

Joint Technical Education Districts

CONCLUSION: The Office of the Auditor General has conducted a special audit of joint technical education districts (JTEDs) pursuant to Laws 2016, Ch. 4, §7. In 1990, the Arizona Legislature enacted statutes that allowed the State's public school districts to form JTEDs for the purpose of improving career and technical education (CTE). Since then, 14 JTEDs have formed throughout the State, and 99 school districts have joined a JTED thereby becoming JTED member districts, leaving only five school districts that offered CTE in fiscal year 2016 not part of a JTED. CTE in Arizona is delivered through one of three models—at JTED central campuses, at JTED member districts' satellite campuses, and at school districts that are not part of a JTED (non-JTED districts). Between fiscal years 2011 and 2016, total state-wide CTE course enrollment grew, but the number of students funded decreased because of a statutory change. Districts shared similarities in CTE delivery and student outcomes, but differences existed both among and within CTE models. Further, although almost half of member districts' CTE programs were duplicated, several challenges limit consolidation opportunities. Additionally, the CTE programs and their content that districts offered were impacted by CTE model, campus locations, and whether there were clear industry standards. In analyzing state-wide fiscal year 2016 spending on CTE, Arizona districts spent approximately \$219 million on CTE, nearly half of which was for CTE teacher salaries and benefits. Spending by JTEDs during fiscal years 2012 through 2016 was mostly for instruction and construction but varied among JTEDs due to developmental and operational differences. Districts have implemented practices to address barriers to students' access to and awareness of CTE programs and have taken steps to continue improving CTE program quality, and JTEDs provided member districts with varied services that reflected differences in amounts of JTED monies they allocated to their member districts. Finally, CTE in Arizona faces challenges but also has opportunities to continue improving.

Overview of CTE and JTEDs

Arizona high school students who attend public schools, charter schools, private schools, or are home schooled can participate in CTE (see textbox). CTE is delivered through one of three models. CTE can be delivered at JTED central campuses that serve students attending districts that are members of the JTED, as well as charter, private, and homeschooled students within the JTED's boundaries (JTED central campuses). CTE can also be delivered at a JTED member district's satellite campus, which is a high school operated by a member district where students attending that school take CTE courses (JTED member districts' satellite campuses). Students attending JTED central campuses or member districts' satellite campuses generate additional funding for their JTEDs. Lastly, CTE can be delivered at high schools that are operated by districts that are not members of a JTED (non-JTED districts). Students attending non-JTED districts do not generate additional funding. State-wide, CTE is primarily funded with JTED monies, which are monies comprising state, local, and county revenues and that are available to JTEDs and their member districts. Some funding also comes from federal grants, primarily the Carl D. Perkins grant. All districts state-wide providing CTE can also receive funding from a state vocational education block grant.

Career and technical education (CTE)—Programs for pupils in grades 9 through 12 that consist of an organized set of specialized courses that prepare pupils for occupations that normally do not require a baccalaureate or an advanced degree and provide them with sufficient skills for entry into an occupation.

Source: Arizona Revised Statutes §15-781.

Number of JTEDs, member districts, and total CTE course enrollment increased, but statutory change resulted in fewer students being funded

Between fiscal years 2006 and 2016, the number of JTEDs increased from 10 to 14, and the number of member districts increased from 66 to 99, with most new member districts joining newly formed JTEDs. As a result, by fiscal year 2016, only five school districts that offered CTE were not JTED member districts. Between fiscal years 2011 and 2016, the period for which enrollment data was available, total state-wide CTE course enrollment grew by over 7,000 from 145,993 to 153,154, with most of this growth occurring at member districts' satellite campuses. Although total CTE course enrollment

increased, the number of students eligible for JTED funding decreased by about 2,000 during this time because of a statutory change that took effect in fiscal year 2012 and no longer provided funding for 9th grade students who enrolled in CTE courses.

JTEDs, member districts, and non-JTEDs shared similarities in CTE delivery and student outcomes, but differences existed both among and within models

CTE models shared similarities in CTE delivery and student outcomes—Among the districts we reviewed, students in all three CTE models appear to have spent a majority of class time in a laboratory, field-based, or work-based environment as required by statute. Additionally, we reviewed fiscal year 2016 class sizes for the sampled programs and districts and found that class sizes were similar across the models. Further, fiscal year 2016 high school graduation rates for students who completed two or more CTE courses in a program were likely similar among the three models.

