



CTE ON THE FRONTIER

CONNECTING RURAL LEARNERS WITH THE WORLD OF WORK

CTE on the Frontier

To help states unpack the challenges and potential approaches to expanding access to quality Career Technical Education (CTE) programs in rural communities, Advance CTE — in partnership with the Council of Chief State School Officers and Education Strategy Group through the New Skills for Youth (NSFY) initiative — is releasing a series of briefs titled *CTE on the Frontier*. The series will explore some of the most pressing challenges facing rural CTE, including program quality,¹ access to the world of work, leveraging partnerships to expand program offerings and the rural CTE teacher pipeline.

Through interviews with state CTE leaders at both the secondary and postsecondary levels, Advance CTE identified promising practices and strategies to strengthen access to and the quality of CTE pathways in rural communities. This brief, the second in the series, explores how states can and are supporting efforts to ensure that all learners in rural communities have the opportunity to engage directly with employers and the world of work.

The State Role in Connecting Rural Learners with the World of Work

One unique and critical element of CTE pathways is that they offer learners exposure and access to authentic experiences inside and outside the classroom. CTE provides opportunities for learners to gain real-world skills and real-world experiences through their coursework and direct interactions with industry partners through work-based learning, mentorships and Career Technical Student Organizations (CTSOs). Having access to industry partners and the world of work is critical to learners' career awareness, exposure and preparation and to the overall quality of the CTE pathway.

For these opportunities to be guaranteed, industry must play a key role in the design, development and delivery of CTE pathways, including in rural communities. However, ensuring that all learners in rural communities have opportunities to engage with industry partners can be difficult — more often than not because of physical distances between employers and schools and institutions as well as limited transportation options. And many rural communities do not have a wide variety of industries represented, limiting learners' opportunities to explore a diversity of career clusters and pathways.

This challenge is by no means new, and a number of states, districts and colleges have been pioneering innovative solutions, many of which focus on bringing the world of work to learners — rather than requiring learners to leave their classrooms. Technology plays a major role in these efforts as well as targeted funding and implementation support that recognizes and accounts for the rural context.

Bringing Industry Exposure and Experiential Learning Directly to Learners

A number of states and communities have realized that if they cannot bring all learners to the workplace, they can still bring the workplace to learners. This strategy addresses two major barriers: an insufficient number of workplace experience placements for learners — which is a challenge in nearly all areas, not just rural communities — and transportation barriers for learners who do not have access to public transit or a vehicle.

A number of states, such as West Virginia, Montana and South Dakota, have identified ways to bring the physical experience of work-based learning and employer engagement directly to learners through simulated workplace experiences, innovative satellite campuses and mobile labs.

West Virginia Simulated Workplace

West Virginia's Simulated Workplace program demonstrates how states, particularly those in rural geographies, can draw on industry expertise to provide authentic work-based learning to students within a classroom setting.

Simulated Workplace was launched in 2013 after industry leaders expressed a need for students to learn employability skills — such as punctuality, teamwork and safety — in addition to the technical skills typically taught in CTE classrooms. Part of the project's initial success was due to a joint commitment from the state's workforce development board, Workforce West Virginia, which committed \$224,000 in funding and helped promote and evaluate the program, and the West Virginia Chamber of Commerce, which agreed to help get the program off the ground and recruit industry partners. As a rural state, West Virginia wanted to create a program that opened up access to all communities, including those with limited economic development and activity.

Through Simulated Workplace, high school students transform their classrooms into businesses to create an authentic workplace environment. Participants in the program are treated like employees: They are required to pass an interview for entry into the course, fill assigned roles within the company, participate in random drug tests, write a company handbook and pass a safety training. Many of the programs operate as school-based enterprises, entrepreneurial operations in a school setting. For example, Tolsia High School in Wayne County, WV, has Simulated Workplace for each of its seven programs of study. Rebel Construction is the Simulated Workplace for the carpentry program

School-Based Enterprises

More than simple school stores, well-designed school-based enterprises (SBEs) can serve as learning laboratories and provide students opportunities to apply their entrepreneurial, business and marketing skills in addition to other skills related to their career pathways. From catering companies and salons to credit unions and auto shops, SBEs can take on many forms across the Career Clusters. SBEs are a core component of DECA, a Career Technical Student Organization (CTSO) that provides standards to support SBE design and implementation and certifications at the program and student levels.

