



## CONNECTICUT STATE DEPARTMENT OF EDUCATION

### Identification of Teacher Shortage Areas

This report identifies which certification endorsement areas represent the greatest need among teachers in Connecticut. Using the information provided herein, the teacher shortage areas designated by the Connecticut State Department of Education (CSDE) and approved by the U.S. Department of Education for the 2020–2021 school year are shown in Table 1 below:

Table 1  
*Connecticut Teacher Shortage Areas for 2020–2021*

Certification Endorsement	Grades	Shortage Area Designation
Bilingual Education	PreK–12	Statewide
Mathematics	4–12	Statewide
School Library and Media Specialist	PreK–12	Alliance Districts only <sup>a</sup>
School Psychologist	PreK–12	Statewide
Science	4–12	Statewide
Speech and Language Pathologist	PreK–12	Statewide
Special Education	PreK–12	Statewide
Technology Education	PreK–12	Alliance Districts only
Teaching English to Speakers of Other Languages (TESOL)	PreK–12	Statewide
World Languages	7–12	Statewide

<sup>a</sup> The Alliance District program is a unique and targeted investment in Connecticut’s 33 lowest-performing districts. Connecticut General Statute Section 10-262u establishes a process for identifying Alliance Districts and allocating increased Education Cost Sharing (ECS) funding to support district strategies to dramatically increase student outcomes and close achievement gaps by pursuing bold and innovative reforms.

Teacher shortage areas are determined by a combination of supply and demand. The shortage areas above represent certification endorsement areas where significant vacancies exist, where educator preparation programs (EPPs) do not produce enough graduates to meet the needs of Connecticut’s PreK-12 student population, and/or where a disproportionate number of teachers who are not certified in the appropriate field are being hired to teach such courses. This information can be used to determine the current and projected needs of classroom teachers for specific subject areas in the upcoming school year. The process used to determine these teacher shortage areas is presented below.

## Background

Section 10-8b of the Connecticut General Statutes requires the Commissioner of Education to annually determine and certify teacher shortage areas. The statute specifies that, in determining teacher shortages, the commissioner shall consider the following:

1. The number of teacher vacancies in a particular subject or geographic area;
2. The number of new certificates in such areas issued by the Department of Education during the preceding year; and
3. The number and types of classes being taught by persons whose training is not specific to the field in which they are teaching.

## Connecticut's Methodology

**Prior to 2019, Connecticut's methodology centered on subject area designations.**<sup>1</sup> This methodology was based on a weighting of several factors, including:

- October vacancies due to the lack of qualified applicants;
- Positions that local education agencies (LEAs) sought to fill but could not because they had no available qualified applicants;
- Median number of appropriately credentialed applicants per available position;
- Durational Shortage Area Permits (DSAP), long-term substitutes, and minimally qualified hires; and
- First issued or renewed Connecticut certificates per position.

Data for this analysis relied on the Connecticut Educator Certification System (CECS) and the Fall Hiring Survey, an annual employment survey whose respondents included 166 public school districts, 24 charter schools, six regional educational service centers (RESCs), the three endowed and incorporated academies, 51 state-approved non-public special education programs, the Connecticut Technical High School System and the Connecticut Departments of Correction and Children and Families.

The total scores for all endorsement areas were then ranked to identify the top shortage areas while not exceeding Federal limits [i.e., the automatic designated limit of five percent of all unduplicated full-time equivalent (FTE) elementary and secondary teaching positions in the State]. The methodology described above was used for the shortage area designations for 2017–18, 2018–19, and 2019–20.

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<sup>1</sup> The U.S. Department of Education provides a [dynamic, interactive data application to view the Nationwide Teacher Shortage Areas Listing](#) for school years since 1990–1991.

**For the 2020–21 teacher shortage area designations, Connecticut took an even more collaborative approach and looked to address the State’s distributional problem.** In 2019, the CSDE’s Performance and Talent offices collaborated with the Council of Chief State School Officers (CCSSO) on a project involving “Teacher Table” demand-supply analysis for Connecticut. The CT Teacher Table aimed to bring together teachers and practitioners from across Connecticut K-12 districts, universities, and educational organizations to meaningfully address recruitment and retention challenges, continue the work to uplift the teaching profession, and ensure that Connecticut attracts and keeps excellent teachers, with a specific focus on Special Education and Bilingual shortage areas.

