



# Counting U.S. Postsecondary and Secondary Credentials: Budget Report

DECEMBER 2022



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We want to recognize and thank the Credential Count Project Team for their contributions to this report:

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Credential Engine. (2022). *Education and training expenditures in the U.S.* Washington, DC: Credential Engine.

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# About Credential Engine

Credential Engine’s mission is to bring transparency to all credentials, reveal the marketplace of credentials, increase credential literacy, and allow students, workers, employers, educators, and policy makers to make better informed decisions about credentials and their value.

To achieve this mission, Credential Engine aims to produce a comprehensive, reliable count of every unique credential in the United States and improve the uniformity of how all types of credentials are described so they can be searched, discovered, compared, and valued.

Since 2017, Credential Engine has diligently worked to lay bare an increasingly complex and confusing, landscape of U.S. credentials, and to create the building blocks to make reliable and useful credential information more accessible for students, workers, and the employers who hire them. We have created a common taxonomy, or schema, through the Credential Transparency Description Language (CTDL) that allows individuals to make “apples-to-apples” comparisons between and among credentials; allowing us to map the connecting points between credentials, competencies, jobs, education, and training opportunities—the information that so many have been looking for.

The driving force behind Credential Engine’s work has been a lack of clarity about what exactly is available in terms of education and training, the value of credentials in the labor market, and what enables certain individuals to benefit from those opportunities more than others. To create a credential landscape that is transparent—accessible, discoverable, understandable, and navigable—we first must understand the landscape itself. We needed a clearer picture of what we are all dealing with so that we could appropriately act to meet the challenge of full and meaningful credential transparency.

Meaningful credential transparency relies on all of us contributing to and using the information found in the national Credential Registry—an open data, open-access network for timely and trusted information about credentials across states, regions, and the entire country. Data added to the Registry uses the CTDL schema to clarify, connect, and publish the credential information for others to use. The CTDL is already regarded as the standard language through which these million unique credentials and their competencies can be connected, compared, and contrasted—from evaluating whether a credential leads to a specific career and higher wages or if it leads to a higher-level credential, enhancing economic momentum and mobility.

To learn more about Credential Engine and find ways to get involved, please visit [www.credentialengine.org](http://www.credentialengine.org) or email [info@credentialengine.org](mailto:info@credentialengine.org).

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## Executive Summary

Learners, educators, employers, and policymakers understand that expenditures on education and training are necessary to develop the skills and talent required by today's and tomorrow's workforce. However, we do not have a robust understanding of how much we spend nationwide on acquiring these necessary skills and credentials.

This is the second report issued by Credential Engine to estimate U.S. spending on training and education. This 2022 report updates the total yearly expenditures by educational institutions, employers, federal grant programs, states, and the military to \$2.133 trillion.

- Educational institutions spent \$1.430 trillion on educational activities, approximately 67 percent of total spending in the U.S.
- Employers spent \$594 billion (roughly 28 percent of the total) on training and training wages.
- States and federal grants to other schools, programs, and the military account for the remaining \$109 billion, about 5 percent of the total.

All this spending is oriented toward ensuring that individuals being served by education and training opportunities earn the credentials and competencies which have value to them in some way. Given that these expenditures are significant for all involved—not to mention the millions of learners incurring debt—we should all be working towards a system that allows us to make the best use of these resources. The report, *2022 Counting U.S. Postsecondary and Secondary Credentials*,<sup>1</sup> counts 1,076,358 unique credentials in the U.S. alone. Credential transparency can help align efforts across education and training to provide more efficient and practical pathways to and through these education and training opportunities.

To provide confidence in this \$2.133 trillion figure, the research team offers a detailed overview of the methods used to gather data across nine categories.

<sup>1</sup> Credential Engine. (2022). *Counting U.S. postsecondary and secondary credentials*. Washington, DC: Credential Engine.

## Findings

<sup>2</sup> Credential Engine. (2021). Education and training expenditures in the U.S. Washington, DC: Credential Engine. Accessed at <https://credentialengine.org/wp-content/uploads/2021/02/Education-and-Training-Expenditures-in-the-US.pdf>

For this report, the research team analyzed the total education and training expenditures spent by educational institutions, employers, federal grant programs, states, and the military across the United States. The total education and training expenditures across these sectors are estimated at **\$2.133 trillion**. This is an increase from the \$1.921 reported in an initial February 2021 report, which relied on information on expenditures from 2017.<sup>2</sup> This report integrates new information and data sources available on expenditures in 2019, 2020, and 2021.

The research team aimed to reduce double counting within and across categories. In some cases, researchers removed the amounts that were captured in other categories (e.g., federal grants to states were removed from our accounting of state expenditures). We expect there is still some spending by one group (e.g., employers) that may be allocated to another group (e.g., educational institutions) that we were not able to identify or estimate. The methods are documented in this report so that others may evaluate the assumptions. Data was available across nine categories, and methods and results for each of these categories are outlined in the following pages.

Most of the spending information is drawn from institutions' administrative reporting to the federal government. These administrative data sources allowed the research team to provide "enumerations" or complete spending accounts. For three categories, rough estimates are provided, including non-Title IV degree-granting institutions, employer-sponsored training direct expenditures, and training wages, based on extrapolations of small-sample survey results.

Tables 1 and 2 offer an overview of the findings and methods used to gather and analyze data across the different categories. One category—Private Education and Training Organizations (Non-Degree)—is further divided into two analysis sections to distinguish between expenditures from private nonprofits and for-profit organizations that grant only certificates and those that offer educational support services.



