

# OVAE Customized Technical Assistance to States

The District of Columbia



*Prepared under contract to*  
U.S. Department of Education

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**August 2013**





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RTI International is a trade name of Research Triangle Institute.



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## Background

In 2012, the Office of Vocational and Adult Education (OVAE), U.S. Department of Education, invited states and discretionary grantees to submit requests for individualized technical assistance to improve the quality of their *Carl D. Perkins Career and Technical Education Improvement Act of 2006 (Perkins IV)* accountability systems. The District of Columbia's (DC's) Office of the State Superintendent of Education (OSSE) requested technical assistance in two areas related to meeting *Perkins* requirements. First, OSSE requested information on approaches for distributing *Perkins* funds to secondary recipients that would provide the level of support needed to encourage quality programming and reporting among DC's secondary recipients. OSSE was particularly interested in the approaches that other states were using to allocate funds to charter schools offering career and technical education (CTE) programs. Second, OSSE sought assistance with improving the tracking of secondary and postsecondary CTE student outcomes through existing data systems and DC's State Longitudinal Data System (SLDS), which is currently in development.

Sandra Staklis, a Senior Research Associate at RTI International, provided consultation services to OSSE's CTE staff. RTI communicated with DC staff via e-mail, telephone, and conference calls from January to June 2013. Based on the initial guidance and information provided during these communications, RTI collected information on the two topic areas mentioned above and used this information to develop this report. An initial draft of the report was shared with OSSE to solicit comments and to ensure that the information included would meet their technical assistance needs. The final report incorporates revisions and clarifications added in response to OSSE's feedback, as well as additional information that OSSE staff requested.

The report first addresses *Perkins* funding allocations and begins by describing the funding formulas and requirements specified in the legislation and outlining DC's past and current approaches to meeting these requirements. Information for this section was drawn from the legislation, OSSE staff, and consultations with a staff member of OVAE's Program Management Branch who had worked with OSSE in the past. The sections that follow describe the approach that six states currently use to allocate their secondary *Perkins* funds to both regular schools offering CTE and, as applicable, to charter schools. Per OSSE's request, each state included has one or more large urban areas with charter schools. On recommendation from OVAE staff, the review also includes Arizona, which is the only state that directs *Perkins* funds to charter schools through the state agency rather than through local school districts. The information was gathered by phone interviews with state-level CTE staff in

each state, who described whether and how conventional and charter secondary schools in their states receive *Perkins* funds.

The second part of this report addresses data needs for tracking CTE student outcomes through secondary and postsecondary education and into the workforce. OSSE requested information about two issues related to CTE student outcomes. First, they requested guidance on identifying the most important outcome measures to track—based on the data collection capacities and experiences of other states—for effective CTE program planning and development, meeting reporting requirements, and communicating with stakeholders. This part of the report, therefore, describes a range of student outcome measures that states are currently using or implementing to address their needs for information on CTE students. Second, OSSE asked for specific guidance on the data needed to support the tracking of these measures. The description of each measure, therefore, includes detail about the specific data elements that might be used to construct these measures. When reviewing this information, however, it should be kept in mind that the ways in which these measures are constructed will depend on the specific data elements included in DC's future SLDS.

## Section 1: *Perkins IV* Funding Allocations

The District of Columbia's (DC's) Office of the State Superintendent of Education (OSSE) requested technical assistance in addressing the *Carl D. Perkins Career and Technical Education Act of 2006 (Perkins IV)* funding allocations to local recipients in response to two issues. First, secondary education was recently reorganized under OSSE in 2007, and they appointed a new CTE state director in 2012. Second, OSSE anticipates the number of charter schools eligible to receive *Perkins* funds to increase from four to ten in the next few years. In light of these past and future changes, DC's CTE leadership requested information on whether the current approaches for allocating funds are meeting *Perkins* legislative requirements and what are possible alternatives for equitably distributing *Perkins* funds among DC's eligible recipients.

### *Perkins IV* Requirements for Allocating Funds to Local Grantees

The *Perkins IV* legislation includes separate formulas for the allocation of funds to local recipients at the secondary and postsecondary education levels.

#### *Secondary Level*

For secondary allocations, most funds are allocated in accordance with the funding distribution rules specified in the legislation. According to these rules, secondary funds are apportioned based on the distribution of school-aged children in general and school-aged children from families in poverty in the state. The formula guidelines are as follows:

- Thirty percent of funds are allocated to qualifying local education agencies (LEAs) based on the proportion of the state's school-aged children that the LEA serves.<sup>1</sup> The legislation identifies two data sources that states might use to calculate the proportion of a state's children aged 5-17 that an LEA serves. The first and most common data source is the Bureau of the Census. Data from this source provides counts of

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<sup>1</sup> Section 131(a)(1) of the legislation states, "Thirty percent shall be allocated to such local education agencies in proportion to the number of individuals aged 5 through 17, inclusive, who reside in the school district served by such local education agency for the preceding fiscal year compared to the total number of such individuals who reside in the school districts served by all local education agencies in the State for such preceding fiscal year."

the number of children in the geographic area that a given LEA serves.<sup>2</sup> The second data source is the National Center of Education Statistics, which offers LEA student membership data through Common Core of Data.

- The other 70 percent of funds are allocated to qualifying LEAs based on the proportion of the state's school-aged children from families below the poverty level that the LEA serves.<sup>3</sup> To calculate these allocations, states must determine the number of children from families below the poverty level using the Census data identified in the *ESEA*.

### Minimum Allocation

The legislation also establishes a minimum allocation (\$15,000) and rules for providing support to LEAs with allocation amounts that fall below the minimum. LEAs with allocation of less than \$15,000 are required to join a consortium with other secondary grantees. Consortia submit a single application and use *Perkins IV* funds to support activities that are mutually beneficial for all members. The consortia requirement may be waived for LEAs located in remote rural locations where finding consortia partners is difficult.

