



Implementing College and Career Pathways in Rural Communities

Strategies for Supporting Rural Economic Development by Connecting Education to Careers

AT A GLANCE

College and career pathways are a critical strategy for supporting economic development in rural communities and creating economic advancement opportunities for youth. However, implementing pathways requires recognizing rural communities' unique needs and opportunities. This report outlines three promising strategies for implementing rural pathways: build on local strengths and context, prioritize inclusive economic development, and embed remote opportunities.

The report considers the strengths rural communities can draw on and the challenges they may confront as they implement high-quality pathways that begin in high school and lead to postsecondary credentials aligned to quality jobs. State and regional leaders can employ these rural pathway strategies to support rural economic development and create more seamless transitions from education to career.

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About JFF

Jobs for the Future (JFF) drives transformation of the U.S. education and workforce systems to achieve equitable economic advancement for all. www.jff.org.

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About Lone Star STEM

Lone Star STEM, launched in 2018, is funded by the U.S. Department of Education's Education Innovation and Research (EIR) Program. Grant funds supported the implementation of education-to-career pathways in computer science and cybersecurity in partnership with Texas high schools and colleges, focusing on those in rural communities. JFF provided grant funds to high schools and partnered with the Texas Education Agency, the Texas Advanced Computing Center, and the American Institutes for Research to offer technical assistance and evaluation support.

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Introduction

The need to boost postsecondary degree attainment in rural communities is clear and growing. By 2031, good jobs that are accessible to those with only a high school education will represent just [6 percent of all jobs](#), while 70 percent of jobs will require postsecondary education.¹ But only 31 percent of adults in nonmetro areas have earned an associate's or bachelor's degree, and there is a growing gap in educational attainment between nonmetro and metro areas, where 45 percent of adults have college degrees. This disparity in educational outcomes creates barriers to economic advancement for those who live in rural communities.²



Over the last decade, college and career pathways have gained national momentum as a strategy to achieve a set of interconnected aims: increasing postsecondary attainment, supporting young people to secure and advance in quality jobs, and fostering economic development through the creation of a skilled talent pipeline. Pathways strategies are place-based: they focus on alignment to regional labor markets and the development of cross-sector partnerships and infrastructure to support sustainability and scale. Implementing these strategies to drive systems change is often slow, difficult work—and can seem all the more so in rural communities confronting challenges such as geographic isolation or a lack of resources such as a small employer base or limited availability of student supports.

Yet rural communities also bring unique assets to the design and implementation of college and career pathways. These strengths include community members' high levels of social capital and pride in and desire to stay in their communities.^{3 4 5} Both of these are a major asset to pathways development, but pathways strategies do not always explicitly call them out or show how pathways leaders in rural communities can take advantage of these strengths to accelerate their pathways work.

JFF's [Framework for College and Career Pathways Design and Implementation in Rural Communities](#) lays out three key pathways design principles that recognize and build upon rural assets. This report offers a deep dive into the strategies outlined in the framework, which shows how pathways leaders can apply JFF's national best practices for pathways development in rural contexts. State and regional education and workforce leaders can employ these strategies to support economic development, create more seamless transitions from education to careers, and multiply opportunities for young people.

What Does “Rural” Mean?






There is no single definition of rural communities, and “official” statistical benchmarks and descriptive categories vary. The best way to understand a rural community—and its strengths and challenges—is to ask its residents. According to the 2020 U.S. Census, 20 percent of residents live in rural communities.⁶ But there are more than a dozen definitions of “rural” at the federal level alone, with varied parameters for what counts as rural and how funding for rural economic development can be accessed and used.⁷ According to the National Center for Education Statistics, rural schools exist in a Census-defined territory that is anywhere from less than five miles to more than 25 miles from an urbanized area.⁸ Under this definition, almost 30 percent of all U.S. public schools are rural.⁹ Rural communities exist in every state in the nation, and they are increasingly racially and ethnically diverse. In the 2020 Census, 24 percent of residents identified as people of color, an increase of 3.5 percentage points from the 2010 Census.¹⁰ Latine residents are the fastest-growing demographic group.¹¹

Rather than developing an absolute definition of “rural,” this report provides support and guidance to communities that experience common challenges, including limited local job opportunities resulting from macroeconomic shifts, considerable geographic distance among pathways partners, and lack of infrastructure to support pathways.¹²