TABLE 1: Summary of Expenditure Categories for Workforce Education and Training in the U.S., 2022 Estimates

Category	Estimated Expenditure, (billions \$)	Credentialed Population
Educational Institutions	1,429.6	67.0
Employer-Sponsored Training	594.4	27.9
State and Federal Government Funding	108.8	5.1
<b>Total</b>	<b>2,132.7</b>	<b>—</b>

TABLE 2: Breakdown of Expenditure Categories for Workforce Education and Training in the U.S., 2022 Estimates

Category	Coverage	Estimated Expenditures (billion \$)	% of Major Category	Data Source(s)	Nature of Data Estimate
<b>EDUCATIONAL INSTITUTIONS</b>		<b>\$1,429.6</b>			
Elementary and Secondary Education (K-12)	Public school systems and private schools	864.0	60.4	NCES <i>Digest of Education</i>	Enumeration
Title IV Degree-granting institutions of Higher Education (IHEs)	Public, private nonprofit, and private for-profit Title IV IHEs	489.4	34.2	NCES <i>Digest of Education</i>	Enumeration
Non-Title IV Degree-granting Institutions of Higher Education (IHEs)	Public, private nonprofit, and private for-profit IHEs, not Title IV-eligible	1.6	0.1	NCES IPEDS and WIOA ETPL <sup>3</sup>	Partial enumeration and extrapolation
Private Education and Training Organizations (Non-degree)	Private nonprofit and for-profit organizations that grant only certificates – such as business schools, computer training programs, and technical and trade schools.	74.6	5.2	U.S. Census Bureau, Economic Census and BLS Consumer Price Index <sup>4</sup>	Extrapolation

<sup>3</sup> U.S. Department of Education, National Center for Educational Statistics (NCES), Integrated Postsecondary Education Data System (IPEDS); U.S. Department of Labor, Education and Training Administration (ETA), Workforce Innovation and Opportunity Act (WIOA), Eligible Training Provider List (ETPL)

<sup>4</sup> U.S. Department of Labor, Bureau of Labor Statistics (BLS)

Category	Coverage	Estimated Expenditures (billion \$)	% of Major Category	Data Source(s)	Nature of Data Estimate
<b>EMPLOYER-SPONSORED TRAINING</b>		<b>\$594.4</b>			
Employer Direct Training Expenditures	Direct expenditures for training staff and external vendors and consultants	130.6	22.0	<i>Training Magazine</i> , Review of Academic Literature	Extrapolation and enumeration
Employee Earning During Training	Estimate of annual private sector expenditure for employee training	463.8	78.0	<i>Training Magazine</i> , BLS Wage and Employee Data	Extrapolation and enumeration
<b>EMPLOYER-SPONSORED TRAINING</b>					
State-funded Education and Workforce Development Systems, Schools and Programs	State-funded programs include non-degree technical schools, schools for the blind, adult education and vocational rehabilitation programs, and workforce development education and training programs. In addition, it includes oversight of state K-12 and higher education systems.	70.1	64.4	U.S. Census Bureau, Census of Governments and C2ER, State Economic Development Program Expenditures Database	Enumeration
Federal Workforce Development Grant Programs	Federal workforce development grant programs identified by GAO	28.8	26.5	SAM.gov, GAO	Enumeration
U.S. Military Training and Education (Active Duty)	Recruit training, specialized skills training, officer acquisition, professional development, Senior ROTC, flight training, training support	9.9	9.1	DoD Operation and Maintenance Overview, FY 2022 Budget Estimates	Enumeration

# Educational Institutions

CATEGORY TOTAL

1,429.6 billion



# Elementary and Secondary Education (K-12)

<b>AMOUNT</b>	\$864.0 billion
<b>COVERAGE</b>	Total expenditures for all public and private elementary and secondary schools.
<b>TIME PERIOD</b>	School Year 2019-2020

5 Digest of Education Statistics (DOE) [dataset]. 2020. National Center for Education Statistics. U.S. Department of Education. [https://nces.ed.gov/programs/digest/2020menu\\_tables.asp](https://nces.ed.gov/programs/digest/2020menu_tables.asp)

**DATA SOURCES AND METHODS:** Data obtained from Table 106.20, 2020 Digest of Education Statistics, National Center for Education Statistics (NCES), U.S. Department of Education

NCES obtains public school system expenditures (\$794.0 billion) through the annual National Public Education Finance Survey of state education agencies. NCES estimates private school expenditures (\$70.0 billion) based on enrollment data provided through the Private School Universe Survey of 30,000 schools and per-pupil expenditure data from older surveys, adjusted for inflation.

## REPORT COMPARISON

	2021	2022	% Change
Elementary and Secondary Education (K-12)	\$789.0 B	\$864.0 B	10

**NOTE:** The accuracy of the expenditures figure in this category is deemed high as the two surveys cover the universe of the nation's public and private schools. The National Public Education Finance Survey is mandatory, and the Private School Universe Survey response rate is very high.

# Title IV Degree-Granting Institutions of Higher Education (IHEs)

<b>AMOUNT</b>	\$489.4 billion
<b>COVERAGE</b>	Education-related expenditures for all Title IV degree-granting institutions of higher education (public, private nonprofit, private for-profit). Title IV institutions are those eligible to offer federal student financial aid.
<b>TIME PERIOD</b>	School Year 2019-2020

<sup>6</sup> National Center of Education Statistics (2021). *Total expenditures of public degree-granting postsecondary institutions, by purpose and level of institution: 2009-10 through 2019-20*. Digest of Education Statistics. U.S. Department of Education. [https://nces.ed.gov/programs/digest/d21/tables/dt21\\_334.10.asp?current=yes](https://nces.ed.gov/programs/digest/d21/tables/dt21_334.10.asp?current=yes)

<sup>7</sup> National Center of Education Statistics (2021). *Total expenditures of private nonprofit degree-granting postsecondary institutions, by purpose and level of institution: Selected years, 1999-2000 through 2019-20*. Digest of Education Statistics. U.S. Department of Education. [https://nces.ed.gov/programs/digest/d21/tables/dt21\\_334.30.asp?current=yes](https://nces.ed.gov/programs/digest/d21/tables/dt21_334.30.asp?current=yes)