The Connecticut Technical High School System coordinates a system-wide Student Workforce program, which connects the various SBEs. Through the system's website, individuals and companies can find out which schools offer direct services, ranging from automotive collision repair and carpentry to graphic design and sound production. For more, see <https://www.cttech.org/about/student-workforce>.

of study, which takes on construction and renovation projects in the community, earning a profit that is reinvested into the program.⁶

One of the more innovative components of the program is the onsite business review, which brings “inspectors” from the business and industry community into the classroom to observe and rate programs based on their adherence to industry standards. The evaluation is coordinated by the West Virginia Department of Education (WVDOE), which recruits employers to visit the classroom as inspectors, schedules site visits, and even provides an Industry Evaluation rubric⁷ that inspectors can use to assess Simulated Workplace programs.

For rural school districts without a local industry presence, the WVDOE will occasionally bring in business leaders from across the state or, more often, connect them to the classroom through web-based video conferencing software. The business review focuses on the authenticity of the program and is being used by the WVDOE to identify programs in need of improvement. Programs that pass the assessment are deemed “Industry Endorsed Programs.” Those scoring below the threshold are eligible to receive technical support and must develop a program improvement plan.⁸

After a four-year pilot and rollout at an increasing number of high schools throughout the state, the Simulated Workplace program was scaled statewide in 2015 to all high schools in every community. At the same time, the West Virginia Board of Education voted to adopt 12 Simulated Workplace protocols that govern the design of the programs and ensure consistency and quality.⁹

Rural CTE in Federal Policy

There are a number of explicit avenues to leverage federal policy to support rural CTE. Additionally, state leaders and policymakers often have the flexibility to leverage both federal policy and federal dollars for rural CTE. Some examples include:

Carl D. Perkins Career and Technical Education Act of 2006 (Perkins Act): State Reserve Funds

While states must distribute 85 percent of Perkins funds to local recipients, they can choose to dedicate 10 percent to a Reserve Fund, which can be used to support CTE in rural areas or areas with high percentages or high numbers of CTE students. Many states choose to focus at least some of their Reserve Funds on supporting rural areas.

Perkins Act: Forming Consortia and Pooling Funds

At the local level, Perkins grant recipients may elect to form consortia (an option for local recipients that qualify for less than \$15,000 in grant funds) and apply for a Perkins grant collaboratively. Local recipients may also pool a portion of their funds with other eligible recipients for certain uses, including activities related to implementing CTE programs of study (e.g., professional development for CTE teachers, administrators and faculty). States can use Perkins state leadership funds to support these efforts through incentive grants.

Workforce Innovation and Opportunity Act (WIOA): Governor’s Set-Aside

Under Title I of WIOA, governors may elect to reserve up to 15 percent of their state’s allocation “for statewide workforce investment activities.”¹² This funding stream is fairly flexible in terms of allowable expenses and includes career pathway development and implementation, job-driven strategies and local-sector partnerships.³

Every Student Succeeds Act (ESSA): Rural Education Achievement Program (REAP)

Through REAP, ESSA supplies formula funds for eligible districts in rural areas with low numbers of students. These funds can be used for a number of authorized purposes, including bolstering CTE efforts.⁴ REAP also supplies additional funds that state education agencies can distribute to local education agencies via subgrants. Similarly, districts can leverage these dollars for a variety of initiatives to support rural CTE.⁵

During the 2015 school year, more than 13,000 students participated in more than 500 Simulated Workplace classrooms across West Virginia. Notably, the program also has a 97 percent student satisfaction rating, indicating the extent to which student ownership in the program has contributed to a positive learning environment.

Lessons Learned in West Virginia

- States should plan for scale at the outset. West Virginia always had statewide implementation in mind and developed aligned policies and supports, such as the 12 protocols and rubrics, to ensure consistency and quality as the program was scaled across the state.
- By scaffolding industry engagement — and offering an opportunity for employers to volunteer just two days a year to conduct site visits and evaluations — West Virginia is able to reach a wide array of partners and encourage existing industry partners to help with recruitment efforts.
- School-based enterprises can replicate authentic work-based learning experiences, if they are taught by a qualified instructor and evaluated and supported by industry partners.

Door-to-Door Exposure through Mobile Labs

A number of states and communities are using mobile labs and classrooms — outfitted with the latest equipment and facilitated by travelling instructors — to reach a wider audience and physically bring career and industry exposure to learners who face geography and transportation barriers.

Montana has leveraged a number of federal programs — including a Trade Adjustment Assistance Community College and Career Training (TAACCCT) grant — and private foundation funding to purchase trucks for mobile simulation and training. With 44 of its 56 counties categorized as “frontier” (based on a population density of fewer than six people per square mile), physical distance between schools, colleges and industry is a very real and significant challenge. By purchasing various mobile labs, Montana helps bring industry-standard equipment and professionals into local communities. While many of the simulation and training trucks aim to simply expose learners to possible career paths and introductory lessons, one of the welding labs is equipped to allow learners to earn industry-recognized credentials. Of note is that while three of Montana’s simulation trucks — managed by MobileSim Montana — were initially funded to provide emergency medical services and training to rural hospitals, they are now aiming to provide direct supports and training to schools and colleges.