Designing Pathways

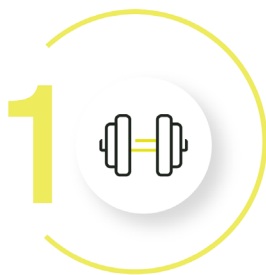
Pathways connect education to careers and mobilize cross-sector stakeholders—including K-12, postsecondary, and workforce development leaders, policymakers, and employers—to build a future that works to meet the needs of youth, educators, and employers and create a more thriving and equitable economy. JFF's Pathways to Prosperity Framework identifies five levers that are critical to successful pathway systems that connect K-12 education, postsecondary education, and careers. Rural pathways leaders are likely to encounter common community strengths and challenges as they seek to implement these foundational elements of high-quality pathways.

IMPLEMENTING THE PATHWAYS TO PROSPERITY FRAMEWORK IN RURAL COMMUNITIES

What It Looks Like	Common Strengths	Common Challenges
 Secondary-Postsecondary Integration		
Erasing boundaries between K-12 and postsecondary institutions and systems, including aligning curricula, credits, funding, policies, and practices	Innovative colleges provide opportunities for pathway-aligned courses not available on high school campuses	Local partnerships are not always available
 Career Navigation Systems		
Systems help students make informed, financially sound, and sustainable education and career choices by guiding students to understand their interests, the related career opportunities available, and the skills, education, and training required to pursue them	The community, including local businesses, is invested in student success	There is a limited number of industries/businesses in the community
 Work-Based Learning		
Students enter workplaces to complete meaningful job tasks that develop readiness for work, knowledge, and skills that support entry or advancement in a career	Employers in rural communities, have experience providing work-based learning opportunities, such as on-the-job training and apprenticeships	Transportation to and from work sites is often a barrier
 Intermediaries		
An organization (or a collaboration of several organizations) drives the effective and efficient design and implementation of pathways by supporting the development and sustainability of cross-sector partnerships	There is often an entity, such as a mayor's office or economic development council, that is already working in partnership with stakeholders representing education, workforce development, and industry	Staff and financial resources at potential intermediary organizations are often more limited than at urban counterparts
 Leadership and Policy		
Cross-sector leaders—from secondary and postsecondary education, industry, workforce development, and state and local government—develop a shared vision of high-quality pathways and take collective responsibility for their design and implementation	Smaller communities are often able to adapt and develop local policy with fewer layers of bureaucracy	Leaders with limited time must intentionally prioritize pathways work

A Framework for the Design and Implementation of College and Career Pathways in Rural Communities

Pathways that respond to unique rural strengths and opportunities are a critical strategy to support young people and advance economic development. Community leaders can take advantage of existing assets and mitigate challenges by focusing on three key strategies.



1
Build on local strengths and context



2
Prioritize inclusive economic development



3
Embed remote opportunities

Build on Local Strengths and Context

A history of collaboration to support the community and a foundation of trust are important strengths of many rural communities. These characteristics give rural communities an advantage as they mobilize the partnerships across sectors that are the cornerstone of successful pathways initiatives.

Create a Shared Vision

Building college and career pathways is complicated. It requires sustained effort and engagement by partners across multiple sectors, including K-12 and postsecondary education, workforce and economic development, business and industry, state and local government, intermediaries, and community-based organizations. Each partner has different needs and priorities, even as they work toward a common goal. Setting a common guiding vision and determining the team's non-negotiables ensures that pathways efforts

advance all stakeholders' priorities and makes it easier to navigate decisions about design elements of pathways, allowing the initiative to move more quickly into implementation.

Adopting a shared vision is often accelerated by the longstanding relationships and partnerships characteristic of many rural communities, which frequently boast active economic development councils, small businesses engaged in the community, and schools where students form personal connections with educators and benefit from personal advising and mentoring. Tight-knit, collaborative rural communities have an advantage over large cities, which often struggle with siloed or disjointed programming across K-12, higher education, and workforce development. Starting from a place of trust and partnership enhances stakeholder buy-in, which is essential to pathways work. In an illustrative anecdote, an educator in one community recalled a conversation with an employer: "I know they are bought in; I talked to them about it when I ran into them at the grocery store."

