HANOVER RESEARCH

RURAL LABOR MARKET ANALYSIS

Prepared for AASA, The School Superintendents Association

K-12 Info-Briefs

Introduction

The COVID-19 pandemic disrupted labor markets globally. Although there were immediate impacts of this disruption, it remains unclear how the workforce will change long-term due to social, economic, and employment shifts.[1] The pandemic transformed the way people work and the prevalence of different types of working environments, such as remote work. Aside from the pandemic, remote work has gained traction due to "shifts in the economy to more service and knowledge-based industries, and by the emergence of communication technologies."[2] Remote work and changes in industry trends may lead to unique challenges for rural areas. The School Superintendents Association (AASA) is interested in understanding the implications of these labor market shifts for rural school districts. Rural school district leaders must understand these impacts on their community to provide effective college and career readiness programs for students.

To support this interest, Hanover Research (Hanover) presents a research brief on labor market projections for rural areas across the United States. Specifically, this brief describes the changes in technological, economic, and demographic shifts at the national level, and how the COVID-19 pandemic has impacted labor market projections and working environments. Additionally, this brief summarizes the outcomes of labor market shifts within the context of rural schools and their implications for college and career readiness.

Practical Applications

Based on secondary research, Hanover presents the following practical applications for superintendents:

- **Review the SkillsBuilder Essential skills** framework **to implement teaching strategies** for highly transferable workplace skills that students can leverage in any occupation. Superintendents should lead dialogue with curriculum developers to consider incorporating essential skills into programs of study at every level and in every subject. Subsequently, superintendents should direct professional learning for content and grade-level teaching teams to develop lesson plans that explicitly address development of these skills in the context of existing curricula.

- **Co-create curricula with education institutions and industry partners for upskilling opportunities**, including work-based learning experiences. Curriculum on the future should not focus on specific industries or jobs. Instead, district leaders, education institutions, and industry partners should collaborate on how to adapt curriculum content and strategies to develop upskills. To be college and career ready, students will have to have digital, analytical, and organizational skills not traditionally addressed in schools.

- **Expand online learning opportunities** to increase remote skill development and the diversity of course offerings (e.g., STEM courses, college-level courses). As labor markets move online and schools return to in-person learning, students will need continued exposure to online learning opportunities in order to develop the digital skills needed to be successful in the future labor environment. Non-core courses are ripe opportunities for online access.

- **Collaborate with local industry partners in agriculture, manufacturing, and other traditionally rural industries** to understand how technologies are shifting the skills required of employees in these fields. The shifting labor landscapes, particularly in rural areas, is only somewhat predictable and remains fluid and uncertain to some extent. Therefore, consistent ongoing dialogue with industry partners is necessary to adjust strategies as conditions change.

Key Findings

Demographic, economic, and technological trends have shifted over the past decade and continue to experience shifts in response to the COVID-19 pandemic. The nation's rural areas are becoming more racially and ethnically diverse but the distribution of people of color in rural areas is highly regionalized. The dominant industries in rural areas are evolving and shifting as a result of the pandemic and changes in economic activity. Technology advancements (e.g., automation and digitization) are also shifting workforce trends. Technology changes are creating new opportunities for rural workers in traditionally rural industries (e.g., agriculture) and opening opportunities for rural workers to enter different industries.

Over the next decade (i.e., 2020-2030) employment is projected to grow in healthcare, social assistance, and technology-driven industries nationwide. Technological advancements are expected to support long-term growth in professional, business, and scientific services industries, including computer systems design and related services. Several industries such as leisure and hospitality are expected to have short-term employment growth in response to the pandemic. Retail trade is expected to experience the greatest decline in employment opportunities as the economy favors e-commerce following the virtual environment stimulated by the pandemic.

In rural areas, agriculture and manufacturing are projected to have less growth than other fields but remain critical to rural communities as they evolve with technological advancements. The highest demand in rural areas is expected to be in the services sector, including healthcare, education, and social services. Students in rural schools must learn more advanced technical skills to contribute to the changing workplace for traditionally rural industries and emerging industries in rural communities.

With the influence of remote work environments from the pandemic, the rural workforce has more opportunities to get involved in high-growth industries and select from a wider range of career opportunities. Many occupations shifted to remote work environments, allowing more flexibility for housing and an increase in workers moving to rural communities that have a lower cost of living compared to urban areas. Employees must learn the technical and interpersonal skills specific to working in a remote environment in addition to the job-specific skills in common remote jobs, such as management, legal, finance, technology, and sales.

