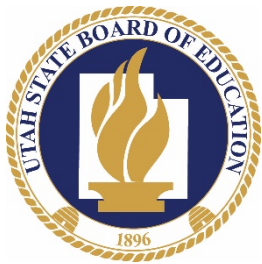


# EDUCATIONAL IN



THE UTAH STATE BOARD OF EDUCATION  
Report to Legislative Committee

## Meeting the Needs of Utah's Secondary Students in Career and Technical Education

FY17 – October 2017

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# Career and Technical Education 2017 Annual Report

## STATUTORY REQUIREMENT

**U.C.A. Section [53A-15-202]** provides that the Utah State Board of Education shall, after consulting with school districts, charter schools, the Utah System of Technical Colleges, Salt Lake Community College's School of Applied Technology, Snow College, and USU Eastern, prepare and submit an annual report detailing how career and technical education needs of secondary students are being met, and what access secondary students have to programs offered at the Technical Colleges and within the regions served by USHE.

# 160,054

Students enrolled in LEA Career & Technical Education courses SY 2016-2017

## Executive Summary

The Utah State Board of Education provides leadership for Career and Technical Education (CTE) in the state's public secondary schools, with local education agencies (LEAs) providing 93 percent of the instruction. Students in LEAs enroll in many excellent programs. LEAs exercise forward-looking leadership in maintaining and expanding career and technical education opportunities for their students. Additionally, through coordinated, collaborative, and creative partnerships with post-secondary education, including the Utah System of Technical Colleges (USTC) and the Utah System of Higher Education (USHE), LEAs assure efficient and effective career and technical education delivery.

## Secondary Career & Technical Education Efforts in SY 2016-2017

Utah LEAs have well-developed, high-quality career and technical education programs that meet many career awareness, career exploration, and career preparation needs for public school students. CTE prepares students for the world of work by introducing them to workplace competencies, and makes academic content accessible to students by providing it in a hands-on context. Rigorous program standards are foundational to CTE.

Below are key data for career and technical education efforts during the 2016-2017 school year:

- Enrollment in LEA Career and Technical Education courses increased by 0.87 percent (1,377 students) in 2016-2017 to 160,054 – up from 158,677 students in 2015-2016.
- LEA Career and Technical Education average daily membership (ADM) increased 0.06 percent (16 ADM) in 2016-2017 to 26,727 – up from 26,711 ADM in 2015-2016.
- LEAs delivered 93 percent of all career and technical education membership hours in grades 9-12.
- Nearly 3,900 teachers and counselors participated in staff development activities, including industry tours.
- Development of College and Career Ready materials, including occupational data on high-demand occupations.

- 109 secondary students received CTE scholarships and tuition awards.
- Secondary students earned over 22,000 concurrent enrollment credits in CTE courses.

**33,928,918**

Membership  
hours in  
secondary CTE  
courses in  
2016-2017

## CTE Credentials and Certifications

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**105,691**

CTE Skill  
Certificates  
awarded to  
secondary  
students

Utah Secondary LEAs offer two types of CTE credentials:

- Industry certifications – these are credentials of value to employers in Utah. Some are also “right-to-work” credentials and/or state licenses required to gain employment in certain fields. These certifications validate that the student has demonstrated mastery of the most up-to-date skills in a career field.
- CTE Skill Certificates – this program provides competency-based student assessments, measured by core standards and competencies needed to be successful in the workforce. Assessments include both an online knowledge assessment as well as a performance-based assessment of technical skills. Those students earning certificates have mastered the content and skills at 80% proficiency.
- As a subset of Industry certifications, Utah continues to implement the Microsoft Imagine Academy with program support from Microsoft and Certiport. Funding provides professional development for teachers and administrators, resources for all teachers and students, and certification exams in various industry credentials as requested by employers.
- Sample certifications include Microsoft Office Suite (Word, Excel, PowerPoint, Access, OneNote, SharePoint®, Outlook), Adobe Creative Suite (Dreamweaver®, Flash®, Illustrator®, InDesign®, Photoshop®, Premier® Pro), Microsoft Technology Associate (Database Administration Fundamentals, HTML5 Application Development Fundamentals, Security Fundamentals), Quickbooks, AutoCAD, Autodesk Inventor, and IC3 GS (Internet Computing Core – Global Standard).
- 17,966 student and teacher certifications were earned through the Microsoft Imagine Academy program.

