KnowledgeWorks Forecast 4.0

Shaping the Future of Readiness in Southeast Ohio

A Strategy Guide

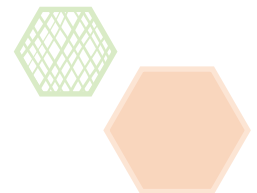Jason Swanson • Katie King • Katherine Prince
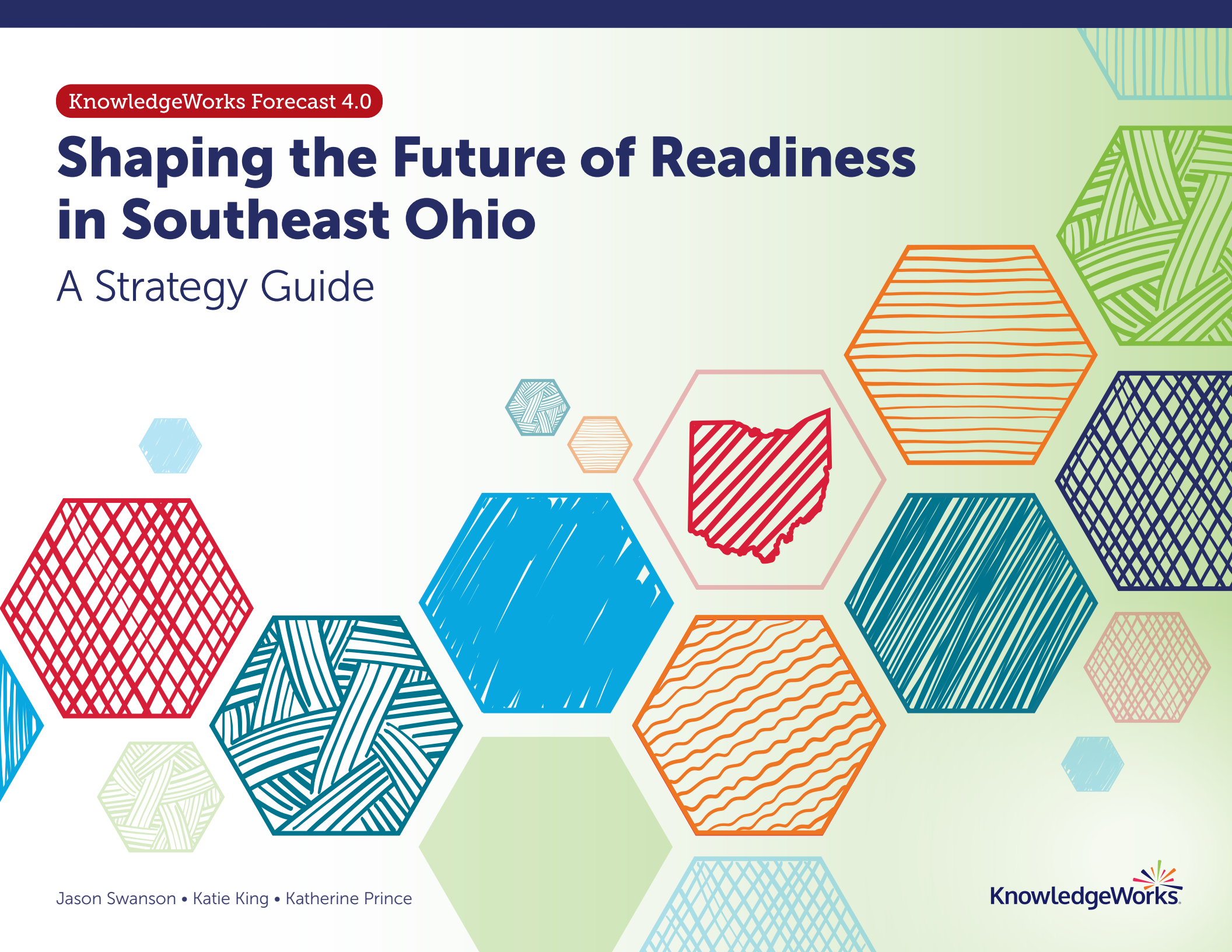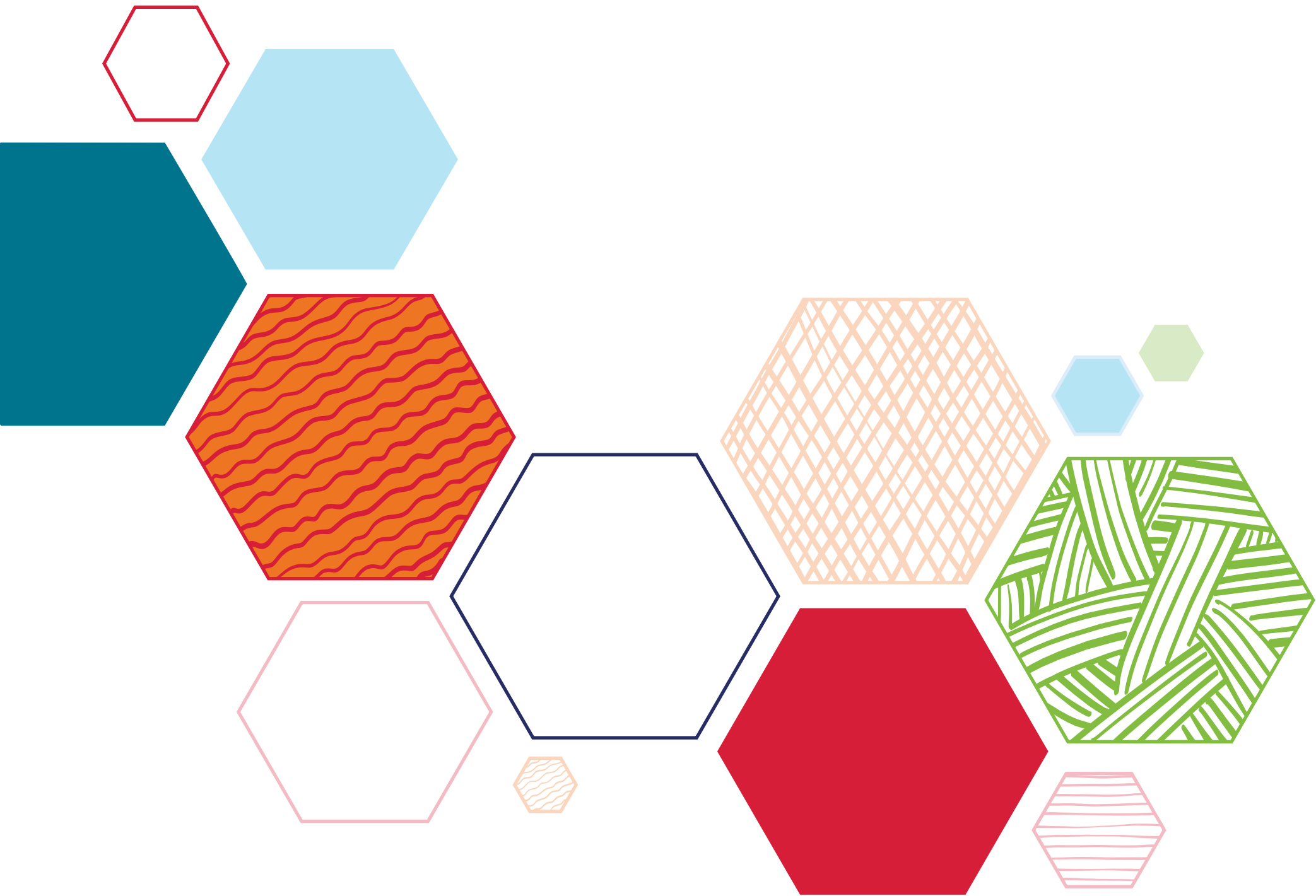
KnowledgeWorks®