Rural school district leaders can support college and career preparedness by increasing the development of essential workplace skills and implementing strategies for upskilling. Essential skills are highly transferable skills that support employees in all occupations by increasing the productivity of technical or job-specific skills. In addition, upskilling strategies can provide workers with relevant skills for the future workforce, including digital, analytical, and organizational transformation skills. District leaders can co-create curricula for upskilling opportunities with higher education institutions and industry partners leveraging strategies such as work-based learning opportunities. Leaders can also incorporate online learning to enhance the development of digital skills and increase the diversity of learning opportunities (i.e., course options) for rural students.

National Demographic Projections

As demonstrated by the 2020 Census population data, demographic trends are evolving across rural areas in the United States. The complex changes in rural demographics suggest that "**the future of rural America is increasingly marked by demographic, regional, and economic diversity**."[3]

Rural Demographic Shifts

Rural America became more racially and ethnically diverse over the last decade	• Rural areas are still less diverse than the nation as a whole but it is diversifying. In 2020, 24 percent of rural Americans were people of color but 42 percent of the nation were people of color. • Between 2010 and 2020, the median rural county[1] saw its population of color increase by 3.5 percent.
The distribution of people of color in rural America is complex and highly regionalized	• Rural populations of color are shaped by highly regionalized variations in the concentration of Black Americans, Latino Americans, and Indigenous Americans across the U.S. • Rural counties in the South and West are particularly racially and ethnically diverse, with a substantial number of rural areas in these regions majority or near-majority people of color.
Expanding diversity is largely driven by growth in the rural Latino population	• Population gains in many rural areas were driven solely by increases in Latino residents, many of whom immigrated to work in meatpacking plants, farms, or industries like construction, oil, and timber, or to start businesses.

Source: Brookings Institution[4]

Shifts in rural demographic trends across the nation suggest that rural policies and programs must intentionally support demographic diversity and dynamic local economies. Leaders in rural areas can support community-led structures to build capacity and advance community priorities.[5]

National Economic Projections

The economic crisis resulting from the COVID-19 pandemic exposed the vulnerability of rural communities and led to shifts in local economies. The pandemic changed rural employment and economic activity across industries. Dominant rural industries, including agriculture, mining, manufacturing, government, and recreation continue to experience variation in unemployment rates with the Congressional Budget Office (CBO) projecting total employment will not return to pre-pandemic levels until 2024. As rural communities recover from economic challenges, opportunities are expected to increase across several sectors, such as information technology, healthcare, industrials, and communication services.[6]

Shifts in the rural economy due to the pandemic may have long-lasting effects on employment opportunities. The increase in remote working (i.e., teleworking) due to the pandemic may result in a permanent shift and increase in remote work. This flexibility in the work environment creates more opportunities for rural residents and encourages other Americans to live in rural areas where the cost of living is more affordable. Specifically, students who would typically leave rural areas to pursue careers in metropolitan areas may be more likely to stay, with the

> "If remote work becomes more prevalent, it could help reverse the 'brain drain' that sees many younger rural residents leave to pursue education and jobs."[7]

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[1] Median rural county refers to the county that has the midpoint value of population change for all counties defined as a "rural" locale. In this analysis, most of the rural counties reported a percentage point change in non-white share of the population at or above 3 percentage points, including the median.

increase in accessibility. Rural areas with reliable services and infrastructure (e.g., schools and broadband connectivity) may experience higher population growth and will require more housing development to accommodate remote workers.[8]

Rural industries are also experiencing changes from the emergence of different technologies following the pandemic. For example, the agriculture sector is expected to leverage new technologies such as precision agriculture and other digital applications that improve productivity and sustainability. Similarly, utility-scale wind and solar projects may create construction and manufacturing jobs for rural areas and increase economic prosperity. Indeed, these projects require highly-skilled employees who receive technical training, which is often already available in rural areas.[9]

National Technology Projections

According to research conducted by the Massachusetts Institute of Technology (MIT) Task Force, **new and advancing technologies will significantly impact the future of the workforce, creating new opportunities for economic growth.** Advancements in technology have caused labor market adjustments throughout history with changes to occupations and even the elimination of jobs and industries. Automation and digitization will continue to shift job duties and availability as advances progress in technologies such as robotics, artificial intelligence, and machine learning. Specifically, three industries—supply chains, manufacturing, and vehicles—are expected to experience high levels of new technology adoption.[10]