<sup>8</sup> National Center of Education Statistics (2021). *Total expenditures of private nonprofit degree-granting postsecondary institutions, by purpose and level of institution: Selected years, 1999-2000 through 2019-20*. Digest of Education Statistics. U.S. Department of Education. [https://nces.ed.gov/programs/digest/d21/tables/dt21\\_334.30.asp?current=yes](https://nces.ed.gov/programs/digest/d21/tables/dt21_334.30.asp?current=yes)

<sup>9</sup> See the IPEDS Glossary for definitions of each expenditure category. <https://surveys.nces.ed.gov/ipeds/public/glossary>

**DATA SOURCES AND METHODS:** Data obtained from Tables 334.10,<sup>6</sup> 334.30,<sup>7</sup> and 334.50,<sup>8</sup> 2021 Digest of Education Statistics, National Center for Education Statistics (NCES), U.S. Department of Education. NCES obtains these data through the Finance Component of the Integrated Postsecondary Education Data System (IPEDS).

In 2019-20, IPEDS collected data from 6,145 postsecondary institutions in the United States and other jurisdictions eligible to participate in Title IV Federal financial aid programs. All Title IV institutions are required to respond to IPEDS.

For the current study, the research team sought to prepare a figure that represents Title IV IHE expenditures for education only. To generate this figure, it subtracted four types of expenditures from total IHE expenditures (\$655.7 billion) – public service, hospitals, independent operations, and other. The resulting figure includes expenditures for instruction, research, academic support, student services, institutional support, auxiliary services, and student net grant aid.<sup>9</sup>

## REPORT COMPARISON

	2021	2022	% Change
Title IV Degree-Granting Institutions	\$468.1 B	\$489.4 B	5

**NOTES:** The accuracy of the total Title IV IHE expenditures is deemed to be high, as participation in IPEDS is mandatory. Researchers' decision to exclude four expenditure categories as non-education in nature is a judgment call that, on balance, provides a more accurate figure. (While it may result in the removal of some educational expenditures, it is expected that the seven categories deemed educational include some non-educational activities.)

IPEDS combines expenditure information on research and public services for private for-profit degree-granting institutions under one heading. The research team used the same method as the previous report and subtracted the combined heading for research and public services from the total expenditures for private for-profit degree-granting institutions. Including this would increase expenditures for Title IV degree-granting institutions of higher education by approximately \$0.3 billion.

# Non-Title IV Degree-granting Institutions of Higher Education (IHEs)

<b>AMOUNT</b>	\$1.6 billion
<b>COVERAGE</b>	Education-related expenditures for all non-Title IV degree-granting institutions of higher education (public, private non-profit, private for-profit).
<b>TIME PERIOD</b>	School Year 2019-2020

<sup>10</sup> See the IPEDS Glossary for definitions of each expenditure category.

<sup>11</sup> For example, the sample of 19 non-Title IV degree-granting institutions includes schools like Hillsdale College, which has an endowment of \$900 million and spends \$600,000 per student (*Hillsdale Collegian*, Hillsdale College, September 2, 2021) and has much higher expenditures than typical non-Title IV degree-granting institutions. The discount to 15% is necessary to more accurately estimate the expenditures for the missing 550 schools that likely have smaller expenditures than the sample of 19 found reporting to IPEDS.

**DATA SOURCES AND METHODS:** No single, comprehensive source of information on non-Title IV degree-granting higher education institutions exists and there is very little information on their expenditures. To estimate expenditures in this category, the research team extrapolates from a small sample of schools with expenditures reported to the NCES IPEDS.

The research team estimates that the total number of non-Title IV degree-granting institutions in the U.S. is 569, based on the 2021 Counting U.S. Postsecondary and Secondary Credentials report. For the 2019-2020 school year, only 19 non-Title IV degree-granting institutions were registered with IPEDS and had information available on education expenses across seven relevant expenditure categories (expenditures for instruction, research, academic support, student services, institutional support, auxiliary services, and student net grant aid).<sup>10</sup> The average school expenditure is \$18.7 million.

The research team multiplied the estimated average per school expenditure (\$18.7 million) by the estimated total number of schools (569) and discounted to 15 percent to get \$1.6 billion as the total estimated amount spent by non-Title IV degree-granting institutions. The discount to 15 percent of total was chosen to reflect that the small sample of 19 schools that register with IPEDS and provide information on expenses are more likely to be larger and wealthier institutions than the remaining 550 institutions not reporting to IPEDS.<sup>11</sup>

**FUTURE RESEARCH:** Non-Title IV institutions that are degree granting need to be better identified and more visible to researchers and policymakers. A permanent effort should be established to account for these institutions and how they differ in size and spending.

## REPORT COMPARISON

	2021	2022	% Change
Non-Title IV Degree-Granting Institutions	\$1.3 B	\$1.6 B	23

**NOTE:** In the absence of spending data for 97 percent of schools in this category (550 not accounted for out of 569), \$1.6 billion is a rough estimate. At the same time, as this category expenditure is small relative to other categories in this report, a revision of +/- 50 percent would not materially change total national spending on education and training.

# Private Education and Training Organizations (Non-degree)

<b>AMOUNT</b>	\$74.6 billion
<b>COVERAGE</b>	Private nonprofit and for-profit organizations that grant only certificates – such as business schools, computer training programs, and technical and trade schools.
<b>TIME PERIOD</b>	Calendar Year 2021

<sup>12</sup> *Consumer Price Index for All Urban Consumers: All Items in U.S. City Average [CPIAUCSL]*. U.S. Bureau of Labor Statistics. 2022. FRED, Federal Reserve Bank of St. Louis; <https://fred.stlouisfed.org/series/CPIAUCSL>

<sup>13</sup> *2022 Economic Census Data*. U.S. Census Bureau. Accessed at: <https://www.census.gov/programs-surveys/economic-census/year/2022/data.html>

**DATA SOURCES AND METHODS:** The Economic Census of the U.S. Census Bureau covers 70,800 firms and participation is mandatory. 2017 Table EC1700BASIC provides information from the survey on expenditures by industry, including industries where education and training is the primary product. This includes business and secretarial schools (see NAICS 61141), computer training (NAICS 61142), professional and management development training (61143), technical and trade schools (61151), fine arts schools (61161), sports and recreation instruction (61162), language schools (61163), all other schools and instruction (61169), educational support services (61171).