In addition to Montana, other states are leveraging mobile labs to either expose students to career opportunities or backfill specific skills and competencies. For example, a consortium of colleges in western **Nebraska** has invested in mobile labs, which are led and staffed by postsecondary instructors, many of whom have industry expertise. These labs travel the region continuously, reaching participating schools every two to three weeks. They focus primarily on exposing students to various industries, such as health science, manufacturing and welding, and the career opportunities available within each of those industries.

Similarly, in **South Dakota**, a number of consortia throughout the state have pooled resources to share mobile classrooms and labs. In the northwest region, for example, nine schools have been part of such a consortium for almost 30 years. A recent state investment through the Workforce Education Grant fund has allowed the consortium to upgrade its program and sparked new consortia.¹⁰ In the central region of the state, with support from state funds, four schools are now leveraging a mobile

classroom to share a full-time medical lab technician from a local hospital to teach a Project Lead the Way biomedical course. While the efforts began with some of the larger districts, with the financial support from the state and outreach from participating schools, South Dakota expects to see more of the smaller districts join existing or form new consortia in the coming years.

There is no question that mobile labs can be incredibly expensive — using a grant from the Leona M. and Harry B. Helmsley Charitable Trust, MobileSim Montana spent about \$1.5 million for its three mobile simulation training trucks. However, these mobile labs can be leveraged in meaningful ways to fill gaps in career and industry exposure and instruction, in particular for those learners who are most disconnected, by distance and experience, from career opportunities. Mobile labs also can help ensure that equipment and instructors reach a wider audience of learners by physically transporting the equipment from school to school. What is most important is that states determine the purpose mobile labs should serve, be it exposure or full preparation, and design the program and funding appropriately. A mobile lab may not be able to serve every need, but it can serve specific needs very effectively.

Connecting the Classroom to Careers

In 2016, Advance CTE released, in partnership with the Council of Chief State School Officers and Education Strategy Group through the New Skills for Youth initiative, a series of briefs and a culminating guide to help states develop and implement a statewide vision for work-based learning.

This series focused on expanding access to meaningful work-based learning for all learners in high school and the key policies and practices state leaders could take to build work-based learning systems. Many relevant examples and lessons from the series apply within the rural context, including:

Set a Vision

To ensure that all learners — including those in rural settings — have opportunities to engage directly with industry, states must set a clear and ambitious statewide vision for the work and use that vision to drive and coordinate efforts throughout the process. Part of this vision is defining what high-quality, career pathway-aligned work-based learning truly means and having a shared understanding of that definition, and how it is implemented, among educators, work-based learning coordinators, learners and industry partners.

Engage and Support Intermediaries

A common element of any successful work-based learning program is that someone is committed to coordinating that program and, in particular, managing the relationship between educators and industry. As such, the state has a clear role in supporting the existence of work-based learning coordinators and/or intermediary organizations through funding, building formal partnerships, or even tasking state-level organizations to play the role. This element is critical in all communities but particularly in rural areas with less capacity and fewer resources.

Focus on Scale

While serving all communities and learners will require a diversity of programs and approaches, any efforts should align with and work toward the statewide vision and be part of an intentional strategy to reach scale. Only by starting with a goal of ensuring that all learners will have opportunities to be connected to the world of work — and using data and feedback loops to identify gaps along the way — will state leaders be able to target resources and technical assistance effectively and efficiently.

For more, see <https://careertech.org/resource/work-based-learning-comprehensive-guide>.

Scaling Employer Interactions through Technology

Some states, like **Louisiana**, are focusing on expanding access to industry experts through various technology-based solutions. Technology can help bridge the physical gap between learners and industry partners, which is why many rural communities have invested, often with support from state and federal funding, in technology including broadband, devices and live-streaming equipment.

Louisiana — as part of its Jump Start CTE initiative — has launched a multifaceted effort combining technology and hands-on teacher supports to provide rural students with employer engagement, a process the state calls micro-industry engagement. Micro-industry engagement enables all students to engage with workplace experts in every industry sector they want to explore, working toward the goal that a student's future not be limited by his or her parish boundary or personal circumstances.

In Louisiana, micro-industry engagement is more than just virtual speaker presentations. Rather, it is intended to be a series of cumulatively structured engagements and is designed around four key tenets:

- All students have virtual access to workplace experts in every industry sector they are interested in exploring;
- Teachers are empowered with the technologies and curated instructional resources to find virtual workplace experts relevant to every student's individual interests;
- Schools and teachers offer students a menu of virtual and in-school exercises that provide the best possible analog to onsite workplace-based learning; and
- Students must prepare for productive sessions with workplace experts, mastering increasingly sophisticated communication skills with unfamiliar workplace adults.