Rural areas face the highest risks of job automation and therefore must leverage the benefits of technological change to support the local workforce.[11] Automation due to technological advancements will disproportionately impact "middle-skill" employees without a four-year college degree. Even with changes in automation, employment opportunities in the production industry will increase due to retirees. Similarly, middle-skill jobs in the healthcare industry are projected to increase. Communities must focus on more non-elite postsecondary education and training venues (e.g., community colleges, apprenticeship programs, and online education offerings) to prepare the workforce for these opportunities.[12]

Technological advancements are expected to support rural areas in various ways such as those outlined in the following figure.[13]

Effects of Technology in Rural Regions

The reduction of trade times and costs

- New technologies can enable rural goods and services to reach distant markets at a lower cost and greater speed.
- Technology enables rural economies to compete for non-tradeable services (e.g., law, health).

The exchange of new types of products and services

- Technological advancement can support innovation through collaboration across geographic regions.
- Commerce through digital platforms and technologies like additive manufacturing (e.g., 3D printer) can increase efficiency in product exchange.

Additional ways to work and join the labor market

- Technology enables wider use of remote working models in rural regions.
- Digital connectivity improves job matching, job options, and skill development.

Source: Organization for Economic Cooperation and Development[14]

Labor Market Trends

According to the Bureau of Labor Statistics (BLS), total employment will increase by 7.7 percent over the 2020-2030 decade in part due to recovery growth from the low employment at the onset of the pandemic in 2020. Many industries are predicted to experience cyclical recoveries in the short-term as industry output and employment return to previous growth patterns. In addition to cyclical recoveries, some industries and occupations are expected to have long-term structural growth and demand due to economic changes caused by the pandemic. For example, computer-related occupations are projected to have greater long-term demand especially due to increases in telework and the need for IT security. The following figure describes the prominent industry trends projected by BLS for the 2020-2030 decade.[15] Notably, these trends are not specific to rural communities but demonstrate the nation-wide demand. One could argue that with shifts to remote work, the labor markets for rural areas may not differ significantly compared to urban and suburban regions in the U.S.

Industry Trends, Projected 2020-2030

Employment in **leisure and hospitality is projected to grow the fastest** among all sectors over the 2020–30 decade, accounting for 7 of the 20 fastest growing industries (employment change for industries references wage and salary employment). This growth is largely driven by recovery from the pandemic.
Employment in **healthcare and social assistance is projected to add the most jobs** of all industry sectors, about 3.3 million jobs over 2020–30.
Technological advancements are expected to support strong employment growth in professional, business, and scientific services industries, including computer systems design and related services (2.1 percent projected annual employment growth from 2020–30) as well as management, scientific, and technical consulting services (2.0 percent).
Retail trade is projected to lose 586,800 jobs over the 2020–30 decade, the most of any sector. As e-commerce continues to grow in popularity, accelerated by spending patterns in the COVID-19 pandemic, demand for brick-and-mortar retail establishments is expected to decline.
While the **manufacturing sector** as a whole is projected to have some recovery-driven employment growth, it also contains 11 of the 20 industries projected to have the most **rapid employment decline.**

Source: Bureau of Labor Statistics[16]

The BLS identifies occupations that are expected to grow in demand across the nation, including those that are due to recovery from the pandemic and occupations that will have longer-term structural growth. Healthcare occupations are expected to increase in demand due to both short and long-term reasons. The fastest growing occupations for the next decade are projected to be healthcare support jobs, including nurse practitioners, physical therapist assistants, and physician assistants. Several occupations that had significant employment losses in 2020 are expected to experience large recovery growth. These occupations include motion picture projectionists, ushers, lobby attendants, and restaurant cooks. [17]

Technology changes due to increased automation and the effects of the pandemic will cause declines in some occupations and growth across others. Specifically, occupations expected to experience decline in demand over the next decade include office and administrative support occupations, sales occupations, and production occupations. Alternatively, computer and mathematical occupations (e.g., IT security and software development) are expected to see rapid employment growth. The following figure highlights the top ten fastest growing occupations projected for 2020-2030, excluding occupations that have above-average cyclical recovery.[18]

