more of the criteria, and what assistance should be provided to local applicants in accessing and using data?
- Should they provide **flexibility** for eligible recipients whose programs may not meet the criteria, and how should it be provided?
- How can information on CTE program alignment with LMI be **disseminated** publicly and promoted specifically to learners and families?

This brief describes some approaches that states are taking to partner across agencies to access and review LMI; develop definitions for *high skill, high wage* and *in demand*; and align CTE programs and programs of study to those criteria.

KEY HIGH-SKILL, HIGH-WAGE AND IN-DEMAND REQUIREMENTS IN PERKINS V	
<b>Purpose of Perkins V</b> (SEC. 2)	“... building on the efforts of States and localities to develop challenging academic and technical standards and to assist students in meeting such standards, including preparation for <b>high-skill, high-wage, or in-demand</b> occupations in current or emerging professions ...”
<b>Definition of CTE in Perkins V</b> (SEC. 2)	“... provides individuals with rigorous academic content and relevant technical knowledge and skills needed to prepare for further education and careers in current or emerging professions, which may include <b>high-skill, high-wage, or in-demand</b> industry sectors or occupations ...”
<b>Required State Plan Content</b> (SEC. 122)	“The State plan shall include ... (4) [a] description of how the eligible agency will (iii) use State, regional, or local labor market data to determine alignment of eligible recipients’ programs of study to the needs of the State, regional, or local economy, including in-demand sectors and occupations identified by the State board, and to align career and technical education with such needs, as appropriate ... (d) The State plan shall include — (13) assurances that ... (C) the eligible agency will use the funds to promote preparation for <b>high-skill, high-wage, or in-demand</b> industry sectors or occupations and non-traditional fields, as identified by the eligible agency.”
<b>State Leadership Activities</b> (SEC. 124)	“[E]ach eligible agency shall — (1) conduct State leadership activities to improve career and technical education, which shall include support for — (A) preparation for non-traditional fields in current and emerging professions, programs for special populations, and other activities that expose students, including special populations, to <b>high-skill, high-wage, and in-demand</b> occupations.”

Note: Emphasis added in definitions.



# Defining *High Skill, High Wage* and *In Demand*

## A Collaborative, Cross-Agency Approach

States are using various methods to develop definitions for *high skill*, *high wage* and *in demand*, but an emerging strategy is for CTE to collaborate with other agencies throughout the process. This collaboration allows expertise from economic and workforce agencies to be included, particularly their knowledge or use of LMI.

For example, the **District of Columbia's** Office of the State Superintendent of Education (OSSE) — which oversees CTE in the District of Columbia Public Schools, 106 charter schools, and the University of the District of Columbia Community College — began the process by meeting with a small group of local education agency partners in December 2018. This group left with the charge of researching various definitions and came back to report and discuss its findings in February 2019.

At that point, the group brought in individuals from the District of Columbia's Workforce Investment Council (WIC) for advice on expert entities it might consult, as well as data sources. After some discussion, the group landed on the Massachusetts Institute of Technology (MIT) cost of living tool to inform much of the *high wage*

definition.<sup>2</sup> The LMI data provider EMSI informed ongoing discussions around the term *in demand*, helping to tackle such questions as whether the definition should incorporate job replacement as well as job growth. Another consideration was whether to incorporate data from beyond the District of Columbia metropolitan statistical area, such as data from Baltimore.

The group outlined various options that were then shared with the deputy mayor's office. A proposed set of definitions was then presented to the Department of Employment Services, the WIC, industry partners and other stakeholders at a May 2019 CTE State Plan Advisory Committee meeting. With the Advisory Committee's input, the definitions were updated and shortly thereafter implemented. The new definitions are being integrated into the Perkins V state plan and OSSE's state CTE policies; OSSE also is working closely with other workforce development programs and offices, particularly those authoring the new WIOA state plan, to explore the alignment of these definitions across the District's workforce and education systems.