The Case for Redefining Readiness

The next decade represents a critical window of choice. As explored in KnowledgeWorks' forecast, *The Future of Learning: Education in the Era of Partners in Code,*[1] we are rapidly entering a new era in which our economy, our institutions and our societal structures – indeed, the very bedrock of our lives – are shifting at an accelerating pace. Exponential advances in digital technologies are combining with new social norms, organizational approaches and economic models to usher in a future that could look dramatically different from today's realities. By 2040, we could find ourselves living, working and learning in ways that can be hard to fathom today.

In particular, work is changing rapidly. KnowledgeWorks' deep dive into that topic, *The Future of Learning: Redefining Readiness from the Inside Out,*[2] highlights how the rise of smart machines is reshaping the role of people in the workplace and the decline of full-time employment is changing the role of work in our daily lives. These drivers of change could present both new opportunities and new challenges for organizations that seek to prepare people for further learning, work and life in an increasingly complex future.

Leaders and innovators in the K-12, postsecondary and employment sectors understand the urgency of ensuring that people are ready for college, career and life. In Southeast Ohio and beyond, a wide range of stakeholders is already pursuing many efforts to close gaps in academic achievement, educational attainment, skills and employment. Yet those gaps will not be closed if we view readiness only through today's lenses.

To prepare young people for the changing nature of work and help them thrive amid rapid change and significant uncertainty, we need to redefine readiness for the emerging era. A new foundation for readiness needs to include not only academic and job-related knowledge and skills, but also social-emotional development to help students be resilient, reflective and able to form positive connections and relationships. Redefining readiness for the emerging era begins with discussion and consideration about what it will mean for people to be ready for further learning, work, and life in the year 2040 and what opportunities exist today to begin ensuring that they are.

About This Strategy Guide

This strategy guide is the result of a convening of K-12, postsecondary and employment stakeholders across Southeast Ohio held on December 5, 2017. With support from the Martha Holden Jennings Foundation, KnowledgeWorks hosted this convening, along with two similar events held in Southwest and Northeast Ohio, to surface regional opportunities to redefine readiness for the emerging era.

This publication draws upon participants' insights to guide other education, employment and civic stakeholders in considering how they might shape the future of readiness. Their reflections and insights are quoted throughout. The insights and action steps are meant to spark ideas, conversation and first steps toward new approaches to learning that will help stakeholders in Southeast Ohio meet the needs of the next generation entering a new world of work. The opportunities highlighted here could also inspire action in other places.

As you read this strategy guide, look for:

Prompts to help you apply the content to your own context.

QUOTES FROM CONVENING PARTICIPANTS THAT SHARE KEY INSIGHTS.

Download the full illustration created during the event. [OPEN]

Snapshot of Educational Attainment and Employment Landscape

This snapshot of statewide and regional educational attainment levels and employment landscapes provides a starting point for considering opportunities to shape the future of readiness, including reflecting on what other measures of readiness and economic vitality might need to emerge in the future.