### Permitted Adjustments and Alternatives to the Legislated Formula

The legislation also recognizes situations for which the above formula may not be appropriate. Specifically, *Perkins IV* permits adjustments to allocation formula to account for changes in school district boundaries that occurred after Census data were collected, or to accommodate LEAs without geographical boundaries, such as charter schools. States seeking to direct *Perkins IV* funds to charter schools, therefore, are advised to use the formula used in their state to allocate Title I *ESEA* funds in order as a guide for calculating *Perkins IV* grants for charter schools. In this approach, charter schools offering CTE programs would receive the same proportion of the state's basic *Perkins* grant as they do of the state's *ESEA* Title I grant. OVAE advises CTE staff members to consult state staff members responsible for *ESEA* Title I grant calculations to determine *Perkins* grant amounts.

States may also choose a number of options for allocating a portion or all of their Title I funds through means other than the statutory formula. For example, states may place up to 10 percent of their Title I funds in a **reserve fund** that targets rural areas or areas with high percentages or numbers of CTE students. States may also apply to use an **alternative formula**

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<sup>2</sup> These same data are used to determine LEA Title I eligibility under the *Elementary and Secondary Education Act (ESEA)*

<sup>3</sup> "Seventy percent shall be allocated to such local education agencies in proportion to the number of individuals aged 5 through 17, inclusive, who reside in the school district served by such local education agency and are from families below the poverty level for the preceding fiscal year, as determined on the basis of the most recent satisfactory data used under section 1124(c)(1)(A) of the *Elementary and Secondary Education Act of 1965*, compared to the total number of such individuals who reside in the school districts served by all the local education agencies in the State for such preceding fiscal year" (Sec. 131(a)(2)).

as long as it more effectively targets resources on the basis of poverty. Finally, the Special Rule for Minimal Allocation allows states awarding 15 percent of *Perkins IV* funds to either the secondary or postsecondary levels to distribute the funds on a competitive basis or use an alternative method for distributing them. About 41 states maintained a reserve fund in fiscal year 2010, but according to OVAE staff, no state has used the alternative formula or Special Rule for Minimal Allocation options at the secondary level under *Perkins IV*.<sup>4</sup>

### **Postsecondary Level**

Postsecondary funds are distributed to postsecondary institutions based on their share of the state's CTE program enrollees who are federal Pell Grant recipients and recipients of assistance from the Bureau of Indian Affairs.<sup>5</sup> For example, if an institution enrolls 15 percent of the state's students who are enrolled in qualifying CTE programs receiving these types of assistance, that institution would receive 15 percent of the state's local postsecondary *Perkins IV* funds.

### **Minimum Allocation**

Institutional recipients' allocations must meet or exceed a minimum grant amount of \$50,000; institutions that are allocated lower amounts must either join a consortium with other institutions or be located in a sparsely populated rural area and obtain a waiver.

### **Alternatives to the Legislated Formula**

States have the same options to propose and use alternatives to the statutory formula for local allocations at both the secondary and postsecondary levels. As noted above, most states opt to set aside a reserve fund, and these resources might be directed to postsecondary as well as (or instead of) secondary recipients. States also have the option to propose an alternative distribution formula that better targets low-income students; nine states did so at the postsecondary level in fiscal year 2010. Seven states also allocated 15 percent or less of their *Perkins IV* funds to the postsecondary level and used alternative means to distribute funds to recipients under the Special Rule for Minimal Allocation.<sup>6</sup>

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<sup>4</sup> Klein, Steven, Amanda Richards, Robin White, Sandra Staklis, Corinne Alfeld, Caitlin Rose Dailey, Ivan Charner, and Anne Poliakoff. Forthcoming. *Evaluation of the Implementation of the Carl D. Perkins Career and Technical Education Act of 2006: Finance, Accountability, and Programs of Study*. Washington, DC: U.S. Department of Education, Office of Planning, Evaluation, and Policy Development, Policy and Program Studies Service.

<sup>5</sup> Sec. 132.

<sup>6</sup> Ibid.

## Secondary Allocations in the District of Columbia

The former State Education Office in DC made a transition to OSSE in 2007.<sup>7</sup> Prior to the transition, DC had a single secondary *Perkins IV* grantee, the District of Columbia Public Schools (DCPS). In accordance with the legislation, DCPS had discretion over the allocation of the local *Perkins IV* funds to qualifying schools and programs, including charter schools. After the transition, OSSE was responsible for distributing *Perkins IV* funds to DCPS and DC's four secondary charter schools that offer CTE programs.

Although the legislated formula is designed to distribute *Perkins IV* funds equitably among multiple grantees on the basis of population and poverty levels, it does not fit DC's needs. The formula is calculated using the number of school-aged children residing within grantees' service areas. DCPS and the charter schools, however, enroll students residing anywhere in DC. In effect, all of the secondary grantees share a single service area composed of the entire District of Columbia. In the absence of clearly defined and exclusive service areas, the legislated formula cannot be used to set grant amounts.

The formula is complex, so the following example may help to explain the situation described above. The *Perkins* secondary formula is based on census data on the number of school-aged children (aged 5–7) residing in a specific area, rather than on the number of students or CTE students who attend a specific LEA. The formula would work in DC if DCPS, Friendship Public Charter School, Booker T. Washington Charter School, and the other secondary recipients in DC each only enrolled students from geographic service areas within DC *that did not overlap*. However, the service areas for each of these *Perkins* recipients are the entire District. As a result, a single block might be home to one student who attends DCPS, her neighbor might attend Friendship, and the boy across the street might attend Booker T. Washington. Because where a student lives does not determine where a DC public school student can enroll, a student's location cannot be used to determine how secondary *Perkins* funds are dispersed.