MOBILIZING AROUND A SHARED VISION: MCLEAN COUNTY COMMUNITY COMPACT

McLean County Community COMPACT is a network of employers and educators who collaborate to increase connections between learning and work, improve college and career readiness, and grow a skilled talent pipeline.¹³ It began in 1989 as a nonprofit that partnered with the University of Illinois Extension to strengthen transitions between school and work; it is now a subsidiary of the McLean County Chamber of Commerce. COMPACT is guided by a regional strategic plan and led by volunteers who participate in one of four committees: employer engagement, programming, evaluation, and governance. The organization serves youth, educators, and employers via workshops, internship opportunities, and other learning events.

Align Efforts and Establish Shared Infrastructure

Pathways strategies are, at their core, about aligning efforts and sharing resources. This approach creates more easily navigable systems for young people and presents significant opportunities to build the shared regional infrastructure needed to address common rural challenges related to limited resources. Pathways can and should take advantage of existing programs and initiatives and pool existing resources—a strategy bolstered by the history of collaboration found in many rural communities.

The development of shared infrastructure to support pathways may seem challenging, particularly in the face of existing resource constraints. Two processes—asset mapping and fiscal mapping—can offer a practical approach and guidance on how to get started. Through asset mapping and fiscal mapping, pathways leaders



can take stock of regional education and workforce development efforts and build on the strengths of local institutions, which may include strong existing partnerships or systems that are agile and adaptable to community needs. After asset and fiscal mapping are complete, partners can identify priorities for pathways implementation using the community's existing assets.






Create a Shared Vision and Infrastructure Through Asset Mapping

Asset mapping can be used to support inclusive, community-informed planning for pathways development and implementation by illuminating potential areas for coordination while avoiding duplication of efforts. Asset mapping brings all pathways stakeholders to the table, supports the development of a shared vision, and charts next steps for aligning education and workforce initiatives and building sustainable infrastructure.

An asset mapping process typically begins with research identifying all pathways-related initiatives and stakeholders in a region. The process uncovers information about community strengths and culture, existing education and workforce initiatives, and the roles of key stakeholders and organizations. Research can include:

- Review of strategic plans and program information to provide a baseline understanding of key efforts.
- Analysis of labor market information to identify target industries for pathways development, including: What are the in-demand jobs in our region that pay a living wage, and how do we prepare young people for those jobs?
- Labor market data and pathway lever analysis to support structured connections between education and work and allow for more seamless transitions from secondary to postsecondary to career.

- Interviews and focus groups that engage cross-sector stakeholders for perspectives and nuance that may be missing from written materials to ensure that the process fully reflects the knowledge and voices of regional stakeholders.

SAMPLE ASSET MAPPING INTERVIEW QUESTIONS		
Pathway Lever		Related Questions
	Secondary-Postsecondary Integration	<ul style="list-style-type: none"> → What partnerships exist between local high schools and colleges? → How far away is the nearest postsecondary partner? If there is no higher education partner nearby, are there opportunities for remote dual credit?
	Career Navigation Systems	<ul style="list-style-type: none"> → How does local labor market information inform pathways? → What career advising opportunities currently exist in the region? → How are local businesses and economic development groups engaged in career advising?
	Work-Based Learning	<ul style="list-style-type: none"> → What opportunities, like internships, apprenticeships, and summer jobs, exist for young people to gain professional experience? → What supports exist to help young people and employers participate successfully in work-based learning?
	Intermediaries	<ul style="list-style-type: none"> → Are there institutions that currently support connections between education and industry, such as a local workforce board or economic development council? → Are there examples of trusted institutions in the community that have the power to bring stakeholders together and support the vision of college and career pathways?
	Leadership and Policy	<ul style="list-style-type: none"> → What policies currently support pathway systems alignment and coordinated practices and funding? → What are the barriers to pathway implementation?

Research and interviews set the stage for planning the development of regional infrastructure by documenting a region’s strengths and illuminating the goals of different stakeholders to create a shared vision of pathways. Insights and themes across interviews can inform a tailored plan for pathways implementation that avoids a one-size-fits-all approach. At the end of the asset mapping process, researchers typically develop a report and host a public presentation for community stakeholders, including those interviewed.

Identify Resources to Support Pathways Through Fiscal Mapping

A [fiscal map](#), the counterpart to an asset map, documents the scale and scope of available funding and its alignment to regional priorities. Through fiscal data collection and analysis, a fiscal map analyzes where a community’s funds come from, where they are directed, and what intended outcomes and services they make possible.¹⁴ The process supports collaborative community problem-solving by providing a shared

understanding of current funding and investments that can be used to align goals, resource allocation, and services.