The amount of spending reported here, \$74.6 billion includes the expenditures for these industries, with firms focused on education and training. It excludes spending by relevant industries that consist primarily of organizations whose spending is counted elsewhere in this report, such as spending by universities and colleges.<sup>12</sup>

**FUTURE RESEARCH:** The Economic Census is conducted in years ending in “7” and “2” and data from the 2022 Economic Census will be published in 2024.<sup>13</sup>

	REPORT COMPARISON		
	2021	2022	% Change
Private Education and Training Organizations (Non-degree)	\$67.1 B	\$74.6 B	11

**NOTE:** The accuracy of the results from the Economic Census is deemed high but the information from the survey is outdated. The number reported here is based on the 2017 figure adjusted for the inflation rate in 2021.

# Employer-sponsored Training

CATEGORY TOTAL

594.4 billion





# Employer Direct Training Expenses

<b>AMOUNT</b>	\$130.6 billion
<b>COVERAGE</b>	Private and public sector employers
<b>TIME PERIOD</b>	CY2019, 2020 and 2021

<sup>14</sup> 2021 Training Industry Report. TrainingMag. 2021. <https://pubs.royle.com/ublication/?m=20617&i=727569&p=20&ver=html5>

<sup>15</sup> The 1995 Survey of Employer-Provided Training (SEPT95) conducted by the Bureau of Labor Statistics (BLS) suggested that training of workers in establishments of 50-99 employees was 60.7 percent of that for workers in establishments of 100-499 and 49.4 percent of that for workers in establishments of 500 or more. From: Harley Frazis, Maury Gittleman, Michael Horrigan, and Mary Joyce, "Results from the 1995 Survey of Employer-Provided Training," Monthly Labor Review, June 1998, pp. 3-13.

<sup>16</sup> Bernice Kotey and Cathleen Folker, "Employee Training in SMEs: Effect of Size and Firm Type—Family and Nonfamily," Journal of Small Business Management, 2007, 45(2), pp. 214-238.

<sup>17</sup> U.S. Census. 2019. Statistics of U.S. Businesses

<sup>18</sup> U.S. Bureau of Economic Analysis. Table 6.4D. Full-Time and Part-Time Employees by Industry. Annual Data from 1998 to 2021. Published on September 30, 2022.

**DATA SOURCES AND METHODS:** In 2021, U.S.-based corporations and educational institutions with 100 or more employees spent an estimated \$92.3 billion in training expenditures, according to the [2021 Training Industry Report](#) (pp. 19).<sup>14</sup> Direct training expenditures include training budgets, training staff payroll, and spending on external products and services. Based on the 2021 report (pp. 21), the average training per learner expenditure is \$1,071. The adjusted average spending per learner is as follows:

- \$1,433 per learner for companies of between 100 and 999 employees;
- \$902 for companies of between 1,000 and 9,999 employees; and
- \$722 for companies with 10,000 or more employees.

Training expenditures for firms with fewer than 100 employees were not included in the 2021 Training Industry Report. The few available studies suggest firms with fewer than 100 employees spend about 65 percent of firms with 100-999 employees<sup>15</sup> and that formal training by firms with fewer than 20 employees is "relatively rare."<sup>16</sup>

U.S. Census Statistics of U.S. Business<sup>17</sup> captures data for firms with less than 100 employees, and, using this 2019 data with training expenditures, the research team estimates 2021 training expenditures for firms under 100 employees to be \$26.4 billion, as follows:

- **Firms with less than 20 employees:** According to the Census Bureau, these firms employed 21,318,425 in 2019. Keeping constant with the 2017 estimate, workplace training spending is 20 percent of the average spending per learner for companies of between 100 and 999, that is, \$287. On that basis, the estimate for the category is \$6.1 billion.
- **Firms with between 20 and 99 employees:** According to the Census Bureau, these firms employed 21,762,863 in 2019. Keeping constant with the 2017 estimate, workplace training spending is 65 percent of the average spending per learner for companies of between 100 and 999, that is, \$931. On that basis, the estimate for the category is \$20.3 billion

The research team also estimates approximately \$11.9 billion in training expenditures for government agencies outside of education, as follows:

- **Federal government (civilian):** According to the Bureau of Economic Analysis (BEA),<sup>18</sup> the federal government employed 2,995,000 civilian workers in 2021. The research team estimates federal workplace training spending per worker to be the same as the Training figure for large firms, that is, \$722. On this basis, the estimate for the category is \$2.2 billion.

- **State and local government (other than education):** According to BEA, state and local governments employed 9,021,000 workers outside of education in 2021. The research team estimates state and local government workplace training spending per worker to be the exact Training figure for all firms, that is, \$1,071. On this basis, the estimate for the category is \$9.7 billion.

## REPORT COMPARISON

	2021	2022	% Change
Employer Direct Training Expenditures	\$138.8 B	\$130.6 B	-6.3

**NOTE:** The overall change for this section (-6.3 percent) is attributed to a decrease in the estimated spending per learner in “all,” “100-999” and “1000-9999” breakdowns between the 2017 and 2021 Training Industry Reports as well as the slight decrease in the number of state/local government employees between the same years.

