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U.S. DEPARTMENT OF EDUCATION

Career and Technical Education Programs in Public School Districts: 2016–17

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Career and Technical Education Programs in Public School Districts: 2016–17

First Look

April 2018

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FRSS
Fast Response Survey System

ies NATIONAL CENTER FOR EDUCATION STATISTICS
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Introduction

This report is based on the 2016–17 survey "Career and Technical Education Programs in Public School Districts" and provides nationally representative data on career and technical education (CTE) programs. The survey defines a CTE program as a sequence of courses at the high school level that provides students with the academic and technical knowledge and skills needed to prepare for further education and careers in current or emerging professions. For this survey, districts were instructed to include all CTE programs that the district offers to high school students, including programs provided by the district or by other entities (such as an area/regional CTE center, a consortium of districts, or a community or technical college). The report provides information about the entities that provide the CTE programs and the locations at which the CTE programs are offered to high school students. It also presents data about work-based learning activities and employer involvement in CTE programs, as well as barriers to the district offering CTE programs and barriers to student participation in CTE programs. Data are also presented about the extent to which various factors influence the district's decisions on whether to add or phase out CTE programs.

The National Center for Education Statistics (NCES), in the Institute of Education Sciences, conducted this survey in spring 2017 using the Fast Response Survey System (FRSS). FRSS is a survey system designed to collect small amounts of issue-oriented data from a nationally representative sample of districts, schools, or teachers with minimal burden on respondents and within a relatively short period of time. The survey was mailed to approximately 1,800 public school districts with high school grades in the United Stated (50 states and the District of Columbia). The cover letter and questionnaire indicated that the survey was designed to be completed by the person in the district most knowledgeable about career and technical education programs for high school students. Respondents were asked to provide information for the 2016–17 school year and the summer of 2016, and were offered options of completing the survey on paper or online.

The unweighted survey response rate was 87 percent and the weighted response rate using the initial base weights was 86 percent. The survey weights were adjusted for questionnaire nonresponse and the data were then weighted to yield national estimates that represent all eligible public school districts with high schools in the United States (50 states and the District of Columbia). Tables of standard error estimates are provided in appendix A. See the technical notes (appendix B) for detailed information about the survey methodology. Appendix B also includes definitions of the analysis variables (i.e., district characteristics) used in the report. The questionnaire is located in appendix C.

Because the purpose of this report is to introduce new NCES data from the survey through tables containing descriptive information, only selected national findings are presented. These findings have been chosen to demonstrate the range of information available from the FRSS study rather than to discuss all of the data collected; they are not meant to emphasize any particular issue. Readers are cautioned not to make causal inferences about the data presented here. The findings are based on self-reported data from public school districts. Many of the variables examined are related to one another, and complex interactions and relationships have not been explored.

Selected Findings

This section presents selected findings based on survey responses about career and technical education (CTE) programs in public school districts with high school grades in the 2016–17 school year.

- During the 2016–17 school year, 98 percent of public school districts offered CTE programs to students at the high school level (table 1).
- Nationwide, 10 percent of districts reported that students in their enrollment area have the option of enrolling in a CTE district that provides only CTE programs instead of enrolling in their home district (table 1).

The findings below are based on the 98 percent of public school districts that offered CTE programs to students at the high school level in the 2016–17 school year.

- Districts reported that the following entities provided the CTE programs that the district offered: the district individually (77 percent of districts), area/regional CTE centers or a group/consortium of school districts (54 percent of districts), 2-year community or technical colleges (46 percent of districts), and 4-year colleges or universities (11 percent of districts; table 1).
- Districts reported offering CTE programs at the following locations: 83 percent at the district's regular (comprehensive) high schools, 43 percent at CTE centers attended part-time, 35 percent at 2-year community or technical colleges or 4-year colleges/universities, 12 percent at CTE-focused high schools attended full time, and 11 percent at another district's regular (comprehensive) high school (table 1).
- About one-third (32 percent) of districts reported that all of their CTE programs were structured as career pathways that align with related postsecondary programs, and an additional one-third (33 percent) reported that most of their programs were structured this way (table 2).
- Seventy-three percent of districts offered CTE courses for which students could earn both high school and postsecondary credit; 61 percent offered CTE courses in which students could earn high school credits in math, science, English/language arts, or social studies; and 30 percent offered online CTE courses, including blended/hybrid courses (table 2).
- Districts reported that the following work-based learning activities were included in one or more of the CTE programs they offered: on-the-job training, internships, practicums, clinical experiences, or cooperative education (77 percent of districts); mentoring by local employers (65 percent of districts); student-run enterprises or services (55 percent of districts); apprenticeships or pre-apprenticeship programs (31 percent of districts); other work-based learning (16 percent of districts; table 3).[1]
- One-fourth (25 percent) of districts reported that none of the CTE programs they offered required work-based learning, 31 percent of districts reported few of the programs had this requirement, and 24 percent reported that some of the programs had this requirement (table 3).
- A larger percentage of city districts than rural districts offered CTE programs with work-based learning activities, including student-run enterprises or services (72 percent compared to 43 percent); mentoring by local employers (87 percent compared to 55 percent); on-the-job training, internships, practicums, clinical experiences, or cooperative education (95 percent compared to 68 percent); and apprenticeships or pre-apprenticeship programs (35 percent compared to 26 percent; table 3).
- A larger percentage of districts in the Northeast compared to districts in the West offered CTE programs with work-based learning activities, including student-run enterprises or services (75 percent compared to 42 percent); mentoring by local employers (75 percent compared to 55 percent); on-the-job training, internships, practicums, clinical experiences, or cooperative education (92 percent compared to

[1] Examples of other work-based learning include job shadowing, tours and field trips, and guest speakers.

66 percent); and apprenticeships or pre-apprenticeship programs (33 percent compared to 17 percent; table 3).

- Districts reported that employers were involved in the following ways to a large or very large extent with the CTE programs offered by the district: serve on the district's CTE advisory council (43 percent of districts), advise about which occupations are in demand (33 percent of districts), provide guidance on industry standards (32 percent of districts), provide guidance on equipment or facilities (31 percent of districts), and serve as guest speakers to CTE students (31 percent of districts; table 4).
- Districts reported that the following were large or very large barriers to the district in offering CTE programs to high school students: lack of funding or high cost of programs (50 percent of districts), finding or keeping teachers for in-demand industries and occupations (44 percent of districts), and facilities or space limitations (43 percent of districts; table 5).
- Districts reported that the following were large or very large barriers to student participation in CTE programs offered by the district: lack of time in students' schedules (25 percent of districts), students' difficulty finding work-based learning (23 percent of districts), and transportation for work-based learning (20 percent of districts; table 6). Districts also reported that the following were not barriers to student participation in CTE programs: teachers' or guidance counselors' negative perceptions of CTE (58 percent of districts), transportation to CTE programs (44 percent of districts), and lack of student support services for special populations (42 percent).
- Of the districts that offered CTE programs to students at the high school level, 86 percent had a decisionmaking role in adding or phasing out these programs (table 7). Districts with a decisionmaking role reported that the cost of the program had a large or very large influence on their decision to add a program (74 percent of districts) or phase out a program (57 percent of districts). Districts also reported that the following factors had a large or very large influence on their decision to add or phase out a program: enrollment or student interest (69 percent and 80 percent of districts, respectively), facilities/space considerations (64 percent and 47 percent of districts, respectively), and availability of qualified teachers (64 percent and 60 percent of districts, respectively).

Tables

Table 1. Percent of public school districts reporting that they offer career and technical education (CTE) programs to students at the high school level, that students in their enrollment area have the option of enrolling in a CTE district, and the percent reporting the entities that provide CTE programs and the locations where the district offers CTE programs, by district characteristics: 2016–17

District characteristic	Among all public school districts		Among districts that offer CTE programs to high school students[1]								
			Entities that provide CTE programs				Locations where the district offers CTE programs				
	Offer CTE programs to high school students[2]	Students have option of enrolling in CTE district[3]	Area/ regional CTE center or group/ consor-tium of school districts	District indivi-dually	2-year commu-nity or technical college(s)	4-year college(s) or univer-sities	District's regular (compre-hensive) high school(s)	Another district's regular (compre-hensive) high school(s)	CTE-focused high school attended full time	CTE center attended part time	2-year commu-nity or technical college, or a 4-year college or university
All public school districts.	**98**	**10**	**54**	**77**	**46**	**11**	**83**	**11**	**12**	**43**	**35**
District enrollment size											
Less than 1,000	98	6	54	75	41	8	82	12	8	35	31
1,000 to 2,499	98	13	61	72	44	11	80	11	14	48	31
2,500 to 9,999	99	13	53	79	50	12	85	10	13	48	40
10,000 or more	100	8	38	95	61	17	96	8	19	48	49
Community type											
City	99	11	35	92	55	17	93	7 !	14	42	49
Suburban	97	19	66	69	44	13	75	12	21	56	34
Town	100	7	52	80	49	13	87	10	7	39	38
Rural	98	7	53	78	43	8	84	11	9	39	32
Region											
Northeast	97	24	78	50	24	8	50	11	27	70	17
Southeast	100	1 !	34	94	63	14	92	4	6	43	50
Central	98	10	62	76	49	12	87	15	11	42	41
West	99	4	37	89	46	8	96	8	5	25	31

! Interpret data with caution; the coefficient of variation is at least 30 percent but less than 50 percent.

[1] Based on the 98 percent of public school districts that offer CTE programs to students at the high school level.

[2] Respondents were asked to include all CTE programs that the district offered to high school students, including programs provided by the district or by other entities (such as an area/regional CTE center, a consortium of districts, or a community or technical college).

[3] This question was worded, "Some states have CTE school districts that provide **only** CTE programs. Students have the option of enrolling in the CTE district instead of enrolling in their home district. Do high school students within your district's enrollment area have the option of enrolling in a separate CTE district **instead of** enrolling in your district?" Response options were yes; no; and not applicable, this is a CTE district. Estimates in this column are for districts that responded "yes" to this question.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System (FRSS), "Career and Technical Education Programs in Public School Districts," FRSS 108, 2017.

Table 2. Percentage distribution of public school districts reporting on how many of the career and technical education (CTE) programs offered to high school students are structured as career pathways that align with related postsecondary programs, and the percent of districts that offer various types of CTE courses, by district characteristics: 2016–17

	How many CTE programs are structured as career pathways[1]					Types of CTE courses district offers		
District characteristic	None	Few	Some	Most	All	CTE courses that earn high school credits in math, science, English/language arts, or social studies	CTE courses that earn both high school and postsecondary credits	CTE courses offered online (including blended/hybrid courses)
All public school districts.....	**2**	**14**	**19**	**33**	**32**	**61**	**73**	**30**
District enrollment size								
Less than 1,000	3 !	20	20	29	27	56	63	34
1,000 to 2,499	4	12	19	33	33	62	74	24
2,500 to 9,999	1 !	8	17	36	37	64	81	27
10,000 or more	‡	5	16	44	35	70	90	44
Community type								
City	‡	6 !	16	36	42	68	91	37
Suburban	3 !	11	16	37	33	62	77	24
Town	‡	14	17	35	33	60	76	24
Rural	3 !	16	21	30	30	59	67	35
Region								
Northeast	2 !	13	20	36	29	61	68	15
Southeast	‡	9 !	14	34	43	60	76	46
Central	3 !	14	20	30	33	55	76	30
West	3 !	16	19	35	26	69	69	33

! Interpret data with caution; the coefficient of variation is at least 30 percent but less than 50 percent.

‡ Reporting standards not met. The coefficient of variation for this estimate is 50 percent or greater.

[1]Detail may not sum to totals because of rounding.

NOTE: Based on the 98 percent of public school districts that offer CTE programs to students at the high school level.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System (FRSS), "Career and Technical Education Programs in Public School Districts," FRSS 108, 2017.

Table 3. Percent of public school districts reporting that various work-based learning activities are included in the career and technical education (CTE) programs offered to high school students, and the percentage distribution of districts reporting on how many of their CTE programs require work-based learning, by district characteristics: 2016–17

	Offer CTE programs that include:					How many CTE programs require work-based learning[1]				
District characteristic	Student-run enterprises or services	Mentoring by local employers	On-the-job training, internships, practicums, clinical experiences, or cooperative education (co-op)	Apprenticeships or pre-apprenticeship programs	Other work-based learning[2]	None	Few	Some	Most	All
All public school districts.	**55**	**65**	**77**	**31**	**16**	**25**	**31**	**24**	**12**	**8**
District enrollment size										
Less than 1,000	38	52	61	23	15	33	33	18	8	7
1,000 to 2,499	57	64	83	32	12	21	32	24	15	8
2,500 to 9,999	70	78	89	39	19	19	28	30	15	8
10,000 or more	86	86	96	42	24	14	27	34	14	10
Community type										
City	72	87	95	35	20	14	27	29	17	13
Suburban	74	77	90	38	17	18	27	27	17	11
Town	59	67	79	33	16	22	35	24	13	5
Rural	43	55	68	26	14	30	31	22	10	7
Region										
Northeast	75	75	92	33	20	14	22	25	19	20
Southeast	50	66	84	39	15	30	32	26	10	3 !
Central	56	66	75	36	13	22	35	25	15	5
West	42	55	66	17	17	33	32	22	7	6

! Interpret data with caution; the coefficient of variation is at least 30 percent but less than 50 percent.

[1]Detail may not sum to totals because of rounding.

[2]Examples of other work-based learning include job shadowing, tours and field trips, and guest speakers.