## ➤ DISTRICT OF COLUMBIA



### Definition of High Skill

Occupations located within the Washington, DC, metropolitan statistical area with education or training requirements of: completion of an apprenticeship program; completion of an industry-recognized certification or credential; an associate degree; or higher.



### Definition of High Wage

Occupations that have a 25th percentile wage equal to or greater than the most recent MIT Living Wage Index for one adult in the District of Columbia and/or lead to a position that pays at least the median hourly or annual wage for the Washington, DC, metropolitan statistical area. (Note: As of August 1, 2019, a 25th percentile hourly wage of \$17.02 or greater is required to meet this definition.)



### Definition of In Demand

Occupations in the Washington, DC, metropolitan statistical area having more than the median number of total (growth plus replacement) annual openings over a five-year period. (Note: An occupation is required to have an annual growth plus replacement rate of at least 105 openings between 2020 and 2025 to meet this definition.)

Similarly, as part of efforts to redesign all CTE programs into structured programs of study, the **Texas** Education Agency led a process in collaboration with the Texas Workforce Commission, Texas Workforce Investment Council, Texas Higher Education Coordinating Board, local teachers and administrators and industry representatives to identify high-wage, high-skill

and in-demand occupations. Texas engaged these stakeholders to serve on industry advisory committees for each Career Cluster® to leverage labor market data to identify priority occupations and the necessary knowledge and skills for the programs of study across secondary and postsecondary systems.

## Determining Clear Criteria

As described above, states have multiple considerations for each definition. For example, should high wage be measured at the state level or regionally? Does one data point suffice, or should multiple data points be used? **Minnesota** and **Nebraska** made different determinations on those questions, with Minnesota choosing

one state-level data point and Nebraska electing to use multiple data points at the regional level. States may allow for a choice of criteria if they have significant disparities in average income or wages — or potentially in sectors represented — across different regions of the state.

### Definition of High Wage



#### Minnesota

High wage is anything that is above the median wage for all occupations (\$41,749 based on 2018 data from Minnesota Department of Employment and Economic Development).



#### Nebraska

An occupation is considered high wage when it pays wages that equal or exceed wages for all occupations in the same region in at least four of the eight wage metrics: average hourly wage, entry wage, experienced wage, 10th percentile wage, 25th percentile wage, 50th percentile wage, 75th percentile wage and 90th percentile wage.

Texas also chose to use median wage for its *high wage* definition. A reason to use median wage, rather than average, is that some industries, such as the energy industry, have a very wide pay spread. For occupations in such industries, the average wage may skew upward and not provide a good representation of what entry- or mid-level wages would be. Importantly, none of the three states use entry-level wage as the sole criterion for high wage, which could discount many career fields that provide meaningful long-term opportunities.

With regard to *high skill*, definitions differ about the extent to which they include work-related experience, employer-recognized credentials and/or formal postsecondary education. For example, Nebraska's definition includes formal postsecondary education but also recognizes long-term on-the-job training, apprenticeships and internships as denoting high skill. Texas' definition focuses on different types of credentials, such as certifications and degrees.

## Definition of High Skill



### Nebraska

All occupations that require an education level of some college or a higher, or that require a high school diploma (or equivalent) plus long-term on-the-job training, an apprenticeship or an internship or residency.



### Texas

A program of study demonstrating multiple entrance and exit points into careers including options for exit points from industry-based certifications, postsecondary level one and level two certifications from a technical college or community college, an associate degree and a bachelor's degree to ensure program of study sequences are continual and not job terminal.

Similar to the considerations for high wage, the in-demand criteria may be set at the state or regional level and may specify one or multiple data points to use. **Ohio** approaches the definition from the state level and uses multiple data points, while **Oklahoma** includes different levels but sets one data point: that demand exceed supply.

While workforce projections are needed for definitions of *in demand*, states may not want to rely only on projections of growth of a particular occupation since there can be a high percentage of growth but still few openings (e.g., an increase from 40 jobs to 60 represents a 50 percent increase but a very small number of overall openings). Ohio includes both growth and actual job availability in its definition.



