

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

Report of FY16



Prepared by the
Utah State Board of Education
Career and Technical Education

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Career and Technical Education

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Utah Code 53A-15-202 provides that the Utah State Board of Education shall, after consulting with school districts, charter schools, the Utah College of Applied Technology, Salt Lake Community College's School of Applied Technology, Snow College, and the College of Eastern Utah, prepare and submit an annual report to the governor and to the Legislature's Education Interim Committee by October 31 of each year detailing: (a) how career and technical education needs of secondary students are being met; and (b) what access secondary students have to programs offered: (i) at applied technology colleges; and (ii) within the regions served by Salt Lake Community College's School of Applied Technology, Snow College, and Utah State University Eastern.

This report has been prepared for the State Board in fulfillment of this statute.

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 College of Applied Technology (UCAT) and the Utah System of Higher Education (USHE), LEAs assure efficient and effective career and technical education delivery.

158,677

**Students
enrolled in LEA
Career &
Technical
Education
courses
2015-2016**

Secondary Career & Technical Education Efforts in SY 2015-2016

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 2015-2016 school year:

- Enrollment in LEA Career and Technical Education courses increased by 2.79 percent (4,313 students) in 2015-2016 to 158,677 – up from 154,364 students in 2014-2015.
- LEA Career and Technical Education average daily membership (ADM) increased 4.86 percent (1,238 ADM) in 2015-2016 to 26,711 – up from 25,473 ADM in 2014-2015.
- LEAs delivered 93 % percent of all career and technical education membership hours in grades 9-12.
- Over 3,500 teachers and counselors participating in staff development activities, including industry tours.
- Development of College and Career Ready materials, including occupational data on high-demand occupations.
- 106 secondary students received CTE scholarships and tuition awards.
- Over 20,000 secondary students earned concurrent enrollment credit in CTE courses.

32,722,170

**Membership
hours in
secondary CTE
courses in
2015-2016**

CTE Credentials and Certifications

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), AutoCAD, Autodesk Inventor, and IC3 GS (Internet Computing Core – Global Standard).
 - 18,348 students earned certifications and 882 teachers earned certifications through the Microsoft Imagine Academy program.

18,807

**Industry
certifications
earned by
secondary
students**

96,160

**CTE
Skill
Certificates
awarded to
secondary
students**

Career Pathways

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 credentialing, and ultimately culminates in the attainment of a recognized postsecondary credential.

66%

**of Secondary
students are CTE
concentrators**

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 96.6% compared to Utah’s statewide graduation rate of 84%.

27%

**of Secondary
students are CTE
completers**

- CTE Concentrators (1.5 credits in a career pathway sequence of courses) SY15-16 = 66%
- CTE Completers (3.0 credits in a career pathway sequence of courses) SY15-16 = 27%

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.

- 2,930 secondary students participated in internships.

Career and Technical Student Organizations

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.

- 22,435 secondary students were served through DECA, FBLA, FCCLA, FFA, HOSA, SkillsUSA, and TSA in SY15-16.

College and Career Awareness – 7th 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. They learn about careers and how to access current information about market demand, average earnings, and training and education requirements.

- In SY15-16, 46,297 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 (under development)
 - Canyons School District
 - Davis School District
 - Granite School District
 - Salt Lake Community College

We are continuing partnerships with GOED, DWS, Education, and Industry. New pathway projects will be developed as we move forward.

The ROI for Secondary CTE

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

CTE Cost of Services

- The FY16 Secondary CTE Add-On Allocation was \$85,351,100. The value of the CTE WPU was \$2,837.
- LEAs are required to expend an amount equivalent to the regular WPU for students in approved CTE programs. For FY16, the budgeted minimum qualifying expenditure for this maintenance of effort is calculated to be \$72,204,989. The actual audited MOE expenditures will not be available until spring 2017.
- The SY15-16 secondary CTE enrollment (in courses and programs provided by LEAs) was 158,677 students.
- The total membership hours for the LEA CTE courses was 32,722,170.

\$4.81

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 UCAT showed that program collaboration and coordination is occurring. The eight CTE planning regions across Utah bring CTE leaders from LEAs, UCAT, 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. ¹
- CTE addresses the needs of high-growth industries and helps close the skills gap. ²
- 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. ³
- 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. ⁴
- In Utah, secondary students who concentrate (1.5 credits in a career pathway sequence of courses) graduate from high school at 96.6% compared to Utah's statewide graduation rate of 84%.