Ten Fastest Growing Occupations, Projected 2020-2030

- Wind turbine service technicians
- Nurse practitioners
- Solar photovoltaic installers
- Statisticians
- Physical therapist assistants
- Information security analysts
- Home health and personal care aides
- Medical and health services managers
- Data scientists and mathematical science occupations
- Physician assistants

Source: Bureau of Labor Statistics[19]

Considerations for Rural Communities

Globally and nationally, rural communities have seen shifts in industry growth with declines in the agriculture industry.[20] The Center for American Progress suggests that "although agriculture, manufacturing, and mining have been the mainstays of the rural economy, due to increasing concentration of industries creating firms with extreme market power, this is no longer the case."[21] Instead, employment opportunities in rural communities across the U.S. are greatest in the service sector, especially in healthcare, education, and social services. **Agriculture and manufacturing remain critical industries in rural economies; however, they are evolving with technological advances and require a wider range of skills than they did previously.**[22]

In rural areas, young people may be more constrained to join the workforce earlier than their counterparts in urban areas due to less opportunities for full-time higher-level education or training.[23] The shifts in industry trends and toward remote work suggest rural communities require more diverse and advanced education and training options for students and community members.

Impact of COVID-19 and Remote Work Environments

The COVID-19 pandemic significantly shifted economic and employment outcomes across the nation. During 2020, unemployment rates dramatically increased and many workers with jobs shifted to remote work. One study suggests that about 35 percent of employed adults transitioned to remote work.[24] This shift to remote work is expected to have lasting impacts on the workforce and expand opportunities for rural communities.

Historically, rural communities have had less involvement in the growing knowledge, technology, and professional services industries that are prevalent in urban areas. With the influence of remote work environments from the pandemic, the rural workforce has more opportunities to get involved in high-growth industries and select from a wider range of career opportunities.[25]

Many workers are moving away from urban areas due to the flexibility of remote work and lower cost of living in less populated regions. Technology advancements and investments support the switch to remote work for many industries. Employees in digital-heavy industries (e.g., tech, finance, media) are especially confident in the future of a remote work culture. Even industries that are traditionally in-person environments have opportunities for full or part-time remote work, including public administration, education, transportation and logistics, and energy and mining.[26]

Rural communities can leverage local strengths to increase job opportunities, attract new residents, and expand the market for existing residents. As the job market expands to include a wide range of remote occupations, rural district leaders increase skill development opportunities that will prepare students for remote professions. **Students must learn the technical and interpersonal skills specific to working in a remote environment in addition to the job-specific skills in common remote jobs** such as management, legal, finance, technology, and sales. For example, Utah State University's Rural Online Initiative provides remote job skills training.[27]

Application to Learning

The COVID-19 pandemic facilitated potential long-term shifts in the labor market and workforce trends, including increases in automation in the workplace and growth in the healthcare, social services, education, professional services, and digital and creative industries. Employees in these growing industries rely on essential workplace skills, including interpersonal, communication, creative, and self-management skills. These skills are less critical in industries with fewer job opportunities such as agriculture, manufacturing, and administrative services.[28]

SkillsBuilder Partnership—a global group that developed a framework for building essential workplace skills—describes how these skills support workplace development, especially for high-growth industries. Essential skills are highly transferable skills that support workers in all jobs and increase the productivity of technical skills (i.e., specific to a sector or role) and specific knowledge. Therefore, essential skills are distinct from basic skills (e.g., literacy, numeracy, digital skills).[29] The following figure summarizes the eight essential skills that district leaders should incorporate into the curriculum to prepare students for college and careers.

Essential Skills

LISTENING	SPEAKING	PROBLEM-SOLVING	CREATIVITY
Effectively receiving, retaining, and processing information or ideas from colleagues, customers, or stakeholders.	Communicating effectively with others and being mindful of whether they are talking to others in different settings.	Following steps to solve problems using technical knowledge, experiences, and transferable tools.	Generating innovations or ideas which can be leveraged during the problem-solving process.
STAYING POSITIVE	**AIMING HIGH**	**LEADERSHIP**	**TEAMWORK**
Managing emotions effectively, remaining motivated, and motivating others even during setbacks.	Planning to achieve organizational goals and personal development targets, and evaluating progress and difficulty.	Leveraging empathy (i.e., understanding and sharing feelings) and management (i.e., task division, time and resource allocation, and conflict resolution).	Fulfilling expectations in formal and informal teams and understanding and respecting the diversity of others' backgrounds, cultures, and beliefs.