## SPENDING PER LEARNER

Firm Size	2017(\$)	2021(\$)	% Change b/n 2021 and 2017
All	1,075	1,071	-0.4
100-999	1,886	1,433	-31.6
1000-9999	941	902	-4.3
10000 or more	399	722	44.7

**SOURCE:** Training Industry Reports

	2017	2021	% Change b/n 2021 and 2017
Federal Civilian Employees	2,914,000	2,995,000	2.7
State/Local Government Employees (Non-education)	9,225,000	9,021,000	-2.3

**SOURCE:** BEA

**FUTURE RESEARCH:** Unless additional information sources are identified, future research will be limited by the lack of information on training expenditures by firms with fewer than 100 employees and by government.

# Employee Earning During Training

<b>AMOUNT</b>	\$463.8 billion
<b>COVERAGE</b>	Private sector employees
<b>TIME PERIOD</b>	CY2021

<sup>19</sup> [BLS, Sep 2021, Table B-2. Average weekly hours and overtime of all employees on private nonfarm payrolls by industry sector, seasonally adjusted.](#)

<sup>20</sup> Credential Engine. (2021). Education and training expenditures in the U.S. Washington, DC: Credential Engine.

<sup>21</sup> [BLS, Q4 2021 Quarterly Census of Employment and Wages.](#)

**DATA SOURCES AND METHODS:** For the 1995 Survey of Employer-Provided Training (SEPT95), BLS surveyed a sample of 1,433 private establishments with 50 or more employees. According to BLS, “[t]he sample was restricted to establishments with 50 or more employees partly because previous research showed that smaller establishments often have no formal training.” The 1995 sample represented a small percentage of total private sector employment by firm size but was useful to provide insight on the wider population. Unfortunately, it has been twenty-seven (27) years since the SEPT95 survey was conducted and there has been no follow-up. Based on BLS’ 2021 data, there has been a 24% increase in the total number of private sector employees in firms with 50 or more employees between 1995 and 2021—yet there is no equivalent to SEPT95 to support research into the comprehensive costs of private-sector employee training.

The SEPT95 found that workers (full- and part-time) spent an average of 44.5 hours in formal and informal training over six months and this report estimates this number has increased to 45.1. Over a 26-week period of 34.8<sup>19</sup> hours per week (the average weekly hours per worker in 2021) in which 4.98<sup>20</sup> percent of all hours worked are towards the training effort—and an average weekly wage of \$1,434.<sup>21</sup> We estimate the formal and informal training costs for private sector employees was \$283.2 billion annualized at establishments with more than 50 employees; \$99.3 billion annualized in formal training costs and \$7.7 billion in informal training costs for employees at establishments with less than 50 employees; and \$73.6 billion in formal and informal training costs for public sector employees. The total of \$463.8 billion represents an increase from \$377.3 billion in CY2017 of about 20 percent. See below for this year’s results in comparison with the CY2017 figures that were reported in 2021:

## REPORT COMPARISON

	2017	2021	% Change
Training portion of earnings in establishments with 50 or more workers	\$226.1 B	\$283.2 B	25
Employees pay at establishments under 50 employees during informal training	\$85.1 B	\$99.3 B	17
Estimated wages and salaries paid during training in public sector establishments	\$59.6 B	\$73.6 B	24
Estimate wages and salaries paid during formal training in establishments of less than 50 employees	\$6.7 B	\$7.7 B	15

The annual wages paid during training were calculated in the same way for all groups: total quarterly wages from the Quarterly Census of Employment and Wages were annualized and a percent was identified as training wages. However, the percent applied differed based on firm size; it was 4.98 percent for larger firms. In order to reflect the reduced intensity of formal training at smaller establishments, the research team estimated formal and informal training separately for firms with fewer than 50 employees. Based on the SEPT95 results, 3.48 percent of all hours worked are spent in informal training and 1.5 percent in formal training, however smaller establishments provide less formal training, and their allocation of time and wages was assumed to be less than at larger establishments—10 percent of the rate for larger establishments was applied to establishments with 1-19 employees and 30 percent of the rate was applied to establishments with 20-49 employees.

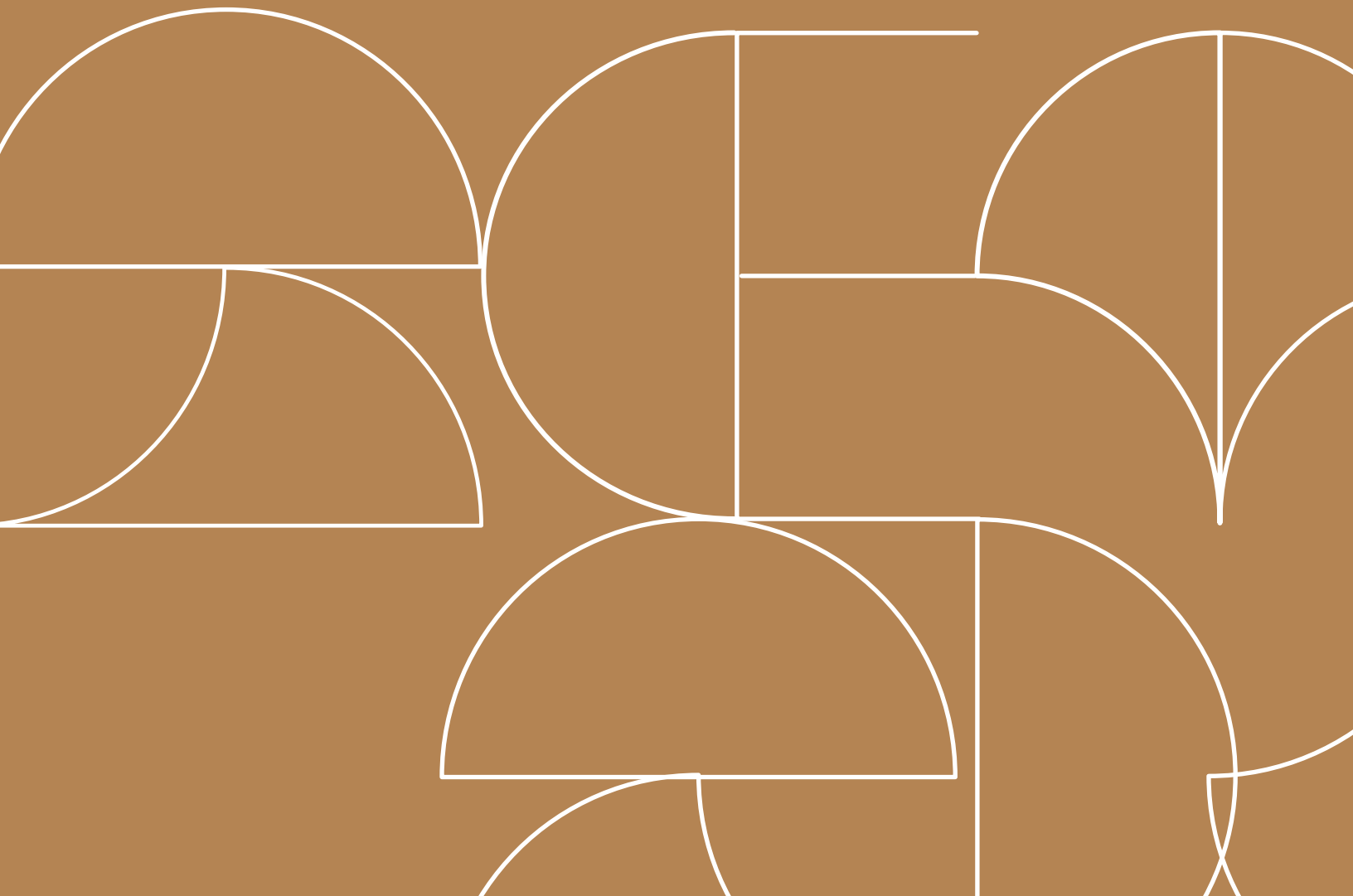
**NOTE:** SEPT95 legitimates the idea of measuring employee earnings during training as a cost of training. With no update to SEPT95 over the past 25 years, the research team cannot examine employee earnings during training for 2021. Relying on data published in 1995 to make assumptions about private establishments is not ideal.