96.6%

Graduation rate for secondary students who are CTE concentrators

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

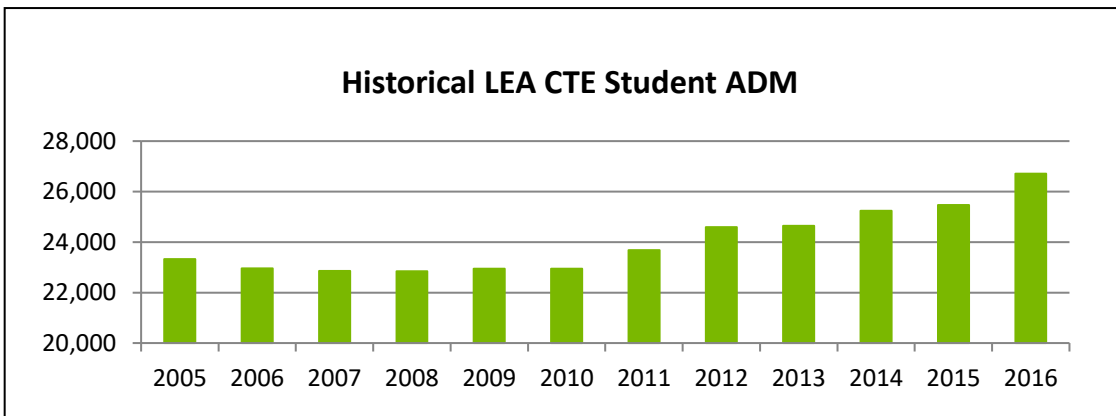
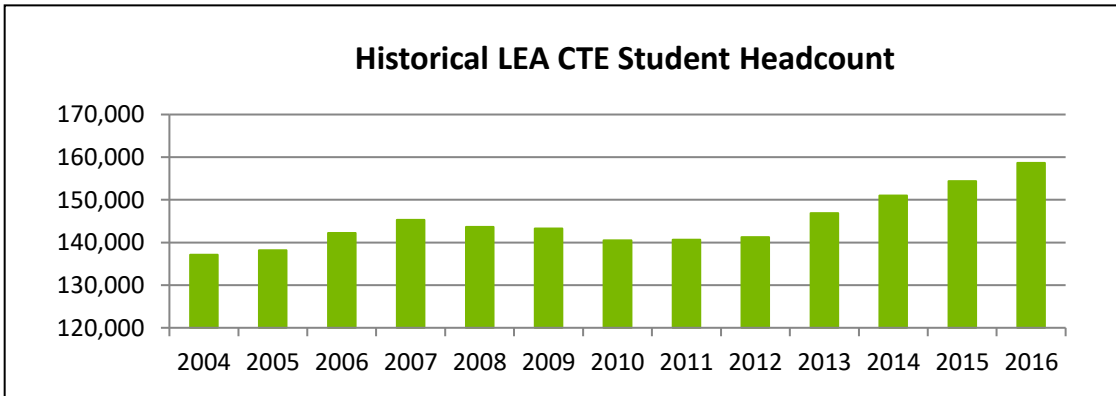
Local Education Agency Career and Technical Education	2015	2016	Difference 2015 to 2016	Percent Difference 2015 to 2016
Student Headcount	154,364	158,677	4,313	2.79% increase
Average Daily Membership (ADM)	25,473	26,711	1,238	4.86% increase

Note: Secondary student headcount is unduplicated by school. Prepared by USBE, CTE Section, 09/16.

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

Prepared by USBE, CTE Section, 09/16.



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

- UCAT secondary student headcount increased by 29.4% (2,543 students) in 2015-2016 to 11,195 students, up from 8,652 students in 2014-2015.
- Membership hours for secondary students at UCAT increased by 16.7% (271,427 hours) in 2015-2016 to 1,895,904 hours, up from 1,624,477 hours in 2014-2015.
- In 2015-2016, UCAT provided 5.5% of the total high school career and technical education program opportunities statewide (as measured in membership) in grades 9-12.

11,195
UCAT
Secondary Student
Headcount

29.4%
Increase
SY15-16

LEA respondents to an annual State Board of Education survey reported the following regarding UCAT services:

- Most respondents reported that a wide range of courses and programs are available to students.
- A significant majority of respondents reported that they are working closely with UCAT to better align schedules for increased participation by high school students at the UCAT campuses.
- Most respondents reported that UCAT is working to provide postsecondary instructors to either help teach courses on the high school campus, and/or to provide distance learning opportunities to secondary students.
- A significant majority of respondents reported that UCAT services add value by offering next step programs that allow students to move smoothly from high school CTE courses to more advanced or technical courses.
- Respondents indicated that articulation between the LEAs and UCAT is occurring.
- Most LEAs responded that they feel they have an excellent working relationship with UCAT.

Comments from survey respondents regarding UCAT collaboration and services included:

- Our partnerships with our local UCAT campuses are wonderful.
- Our partners work with us very well and help fill in gaps. We coordinate our program and offerings. We were even able to get on the same bell schedule to better facilitate students participating fully at UCAT.
- Great working relationship with UCAT.
- Our partnership with UCAT is critical to students being able to complete many of our Career Pathways.