Differences existed in CTE delivery and student outcomes among and within models—Among the districts in our sample, students at JTED central campuses had more class time to practice their skills than students at member districts' satellite campuses or at non-JTED districts likely because JTED central campuses typically offered CTE courses that met for 2 to 3 hours a day, whereas member districts and non-JTED districts typically offered CTE courses that met for 50 to 55 minutes a day. Additionally, although the total years of experience CTE teachers had was similar across the three models, the type of experience varied. CTE teachers at JTED central campuses and member districts' satellite campuses reviewed reported having more industry experience, while CTE teachers at non-JTED districts reported having more teaching experience. Further, we found the quality and amount of equipment at JTED central campuses to be more consistent than at member districts' satellite campuses and non-JTED districts. This was especially true for the Culinary Arts, Automotive Technologies, and Engineering Sciences programs. We also found that, across all three models, the emphasis placed on CTE students earning industry certifications or licenses varied depending on the CTE program teacher. In all three models, there were some teachers who indicated they strongly encourage students to earn industry certifications, while other teachers indicated they do not. Lastly, although some CTE programs offered students opportunities to earn college credit, CTE students attending JTED central campus programs located on community college campuses appeared to have more opportunities to earn college credit. However, we were not able to compare the number of credits students earned because only some districts collected this information.

Almost half of JTED member districts' CTE programs duplicated, but challenges limit consolidation opportunities

State-wide, in fiscal year 2016, almost half of JTED member districts' CTE programs were “duplicated,” which means they were offered at two or more satellite campuses within the same member district or at the JTED central campus to which the member district belonged. Of the 953 member districts' CTE programs offered state-wide, 433, or 45 percent, were duplicated. Of these 433 duplicated programs, 250 were offered at more than one satellite campus within a member district, and 255 were offered at a member district satellite campus and at a central campus of that member district's JTED, with 72 programs fitting both categories. However, we identified several challenges that limit opportunities for districts to consolidate duplicated programs. For example, of the 250 duplicated CTE programs offered at more than one satellite campus within a member district, 237, or 95 percent, had large enough enrollments that they likely could not be combined with the same program at other satellite campuses within the member district. Another challenge we identified to consolidating duplicated programs is that member districts often have different daily and annual schedules than the JTED central campuses that serve them. If these schedules do not align, it may be inconvenient for a student to attend a CTE course at a JTED central campus if the satellite program at his/her home school was eliminated. Lastly, students' lack of transportation or lack of time in their own class schedules may also limit consolidation opportunities. Some districts do not provide transportation for their students to attend central campuses, and some students may not have sufficient open periods in their class schedules to attend a 2-to-3-hour-per-day CTE course at a central campus.

CTE program offerings and content impacted by CTE model, location, and industry standards

In fiscal year 2016, the CTE model impacted which CTE programs districts offered students. JTED central campuses more frequently offered Cosmetology and Related Personal Grooming Services, Fire Service, and Medical Assisting Services

than member districts' satellite campuses. This is likely because these programs are costly and require economies of scale that JTED central campuses can more easily benefit from than member districts' satellite campuses. Conversely, member districts frequently offered several programs, including Business Management and Administrative Services, Digital Photography, and Film and TV at their satellite campuses, which were among the least offered CTE programs at JTED central campuses. These programs are likely more easily offered at the member districts' satellite campuses because they are low cost and not as dependent on achieving certain enrollment numbers to warrant costs and investments to start the programs. Further, whether campuses were in rural or urban locations impacted the number and type of CTE programs offered. Urban JTEDs offered 20 different CTE programs at their central campuses, on average, whereas rural JTEDs offered 9 different CTE programs at their central campuses, on average. This was likely due to rural JTEDs not having enough students to justify providing additional programs at their central campuses. Additionally, CTE programs with greater regulatory oversight or clear industry certifications or licenses, such as Nursing Services, Automotive Technologies, and Welding Technologies, tended to have more consistent content. In contrast, those CTE programs that did not have regulatory oversight or clear industry certifications or licenses, including Film and TV and Plant Systems, had the least amount of consistency.

Nearly half of state-wide CTE spending for CTE teacher salaries and benefits, but spending among JTEDs varied due to developmental and operational differences

In fiscal year 2016, JTEDs', JTED member districts', and non-JTED districts' CTE spending totaled about \$219 million, nearly half of which was for CTE teachers' salaries and benefits. Districts spent about \$147 million on CTE from funding sources restricted for CTE as well as \$72 million from other funding sources. In addition to analyzing state-wide spending on CTE, we also reviewed how JTEDs spent their monies and found that during fiscal years 2012 through 2016, JTEDs reported spending about \$117 million each year, on average, and spent the most on instruction and construction. However, spending varied among the JTEDs because of key developmental and operational differences. For example, four JTEDs constructed new campuses, added additional buildings, or completed renovations to their central and satellite campuses during this time period. As a result, 16 to 46 percent of these four JTEDs' spending was on construction costs during fiscal years 2012 through 2016, compared to the 0 to 9 percent that other JTEDs spent during this period. Additionally, some of the spending variance among JTEDs also likely reflects certain operational differences, such as whether a JTED owns its central campus or operates its central campus programs in conjunction with a community college, that lead to JTEDs reporting costs differently.