NOTE: Based on the 98 percent of public school districts that offer CTE programs to students at the high school level.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System (FRSS), "Career and Technical Education Programs in Public School Districts," FRSS 108, 2017.

Table 4. Percentage distributions of public school districts reporting the extent to which employers are involved in various ways with the career and technical education (CTE) programs offered by the district to high school students, by district characteristics: 2016–17

District characteristic	Provide work-based learning opportunities				Serve on district's CTE advisory council				Advise about which occupations are in demand				Provide advice on CTE programs to add or eliminate			
	Not at all	Small extent	Moder-ate extent	Large or very large extent	Not at all	Small extent	Moder-ate extent	Large or very large extent	Not at all	Small extent	Moder-ate extent	Large or very large extent	Not at all	Small extent	Moder-ate extent	Large or very large extent
All public school districts.	**13**	**32**	**30**	**25**	**19**	**18**	**20**	**43**	**11**	**25**	**31**	**33**	**21**	**29**	**28**	**22**
District enrollment size																
Less than 1,000	23	36	24	16	31	21	17	31	20	31	29	20	29	32	23	16
1,000 to 2,499	9	31	37	24	14	21	22	44	7	25	35	33	20	28	31	21
2,500 to 9,999	5	31	30	34	11	12	22	54	4	19	32	45	13	25	32	30
10,000 or more	1!	22	35	42	3	8	24	65	2!	14	28	57	6	24	34	36
Community type																
City	‡	22	35	41	8!	6	23	63	‡	12	35	50	12	22	30	36
Suburban	6	31	31	31	16	16	23	45	8	22	29	41	17	27	32	25
Town	11	30	32	27	12	18	21	49	7	25	33	35	17	29	30	25
Rural	18	35	28	19	25	19	19	37	15	28	31	26	25	30	26	19
Region																
Northeast	5	25	37	33	21	16	19	44	9	21	28	42	18	25	31	25
Southeast	9!	30	28	33	6!	13	22	60	‡	16	32	47	12	25	32	31
Central	12	35	29	24	22	20	19	39	10	29	33	28	24	32	24	20
West	22	34	27	16	22	17	22	40	17	27	31	26	23	28	30	19

See notes at end of table.

Table 4. Percentage distributions of public school districts reporting the extent to which employers are involved in various ways with the career and technical education (CTE) programs offered by the district to high school students, by district characteristics: 2016–17—Continued

District characteristic	Review CTE program curriculum				Provide guidance on industry standards				Provide guidance on equipment or facilities				Donate equipment			
	Not at all	Small extent	Moder-ate extent	Large or very large extent	Not at all	Small extent	Moder-ate extent	Large or very large extent	Not at all	Small extent	Moder-ate extent	Large or very large extent	Not at all	Small extent	Moder-ate extent	Large or very large extent
All public school districts.	**24**	**28**	**24**	**23**	**13**	**26**	**28**	**32**	**15**	**27**	**26**	**31**	**20**	**43**	**25**	**12**
District enrollment size																
Less than 1,000	36	28	18	18	22	33	23	22	24	33	20	23	27	44	20	9
1,000 to 2,499	22	32	26	20	10	27	30	33	13	26	31	30	18	44	26	12
2,500 to 9,999	14	26	30	30	8	19	33	40	10	22	30	38	17	40	26	17
10,000 or more	6	26	32	35	2	13	28	56	2	17	29	52	8	45	34	13
Community type																
City	10!	21	32	37	7!	15	28	50	‡	18	33	44	14	36	33	16
Suburban	17	30	26	27	8	22	32	37	12	25	28	35	20	39	27	14
Town	19	31	25	26	8	27	26	40	11	24	26	38	15	47	23	15
Rural	31	28	22	18	19	29	27	25	20	31	25	24	24	44	23	10
Region																
Northeast	20	23	23	35	9	22	26	43	13	25	21	40	16	44	25	15
Southeast	15	36	27	22	7!	24	34	34	9!	29	32	30	16	48	25	11
Central	25	29	25	21	14	30	25	31	17	29	26	29	19	44	27	10
West	31	28	23	17	19	24	30	27	19	25	28	27	28	39	20	13

See notes at end of table.

Table 4. Percentage distributions of public school districts reporting the extent to which employers are involved in various ways with the career and technical education (CTE) programs offered by the district to high school students, by district characteristics: 2016–17—Continued

District characteristic	Host student field trips				Serve as guest speakers to CTE students				Provide guidance for student CTE projects				Judge student CTE competitions			
	Not at all	Small extent	Moder-ate extent	Large or very large extent	Not at all	Small extent	Moder-ate extent	Large or very large extent	Not at all	Small extent	Moder-ate extent	Large or very large extent	Not at all	Small extent	Moder-ate extent	Large or very large extent
All public school districts.	**13**	**27**	**33**	**27**	**7**	**26**	**36**	**31**	**16**	**37**	**32**	**15**	**23**	**33**	**27**	**17**
District enrollment size																
Less than 1,000	22	30	26	22	13	34	35	18	23	39	28	10	33	31	25	11
1,000 to 2,499	10	29	37	24	4	24	39	33	16	35	35	13	19	37	28	16
2,500 to 9,999	5	23	38	34	2!	20	34	44	10	37	31	22	16	34	27	23
10,000 or more	3	16	39	42	‡	11	36	52	4	32	40	24	8	25	38	29
Community type																
City	‡	15	41	41	2!	18	34	46	8!	37	32	23	12	29	30	28
Suburban	7	25	37	31	2!	20	38	40	12	33	34	21	17	32	28	23
Town	10	24	35	30	4!	22	36	38	13	35	35	17	19	34	26	21
Rural	18	30	30	22	10	31	36	23	20	40	29	11	29	34	27	11
Region																
Northeast	5	28	39	28	3!	21	40	36	12	31	36	21	16	32	29	23
Southeast	10	21	40	29	3!	19	36	41	12	40	29	19	15	38	29	19
Central	11	28	32	30	6	26	38	31	16	40	31	13	27	32	25	16
West	23	28	28	21	11	33	32	24	22	35	31	12	27	33	28	13

See notes at end of table.

Table 4. Percentage distributions of public school districts reporting the extent to which employers are involved in various ways with the career and technical education (CTE) programs offered by the district to high school students, by district characteristics: 2016–17—Continued

District characteristic	Provide training opportunities for CTE teachers			
	Not at all	Small extent	Moder-ate extent	Large or very large extent
All public school districts.....	**33**	**36**	**23**	**8**
District enrollment size				
Less than 1,000	43	28	22	7
1,000 to 2,499	32	43	20	5
2,500 to 9,999	24	39	26	11
10,000 or more	12	45	31	12
Community type				
City	16	36	33	16
Suburban	22	40	28	10
Town	36	36	22	6
Rural	38	35	20	7
Region				
Northeast	23	36	31	10
Southeast	27	42	22	9
Central	35	35	22	8
West	38	35	20	6

! Interpret data with caution; the coefficient of variation is at least 30 percent but less than 50 percent.

‡ Reporting standards not met. The coefficient of variation for this estimate is 50 percent or greater.

NOTE: Based on the 98 percent of public school districts that offer CTE programs to students at the high school level. On the survey, separate response options were provided for “large extent” and “very large extent.” Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System (FRSS), “Career and Technical Education Programs in Public School Districts,” FRSS 108, 2017.

Table 5. Percentage distributions of public school districts reporting on how much of a barrier various items are to the district in offering career and technical education (CTE) programs to high school students, by district characteristics: 2016–17

District characteristic	Lack of funding or high cost of programs				Facilities or space limitations				Finding or keeping teachers for in-demand industries and occupations				Limited availability of professional development in technical fields			
	Not a barrier	Small barrier	Moder-ate barrier	Large or very large barrier	Not a barrier	Small barrier	Moder-ate barrier	Large or very large barrier	Not a barrier	Small barrier	Moder-ate barrier	Large or very large barrier	Not a barrier	Small barrier	Moder-ate barrier	Large or very large barrier
All public school districts.	**10**	**14**	**26**	**50**	**12**	**17**	**28**	**43**	**11**	**17**	**28**	**44**	**19**	**31**	**33**	**17**
District enrollment size																
Less than 1,000	10	12	25	53	14	16	27	43	12	16	29	43	19	28	35	18
1,000 to 2,499	9	13	26	52	11	18	28	43	12	18	31	39	21	35	30	14
2,500 to 9,999	10	16	27	46	11	18	28	44	8	21	26	44	20	33	31	16
10,000 or more	8	21	33	37	3	20	32	46	3	12	25	60	11	33	33	22
Community type																
City	9	21	34	37	7	19	35	39	4	15	26	55	17	31	34	18
Suburban	11	18	29	42	11	18	27	44	11	19	29	40	21	32	32	16
Town	8	14	29	49	11	17	30	41	10	18	31	41	20	34	31	16
Rural	10	12	23	55	13	17	26	44	11	17	27	45	19	30	33	18
Region																
Northeast	14	17	27	42	19	16	23	42	21	19	31	29	23	29	34	14
Southeast	8	14	29	50	7	18	29	46	8	20	25	46	24	29	32	16
Central	8	12	30	51	10	18	32	40	8	18	29	44	16	32	35	16
West	10	16	21	54	11	18	24	47	8	13	27	51	19	33	28	20

See notes at end of table.

Table 5. Percentage distributions of public school districts reporting on how much of a barrier various items are to the district in offering career and technical education (CTE) programs to high school students, by district characteristics: 2016–17—Continued

District characteristic	Difficulty keeping CTE teachers' technical skills up to date				CTE teachers have difficulty obtaining regular state teaching certificate[1]				Difficulty developing partnerships with employers for work-based learning			
	Not a barrier	Small barrier	Moder-ate barrier	Large or very large barrier	Not a barrier	Small barrier	Moder-ate barrier	Large or very large barrier	Not a barrier	Small barrier	Moder-ate barrier	Large or very large barrier
All public school districts.	**26**	**34**	**28**	**12**	**27**	**29**	**23**	**21**	**20**	**34**	**28**	**18**
District enrollment size												
Less than 1,000	28	29	29	14	31	26	21	22	20	32	26	23
1,000 to 2,499	29	35	27	8	26	31	25	18	22	35	28	15
2,500 to 9,999	23	38	27	12	25	32	23	19	21	36	28	15
10,000 or more	13	36	36	15	16	30	29	26	16	32	37	14
Community type												
City	20	34	33	13	18	28	30	24	17	34	31	18
Suburban	26	34	28	12	23	33	23	20	20	34	33	14
Town	24	38	28	10	28	28	24	21	25	33	26	16
Rural	28	31	28	12	29	28	22	20	19	34	26	21
Region												
Northeast	35	30	25	10	29	30	22	19	26	36	27	12
Southeast	31	32	24	14	28	34	19	19	17	41	25	17
Central	22	35	32	11	26	29	25	20	19	35	28	17
West	24	35	28	13	27	26	24	23	20	26	30	24

[1]On the survey, this item was worded as: "CTE teachers who move into teaching from other occupations have difficulty obtaining a regular or standard state teaching certificate."

NOTE: Based on the 98 percent of public school districts that offer CTE programs to students at the high school level. On the survey, separate response options were provided for "large barrier" and "very large barrier." Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System (FRSS), "Career and Technical Education Programs in Public School Districts," FRSS 108, 2017.

Table 6. Percentage distributions of public school districts reporting on how much of a barrier various items are to student participation in the career and technical education (CTE) programs offered by the district to high school students, by district characteristics: 2016–17

District characteristic	Lack of time in students' schedules				Students' or parents' negative perceptions of CTE				Teachers' or guidance counselors' negative perceptions of CTE				Transportation to CTE programs			
	Not a barrier	Small barrier	Moderate barrier	Large or very large barrier	Not a barrier	Small barrier	Moderate barrier	Large or very large barrier	Not a barrier	Small barrier	Moderate barrier	Large or very large barrier	Not a barrier	Small barrier	Moderate barrier	Large or very large barrier
All public school districts.	**16**	**25**	**34**	**25**	**35**	**31**	**22**	**12**	**58**	**24**	**11**	**7**	**44**	**24**	**15**	**17**
District enrollment size																
Less than 1,000	17	26	34	23	48	32	16	4	76	19	3 !	2 !	44	22	15	19
1,000 to 2,499	18	24	35	22	34	33	22	11	58	27	9	6	44	25	16	15
2,500 to 9,999	13	24	33	29	24	28	27	21	43	26	19	12	45	27	14	15
10,000 or more	8	24	39	29	12	30	32	26	13	33	32	22	34	25	21	20
Community type																
City	14	17	37	31	21	27	29	22	30	22	28	20	36	28	19	17
Suburban	16	21	35	28	24	30	27	19	46	26	18	10	46	25	14	15
Town	14	30	33	23	32	33	23	12	55	26	12	8	46	27	15	13
Rural	17	26	35	23	43	31	18	8	68	23	6	4	43	23	15	20
Region																
Northeast	25	20	28	27	28	25	29	18	57	22	13	8	48	27	14	11
Southeast	15	32	34	20	32	27	23	17	47	24	15	13	41	20	16	23
Central	12	26	37	25	32	33	24	11	60	26	9	5	44	26	15	14
West	16	23	36	25	46	35	12	7	61	23	10	6	41	22	15	23

See notes at end of table.

