

By Pat Huston

**T**he word “Appalachia” often conjures up a stereotype of ignorance, poverty, poor health and slow-moving, close-knit families living on farms or up in the hills. This perception of life along the winding roads up the spine of the Appalachian Mountains is not totally wrong or totally right. About the fairest statement is that this 405,000-square-mile area from New York to Mississippi does not have the same economic vitality as the rest of the nation.

That’s where career and technical education (CTE) can and does have the most impact. And that’s also where Ohio’s Washington and Lawrence counties are breaking out of the pack. Both counties have few college graduates—15 percent compared to the 28 percent national average. Moreover, they are close to the nation’s norm of 15 percent living below the poverty line. But for these two CTE regions, the numbers are more of a challenge than an obstacle, as each county devises its own economic-education solution.

At Washington County Career Center (CCC) in Marietta, Ohio, there is a new emphasis being placed on construction, manufacturing and engineering that is linked to a strong oil and gas industry partner. Further south along the Ohio River, Lawrence County’s Collins Career Technical Center (CTC) in Ironton, Ohio, has expanded its health-care focus to meet the employment needs of five hospitals and other medical-related facilities. The keystone for Collins’ solution is Ohio’s first-ever state-designated STEM school that was launched within the center in the fall of 2015.

What strategic aspects are unique to this demographic? Typical of these areas is an abundance of work ethic and family values and a deficiency of job-type diversity and a willingness to relocate. Another common thread in these areas is that the leaders are typically home-grown.

Washington CCC and Collins CTC are continually redefining what it means to be successful in a rural environment. Their stories follow on these pages.

## Washington County Career Center: Rural CTE Success

### Why It Works

Pioneer Pipe has 600 employees and is one of the largest full-service construction, maintenance and fabrication companies in the midwest. Pioneer’s Chief Operating Officer, Matt Hilverding, quickly and succinctly lists three reasons why rural Ohio produces quality workers:

- They know how to work—hard and on time.
- They know how to improvise.
- They understand safety.

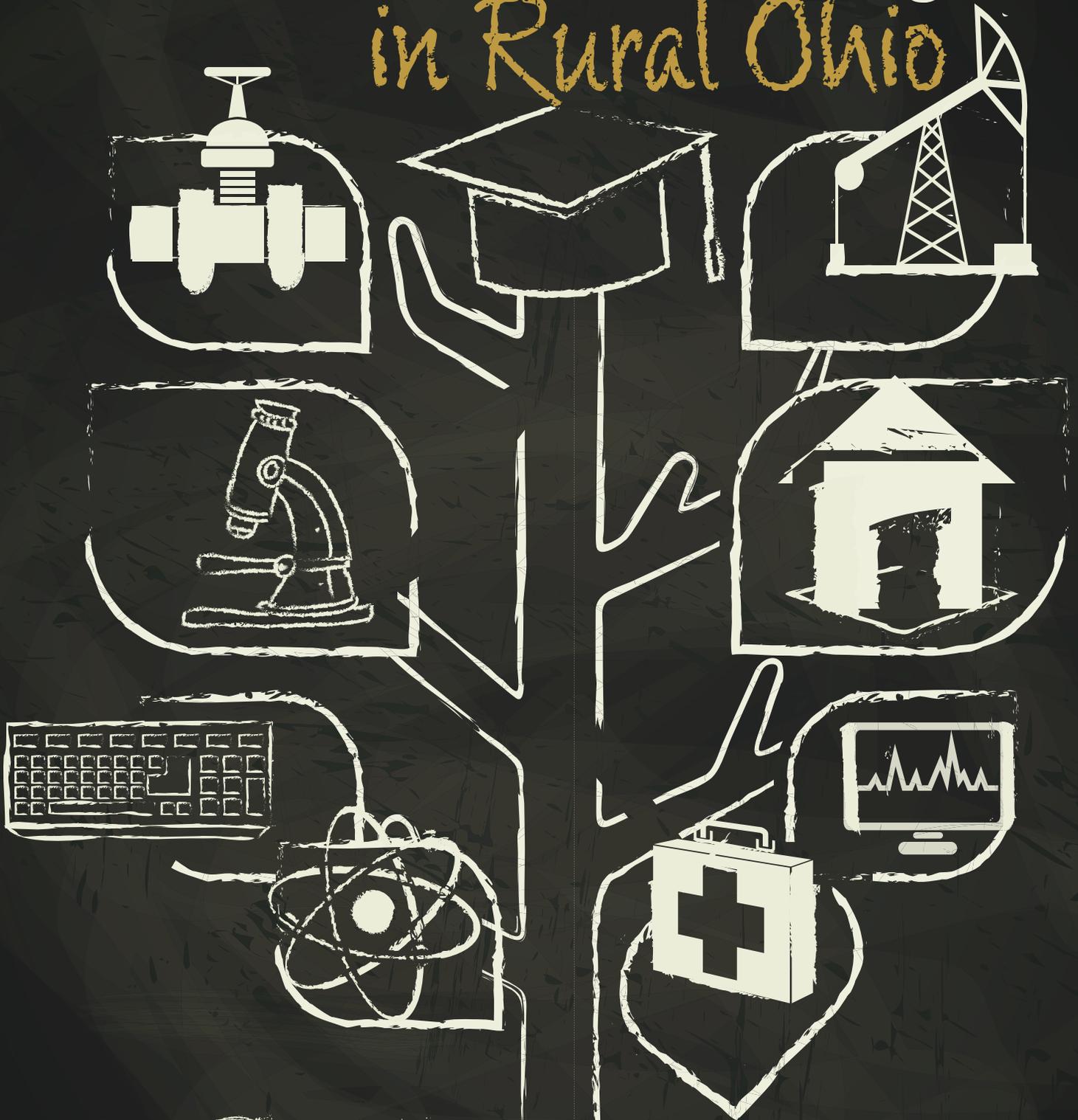
Specific to teens who participate in CTE programs, he explains: “These are kids who grew up on farms, baling hay when they are hot and they ache. They know how to fix a baler in the middle of a field. And they’re aware of the dangers of equipment since they have been around it all their lives.”