A major component of Louisiana's micro-industry engagement is a strategic partnership with Nepris, a company that provides students with virtual engagement technology. Nepris uses the Zoom technology for schools, teachers and students to virtually interact with workplace experts.

Nepris leverages this web-based platform to connect students with a network of more than 18,000 professional mentors from 5,000-plus companies located across the entire state. Teachers make requests for a range of employer engagement activities — such as conducting a one-on-one interview with a student, providing virtual feedback on a capstone or other project or judging a CTSO competition — and Nepris makes a connection with an eligible and appropriate industry partner. To build a more strategic pool of industry partners in high-demand fields, the state has engaged the Louisiana Council for Economic Education to create and manage networks of employers based on specific needs, such as supporting students with disabilities or women in STEM (science, technology, engineering and mathematics).

As an example, at Haynesville Junior/Senior High School, students engage in these micro-industry engagement sessions on a biweekly basis and have been exposed to a range of professionals, such as physical therapists, diesel mechanics, and a marriage and family counselor. The school, which primarily serves low-income students in a very rural community, has re-engaged a number of the mentors based on student demand.

At the heart of this program is not the technology but rather the mix of supports and resources that focus on quality, access and implementation. When Louisiana launched the program in 2015, educators were slow to take full advantage of the new technology, requiring the state to make rapid adjustments to its strategy. To start, Louisiana (using NSFY funds) partnered with Nepris to retain a full-time independent consultant to train teachers in person on how, when and why to use Nepris. This individual provides “concierge” services to local schools and communities, including direct training in 30 parishes in 2016. The state hopes that having an intermediary like this will provide on-the-ground support and enable local usage by connecting the opportunities of Nepris to the needs of a local community.

The state also has worked to streamline and simplify the process of making and fulfilling requests through Nepris to remove another possible barrier to participation. The state has created common templates that educators can use to make specific requests of industry experts. All industry mentors give feedback to students and teachers in a standardized way.

Importantly, the state found that simply offering free licenses to Nepris failed to incentivize schools to use the system. To increase usage, the Louisiana State Department of Education, again using NSFY funds, now offers earned rebates for schools that reach a targeted number of Nepris sessions. The state is also working to ensure that schools leverage Career Development Funds, a permanent Jump Start funding mechanism that provides districts and charter schools with \$238 for each high school credit students earn in high-demand fields. These funds can be used for a range of expenditures, such as teacher training, new equipment and facilities, Nepris licenses, and college and career planning activities.

Finally, Louisiana is further strengthening the opportunities provided through Nepris by partnering with Career Compass, another third-party intermediary, to create curricular materials for the Virtual Workplace Experiences (VWE) courses. VWE are credit-bearing courses that require virtual mentor interactions, career development activities and workplace simulations, which can fit into any Louisiana Jump Start graduation pathway.¹¹

While initially created for rural and alternative schools as a means of expanding their access to industry engagement and Jump Start pathways, the initial rollout did not lead to any schools adopting a VWE course. In response, the Louisiana Department of Education and Career Compass have recruited early adopter schools, providing financial backing, Nepris licenses and teacher support, so they can serve as models for and provide support to other schools.

Despite a slow start in 2015, Nepris completed more than 380 micro-industry engagement sessions in the 2016 school year, a number projected to increase significantly in the 2017-18 school year.

Louisiana’s Jump Start Micro-Enterprise Credentials

Nepris is also a critical element of the Micro-Enterprise Credentials. Created by the Louisiana Department of Education and the Baton Rouge Chamber of Commerce, the Micro-Enterprise Credentials require students to engage with “unfamiliar workplace adults” (i.e., those not in the school building) and master increasingly sophisticated communication skills.

The entry-level Micro-Enterprise Credential is designed to help all students master critical workplace behaviors and communication skills. The more advanced Micro-Enterprise Credential serves as a bridge to college-level accounting, entrepreneurship and business management courses.

Lessons Learned in Louisiana

- On-the-ground implementation support is critical to helping rural communities understand the value of and adopt statewide platforms and programs.
- Teachers need extensive support to get them to use new technologies. The promise of new technologies is not enough to put them into practice. At the same time, school administrators need to be advised and engaged to ensure that all key leaders are on board and support implementation.
- The more curated instructional resources the better — teachers like options.
- Grants given to schools and teachers based on the use of new technologies (“earned incentives”) were more successful than simple direct grants to incentivize new usage.
- Intermediaries — at both the individual and organization levels — have an important role in the implementation and sustainability of any program. In addition, having local champions at the school level who can serve as “early adopters” and share lessons with their colleagues is a critical strategy for scaling such an effort.
- Industry engagement can take on many forms, and the state has a key role to play in defining what forms it may take and to ensure quality and consistency.

