

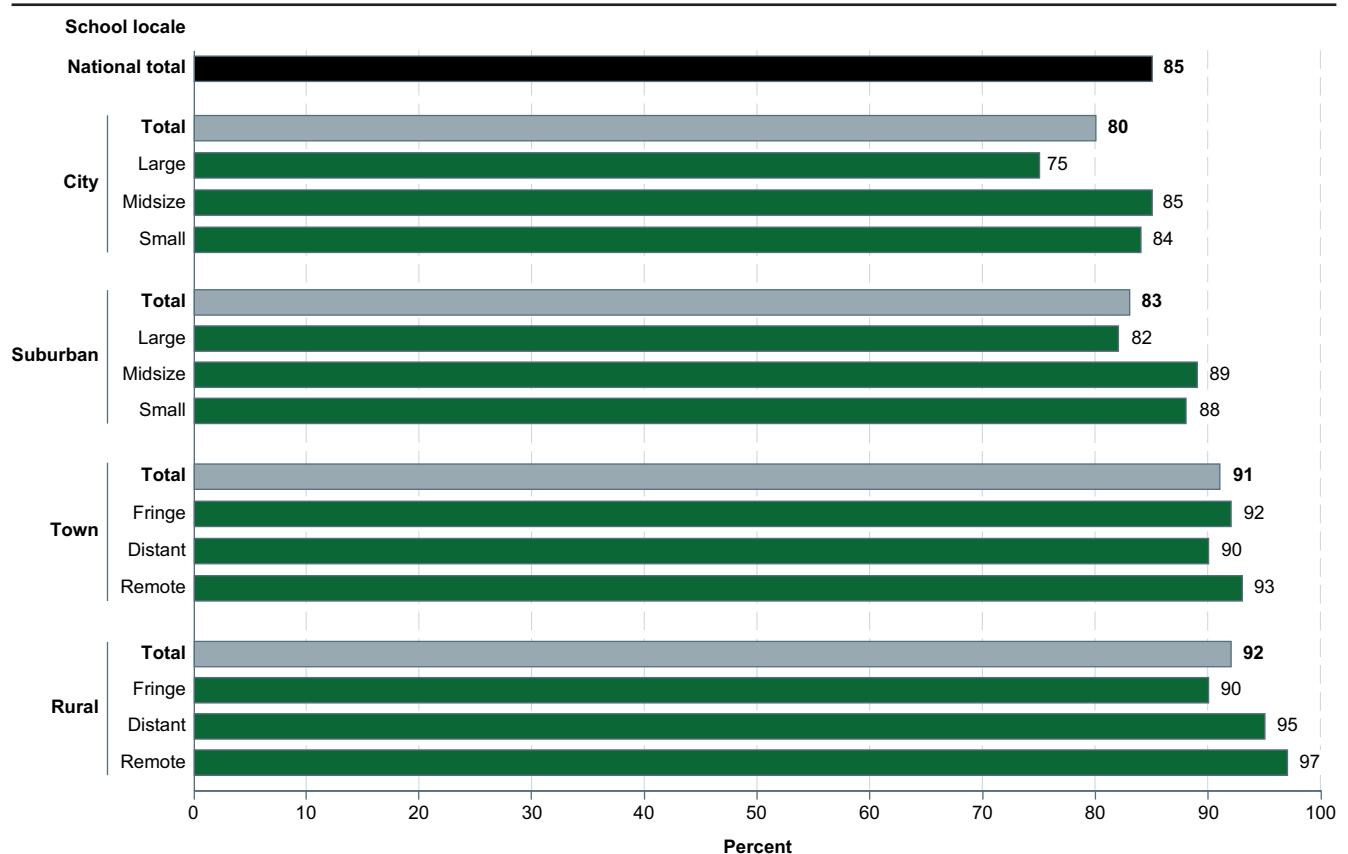
Career and Technical Education Programs in Rural High Schools

In 2019, the percentage of high school graduates who had taken any career/technical education courses while in high school was higher for those from schools in rural areas (92 percent) and towns (91 percent) than for those from schools in suburban areas (83 percent) and cities (80 percent).

At the high school level, career/technical education (CTE) is defined as courses that focus on the skills and knowledge required for specific jobs or fields of work. This indicator examines the percentage of high school graduates who had taken CTE courses in high school, by school locale.¹ Graduates were considered to have taken a CTE course in a particular subject area if they had earned at least one Carnegie credit in that area.² This indicator looks at CTE courses in the following 12 subject areas³ and discusses the percentage of graduates who had earned at least one Carnegie credit in any of the 12 areas (referred to as those who had taken “any CTE courses” in this indicator):

- agriculture, food, and natural resources;
- architecture and construction;
- business and marketing;
- communication and audio/video technology;
- engineering and technology;
- health care sciences;
- hospitality and tourism;
- human services;
- information technology;
- manufacturing;
- public, protective, and government service; and
- transportation, distribution, and logistics.