Fiscal mapping can reveal shared needs, allowing stakeholders to prioritize and plan for new initiatives. The process also provides insight into opportunities to develop shared infrastructure; this can include both physical spaces, such as a regional career and technical education center, and cross-organizational staffing models, like a regional work-based learning coordinator or career counselors hired by the workforce board and embedded in schools. Fiscal mapping can also be used to identify areas where communities need to advocate for state and federal support for education, transportation, and internet access—even acting as an important piece of “evidence” in advocacy and fundraising.

Foster Durable Relationships

Asset and fiscal mapping document what partnerships already exist in the community and provide insight into how to use those relationships to support strategic planning and keep momentum for the priorities addressed in the maps. This requires developing durable relationships, shifting from individual staff connections to relationships between organizations—that is, formal agreements. This is important because, as staffing and roles shift over time, the strength of an organization is more sustainable than personal connections between individuals. The agreement, often a memorandum of understanding (MOU), establishes clear guidelines and expectations for how organizations will work together to achieve shared goals. Setting the terms of a formal agreement requires discussions about what the various partners will accomplish together, their mutual expectations, and what each partner will contribute to the effort.

GREATER OPPORTUNITY THROUGH FORMAL PARTNERSHIP: RURAL SCHOOLS INNOVATION ZONE

The [Rural Schools Innovation Zone](#) (RSIZ) is an intermediary partnering with local high schools, colleges, employers, and workforce organizations in South Texas.¹⁵ The RSIZ is premised on the idea that collaboration strengthens rural schools, and seeks to support local school districts in building high-quality college and career pathways. For example, the RSIZ works with five school districts to enroll students at Next Generation Medical Academy (NGMA) in Freer, Texas. NGMA responds to a common rural problem: local high schools lack the capacity needed to offer health science courses individually, even though local pathways leaders identified healthcare as a high-demand, high-wage industry in the regional economy. Through NGMA, the districts have collaborated to develop health science courses accessible to students from across the partner districts. Students are transported to take health science coursework while taking their core academic courses in their local schools.

The long-term goal is to develop a pathway from a high school diploma to a licensed vocational nurse degree to a registered nurse degree; this requires formal partnerships between the intermediary, K-12, higher education, employers, and workforce. To support this partnership, local high schools needed to change some practices, such as scheduling periods, so all interested students across the districts could benefit from NGMA. NGMA also developed MOUs with local colleges allowing dual enrollment and with employers to support work-based learning opportunities. During the 2022-23 school year, 16 students, representing 82 percent of eligible students, participated in paid health care internships; this doubled the number of internships obtained in the prior school year.

Intermediaries play a crucial role in developing and maintaining these relationships and are critical to building the coalitions that can successfully implement pathways. They help pathways leaders leverage—and avoid duplicating—existing efforts and partnerships. In addition, intermediaries often play a critical role in ensuring pathway systems are equitable, motivating system leaders to identify, acknowledge, and dismantle inequitable structural and systemic barriers.

Intermediaries do not have to be separate organizations; in many cases, an organization that already exists in a rural community can take on intermediary functions. Examples include chambers of commerce, economic development councils, mayor’s offices, workforce boards, community colleges, and nonprofits focused on education and workforce development.



Prioritize Inclusive Economic Development

Pathways contribute to talent pipelines that align with regional labor markets and adapt to internal or external shocks. Rural communities can create strong economies that work for everyone by adopting strategies that encourage resilience and advance shared prosperity.

Focus on Quality Jobs

Communities, employers, policymakers, industry groups, and public institutions must collaborate to improve the quality of the jobs available to residents of rural areas. More than half of the people in the U.S. labor force—92 million people—work in jobs that do not meet [JFF's definition of a quality job](#), which offers living wages, benefits, flexibility, and pathways to advancement.¹⁶ Across the country, 36 million Americans work in jobs that pay \$17 per hour or less and have high turnover, with worker tenures of 18 months or less. The most common “high-churn, low-wage” occupations include delivery drivers and truck drivers, retail salespersons, cashiers, janitors, and cooks.¹⁷

In rural communities, retail and accommodation and food services are the third and fifth largest industries.¹⁸ While the national average hourly wage is \$34.12, average wages in these industries are considerably lower: \$24.13 for retail and \$20.62 for accommodation and food services.^{19 20 21} Similarly, agriculture, the sixth-largest industry in rural communities, has an average hourly wage of \$16.37 for farmworkers and \$27.24 for supervisors.²² The average hourly wages for manufacturing and health care, the second and fourth largest industries in rural communities, are considerably higher: \$33.25 for manufacturing and \$33.86 for health care. We discuss pathways that lead to quality jobs in these industries in the section below.