**FUTURE RESEARCH:** Unless additional information sources are identified, future research will be limited by the lack of information on training time and wages paid during training. In order to provide this information, the Bureau of Labor Statistics should update and re-administer the Survey of Employer-Provided Training to update the 1995 data.

# State and Federal Government Funding

CATEGORY TOTAL

108.8 billion



# State-funded Workforce Development and Education

<b>AMOUNT</b>	\$70.1 billion
<b>COVERAGE</b>	State schools for the blind, visually impaired, deaf, or other handicapped; adult education and vocational rehabilitation and education not provided by school systems; technical or vocational-technical schools which award certificates equal to less than two years; and workforce development education and training programs.
<b>TIME PERIOD</b>	Fiscal Year (FY) 2020

<sup>22</sup> Definition comes from page 5-23 on the [Government Finance and Employment Classification Manual](#).

**DATA SOURCES AND METHODS:** Education Services: Other Education spending (\$68.3 billion) in Table 1, 2020 State & Local Government Finance Historical Datasets and Tables, U.S. Census Bureau.<sup>22</sup> Workforce development and preparation spending (\$1.8 billion) from the State Expenditures Database of the [Council for Community and Economic Research](#) (C2ER).

## REPORT COMPARISON

	2021	2022	% Change
State-Funded Workforce Development and Education	\$55.0 B	\$70.1 B	27

**NOTE:** This category does not include federal workforce development grants received by states.

# Federal Workforce Development Grant Programs

<b>AMOUNT</b>	\$28.8 billion
<b>COVERAGE</b>	Federal spending on training and employment programs. Assistance listings
<b>TIME PERIOD</b>	Fiscal Year (FY) 2021

<sup>23</sup> [SAM.gov](https://www.sam.gov)

<sup>24</sup> [GAO-19-200, Employment and Training Programs: Department of Labor Should Assess Efforts to Coordinate Services](#)

**DATA SOURCES AND METHODS:** SAM.gov,<sup>23</sup> Catalog of Federal Domestic Assistance (CFDA) for Federal Employment and Training Programs from Appendix II of GAO Report.<sup>24</sup>

	REPORT COMPARISON		
	2021	2022	% Change
Federal Workforce Development Grant Programs	\$15.8 B	\$28.8 B	83

**NOTE:** See Appendix Table: A2. for breakdown by program. It is possible that federal grant funds that go to IHEs and private education and training organizations are captured in the above categories that account for spending by these institutions, but this amount could not be determined. Federal grant funds to states are only counted in this category; they are excluded from the state-funded category above.

# U.S. Military Training and Education

**AMOUNT** \$9.9 billion

**COVERAGE** Provision of training and education to active-duty military and Reserve Officer Training Corps (ROTC). Categories of effort include recruit training (\$0.2 billion), specialized skills training (\$2.9 billion), officer acquisition (\$0.5 billion), professional development (\$1.5 billion), senior ROTC (\$0.8 billion), flight training (\$2.6 billion), and training support (\$1.3 billion). Organizations delivering training and education include:

1. Training centers and schools, service academies, and Reserve Officer Training Corps (ROTC) for the Army, Navy, Marine Corps, and Air Force; and
2. DoD and joint-service schools and colleges such as the Defense Acquisition University; National Defense University; and the Uniformed University of the Health Sciences

**TIME PERIOD** Fiscal Year (FY) 2021

**DATA SOURCES AND METHODS:** Office of the Under Secretary of Defense (Comptroller)/ Chief Financial Officer, "Operation and Maintenance Overview: Fiscal Year 2022 Budget Request," August 2021, pp. 123-125.