Source: SkillsBuilder Partnership[30]

As the labor market shifts toward more technology-focused industries with advanced developments in fields like artificial intelligence, robotics, and other technologies, students will require more advanced digital skills. Although students across the nation must learn these skills, rural school district leaders must focus on digital competencies since rural areas have historically fallen behind in accessibility to technology and demand for tech occupations. Additionally, the effects of the pandemic and the increase in remote work drive this need for more digital skills in rural communities. **Upskilling is a strategy that can be used to fill the gap in digital skills and prepare students with future-ready workforce skills.**[31]

"Upskilling is the process of acquiring new and relevant competencies needed today and in the near future. Common examples of upskilling include digital skills, analytics skills, and organizational transformation skills"[32]

Rural school leaders should provide opportunities for students to upskill in order to succeed in the increasingly technology-rich work environments. The following figure identifies several steps for rural leaders to support students' skill development.[33]

Supporting Technology Skill Development in Rural Schools

- Invest in digital skills training with a mix of cognitive skills (i.e., literacy, numeracy, and problem solving) and Information Communication Technology (ICT) and behavioral skills.
- Focus learning pathways on skills rather than jobs to allow workers to make occupational transitions and enhance life-long productive capacities.
- Coordinate with education and training providers, employers and labor unions and adapt curriculum to promote access to high-end technological devices.

Source: Organization for Economic Cooperation and Development[34]

Districts can adjust curriculum strategies and content to integrate opportunities for upskilling. School curriculum does not need to provide orientation or training for all occupations but should include engaging learning experiences that prepare students with college and career-ready skills. **Districts can co-create the curriculum for upskilling by partnering with higher education institutions and industry leaders to share insights.** The following figure describes the role of each stakeholder in creating a curriculum that prepares students with diverse college and career-ready skills.[35]

Curriculum Co-Creation Partner Roles

District Leaders: Ensure students will be engaged and can master skills that align with high school graduation requirements.

Higher education partners: Advise how skills can stack and help students progress toward degree or certificate requirements.

Industry partners: Provide insights into how skills are used in real-world situations to create meaningful project-based learning opportunities.

Source: Education Week[36]

In addition to integrating these high-need technical skills into the curriculum, districts can create opportunities for work-based learning, such as apprenticeships and co-ops, that support upskilling. Work-based learning programs are valuable for skills development to prepare students for vocational training and four-year degree programs.[37] Competency-based education is growing as an effective approach for skill development, especially related to work-based learning programs. Competency-based education provides a personalized approach to identify, acquire, and track progress of foundational, technical, sectoral, industry-based, and occupational skill sets and competencies. This approach measures students' success through knowledge mastery rather than time spent learning, which supports greater skill acquisition.

School districts can leverage the flexibility and accessibility of online learning to expand upskill opportunities for students. As the workforce shifts toward remote work, education is also seeing shifts toward more virtual learning experiences.[38] These online platforms can support rural communities that typically have less access to a diverse curriculum due to geographical constraints.[39] The following spotlight highlights a partnership for increasing students' skill development through online learning strategies.

Spotlight: Ohio STEM Online Learning

Previously, students attending schools in rural areas in the north central Ohio region did not have access to courses offered through the state’s free College Credit Plus (CCP) program. To address the gap for rural students, North Central State College (North Central) implemented distance learning to partner with school districts and offer CPP courses. These courses range from general classes to specialized science, technology, engineering, and math (STEM) education. STEM skills and content knowledge is critical for rural students in Ohio, as manufacturing is the largest sector in the state.

North Central installed video-conferencing equipment in its learning and outreach centers to deliver live college-level instruction to four rural schools and 15 school districts. North Central implemented creative strategies to increase school access in traditional and non-traditional ways. For example, telepresence robots facilitate collaborative learning environments throughout this network of school districts. These robots can assist students who are homebound with maintaining educational continuity using a tablet to control the robot, which wheels from class to class, transmits live instruction, and interacts with teachers and peers. The rural school districts in Ohio continue to utilize multilevel partnerships to increase student skill development in high-need areas like STEM.

Source: Rural Development U.S. Department of Agriculture[40]

Endnotes

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