EDUCATIONAL ATTAINMENT

Ohio faces a credentials gap.
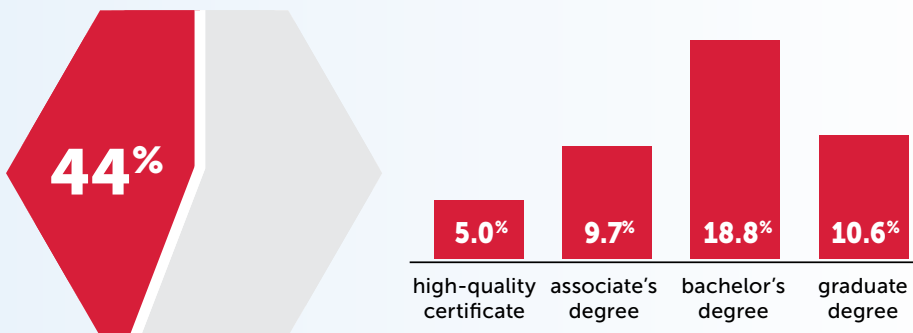
Roughly 44 percent of working-age Ohioans have some form of postsecondary credential (a percentage that has been increasing since 2008). 5.0 percent have a high-quality certificate, 9.7 percent have an associate's degree, 18.8 percent have a bachelor's degree, and 10.6 percent have a graduate or professional degree.[3]

56 percent of today's "in-demand jobs" require a postsecondary credential.[4]
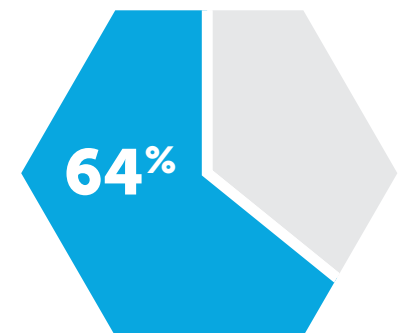
64 percent of jobs in Ohio are projected to require a postsecondary credential by 2020.[5]

Attainment of associate's or higher degrees in Southeast Ohio varies significantly by county.

42 percent of the U.S. population over the age of 25 has an associate's degree or higher.[6] Only **one** of the region's 19 counties meets or exceeds that level of attainment.[7]

Percentage of the population aged 25-64 years old with an associate's degree or higher

12% Holmes
21% Carroll
25% Tuscarawas
32% Jefferson
22% Coshocton
22% Harrison
24% Guernsey
31% Belmont
27% Muskingum
18% Noble
24% Monroe
25% Perry
26% Morgan
34% Washington
39% Hocking
42% Athens
21% Vinton
27% Meigs
28% Jackson
27% Gallia
28% Lawrence
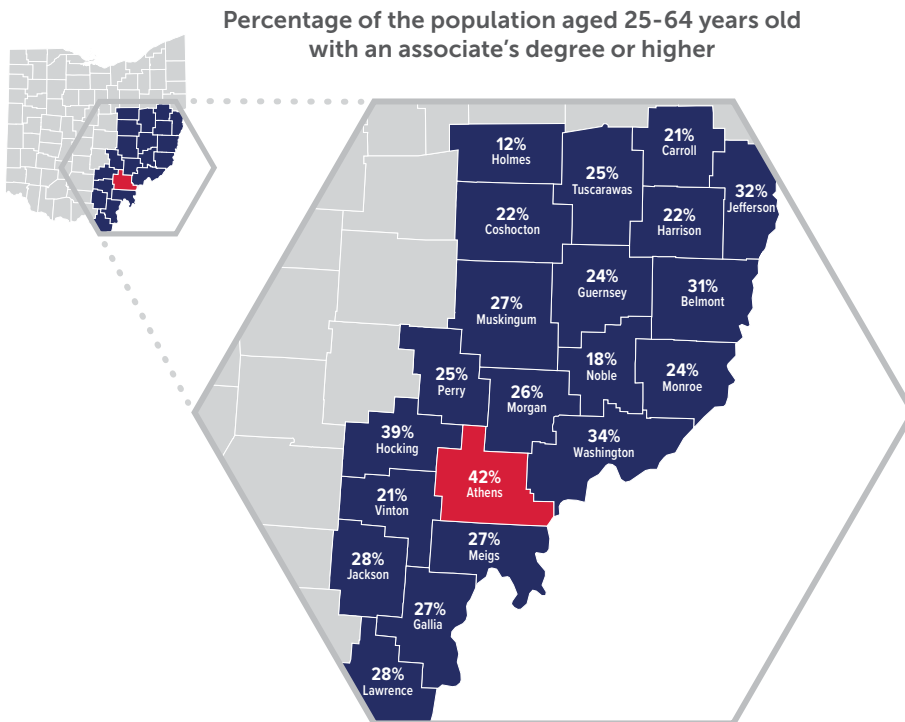
"MANY OF THE PEOPLE MOST LIKELY TO BE ADVERSELY AFFECTED BY THESE TECHNOLOGICAL ADVANCES ARE NOT AWARE OF THEM AND THEIR POTENTIAL IMPACT."

Ohio's and the nation's population are diversifying.

Since 2000, the non-white population increased 30 percent in Ohio and 43 percent nationwide.[8]

Non-white population growth

30% OHIO

43% NATIONWIDE
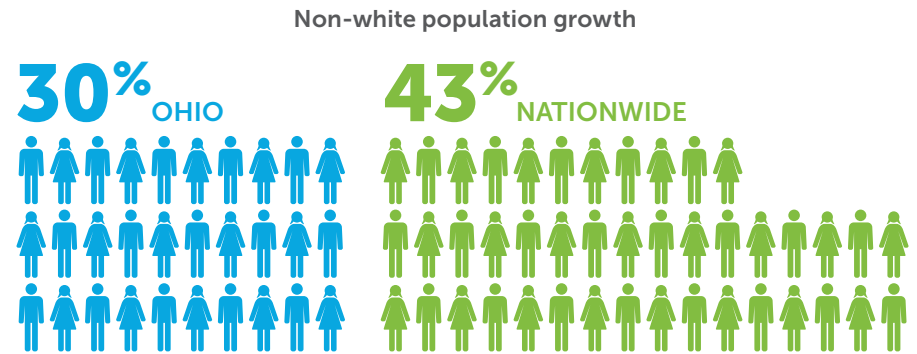
Meanwhile, educational attainment gaps persist.[9]