Table 6. Percentage distributions of public school districts reporting on how much of a barrier various items are to student participation in the career and technical education (CTE) programs offered by the district to high school students, by district characteristics: 2016–17—Continued

District characteristic	Transportation for work-based learning				Students' costs for supplies, uniforms, or materials				Students' difficulty finding work-based learning				Lack of student support services for special populations			
	Not a barrier	Small barrier	Moder-ate barrier	Large or very large barrier	Not a barrier	Small barrier	Moder-ate barrier	Large or very large barrier	Not a barrier	Small barrier	Moder-ate barrier	Large or very large barrier	Not a barrier	Small barrier	Moder-ate barrier	Large or very large barrier
All public school districts.	**29**	**30**	**20**	**20**	**32**	**33**	**20**	**15**	**21**	**32**	**25**	**23**	**42**	**33**	**17**	**8**
District enrollment size																
Less than 1,000	33	27	19	21	32	33	16	18	21	25	24	30	41	34	15	10
1,000 to 2,499	31	33	18	17	34	29	25	11	22	37	23	18	48	29	18	4
2,500 to 9,999	25	35	23	17	33	36	18	13	21	38	25	17	40	34	16	10
10,000 or more	17	26	27	30	24	39	26	12	14	30	37	19	30	38	21	11
Community type																
City	17	30	24	29	28	34	26	12	21	32	26	21	32	37	23	8
Suburban	25	33	22	20	36	36	18	10	21	38	26	15	41	29	20	10
Town	31	33	22	15	35	31	23	12	22	35	24	19	44	34	16	7
Rural	32	29	19	21	30	33	19	18	20	27	25	28	43	34	14	9
Region																
Northeast	25	32	26	17	39	33	19	10	27	38	25	11	48	26	19	7
Southeast	23	28	23	26	32	30	21	16	15	30	29	27	46	31	14	9
Central	33	33	18	16	32	38	18	13	21	35	23	21	39	34	19	8
West	29	27	19	25	28	29	23	20	19	24	26	31	39	38	13	10

! Interpret data with caution; the coefficient of variation is at least 30 percent but less than 50 percent.

NOTE: Based on the 98 percent of public school districts that offer CTE programs to students at the high school level. On the survey, separate response options were provided for "large barrier" and "very large barrier." Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System (FRSS), "Career and Technical Education Programs in Public School Districts," FRSS 108, 2017.

Table 7. Percent of public school districts with a decision-making role in adding or phasing out career and technical education (CTE) programs for high school students, and the percentage distributions of those districts reporting the extent to which various factors influence those decisions, by district characteristics: 2016–17

District characteristic	Districts with decision-making role[1]	Enrollment or student interest[2]								Facilities/space considerations							
		Extent of influence on decision to add new CTE program[4]				Extent of influence on decision to phase out CTE program[4]				Extent of influence on decision to add new CTE program[4]				Extent of influence on decision to phase out CTE program[4]			
		Not at all	Small extent	Moder-ate extent	Large or very large extent	Not at all	Small extent	Moder-ate extent	Large or very large extent	Not at all	Small extent	Moder-ate extent	Large or very large extent	Not at all	Small extent	Moder-ate extent	Large or very large extent
All public school districts.	**86**	**2**	**6**	**22**	**69**	**2**	**4**	**13**	**80**	**3**	**9**	**24**	**64**	**8**	**19**	**27**	**47**
District enrollment size																	
Less than 1,000	83	3!	9	23	65	5	6	16	73	5!	9	27	59	10	18	25	46
1,000 to 2,499	84	3!	4!	24	69	‡	3!	13	84	3!	10	23	64	7	18	27	48
2,500 to 9,999	89	‡	4	20	75	‡	3	14	82	1!	9	22	68	6	19	28	47
10,000 or more	98	‡	6	20	74	‡	2	8	90	‡	5	19	75	6	21	30	44
Community type																	
City	96	‡	8!	20	66	‡	7!	7	82	‡	9	21	69	9!	24	33	34
Suburban	81	‡	5	20	74	#	2!	14	84	1!	7	22	70	6	18	24	52
Town	89	‡	6	24	67	‡	1!	16	82	‡	9	30	60	7	17	30	46
Rural	86	2!	6	23	69	3	6	13	77	5	9	23	64	8	19	26	47
Region																	
Northeast	70	‡	7	29	62	‡	5!	11	83	3!	14	25	57	10	21	27	42
Southeast	97	‡	7!	22	69	‡	5!	13	82	4!	8	18	71	6	22	25	47
Central	85	2!	5	20	73	2!	4!	13	81	2!	10	26	62	7	18	28	48
West	94	3!	7!	22	69	3!	4!	15	77	4!	4	24	68	8	17	26	49

See notes at end of table.

Table 7. Percent of public school districts with a decision-making role in adding or phasing out career and technical education (CTE) programs for high school students, and the percentage distributions of those districts reporting the extent to which various factors influence those decisions, by district characteristics: 2016–17—Continued

	Cost of program[3]								Availability of qualified teachers							
	Extent of influence on decision to add new CTE program[4]				Extent of influence on decision to phase out CTE program[4]				Extent of influence on decision to add new CTE program[4]				Extent of influence on decision to phase out CTE program[4]			
District characteristic	Not at all	Small extent	Moder-ate extent	Large or very large extent	Not at all	Small extent	Moder-ate extent	Large or very large extent	Not at all	Small extent	Moder-ate extent	Large or very large extent	Not at all	Small extent	Moder-ate extent	Large or very large extent
All public school districts.	**1!**	**6**	**19**	**74**	**3**	**13**	**27**	**57**	**2**	**9**	**24**	**64**	**4**	**13**	**24**	**60**
District enrollment size																
Less than 1,000	‡	6	20	73	4	11	24	61	3!	9	24	64	3!	11	23	63
1,000 to 2,499	‡	6	18	76	3!	14	29	55	‡	10	24	65	3!	14	26	57
2,500 to 9,999	‡	5	19	76	3	13	27	56	3	8	26	63	5	13	23	58
10,000 or more	1!	7	21	71	5	21	32	42	1!	7	23	69	4	13	26	58
Community type																
City	‡	7	23	69	4	26	33	37	2!	8	23	67	4!	20	21	54
Suburban	1!	6	22	71	4	15	29	52	3!	8	25	64	5	13	28	55
Town	‡	4!	19	77	3!	12	23	62	4!	8	22	66	5!	12	21	63
Rural	‡	6	18	75	4	11	26	59	‡	10	25	63	3!	12	25	61
Region																
Northeast	‡	8	22	69	5!	16	27	53	6!	15	33	47	8	18	29	45
Southeast	‡	8	17	73	4	16	29	51	3!	10	26	60	4!	12	27	57
Central	‡	5	20	74	3!	10	27	60	2!	6	22	70	3	12	23	63
West	1!	4	18	78	3	14	26	57	‡	9	22	69	2!	11	22	65

See notes at end of table.

Table 7. Percent of public school districts with a decision-making role in adding or phasing out career and technical education (CTE) programs for high school students, and the percentage distributions of those districts reporting the extent to which various factors influence those decisions, by district characteristics: 2016–17—Continued

District characteristic	Information on which industries and occupations are in demand								Employer recommendations							
	Extent of influence on decision to add new CTE program[4]				Extent of influence on decision to phase out CTE program[4]				Extent of influence on decision to add new CTE program[4]				Extent of influence on decision to phase out CTE program[4]			
	Not at all	Small extent	Moder-ate extent	Large or very large extent	Not at all	Small extent	Moder-ate extent	Large or very large extent	Not at all	Small extent	Moder-ate extent	Large or very large extent	Not at all	Small extent	Moder-ate extent	Large or very large extent
All public school districts.	**9**	**18**	**26**	**46**	**10**	**20**	**31**	**39**	**10**	**25**	**32**	**33**	**13**	**27**	**31**	**30**
District enrollment size																
Less than 1,000	13	21	29	37	14	24	30	32	15	27	33	26	19	28	28	26
1,000 to 2,499	7	21	30	42	8	21	34	37	9	30	32	29	13	30	33	25
2,500 to 9,999	7	16	23	54	7	17	33	43	7	22	31	40	8	24	34	34
10,000 or more	4	8	14	74	4	12	24	60	3	13	29	54	5	20	28	47
Community type																
City	10	13	13	65	5	21	25	49	7	22	24	47	7	27	29	37
Suburban	9	16	22	53	6	16	34	44	8	25	28	38	9	26	31	34
Town	6!	15	33	46	10	19	33	38	8	22	35	35	15	22	33	30
Rural	10	22	27	41	12	23	30	35	12	27	33	28	15	29	30	27
Region																
Northeast	12	16	24	47	8	19	30	42	12	24	28	36	11	27	28	35
Southeast	6	12	18	65	5	13	24	57	5!	18	28	49	6	19	30	45
Central	8	22	30	39	12	23	33	32	10	30	32	28	17	31	29	23
West	10	18	27	44	9	21	34	36	12	23	36	29	12	26	35	27

See notes at end of table.

Table 7. Percent of public school districts with a decision-making role in adding or phasing out career and technical education (CTE) programs for high school students, and the percentage distributions of those districts reporting the extent to which various factors influence those decisions, by district characteristics: 2016–17—Continued

District characteristic	Postsecondary institution recommendations								Recommendations from state department of education							
	Extent of influence on decision to add new CTE program[4]				Extent of influence on decision to phase out CTE program[4]				Extent of influence on decision to add new CTE program[4]				Extent of influence on decision to phase out CTE program[4]			
	Not at all	Small extent	Moder-ate extent	Large or very large extent	Not at all	Small extent	Moder-ate extent	Large or very large extent	Not at all	Small extent	Moder-ate extent	Large or very large extent	Not at all	Small extent	Moder-ate extent	Large or very large extent
All public school districts.	**11**	**25**	**36**	**27**	**13**	**29**	**34**	**24**	**11**	**26**	**34**	**29**	**12**	**26**	**31**	**31**
District enrollment size																
Less than 1,000	13	24	37	25	17	28	32	23	13	28	32	27	14	26	32	28
1,000 to 2,499	11	30	35	23	15	30	35	20	12	27	33	29	13	29	29	30
2,500 to 9,999	9	24	38	30	10	30	35	25	10	23	37	30	11	25	30	34
10,000 or more	4	22	34	40	6	25	36	33	7	21	36	37	8	20	33	39
Community type																
City	9	29	30	32	11	28	30	30	15	20	37	28	16	22	33	29
Suburban	9	25	35	31	9	30	36	25	11	22	39	28	10	26	35	30
Town	10	25	40	24	16	28	34	22	11	25	38	26	13	23	33	32
Rural	12	25	37	27	15	29	33	23	11	28	29	32	12	28	28	32
Region																
Northeast	12	22	37	28	11	29	35	24	14	22	38	25	11	28	34	26
Southeast	5!	27	32	36	10	27	31	32	4!	21	29	47	5	17	26	52
Central	12	28	36	24	15	32	32	21	10	30	36	24	15	30	32	24
West	12	23	38	27	14	25	38	23	15	25	31	29	14	25	30	31

See notes at end of table.

Table 7. Percent of public school districts with a decision-making role in adding or phasing out career and technical education (CTE) programs for high school students, and the percentage distributions of those districts reporting the extent to which various factors influence those decisions, by district characteristics: 2016–17—Continued

District characteristic	Career pathways from high school to postsecondary							
	Extent of influence on decision to add new CTE program[4]				Extent of influence on decision to phase out CTE program[4]			
	Not at all	Small extent	Moder-ate extent	Large or very large extent	Not at all	Small extent	Moder-ate extent	Large or very large extent
All public school districts.	**7**	**19**	**33**	**41**	**9**	**20**	**33**	**38**
District enrollment size								
Less than 1,000	10	22	35	33	14	18	31	36
1,000 to 2,499	6	19	36	40	8	24	37	31
2,500 to 9,999	6	17	30	47	6	20	31	42
10,000 or more	2	8	29	61	4	14	33	49
Community type								
City	4!	14	32	50	10!	24	25	41
Suburban	7	16	30	46	6	18	35	40
Town	7!	18	33	43	10	18	36	36
Rural	8	21	34	37	11	21	32	36
Region								
Northeast	10	21	35	34	9	25	32	34
Southeast	4!	17	26	53	6	17	30	47
Central	7	22	35	36	11	21	35	32
West	8	14	33	45	10	18	31	41

Rounds to zero.

! Interpret data with caution; the coefficient of variation is at least 30 percent but less than 50 percent.

‡ Reporting standards not met. The coefficient of variation for this estimate is 50 percent or greater.

[1] Based on the 98 percent of public school districts that offer CTE programs to students at the high school level.

[2] On the survey, this factor was worded as "student interest" in the question on adding a new CTE program and as "enrollment or student interest" in the question on phasing out a CTE program.

[3] On the survey, this factor was worded as "costs for new program" in the question on adding a new CTE program and as "cost of program" in the question on phasing out a CTE program.

[4] Based on the public school districts that offer CTE programs to students at the high school level and have a decision-making role in adding or phasing out CTE programs. Of the 98 percent of public school districts that offer CTE programs, 86 percent have a decision-making role in adding or phasing out CTE programs.

NOTE: On the survey, separate response options were provided for "large extent" and "very large extent." Detail may not sum to totals because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System (FRSS), "Career and Technical Education Programs in Public School Districts," FRSS 108, 2017.