## REPORT COMPARISON

	2021	2022	% Change
U.S. Military Training and Education	\$8.5 B	\$9.9 B	16

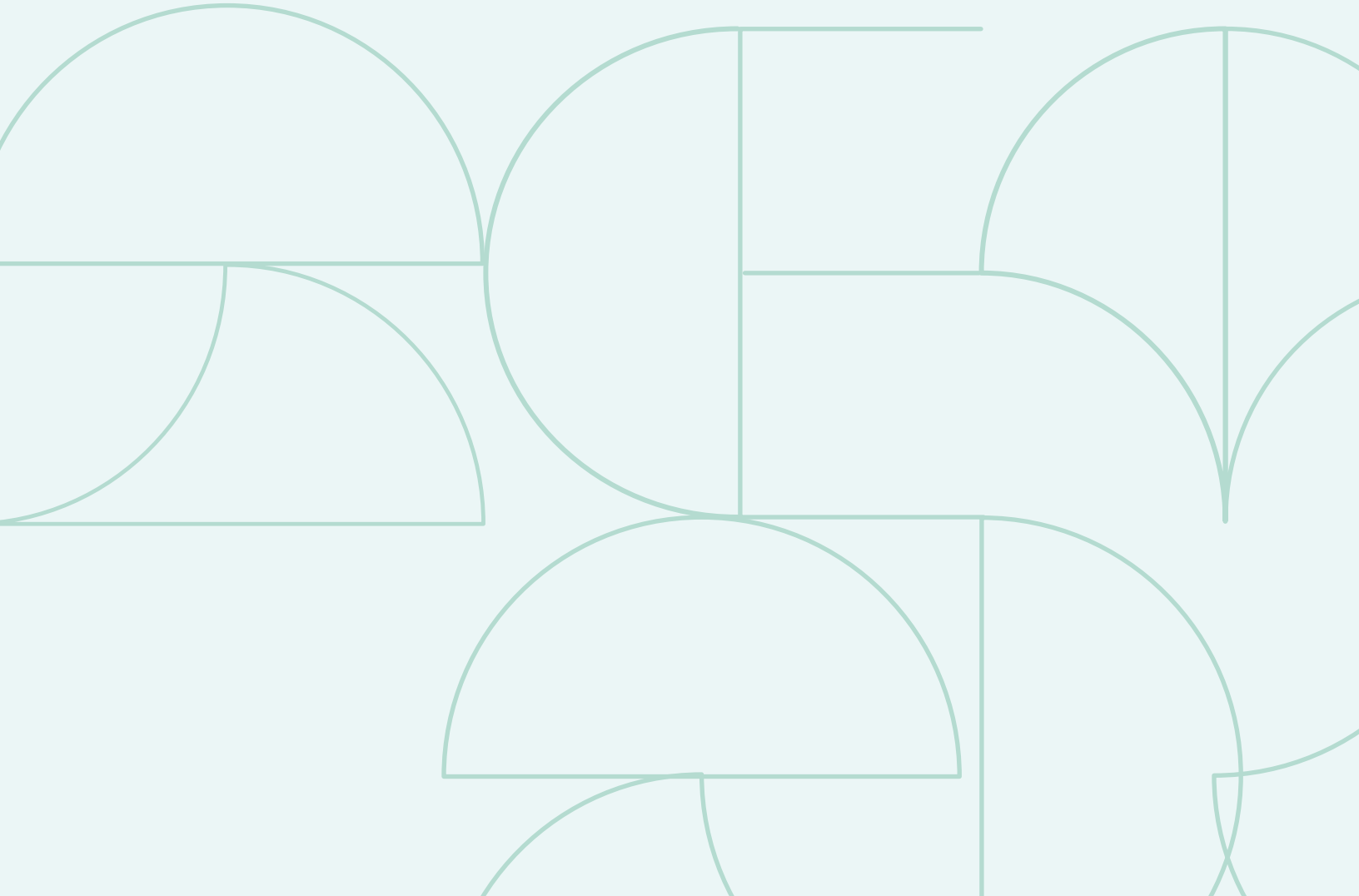


## Conclusion

This report, alongside our *2022 Counting U.S. Postsecondary and Secondary Credentials*, gives us an unprecedented understanding of the credential landscape. The research team estimated more than one million unique credentials in the U.S. alone and over \$2.133 trillion spent in yearly education and training expenditures. With this knowledge, current stakeholders must find ways to align data systems, map credential pathways, and increase equitable access to timely, trusted, and quality credential information. The credential landscape is vast, and the investments are too significant to continue ahead without the best possible information. All stakeholders should be involved.

This report comes when the entire country needs continued investment in human capital. With credential transparency, policymakers can ensure we invest effectively and equitably. This report will enable stakeholders to advocate for investment in promising programs in which individuals get the skills and credentials they will need for the jobs of tomorrow. Greater credential transparency will help ensure that providers offer training and education to meet the needs of U.S. businesses and learners who are current and future employees.

# Appendix



# Appendix: Table A1

**TABLE A1. Comparison to 2021 Report<sup>25</sup>**

CATEGORY	2021 Report	Estimated Expenditures (billion, \$)	% of Major Category
<b>EDUCATIONAL INSTITUTIONS</b>	<b>\$1,325.0</b>	<b>\$1,429.6</b>	<b>8%</b>
Elementary and Secondary Education (K-12)	\$789.0 (2017–2018)	\$864.0 (2019–2020)	10%
Title IV Degree-Granting Institutions	\$468.1 (2017–2018)	\$489.4 (2019–2020)	5%
Non-Title IV Degree-Granting Institutions	\$1.2 (2017–2018)	\$1.6 (2019–2020)	23%
Private Education and Training Organizations (Non-Degree)	\$67.1 (2017)	\$74.6 (2021)	11%
<b>EMPLOYER-SPONSORED TRAINING</b>	<b>\$516.1</b>	<b>\$594.4</b>	<b>13%</b>
Employer Direct Training Expenditures	\$138.8 (2017)	\$130.6 (2019, 2020, 2021)	-6%
Employee Earning During Training	\$377.3 (2017)	\$463.8 (2021)	19%
<b>STATE AND FEDERAL GOVERNMENT FUNDING</b>	<b>\$79.3</b>	<b>\$108.8</b>	<b>20%</b>
State-Funded Education and Workforce Development Systems, Schools, and Programs	\$55.0 (2017)	\$70.1 (2020)	27%
Federal Workforce Development Grant Programs	\$15.8 (2017)	\$28.8 (2021)	83%
U.S. Military Training and Education (Active Duty)	\$8.5 (2017)	\$9.9 (2021)	16%
<b>TOTAL</b>	<b>\$1,921.0</b>	<b>\$2,132.7</b>	<b>11%</b>

<sup>25</sup> Time periods covered by the data source is included in parenthesis under the amount for clarity.