Percentage of people aged 25-64 with at least an associate's degree

	African American	Native American	Asian and Pacific Islander	Hispanic	White
OHIO	27	32	67	27	40
NATIONWIDE	30	24	62	22	46

● OHIO ● NATIONWIDE

EMPLOYMENT LANDSCAPE

4.3%
OHIO

3.8%
NATIONAL
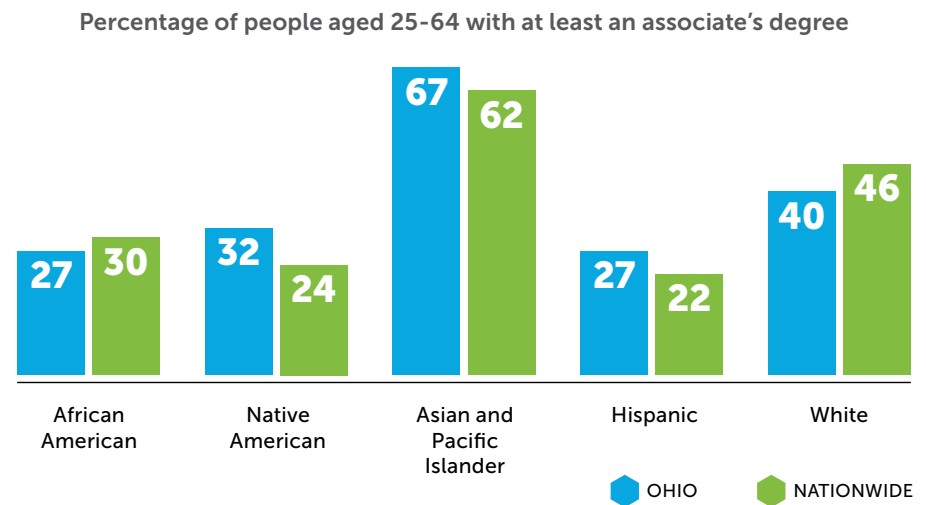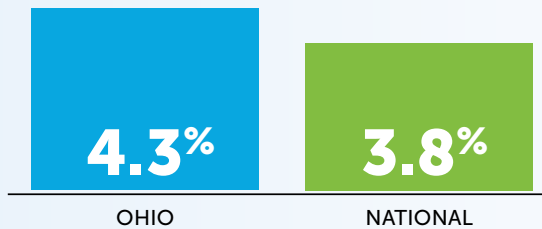
Though it has been declining, Ohio's unemployment rate remains slightly higher than the national average.
As of May 2018, Ohio's unemployment rate was 4.3 percent, compared to the national rate of 3.8 percent.[10]

2.7%
HOLMES

7.3%
MONROE
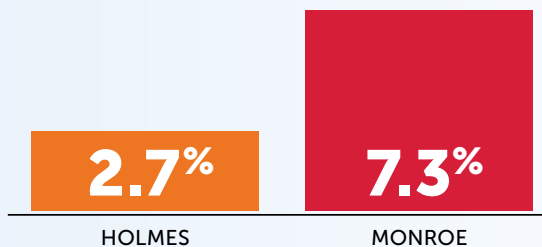
Southwest Ohio's unemployment rate varies by county.
As of April 2018, it ranged from 2.7 percent in Holmes County to as high as 7.3 percent in Monroe County.[11]

39.3 Ohio's median age is slightly higher than the nation's.[12]

Three of Ohio's five top industries[13] lost jobs between 2007 and 2017.[14]

Increase or decrease in jobs between 2007 and 2017

⬇ Manufacturing

⬇ Transportation and Trade

⬆ Professional and Business Services

⬇ Government

⬆ Education and Health Services

Through 2024, Southeast Ohio is projected to add jobs in some categories: business and professional services, construction, services such as repair and maintenance and self-employment.[15]

''THIS REGION IS WORTH INVESTING IN FOR THE FUTURE.''

In addition, two of the region's top five industries are expected to add jobs.[16]

Projected increase or decrease in jobs in Northeast Ohio between 2014 and 2024

⬆ Education and Health Services

⬆ Transportation and Trade

⬇ Manufacturing

⬇ Leisure and Hospitality

⬇ Natural Resources, including Agriculture and Mining

Though **manufacturing employment** is expected to decline in the region and nationwide, certain occupations — namely those associated with maintaining, repairing, troubleshooting, and programming increasingly complex machines — will be in demand, and additional job openings could result from the retirement of older workers.[17]

What do these statistics reveal about what young people might need in order to be ready in the future?

What other data points would be helpful for stakeholders to consider?

Most employment and educational attainment projections assume that the economy and approaches to readiness will stay fundamentally the same in the future. However, **additional statistics** invite new lines of inquiry into how the economy might shift and what people might need in order to thrive in a new employment landscape.

Smart machines are on the rise. Ohio already has a high incidence of industrial robots.
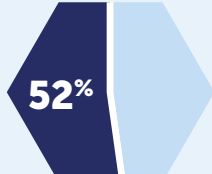
9% At 9 percent, Ohio has the nation's second-highest percentage of industrial robots. As rural areas court businesses and industries, they should be alert to the effects of automation in other regions.[18]
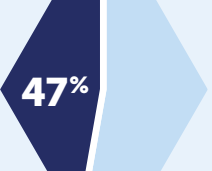
More and more jobs are requiring increasing levels of digital skills.