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Appendix A

Standard Error Tables

Table A-1. Standard errors for table 1: Percent of public school districts reporting that they offer career and technical education (CTE) programs to students at the high school level, that students in their enrollment area have the option of enrolling in a CTE district, and the percent reporting the entities that provide CTE programs and the locations where the district offers CTE programs, by district characteristics: 2016–17

District characteristic	Among all public school districts		Among districts that offer CTE programs to high school students								
			Entities that provide CTE programs				Locations where the district offers CTE programs				
	Offer CTE programs to high school students	Students have option of enrolling in CTE district	Area/ regional CTE center or group/ consortium of school districts	District individually	2-year community or technical college(s)	4-year college(s) or universities	District's regular (comprehensive) high school(s)	Another district's regular (comprehensive) high school(s)	CTE-focused high school attended full time	CTE center attended part time	2-year community or technical college, or a 4-year college or university
All public school districts	**0.4**	**0.8**	**1.4**	**1.6**	**1.4**	**0.8**	**1.1**	**0.9**	**1.0**	**1.6**	**1.3**
District enrollment size											
Less than 1,000	0.9	1.4	2.9	3.3	2.8	1.6	2.2	1.7	1.8	3.5	2.4
1,000 to 2,499	0.7	1.3	2.4	2.9	2.7	1.4	1.8	1.7	2.2	2.5	2.7
2,500 to 9,999	0.4	1.4	1.7	1.5	1.5	1.3	1.5	1.0	1.4	2.0	1.4
10,000 or more	#	1.2	1.7	1.0	2.0	1.3	0.8	1.4	1.1	2.0	2.1
Community type											
City	1.3	2.9	3.3	2.2	3.5	2.9	2.3	2.7	1.9	3.4	3.1
Suburban	0.7	1.8	2.1	2.3	2.2	1.8	2.4	1.6	2.1	2.4	2.1
Town	0.4	1.6	2.8	2.4	2.8	2.1	2.2	1.7	1.7	2.4	2.9
Rural	0.7	1.2	2.3	2.6	2.1	1.1	1.7	1.5	1.2	2.6	1.9
Region											
Northeast	0.9	2.2	2.6	2.8	2.7	1.7	2.9	1.9	3.1	3.0	2.4
Southeast	#	0.4	3.4	1.8	3.0	2.2	2.1	1.1	1.0	3.6	2.9
Central	1.0	1.5	2.3	2.6	2.5	1.6	1.6	1.8	1.6	2.7	2.2
West	0.3	1.2	2.7	2.0	2.7	1.3	1.5	1.4	1.1	2.6	2.5

Rounds to zero.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System (FRSS), "Career and Technical Education Programs in Public School Districts," FRSS 108, 2017.

Table A-2. Standard errors for table 2: Percentage distribution of public school districts reporting on how many of the career and technical education (CTE) programs offered to high school students are structured as career pathways that align with related postsecondary programs, and the percent of districts that offer various types of CTE courses, by district characteristics: 2016–17

	How many CTE programs are structured as career pathways					Types of CTE courses district offers		
District characteristic	None	Few	Some	Most	All	CTE courses that earn high school credits in math, science, English/language arts, or social studies	CTE courses that earn both high school and postsecondary credits	CTE courses offered online (including blended/ hybrid courses)
All public school districts.....	**0.6**	**1.2**	**1.1**	**1.5**	**1.5**	**1.5**	**1.6**	**1.4**
District enrollment size								
Less than 1,000	1.2	2.6	2.1	3.3	3.2	3.3	3.5	3.0
1,000 to 2,499	0.9	2.0	2.0	2.0	2.2	2.4	2.8	1.7
2,500 to 9,999	0.5	1.3	1.5	2.0	1.9	2.0	1.5	1.7
10,000 or more	†	1.1	1.4	2.0	1.8	1.7	1.1	1.8
Community type								
City	†	2.7	2.6	3.3	3.9	3.3	2.9	3.3
Suburban	0.9	1.7	1.7	2.5	2.4	2.2	1.9	1.8
Town	†	2.3	2.3	2.4	2.4	2.7	3.0	2.5
Rural	1.0	2.0	1.8	2.4	2.4	2.5	2.5	2.1
Region								
Northeast	0.8	2.1	2.5	3.1	2.9	3.0	3.2	2.0
Southeast	†	2.8	2.4	3.0	3.4	3.3	3.1	3.0
Central	0.9	2.4	1.8	2.5	2.7	2.4	2.1	2.8
West	1.1	2.2	2.4	2.1	2.4	3.5	2.6	3.1

† Not applicable.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System (FRSS), "Career and Technical Education Programs in Public School Districts," FRSS 108, 2017.

Table A-3. Standard errors for table 3: Percent of public school districts reporting that various work-based learning activities are included in the career and technical education (CTE) programs offered to high school students, and the percentage distribution of districts reporting on how many of their CTE programs require work-based learning, by district characteristics: 2016–17

District characteristic	Offer CTE programs that include:					How many CTE programs require work-based learning				
	Student-run enterprises or services	Mentoring by local employers	On-the-job training, internships, practicums, clinical experiences, or cooperative education (co-op)	Apprenticeships or pre-apprenticeship programs	Other work-based learning	None	Few	Some	Most	All
All public school districts.	**1.8**	**1.4**	**1.3**	**1.4**	**1.0**	**1.5**	**1.4**	**1.4**	**1.0**	**0.8**
District enrollment size										
Less than 1,000	4.1	2.9	3.1	2.7	2.0	3.3	3.1	2.8	1.8	1.8
1,000 to 2,499	2.1	2.1	1.9	2.6	1.6	2.4	2.3	2.4	1.9	1.1
2,500 to 9,999	2.1	2.2	1.4	2.4	1.7	1.3	1.6	1.9	1.7	1.1
10,000 or more	1.6	1.5	0.9	2.2	1.7	1.1	1.8	1.3	1.0	1.2
Community type										
City	3.8	2.4	1.5	2.9	2.7	2.9	2.8	2.9	2.6	2.9
Suburban	2.2	2.2	1.6	2.8	1.9	2.1	2.3	2.4	2.0	1.5
Town	2.8	2.8	2.8	2.8	2.2	2.5	2.8	2.4	2.1	1.4
Rural	3.0	2.2	2.4	1.8	1.6	2.6	2.4	2.3	1.6	1.5
Region										
Northeast	2.5	2.9	1.8	3.2	2.7	2.7	2.7	2.6	2.3	2.8
Southeast	3.2	3.3	3.5	3.3	2.2	3.4	3.1	2.9	1.6	0.9
Central	3.1	2.9	2.5	2.3	2.0	2.8	3.0	2.0	2.1	1.0
West	2.5	2.7	2.5	1.9	2.2	2.7	2.2	2.1	1.1	1.6

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System (FRSS), "Career and Technical Education Programs in Public School Districts," FRSS 108, 2017.

Table A-4. Standard errors for table 4: Percentage distributions of public school districts reporting the extent to which employers are involved in various ways with the career and technical education (CTE) programs offered by the district to high school students, by district characteristics: 2016–17

District characteristic	Provide work-based learning opportunities				Serve on district's CTE advisory council				Advise about which occupations are in demand				Provide advice on CTE programs to add or eliminate			
	Not at all	Small extent	Moder-ate extent	Large or very large extent	Not at all	Small extent	Moder-ate extent	Large or very large extent	Not at all	Small extent	Moder-ate extent	Large or very large extent	Not at all	Small extent	Mode-rate extent	Large or very large extent
All public school districts.	**1.0**	**1.5**	**1.5**	**1.2**	**1.2**	**1.1**	**1.1**	**1.3**	**1.0**	**1.5**	**1.5**	**1.3**	**1.1**	**1.3**	**1.4**	**1.0**
District enrollment size																
Less than 1,000	2.2	3.4	3.0	2.3	2.7	2.1	2.3	2.2	2.2	3.1	3.0	2.2	2.4	2.7	3.1	1.4
1,000 to 2,499	1.6	2.1	2.5	2.3	1.7	2.4	1.6	3.0	1.3	2.9	2.6	3.0	1.7	2.1	2.5	2.4
2,500 to 9,999	1.0	1.7	2.1	2.2	1.5	1.4	1.8	1.8	1.0	1.2	2.2	2.0	1.5	2.0	1.3	1.8
10,000 or more	0.4	1.4	1.8	1.6	0.8	1.2	1.7	1.9	0.8	1.5	1.9	2.0	0.9	1.7	1.3	2.0
Community type																
City	†	2.7	3.6	3.6	3.0	1.9	2.8	3.6	†	2.1	3.3	3.5	3.1	3.3	2.6	3.3
Suburban	1.2	2.2	2.2	2.3	2.0	1.9	2.1	2.4	1.6	1.7	2.4	2.4	2.0	2.0	2.1	2.1
Town	2.1	2.7	2.8	2.5	2.3	2.5	2.4	3.1	1.8	3.3	2.6	2.7	2.5	3.1	2.7	2.4
Rural	1.6	2.3	2.3	1.9	1.8	1.8	1.8	2.1	1.4	2.5	2.3	1.9	1.8	1.8	2.2	1.6
Region																
Northeast	1.4	2.7	3.1	3.0	2.9	2.4	2.4	3.5	2.3	2.6	3.2	3.3	2.6	2.9	2.8	2.7
Southeast	2.7	3.2	3.5	3.0	2.1	2.5	2.3	2.9	†	2.6	2.7	3.3	2.5	2.9	2.6	3.0
Central	2.2	2.6	2.2	2.2	2.6	1.7	2.0	2.5	2.1	2.9	2.4	2.6	2.3	2.3	2.8	1.8
West	2.6	2.7	2.6	1.8	2.4	2.1	2.0	3.1	2.3	3.1	3.5	1.8	2.5	2.2	2.5	1.9

See notes at end of table.

Table A-4. Standard errors for table 4: Percentage distributions of public school districts reporting the extent to which employers are involved in various ways with the career and technical education (CTE) programs offered by the district to high school students, by district characteristics: 2016–17—Continued

District characteristic	Review CTE program curriculum				Provide guidance on industry standards				Provide guidance on equipment or facilities				Donate equipment			
	Not at all	Small extent	Moder-ate extent	Large or very large extent	Not at all	Small extent	Moder-ate extent	Large or very large extent	Not at all	Small extent	Moder-ate extent	Large or very large extent	Not at all	Small extent	Mode-rate extent	Large or very large extent
All public school districts.	**1.2**	**1.4**	**1.4**	**1.1**	**0.9**	**1.3**	**1.2**	**1.2**	**1.0**	**1.4**	**1.2**	**1.2**	**1.3**	**1.6**	**1.2**	**0.8**
District enrollment size																
Less than 1,000	2.6	3.0	3.0	1.9	2.0	2.8	2.1	2.3	2.2	3.0	2.3	2.3	3.0	3.3	2.4	1.3
1,000 to 2,499	1.7	2.3	2.3	2.4	1.5	2.3	2.4	2.4	1.4	2.5	2.2	2.6	1.9	2.6	2.0	1.8
2,500 to 9,999	1.4	1.9	1.9	1.7	1.0	1.4	1.8	1.9	1.3	1.9	1.9	1.8	1.3	1.8	1.6	1.2
10,000 or more	0.7	1.4	1.5	1.6	0.5	1.6	1.7	1.8	0.5	1.6	1.6	2.1	0.8	2.3	1.9	1.5
Community type																
City	3.1	2.6	3.5	3.3	2.8	2.5	2.8	3.4	†	2.6	3.3	3.2	3.3	3.1	3.2	2.3
Suburban	1.7	2.1	1.9	2.1	1.4	1.9	2.0	2.3	1.6	2.2	2.1	2.4	1.9	2.4	2.0	1.7
Town	2.5	3.5	2.5	2.7	1.7	3.2	2.3	2.9	2.0	2.7	2.2	2.8	2.5	3.1	2.1	1.9
Rural	1.9	2.0	2.1	1.9	1.6	1.7	1.9	1.9	1.7	2.2	2.1	2.0	2.4	2.5	2.0	1.1
Region																
Northeast	2.5	2.5	2.3	2.6	1.7	2.8	2.6	3.0	2.0	3.3	2.6	3.2	2.1	3.1	2.6	2.1
Southeast	3.1	3.6	2.7	2.7	2.6	3.1	2.7	2.7	2.7	3.3	2.8	2.4	3.0	3.5	2.4	1.8
Central	2.6	2.3	2.9	2.1	2.1	1.9	1.7	2.6	2.4	2.6	2.5	2.6	2.2	2.4	2.4	1.2
West	2.5	2.1	2.5	1.7	2.2	2.9	2.7	1.9	2.3	2.7	2.5	2.0	3.2	3.7	2.3	1.9

See notes at end of table.