These worker qualities, plus training and partnerships with secondary CTE instructors, are exactly what Pioneer wants. According to Hilverding, Pioneer’s three-year relationship with three CTE centers is a “triple win:” schools get to place six (increased to eight in FY 2016) students each in apprenticeships each year, students get well-paying careers that allow them to remain in the area and employers get a larger pool of quality workers.

“When the oil and gas business started to explode four years ago, we knew we had to do something,” Hilverding said. “The answer was right at our back door, starting with Washington County Career

# CTE Delivery

*in Rural Ohio*



$$A + B = C^2$$

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## Rural CTE Student Voices

Nobody wants to leave. That's the message from nearly everyone in southeastern Ohio Appalachia. This perspective is essential to any change discussion. "Washington County is a very home-based area," said teacher Keelan McLeish. "It's the type of place where people know you by your first name and come out to help everybody."

Two current and two former CTE students echo this sentiment here.

### Current Students

When teenagers in Belpre, Ohio, aren't working or going to school, they go bowling or fishing. When the sun goes down, they sit around bonfires, talking and making s'mores. Such is life for Washington CCC senior Katelyn Hughes who dreams of a career in medicine, likely as a cardiovascular technician. She thinks about her future while delivering hamburgers, cones, fries and shakes—on roller skates—at Sonic Drive-In.

While they are just one year apart, have similar career goals and both live in Appalachia, Hughes doesn't know junior Samantha "Sammie" Davenport who admitted to being "a bit nervous" about leaving the comfort of Chesapeake High School to travel 18 miles away for two years at a career center. Punctuating her comments politely with "Yes, ma'am," Davenport added that she realized the new STEM school at Collins CTC was the right choice to propel her faster and better toward a career in medicine. With a 3.9 GPA, she has her sights set on being an ultrasound technician or registered nurse.

### Former Students

Brandi Dailey's story of drug-addicted parents, an incarcerated mom, and physical, mental and sexual abuse by other relatives would understandably be one that begs escape with no looking back. But that's not the case for the young woman who endured such abuse and neglect from age 6 to 18. "This is home to me," she said. "It's what I know."