Figure 1. Percentage of public and private high school graduates who earned at least one Carnegie credit in any career/technical education courses in high school, by school locale: 2019

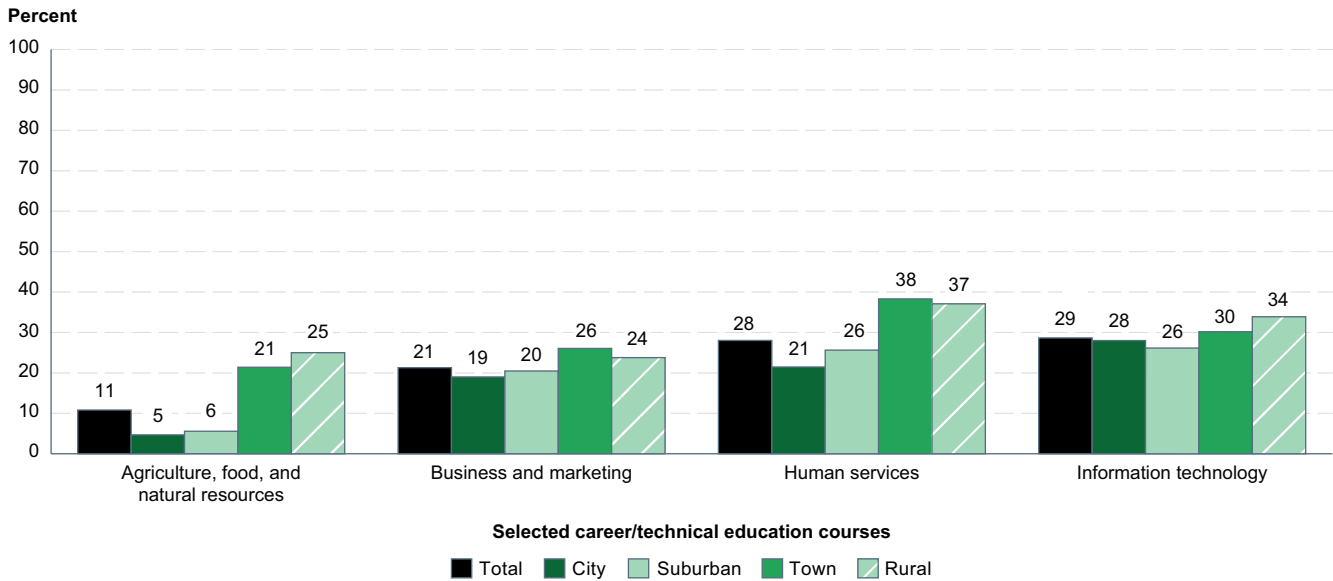


NOTE: For a high school graduate to be included in the analyses, their high school transcript had to meet five requirements: (1) the graduate received either a standard or honors diploma, (2) the transcript had 3 or more years of delineated courses, (3) at least one course on the transcript was taken during the National Assessment of Educational Progress (NAEP) and High School Transcript Study (HSTS) assessment year, (4) the transcript contained 16 or more Carnegie credits, and (5) the transcript contained at least 1 Carnegie credit in English courses. The Carnegie unit is a standard of measurement that represents one credit for the completion of a 1-year course. The Carnegie credits must have been earned in a career/technical education course in any of the following 12 subject areas: agriculture, food, and natural resources; architecture and construction; business and marketing; communication and audio/video technology; engineering and technology; health care sciences; hospitality and tourism; human services; information technology; manufacturing; public, protective, and government service; and transportation, distribution, and logistics. Please visit NCES’s [Education Across America website](#) for the definition of locale and sublocale. Although rounded numbers are displayed, the figures are based on unrounded data. SOURCE: U.S. Department of Education, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2019 High School Transcript Study (HSTS). See *Digest of Education Statistics 2021*, table 225.25.

In 2019, the percentage of high school graduates who had taken any CTE courses in these subject areas was higher for those from schools in rural areas (92 percent) and towns (91 percent) than for those from schools in suburban areas (83 percent) and cities (80 percent). These data can also be examined at the sublocale level. The

percentage of graduates who had taken any CTE courses was higher for those from schools in remote rural areas (97 percent) than for those from schools in most other sublocales (ranging from 75 percent in large cities to 92 percent in fringe towns).⁴

Figure 2. Percentage of public and private high school graduates who earned at least one Carnegie credit in career/technical education courses in selected subject areas in high school, by school locale: 2019



NOTE: For a high school graduate to be included in the analyses, their high school transcript had to meet five requirements: (1) the graduate received either a standard or honors diploma, (2) the transcript had 3 or more years of delineated courses, (3) at least one course on the transcript was taken during the National Assessment of Educational Progress (NAEP) and High School Transcript Study (HSTS) assessment year, (4) the transcript contained 16 or more Carnegie credits, and (5) the transcript contained at least 1 Carnegie credit in English courses. The Carnegie unit is a standard of measurement that represents one credit for the completion of a 1-year course. Please visit NCES's [Education Across America website](#) for the definition of locale and sublocale. Although rounded numbers are displayed, the figures are based on unrounded data.