**19,004**

Industry  
certifications  
earned by  
secondary  
students

## Career Pathways

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Career Pathways are a coordinated, non-duplicative sequence of secondary and postsecondary courses that incorporate challenging, state-identified academic standards and address academic and technical knowledge, as well as employability skills, which are aligned to the needs of industries in the state, region, or local area. A pathway progresses in content specificity, has multiple “entry and exit points” that allow for stackable credentialing, and ultimately culminates in the attainment of a recognized postsecondary credential.

Research on the positive impact of Career Pathways is significant. In Utah, secondary students who concentrate (1.5 credits in a career pathway sequence of courses) graduate from high school at 95.9% compared to Utah’s statewide graduation rate of 85%.

**56%**

of Secondary  
students are CTE  
concentrators

**25%**

of Secondary  
students are CTE  
completers

- CTE Concentrators (1.5 credits in a career pathway sequence of courses) SY16-17 = 56%
- CTE Completers (3.0 credits in a career pathway sequence of courses) SY16-17 = 25%

## Work-Based Learning

Work-Based Learning means a continuum of awareness, exploration, preparation, and training activities that combine structured learning and authentic work experiences implemented through industry and education partnerships. Through Work-Based Learning, students have the opportunity to see how classroom instruction connects to the world of work and future career opportunities.

- 2,091 secondary students participated in internships.

## College and Technical Student Organizations (CTSOs)

CTSOs prepare students for individual and group leadership responsibilities and enhance Career and Technical Education in Utah through the co-curricular network of programs, business and community partnerships, and leadership experiences at the school, state, and national level.

- 24,314 secondary students were served through DECA, FBLA, FCCLA, FFA, HOSA, SkillsUSA, and TSA in SY16-17.

## College and Career Awareness – 7<sup>th</sup> grade

College and Career Awareness is a year-long course taught by a team of Career and Technical Education teachers and school counselors. Through application-based lessons, students utilize technology, develop foundational skills, and explore careers. Students learn to understand their goals and aspirations, interests, and work values. Students learn about careers and how to access current information about market demand, average earnings, and training and education requirements.

- In SY16-17, 47,509 middle/junior high school students participated in the College and Career Awareness program.

## Partnering with Industry

Each of Utah's eight regional CTE planning councils meet regularly to identify high demand occupations that are important to the region as well as the availability of coordinated CTE offerings in the regions. Additionally, CTE works closely with GOED and DWS to partner with various industry groups to develop industry-led programs, giving students the opportunity to develop skills necessary to enter high demand, high skill, high wage careers upon graduation. Current industry-led pathway projects include:

- Utah Aerospace Pathways program
  - Davis School District
  - Davis Applied Technology College
  - Granite School District
  - Salt Lake Community College
  - Iron County School District
  - Southwest Applied Technology College
  - Ogden School District
  - Ogden-Weber Applied Technology College
- Diesel Technicians Pathway program
  - Canyons School District
  - Jordan School District
  - Salt Lake Community College
- Medical Innovations Pathways program
  - Canyons School District
  - Davis School District
  - Granite School District
  - Salt Lake Community College
- IT Pathway program (under development)

We are continuing partnerships with GOED, DWS, Education, and Industry. New pathway projects are under discussion and development.

## The ROI for Secondary CTE

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Career and Technical Education is an integral component of secondary education in Utah. Not only does CTE play an important economic role in Utah, it provides educational and occupational pathways for all secondary students.