26% From 2002 to 2016, the share of jobs requiring medium or high levels of digital skills rose by 26 percent.[19]

Projections indicate that jobs requiring low levels of digital skills are most likely to be automated.[20]

Expert opinion about the future impacts of workplace automation is divided.

52% In a Pew poll of technology experts, 52 percent of respondents asserted that technology will create more jobs than it will displace by 2025.[21]

47% However, a University of Oxford study suggested that 47 percent of current U.S. middle-class jobs are at risk due to automation by 2033.[22]

Full-time employment for a single organization is declining.

54-68M 54 million to 68 million people in the United States are already estimated to work in the project-based economy,[23] and some projections estimate that the contingent workforce will exceed 40 percent by 2020.[24]

6% Southeast Ohio is projected to experience a 6 percent increase in the number of self-employed workers and unpaid family workers by 2024.[25]
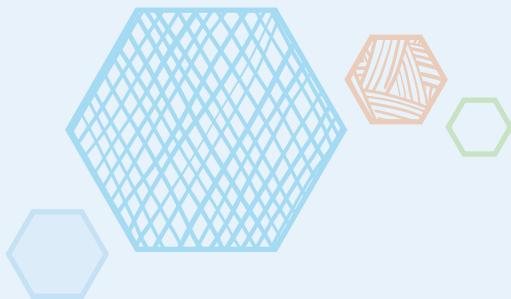
Possible Futures of Work for Southeast Ohio

The future is uncertain, and many possibilities could emerge. Thinking through a range of scenarios can challenge our assumptions in useful ways and surface opportunities in need of attention.

KnowledgeWorks' paper, *The Future of Learning: Redefining Readiness from the Inside Out*,[26] developed scenarios for work and readiness in the year 2040 by exploring two critical uncertainties about how the rise of smart machines and the decline of full-time employment could play out in the future:

- Will there be high or low technological displacement of workers?

- Will the societal response be systemic and intentional or market driven?

The four scenarios at the intersections of these uncertainties are summarized on the next page.

Beyond these scenarios and the drivers of change that they reflect, other regional trends and potential events could influence the future of work and readiness in Southeast Ohio. In considering such developments, convening participants envisioned a range of future scenarios:

- What if an intentional focus on cultivating readiness started during early childhood, with the expansion of universal pre-kindergarten being treated as a crucial element of supporting a thriving region?

- What if K-12 education partnered proactively with businesses and industries to help individuals develop skill sets that met their emerging needs?

- What if Southeast Ohio used its land as an asset, providing food for Ohio through agriculture as well as space for relaxation and recreation?

What changes can you envision, and what other futures of work might those changes cause?

What might be the implications of any of these possibilities for Northeast Ohio, its economy and residents' future readiness?

"SOUTHEAST OHIO MAY BE SMALL POPULATION—WISE, BUT IT IS PRIMED TO BE AS INNOVATIVE AS URBAN AREAS."

LOW TECHNOLOGICAL DISPLACEMENT
Job creation and reconfiguration outpace job loss

Partnering for Mobility

Checking for Upgrades

COORDINATED SOCIAL INNOVATION
Systemic and intentional adaptation

LAISSEZ FAIRE RESPONSE
Market-driven adaptation

Finding New Meaning

Working the Platforms

HIGH TECHNOLOGICAL DISPLACEMENT
Widespread replacement of human workers

Partnering for Mobility: Individuals partner with machines to carry out project-based work, developing mosaic careers. Employers, communities and governments partner with one another to anticipate workforce needs and design adaptive career pathways and other supports that help workers as they keep pace with rapid reskilling and upskilling.

Checking for Upgrades: People shoulder the responsibility of navigating a highly fluid landscape of independent, contingent employment, using digital assistants and continually looking for ways to build connections and upgrade their skills. "Always-on" workers blur the lines between work, learning, play and social life as they strive to stay relevant to organizations' needs.

Finding New Meaning: Though machines now do much of the work previously done by human workers, paid work is just one of many ways to earn a living and contribute to society, thanks to a new social support infrastructure that fuels a human-centered economy. Career planning has become life planning, with education shifting its focus toward personal growth.

Working the Platforms: In an extremely competitive and fragmented employment landscape, most workers access tasks through digital dispatching platforms, managing their reputations to make successful matches. Individuals are responsible for developing their own strategies to find enough work and persist through challenges.

Future-Ready Knowledge and Skills

Considering the knowledge, skills and dispositions that people will need to thrive in 2040 can clarify what the aims of the region's readiness efforts could be and how current approaches to, and measures of, readiness might need to shift.

Even as employment structures are changing, smart machines are becoming increasingly capable of performing tasks that people carry out today — including many tasks associated with professional and knowledge-based work. To thrive in the emerging employment landscape, people will need to focus on developing our uniquely human attributes and on developing flexible skills that we can apply across settings. The new foundation for readiness[27] shown right describes future work characteristics, along with skills and practices that promise to help people adapt to changing circumstances.

"WE ALL HAVE PASSION TO ENHANCE OUR REGION AND TO WORK TOGETHER ON IDENTIFYING SIMILAR INTERESTS."