## Definition of *In Demand*



### **Ohio**

Annual growth in the number of jobs greater than the statewide average of 50 and annual job openings greater than the statewide average of 230. (Openings refer to the anticipated number of positions that become available each year, and growth is the projected increase in the total positions for the occupation from one year to the next.)



### **Oklahoma**

An in-demand industry is defined as an occupation in which state, local or regional labor market data show that demand exceeds projected employment supply.

Perkins V requires that funded programs of study lead to occupations that are high wage, high skill or in demand. Therefore, to comply with the law, only one of the criteria needs to be met. However, this requirement is very much the floor and not the ceiling. Meeting two or more criteria likely better ensures that students will experience a viable and financially rewarding career pathway. In particular, states should avoid aligning their CTE programs with only in-demand occupations

because those that fall below statewide thresholds for high wage and/or high skill are far less likely to provide the best opportunities for CTE learners. Both Oklahoma and Minnesota will be requiring that local programs meet at least two of the three criteria. Nebraska requires that programs of study meet all three criteria to be eligible for Perkins funding, and all of its 65 state-level programs of study do so. Texas also requires that programs meet all three criteria.







# Assembling the Data

Setting definitions for *high skill*, *high wage* and *in demand* — and keeping those definitions current — requires multiple sources of data that are reliable and updated regularly. States are consulting different datasets and sources for both setting their definitions and subsequently making the calculations to determine which CTE programs meet the definitions.

Some of these data sources are provided externally by experts or vendors. For example, the District of Columbia's OSSE is using the MIT Living Wage Index to set the threshold for its definition of *high wage* and EMSI as the data analytics tool to determine occupations meeting the *high wage* and *in demand* definitions. EMSI is an LMI source that compiles data from the U.S. Census Bureau and Department of Labor as well as job postings and online job profiles. Providers such as EMSI, Burning Glass or others can provide real-time

data so that states and regions have the most current data. OSSE is providing eligible recipients with access to EMSI in addition to training on how to interpret and use the data. In other cases, states are relying on data collected by their own workforce, labor and/or economic development agencies.

Once states determine their definitions and conduct analyses to identify the occupations that meet them, it is critical that states provide the LMI to key stakeholders in actionable ways. For example, Nebraska's H3 site provides the state definitions of *high wage*, *high skill* and *high (in) demand*, as well as a search tool for identifying those occupations at the state or regional level. Under Perkins V, Nebraska is requiring all local eligible recipients to use the data from the site as a rationale for program funding. The site is updated weekly.<sup>3</sup>

Official Nebraska Government Website

**H3** High Wage. High Demand. High Skill.

NEBRASKA  
Good Life. Great Opportunity.

DEPARTMENTS OF  
LABOR, EDUCATION, & ECONOMIC DEVELOPMENT

Home Resources Career Clusters About

Search Job Title or SOC Code Search

**What are H3 Occupations? -**

**H3 Report Generator**  
Reports on H3 occupations can be viewed and downloaded here.

\*Area (State/Region): Nebraska

Generate Report

**Top Ten H3 Occupations by Demand Rank**  
An occupation's demand ranking is based on three factors: the number of annual openings, the net change in employment, and the growth rate.

Nebraska Export: PDF | Excel

Rank	Occupation	Average Hourly Wage	Average Annual Wage	Required Education	Required Work Experience	Job Training	Annual Openings
1	Heavy and Tractor-Trailer Truck Drivers	\$21.50	\$44,718	Postsecondary non-degree award	None	Short-term on-the-job training	3,438
2	Registered Nurses	\$29.85	\$62,086	Bachelor's degree	None	None	1,600
3	General and Operations Managers	\$50.86	\$105,793	Bachelor's degree	5 years or more	None	1,476
4	Carpenters	\$18.40	\$38,278	High school diploma or equivalent	None	Apprenticeship	1,288
5	Accountants and Auditors	\$33.34	\$69,348	Bachelor's degree	None	None	1,082
6	Software Developers, Applications	\$43.06	\$89,563	Bachelor's degree	None	None	534
7	Elementary School Teachers, Except Special Education	N/A	\$56,298	Bachelor's degree	None	None	865
8	Electricians	\$23.74	\$49,386	High school diploma or equivalent	None	Apprenticeship	703
9	Plumbers, Pipefitters, and Steamfitters	\$26.52	\$55,155	High school diploma or equivalent	None	Apprenticeship	658
10	Secondary School Teachers, Except Special and Career/Technical Education	N/A	\$56,267	Bachelor's degree	None	None	629