### CTE Cost of Services

- The FY17 Secondary CTE Add-On Allocation was \$89,279,400. The value of the CTE WPU was \$3,184.
- LEAs are required to expend an amount equivalent to the regular WPU for students in approved CTE programs. For FY17, the budgeted minimum qualifying expenditure for this maintenance of effort is calculated to be \$78,566,929. The actual audited MOE expenditures will not be available until spring 2018.
- The SY16-17 secondary CTE enrollment (in courses and programs provided by LEAs) was 160,054 students.
- The total membership hours for the LEA CTE courses was 33,928,918.

**\$4.95**  
Average total cost per  
membership hour in LEA  
Career & Technical  
Education

Secondary CTE programs provided by the LEAs are competitive and provide a valuable and cost effective educational element for the students of Utah.

### CTE Collaboration

A recent audit reviewing the coordination and potential duplication of Career and Technical Education provided by LEAs and USTC showed that program collaboration and coordination is occurring. The eight CTE planning regions across Utah bring CTE leaders from LEAs, USTC, USHE, DWS, and other partners together in regular meetings to accomplish this collaboration. This coordination serves to provide excellent CTE opportunities for secondary students while avoiding duplication of effort and unnecessary costs.

### CTE Works for High School Students

- High school students involved in CTE are more engaged, perform better, and graduate from high school at higher rates. <sup>1</sup>
- CTE addresses the needs of high-growth industries and helps close the skills gap. <sup>2</sup>
- The more students participate in Career and Technical Student Organizations, the higher their academic motivation, academic engagement, grades, career self-efficacy, college aspirations, and employability skills. <sup>3</sup>
- Research has found that Work-Based Learning helps students apply and extend classroom learning, gain motivation and understanding, explore careers, and develop critical understanding of the work environment. <sup>4</sup>
- In Utah, secondary students who concentrate (1.5 credits in a career pathway sequence of courses) graduate from high school at 95.9% compared to Utah's statewide graduation rate of 85%.

**95.9%**  
Graduation rate for  
secondary students who  
are CTE concentrators

**Table 1: LEA change in Student Headcount and Average Daily Membership (ADM)**

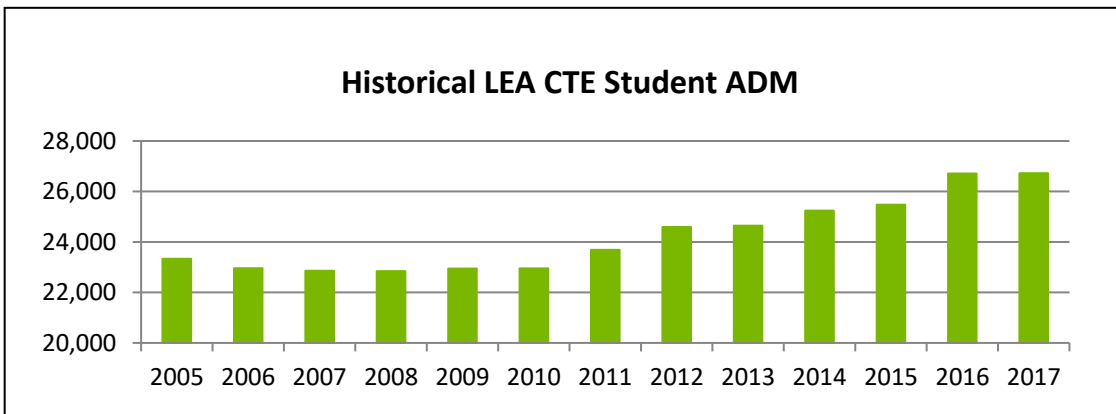
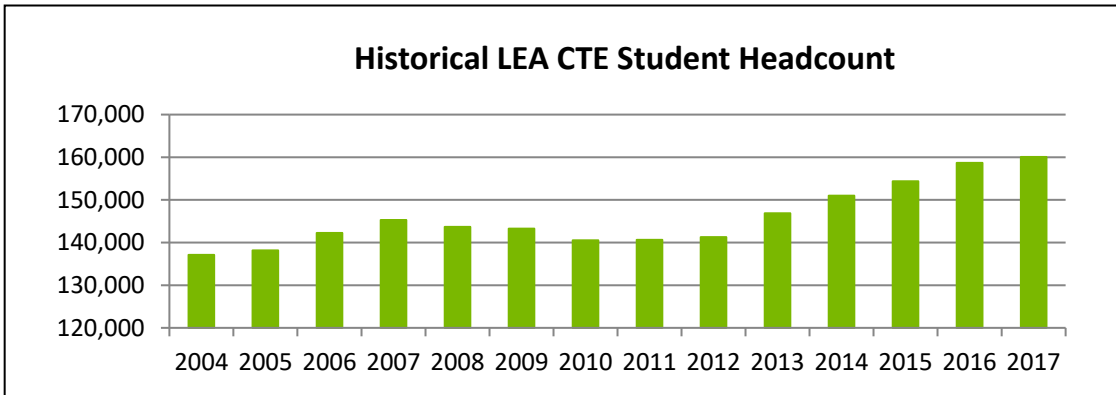
Local Education Agency Career and Technical Education	2016	2017	Difference 2016 to 2017	Percent Difference 2016 to 2017
Student Headcount	158,677	160,054	1,377	0.87% increase
Average Daily Membership (ADM)	26,711	26,727	16	0.06% increase