Table A-4. Standard errors for table 4: Percentage distributions of public school districts reporting the extent to which employers are involved in various ways with the career and technical education (CTE) programs offered by the district to high school students, by district characteristics: 2016–17—Continued

District characteristic	Host student field trips				Serve as guest speakers to CTE students				Provide guidance for student CTE projects				Judge student CTE competitions			
	Not at all	Small extent	Moder-ate extent	Large or very large extent	Not at all	Small extent	Moder-ate extent	Large or very large extent	Not at all	Small extent	Moder-ate extent	Large or very large extent	Not at all	Small extent	Moder-ate extent	Large or very large extent
All public school districts.	**1.1**	**1.5**	**1.5**	**1.3**	**0.7**	**1.5**	**1.6**	**1.1**	**1.0**	**1.4**	**1.3**	**0.8**	**1.3**	**1.5**	**1.3**	**1.0**
District enrollment size																
Less than 1,000	2.5	2.8	3.4	2.9	1.7	3.3	3.7	1.6	2.2	2.7	2.7	1.2	3.0	2.7	2.5	2.1
1,000 to 2,499	1.7	3.2	2.2	1.9	0.9	2.2	2.1	2.6	1.8	2.7	2.5	2.2	1.8	3.3	2.8	1.5
2,500 to 9,999	0.8	1.8	1.9	1.8	0.6	1.7	1.6	1.9	1.2	2.0	1.8	1.4	1.4	1.7	1.5	1.2
10,000 or more	0.8	1.6	1.6	1.7	†	1.1	2.0	1.8	0.7	1.5	1.4	1.1	1.0	1.8	1.8	1.4
Community type																
City	†	2.4	3.3	3.2	1.1	3.3	3.5	3.1	2.8	3.5	3.1	2.7	3.0	3.2	3.0	3.4
Suburban	1.3	2.2	2.3	2.2	0.7	1.9	2.2	2.3	1.7	2.4	2.3	2.0	1.6	2.1	1.8	1.9
Town	2.0	2.8	2.8	2.4	1.4	2.3	3.0	2.6	1.9	3.1	2.6	2.0	2.2	2.9	2.8	2.2
Rural	2.1	2.3	2.6	2.2	1.3	2.4	2.7	1.6	2.0	2.2	2.1	1.4	2.1	2.2	2.1	1.8
Region																
Northeast	1.3	3.6	3.3	2.7	1.1	2.5	3.3	3.0	2.1	3.1	3.2	2.4	2.1	3.4	2.9	2.4
Southeast	2.8	2.7	3.0	2.6	1.6	3.0	3.2	3.1	2.9	3.4	2.9	2.6	2.5	3.4	2.9	1.8
Central	2.1	2.3	2.4	2.5	1.5	2.3	3.0	2.0	2.1	2.1	2.5	1.6	2.8	2.5	2.3	2.2
West	2.9	2.6	2.3	2.7	2.4	2.7	2.5	1.9	2.7	3.0	2.3	1.6	2.7	2.8	2.1	1.6

See notes at end of table.

Table A-4. Standard errors for table 4: Percentage distributions of public school districts reporting the extent to which employers are involved in various ways with the career and technical education (CTE) programs offered by the district to high school students, by district characteristics: 2016–17— Continued

District characteristic	Provide training opportunities for CTE teachers			
	Not at all	Small extent	Moder-ate extent	Large or very large extent
All public school districts.....	**1.2**	**1.3**	**1.1**	**0.8**
District enrollment size				
Less than 1,000	2.5	2.4	2.1	1.6
1,000 to 2,499	2.3	2.9	2.3	1.1
2,500 to 9,999	1.9	2.2	1.7	1.1
10,000 or more	1.3	1.6	1.1	1.2
Community type				
City	3.2	3.5	3.1	2.5
Suburban	2.1	2.5	2.2	1.4
Town	2.6	2.2	2.7	1.1
Rural	1.8	2.1	1.7	1.3
Region				
Northeast	2.6	3.1	3.4	1.7
Southeast	3.4	3.6	2.6	1.5
Central	3.0	2.5	2.0	1.3
West	2.2	2.2	1.9	1.6

† Not applicable.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System (FRSS), "Career and Technical Education Programs in Public School Districts," FRSS 108, 2017.

Table A-5. Standard errors for table 5: Percentage distributions of public school districts reporting on how much of a barrier various items are to the district in offering career and technical education (CTE) programs to high school students, by district characteristics: 2016–17

District characteristic	Lack of funding or high cost of programs				Facilities or space limitations				Finding or keeping teachers for in-demand industries and occupations				Limited availability of professional development in technical fields			
	Not a barrier	Small barrier	Moder-ate barrier	Large or very large barrier	Not a barrier	Small barrier	Moder-ate barrier	Large or very large barrier	Not a barrier	Small barrier	Moder-ate barrier	Large or very large barrier	Not a barrier	Small barrier	Moder-ate barrier	Large or very large barrier
All public school districts.	**0.8**	**1.1**	**1.3**	**1.5**	**0.9**	**1.2**	**1.3**	**1.6**	**0.9**	**1.2**	**1.4**	**1.4**	**1.1**	**1.4**	**1.6**	**1.1**
District enrollment size																
Less than 1,000	1.9	2.1	2.8	3.1	2.2	2.2	2.9	3.2	2.0	2.4	2.9	2.6	2.2	2.5	3.3	2.2
1,000 to 2,499	1.0	1.9	1.6	1.9	1.2	2.1	2.0	2.7	1.4	2.1	1.9	2.7	1.9	3.1	3.0	1.7
2,500 to 9,999	1.1	1.6	1.7	2.3	1.0	2.0	1.5	2.3	1.2	1.6	1.9	1.8	1.6	1.8	1.5	1.6
10,000 or more	0.9	1.5	2.0	1.8	0.5	1.3	2.2	1.8	0.6	1.0	1.5	1.6	1.3	1.5	2.3	1.3
Community type																
City	1.7	2.7	3.4	3.2	2.0	2.7	3.5	3.6	1.3	2.7	2.7	3.3	2.7	2.7	3.5	3.2
Suburban	1.4	1.9	2.3	2.1	1.7	1.9	2.0	2.4	1.9	1.9	2.1	2.1	2.0	2.2	2.4	1.7
Town	1.5	2.1	2.7	2.6	1.7	2.7	2.7	2.9	1.8	2.3	3.0	3.1	2.6	3.3	2.9	2.3
Rural	1.4	1.4	1.8	2.4	1.8	1.7	2.0	2.5	1.6	2.0	2.4	2.4	1.8	2.3	2.5	1.9
Region																
Northeast	2.2	2.7	3.1	3.1	2.3	2.2	2.6	3.3	2.9	2.4	3.3	2.8	2.6	2.3	3.2	2.0
Southeast	1.9	1.8	2.8	3.0	1.9	2.7	2.8	3.0	2.0	2.9	2.5	2.9	3.1	3.0	3.0	2.3
Central	1.6	1.4	2.5	2.6	1.5	1.8	2.7	3.0	1.6	2.1	2.5	2.6	1.9	2.4	2.6	1.7
West	1.7	1.8	2.8	3.4	1.9	2.3	2.6	2.5	1.8	1.8	2.6	3.3	2.7	2.3	3.1	2.9

See notes at end of table.

Table A-5. Standard errors for table 5: Percentage distributions of public school districts reporting on how much of a barrier various items are to the district in offering career and technical education (CTE) programs to high school students, by district characteristics: 2016–17—Continued

District characteristic	Difficulty keeping CTE teachers' technical skills up to date				CTE teachers have difficulty obtaining regular state teaching certificate				Difficulty developing partnerships with employers for work-based learning			
	Not a barrier	Small barrier	Moder-ate barrier	Large or very large barrier	Not a barrier	Small barrier	Moder-ate barrier	Large or very large barrier	Not a barrier	Small barrier	Moder-ate barrier	Large or very large barrier
All public school districts.	**1.3**	**1.6**	**1.5**	**0.9**	**1.4**	**1.4**	**1.5**	**1.2**	**1.2**	**1.6**	**1.6**	**1.3**
District enrollment size												
Less than 1,000	2.8	3.1	3.1	1.8	3.1	2.6	3.6	2.6	2.3	3.3	3.6	2.9
1,000 to 2,499	1.9	3.1	2.9	1.5	1.7	2.8	1.5	1.9	2.0	2.7	2.3	1.6
2,500 to 9,999	1.8	1.8	1.8	1.1	2.0	1.9	1.4	1.2	1.8	1.6	1.3	1.3
10,000 or more	2.0	1.6	2.0	1.4	1.8	1.7	1.7	0.8	1.8	1.9	2.0	1.4
Community type												
City	2.8	2.8	3.7	2.4	2.7	2.9	3.2	3.2	2.7	3.2	2.9	3.2
Suburban	2.3	2.2	2.3	1.7	1.9	2.4	1.7	1.9	1.9	2.4	2.3	1.5
Town	2.6	3.5	3.2	1.8	3.0	3.0	2.3	2.5	2.7	2.9	2.5	2.2
Rural	2.2	2.5	2.3	1.4	2.5	2.3	2.8	1.9	1.9	2.5	2.7	2.2
Region												
Northeast	3.2	2.8	3.2	1.9	3.0	3.0	2.7	2.8	2.9	3.6	2.8	2.0
Southeast	3.8	3.1	2.6	2.2	2.8	3.1	2.2	2.2	2.3	3.8	2.6	3.1
Central	2.2	2.2	2.5	1.5	2.5	2.2	2.3	1.7	2.1	2.2	2.9	2.2
West	2.9	2.8	2.9	2.5	3.1	2.2	2.5	3.0	2.1	2.7	2.5	3.0

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System (FRSS), "Career and Technical Education Programs in Public School Districts," FRSS 108, 2017.

Table A-6. Standard errors for table 6: Percentage distributions of public school districts reporting on how much of a barrier various items are to student participation in the career and technical education (CTE) programs offered by the district to high school students, by district characteristics: 2016–17

District characteristic	Lack of time in students' schedules				Students' or parents' negative perceptions of CTE				Teachers' or guidance counselors' negative perceptions of CTE				Transportation to CTE programs			
	Not a barrier	Small barrier	Moder-ate barrier	Large or very large barrier	Not a barrier	Small barrier	Moder-ate barrier	Large or very large barrier	Not a barrier	Small barrier	Moder-ate barrier	Large or very large barrier	Not a barrier	Small barrier	Moder-ate barrier	Large or very large barrier
All public school districts.	**0.8**	**1.6**	**1.5**	**1.2**	**1.5**	**1.6**	**1.4**	**0.8**	**1.4**	**1.3**	**0.7**	**0.6**	**1.2**	**1.3**	**1.1**	**1.1**
District enrollment size																
Less than 1,000	1.3	3.3	2.7	2.2	3.0	3.4	2.8	1.2	2.6	2.5	1.3	1.0	2.1	2.8	2.2	2.4
1,000 to 2,499	2.0	3.0	3.1	2.1	2.5	2.5	2.1	1.8	3.1	2.4	1.4	1.5	2.8	2.1	2.0	1.5
2,500 to 9,999	1.3	1.4	2.0	2.0	1.6	1.8	1.7	1.6	1.8	1.7	1.4	1.3	2.1	1.7	1.1	1.7
10,000 or more	1.1	1.7	2.4	2.1	1.0	1.7	2.0	1.0	1.1	1.9	1.8	1.0	1.9	1.9	1.8	1.9
Community type																
City	3.5	2.4	3.4	2.9	3.8	3.0	2.7	2.3	3.9	2.5	3.3	2.1	3.7	3.5	3.0	2.2
Suburban	2.0	2.0	2.5	2.2	2.1	2.2	2.3	1.9	2.2	1.7	1.5	1.3	2.8	2.2	1.8	1.9
Town	2.4	3.2	3.1	2.8	2.8	2.9	2.6	1.7	2.9	2.5	1.6	1.4	2.7	2.3	2.0	2.1
Rural	1.1	2.5	2.5	2.0	2.5	2.3	2.4	1.0	2.2	2.0	1.1	0.7	1.9	2.2	1.7	1.9
Region																
Northeast	2.7	3.0	2.9	2.6	2.8	2.5	2.9	2.7	3.2	2.4	2.0	2.1	2.8	2.9	2.4	1.6
Southeast	2.4	2.9	3.0	2.5	3.6	2.6	2.5	1.8	2.8	2.3	1.7	1.7	3.4	3.0	1.9	3.2
Central	1.5	2.4	2.2	2.3	3.0	3.0	2.2	1.4	2.4	2.2	1.1	0.9	1.8	1.7	1.9	1.9
West	1.9	2.7	3.1	2.1	3.1	3.1	1.8	1.2	2.7	2.6	1.3	1.1	3.3	2.5	2.3	3.2

See notes at end of table.

Table A-6. Standard errors for table 6: Percentage distributions of public school districts reporting on how much of a barrier various items are to student participation in the career and technical education (CTE) programs offered by the district to high school students, by district characteristics: 2016–17—Continued

District characteristic	Transportation for work-based learning				Students' costs for supplies, uniforms, or materials				Students' difficulty finding work-based learning				Lack of student support services for special populations			
	Not a barrier	Small barrier	Moder-ate barrier	Large or very large barrier	Not a barrier	Small barrier	Moder-ate barrier	Large or very large barrier	Not a barrier	Small barrier	Moder-ate barrier	Large or very large barrier	Not a barrier	Small barrier	Moder-ate barrier	Large or very large barrier
All public school districts	**1.3**	**1.5**	**1.1**	**1.4**	**1.5**	**1.5**	**1.2**	**1.0**	**1.4**	**1.4**	**1.3**	**1.1**	**1.3**	**1.2**	**0.9**	**0.7**
District enrollment size																
Less than 1,000	2.9	3.1	2.1	3.2	3.3	3.0	2.7	1.8	3.1	3.1	2.5	2.0	2.4	2.3	1.6	1.5
1,000 to 2,499	2.3	2.8	1.9	2.0	2.0	2.7	1.8	1.8	1.8	2.0	2.5	2.0	2.4	2.0	1.8	1.1
2,500 to 9,999	1.6	1.6	1.8	1.5	2.2	1.7	1.3	1.4	2.0	2.2	1.5	1.8	2.2	2.1	1.7	1.2
10,000 or more	1.3	1.6	2.0	1.8	2.1	2.9	1.7	1.4	1.2	1.6	1.9	1.1	1.4	1.4	1.4	0.9
Community type																
City	2.4	3.8	2.6	3.4	2.8	3.6	3.2	2.1	3.3	3.3	2.6	3.2	3.3	3.2	3.5	1.6
Suburban	2.4	2.2	2.2	2.0	2.6	2.7	1.7	1.6	2.1	2.3	1.9	1.7	2.6	2.3	2.1	1.4
Town	3.0	3.1	2.8	2.2	2.9	3.0	2.5	2.1	2.6	3.0	2.9	2.7	2.9	3.0	2.2	1.6
Rural	2.0	2.6	1.8	2.3	2.6	2.2	2.2	1.7	2.3	2.3	1.8	1.6	2.4	1.9	1.4	1.1
Region																
Northeast	2.9	2.9	2.6	2.4	3.0	2.8	2.4	1.8	3.0	2.8	3.1	1.8	3.5	2.9	2.3	1.7
Southeast	2.8	2.9	2.5	3.2	3.2	3.4	2.5	2.7	2.4	2.8	3.0	3.2	3.4	3.3	2.1	2.0
Central	2.3	2.4	1.8	2.6	2.0	2.5	2.2	1.7	2.1	3.2	2.7	2.6	2.2	2.7	1.9	1.4
West	2.4	2.6	2.0	2.8	2.9	2.9	2.6	2.0	2.3	2.1	2.9	3.1	2.8	2.2	1.9	1.8

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System (FRSS), "Career and Technical Education Programs in Public School Districts," FRSS 108, 2017.