Utah System of Higher Education Secondary Programs

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 both high schools and by cooperating credit-granting (non-UCAT) colleges or universities. In the 2015-2016 school year, over 20,000 students earned concurrent enrollment credit in CTE courses. Concurrent enrollment opportunities are a critical component as High School to College and Career 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 retained.

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 remained the same as the previous school year. There has been an aggressive effort to provide high school CTE programming.

LEA respondents to an annual Utah State Board of Education survey reported the following regarding USHE services:

- Most respondents reported that a wide range of courses and programs are available to students.
- Most respondents reported that UCAT is working to provide postsecondary instructors to either help teach courses on the high school campus, and/or to provide distance learning opportunities to secondary students.
- A significant majority of respondents reported that USHE services add value by offering next step programs that allow students to move smoothly from high school CTE courses to more advanced or technical courses.
- Respondents indicated that articulation between the LEAs and USHE is occurring.
- Most respondents replied that USHE is a critical link and major contributor to the level of CTE services in the region.

Comments from survey respondents regarding UCAT collaboration and services included:

- Our LEA works well with the CTE staff at our USHE campus. Their staff are good to work with and understand issues.
- USU Eastern has spent considerable time in developing a better relationship. We appreciate the effort and we are looking forward to continuing our efforts.
- There is no structure established for USU Eastern to offer UCAT-like programs on an hourly basis instead of credit based.
- The connection between secondary CTE programs and postsecondary is critical. Both programs will gain and students will be in a win-win situation.
- Snow College staff have been great to work with and the relationship has greatly improved over the last two to three years.
- We have an awesome relationship with SLCC. They work hand-in-hand with us and add great value to our CTE programs.
- We are very satisfied with our postsecondary institution and continually work together to offer more and better opportunities within this structure.

Table 3: UCAT change in Secondary Student Headcount and Membership Hours

UCAT Secondary Student Data	2015	2016	Difference 2015 to 2016	Percent Difference 2015 to 2016
Student Headcount	8,652	11,195	2,543	29.4% increase
Membership Hours	1,624,477	1,895,904	271,427	16.7% increase

Source: UCAT Data 2015 & 2016

Table 4: UCAT Historical Secondary Student Headcount and Membership Hours

Year	UCAT Headcount	UCAT 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

Source: UCAT Data 2005-2016

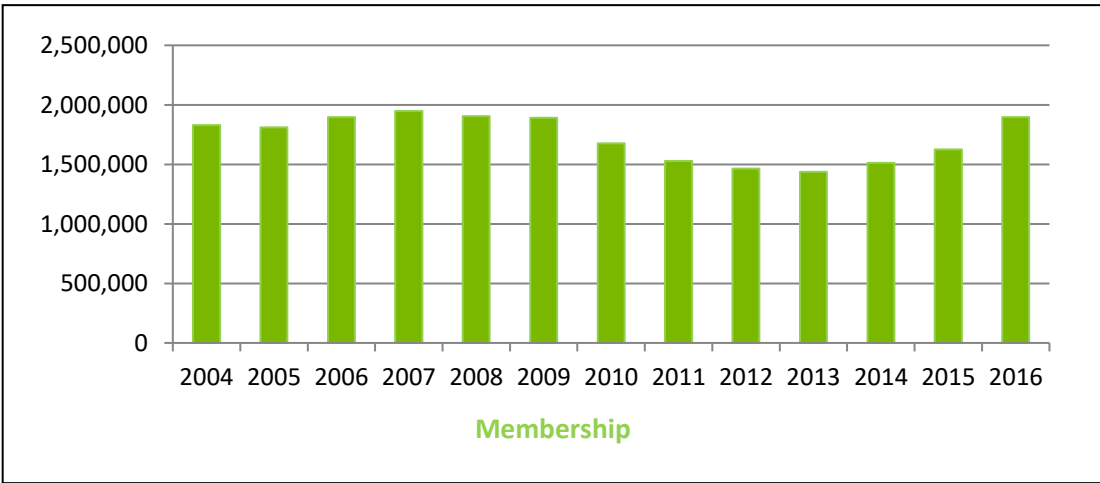
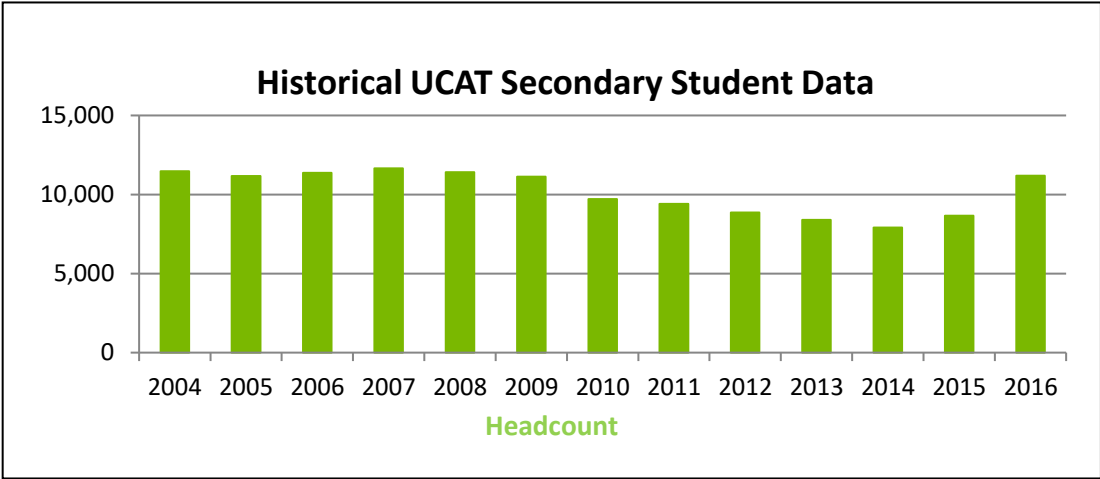