Note: Secondary student headcount is unduplicated by school. Prepared by USBE, CTE Section, 09/17.

**Table 2: Historical LEA change in Student Headcount and Average Daily Membership (ADM)**

Year	Headcount	ADM
2005	138,169	23,331
2006	142,954	22,960
2007	145,278	22,856
2008	143,684	22,844
2009	143,273	22,945
2010	140,532	22,951
2011	140,631	23,686
2012	141,285	24,592
2013	146,881	24,646
2014	150,973	25,224
2015	154,364	25,473
2016	158,677	26,711
2017	160,054	26,727

Prepared by USBE, CTE Section, 09/17.



## Utah System of Technical Colleges Secondary Programs

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USTC is delivering value-added services in many areas of the state. Local education agencies (LEA) indicate that secondary students are receiving either the same or increasing levels of service from USTC training programs as they have in the past.

- USTC secondary student headcount decreased by 19.6% (2,194 students) in 2016-2017 to 9,001 students, down from 11,195 students in 2015-2016.
- Membership hours for secondary students at USTC increased by 0.70% (13,202 hours) in 2016-2017 to 1,909,106 hours, up from 1,895,904 hours in 2015-2016.
- In 2016-2017, USTC provided 5.6% of the total high school career and technical education program opportunities statewide (as measured in membership) in grades 9-12.

**9,001**  
USTC  
Secondary Student  
Headcount

**0.70%**  
Increase in  
student USTC  
Membership Hours

## Utah System of Higher Education Secondary Programs

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Utah's colleges and universities are important partners in providing a full range of career and technical education offerings to secondary students through concurrent enrollment and other articulation arrangements that result in credit.

Concurrent enrollment in career and technical education coursework is provided to high school students with credit granted by high schools as well as cooperating credit-granting (non-USTC) colleges or universities. In the 2016-2017 school year, secondary students earned over 22,000 concurrent enrollment credits in CTE courses. Concurrent enrollment opportunities are a critical component in High School to College and Career Pathways. Pathways are developed to open more career and technical education opportunities for secondary students in higher education.