Leveraging Existing Infrastructure to Support Industry-Led Career Pathways

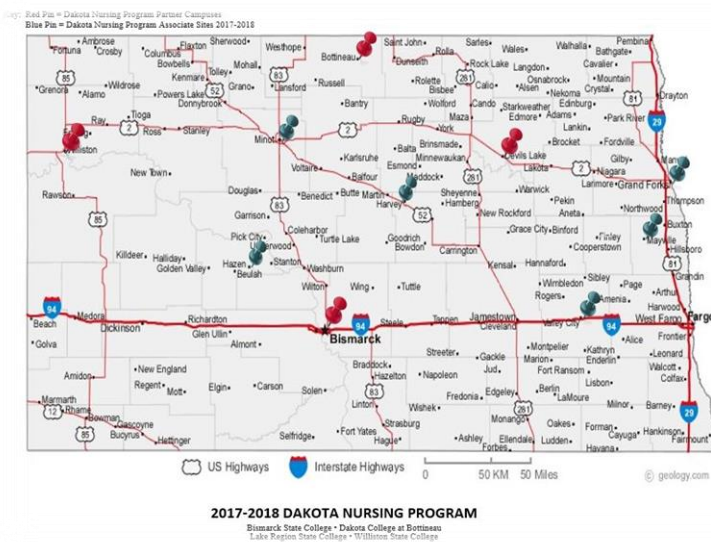
Every state leader interviewed identified health care as a critical industry, which is not surprising given that seven of the 10 fastest growing industries are related to that sector.¹² Many states also shared strategies related to expanding access to and providing opportunities for learners to be successful in health care career pathways and programs, which usually require extensive work-based learning.

Demand for health care professionals and providers knows no geographic barriers, and in some rural communities, a hospital or health care facility may be one of the only employers. A number of states, such as North Dakota and Montana, are focusing on leveraging existing networks of and partnerships with health care facilities to provide industry-led career pathways.

The Dakota Nursing Program

The Dakota Nursing Program (DNP) is a unique example of how career pathways with extensive work-based learning components can be offered in a variety of communities by leveraging partnerships, technology and direct industry engagement. Launched in 2004, the DNP is a collaboration among four community colleges (Bismarck State College, Dakota College at Bottineau, Lake Region State College and Williston State College) in **North Dakota** to strengthen the pipeline of health care professionals.

While there is a shortage of nurses statewide, the need is particularly acute in the state’s many rural communities. To help those rural communities train and retain their talent, DNP partners directly with local hospitals and health care providers to enable them to serve as nontraditional satellite campuses



for their licensed practical nurse (LPN) and registered nurse (RN) programs. Over the past 12 years, the program has provided nursing education to 13 additional satellite sites in rural communities.

Participants attend classes, either in person at the home college campus or remotely in their own communities through the statewide Interactive Video Network (IVN), which connects students in real time to in-person classrooms in other parts of the state. DNP has a team of faculty to teach across the entire consortium through the IVN, which enables all learners to have access to a

fairly limited pool of industry experts with specializations like pediatrics or obstetrics.

The DNP is able to serve rural communities through local partnerships with hospitals and health care facilities, which not only serve as the remote classrooms but also provide the required clinical rotations and lab experiences. For example, for students to earn their RN associate degree, they must complete a certain number of hours of lab each semester, as well as clinical hours in a hospital, long-term care facility or other clinical facility.

Now that DNP is well known throughout the state, local hospitals or communities usually approach DNP to set up a local program. As part of the agreement between DNP and the local hospital or facility — formalized through a memorandum of understanding — the hospital commits to hiring a clinical faculty member, usually from its own staff, to oversee the learners' labs and clinical work. This faculty member is then hired by DNP, with the local health care provider and the associated DNP college assuming the cost of their salary and benefits. The local site also agrees to dedicate the space and equipment for the lab experience as well as any equipment needed to establish the IVN component of the program. Finally, while the local site is usually responsible for any clinical rotations, DNP and the participating colleges assist with placements in specialized fields that are not possible in a certain facility or hospital.