As a precursor to the CT Teacher Table, the Rockefeller Institute of Government (Rockefeller), the public policy think tank of the State University of New York, analyzed data and trends in Connecticut to provide clarity and objective data to determine whether the state is facing teaching shortages and the characteristics of any gaps. The analysis was supported by a grant from CCSSO and in partnership with the College Football Playoff Foundation’s Extra Yard for Teachers Program.

The Rockefeller report ([The State of the Connecticut Teacher Workforce](#)) stated that, despite showing little evidence of a current shortage of primary and secondary public school teachers overall, **Connecticut does show imbalances between the supply and demand for public school teachers in geographic, subject-area, and diversity measures, and some imbalances are getting worse.**

Rockefeller researchers found that:

- enrollment is declining in teacher preparation programs;
- more teachers are leaving education in Connecticut;
- the socioeconomic backgrounds of students are changing;
- there are persistent shortages in key specializations; and
- some shortages are compounded by co-occurring challenges.

Moreover, Rockefeller concluded that **Connecticut has a distributional problem:** The demand for more teachers, for certain specializations, and for increasing diversity in the teacher workforce is concentrated in a few urban, high-poverty districts<sup>2</sup> that are already challenged in recruiting and retaining teachers. Since this concentration of districts is already contained

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<sup>2</sup> In the Rockefeller report, Connecticut’s school districts were classified into three categories based on their mean percentage of students eligible for free or reduced price lunches from 2006-07 through 2016-17. Districts whose average percentage of students eligible for free or reduced price lunch (FRPL) were less than 10 percent were defined as having low rates of poverty; districts with an average percentage of FRPL-eligible students between 10 and 40 percent were classified as having moderate rates of poverty; and districts with an average percentage greater than 40 percent were defined as having high rates of poverty.

within Connecticut's Alliance Districts – the 33 lowest-performing districts in the State – CSDE has included these districts in the Federally-approved teacher shortage area designations.

## Rationale and Support for 2020-2021 Shortage Area Designations

The final section of this report provides a summary of the findings in support of each shortage area. For the first time, Connecticut has determined that certain shortages exist in designated districts, while other shortages exist statewide. More specifically, two shortage areas – Technology Education, and School Library and Media Specialist – are specified as Alliance District shortage areas. By further focusing funds and efforts on these 33 districts that serve more than 200,000 students and over 410 schools, Connecticut has the opportunity to transform the educational experiences and outcomes of thousands of traditionally underserved students and families across the state.

### *Statewide Shortage Area Designations*

**Bilingual Education is designated statewide for grades PreK–12.** More than 90,000 Connecticut public school students have a native language other than English, and nearly half of those students have qualified as English learners (ELs) – a number that has grown significantly over the last five years. The need for certified bilingual educators goes beyond the English as a Second Language (ESL) program. More than a quarter of ELs are in transitional bilingual and dual language bilingual programs. The student-to-teacher ratio between English learners and teacher FTEs assigned to bilingual/TESOL exceeds 60:1 statewide, and is largest in high-poverty districts. Addressing this shortage area is a focus of the CT Teacher Table. Under Connecticut General Statute Section 10-262u(d), enhancement of bilingual education programs is included as a focus area option for spending Alliance District funds.