### Utah State University Eastern

In the 2007 legislative session, the Southeast Applied Technology College (SEATC) was merged with the College of Eastern Utah (CEU). In 2011, CEU became Utah State University Eastern (USU Eastern). The 2007 legislation required USU Eastern to continue to serve secondary students at no charge, and to work to provide services to the outlying school districts in the region. USU Eastern can provide credit or non-credit to high school students. Since this legislative change, the LEA personnel and CEU/USU Eastern staff have been working hard to ensure that the same levels of service and funding for secondary students are provided.

### Snow College

In the 2003 legislative session, HB161 merged the Central Applied Technology College with Snow College. The legislation requires Snow College to continue to serve secondary students at no charge, and to work to provide services to the outlying school districts in the region. Snow College can provide credit or non-credit to high school students. Snow College Richfield continues to provide programs to secondary students in the Central Region.

### Salt Lake Community College

Salt Lake Community College, through its School of Applied Technology, is to serve the needs of secondary students in the Wasatch South Region, with the exception of Tooele County. Salt Lake Community College School of Applied Technology membership for secondary students is holding steady. There has been an aggressive effort to provide high school CTE programming.

**Table 3: USTC change in Secondary Student Headcount and Membership Hours**

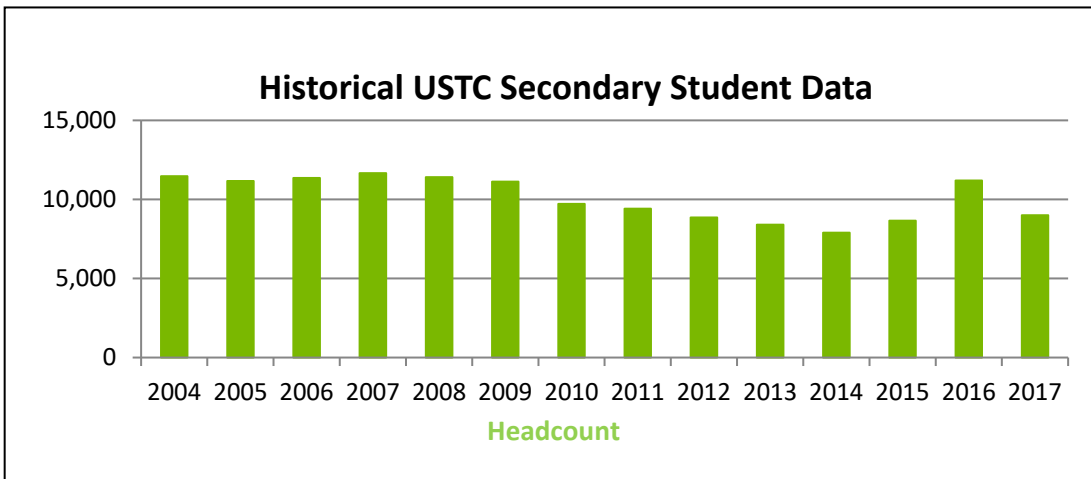
USTC Secondary Student Data	2016	2017	Difference 2016 to 2017	Percent Difference 2016 to 2017
Student Headcount	11,195	9,001	-2,194	19.6% decrease
Membership Hours	1,895,904	1,909,106	13,202	0.7% increase