DNP graduates are incredibly well positioned for success. Among DNP graduates in 2016-17, the first-time passing rate for the National Council Licensure Examination (NCLEX-RN) — the standardized exam that each state board of nursing uses to license nurses — was 92.7 percent. That percentage is higher than the statewide average of 90.4 percent and more than five percentage points higher than the national first-time passing rate of 86.2 percent.¹³ The licensure exam for practical nurses (NCLEX-PN) had a first-time pass rate of 100 percent for DNP students, compared to the national rate of 83.2 percent.¹⁴ Starting in the fall 2017 semester, the program has 167 LPN students and 121 RN students on campuses and satellite locations around the state. In the past 12 years, DNP has graduated a total of 1,195 LPNs and 915 RNs.

DNP also has articulation agreements with three universities, allowing students to earn their bachelor's in nursing within four semesters if they decide to continue their education. The program is funded through Perkins and state funds, just like any other postsecondary career pathway.

Cross-System and Cross-Sector Alignment in Montana

Health care is also a top priority in **Montana**, which has an aging population and a critical shortage of health care professionals. Montana benefits from having a strong statewide network of critical access hospitals that have partnered with state agencies to create more opportunities for learners to be exposed to and prepared for careers in the health care sector.

HealthCARE Montana, a partnership linking the Montana Department of Labor & Industry, 15 of Montana's two-year colleges, and hundreds of health care employers, plays a critical role in coordinating and convening the key players. Specifically, HealthCARE Montana helps train, recruit and retain health care professionals in rural and frontier communities across the state by:

- Helping prospective students identify and access health care career pathways;
- Developing an accelerated nursing curriculum;
- Increasing opportunities for on-the-job training by developing health care apprenticeships; and
- Building and sustaining a rural, "home-grown" health care workforce that serves the smallest communities in the farthest regions of Montana.¹⁵

One of HealthCARE Montana's main strategies is to provide support and technical assistance to the local hospitals to help register, launch and administer registered apprenticeships in health care fields. This direct support remains a barrier to participation for the hospitals and is key to ensuring more opportunities for learners, particularly in smaller, rural communities. In just a few short years, the state now has more than 100 health care-related registered apprenticeship programs in place, including a number on American Indian reservations.¹⁶ Since 2016, 28 apprentices have completed health care-related programs.¹⁷ Looking ahead, Montana plans to develop pre-apprenticeships in health care targeted at high school students to build the pipeline earlier.

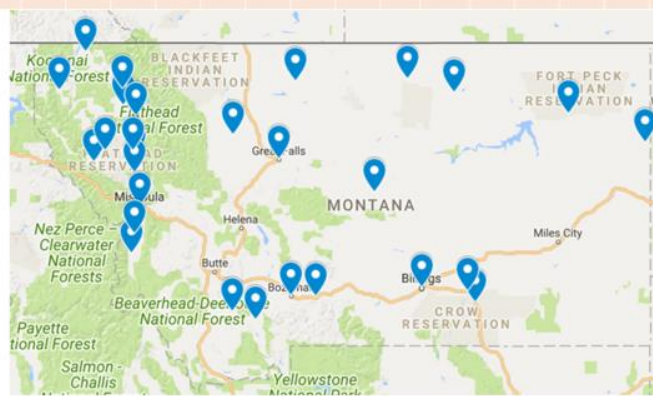
With initial support from a TAACCCT grant, HealthCARE Montana has a strategy for sustainability, relying on a mix of federal, state and private funding sources. Central to Montana's strategy to support its statewide vision is successfully leveraging federal funds

Lessons Learned in North Dakota

- Build solutions *with* local industry rather than *for* local industry.
- Set high standards for program quality, but then be flexible in supporting implementation at the local level.

Registered Apprenticeship Programs

Total Apprentices	CNA BASIC	CNA ADVANCED	CNA DEMENTIA	CNA RESTORATIVE	CT TECH	SURG TECH	MEDICAL SCRIBE	MEDICATION AIDE II	ADMINISTRATOR (ASSETED LIVING)	ADMINISTRATOR (LONG TERM CARE)	PHARMACY TECH	PRE-COOR	MEDICAL CLAIMS	PRACTICAL NURSE	PARAMEDIC
107	40	1	8	28	1	1	5	11	3	1	2	1	2	1	2



HealthCARE Montana Website, September 2017

— including one-time grants, like TAACCCT and the U.S. Department of Labor’s State Apprenticeship Expansion Grant, and the strategic use of Perkins funds. For example, the TAACCCT and expansion grants could not be used for high school-age students, so Montana leveraged Perkins funds to backmap the new statewide health care career pathway — which ensures dual credit at the state’s public colleges — into high school to expand access and engage more youth in quality career pathways.