# Appendix: Table A2

**TABLE A2. List of Federal Employment and Training Programs with FY21 Grant Obligations**

Assistance Listings	Popular Name	Assistance Listing Number	Dept/ Ind Agency	Obligations	FY21
State Administrative Matching Grants for the Supplemental Nutrition Assistance Program	Supplemental Nutrition Assistance Program (State Administrative Match)	10.561	Department of Agriculture	Nutrition Education & Obesity Prevention Grant Program 100% Federal funding for administrative costs (SNAP-Ed)	\$ 448,000,000
Second Chance Act Reentry Initiative	Second Chance Act (SCA)	16.812	Department of Justice	Project Grants Total	\$145,678,761
Jobs for Veterans State Grants	Jobs for Veterans State Grants (JVSG)	17.801	Department of Labor	Formula Grants Total	\$177,000,000
H-1B Job Training Grants	N/A	17.268	Department of Labor	Project Grants Total	\$185,000,000
Homeless Veterans' Reintegration Program	Homeless Veterans' Reintegration Program (HVRP)	17.805	Department of Labor	Project Grants Total	\$58,000,000
Native American Employment and Training	WIA / WIOA, Section 166, Native American Employment and Training Program	17.265	Department of Labor	Formula Grants Total	\$69,000,000
National Farmworker Jobs Program	NFJP	17.264	Department of Labor	Formula Grants Total	\$95,000,000
Reentry Employment Opportunities	Prisoner Re-entry	17.270	Department of Labor	Project Grants Total	\$88,000,000
Senior Community Service Employment Program	Senior Community Service Employment Program (SCSEP)	17.235	Department of Labor	State Grants	\$88,000,000
Employment Service/ Wagner-Peyser Funded Activities	Wagner- Peyser Act of 1933.	17.207	Department of Labor	Project and Formula Grants	\$721,000,000
WIOA Adult Program	Workforce Innovation and Opportunity Act (WIOA), Adult Programs	17.258	Department of Labor	Formula Grants Total	\$861,000,000
WIOA Dislocated Worker Formula Grants	Workforce Innovation and Opportunity Act (WIOA) Dislocated Worker Program	17.278	Department of Labor	Formula Grants Total	\$1,064,000,000
WIOA National Dislocated Worker Grants / WIA National Emergency Grants	National Dislocated Worker Grants	17.277	Department of Labor	Project Grants Total	\$234,000,000

Assistance Listings	Popular Name	Assistance Listing Number	Dept/ Ind Agency	Obligations	FY21
WIOA Youth Activities	WIOA Formula Youth	17.259	Department of Labor	Formula Grants Total	\$903,000,000
YouthBuild	N/A	17.274	Department of Labor	Project Grants Total	\$89,000,000
Brownfields Job Training Cooperative Agreements	Brownfields Job Training Program (formerly known as Environmental Workforce Development and Job Training Program or EWDJT)	66.815	Environmental Protection Agency	Cooperative Agreements (Discretionary Grants) Total	\$3,000,000
American Indian Vocational Rehabilitation Services	N/A	84.250	Department of Education	Project Grants Total	\$50,650,000
Career and Technical Education -- Basic Grants to States	N/A	84.048	Department of Education	Formula Grants Total	\$1,334,848,000
Career and Technical Education - Grants to Native Americans and Alaska Natives	N/A	84.101	Department of Education	Project Grants Total	\$16,685,600
Native Hawaiian Career and Technical Education	N/A	84.259	Department of Education	Project Grants Total	\$3,337,118
Supported Employment Services for Individuals with the Most Significant Disabilities	(Supported Employment State Grants)	84.187	Department of Education	Formula Grants Total	\$22,548,000
Rehabilitation Services Vocational Rehabilitation Grants to States	N/A	84.126	Department of Education	Formula Grants Total	3,414,894,803
Tribally Controlled Postsecondary Career and Technical Institutions	N/A	84.245	Department of Education	Project Grants Total	\$10,634,000
Community Services Block Grant	(CSBG)	93.569	Department of Health & Human Services	Formula Grants Total	\$776,899,322
Tribal Work Grants	(Native Employment Works; NEW)	93.594	Department of Health & Human Services	Formula Grants Total	\$7,633,287

Assistance Listings	Popular Name	Assistance Listing Number	Dept/ Ind Agency	Obligations	FY21
Refugee and Entrant Assistance Discretionary Grants	N/A	93.576	Department of Health & Human Services	Project Grants (Discretionary) Total	\$38,838,244
Refugee and Entrant Assistance State/ Replacement Designee Administered Programs	Refugee Cash and Medical Assistance Program and Refugee Support Services Program	93.566	Department of Health & Human Services	Formula Grants Total	\$473,965,482
Refugee and Entrant Assistance Voluntary Agency Programs	Voluntary Agencies Matching Grant Program	93.567	Department of Health & Human Services	Formula Grants Total	\$40,513,000
Temporary Assistance for Needy Families	TANF	93.558	Department of Health & Human Services	(State and Tribal Family Assistance Grants)  Pandemic Emergency Assistance Fund established in the American Rescue Plan Act of 2021	\$16,434,254,633
				<b>TOTAL</b>	<b>\$28,848,957,543</b>