Source: USTC Data 2016 & 2017

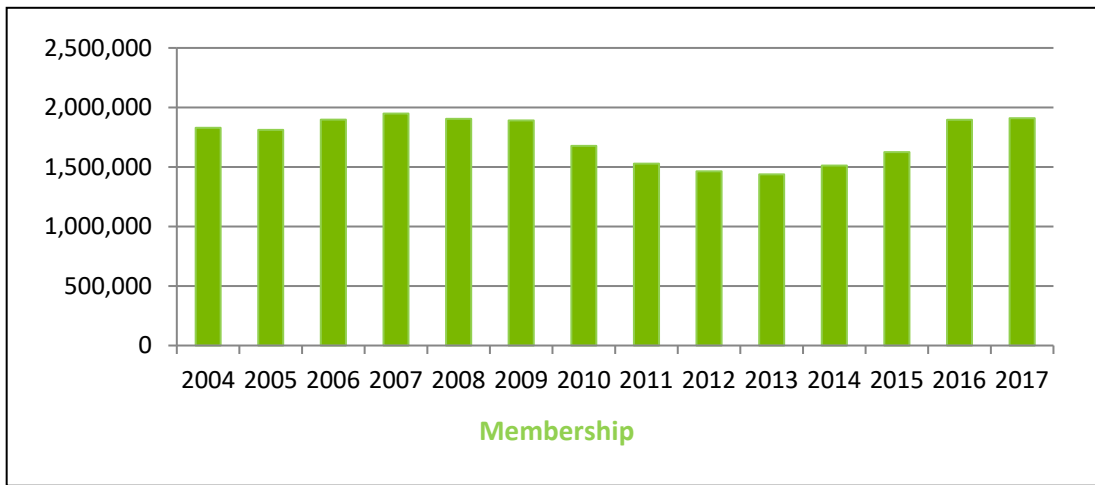
**Table 4: USTC Historical Secondary Student Headcount and Membership Hours**

Year	USTC Headcount	USTC Membership Hours
2005	11,169	1,812,298
2006	11,361	1,898,077
2007	11,663	1,948,583
2008	11,413	1,904,175
2009	11,127	1,890,601
2010	9,717	1,677,843
2011	9,411	1,528,136
2012	8,856	1,463,561
2013	8,401	1,437,801
2014	7,900	1,511,558
2015	8,652	1,624,477
2016	11,195	1,895,904
2017	9,001	1,909,106

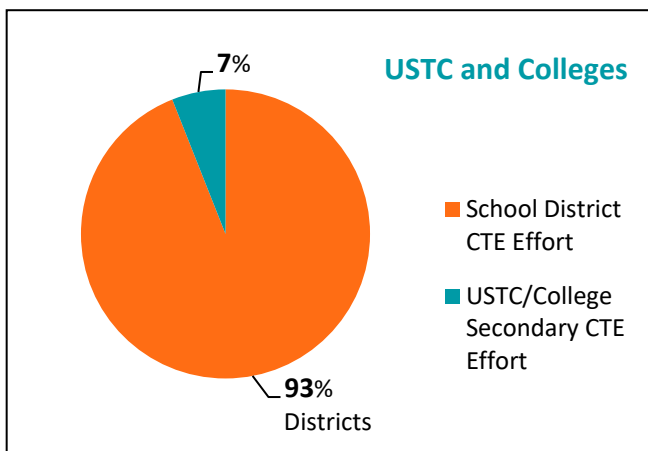
Source: USTC Data 2005-2017







**Table 5: Percentage of Total Secondary CTE Effort**



**Table 6: Percentage of Total CTE Average Daily Membership (ADM) Grades 9-12, Provided by School Districts and USTC, Snow Richfield, USU Eastern, and SLCC**

USTC membership includes both the courses provided at college campuses and USTC courses provided at the high schools. Central, Southeast, and Wasatch Front South Region membership is for students attending Snow College, USU Eastern, and SLCC, and is reported by these institutions. Average daily membership (ADM) is full-time equivalent based on 990 hours. Prepared by USBE, CTE Division, 09/17.

Region	School District Percent of Total Secondary CTE Membership 2016-17	USTC and USHE Percent of Total Secondary CTE Membership 2016-17
Bear River Region (BATC)	81%	19%
Central Region (Snow Richfield)	99%	1%
Davis Morgan Region (DATC)	89%	11%
Dixie Region (DXATC)	96%	4%
Mountainland Region (MATC)	94%	6%
Ogden-Weber Region (OWATC)	91%	9%
Southeast Region (USU Eastern)	99%	1%
Southwest Region (SWATC)	82%	18%
Tooele County (TATC)	98%	2%
Wasatch Front South (SLCC)	100%	0%
Uintah Basin Region (UBATC)	66%	34%
<b>State Total</b>	<b>93%</b>	<b>7%</b>