A New Foundation for Readiness

Work Will Be Market-Driven and User-Centered

Work Will Be Modularized and Recombined

Work Will Be Data and Metrics Driven

Solve Problems

Thrive in Ambiguity and Uncertainty

INDIVIDUAL AWARENESS: Emotional Regulation

Think Differently

Communicate and Create with Numbers

CORE SOCIAL-EMOTIONAL SKILLS

SOCIAL AWARENESS: Empathy and Perspective-Taking

SELF-DISCOVERY: Deep Self-Knowledge

Take Initiative and Self-Advocate

Learn Anything, Anywhere

Work Will Be Grounded in Relating

Make Friends with People and Machines

Cultivate Inclusive Communities

Work Will Be Interwoven with Learning

FOUNDATIONAL COGNITIVE & METACOGNITIVE PRACTICES

Convening participants worked with the new foundation for readiness, identifying which elements, along with additional knowledge, skills and dispositions, seem most important to the Southeast Ohio economy in 2040. Those readiness factors included:

- **Learn from failure:** As the pace of change accelerates, there are likely to be increased levels of uncertainty in many areas of life, including work. People will need to be able to accept and learn from failure.
- **Effective communication:** As work takes on new forms and work settings become increasingly diverse, people will need to communicate effectively across different settings, in different styles and with people from different walks of life.
- **Lifelong learning:** As the shelf life of skills shortens, people will need to know how and when to engage in learning and how to access credible knowledge and information.
- **Embrace change:** As work and many areas of life shift due to accelerating change, people will need to adapt, be flexible and continue to persevere as the world around them changes.

What other knowledge, skills and dispositions might enable all young people to thrive no matter what future of work emerges?

How might K-12, postsecondary and employment organizations and institutions support the development of such knowledge, skills and dispositions?

In contrast, what knowledge, skills and dispositions might be replaced or downplayed to make room for future-ready preparation?

What new measures of readiness might need to emerge?

''BE OPEN TO NEW LINES OF THINKING AND TALK TO PEOPLE OUTSIDE OF YOUR PEER GROUP ABOUT IDEAS AND PROJECTS.''

Opportunities to Shape the Future of Readiness

While redefining readiness can seem like a daunting and far-reaching endeavor, education and employment stakeholders can begin that work today. Identifying key opportunities and challenges can help stakeholders critically and creatively examine, revise or reinforce their current efforts and plans and identify promising new approaches.

In exploring future opportunities and challenges, convening participants identified potential change efforts that could position Southeast Ohio and its young people to thrive in the future. Their ideas targeted:

- How **people** could be empowered to bring about change,
- How **structures** could be reorganized to align with future needs, and
- How **society** could be encouraged to rethink approaches to readiness.
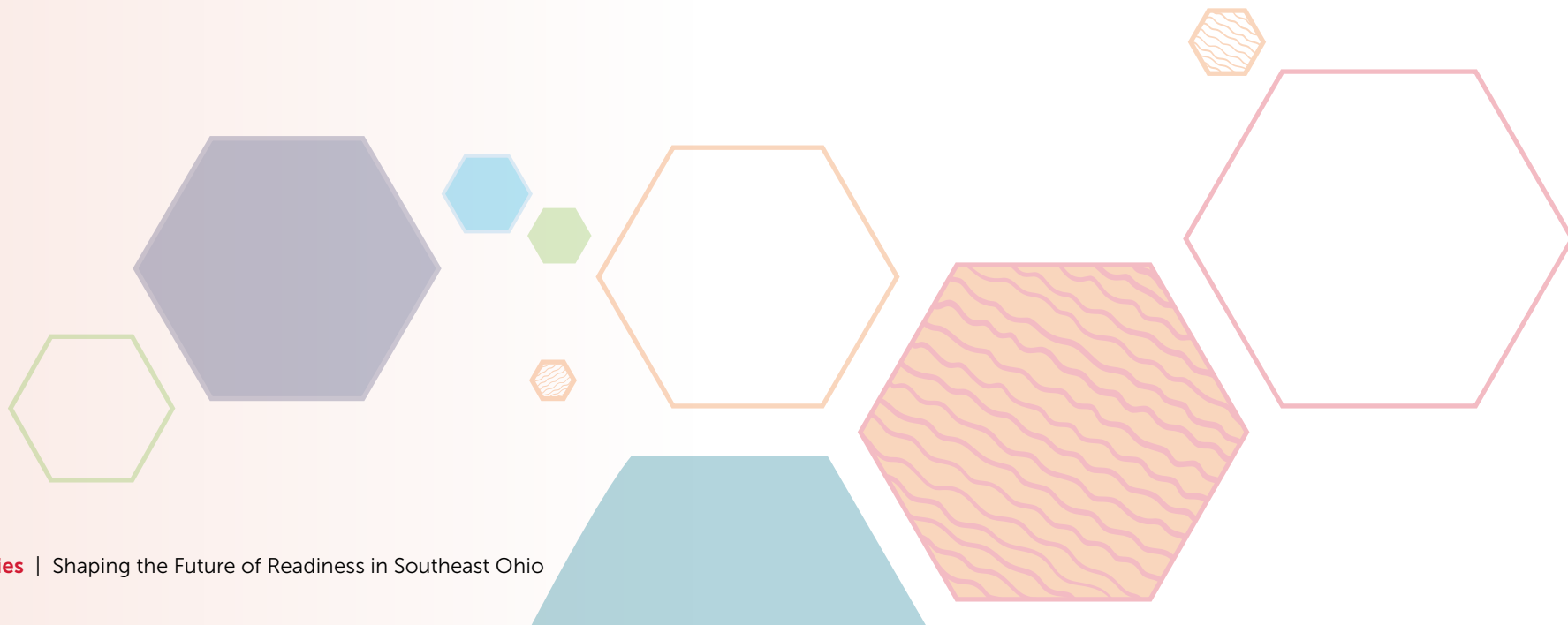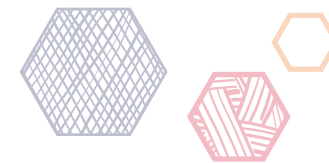
People: Empower Educators to Cultivate Innovative, Personalized Approaches to Learning

When given the support, autonomy and resources to explore new ideas and innovate, educators are uniquely positioned to design highly personalized classroom approaches, curricula and learning experiences that will increase students' readiness for work and life. Focusing on career-pathway integration can be part of this exploration.