### ***Interim Approach to Allocating Secondary Funds***

As an interim approach, DCPS and the charter schools initially formed a consortium to serve as the sole grantee of *Perkins IV* funds following the 2007 transition to OSSE. According to the DC state plan, the within-consortium allocations were determined using a version of the

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<sup>7</sup> The background information on Perkins allocations for the District was provided by a representative of OVAE's program management branch who has worked with the District's CTE staff.

formula used to allocate Title I funds.<sup>8</sup> The District limited the data used in the formula to students in grades 9–12 only because the charter schools eligible for *Perkins IV* funds primarily serve students in those grades. Accordingly, 70 percent of the funds were disbursed in proportion to the number of low-income students served by each LEA in grades 9–12, and 30 percent in proportion to the total number of grade 9–12 students each LEA served.

A review by OVAE, however, indicated that the consortium did not meet the requirements for consortia identified in the *Perkins IV* legislation. As a representative of OVAE’s program management branch explained, consortia members are required to submit a joint application and plan for using *Perkins IV* funds to support projects that are beneficial to all of the members. In contrast, the District’s secondary consortium members submitted separate *Perkins IV* applications, did not develop a common plan, and used their *Perkins IV* funds independently.

### **Current Allocation Approach**

Consequently, the District changed the process for allocating funds in subsequent years. Instead of DCPS, OSSE has served as the fiscal agent for secondary funds and administers grants for each participating LEA separately. The representative of OVAE’s program management branch understood that the district had also decided to use CTE enrollments rather than overall enrollments to calculate allocations. For OVAE, either approach would be acceptable, as long as it is used consistently from year to year and exclusively to support schools with CTE offerings that meet DC’s criteria for a quality CTE program.

## **Postsecondary Allocations in the District of Columbia**

The District has a single recipient of *Perkins IV* funds at the postsecondary level, the University of the District of Columbia (UDC). Because there is just one grantee, the legislated allocation formula is not needed; all *Perkins IV* postsecondary funds are allocated to UDC. The university then determines how to distribute the funds to eligible CTE-related activities and programs in accordance with the required and permissive uses included in the legislation.

Unlike the secondary formula, the postsecondary allocation formula is based on CTE student enrollments rather than on grantee service areas. Consequently, it should be feasible to apply the formula to allocate postsecondary funds if the District has additional postsecondary grantees in the future.

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<sup>8</sup> DC State Office of CTE. (2008). *Preparing All Learners for Success: Toward a High Performance District Workforce for a High Creativity District Economy. District of Columbia Five-Year State Plan for Career-Technical Education*. DC Office of the State Superintendent of Education. Retrieved January 15, 2013, from <http://cte.ed.gov/stategrants/stateprofiles.cfm?a=sp&s=DC>.

## Perkins IV Allocations to Charter Schools

Aside from DCPS, all of the District's secondary LEA recipients are charter schools. As noted, *Perkins IV* permits exceptions to the legislated formula to accommodate the funding of charter schools that do not have exclusive service areas. To find out more about how funds are allocated to charter schools, RTI consulted a staff member in OVAE's program management branch as well as state CTE staff in a total of six states with large urban areas that include public charter schools.

### Within-District Charter Schools

According to the OVAE representative, states seeking to direct *Perkins IV* funds to independent charter schools are usually advised to adopt the same formula used to allocate Title I *ESEA* funds to charter schools. In most states, these funds are allocated in proportion to the schools' enrollment of 5- to 17-year-olds, both overall and in poverty. This approach to funding charter schools, however, is often not needed: in most cases, charter schools receive *Perkins IV* funds through their authorizing LEA, making formula adjustments unnecessary. For example, a large urban area might offer CTE programs in both traditional public schools and a number of charter schools. All of the charter schools are authorized by the city's public school district, which is a single LEA with its own service area. The school district's allocation of *Perkins IV* funds is the amount calculated using the legislated secondary formula. The district must spend the funds in accordance with the required and permissive uses of local funds included in the legislation, but it can determine how the funds are allocated among programs in charter and non-charter schools.

States monitor the allocation of funds through the local grantees' required five-year plans, but the legislation does not require states to report the amounts allocated to schools or other entities within LEAs or the criteria used to determine the amounts. As a result, little information is available on how these allocations are made. A recent study of the implementation of *Perkins IV* included LEA site visits.<sup>9</sup> Staff members at most of the LEAs reported distributing funds on the basis of the district's programmatic priorities and perceived need. The formality of the allocation process ranged from meetings and discussions among CTE program faculty to a written application process that required schools and programs to document how the funds would be used.

One of the states contacted for this report has a large urban area on the East Coast with several dozen charter schools (table 1, urban area 1). All of the charter schools are authorized by the city's school district. To participate in *Perkins IV*, the eligible schools—charter schools included—are required to submit an annual needs assessment to the district that identifies

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<sup>9</sup> Klein et al. forthcoming.

what they need support for, why they need it, and how meeting the need will contribute to meeting the district's goals for success. The district then reviews all of the needs assessments received and decides how to distribute the funds in accordance with the overall district's needs and priorities. To date, only one charter school in the city has received *Perkins IV* funds because it is the only charter school that offers CTE.

Another large East Coast city contacted has not allocated any *Perkins IV* funds to any of its charter schools because none have applied for the funds (urban area 2).