JTEDs, member districts, and non-JTEDs have implemented practices to address barriers to students' access to and awareness of CTE programs and have taken steps to continue improving CTE program quality

To improve students' access to CTE programs, some JTEDs have built new campuses in locations that are strategically placed within their district boundaries or offer CTE programs at community colleges that have campuses located throughout their districts. Additionally, some JTEDs and JTED member districts provide transportation or bus passes to students to help students attend JTED central campus programs, and one JTED offers tuition-free summer school classes for state-mandated academic courses so students have more time in their schedules to take CTE. Further, some JTEDs reported that they advertised on the radio and social media and reached out to charter and private schools and home school providers to increase awareness of the CTE programs they offer. Additionally, some districts have taken various steps to continue improving the quality of their CTE programs. Specifically, some JTEDs and JTED member districts provide mentor teachers to help new CTE teachers know what to expect as a teacher and help the new CTE teacher in critical areas like classroom management. One JTED pays teachers to participate in industry externships to ensure teachers maintain their industry skills and stay current with industry changes. Additionally, many districts participate in the AZ Curriculum Consortium, which allows CTE teachers from across the State to post lesson plans and activities that they have developed and share them with other CTE teachers. Further, districts secured large donations from industry partners, including medical equipment and supplies donated to one JTED valued at over \$170,000 and diesel and gasoline engines donated to another JTED valued at over \$45,000. Lastly, one large urban JTED has made its industry advisory boards from its own central campus programs available to its member districts so that they do not have to organize their own and do not have to compete with other teachers or member districts for the same industry representatives.

JTEDs provided member districts with varied services that reflected differences in amounts of JTED monies allocated to their member districts

JTEDs we reviewed provided their member districts with services that are required by statute, such as teacher professional development opportunities and CTE program review, but they also provided additional services, such as paying for students' certification costs, which are not required by statute. These additional services varied between the JTEDs and often depended on how much JTED monies generated by satellite campus enrollment JTEDs allocated to their member districts. JTEDs we reviewed allocated between 36 and 81 percent of JTED monies generated by satellite campus enrollment to their member districts in fiscal year 2016. JTEDs that provided more additional services allocated less JTED monies to their member districts, and those JTEDs that provided fewer additional services allocated more JTED monies to their member districts. For example, the JTEDs that allocated the lowest percentages of monies to member districts paid for students' certification costs, paid for membership fees in the AZ Curriculum Consortium, and financially supported career and technical student organizations (CTSOs) at their member districts. Conversely, the JTED that allocated the highest percentage of JTED monies to its member districts did not pay for memberships in the AZ Curriculum Consortium and did not financially support member districts' CTSOs. Officials at this JTED indicated that the high percentage of JTED monies allocated to its member districts should provide enough financial resources for its member districts to provide these services without additional financial help from the JTED.

CTE in Arizona faces challenges but also has opportunities

Broad challenges facing CTE—Increased math and science requirements and preparation for standardized tests leave less room in students' class schedules to take CTE courses. Further, some districts do not provide transportation for their students to attend JTED central campuses, so students at these districts must provide their own transportation or take public transportation if they want to take CTE courses at their JTED's central campuses. Lastly, district officials from many of the districts we visited discussed the difficulty in recruiting and retaining CTE teachers for some programs, especially nursing, construction, welding, and information technology-type CTE programs, because it was difficult to compete with the wages that these individuals can earn in their industry.

Opportunities exist to improve CTE—Districts also have opportunities to continue improving CTE. Specifically, JTEDs and their member districts should work together to coordinate their school calendars, bell schedules, and testing schedules, which may encourage more students to enroll in JTED central campus courses. Additionally, some districts' successful programs have attracted industry partners to their campuses and neighborhoods, providing jobs to students who have completed CTE programs and enhancing learning experiences for students still in CTE programs. Further, some JTED officials indicated that they regularly meet with their cities and other organizations, such as local chambers of commerce, regional economic development groups, and legislative committees, to discuss future workforce needs and how JTEDs can help prepare students to meet these needs. Lastly, although JTEDs, member districts, and non-JTED districts are required to report certain data to the Arizona Department of Education (ADE) annually, there is additional data that they are not required to collect or report but that may be useful in helping them to evaluate the effectiveness and efficiency of their CTE programs. This includes ensuring all students participating in CTE programs are included in state-wide CTE course enrollment data, collecting industry certifications and college credits that their students earn, calculating retention rates for CTE programs, and using detailed cost data to calculate performance measures such as total costs per CTE program and cost per program completer.

Recommendations:

- JTEDs and their member districts should explore opportunities to coordinate their school calendars, bell schedules, and testing schedules to help eliminate challenges for students who would like to attend CTE programs at JTED central campuses.
- JTEDs, member districts, and non-JTED districts should continue to work with local businesses and industry to provide learning opportunities for all students in their CTE programs and work with their cities and the State to identify and develop CTE programs that will meet future local and state workforce needs.
- JTEDs, member districts, non-JTED districts, and ADE should work together to develop and implement ways to consistently collect data for all students participating in CTE programs pertaining to industry certifications and college credits their students earn, calculate retention rates, and use cost data to calculate performance measures to evaluate their programs.