**Table 7: USTC Change in Secondary Student Headcount and Membership Hours**

USTC Region Campus		2016	2017	Difference	Percent
Bridgerland	Headcount	1,968	1,875	-93	-4.96%
	Membership	374,948	313,628	-61,320	-19.55%
Davis	Headcount	1,264	1,434	170	11.85%
	Membership	355,730	368,584	12,854	3.49%
Dixie	Headcount	2,528	305	-2,223	-728.85%
	Membership	69,595	65,241	-4,354	-6.67%
Mountainland	Headcount	1,373	1,438	65	4.52%
	Membership	448,787	473,692	24,905	5.26%
Ogden-Weber	Headcount	1,443	1,327	-116	-8.74%
	Membership	264,859	262,011	-2,848	-1.09%
Southwest	Headcount	894	835	-59	-7.07%
	Membership	98,410	93,146	-5,264	-5.65%
Tooele	Headcount	128	144	16	11.11%
	Membership	21,485	22,438	953	4.25%
Uintah Basin	Headcount	1,597	1,643	46	2.80%
	Membership	262,090	260,172	-1,918	-0.74%
UCAT TOTAL	Headcount	11,195	9,001	-2,194	-24.38%
	Membership	1,895,904	1,909,106	13,202	0.69%

Source: USTC Data 2017

**Table 8: USTC Historical Secondary Student Headcount and Membership Hours**

		FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017
Bridgerland	Headcount	1,976	1,988	1,957	1,686	1,737	1,722	1,779	1,968	1,875
	Membership	308,027	295,861	269,475	241,527	275,885	359,936	361,369	374,948	313,628
Davis	Headcount	1,703	1,990	1,661	1,375	1,095	946	1,086	1,264	1,434
	Membership	274,572	322,329	263,040	219,825	206,592	229,301	251,798	355,730	368,584
Dixie	Headcount	786	473	522	843	985	730	951	2,528	305
	Membership	88,137	66,844	49,489	42,283	34,638	46,539	53,081	69,595	65,241
Mountainland	Headcount	1,868	1,326	1,284	1,349	1,422	1,284	1,259	1,373	1,438
	Membership	477,456	347,806	345,932	377,467	409,941	392,877	399,247	448,787	473,692
Ogden-Weber	Headcount	2,178	1,514	1,360	1,293	1,219	1,028	1,203	1,443	1,327
	Membership	329,900	253,378	237,415	223,573	220,051	176,504	211,602	264,859	262,011
Southwest	Headcount	967	763	1,048	880	644	798	839	894	835
	Membership	127,689	89,293	94,121	80,286	74,595	87,177	91,687	98,410	93,146
Tooele	Headcount	58	59	26	31	30	44	86	128	144
	Membership	5,667	10,759	3,627	4,995	3,824	7,941	12,598	21,485	22,438
Uintah Basin	Headcount	1,591	1,604	1,553	1,399	1,269	1,348	1,449	1,597	1,643
	Membership	279,151	291,573	265,037	273,605	212,275	211,283	243,095	262,090	260,172
TOTALS	Headcount	11,127	9,717	9,411	8,856	8,401	7,900	8,652	11,195	9,001
	Membership	1,890,601	1,677,843	1,528,136	1,463,561	1,437,801	1,511,558	1,624,477	1,895,904	1,909,106

Source: USTC Data 2009-2017

- <sup>1</sup> Association for Career and Technical Education, CTE Today! 2016.
- <sup>2</sup> Ibid.
- <sup>3</sup> Alfeld et al., Looking Inside the Black Box: The Value Added by Career and Technical Student Organizations to Student's High School Experiences, National Research Center for CTE, 2007.
- <sup>4</sup> Alfeld et al., Work-Based Learning Opportunities for High School Students, National Research Center for CTE, 2013.