**Table 1: Summary information for states contacted about *Perkins* allocations to charter schools**

	Urban area 1	Urban area 2	Urban area 3	Urban area 4	Urban area 5	Arizona
<b>Geographic location</b>	East	East	Midwest	Midwest	West	West
<b>Charter school status</b>	Authorized by school district	Authorized by school district	Authorized by school district and independent	Authorized by school district and independent	Independent	Independent
<b>Number of charter schools</b>	Several dozen	Several dozen	Several dozen	Several dozen	About one dozen	Nearly 500
<b>Number of charter schools funded</b>	1	0	About one-quarter	Not known	None	Not known
<b>Allocation criteria for allocating funds to charter schools</b>	District needs and priorities	None (issue has not arisen)	Independent charters: allocations are based on the proportion of the city's students overall and in poverty that the charter serves. District authorized: the district determines allocation criteria	Through required secondary consortia; consortia determine how to allocate funds among members based on needs and priorities	None (issue has not arisen)	Charter schools received a percentage of <i>Perkins</i> funds based on the percentage of high school students in their county that they enroll
<b>Notes</b>	Only one charter school offers CTE and receives <i>Perkins</i> funds	No charter schools have applied for <i>Perkins</i> funds	Free- and reduced-price lunch participation is used as the poverty measure	Relatively few charters receive funds, and none in the state's largest urban area do so	Charters either don't offer CTE or have not applied	Calculations based on charters' and districts' average daily membership counts

## *Independent Charter Schools*

A number of states do, however, also have independent charter schools that receive *Perkins IV* funds independently of a traditional LEA. Of the six urban areas that the research team investigated, four were found to have independent charter schools. The research team asked state CTE staff representatives from each urban area's state whether these schools participate in *Perkins* and about the approach each used to determine allocation amounts.

The first example is a large city in the Midwest (urban area 3). This city has charter schools authorized by the city's sole school district and other entities. To direct *Perkins IV* funds to charter schools that are not in the district, the state uses the Title I allocation formula to allocate funds within the district. Under this approach, some 30 percent of the funds are allocated based on the proportion of the school-aged children and based on 70 percent of the proportion of the school-aged children in poverty (as indicated by free- and reduced-price lunch participation) in the city that each grantee enrolls. The district allocates its share of *Perkins IV* funds to both the traditional and charter schools under its purview in accordance with the district's CTE priorities and plans.

In another midwestern state, secondary *Perkins IV* funds are awarded through consortia that all LEA recipients are required to join (urban area 4). Boards composed of member LEA superintendents govern the consortia and decide how the funds are to be disbursed. Charter schools are also eligible to join consortia and receive *Perkins IV* funds, but a representative from the state CTE office knew of few charter schools that had done so statewide, and none among the many located in the state's largest urban area. Although the state does not formally track how consortia allocate funds among their members, the representative thought that charter schools' low participation in *Perkins IV* might be linked to the programmatic flexibility accorded these schools. Charter schools are exempt from some state requirements for traditional public schools, including a number of teacher certification requirements. Charter school CTE programs may therefore not meet the state's criteria for high-quality CTE programs that must be met in order for a school to participate in *Perkins IV*.

A western state reported that none of the independent charter schools in the state's largest city participate in *Perkins IV* (urban area 5). The city's charter schools that enroll CTE students do not receive *Perkins IV* funds for two reasons. First, some of these schools offer access to CTE programs through other schools and are not themselves eligible for *Perkins IV* funds. Second, none of the independent charter schools that offer CTE programs have applied for *Perkins IV* funding. According to the state agency staff member, charter school staff feel that their potential *Perkins IV* allocations would not cover the costs associated with meeting the legislation's accountability and other requirements.

Finally, Arizona allocates *Perkins IV* funds through the state agency. The state uses a two-step calculation to determine allocations for its independent charter schools that are *Perkins IV* eligible.<sup>10</sup> First, Arizona determines grant amounts for all eligible secondary applicants excluding charter schools using the formula in the *Perkins IV* legislation. The state then identifies the counties that include charter school applicants and determines the proportion of each county's public high school students (in grades 9–12) that each of these charter schools enroll. Charter schools are then allocated a portion of their counties' *Perkins IV* funds in proportion to their enrollment. A Maricopa County charter school, for example, might enroll about .045 percent of the county's public high school students. If eligible for *Perkins IV*, the charter school would receive .045 percent of the secondary funds awarded across the county. Charter school funds are drawn from county's funds before distribution, and the remaining funds are then allocated to the county's non-charter grantees in the same proportion as the original *Perkins IV* allocations. Arizona's charter school allocation formula is based solely on high school enrollments and does not include a measure of poverty. The state CTE office determined that including a measure of poverty for charter school allocations was unnecessary because the legislated formula used to calculate overall allocations already includes a poverty measure.

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<sup>10</sup> Additional information on how Arizona funds charter schools can be found in the state's five-year *Perkins* state plan available at: <http://cte.ed.gov/docs/stateplan/AZ5YearStatePlan.pdf>.

## Summary of Allocation Options

Under *Perkins IV*, states have a number of alternatives to the legislated formulas for allocating funds to local grantees. The legislation permits formula adjustments to include recipients, such as charter schools, that the formula does not cover. States may also distribute all or part of their local funds through alternative formulas or competitively. Because DCPS is no longer DC's sole secondary grant recipient, OSSE needs to assure adequate levels of support for DCPS and secondary charter schools. Accordingly, an adjustment to the legislated formula is of primary interest for planning, but the other options, such as instituting a competitive grant process, may provide additional allocation opportunities.

### ***Adjustments to the Legislated Formula for Charter Schools***

Based on the information gathered for this report, most charter schools that receive *Perkins IV* funds are not grantees themselves, but they receive the funds through their authorizing LEA. OVAE recommends that states fund independent charter schools in accordance with the formula used to distribute Title I funding. The formula is based on poverty rates drawn from census data and includes a number of components, so OVAE recommends that state CTE staff consult with those who manage Title I funding allocations for specifics about how the formula is managed in their state. In addition, the formula might be adjusted to account for local conditions or priorities, such as limiting the enrollment numbers used in formula calculations to grade 9–12 students only.

### ***Reserve Fund***

According to the legislation, a reserve fund sets aside up to 10 percent of the funds directed to local grantees for distribution through means chosen by the state, such as non-legislated formulas or through a competition. The chosen approach must direct resources to LEAs in rural locations or that enroll large numbers or high percentages of CTE students. DC has not opted to create a reserve fund, so all of the 85 percent of the local funds directed toward the secondary level are subject to the legislated formula. Should DC need to direct additional funds to an LEA that meets the legislation's reserve fund recipient criteria, a reserve fund might be a useful option for doing so.