Workforce demographics for low-wage fields also demonstrate the alarming trend of occupational segregation: Black, Latine, and Native American people, as well as women of all races, are often overrepresented in low-wage jobs and underrepresented in high-wage positions. In 2020, a majority of both Black and Latine workers in rural areas earned less than \$15 an hour, while only about a third of their white peers did so.²³ In rural areas, Black and Latine women earn 56 cents for every dollar made by white men; in comparison, white women in rural areas experience a smaller pay gap of 76 cents for every dollar earned by white men.²⁴ Occupational segregation also correlates to decreased job security, limited career advancement, and lack of opportunity to accumulate and hold wealth. These conditions affect individual workers, the quality of life in a community, and the health of local economies.

While pathways alone will not solve the problems of job quality and occupational segregation, they can be

part of a multipronged approach to addressing them. Pathways provide learners and workers with career navigation supports and improve access to the education required to secure employment in high-wage industries.²⁵

To be effective, pathways must be designed to lead to jobs that offer living wages and opportunities for advancement. Regional leaders can use tools such as the [Living Wage Calculator](#) to determine what constitutes a living wage in their area. This information should then be compared with data on wages for occupations available in the region in order to identify industries and occupations for pathways development. [O*Net](#), a resource created by the U.S. Department of Labor, offers a wealth of useful information on occupations, including wage data at the level of both state and ZIP code. [From Labor Market Information to Pathways Designs](#) is a guide that provides additional information on how to use data to identify promising industries and occupations and structure high-quality pathways.

REIMAGINING AGRICULTURE AND TOURISM CAREERS: HAWAI'I ECONOMIC RECOVERY ROAD MAP

In 2020, industry, education, workforce, government, and philanthropy leaders in Hawai'i collaboratively developed a [talent road map to support economic recovery](#) from the effects of the COVID-19 pandemic on the state's economy, which has historically relied heavily on tourism. This forward-thinking plan, which focused on building an economy that works for the state's specific context and increasing residents' opportunities for economic advancement, showed how cross-sector partners can come together to identify local needs and assets and reimagine the state's tourism and agriculture industries with the aim of improving job quality. Partners envisioned a tourism industry grounded in sustainable practices and cultural experiences that prioritize skill development in sustainability, host culture, and technology. Similarly, the road map considered the possibilities for jobs in an agriculture industry centered on sustainability and the development of a thriving ecosystem. Notably, the road map also factored in career advancement opportunities for workers in these industries that included opportunities to move into fields with higher wages, such as manufacturing and skilled trades.

Pathways in Manufacturing and Health Care

In many rural communities, manufacturing and health care represent especially promising industries for pathways development. Both are generally characterized by high levels of employer demand and offer numerous jobs that pay a living wage. Manufacturing, in particular, has been a mainstay of rural economies for decades. Nationally, it is the second-largest industry in rural areas, and it provides a higher share of jobs and earnings compared to urban areas.²⁶

Careful consideration of labor market information is essential when developing pathways in manufacturing, as not all subsectors of the industry are growing or offer quality jobs. However, jobs in sectors such as advanced manufacturing and energy—including clean energy—hold promise and are experiencing increased federal investment. As manufacturing jobs change through automation, pathways should also ensure young people are developing skills in related fields like computer science and engineering, which will prepare them for high-wage jobs with more potential longevity. For example, manufacturing companies can partner with high schools and community colleges to start young people in entry-level positions like inspector, machine setter, and assembler, while creating a clear path for advancement to jobs with higher earning potential as the student develops skills and completes their program of study. Creating this pathway partnership benefits both businesses and educational institutions because businesses can fill in-demand entry-level positions, while educators can show how classroom learning can be applied in the workplace and offer students access to work-based learning opportunities. One of the strengths of the manufacturing industry is that many organizations offer on-the-job training or apprenticeships, which can be linked to pathways and serve as a starting point for designing pre-apprenticeships, youth apprenticeships, or other work-based learning opportunities for high school students.