N/A: Data is not available due to confidentiality.  
Wages from Occupational Employment Statistics, 4th Quarter 2017. Annual openings from 2016-2026 Long-term Occupational Projections.  
Produced by the Nebraska Department of Labor, Office of Labor Market Information.

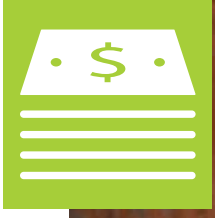
**Nebraska Economic Development Regions**  
Click map to view larger.

Minnesota's Occupations in Demand online tool allows users to search for high-demand jobs in each region of the state. Wages, long-term employment outlook and training (or degree) requirements for each occupation are also provided. Occupations listed on the site may be counted as in demand for Perkins V purposes.<sup>4</sup>

OhioMeansJobs is an initiative developed through the state's Office of Workforce Transformation. The state defines and identifies its in-demand jobs, along with details of the methodology used. Information includes job titles, median wages, the education needed and so on.<sup>5</sup> The site also offers a great deal more for

students and job-seekers, such as a career interest inventory, job and company search engines and other career exploration tools.<sup>6</sup> With a free account, users can create an employment plan, save jobs and build a resume.

These sites and others like them serve as resources for eligible agencies and local recipients when planning and proposing CTE programs and programs of study. The data from the sites serve as easily accessible references for local agencies to use to justify new or existing CTE programs. And they are even more broadly useful to students and anyone who is seeking current, reliable LMI.



# Providing Local Flexibility

Although Perkins V does require programs to align to state-defined high-skill, high-wage or in-demand occupations and industries, the law also recognizes the need for local flexibility. For example, the comprehensive local needs assessment allows eligible recipients to support CTE programs designed to meet “local education or economic needs not identified by State boards or local workforce development boards.”<sup>7</sup> As such, most states are providing flexibility to eligible recipients that wish to offer CTE programs and programs of study for occupations not listed on these state sites. In certain cases, an occupation may be very specific to a community or an emerging sector that would not show up on statewide or even regional lists of in-demand jobs.

For example, Ohio recognizes that the information and data on the OhioMeansJobs website provide a picture of the state level but that some opportunities at the local level do not meet the criteria. The state’s local application for Perkins V first asks eligible recipients to show that their programs of study are on the in-demand list. If not, they must answer a series of questions and provide data to demonstrate the local or regional value of those programs. Districts have the option of documenting job openings in the local area, offering evidence that at least 70 percent of

graduates have obtained industry-recognized credentials that make them hireable for an entry-level job in that field or providing data that at least 50 percent of students are placed into an industry-relevant job or a postsecondary program within six months of graduation.

Texas also allows for local flexibility with its regional program of study application process. Districts may submit a locally developed program of study for state approval based off regional LMI rather than state-level data. If approved, a regional program of study would be considered the same as a statewide program of study, and any district within the related workforce region would have the option of offering that approved program of study.

Affording local flexibility is important, particularly considering the dynamics of the ever-evolving and often localized workforce. Still, states should provide guidance or thresholds for the use of locally defined economic needs, such as a minimum number of employers signaling a need, a minimum number of career opportunities or evidence of family-sustaining wages, to ensure that eligible recipients have the flexibility to support programs in emerging areas without significantly limiting learners’ post-program career options.