The state is able to strategically leverage federal funds because of strong cross-system alignment and collaboration, particularly among the Department of Health & Human Services, Department of Labor & Industry, Montana University System and Office of Public Instruction. For example, the Department of Labor & Industry and Montana University System now share a full-time director of industry-driven workforce partnerships to bridge the two agencies. This collaboration is the result of intentional partnerships, ongoing engagement, and support and engagement from industry partners.

Warren County Area Technology Center

Students enrolled in Warren County Area Technology Center’s (WCATC) automotive program of study, located in Bowling Green, **KY**, have the opportunity to engage in a unique, employer-led competition — OnTrack — during which they build racecars. This competition helps anchor the program of study in industry expectations and provide learners access to a wide array of industry partners.

OnTrack was the result of industry partnering with Southcentral Kentucky Community and Technical College, the Bowling Green Area Chamber of Commerce and WCATC to develop a competition that would encompass multiple disciplines and ground a more engaging course of study that would benefit many students across the region. From the perspective of the business community, it is an exciting way to get students interested in their companies and the work they do. From an educational perspective, the initiative is an innovative way to get students invested in a course of study and directly engaged with employers.

Since the program’s launch, more than 50 corporate sponsors from a wide geographical area have stepped up to make the project a reality — providing financial support and working closely with students and faculty to aid in the development of the cars as well as the curriculum. For example, in the first year, the Chamber of Commerce purchased two cars and donated them to the school. From there, businesses contributed funds, products and time to help the students revamp the cars. In exchange, the companies received opportunities to directly engage with students who are now uniquely qualified to work in their industry.

While OnTrack is just a single competition, it has become a platform for more employer engagement. All 70-plus students participate in “Mentor Mondays,” during which they learn from industry experts who share real-world examples and help them develop the employability skills they will use in the workplace. Learners not only gain these critical insights, but they also build their professional network, giving them a leg up on their career. In the 2016 school year, 100 percent of students in this program of study graduated high school, 100 percent participated in work-based learning, and 91 percent earned an industry-recognized credential.¹⁸

While not specific to health care, **Oklahoma** leverages its career technology centers, which are shared-time centers located throughout the state, as hubs for education, training and employer engagement. Critically, the technology centers not only serve high school students but also provide training for adults and customized training (“business development”) for local industries and companies. In fact, the centers stay open after school hours, allowing other training programs to use the facilities and equipment. By positioning themselves as a source of training, incubation and entrepreneurship, the technology centers have built strong relationships with employers, which often lead to further partnerships with secondary CTE programs of study.

State Strategies to Connect Rural Learners with the World of Work

As states work to improve their CTE programs and ensure that all learners have access to authentic, industry-driven experiences, there is no question that rural communities require customized supports and strategies. Providing technology-based solutions and offering funding for efforts like mobile labs that bring the world of work to learners will not work on their own; they must be paired with technical assistance and leverage existing infrastructure to have a true impact on learner access and be sustainable.

State leaders should consider the following approaches to help ensure that all rural learners are connected to industry and the world of work:

- **Be creative when defining a “classroom” and a “workplace”:** As demonstrated by West Virginia, work-based learning can happen in classrooms, and as shown by DNP, classes can be taught in workplaces. Whether in a mobile lab or computer lab, learners have more ways to engage in career exploration, exposure and training than ever before; it just requires some creativity. Regardless of the approach, state leaders should take measures to ensure that such programs are held to standards of quality. West Virginia’s Simulated Workplace protocol is one example of how a state can begin to set guidelines without sacrificing flexibility.
- **Take a regional view:** Whenever possible, use funding to support and encourage consortia and partnerships to share resources, human capital and industry partners. South Dakota recently reorganized its state CTE staff based on the state’s regions, rather than Career Cluster areas, to change their approach to supporting their schools, rather than programs, and be more intentional about their own work of recruiting employers. South Dakota also provides competitive funding that supports efforts like consortia and mobile labs. Oklahoma’s technology center superintendents sit on their region’s economic development boards to facilitate industry partnerships.
- **Invest in intermediaries to build capacity and provide technical assistance:** Intermediaries are a critical ingredient in ensuring that learners have access to industry partners and vice versa.¹⁹ Whether they are the staff at DNP or HealthCare Montana, the full-time consultant working to provide on-the-ground support for Nepris implementation in Louisiana, or work-based learning coordinators embedded at the district or institution level, having individuals who are focused on making connections between the classroom and the workplace is necessary to ensure that all learners have access to industry and can engage in meaningful work-based learning.

- **Focus programs and funding on specific employer engagement activities rather than trying to do everything with one program:** No solution or strategy will likely be sufficient to address the entire challenge of ensuring that rural learners have opportunities to engage with industry. For example, the success of mobile labs depends on what they are trying to achieve. Different states and communities are leveraging them successfully to expose more students to the world of work and career pathways, fill instructional gaps that can be addressed only by industry experts and conduct certifications. States must be intentional — and realistic — about what any specific program can and should achieve and work to connect individual programs to a larger, cohesive rural strategy.