Health care and social assistance is the fourth-largest industry in rural communities, many of which are actively seeking to recruit more trained medical professionals. But in many rural communities, limited access to education and training programs has led to a talent shortage.²⁷ High-wage occupations like doctor and dentist require a doctoral or professional degree; low-wage jobs with lower barriers to entry, such as home health aide, phlebotomist, pharmacy technician, or emergency medical technician, should not be the end point of a pathway.²⁸ In the middle are many jobs paying a living wage that require less formal education than a bachelor's degree, including dental hygienists, diagnostic medical sonographers, nuclear medicine technologists, and respiratory therapists; these are often considered lifetime jobs, or jobs that pay a living wage and provide stability, but don't often offer opportunities to advance to a higher-level position without additional credentials.²⁹ Pathways can meet talent needs in the health care industry while benefiting young people. Because job quality, wages, and advancement opportunities vary considerably across the

field, pathways in health care should incorporate strong career navigation supports and stackable credentials in order to provide young people with the ability to make informed choices and to pursue further education and advancement in the field. As is the case for the manufacturing industry, health care pathways can provide an avenue for young people to fill high-demand positions while continuing to develop their skills and pursue advancement within the industry.

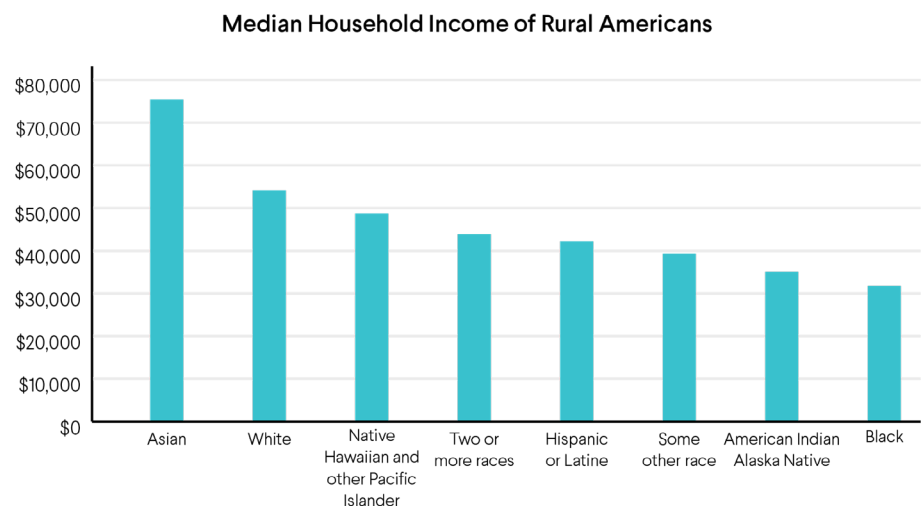
Employers can support recruitment, retention, and pathways to advancement in health care occupations by increasing pay and offering benefits such as funding for learning new skills and continued education; because many health care occupations are tied to specific credentials and licensure, paths to career advancement in the industry are often clearer than in other fields. While these benefits cost money, they can often outweigh the cost of employee turnover; several studies estimate the cost of replacing an employee is one to two times their salary.³⁰ The costs of turnover also include decreased productivity, lost institutional knowledge, and decreased staff morale.

Ensure an Inclusive Process and Outcomes

An inclusive approach to economic development ensures voices from diverse racial, cultural, and economic backgrounds set investment priorities, which benefits all stakeholders and ultimately improves the quality of life for residents across a region. Within the United States, the benefits of our economic systems are unevenly distributed, with certain groups and communities—including rural communities—facing higher underemployment and financial insecurity.³¹ Economic disparities—often along lines of race, ethnicity, and gender—also exist within

many communities. In rural communities, Asian and Asian American and white households out-earn Black, Native American, and Latine households; between 2011 and 2015, white households had a median income of \$54,178, and Black households had a median income of \$31,735.³²

The underemployment rate for Black residents in rural areas is almost twice the rate for white residents.³³



Source: U.S. Census Bureau, 2011–2015 American Community Survey, <https://www.census.gov/content/dam/Census/newsroom/blogs/2016/12/comparison-of-rural-urban/median-income-urban-rural.jpg>

Inclusive economic development can help address these inequities by considering both the process and outcomes of economic development strategies to ensure:

- Processes to create shared prosperity are tailored to the needs of the community
- Outcomes of economic development benefit businesses, communities, and workers alike
- Systemic barriers related to race, socioeconomic status, and gender are addressed³⁴

Inclusive economic development does not set community needs in opposition to industry needs, but instead finds a shared vision and draws on the expertise of the entire community, including practitioners, learners, and workers. Pathways development efforts that are not inclusive can harm local economies by creating educational opportunities that don't align with quality jobs or inequitably distributing high-quality pathways opportunities. By implementing pathways that consider inclusive practices and equitable access, rural communities can build strong economies that work for everyone by adopting strategies that build a skilled talent pipeline and equitably advance shared prosperity.