Rural, small-town southeastern Ohio is where Brandi grew up. Now, she is settled in another small town in West Virginia with her husband and almost 1-year-old daughter. While alcohol has traditionally been the drug of choice for residents, cocaine, heroin and methadone use are on the rise. Brandi grew up watching her mother on cocaine.

Things got remarkably better when Brandi went from being the poor, unnoticed kid at an affluent high school to Collins CTC. While she always had decent grades, she blossomed in an

Center." Mid-East Career and Technology Center and Swiss Hills Career Center make up the southeastern Ohio triad.

According to Washington CCC welding instructor Keelan McLeish, teaching his roughly 50 students (25 juniors and 25 seniors) is something he loves, largely because of the strong work ethic and parental support. "These kids aren't lazy," he said.

For Washington CCC's welding students, McLeish has got their number, but in a good way. Like them, he grew up where they are (in southwestern Ohio), worked on a farm and graduated from a high school welding program. He's been teaching for 28 years, following 10 years of work in a welding career. His added insight into teenagers comes from his other job as a local deputy sheriff who generally knows "everything going up and down."

Rural Ohio is a good place to nurture business relationships, McLeish said. In addition to Pioneer, Washington CCC has seven welding partners. Collaboration, he said, is "time-consuming but well worth it." It also is expensive, Hilverding stated, citing Pioneer's \$600,000 annual cost, primarily to pay apprentices and their two instructors.

The data, with financial payback in 2.5 years, prove the investment is working, Hilverding said. Sixty percent of Pioneer's apprentices in 2015 came directly from the three high school CTE programs. In three years, only three of the 48 career center apprentices dropped out.

### How It Works

Hilverding describes the Pioneer pipe fitting and welding apprenticeships as a cross between college and military basic training. Teachers select the students at the end of their junior year. For these kids, this is the start of four years of education and training. There are classes with books and tests in technical and academic areas but no tuition.

"Our program in the first year is really tough, dirty work with no horsing around," he said. "We know these students like



Photo courtesy of Washington County Career Center  
Washington CCC senior Katelyn Hughes (left) dreams of a career in medicine, likely as a cardiovascular technician.

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to weld, but can they survive doing work they hate—getting dirty and greasing bolts? With these kids, we find they can.”

After the first year, apprentices with certifications are members of the Plumbers and Pipefitters Local 168 union. They are still learning, not just skills, but also math and communications, which “are two highly important subjects.” As apprentices advance, they do more welding and less maintenance. This is the work, with pay, that could yield as much as \$40,000 a year for an apprentice.

“The world is going to continue to need them, not just for oil and gas, but also in other industries such as food,” Hilverding said. “I can’t think of one reason why we wouldn’t continue to grow these workers in rural southeast Ohio.”

## The STEM Academy at Collins CTC: Another Success Story

### How It Started

The fit could not be better for the STEM Academy at Collins CTC, according to the school’s first principal, Andrea Zaph.

Before applying for STEM school status through the Ohio Department of Education, Zaph and two other local school administrators, Lawrence County Joint Vocational Schools Superintendent Steve Dodgion and Postsecondary Education Director Jamie Chafin, sat down together to discuss the rationale for applying for and having STEM school status.

Their reasons were straightforward:

- Timing—Collins CTC and its satellite programs graduated nearly

1,000 students in 10 years of Project Lead The Way, with 600 students enrolled in FY 2016. For the past three years, all 500 of Collins’ 11th- and 12th-grade students have been engaged in extensive project-based learning.

- Economics—In Lawrence County, where the career center resides, 18 percent of residents live below the poverty level.
- Employment—Large numbers of the Collins CTC student body come from families living on public assistance in an area where many jobs exist in the medical field. In the summer of 2015, more than 900 medical-related job openings within 20 miles of Ironton were listed on [OhioMeansJobs.com](http://OhioMeansJobs.com).

“Many people have the wrong idea about STEM,” Zaph said. “It’s really a philosophy of learning focused on innovation and critical thinking—something we were already doing for 10 years.”