Table A-7. Standard errors for table 7: Percent of public school districts with a decision-making role in adding or phasing out career and technical education (CTE) programs for high school students, and the percentage distributions of those districts reporting the extent to which various factors influence those decisions, by district characteristics: 2016–17

District characteristic	Districts with decision-making role	Enrollment or student interest								Facilities/space considerations							
		Extent of influence on decision to add new CTE program				Extent of influence on decision to phase out CTE program				Extent of influence on decision to add new CTE program				Extent of influence on decision to phase out CTE program			
		Not at all	Small extent	Moder-ate extent	Large or very large extent	Not at all	Small extent	Moder-ate extent	Large or very large extent	Not at all	Small extent	Moder-ate extent	Large or very large extent	Not at all	Small extent	Moder-ate extent	Large or very large extent
All public school districts	**0.9**	**0.6**	**1.0**	**1.3**	**1.4**	**0.5**	**0.7**	**1.2**	**1.4**	**0.7**	**1.0**	**1.2**	**1.6**	**0.8**	**1.4**	**1.2**	**1.8**
District enrollment size																	
Less than 1,000	1.6	1.3	2.3	3.0	3.2	1.3	1.6	2.6	2.9	1.7	2.1	2.5	3.6	1.8	3.3	2.3	3.9
1,000 to 2,499	1.7	1.0	1.5	2.2	2.4	†	1.0	2.1	2.5	1.0	1.6	2.0	2.7	1.4	1.9	2.4	3.3
2,500 to 9,999	1.5	†	0.7	1.5	1.5	†	0.9	1.4	1.6	0.4	1.2	1.4	1.7	1.1	1.4	1.9	2.1
10,000 or more	0.6	†	1.0	1.6	1.5	†	0.5	1.0	1.1	†	0.9	1.6	1.8	0.8	1.4	1.5	1.9
Community type																	
City	1.7	†	2.8	2.5	3.8	†	2.9	1.6	3.7	†	2.2	3.3	3.7	3.0	3.1	3.5	2.8
Suburban	2.2	†	1.4	1.9	2.3	†	0.6	1.9	2.1	0.4	1.4	2.3	2.5	1.6	1.7	1.9	2.6
Town	1.9	†	1.8	3.1	3.2	†	0.6	2.2	2.4	†	1.7	2.8	3.0	1.7	2.3	3.0	3.2
Rural	1.4	0.7	1.6	1.9	2.2	0.8	1.2	2.1	2.5	1.3	1.7	1.8	2.3	1.2	2.6	1.9	3.1
Region																	
Northeast	2.8	†	1.9	3.5	3.7	†	1.6	2.1	2.7	1.4	2.5	3.2	4.1	2.5	3.1	3.1	4.0
Southeast	1.4	†	2.3	2.7	3.3	†	1.8	2.5	2.8	1.7	2.3	2.4	3.0	1.8	2.8	2.7	2.7
Central	1.7	0.8	1.4	2.3	2.5	0.9	1.3	1.9	2.5	0.9	1.8	2.5	3.2	1.4	2.1	2.8	2.8
West	1.9	1.2	2.2	2.7	3.0	1.6	1.3	2.8	3.2	1.3	1.1	2.4	3.3	1.8	2.9	2.5	3.5

See notes at end of table.

Table A-7. Standard errors for table 7: Percent of public school districts with a decision-making role in adding or phasing out career and technical education (CTE) programs for high school students, and the percentage distributions of those districts reporting the extent to which various factors influence those decisions, by district characteristics: 2016–17—Continued

District characteristic	Cost of program								Availability of qualified teachers							
	Extent of influence on decision to add new CTE program				Extent of influence on decision to phase out CTE program				Extent of influence on decision to add new CTE program				Extent of influence on decision to phase out CTE program			
	Not at all	Small extent	Moder-ate extent	Large or very large extent	Not at all	Small extent	Moder-ate extent	Large or very large extent	Not at all	Small extent	Moder-ate extent	Large or very large extent	Not at all	Small extent	Moder-ate extent	Large or very large extent
All public school districts.	**0.3**	**0.7**	**1.4**	**1.4**	**0.5**	**1.0**	**1.2**	**1.5**	**0.6**	**1.2**	**1.4**	**1.7**	**0.7**	**1.2**	**1.5**	**1.6**
District enrollment size																
Less than 1,000	†	1.6	2.7	2.5	1.0	2.2	1.8	3.0	1.4	2.7	2.8	3.3	1.3	2.6	3.3	3.6
1,000 to 2,499	†	1.2	3.0	3.2	1.0	1.6	3.3	3.2	†	1.6	3.1	3.5	1.4	1.5	2.3	2.5
2,500 to 9,999	†	1.0	1.7	2.0	0.9	1.1	1.6	1.7	0.8	1.1	1.9	2.3	1.0	1.5	1.9	2.1
10,000 or more	0.4	0.7	1.7	1.6	0.8	1.5	1.5	1.8	0.3	1.0	1.3	1.6	0.8	1.0	1.5	2.0
Community type																
City	†	1.6	3.4	3.7	1.2	3.4	3.2	3.3	1.0	2.0	2.5	3.2	1.3	3.4	2.5	3.7
Suburban	0.4	1.0	2.3	2.4	1.0	1.7	2.5	2.8	1.0	1.5	2.4	2.5	1.2	2.0	2.4	2.6
Town	†	1.2	2.5	2.6	0.9	1.8	2.6	2.8	1.5	1.6	2.8	3.0	1.5	2.4	2.6	3.2
Rural	†	1.3	1.8	1.9	0.9	1.7	1.7	2.5	†	2.0	2.4	2.4	0.9	1.7	2.6	2.8
Region																
Northeast	†	1.7	3.5	3.8	2.0	2.9	3.5	3.7	1.8	2.9	3.7	3.9	2.2	2.8	3.2	3.4
Southeast	†	2.3	2.5	3.2	1.1	2.2	3.0	3.3	1.7	2.3	3.1	3.5	1.5	2.2	3.1	3.4
Central	†	1.2	2.0	2.1	0.9	1.8	2.0	2.4	0.8	1.3	2.3	2.8	0.8	1.8	2.5	2.5
West	0.2	1.1	2.1	2.0	1.0	1.6	2.1	2.4	†	2.0	2.1	2.2	1.0	1.6	2.4	2.9

See notes at end of table.

Table A-7. Standard errors for table 7: Percent of public school districts with a decision-making role in adding or phasing out career and technical education (CTE) programs for high school students, and the percentage distributions of those districts reporting the extent to which various factors influence those decisions, by district characteristics: 2016–17—Continued

District characteristic	Information on which industries and occupations are in demand								Employer recommendations							
	Extent of influence on decision to add new CTE program				Extent of influence on decision to phase out CTE program				Extent of influence on decision to add new CTE program				Extent of influence on decision to phase out CTE program			
	Not at all	Small extent	Moder-ate extent	Large or very large extent	Not at all	Small extent	Moder-ate extent	Large or very large extent	Not at all	Small extent	Moder-ate extent	Large or very large extent	Not at all	Small extent	Moder-ate extent	Large or very large extent
All public school districts.	**1.0**	**1.2**	**1.4**	**1.5**	**0.8**	**1.2**	**1.3**	**1.7**	**1.1**	**1.4**	**1.4**	**1.2**	**1.2**	**1.1**	**1.3**	**1.6**
District enrollment size																
Less than 1,000	2.2	2.5	2.9	3.0	1.7	2.7	2.5	3.8	2.5	3.0	2.9	2.4	2.7	2.4	2.5	3.8
1,000 to 2,499	1.2	1.8	2.6	3.0	1.4	2.2	2.4	2.1	1.5	2.3	2.1	2.3	2.1	2.1	2.8	2.0
2,500 to 9,999	1.1	1.5	1.6	1.6	1.1	1.4	1.9	2.3	1.0	1.8	2.2	1.8	1.0	1.5	1.8	1.5
10,000 or more	0.8	0.8	1.4	1.6	0.6	1.3	1.5	1.7	0.7	1.0	1.3	1.6	0.7	1.5	2.2	1.6
Community type																
City	2.2	3.1	2.3	3.9	1.3	3.5	3.6	3.7	1.9	3.8	2.7	3.6	1.7	3.7	3.8	3.4
Suburban	1.6	2.0	2.1	2.7	1.4	2.0	2.2	2.8	1.9	2.3	2.3	2.7	1.5	2.2	2.5	2.4
Town	2.2	2.0	3.1	2.9	2.1	2.4	2.9	2.7	2.1	2.6	3.0	2.6	2.8	2.4	2.8	2.7
Rural	1.5	1.9	2.6	2.6	1.4	2.1	2.2	2.9	1.9	2.5	2.3	2.1	2.2	1.9	2.1	2.7
Region																
Northeast	2.3	3.1	3.2	3.4	2.1	3.1	3.2	3.8	2.5	3.5	3.6	3.5	2.5	3.0	3.6	3.7
Southeast	1.6	2.4	2.9	3.0	1.6	2.4	3.1	3.4	1.8	2.9	2.7	3.2	1.8	2.8	3.0	3.2
Central	1.9	2.7	2.8	2.4	1.9	2.2	2.0	2.4	1.8	2.4	2.2	2.2	2.3	2.2	2.0	2.4
West	2.0	2.5	3.2	3.4	1.5	2.3	2.8	3.6	1.9	2.3	2.6	2.5	1.6	2.3	2.4	3.0

See notes at end of table.

Table A-7. Standard errors for table 7: Percent of public school districts with a decision-making role in adding or phasing out career and technical education (CTE) programs for high school students, and the percentage distributions of those districts reporting the extent to which various factors influence those decisions, by district characteristics: 2016–17—Continued

District characteristic	Postsecondary institution recommendations								Recommendations from state department of education							
	Extent of influence on decision to add new CTE program				Extent of influence on decision to phase out CTE program				Extent of influence on decision to add new CTE program				Extent of influence on decision to phase out CTE program			
	Not at all	Small extent	Moder-ate extent	Large or very large extent	Not at all	Small extent	Moder-ate extent	Large or very large extent	Not at all	Small extent	Moder-ate extent	Large or very large extent	Not at all	Small extent	Moder-ate extent	Large or very large extent
All public school districts.	**1.1**	**1.5**	**1.2**	**1.2**	**1.1**	**1.8**	**1.5**	**1.4**	**1.2**	**1.6**	**1.6**	**1.4**	**1.1**	**1.4**	**1.3**	**1.6**
District enrollment size																
Less than 1,000	2.5	3.3	2.3	2.8	2.5	4.0	3.5	3.1	2.8	3.7	3.7	3.0	2.3	2.9	2.6	3.8
1,000 to 2,499	1.7	2.3	2.3	1.8	2.0	2.5	1.8	2.0	1.5	2.1	2.4	2.3	2.2	2.7	2.5	2.2
2,500 to 9,999	1.1	1.9	2.2	1.7	1.3	2.1	2.1	1.7	1.0	2.2	2.1	1.8	1.1	2.1	2.0	2.0
10,000 or more	1.0	1.3	2.0	1.4	0.9	1.4	2.2	1.2	0.8	1.5	1.6	1.4	0.8	1.3	1.3	1.7
Community type																
City	2.3	3.9	3.2	2.9	3.0	3.6	3.6	3.4	2.7	3.2	3.5	2.7	3.1	2.8	3.4	3.1
Suburban	1.7	2.5	2.4	2.5	1.5	2.4	2.5	2.4	1.7	2.3	2.6	2.3	1.3	2.4	2.7	2.5
Town	2.3	3.2	3.5	2.5	2.8	3.0	2.7	2.6	2.4	2.9	3.1	2.5	2.7	3.0	2.9	2.7
Rural	1.8	2.7	1.9	2.3	2.0	3.2	2.6	2.5	1.8	2.7	2.6	2.2	1.7	2.2	2.2	2.6
Region																
Northeast	2.5	3.6	4.1	3.5	2.5	3.2	3.8	3.1	3.0	3.2	3.4	3.2	2.3	3.7	3.2	2.9
Southeast	1.5	3.0	2.9	3.0	2.0	3.1	3.0	3.5	1.5	2.9	2.9	3.3	1.2	2.5	2.8	3.4
Central	1.8	2.7	2.3	1.9	1.8	2.8	2.6	2.0	1.5	2.2	2.7	2.5	2.0	2.2	2.4	2.5
West	1.5	2.3	2.3	2.0	2.0	2.2	2.7	2.2	2.1	2.4	2.3	2.9	2.7	2.3	3.2	2.9

See notes at end of table.