Action Ideas

- Explore best practices for handling school calendars and schedules, and provide educators with materials and access to expertise to support them in designing lesson plans and educational experiences.

- Create personalized K-12 learning pathways that are developed by students with adult consultation.

- Encourage learners to engage in career exploration through job shadowing, rotating internships and other approaches.

- Find ways to increase career-exploration opportunities for students, using incentives and supports to provide policy flexibility for districts and to encourage employer involvement.
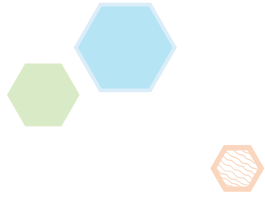
# Structures: Develop a Networked Approach to Lifelong Learning

As the employment landscape changes and people need new types of education, training, reskilling and social supports, developing a network of partners that can offer a wide variety of learning experiences, along with experts who can share their knowledge, promises to help people cultivate critical readiness attributes across their lifetimes.

Action Ideas

- Consider what new types of programs might help support lifelong readiness and what existing buildings and spaces might be used to host them.

- Develop a list of partners from the business, nonprofit, higher education and informal schooling sectors that might be willing to partner or help fund your network.

- Seek out retired community leaders, teachers, parents and other experts who could provide training or other supports. Consider policies that incentivize this type of community engagement.

- Explore funding sources, including state grants and venture funding, and consider tax incentives for individuals and organizations to align with emerging readiness needs.

*"THERE IS A PLACE FOR YOU IN THIS CONVERSATION!"*
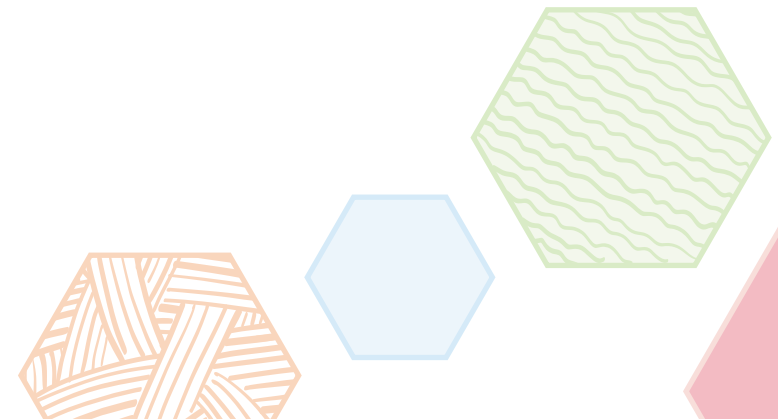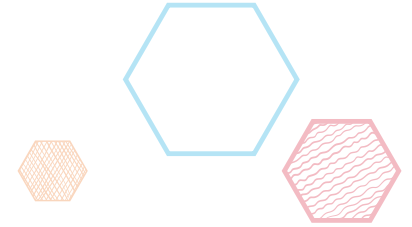
Society: Shift Mindsets about Rural Communities

As rural areas work to transform approaches to readiness, there is the opportunity to shift mindsets about what rural communities are and what they could be in the future. In addition to courting anchor businesses or industries, rural areas can leverage their distinctive strengths and assets to help shape Southeast Ohio's economy. For example, they could tap into market trends beyond the region, such as increasing interest in artisanal goods, or they could position the region's natural assets to attract tourism. Such strategies promise to help rural communities be seen as engines for economic stability and local innovation, encouraging young people to stay in rural areas and reframing readiness for a new employment landscape.

Action Ideas

✓ Develop an aspirational vision for the region that leverages its unique strengths, resources and values.

✓ Reframe both traditional markers of success such as test scores, certificates, degrees and local definitions of success to reflect the realities of a new employment landscape.

✓ Encourage and incentivize the development of entrepreneurial skills for both young people and adults.

✓ Create a persistent public-relations campaign that communicates local success stories and innovative practices and highlights local assets.

✓ Continue to advocate for policies that promote equitable access to market-driven technologies, such as wireless and high-speed broadband internet, in rural areas.
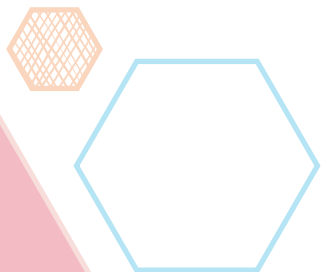
# Opportunities in Action: Local and Regional Examples

Efforts to shape the future of readiness in Southeast Ohio are already underway. Stakeholders can learn from, connect to or adapt them as they work to leverage these opportunities. The examples below represent just a sampling of what leaders in the region are currently doing to shape the future of readiness.