### How It Works

An added plus for this new phase of CTE at Collins is Zaph’s back-

environment where multiple staff members encouraged her both in her Certified Nursing Assistant (CNA) program and outside school. They helped her get a job at a nursing home, find an apartment and continue on in an adult program to get her licensed practical nursing credentials with a 3.98 GPA.

“These [teachers and administrators] know my background and support me,” the 2008 Collins graduate said. “I know I could call them at any hour.”

In the fall of 2015, Brandi was working toward her bachelor’s degree in registered nursing at St. Mary’s School of Nursing in Huntington, West Virginia, where she was employed in the neuroscience unit.



Tyler Stacy (right) attributes his success to his high school and Pioneer Pipe’s apprenticeship instructors.

Tyler Stacy, a 6’2”, 200-pound 20-year-old is one of Pioneer Pipe’s apprenticeship success stories. He is in his third year of the Pioneer program and has a total of seven welding certifications.

When the then-17-year-old told his mom about plans to take trigonometry as an elective in his senior year at Washington CCC, she did a double take. “Did you mean TIG, like in welding?” Janet Stacy asked. This was her third and youngest child who, unlike the older two, struggled in school until enrolling in CTE.

Tyler Stacy indeed meant trigonometry and not Tungsten Inert Gas (TIG)—the process he learned in welding class—because “it sounded interesting,” he said. He ended up with a B+ in that elective course.

Between bites of leftover ravioli during his 30-minute lunch break at Pioneer, the apprentice talked about his love of the work and the pay that enabled him to purchase his own home and two trucks—one he drives and one he uses for motorsport truck-pull competitions. He attributes his success to his high school and apprenticeship instructors and his family values. On their 24-acre farm all the Stacys were expected to “plow, plant and pick” strawberries and corn or “get another job. We weren’t allowed to be idle.”

“I don’t ever see myself leaving Washington County,” he said. “I’d actually move further out if I could.”



Photo courtesy of Washington County Career Center  
As apprentices advance, they do more welding and less maintenance.

ground and experience. As a native and current resident of neighboring Scioto County, she understands the rural climate and has a passion to elevate the population to attain higher levels of education and sustainable wage employment. After graduating from Portsmouth West High School and Ohio State University, she went on to work in the medical technology field for 20 years. Now, except for robotics, all the new STEM school’s programs are related to the medical field. (Collins CTC has 25 employers, including five hospitals, in its Ohio and nearby Huntington, West Virginia, area.)

The more than 60 high school juniors are pursuing careers in nursing, veterinary medicine, exercise science, occupational therapy and medical laboratory technology. All the programs provide opportunities for students to obtain industry credentials and earn credits toward associate degrees.

“I want these young people to have a better life,” Zaph said. “I see medical offices and hospitals all around our area, and I know they can stay here and have that life for themselves and their families.”

Small-town rural kids generally do not want to leave home. Chafin, a native of Lawrence County, gets that. She was one of those kids who moved up successfully

with the help of secondary and postsecondary CTE right at her back door. “It’s much more personal here,” said Chafin. “When our youth graduate from high school, they don’t want to go somewhere that kind of relationship doesn’t exist.”

So how can a rural Ohio CTE center better build that comfort level for its high school graduates to propel them to the next step of jobs or college?

The plan for juniors and seniors in the new STEM school is simple: Provide college-level education taught by college-level faculty who come to the students. Most of these instructors also teach

at Mountwest Community and Technical College. This on-site component supplements the plan of ensuring that each student leaves high school with at least one industry credential; has access to math, science and English professors serving as coaches; and earns extra college scholarship money.

“Many of our students aren’t comfortable navigating the life-after-high-school world,” Chafin said. “We had strong business and college partners, but we needed to do a better job of easing our students into that next phase.”

### Advice to Other Rural Areas

While acknowledging there is no one-size-fits-all formula for CTE success, Ohio’s Lawrence and Washington Counties’ education leaders offer these three pieces of advice for programs operating in rural environments: build relationships with residents, including parents and businesses; cement these relationships to share ownership with new career opportunities as dictated by the local economy; and recognize the value of traditional jobs along with emerging occupations. **Tech**

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