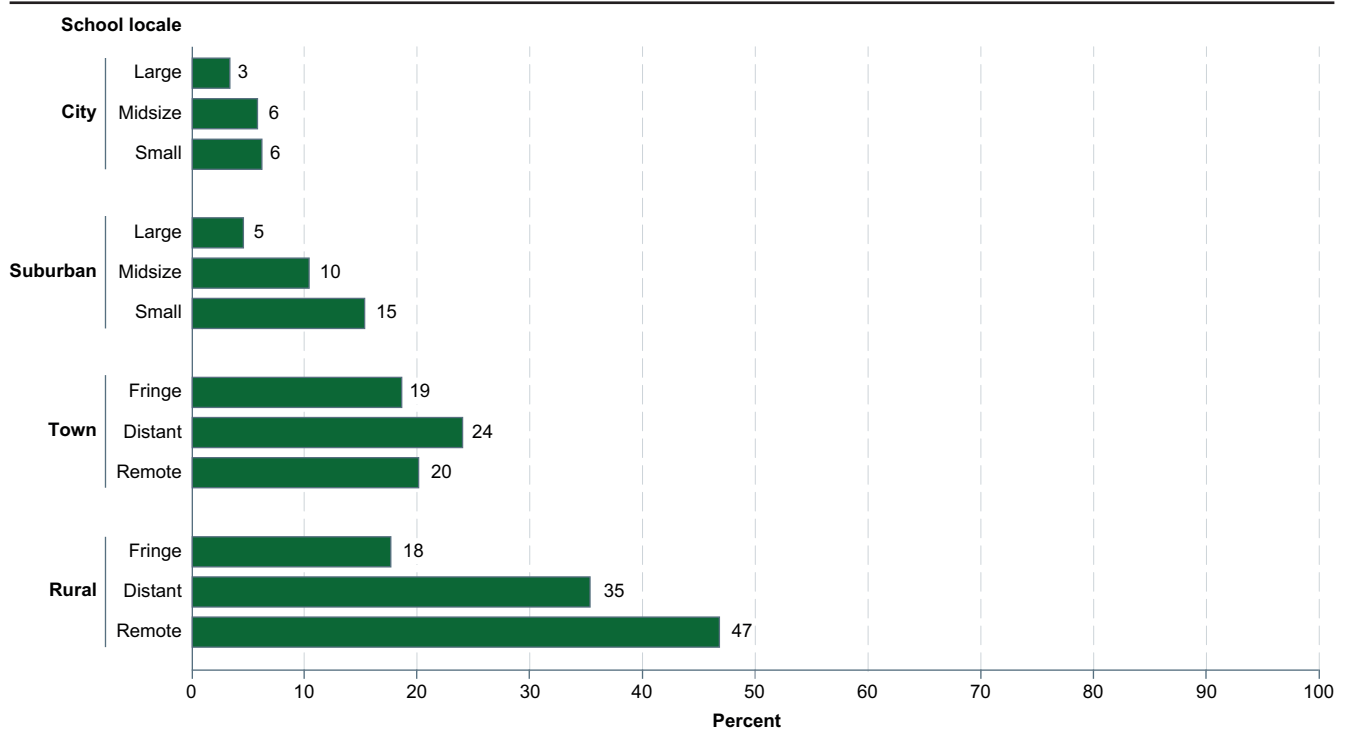
SOURCE: U.S. Department of Education, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2019 High School Transcript Study (HSTS). See *Digest of Education Statistics 2021*, table 225.25.

In 2019, more than 20 percent of high school graduates overall had taken courses in each of the following three CTE subject areas: information technology (29 percent); human services (28 percent); and business and marketing (21 percent). These three areas were also some of the most common CTE subject areas in which high school graduates from schools in rural areas had earned credits (34, 37, and 24 percent, respectively). Another common CTE subject area for rural areas was agriculture, food, and natural resources—25 percent of high school graduates in rural areas had taken courses in this subject area, compared with 11 percent of high school graduates overall.