### ***Alternative Formula***

At both the secondary and postsecondary levels, states can propose an alternative formula for calculating *Perkins IV* grants that more effectively targets funds to economically disadvantaged students. States may also take advantage of the Special Rule for Minimal Allocation. In states allocating 15 percent or less of local *Perkins IV* funds to the secondary or postsecondary levels, these funds may be distributed using alternative formulas, including competitive or performance-based allocation strategies. Although these options have not been used at the secondary level, they offer considerable flexibility for implementing alternatives. It should be noted, however, that the strategies used by DC and various states to direct funds to charter schools are classified as adjustments to the legislated formula rather than as alternative formulas by OVAE.

## Section 2: Tracking Career and Technical Education Student Outcomes

States across the United States are developing State Longitudinal Data Systems (SLDS) and working to improve the collection, access, and usefulness of education data. These efforts include career and technical education (CTE), as state agencies seek to determine the most important data for planning and implementing CTE programs and communicating program effectiveness to legislators, policy makers, teachers, parents, and students. CTE staff members in a number of states have identified the CTE-related measures to be included in their data systems and are currently planning or implementing the needed data collection protocols. The Department of Education has also initiated the Common Education Data Standards (CEDS) project to guide states' data system efforts.<sup>11</sup> For most states, this work—as in DC—is still very much in progress. Where states stages are in the process varies: some are engaged in initial discussions and planning, whereas others have completed many of the steps needed to institute an SLDS, such as assigning unique student identification numbers that are used across education levels and collecting complete transcript data. As a result, some of the outcome measures included in this report are being collected by the few states farthest along in SLDS development, and few states have the capacity to collect the data needed for all of the measures.

The CTE outcome measures discussed here are designed to assist in the tracking of CTE students' progress and outcomes at the secondary and postsecondary levels. Each entry first defines the measure, describes examples of one or more approaches for tracking the measure (including needed data elements), and notes, where possible, states that are using the measure. The list is not intended to be comprehensive, but to provide an overview of some possible ways that states are measuring and tracking CTE outcomes. The measures range from those needed to meet federal reporting requirements (including *Perkins IV*) that are in place in most data systems, such as secondary graduation, to measures reflecting recent policy priorities, such as postsecondary credits earned in high school, that relatively few states are currently able to collect. The latter group might require the development of new data elements or the establishment of protocols for exchanging data between education levels or data systems.

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<sup>11</sup> More information on CEDS is available at: <https://ceds.ed.gov/>.

Some of the measures included below, such as postsecondary enrollment and students' need for developmental coursework, are valid for both CTE and non-CTE students. Other outcomes, such as technical skill attainment, are unique to CTE. Care must be taken when selecting CTE outcome measures because some commonly used measures of secondary and postsecondary success may be only weakly linked to the effectiveness of students' CTE programs. For example, the majority of high school dropouts leave high school prior to their junior and senior years, when the majority of CTE courses are typically taken. Because students engage in CTE programs late in their high school careers, CTE program participation may have relatively little negative or positive influence on their dropout decisions. The approaches used to analyze and interpret the measures presented below, therefore, should account for the features of CTE programs, some of which may be unique to a state, region, or district.

In preparation for this report, the research team conducted a phone interview in March 2013 with three OSSE staff members: Tony Johnson, State CTE Director, William Henderson, Program Manager, and Dwight Franklin, Statewide Longitudinal Education Data (SLED) Project Manager.<sup>12</sup> Henderson explained that OSSE is now implementing the postsecondary-to-career module of the SLED and hoped to include the data needed to assess the efficacy of secondary and postsecondary CTE programs. OSSE staff explained which data elements are currently included in the SLED and which elements are planned for the future. Many data system features needed for longitudinal data collection, such as unique student identification numbers that span education levels (DC currently relies on student social security numbers) and the ability to connect secondary and postsecondary transcript information, are in development. Data priorities include CTE persistence rates; CTE students' pathway change rates; participation rates in CTE student internships and internship types (paid or unpaid); participation in external job shadowing and mentoring programs; and career awareness assessment results. To the extent possible, each of these measures is considered below.

**Key to tracking the measures described below is the state's ability to accurately identify secondary and postsecondary CTE program concentrators and connect education data systems.** More than one-half of states are currently working to improve these aspects of their data collection systems. In some states, data specialists flag these students at the district level using lists of program concentrators provided by instructors or through reviews of student courses. This approach depends, however, on districts using the same concentrator definition and the same process for identifying students, which requires extensive training and quality checks. Given the risk of data inconsistencies across districts, states are developing transcript data collection systems and instituting common course numbering systems. These features would allow state data analysts to consistently identify concentrators using the same definitions and processes statewide.

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<sup>12</sup> In DC, the SLDS is called the SLED.

In addition, many of the outcomes described below require matching secondary and postsecondary student records, ideally through the use of a unique student identification number used across levels.

## Technical Skill Attainment (TSA)

*Perkins IV* requires that states identify a core indicator to measure, “Student attainment of CTE skill proficiencies, including student achievement on technical assessments that are aligned with industry-recognized standards, if available and appropriate.”<sup>13</sup> In response, states have instituted strategies to collect information on students’ attainment of credentials attesting to their technical skills at both the secondary and postsecondary levels. Rigorous and industry-validated measures, such as industry certifications, apprenticeship certificates, or occupational licenses, have gradually replaced less rigorous or proxy measures of technical skills, such as end-of-course or program grades, locally developed skill assessments of uncertain validity, and participation in internships or work-based learning programs.

The measurement of TSA often encompasses several data elements. In states offering multiple types of assessments, an additional data element is needed to indicate the type of credential (such as a state assessment or certificate, industry certification, apprenticeship certificate, or occupational license) that the student earned. A number of states also separately track the number of students attempting an assessment to monitor participation rates and set targets for increasing student participation rates in the future.