Table 5: Percentage of Total Secondary CTE Effort

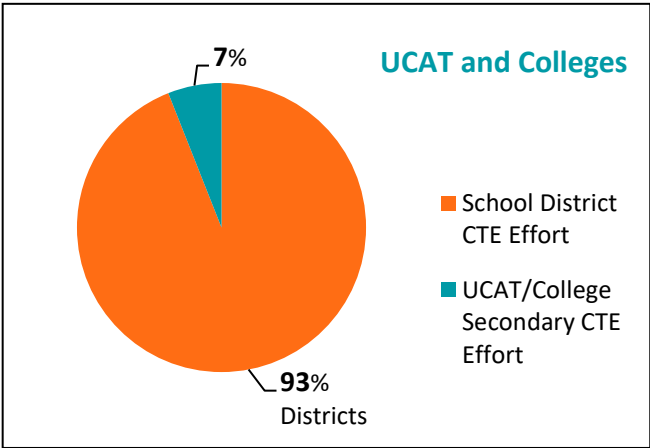


Table 6: Percentage of Total CTE Average Daily Membership (ADM) Grades 9-12, Provided by School Districts and UCAT, Snow Richfield, USU Eastern, and SLCC

UCAT membership includes both the courses provided at college campuses and UCAT 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, 09/16.

Region	School District Percent of Total Secondary CTE Membership 2015-16	UCAT and USHE Percent of Total Secondary CTE Membership 2015-16
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)	90%	10%
Southeast Region (USU Eastern)	99%	1%
Southwest Region (SWATC)	81%	19%
Tooele County (TATC)	98%	2%
Wasatch Front South (SLCC)	100%	0%
Uintah Basin Region (UBATC)	62%	38%
State Total	93%	7%

Table 7: UCAT Change in Secondary Student Headcount and Membership Hours

UCAT Region Campus		2015	2016	Difference	Percent
Bridgerland	Headcount	1,779	1,968	189	10.62%
	Membership	361,369	374,948	13,579	3.76%
Davis	Headcount	1,086	1,264	178	16.39%
	Membership	251,798	355,730	103,932	41.28%
Dixie	Headcount	951	2,528	1,577	165.83%
	Membership	53,081	69,595	16,514	31.11%
Mountainland	Headcount	1,259	1,373	114	9.05%
	Membership	399,247	448,787	49,540	12.41%
Ogden-Weber	Headcount	1,203	1,443	240	19.95%
	Membership	211,602	264,859	53,257	25.17%
Southwest	Headcount	839	894	55	6.56%
	Membership	91,687	98,410	6,723	7.33%
Tooele	Headcount	86	128	42	48.84%
	Membership	12,598	21,485	8,887	70.54%
Uintah Basin	Headcount	1,449	1,597	148	10.21%
	Membership	243,095	262,090	18,995	7.81%
UCAT TOTAL	Headcount	8,652	11,195	2,543	29.39%
	Membership	1,624,477	1,895,904	271,427	16.71%

Source: UCAT Data 2016

Table 8: UCAT Historical Secondary Student Headcount and Membership Hours

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

Source: UCAT Data 2016

- ¹ Association for Career and Technical Education, CTE Today! 2016.
- ² Ibid.
- ³ 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.
- ⁴ Alfeld et al., Work-Based Learning Opportunities for High School Students, National Research Center for CTE, 2013.