Building Bridges to Careers (BB2C) is a nonprofit organization that works in Washington County and the surrounding area to bridge the gap between education and employment for all students. In building **community networks** that provide students with experiences in a variety of career fields and help them attain their life goals, BB2C seeks to coordinate the area's career development efforts. It has developed multiple programs that **connect** students, parents and teachers to local businesses and employers.[28]

Appalachian Ohio P-20 Council is a group of community leaders who come together to examine regional student and workforce needs and to strategize about ways to **invest** their existing resources in opportunities for **student success**, which ultimately defines the future of the community and the strength of its workforce.[29]

Corporation for Ohio Appalachian Development (COAD) is a private nonprofit, community-based organization whose mission is to provide a **unified voice** and representation for 17 community action agencies and their constituents. As part of its mission, COAD's service network offers **training programs** to help meet local workforce needs.[30]
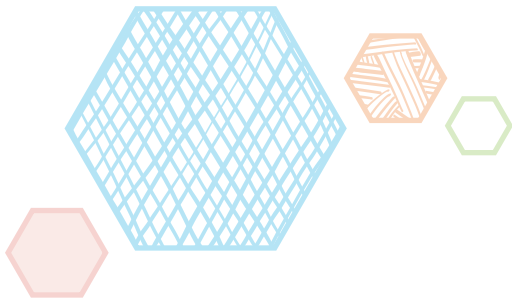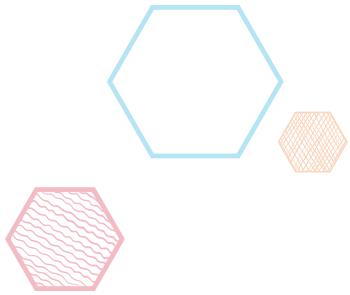
The **Ohio Department of Education** plans to integrate its existing kindergarten through third-grade social-emotional learning standards into **curriculum**, instructional practices and supports and to evaluate whether the standards should extend through high school. The department is also planning to develop a local **engagement** toolkit to support districts in collaborating with their communities toward effective communication, student success and inclusive environments.[31]

How might you begin addressing these opportunities or pursuing these action ideas in your context?

What other opportunities might exist, given the existing partnerships, efforts and interests in your community?

"WE HAVE TO DO THINGS DIFFERENTLY."
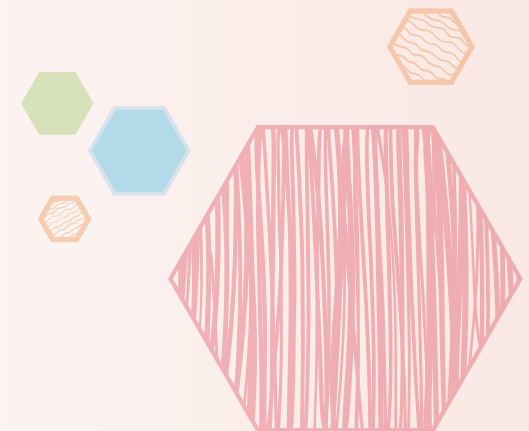
Redefining Readiness Begins Today

Ensuring future college and career readiness for all young people is in some ways a technical challenge that stakeholders across the education and employment sectors are already addressing by aligning education and training with in-demand skills, increasing student and employee access to new technologies and exposing young people to various career options, among many other important approaches.

However, preparing young people for an uncertain future is also an adaptive challenge that requires taking a deeper look at the values, systems and mindsets that surround education and employment. In addition to exploring how to improve alignment of current systems, stakeholders have the opportunity to consider questions such as:

- In what ways might school funding need to change to ensure equal access to different kinds of readiness pathways?

- How might educator roles need to diversify and expand to support a broader range of readiness pathways?

- In what ways might assessment and credentialing need to change as readiness is redefined?

- What strategies might help create public buy-in for redefining readiness?

The reflection questions below can be a starting point for applying insights from this action guide to your context.

- What stands out to you most from the strategy guide?

- What feels hopeful? What feels challenging?

- What questions about shaping the future of readiness do you still have? Which feel most important to address?

- To what year is your organization or effort aiming its readiness work? 2020? Beyond? How might longer-term thinking shift your goals or approaches?

- What are your own next steps in shaping the future of readiness?

Work and education form the bedrock of society. They are key ways in which people learn to understand the world around them, make a living, organize their time and connect with others. By anticipating shifts in that foundation today, education and employment stakeholders can begin to recognize and address the emerging opportunities and challenges and to prepare not only young people, but also ourselves, for the changes on the horizon.

Related Resources

These and other future of learning resources can be downloaded by visiting KnowledgeWorks.org.

DOWNLOAD

The Future of Learning: Redefining Readiness from the Inside Out
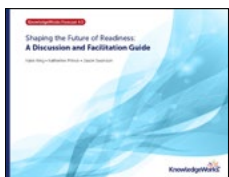
This publication explores how readiness for further learning, work and life may be redefined to better prepare students for an uncertain future. By proposing a new foundation for readiness based on core social-emotional skills, it offers education stakeholders a framework for helping all students develop the skills needed to succeed in possible employment landscapes of 2040.

DOWNLOAD

Shaping the Future of Readiness: A Discussion and Facilitation Guide

This guide provides activities and discussion guidance to help cross-sector groups of stakeholders consider their own paths forward in shaping the future of readiness.

DOWNLOAD

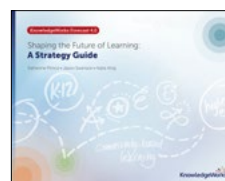## The Future of Learning: Education in the Era of Partners in Code

This forecast provides an overview of the era shift that is underway, exploring how five drivers of change might impact people, structures and society and identifying potential opportunities and challenges on the horizon.

DOWNLOAD

Shaping the Future of Learning: A Strategy Guide

This resource explores five foundational issues facing education and suggests strategies to help K-12 schools; informal and community-based learning organizations, such as museums and libraries; and higher education institutions create a future that serves all learners well.

References

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Appendix

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Acknowledgements

KnowledgeWorks

KnowledgeWorks is a nonprofit organization dedicated to advancing personalized learning that empowers every child to take ownership of their success. With nearly 20 years of experience exploring the future of learning, growing educator impact and working with state and federal policymakers, our passionate team partners with schools and communities to grow a system-wide approach to sustain student-centered practices so that every child graduates ready for what's next.

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