The following section describes in detail the data collection process for several TSA approaches. No information was found on how states approach data collection for apprenticeship certificates, but this process likely entails data collection issues that are similar to those associated with industry certifications.

***Statewide assessments***—Arizona has instituted a system of technical skill assessments it developed in partnership with local industry for each secondary CTE program offered in the state. These technical skill assessments are administered through an online system that the state can access to collect data on the number of students taking the assessments as well as the number who scored high enough to earn a certificate.

***Industry certifications***—Industry certifications are offered by hundreds of organizations, which include the Manufacturing Skill Standards Council ([www.msscusa.org](http://www.msscusa.org)) and the National Consortium for Health Sciences Education (National Health Science Assessment). Collecting data about student outcomes on these certificates can be challenging, however. Many organizations report the results directly to the students and do not—citing confidenti-

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<sup>13</sup> Sec. 113(b)(2)(A).

ality concerns—submit data to education systems. States have tried several approaches to collecting the information, such as offering incentives for students to report their scores (e.g., including scores in course grades) or only supporting assessments to which the state can access scores.<sup>14</sup>

***Third-party assessments***—Technical skills are also offered by third-party organizations such as ACT, SkillsUSA, and NOCTI, which offer a range of assessments for use in CTE education programs. Although not all of these assessments are industry recognized, the providers of these assessments do offer student score reports with education data systems.

States also sometimes collect information on other activities designed to enhance CTE students' technical skills and career readiness, such as participation in internships by type (paid or unpaid), external job shadowing, and mentoring programs. Because many of these activities involve local arrangements among students, schools, and community organizations and employers, multiple data collection approaches are used.

## Early College Credits

Opportunities for students to earn college credits in high school, such as those that allow them to earn up to a year or more of college credits while in high school through articulation agreements and dual and concurrent enrollment, are growing nationwide. In CTE, *Perkins IV* requires all states to develop at least one program of study (POS) and other initiatives, which often offer college credits for one or more courses, to prepare all students for postsecondary studies. Two measures, described below, are used by states to track the student outcomes associated with these programs.

### ***Earned postsecondary credits in high school***

The process used to track postsecondary credits in high school varies by state, reflecting different systems for offering and awarding credits. This section therefore provides a description of a number of ways that states might access data on postsecondary credits earned by secondary students, depending on the process they use to award and record credits.

**High school transcripts**—records of all of the courses that students took (and grades) are the most comprehensive data source on postsecondary credits earned in high school. Transcript data systems generally include information on whether postsecondary credits were earned and the number of credits earned for a given course. To track these credits, states use course-numbering systems that flag courses offering postsecondary credits. Analysts can then track whether students attempted these courses and whether the requirements for awarding

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<sup>14</sup> Many states maintain lists of industry certifications approved for use at the secondary level in their state. For Florida's list, see <http://app1.fldoe.org/WEIndCert/Default.aspx>.

postsecondary credits to be awarded (such as a grade of B or better) were met. A limitation is that secondary transcript data may not indicate whether the credits were actually awarded. In some instances, a student must meet additional requirements, such as paying a fee or completing a form. If information on these requirements is not collected, this measure may show only that some of the requirements for earning credits were met, rather than that credits were earned.

**Postsecondary transcripts**—In some states, high school students earning postsecondary credits receive a postsecondary transcript (or other record) indicating the courses taken and the number of credits earned. Data on credits earned can be then accessed through a data match (using a unique student identifier) with the postsecondary data system, which records credits earned. However, matching this information to K–12 data may not be possible in data systems that have not linked their secondary and postsecondary data.

**Non-transcript data**—In the absence of transcript data, data on postsecondary credits earned in high school are sometimes collected at the district level and then reported to the state data system. In Wisconsin, for example, local districts submit the total number of secondary students, as reported by instructors, who have earned postsecondary credits in their district. Data quality may, however, vary by district and depend on districts' (and instructors') diligence in data collection and reporting. Maryland administers a graduate exit survey to all students that asks respondents whether they earned postsecondary credits in high school. Unlike follow-up surveys, which are administered sometime after students graduate, response rates for the exit survey are high (over 90 percent), but the data are likely less accurate than administrative data.

### ***Applied postsecondary credits earned in high school to a postsecondary program***

Also of interest to policy makers is whether students who earned postsecondary credits during high school eventually apply those credits to a postsecondary degree. These data are accessed through the postsecondary transcripts of students who enrolled in a postsecondary institution after high school graduation and are linked to secondary data records through a unique student identification number. To track these credits, institutions must use a course numbering system (in Utah, for example, the course numbers for these courses have the number 13 in a specific digit position) or other flag to distinguish them from credits earned at the postsecondary level. Data on the application of credits to a postsecondary degree are limited, however, to credits earned in in-state public postsecondary institutions that report transcript data to the state. The National Student Clearinghouse (NSC), which collects postsecondary data on out-of-state and private institutions, does not currently collect transcript data or data on credits earned.

## Postsecondary Education Enrollment and Attainment

States are primarily accessing two sources of data on postsecondary education: statewide data systems that collect data from all public postsecondary institutions in the state and the NSC for students enrolling in private or out-of-state institutions. In addition to the enrollment and completion outcomes described below, states may also want to track students' attainment of non-institutional credentials, such as industry certifications. For more information on these credentials, see the Technical Skill Attainment (TSA) section.

### ***Enrollment in postsecondary education***

Postsecondary enrollment measures usually track student postsecondary enrollments by the fall following high school graduation. To supplement state education data system information on students at in-state public institutions, states collect data on private and out-of-state institution enrollees from the NSC. The NSC collects enrollment data from more than 92 percent of two- and four-year postsecondary institutions nationwide, although coverage varies by state and is more limited among for-profit institutions and trade schools. The NSC does not use unique student identification numbers or social security numbers for data matches, but it employs a complex matching algorithm with students' names, birthdates, high schools, and other elements. To access these data, state agencies with NSC agreements send the information on the students to be matched to the NSC. The NSC then conducts the match and returns the resulting dataset to the sending agency.