**Teaching English to Speakers of Other Languages (TESOL) is designated statewide for grades PreK–12.** Fifty-five percent of the ELs in Connecticut are enrolled in an ESL program, which is more than double the enrollment of the next largest English Language program. Moreover, there has been a 29% increase in the number of ELs in ESL programs over the last five years. It is essential that we have certified educators to help Connecticut's ELs communicate and build on what they know, encourage and engage them in our schools and classrooms, and inspire participation and a healthy sense of self-esteem, so that ELs increase not only their basic interpersonal communication skills but also their cognitive academic English language proficiency. The Rockefeller report pointed out an alarming trend: The EL ratio of change (students-to-teachers) from 2006 to 2016 was 91:1 – there was an increase of 91 EL students for every one-FTE increase in TESOL – in high-poverty districts (as compared with less than 25:1 across low/moderate-poverty districts). The aggregate student-teacher ratio in bilingual/TESOL

for the three-year period through 2017-18 was 71:1 in high-poverty districts. Clearly, TESOL supply has not kept up with demand, especially in high-poverty districts. Addressing this shortage area is a focus of the CT Teacher Table.

**Special Education is designated statewide for grades PreK–12.**<sup>3</sup> It is no surprise that addressing this statewide shortage area is a focus of the CT Teacher Table, since the Comprehensive Special Education endorsement had the most postings between August and December 2019 on Connecticut Regional Education Applicant Placement ([CTREAP](#); the on-line system public school districts use to post job openings). The Rockefeller report confirmed that the average annual number of special education endorsements is declining while the number of students with disabilities is increasing. Furthermore, Rockefeller pointed out an alarming trend: The special education ratio of change (students-to-teachers) from 2006 to 2016 was 49:1 in high-poverty districts (more than double the ratio of change across low/moderate-poverty districts). The aggregate student-teacher ratio in special education for the three-year period through 2017-18 was 32:1 in high-poverty districts. Like TESOL, supply has not kept up with demand for special education educators, especially in high-poverty districts.

**Mathematics is designated statewide for grades 4–12.**<sup>4</sup> In late-2018, the Commissioner of Education announced the adoption of the Position Statement on Comprehensive STEM Education for All Students K–12. In the commissioner’s Executive Summary, it was noted that the Connecticut State Board of Education “believes that a comprehensive science, technology, engineering and mathematics (STEM) education is key to preparing students to be innovators, problem solvers, and critical thinkers.” Mathematics remains an essential component of STEM education throughout a student’s career, yet Connecticut has difficulty recruiting and retaining mathematics teachers. An increase in the number of educators with Mathematics 4–8 endorsements will increase the pool of qualified applicants as districts seek to hire for hard-to-fill middle school positions. These educators will differentiate themselves as content-area experts who are qualified to teach up through Grade 8. The highest demand remains in grades 7 to 12. In fact, the Mathematics 7–12 endorsement ranked second to special education among August to December 2019 CTREAP postings; the positions, on average, took longer than 36 days to fill, and there were still 35 open Mathematics 7–12 positions in mid-December 2019 (averaging more than 51 days unfilled per open position). Despite a continued focus on STEM – including the nine-credit STEM graduation requirement – the Rockefeller report confirmed that the average annual number of Mathematics 7–12 endorsements is declining.

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<sup>3</sup> The Special Education shortage area designation comprises Partially Sighted, Deaf/Hard of Hearing, Blind, and Comprehensive Special Education teaching endorsement codes.

<sup>4</sup> The mathematics shortage area designation includes the 229 (Mathematics, Middle School, 4–8) and 029 (Mathematics, 7–12) endorsement codes.

**Science is designated statewide for grades 4–12.**<sup>5</sup> The Science 7–12 endorsements ranked just behind Mathematics 7–12 among August to December 2019 CTREAP postings. General science, biology, and chemistry have the highest course enrollments, and these endorsements accounted for nearly eighty percent of the Science 7–12 openings on CTREAP. Student-to-teacher FTE ratios are nearly fifty percent higher in Alliance Districts and high-poverty districts as compared with low-poverty districts. Despite a continued focus on STEM – including the nine-credit STEM graduation requirement – the Rockefeller report confirmed that the average annual number of Science 7–12 endorsements is declining. An increase in the number of educators with Science 4–8 endorsements will increase the pool of qualified applicants as districts seek to hire for hard-to-fill middle school positions. These educators will differentiate themselves as content-area experts who are qualified to teach up through Grade 8.