The general pattern of a higher percentage of high school graduates in rural areas taking any CTE courses

compared with graduates in cities and suburban areas was reflected in patterns for many individual subject areas in 2019. This pattern can be observed for 7 out of the 12 individual CTE subject areas: agriculture, food, and natural resources; architecture and construction; business and marketing; human services; information technology; manufacturing; and transportation, distribution, and logistics. For example, 25 percent of graduates from schools in rural areas and 21 percent of those from schools in towns had taken a course in agriculture, food, and natural resources, compared with 6 percent of graduates from schools in suburban areas and 5 percent of those from schools in cities.

Figure 3. Percentage of public and private high school graduates who earned at least one Carnegie credit in agriculture, food, and natural resources courses in high school, by school locale: 2019



NOTE: For a high school graduate to be included in the analyses, their high school transcript had to meet five requirements: (1) the graduate received either a standard or honors diploma, (2) the transcript had 3 or more years of delineated courses, (3) at least one course on the transcript was taken during the National Assessment of Educational Progress (NAEP) and High School Transcript Study (HSTS) assessment year, (4) the transcript contained 16 or more Carnegie credits, and (5) the transcript contained at least 1 Carnegie credit in English courses. The Carnegie unit is a standard of measurement that represents one credit for the completion of a 1-year course. Please visit NCEs’s [Education Across America website](#) for the definition of locale and sublocale. Although rounded numbers are displayed, the figures are based on unrounded data.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2019 High School Transcript Study (HSTS). See *Digest of Education Statistics 2021*, table 225.25.

In 2019, the most common CTE subject areas in which high school graduates from schools in remote rural areas had earned credits were human services (49 percent); agriculture, food, and natural resources (47 percent); and information technology (44 percent).

In 2019, a higher percentage of high school graduates in remote rural areas than in most other sublocales had taken courses in the following six CTE subject areas: agriculture, food, and natural resources; architecture and construction; human services; information technology; manufacturing; and transportation, distribution, and logistics. For example, 47 percent of graduates in remote rural areas had taken a course in agriculture, food, and natural resources, while this percentage ranged from 3 percent for graduates in large cities to 24 percent in distant towns.⁵ Forty-nine percent of graduates in remote

rural areas had taken a course in human services, while this percentage ranged from 15 percent for graduates in large cities to 34 percent for graduates in fringe towns.⁶

Conversely, the percentage of high school graduates who had taken a course in engineering and technology was lower for those in remote rural areas (5 percent) than for those in most other sublocales (ranging from 12 percent each in large cities, small cities, remote towns, and distant rural areas to 16 percent in large suburban areas).⁷ In addition, the percentage of graduates who had taken a course in public, protective, and government services was lower for those in remote rural areas (2 percent) than for those in most other sublocales (ranging from 4 percent each for those in large suburban areas and small cities to 8 percent for those in fringe towns).⁸

Endnotes:

¹ Please visit NCES's [Education Across America](#) website for the definition of locale and sublocale.

² For a high school graduate to be included in the analyses, their high school transcript had to meet five requirements: (1) the graduate received either a standard or honors diploma, (2) the transcript had 3 or more years of delineated courses, (3) at least one course on the transcript was taken during the National Assessment of Educational Progress (NAEP) and High School Transcript Study (HSTS) assessment year, (4) the transcript contained 16 or more Carnegie credits, and (5) the transcript contained at least 1 Carnegie credit in English courses. The Carnegie unit is a standard of measurement that represents one credit for the completion of a 1-year course.

³ For information on how the 12 CTE subject areas are defined, see [School Courses for the Exchange of Data \(SCED\)](#).

⁴ Ninety percent of graduates in distant towns, 93 percent in remote towns, and 95 percent in distant rural areas had taken at least one CTE course. These percentages were omitted from the discussion, because they were not measurably different from the percentage for remote rural areas.

⁵ Thirty-five percent of graduates in distant rural areas had taken a course in agriculture, food, and natural resources. This percentage was omitted from the discussion, because it was not measurably different from the percentage for remote rural areas.

⁶ Thirty-nine percent of graduates in remote towns, 40 percent in distant towns, and 43 percent in distant rural areas had taken a course in human services. These percentages were omitted from the discussion, because they were not measurably different from the percentage for remote rural areas.

⁷ Eleven percent of graduates in distant towns and 16 percent in small suburban areas had taken a course in engineering and technology. These percentages were omitted from the discussion, because they were not measurably different from the percentage for remote rural areas.

⁸ One percent of graduates in small suburban areas, 4 percent each in distant rural areas, midsize suburban areas, and distant towns, and 6 percent in remote towns had taken a course in public, protective, and government services. These percentages were omitted from the discussion, because they were not measurably different from the percentage for remote rural areas.

Reference tables: *Digest of Education Statistics 2021*, table 225.25

Glossary: High school diploma; Locale codes

Related indicators and resources: [Career and Technical Education \(CTE\) Statistics](#)