### ***Enrollment in postsecondary education in a field or major related to the secondary CTE program or program of study (POS)***

*Perkins IV* requires states to develop and implement at least one POS, and many states are doing so in multiple CTE pathways. A key motivation for implementing at least one POS is to accelerate students' path to a postsecondary degree by offering early college credits and eliminating duplicative secondary–postsecondary coursework for students continuing in the same or a related program at the postsecondary level. As a result, educators are interested in learning the extent to which students are taking advantage of these opportunities and the time it takes students who do so to complete a degree.

A common approach for conducting secondary–postsecondary program matches is to use the same program classification system at both levels, such as the Classification of Instructional Programs (CIP) identification codes. To conduct this match, one of 47 two-digit CIP codes <<http://nces.ed.gov/ipeds/cipcode/browse.aspx?y=55>> must be assigned to students' CTE programs at each level. Each two-digit code might include several distinct, but related, programs so that students might apply a set of skills to a number of programs requiring similar bodies of knowledge or skills. Students who complete a CTE program at the secondary level and then enroll in a postsecondary program with the same two-digit code are considered to

be in related programs. Analysts can then compare the time to complete a certificate or degree for these students with that for non-CTE students or with CTE students who changed programs.

### ***Need for developmental coursework in postsecondary education***

Students who take developmental courses are at a higher risk of dropping out of postsecondary education and, if they remain enrolled, typically take longer to earn a postsecondary degree than students who are not required to take these courses. Developmental coursetaking rates are therefore an important concern for both policy makers and educators, and reducing developmental coursetaking rates is a policy priority nationwide. Developmental coursetaking data can assist states in identifying districts or schools that need to raise graduates' academic skill levels or help them in assessing the effectiveness of curricular strategies to do so, such as a POS that combines mathematics and literacy instruction with the teaching of technical skills. Upon postsecondary education enrollment, most students take an assessment of academic skills such as COMPASS or ACCUPLACER. Depending on the state or institution, students scoring below a cut score are either recommended or required to pass one or more developmental education courses during their first year or two of college coursework.

States commonly measure students' need for development education in terms of the number of students taking one or more developmental courses by subject area. States may also track the number (or levels) of developmental courses that students are required to take. Remedial education courses are usually recorded on students' postsecondary transcripts and identified by course number. For example, in Montana, course numbers below 100 are reserved for developmental education courses.

There are a number of important limitations on data that states are currently collecting on developmental coursetaking. First, cut scores and assessments may vary by institution, and even by program in some institutions. Furthermore, in some states (or institutions), developmental coursework is recommended rather than required of students who do not meet the cut score. As a result, measures tracking developmental coursetaking may underestimate students' need for these courses because not all students will take them. Moreover, some proportion of students who take a placement test may delay or forgo postsecondary enrollment. For these reasons, an additional measure tracking students' assessment scores may be a more accurate measure of students' need for developmental coursetaking. This measure would also allow states to compare scores across institutions that use the same assessment and allow the monitoring of trends and changes in assessment scores.

### ***Postsecondary completion (diploma or certificate attainment)***

Postsecondary completion measures track whether postsecondary students complete a credential within a set time period, often 150 percent of the published length of the program,

following federal recommendations. State education data systems collect completion information for students who attend in-state public institutions, but as is the case for enrollment data, NSC data are needed to track private and out-of-state institution completions. Both state postsecondary data systems and the NSC provide information on the degree earned and students' majors.

## Employment

To meet *Perkins IV* requirements, many states administer follow-up surveys of their CTE completers (concentrators who graduate) to find out about their employment and educational enrollment status following graduation. This approach, however, requires states to find graduates after they have left school and induce them to complete a survey. As a result, response rates for follow-up surveys, unless supplemented by additional attempts to track down students by telephone, are typically around 20 to 30 percent—rates too low to meaningfully analyze. In addition, the information collected is self-reported and therefore often less accurate than data drawn from administrative records.

The challenge in accessing this data source is that a match to education data generally requires a social security number (SSN). Most postsecondary education data systems have access to SSNs, but the collection of SSNs at the secondary level is often voluntary. As a result, state secondary data systems with limited access to students' SSNs, such as those in Pennsylvania, are experimenting with matching algorithms using student names, birthdates, and other information.

### **Full- or part-time employment**

State workforce agencies collect a number of data elements on employment. Although the elements collected and their definitions may vary by state, the agencies generally collect information on employment status (full-time or part-time), industry, and wages (hourly or weekly). In addition to tracking employment through workforce agencies in their own state, some states, such as Florida, conduct record exchanges with workforce agencies in other states to track Florida education system graduates employed out of state. Collecting data on out-of-state employment may be particularly important for small states or federal districts, such as DC, in which a sizeable proportion of residents may find work beyond its borders. Finally, states can track federal employment, including military employment, through the Federal Employment Data Exchange (FEDES).

### **Employment in an industry related to their educational program**

POS and other innovative CTE programs aim to prepare students for either college or career. Educating students in high-wage, high-demand, and high-skill occupations is a priority in many states, and whether CTE graduates find employment in these fields can help gauge

program effectiveness in providing students with skills that are in demand. In addition, research has shown that students who find employment in fields related to their education programs have higher wages than students employed in fields different from their education program field.

Information on graduates' precise occupational field is currently only available through surveys, which tend to be expensive to administer or suffer from low response rates and the inaccuracies associated with self-reported data. The administrative data source that comes closest to measuring graduates' occupations is Unemployment Insurance (UI) wage record data on a graduate's employer's industry. Data analysts can match these codes to Classification of Instructional Programs (CIP) identification codes using a crosswalk available on the Standard Occupational Classification website (see <http://www.bls.gov/soc/>). Since UI wage records generally contain information on broad employment industries, matches at the two-digit level are likely the best fit with the information available in the data.