Table A-7. Standard errors for table 7: Percent of public school districts with a decision-making role in adding or phasing out career and technical education (CTE) programs for high school students, and the percentage distributions of those districts reporting the extent to which various factors influence those decisions, by district characteristics: 2016–17—Continued

District characteristic	Career pathways from high school to postsecondary							
	Extent of influence on decision to add new CTE program				Extent of influence on decision to phase out CTE program			
	Not at all	Small extent	Moder-ate extent	Large or very large extent	Not at all	Small extent	Moder-ate extent	Large or very large extent
All public school districts.	**1.1**	**1.6**	**1.4**	**1.4**	**1.0**	**1.5**	**1.5**	**1.6**
District enrollment size								
Less than 1,000	2.6	3.8	3.1	3.0	2.3	3.7	3.2	3.4
1,000 to 2,499	1.2	2.1	1.9	2.4	1.7	2.0	2.3	2.6
2,500 to 9,999	0.8	1.6	2.0	1.8	0.9	1.5	2.0	2.1
10,000 or more	0.7	1.0	1.7	1.5	0.9	1.0	1.6	1.4
Community type								
City	1.4	3.2	3.8	3.6	3.1	3.7	2.9	3.6
Suburban	1.5	2.1	2.4	2.4	1.2	2.0	2.7	2.7
Town	2.1	2.3	3.1	3.6	2.1	2.3	3.1	3.3
Rural	1.8	2.8	2.7	2.7	1.7	2.9	2.5	2.6
Region								
Northeast	2.3	3.1	3.1	3.3	2.2	3.3	3.6	3.7
Southeast	1.5	2.7	3.0	3.5	1.6	2.5	3.1	3.6
Central	1.6	2.6	2.6	2.5	1.6	2.3	2.3	2.2
West	1.9	2.4	2.8	3.0	2.2	2.7	2.8	3.2

† Not applicable.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System (FRSS), "Career and Technical Education Programs in Public School Districts," FRSS 108, 2017.

Appendix B

Technical Notes

Technical Notes

Fast Response Survey System

The Fast Response Survey System (FRSS) was established in 1975 by the National Center for Education Statistics (NCES), U.S. Department of Education. FRSS is designed to collect issue-oriented data within a relatively short time frame. FRSS collects data from state education agencies, local education agencies, public and private elementary and secondary schools, public school teachers, and public libraries. To ensure minimal burden on respondents, the surveys are generally limited to three pages of questions, with a response burden of about 30 minutes per respondent. Sample sizes are relatively small (usually about 1,200 to 1,800 respondents per survey) so that data collection can be completed quickly. Data are weighted to produce national estimates of the sampled education sector. The sample size permits limited breakouts by analysis variables. However, as the number of categories within any single analysis variable increases, the sample size within categories decreases, which results in larger sampling errors for the breakouts by analysis variables.

Sample Design

The sample for the FRSS survey "Career and Technical Education Programs in Public School Districts" consisted of approximately 1,800 eligible public school districts with high school grades in the 50 states and the District of Columbia. The nationally representative sample was selected from the 2013–14 NCES Common Core of Data (CCD) Local Education Agency (LEA) Universe file, which was the most current file available at the time of selection. The sampling frame for this survey included 11,394 eligible public schools districts that were coded with a highest grade of instruction of 11 or 12 in the CCD LEA Universe file. For purposes of this study, an eligible public district was either (1) a regular school district, or (2) a nonregular district that was not federally operated and had at least one operating vocational education school that did not have shared instruction. Regular school districts are generally administered by local education agencies and are responsible for providing instruction. Nonregular school districts include supervisory unions that provide administrative services to multiple districts, regional education service agencies, state-operated school districts, federally operated school districts (excluded from this study), charter school districts, and other nonregular school districts.[1] Excluded from the sampling frame were districts with a highest grade of instruction below grade 11, districts with enrollment coded as zero, missing, "not applicable," or "does not meet NCES quality standards," federally operated districts, and districts outside the 50 states and the District of Columbia. Of the 11,394 eligible districts on the sampling frame, 11,340 were regular districts.

The district sampling frame was stratified by district enrollment size (less than 1,000; 1,000 to 2,499; 2,500 to 9,999; 10,000 to 24,999; 25,000 to 99,999; 100,000 or more) and community type (city, suburban, town, and rural) to create 21 primary strata. Within stratum, districts were sorted by region (Northeast, Southeast, Central, and West) and poverty status[2] (poverty equal to less than 10 percent; 10 to 19.99 percent; 20 to 29.99 percent; and 30 percent or more) prior to selection to induce additional implicit stratification. The variables for district enrollment size, community type, and region are from the CCD LEA universe file, and are defined in

[1] For purposes of this study, "regular" school districts were those with TYPE equal to 1 or 2 on the CCD file (a local school district that is not a component of a supervisory union, or a local school district component of a supervisory union sharing a superintendent and administrative services). "Nonregular" school districts for this study included those with TYPE equal to 3 (supervisory union administrative center, or a county superintendent serving the same purpose), 4 (regional education services agency, or a county superintendent serving the same purpose), 5 (state-operated institution charged, at least in part, with providing elementary and/or secondary instruction or services to a special-needs population), 7 (agencies for which all associated schools are charter schools), and 8 (other education agencies that do not fit into the other categories). Districts with TYPE equal to 6 (federally operated institution charged, at least in part, with providing elementary and/or secondary instruction or services to a special-needs population) were not eligible districts for this study.

[2] Poverty status is from the Small Area Income and Poverty Estimates (SAIPE) for school districts, created by the U.S. Census Bureau and available at www.census.gov/programs-surveys/saipe.html.

more detail in the "Definitions of Analysis Variables" section of these technical notes. Within each primary stratum, districts were selected systematically using sampling rates that depended on the size classification of the district.

Data Collection and Response Rates

Questionnaires and cover letters were mailed to the superintendent of each sampled district in January 2017. The letter stated the purpose of the study and requested that the questionnaire be completed by the person in the district most knowledgeable about career and technical education (CTE) programs for high school students. Respondents were asked to respond for the current 2016–17 school year and the summer of 2016. Respondents were offered options of completing the survey on paper or online. Telephone follow-up for survey nonresponse and data clarification was initiated in February 2017 and completed in June 2017.

Of the approximately 1,800 school districts in the sample, approximately 40 were found to be ineligible because the district was closed or did not meet some other criterion for inclusion in the sample (e.g., did not have at least one school with high school grades). For the eligible districts, an unweighted response rate of 87 percent was obtained for this survey (about 1,530 responding districts divided by the approximately 1,760 eligible districts in the sample). The corresponding weighted response rate using the initial base weights was 86 percent. Among the respondents who completed the survey, 76 percent completed it via the Web, 24 percent completed it by paper (sent by mail, fax, or e-mail), and less than 1 percent completed it by telephone. The final weighted count of responding districts in the survey after nonresponse adjustment represents the estimated universe of eligible school districts in the 50 states and the District of Columbia—approximately 10,800 districts (table B-1).[3]

Imputation for Item Nonresponse

Cases with missing data were contacted by telephone to collect the missing information. However, for cases in which this data retrieval was unsuccessful, missing data were imputed. Although item nonresponse was very low (less than 1 percent for any item), missing data were imputed for the 73 items with a response rate of less than 100 percent. The missing items were all categorical data, such as whether the district offered CTE programs to high school students at various locations. The missing data were imputed using a "hot-deck" approach to obtain a "donor" district from which the imputed values were derived. Under the hot-deck approach, a donor district that matched selected characteristics of the district with missing data (the recipient district) was identified (Kalton 1983, pp. 65–104). The matching characteristics included district enrollment size, community type, region, and poverty status. In addition, relevant questionnaire items were used to form appropriate imputation groupings. Once a donor was found, the imputed value was simply the corresponding value from the donor district.

Data Reliability

Although the survey on CTE programs in public school districts was designed to account for sampling error and to minimize nonsampling error, estimates produced from the data collected are subject to both types of error. Sampling error occurs because the data are collected from a sample rather than a census of the population, and nonsampling errors are errors made during the collection and processing of the data.

[3] For more details about the development of survey weights, see the section of this report on page B-4 on weighting and sampling errors.

Table B-1. Number and percentage of responding public school districts in the study sample, and estimated number and percentage of public school districts the sample represents, by district characteristics: School year 2016–17

District characteristic	Respondent sample (unweighted)		National estimate (weighted)[1]	
	Number	Percent	Number	Percent
All public school districts	**1,530**	**100**	**10,800**	**100**
District enrollment size				
Less than 1,000	250	17	4,300	40
1,000 to 2,499	350	23	2,900	27
2,500 to 9,999	530	34	2,800	25
10,000 or more	400	26	800	8
Community type				
City	230	15	700	6
Suburban	500	33	2,400	22
Town	310	20	2,200	21
Rural	490	32	5,500	51
Region				
Northeast	280	18	2,100	20
Southeast	320	21	1,500	14
Central	470	31	4,200	39
West	460	30	2,900	27

[1] Weighted count of responding districts using the final nonresponse-adjusted weights. The weighted count is an estimate of the number of eligible districts in the study universe (see text for definition of the types of districts included in the study).
NOTE: Based on public school districts with high school grades. Detail may not sum to totals because of rounding.
SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System (FRSS), "Career and Technical Education Programs in Public School Districts," FRSS 108, 2017.

Weighting and Sampling Errors

The responses were weighted to produce national estimates (table B-1). The weights were designed to reflect the probabilities of selection of the sampled districts and were adjusted for differential unit (questionnaire) nonresponse. The nonresponse weighting adjustments were made within classes defined by district enrollment size and community type. Within the final weighting classes, the base weights (i.e., the reciprocal of districts' probabilities of selection) of the responding districts were inflated by the inverse of the weighted response rate for the class. Such weights are appropriate for analysis of the types of data collected in the survey.

The findings in this report are estimates based on the sample selected and, consequently, are subject to sampling variability. Because the survey data were collected using a complex sampling design, the variances of the estimates from the survey (e.g., estimates of proportions) are typically different from what would be expected from data collected with a simple random sample. Not taking the complex sample design into account can lead to an under- or overestimation of the standard errors associated with such estimates. To generate accurate standard errors for the estimates in this report, standard errors were computed using a technique known as jackknife replication (Levy and Lemeshow 1991). As with any replication method, jackknife replication involves constructing a number of subsamples (replicates) from the full sample and computing the statistic of interest for each replicate. A form of jackknife replication referred to as the JKN method was used to construct the replicates. Under the JKN method, the replicates were formed within groups of districts (called "variance strata") within which districts were sampled at approximately the same rate. By creating the jackknife replicates within the variance strata, finite population correction factors can be introduced in the variance estimator to account for the fact that districts in some variance strata were sampled at relatively high rates (Rust 1986, Wolter 1985). The mean square error of the replicate estimates around the full sample

estimate provides an estimate of the variance of the statistic. To construct the replications, 100 stratified subsamples of the full sample were created and then dropped one at a time to define 100 jackknife replicates. Estimates of standard errors can be computed using statistical packages such as SAS or WesVar.

The standard error is a measure of the variability of an estimate due to sampling. It indicates the variability of a sample estimate that would be obtained from all possible samples of a given design and size. Standard errors are used as a measure of the precision expected from a particular sample. If all possible samples were surveyed under similar conditions, intervals of 1.96 standard errors below to 1.96 standard errors above a particular statistic would include the true population parameter being estimated in about 95 percent of the samples. This is a 95 percent confidence interval. For example, the estimated percent of public school districts that offer any CTE courses for which students can earn both high school and postsecondary credit for the same course is 73 percent, and the standard error is 1.6 percent (tables 2 and A-2). The 95 percent confidence interval for the statistic extends from [73 – (1.6 x 1.96)] to [73 + (1.6 x 1.96)], or from 70 to 76 percent. The 1.96 is the appropriate percentile from a standard normal distribution corresponding to a two-sided statistical test at the $p < .05$ significance level (where .05 indicates the 5 percent of all possible samples that would be outside the range of the confidence interval).

Comparisons can be tested for statistical significance at the $p < .05$ level using Student's *t*-statistic to ensure that the differences are larger than those that might be expected due to sampling variation. Student's *t* values are computed to test the difference between estimates with the following formula:

$$t = \frac{E_1 - E_2}{\sqrt{se_1^2 + se_2^2}}$$

where E_1 and E_2 are the estimates to be compared and se_1 and se_2 are their corresponding standard errors.

Nonsampling Errors

Nonsampling error is the term used to describe variations in the estimates that may be caused by population coverage limitations and data collection, processing, and reporting procedures. The sources of nonsampling errors are typically problems such as unit and item nonresponse, differences in respondents' interpretations of the meaning of questions, response differences related to the particular time the survey was conducted, and mistakes made during data preparation. It is difficult to identify and estimate either the amount of nonsampling error or the bias caused by this error. To minimize the potential for nonsampling error, this study used a variety of procedures, including a pretest of the questionnaire with district-level personnel considered to be the most knowledgeable about CTE programs. The pretest provided the opportunity to check for consistency of interpretation of questions and definitions and to eliminate ambiguous items. The questionnaire and instructions were also extensively reviewed by NCES. In addition, extensive editing of the questionnaire responses was conducted to check the data for accuracy and consistency. Cases with missing, inconsistent, or out-of-range items were contacted by telephone to resolve problems. Survey responses received by mail, fax, or telephone were entered into the web survey application. Responses were entered a second time to ensure accuracy of entry.