**World Languages is designated statewide for grades 7–12.** The World Languages 7–12 shortage area includes the Spanish, French, Italian, German, Latin, Russian, Portuguese, Mandarin Chinese, and Other World Language endorsements. Of the world languages, Spanish has the highest enrollment and largest FTE count by far. As we see in science and math, the student-teacher ratio in world languages varies with district poverty in a subject area where a statewide shortage exists and competition for teachers is most acute. Rockefeller found large differences in student-teacher ratios in world languages across districts; in fact, the ratio in high-poverty districts was more than twice that of the low-poverty group.

**Speech and Language Pathologist is designated statewide for grades PreK–12.** The Speech and Language Pathologist endorsement trailed only School Psychologist among open instructional support positions on CTREAP in December 2019. The Rockefeller report confirmed that workforce shortages persist in speech and language pathology, and that the availability of services appears to be much weaker in the high-poverty districts, as the ratios are again about twice as high as districts with lower poverty rates.

**School Psychologist is designated statewide for grades PreK–12.** School psychologists are uniquely qualified and essential members of school teams that support students' ability to learn and teachers' ability to teach. They apply expertise in mental health, learning, and behavior, to help children and youth succeed academically, socially, behaviorally, and emotionally. The school psychologist endorsement had more open CTREAP postings in December 2019 than all other instructional support positions. While enrollment in Connecticut public schools has declined over the last decade, the number of students needing additional support has increased across all high-, moderate-, and low-poverty districts. The disparity in student-to-FTE ratios for school psychologists between Alliance and non-Alliance Districts is largest in the elementary grades.

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<sup>5</sup> The science shortage area designation includes the Grades 4–8 and 7–12 endorsement codes for Biology, Chemistry, Physics, Earth Science, General Science, and Integrated Science.

### *Alliance District Shortage Area Designations*

#### **School Library and Media Specialist is designated in Alliance Districts for grades PreK–12.**

Specially trained and knowledgeable in the use of information technology, library media specialists have become one of the most important instructional partners, working with teachers and administrators to change what is possible in the classroom. Unfortunately, library and media specialists are in short supply in Alliance Districts. The Rockefeller report found that the student-to-FTE ratio in high-poverty districts is nearly double that of low- and moderate-poverty districts, with high-poverty districts enrolling nearly 1,400 students per Library & Media Specialist. Across all ages and grades, Alliance Districts have student-to-FTE ratios that are twice that of non-Alliance Districts.

**Technology Education is designated in Alliance Districts for grades PreK–12.** The majority of Technology Education positions listed on CTREAP between August and December 2019 were in Alliance Districts. As we see with other endorsements, the student-teacher ratio in technology education varies with district poverty. Rockefeller found large differences in student-teacher ratios in technology education across districts; in fact, the ratio in high-poverty districts was more than twice that of the low- and moderate-poverty districts. Since this disproportion is clearly seen when comparing Alliance and non-Alliance Districts across all grades, Technology Education is designated as a shortage area in Alliance Districts for grades PreK–12.

### *Alliance District Core Academic Subject in Focus*

#### **There is a need to address imbalance in Social Studies in Alliance Districts for grades 7–12.**

Social Studies is not designated as a shortage area, since there is no shortage of qualified social studies educators. However, Connecticut has a distributional problem in this area. When comparing student-to-teacher FTE ratios between Alliance and non-Alliance Districts for Social Studies 7–12, the lowest performing districts have ratios that are, on average, more than four times higher. This is an unusually high difference for a core academic subject area. Larger class sizes and higher turnover for Social Studies 7–12 teachers in Alliance Districts reinforce the need to correct this imbalance and to place additional focus on recruiting and retaining quality Social Studies 7–12 educators in Alliance Districts.

## State and Federal Programs for Individuals Teaching in Shortage Areas

Teachers who teach in one of the shortage areas can benefit from the following state and federal programs:

### *Teachers' Mortgage Assistance Program*

Per Section 8-265pp of the C.G.S., a mortgage assistance program is provided for the purchase of a primary residence for certified teachers who are:

1. employed by priority or transitional school districts;
2. employed by the State of Connecticut in a technical high school that is located in a priority or transitional school district; and
3. teaching in a subject matter shortage area pursuant to Section 10-8b of the C.G.S.