It should be noted, however, that program/employment industry matches are not always accurate because UI wage record data contain the industry in which the individual is employed, rather than his or her occupational field. The industry for school nurses, for example, would be listed as "education" rather than the occupational field for nurses, which is "health care." Because the best available data source for this measure has this limitation, interviews with graduates may help provide information useful for data interpretation such as how often graduates' occupations do not match the industry in which they are employed.

### ***Median or average earnings among graduates by program***

In addition to information on graduates' employment status and employer's industry, the District of Columbia's Department of Employment Services also collects wage data. The form of these data varies by state but is usually collected as hourly or weekly earnings.<sup>15</sup> This information allows comparisons of wage rates among CTE concentrators and other students, graduates who concentrated in various CTE programs, or graduates in the same field who earned different types or levels of credentials.

## **Links to Other Data Sources**

In addition to education and workforce data, there are a number of other public data sources that are of growing interest to education systems as sources of valuable information about their students. At the K–12 level, these sources include child and family services, departments of human services and mental health, and criminal and juvenile justice organizations,

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<sup>15</sup> For more information on the data collected by the Department of Employment Services, see <http://does.dc.gov/page/labor-statistics>.

as well as other sources of data on social services and financial aid information at the postsecondary level. This information could help identify at-risk students or direct students to services and agencies that they or their families may not have accessed.

Although education systems understand the value this information for serving students, efforts to link these data sources to education data systems are generally in the discussion phase. Chief among the issues and hurdles to address is preserving student confidentiality and data security.

## Appendix A: Sample formula calculations for DC Public Schools

Consultations with other states and OVAE staff suggest two options for allocating funds to regular and charter public schools in DC:

1. **Distribute funds following *Elementary and Secondary Education (ESEA) Title I* allocations:** Participating schools would receive *Perkins* funds in the same proportion as the schools receive *ESEA Title I* funds. To use this option, DC CTE staff would have to consult with other Office of the State Superintendent of Education (OSSE) staff to access information on how these funds are allocated to each eligible school.
2. **Adapt the *Perkins IV* local allocation formula:** This would be an adaptation of the 30 percent/70 percent allocation formula that is included in the *Perkins IV* legislation. Through this option, a school-level poverty measure would need to be a substitute for the district-level data specified in Sec. 131(a)(2) of *Perkins IV*. An example of how allocations would be determined using this option follow the text in this appendix.

A formula change will necessitate close cooperation with staff at OVAE's program management branch to ensure that the new approach meets *Perkins IV* requirements. The OSSE CTE team should consider the following guidelines:

- **Review of proposed alternatives:** The allocations resulting from the proposed approach will need to be compared with the current allocations. This step requires a side-by-side comparison of per-school allocations before and after the proposed changes.
- **Exclude middle school students:** OVAE recommends excluding middle school students from alternative formula allocations because they tend to take more general career exploration CTE courses that are not the focus of *Perkins*. In Arizona, for example, the alternative allocation approach for charter schools includes high school students only. Including middle school students would be particularly problematic if free- or reduced-price lunch participation were used as a measure of poverty because middle school students tend to participate in such programs at a higher rate than high school students (grades 9–12). If the OSSE CTE team feels that the middle school students need to be included in *Perkins* secondary allocations in DC, OVAE staff should be consulted to determine whether an exception can be made.

- **Appropriate measure of poverty:** To reflect the intent of the *Perkins IV* legislation, option 2 would require a school-specific measure of poverty that ensures that *Perkins* resources are directed to relatively higher poverty schools. One possible measure is the number of students in the school who participate in the free- or reduced-price lunch program, a measure used by one of the states contacted for this report. This measure is not ideal, however, because eligible high school students may not participate in the program due to the stigma associated with assistance. Use of this measure would require a careful comparison of the proposed allocations using this measure with current allocation levels. If the free- and reduced-price lunch measure proves to be an inaccurate measure of school poverty levels, DC CTE staff should consult with OVAE staff to determine an alternative.

**Example of option 2:**

The following is an example of how to calculate the *Perkins* allocation for Charter School A, which enrolls 375 students, 290 of whom fall below the poverty threshold. The numbers used were invented for this example and do not reflect any actual schools in DC.

Numbers needed:

Total amount available to be allocated to local secondary recipients: \$2.4 million

Total grade 9–12 enrollment in all schools that applied for *Perkins* funds: 6,234

Total grade 9–12 enrollment in all *Perkins* funds applications in poverty: 4,010

Total grade 9–12 enrollment in Charter School A: 375

Total grade 9–12 enrollment in Charter School A in poverty: 290

**30 percent allocated on the basis of the proportion of all grade 9–12 students enrolled in the schools that applied for *Perkins* funds that Charter School A enrolls:**

30 percent of *Perkins* funds:  $.30 * \$2.4 \text{ million} = \$720,000$

Proportion of students enrolled in Charter School A:

Charter School A enrollment (375)/Total enrollment (6,234)=0.06015, or 6 percent

Allocation:  $0.06015 * 720,000 = \$43,311$

**70 percent allocated on the basis of the proportion of all grade 9–12 students in poverty enrolled in the schools that applied for *Perkins* funds that Charter School A enrolls:**

70 percent of *Perkins* funds:  $.70 * \$2.4 \text{ million} = \$1,680,000$

Proportion of students in poverty enrolled in Charter School A:

Charter School A in poverty enrollment (290)/Total in poverty enrollment (4,010)=.07231, or about 7 percent

Allocation:  $.07231 * \$1,680,000 = \$121,496$

**Total *Perkins* allocation for Charter School A:**  $\$43,311 + \$121,496 = \$164,807$