Definitions of Analysis Variables

Many of the district characteristics described below may be related to each other. For example, district enrollment size and community type are related, with districts located in cities typically being larger than districts located in rural areas. Other relationships between these analysis variables may exist. However, this First Look report focuses on national estimates and bivariate relationships between the analysis variables and questionnaire variables rather than more complex analyses.

District enrollment size—This variable indicates the total number of students enrolled in the district based on data from the 2013–14 CCD LEA Universe file. The variable used six categories for sampling, but was collapsed into the following four categories for analysis:

Less than 1,000 students

1,000 to 2,499 students

2,500 to 9,999 students

10,000 or more students

Community type—This is a created variable collapsed from the 12-category urban-centric locale variable, as defined in the 2013–14 CCD LEA Universe file. The urban-centric locale code is an indicator of a district's location relative to a populous area. It is based upon the location of the school buildings in the district and in some cases may not reflect the entire attendance area or residences of enrolled students. This classification system has four major locale categories—city, suburban, town, and rural—each of which is subdivided into three subcategories. Community type was based on the 12-category urban-centric locale variable from CCD collapsed into the four categories below.

City—Territory inside an urbanized area and inside a principal city

Suburban—Territory outside a principal city and inside an urbanized area

Town—Territory inside an urban cluster

Rural—Territory outside an urbanized area and outside an urban cluster

Region—This variable classifies districts into one of the four geographic regions used by the Bureau of Economic Analysis of the U.S. Department of Commerce. Data were obtained from the 2013–14 CCD LEA Universe file. The geographic regions are as follows:

Northeast—Connecticut, Delaware, District of Columbia, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, and Vermont

Southeast—Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, South Carolina, Tennessee, Virginia, and West Virginia

Central—Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, South Dakota, and Wisconsin

West—Alaska, Arizona, California, Colorado, Hawaii, Idaho, Montana, Nevada, New Mexico, Oklahoma, Oregon, Texas, Utah, Washington, and Wyoming

Definition and Instructions Provided in This Survey

The following definition and instructions were provided to respondents in the questionnaire.

Career and technical education (CTE) program: a sequence of courses at the high school level that provides students with the academic and technical knowledge and skills needed to prepare for further education and careers in current or emerging professions.

For this survey, include all CTE programs that your district offers to high school students, including programs provided by your district or other entities (such as an area/regional CTE center, a consortium of districts, or a community or technical college).

Contact Information

For more information about the survey, contact John Ralph, National Center for Education Statistics, Institute of Education Sciences, U.S. Department of Education, Potomac Center Plaza, 550 12th Street SW, Washington, DC 20202; e-mail: john.ralph@ed.gov; telephone: (202) 245-6152.

Appendix C

Questionnaire

U.S. DEPARTMENT OF EDUCATION NATIONAL CENTER FOR EDUCATION STATISTICS (NCES) WASHINGTON, D.C. 20202 **CAREER AND TECHNICAL EDUCATION PROGRAMS IN PUBLIC SCHOOL DISTRICTS** FAST RESPONSE SURVEY SYSTEM	O.M.B. No.: 1850–0733 EXPIRATION DATE: 02/2018
NCES is authorized to conduct this survey by the Education Sciences Reform Act of 2002 (20 U.S.C. § 9543). While participation in this survey is voluntary, your cooperation is critical to make the results of this survey comprehensive, accurate, and timely. Your answers may be used only for statistical purposes and may not be disclosed, or used, in identifiable form for any other purpose except as required by law (20 U.S.C. § 9573).	

This survey is designed to be completed by the person in the district most knowledgeable about career and technical education (CTE) programs for high school students.

Name of person completing this form: _____

Title/position: _____

Telephone number: _____ E-mail:_____

Best days and times to reach you (in case of questions): _____

THANK YOU. PLEASE KEEP A COPY OF THIS SURVEY FOR YOUR RECORDS.

PLEASE RETURN COMPLETED FORM TO:	**IF YOU HAVE ANY QUESTIONS OR COMMENTS, CONTACT:**
Mail: Cindy Gray (6197.03.01.02) Westat 1600 Research Boulevard Rockville, Maryland 20850-3129 **Fax:** 800-254-0984	Cindy Gray at Westat 800-937-8281, ext. 4336 or 301-251-4336 E-mail: DistrictCTE@westat.com

FRSS Form No. 108, 01/2017

Instructions and Definitions

1. Please use the following definition for completing this survey:

   Career and technical education (CTE) program: a sequence of courses at the high school level that provides students with the academic and technical knowledge and skills needed to prepare for further education and careers in current or emerging professions.

2. For this survey, include all CTE programs that your district offers to high school students, including programs provided by your district or by other entities (such as an area/regional CTE center, a consortium of districts, or a community or technical college).

3. Please report only for CTE programs offered to **high school** students.

4. Please report for the 2016–17 school year and the summer of 2016.

5. This survey is designed to be completed by the person in the district most knowledgeable about career and technical education (CTE) programs for high school students. Please consult with others who can help provide the requested information.

For this survey, include all CTE programs that your district offers to high school students, including programs provided by your district or by other entities (such as an area/regional CTE center, a consortium of districts, or a community or technical college).

1. Does your district offer CTE programs to students at the high school level? *(See instruction box above.)*

   Yes... ☐ *(Continue with question 2.)* No... ☐ *(Skip to question 15.)*

2. Which of the following entities **provide** the CTE programs that your district **offers** to your high school students? *(Indicate yes or no **for each item**.)*

	Yes	No
a. An area/regional CTE center or a group/consortium of school districts	☐	☐
b. Your district individually (not as part of a consortium)	☐	☐
c. 2-year community or technical college(s)	☐	☐
d. 4-year college(s) or universities	☐	☐
e. Other (*specify*)_____	☐	☐

3. At which of the following **locations** does your district offer CTE programs to high school students? *(Indicate yes or no **for each item**.)*

	Yes	No
a. At some or all of your district's regular (comprehensive) high schools	☐	☐
b. At **another district's** regular (comprehensive) high school	☐	☐
c. At a CTE-focused high school that students attend **full time**	☐	☐
d. At a CTE center that students attend **part time** (for example, students spend half the day at the CTE center and half at the regular high school)	☐	☐
e. At a 2-year community or technical college, or a 4-year college or university	☐	☐
f. Other (*specify*)_____	☐	☐

4. About how many of the CTE programs offered by your district to high school students are structured as career pathways that align with related postsecondary programs? *(Check one box.)*

   None…….. ☐ Few……. ☐ Some……. ☐ Most……. ☐ All……. ☐

5. Does your district offer any **CTE courses** in which students may earn high school credits in math, science, English/language arts, or social studies?

   Yes ..... ☐ No ..... ☐

6. Does your district offer any **CTE courses** for which students can earn both high school and postsecondary credits for the same course?

   Yes ..... ☐ No ..... ☐

7. Does your district offer any **CTE courses** online (include courses in a blended/hybrid format)?

   Yes ..... ☐ No ..... ☐

8. Which of the following are included in any of the CTE programs offered by your district to high school students? *(Indicate yes or no **for each item**.)*

	Yes	No
a. Student-run enterprises or services (for example, school store or restaurant, cosmetology services, automotive or construction services, child development facility)	☐	☐
b. Mentoring by local employers	☐	☐
c. On-the-job training, internships, practicums, clinical experiences, or cooperative education (co-op)	☐	☐
d. Apprenticeships or pre-apprenticeship programs (such as youth apprenticeships)	☐	☐
e. Other work-based learning (*specify*) _____	☐	☐

9. About how many of the CTE programs offered by your district to high school students **require** work-based learning activities (such as those listed in Question 8) for completion of the program? *(Check one box.)*

   None…….. ☐ Few……. ☐ Some……. ☐ Most……. ☐ All……. ☐

10. To what extent are **employers** involved in the following ways with the CTE programs offered by your district to high school students? *(Check one box on each line.)*

Type of involvement	Not at all	Small extent	Moderate extent	Large extent	Very large extent
a. Provide work-based learning opportunities	☐	☐	☐	☐	☐
b. Serve on your district's CTE advisory council	☐	☐	☐	☐	☐
c. Advise about which occupations are in demand	☐	☐	☐	☐	☐
d. Provide advice on CTE programs to add or eliminate	☐	☐	☐	☐	☐
e. Review CTE program curriculum	☐	☐	☐	☐	☐
f. Provide guidance on industry standards	☐	☐	☐	☐	☐
g. Provide guidance about equipment or facilities	☐	☐	☐	☐	☐
h. Donate equipment	☐	☐	☐	☐	☐
i. Host student field trips	☐	☐	☐	☐	☐
j. Serve as guest speakers to CTE students	☐	☐	☐	☐	☐
k. Provide guidance for student CTE projects	☐	☐	☐	☐	☐
l. Judge student CTE competitions	☐	☐	☐	☐	☐
m. Provide training opportunities for CTE teachers	☐	☐	☐	☐	☐
n. Other (*specify*) _____	☐	☐	☐	☐	☐

11. How much of a barrier **to your district** is each of the following in offering CTE programs to high school students? *(Check one box on each line.)*

Barrier to district in offering CTE	Not a barrier	Small barrier	Moderate barrier	Large barrier	Very large barrier
a. Lack of funding or high cost of programs (for example, cost of infrastructure or equipment)	☐	☐	☐	☐	☐
b. Facilities or space limitations	☐	☐	☐	☐	☐
c. Finding or keeping teachers for in-demand industries and occupations	☐	☐	☐	☐	☐
d. Limited availability of professional development in technical fields	☐	☐	☐	☐	☐
e. Difficulty keeping CTE teachers' technical skills up to date	☐	☐	☐	☐	☐
f. CTE teachers who move into teaching from other occupations have difficulty obtaining a regular or standard state teaching certificate	☐	☐	☐	☐	☐
g. Difficulty developing partnerships with employers for work-based learning	☐	☐	☐	☐	☐
h. Other (*specify*) _____	☐	☐	☐	☐	☐

12. How much of a barrier is each of the following **to student participation** in the CTE programs offered by your district to high school students? *(Check one box on each line.)*

Barrier to student participation in CTE	Not a barrier	Small barrier	Moderate barrier	Large barrier	Very large barrier
a. Lack of time in students' schedules for CTE courses	☐	☐	☐	☐	☐
b. Students' or parents' negative perceptions of CTE	☐	☐	☐	☐	☐
c. Teachers' or guidance counselors' negative perceptions of CTE	☐	☐	☐	☐	☐
d. Transportation to CTE programs outside of the high school campus	☐	☐	☐	☐	☐
e. Transportation for work-based learning	☐	☐	☐	☐	☐
f. Students' costs for supplies, uniforms, or materials	☐	☐	☐	☐	☐
g. Students' difficulty finding work-based learning opportunities	☐	☐	☐	☐	☐
h. Lack of student support services for special populations	☐	☐	☐	☐	☐
i. Other (*specify*) _____	☐	☐	☐	☐	☐

Questions 13 and 14 ask about adding or phasing out CTE programs. Please answer these questions about CTE programs for which your district has a role in making these decisions.

☐ **Check here and skip to question 15 if your district does not have a decision-making role in adding or phasing out CTE programs.**

13. To what extent does each of the following factors influence your district's decision on whether to **add a new** CTE program for high school students? *(Check one box on each line.)*

Factor	Not at all	Small extent	Moderate extent	Large extent	Very large extent
a. Student interest	☐	☐	☐	☐	☐
b. Facilities/space considerations (for example, whether appropriate space is available)	☐	☐	☐	☐	☐
c. Costs for new program	☐	☐	☐	☐	☐
d. Availability of qualified teachers	☐	☐	☐	☐	☐
e. Information on which industries and occupations are in demand	☐	☐	☐	☐	☐
f. Employer (business/industry) recommendations	☐	☐	☐	☐	☐
g. Postsecondary institution recommendations	☐	☐	☐	☐	☐
h. Recommendations from your state department of education	☐	☐	☐	☐	☐
i. Career pathways from the high school to the postsecondary level (for example, to structure new pathways or better align existing pathways)	☐	☐	☐	☐	☐
j. Other (*specify*) _____	☐	☐	☐	☐	☐

14. To what extent does each of the following factors influence your district's decision on whether to **phase out** a CTE program for high school students? *(Check one box on each line.)*

Factor	Not at all	Small extent	Moderate extent	Large extent	Very large extent
a. Enrollment or student interest	☐	☐	☐	☐	☐
b. Facilities/space considerations (for example, facilities are outdated, space is needed for other purposes)	☐	☐	☐	☐	☐
c. Cost of program	☐	☐	☐	☐	☐
d. Availability of qualified teachers (for example, a teacher leaves and is difficult to replace)	☐	☐	☐	☐	☐
e. Information on which industries and occupations are in demand	☐	☐	☐	☐	☐
f. Employer (business/industry) recommendations	☐	☐	☐	☐	☐
g. Postsecondary institution recommendations	☐	☐	☐	☐	☐
h. Recommendations from your state department of education	☐	☐	☐	☐	☐
i. Career pathways from the high school to the postsecondary level (for example, if a program does not align with a career pathway)	☐	☐	☐	☐	☐
j. Other (*specify*) _____	☐	☐	☐	☐	☐

15. Some states have CTE school districts that provide **only** CTE programs. Students have the option of enrolling in the CTE district instead of enrolling in their home district. Do high school students within your district's enrollment area have the option of enrolling in a separate CTE district **instead of** enrolling in your district?

Yes…….. ☐ No……. ☐ Not applicable, this district is a CTE district……. ☐

Thank you. Please keep a copy for your records.