In the case of certified teachers teaching in a priority or transitional school district, or in a technical high school located in a priority or transitional school district, the dwelling must be located in the district in which the school is located.

The [Teachers' Mortgage Assistance Program](#) is an important incentive designed to alleviate shortage areas and to have educators live in the community in which they teach. The program is administered by the Connecticut Housing Finance Authority (CHFA) through its participating lenders.

All eligible teachers seeking a mortgage through this program will be required to have a [Statement of Eligibility](#) signed by the Superintendent of Schools in their district. This signed statement will be required by the mortgage lender for proof of eligibility.

*Any questions or concerns regarding the Teachers' Mortgage Assistance Program may be directed to the Single Family Underwriting Unit at CHFA at 860-571-3502.*

### *Rehiring of Retired Teachers*

Retired teachers may be reemployed without being subject to the statutory earnings limit if they teach in a subject shortage area for the school year in which they are employed. The period of employment may last one full school year and may be extended for an additional year, subject to prior approval of the Teachers' Retirement Board (TRB). If you have questions about this program, please contact TRB staff, Patricia Balzano, at 860-241-8419, or Erik Wright, at 860-241-8428.

### *Federal Shortage Area Programs*

Teachers holding certifications in the state-designated shortage areas may be eligible for:

- targeted teacher deferment for borrowers under the Family Federal Education Loan (FFEL) and Federal Supplemental Loans for Students (SLS) programs [34 CFR 682.210(q)]; and
- cancellation of up to 100 percent of their debt under the Federal Perkins Loan Program for full-time teaching [34 CFR 674.53(c)].

Additionally, teaching in a shortage area enables grant recipients under the Teacher Education Assistance for College and Higher Education (TEACH) Grant Program to fulfill their teaching obligations [34 CFR 686.12(d)].

Please refer Federal Stafford/SLS and Federal Perkins Loan borrowers who have general questions concerning their loan(s), including the teacher shortage area deferment, to the Federal Student Aid Hotline at 1-800-433-3243.

### *Connecticut Recruitment and Training Initiatives to Address Shortage Areas*

The Connecticut State Department of Education's (CSDE) Talent Office continues to implement strategic initiatives that attract qualified candidates to the education profession, especially in the designated shortage areas.

Among the talent initiatives approved by the State Board of Education (SBE) are the development of various alternate route to certification programs which focus on recruiting and training educators for priority certification-endorsement areas. These programs vary from training educators for a first-time certificate to training certified educators for additional advanced certification endorsement areas of teaching or administration. *A bachelor's degree or higher, from a regionally accredited institution, is a prerequisite for these alternate route programs.* Candidates without a bachelor's degree should refer to the [Guide to Approved Educator Preparation Programs in Connecticut](#).

### *Alternate Route to Certification Programs*

#### **First-Time Certificates:**

- The Office of Higher Education Alternate Route to Certification [ARC](#) Program prepares qualified candidates with content knowledge and relevant work experience for a first-time certificate in secondary content areas.
- Teach For America [TFA](#)-Connecticut prepares candidates with content knowledge for a first-time certificate in elementary or secondary certification areas.

- [Relay Graduate School of Education](#) is an accelerated route to certification focused on “grow-your-own” recruitment efforts with partner districts (e.g., paraeducators). They currently offer certification in elementary education, as well as secondary science, math, and English/Language Arts.

**Cross-Endorsements (for candidates already holding an initial teaching certificate):**

- Alternate Route to Certification for Teachers to become Library Media Specialists ([ARCLMS](#)) at ACES prepares qualified candidates for a cross-endorsement as a School-Library Media Specialist (#062).
- Advanced Alternate Route to Certification ([AARC](#)) for Special Education at CREC prepares qualified candidates for a cross-endorsement in Comprehensive Special Education, K-12 (#165).
- Alternate Route to Certification for Teachers of English Learners ([ARCTEL](#)) at ACES prepares qualified candidates for a cross-endorsement in Bilingual Education (#902-974).