# Disseminating the Data to Make the Information Actionable

While common definitions and data are useful for state agency planning and collaboration, it is also critical that school- and institution-level staff have access to and the ability to use these resources and that they can teach learners to do so as well. Meeting this goal is particularly important as eligible recipients develop their comprehensive local needs assessments and local applications.

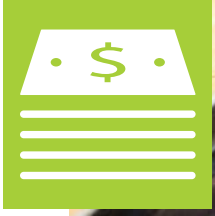
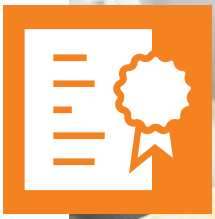


The District of Columbia's CTE office has created graphic "badges" — visual representations that confer the high-skill, high-wage and in-demand labels.

These badges appear, where appropriate, on the front page of information packets that OSSE has created for every one of its 41 programs of study. The packets also include the definitions and LMI

for the program, with the goal of transparency. OSSE is creating a centralized website to house this information, as well as a social media campaign that will kick off during CTE Month in February 2020.

When Nebraska's H3 website was launched, it was an immediate resource for multiple state agencies, but it was also understood that it could be an important tool for educators and learners. The state education agency provided professional development to teachers and counselors via webinars and workshops. CTE leaders wanted school personnel to be familiar with the site and also use it in their classrooms. Students can pull regional or state data to conduct research on jobs and wages to gather important contextual information for career advising.



# Conclusion

Perkins V asks states to make important decisions that will affect students' opportunities and outcomes for years to come. These decisions may be complicated and multi-faceted, but the primary driver should always be whether they are putting learner success first.

Given that states' decisions on defining *high skill*, *high wage* and *in demand* will essentially determine the CTE programs that will and will not be offered locally (and funded with Perkins dollars), states need to analyze what is right for their communities alongside what choices will maximize long-term opportunities for students. This is why it is critical that states take a broad view and consider *at least* two of the criteria when developing or approving CTE programs to ensure that programs do not only align to in-demand (which are often low-skill), high-wage or high-skill jobs (which may be limited to certain sectors and/or have few openings in certain communities).

The extent to which states offer flexibility for local programs to be justified in other ways will also influence students' learning options. As described in this brief, the need to balance flexibility with guardrails to ensure quality and rigor is critically important and can be done. As these new

approaches commence with the first year of full Perkins V implementation, it will be important to measure whether the alternative justifications they require are strong enough and to adjust as needed going forward.

Finally, states should leverage cross-agency and cross-sector collaboration in devising these definitions; this collaboration is an avenue to provide much-needed economic and labor market resources to their residents. If states encourage coordination among agencies in establishing these definitions, they will be able to speak with one voice to the various constituencies seeking access to LMI — local recipients, school-based career counselors, college-based job placement staff, students from K-12 through postsecondary, employers and others.

Perkins V is a once-in-a-decade opportunity to strengthen CTE for learners, employers and communities across the nation. By setting meaningful, data-driven and shared definitions for *high skill*, *high wage* and *in demand*, states can ensure that all CTE programs of study have labor market value and lead to success for each and every learner.

## Acknowledgments

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## ENDNOTES

- 1 (26) IN-DEMAND INDUSTRY SECTOR OR OCCUPATION — The term “in-demand industry sector or occupation” has the meaning given the term in section 3 of the Workforce Innovation and Opportunity Act (29 U.S.C. 3102).
- 2 MIT Living Wage Calculator, <https://livingwage.mit.edu/>
- 3 <http://h3.ne.gov/>
- 4 <https://mn.gov/deed/data/data-tools/oid/>
- 5 <http://omj.ohio.gov/IDJ/>
- 6 <https://jobseeker.ohiomeansjobs.monster.com/>
- 7 134(c)(2)(B)(ii) states that the comprehensive local needs assessment must include: A description of how career and technical education programs are aligned to State, regional, Tribal, or local in-demand industry sectors or occupations identified by the State workforce development board *or are designed to meet local education or economic needs not identified by the local workforce development boards.*





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