In short, millions of students across the United States attend high schools and colleges in rural areas, and all of them deserve to be exposed to a variety of industries and career opportunities rather than be limited by their geography. While there is no simple solution or silver bullet, states are making important progress and leveraging innovative ways to bring the world of work to learners and provide the necessary resources, technical assistance and supports to ensure that local communities can support and sustain those efforts.

Acknowledgments

Advance CTE would like to give special thanks to John Cech, deputy commissioner of higher education academic & student affairs, Montana University System; Marcie Mack, state CTE director, Oklahoma Department of Career and Technology; Paula Bowles, chief communications and marketing officer, Oklahoma Department of Career and Technology; Julie Traynor, director, Dakota Nursing Program; Wayne Kutzer, state CTE director, North Dakota Department of Career and Technical Education; Kathy D’Antoni, state CTE director, West Virginia Department of Education; David Lefkowitz, assistant superintendent, Louisiana Department of Education; Laura Smith, president/CEO, Louisiana Council for Economic Education; and Ashley Aleman, education liaison, Nepris for their input and thoughtful feedback throughout the development of this brief.

This brief was developed through the New Skills for Youth initiative, a partnership of the Council of Chief State School Officers, Advance CTE and Education Strategy Group, generously funded by JPMorgan Chase & Co.

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- ¹The first *CTE on the Frontier* brief can be found at <https://careertech.org/resource/cte-frontier-program-quality>
- ² Workforce Innovation and Opportunity Act. (2014). Retrieved from <https://www.congress.gov/113/bills/hr803/BILLS-113hr803enr.pdf>
- ³ Wilson, B., and DeRenzi, B. (2015). *Realizing innovation and opportunity in WIOA: A playbook for creating effective state plans*. Retrieved from <http://www.nationalskillscoalition.org/resources/publications/file/2015-09-WIOA-playbook-for-creating-effective-state-plans.pdf>
- ⁴ U.S. Department of Education. *Small, rural school achievement program*. Updated Feb. 2017. Retrieved from <https://www2.ed.gov/programs/reapsrsa/index.html>
- ⁵ U.S. Department of Education. *Rural and low-income school program*. Updated April 2017. Retrieved from <https://www2.ed.gov/programs/reaprlisp/index.html>
- ⁶ For more, see <https://cte.careertech.org/sites/default/files/Tolsia-Architecture%26Construction2014.pdf>
- ⁷ Sample West Virginia Industry Evaluation rubric, <http://wvde.state.wv.us/simulated-workplace/files/Industry-Evaluation.pdf>
- ⁸ Advance CTE. (2016). *Connecting the classroom to careers: Measuring work-based learning for continuous improvement*. <https://careertech.org/resource/measuring-work-based-learning-for-continuous-improvement>
- ⁹ West Virginia's Simulated Workplace 12 protocols, https://wvde.state.wv.us/simulated-workplace/files/Protocols_explained.pdf
- ¹⁰ Advance CTE. (2017). *CTE on the frontier: Catalyzing local efforts to improve program quality*. <https://careertech.org/resource/cte-frontier-program-quality>
- ¹¹ <http://www.louisianabelieves.com/docs/default-source/jump-start-pilot-programs/00-virtual-workplace-experience-overview.pdf?sfvrsn=2>
- ¹² Bureau of Labor Statistics, Office of Occupational Statistics and Employment Projections, <https://www.careerinfonet.org/indview1.asp?nodeid=45>
- ¹³ <https://dakotanursing.files.wordpress.com/2015/09/adn-program-combined-outcomes-2014-2017.pdf>
- ¹⁴ <https://dakotanursing.files.wordpress.com/2015/09/pn-program-combined-outcomes-2014-2017.pdf>
- ¹⁵ For more, see <http://www.healthcaremontana.org>
- ¹⁶ *Ibid.*
- ¹⁷ Montana Department of Labor & Industry. (2016). *Registered apprenticeship program data report*. <https://static1.squarespace.com/static/552c3de1e4b09afa1a56a757/t/5981f2d8beba7b7324d334f3/1501688538559/ApprenticeshipReport-2016.pdf>
- ¹⁸ For more, see https://cte.careertech.org/sites/default/files/2017ExcellenceAction_WarrenCounty_TDL_FINAL.pdf
- ¹⁹ Advance CTE. (2016). *Connecting the classroom to careers: Leveraging intermediaries to expand work-based learning*. <https://careertech.org/resource/leveraging-intermediaries>