INCORPORATING WORKER VOICE TO GUIDE PROJECT DESIGN: FRESNO, CALIFORNIA

The F3 Innovate coalition intends to double the annual workforce pipeline to over 8,400 job-ready workers in four years, enabling a 40 percent increase in wage growth on average and moving the region toward increased workforce equity. With support from a U.S. Economic Development Administration (EDA) Build Back Better Regional Challenge award, which brought a historic \$65.1 million to California's Central Valley agriculture industry, the project will use the region's phenomenal concentration of agricultural businesses and expertise to develop a world-class, climate-smart food and agriculture technology engineering cluster. However, with the agricultural industry evolving faster every day and the use of automation expanding in the Central Valley, it was crucial to involve the realities and voices of workers in the F3 initiative's decision-making and design processes.

JFF facilitated a process in which leaders from two trusted organizations—the California Farmworker Foundation and Binational of Central California—led conversations around the design of the EDA grant application, the curriculum, and learner personas to guide equity-centered implementation. These community-based organizations also surveyed over 1,000 farmworkers to understand their needs and perspectives on this training effort. Because of this process, important worker considerations were factored into the design, such as expectations for wraparound supports like child care, classes for English learners, and flexible delivery models such as online instruction. The process also strengthened trust and relationships between the organizations, industry, and college stakeholders.

Industry advisory committees provide a collaborative opportunity to develop sector strategies that bring a united employer voice to pathways initiatives. Rural businesses benefit their communities in many ways, including through job and wealth creation. By coming together through advisory committees, they can streamline approaches to pathway implementation and talent development. Industry advisory committees are strategic because they represent industry needs at large and allow committee members to discuss key issues like local talent needs, strategies for early talent development, and action plans to support local pathways.

Businesses can work together with other pathways partners to ensure education and training programs are preparing future and incumbent employees for in-demand jobs that pay a living wage. Depending on how robust an industry's presence is in a rural region, it may make sense to partner with statewide committees. In addition to advisory committees representing particular industries, rural communities can also develop committees based on cross-cutting business functions, such as business operations, finance, and IT/cybersecurity. These professionals may work across industries, but best practices and needs like talent development will overlap. Overall, industry advisory committees can be critical for effectively streamlining and communicating shared industry goals and priorities in pathways planning and implementation.

Invest in Local Assets

Rural economic development agencies often focus their efforts on investing in bringing new employers to the region. While this strategy certainly creates jobs, it often takes time and outside funding and can also involve compromises that don't prioritize the needs of current residents. In contrast, college and career pathways support inclusive economic development by creating a skilled talent pipeline of workers and supporting young people in preparing for and obtaining jobs that pay living wages and already exist in their communities. Pathways are a strong economic development strategy because they prioritize local investment in regional assets and young residents, setting them up for career success and creating a cycle of economic success.

Economic development strategies that include efforts to retain, expand, and attract small- and medium-sized local businesses are particularly important: These kinds of businesses employ 65 percent of rural workers and also create jobs, increase the tax base, and provide goods and services to the community.³⁵ If an employer can find and recruit skilled workers developed through college



and career pathways, the business is more likely to expand, and the availability of a skilled workforce may attract similar businesses. Small businesses can participate in pathways in various ways, such as supporting career exploration by speaking to students about their work, offering work-based learning opportunities, or providing feedback on career-focused curricula in their industry.

Placemaking, which ensures communities are welcoming and attractive to people who live and work there and to potential new community members, is also a key element of investing in local assets. Placemaking is a broad term, but it can include partnerships, events, networks, and physical updates that make a community more vibrant and engaging to current residents. Another placemaking strategy is to build on existing local assets like location, environmental resources, and local industries. High-quality pathways are inherently a placemaking strategy because families want to live in communities with high-quality schools that ready students for college and careers. When local schools offer programs of study preparing students for their futures, current residents are more likely to stay, and new residents will be attracted to the area, which is important for rural communities trying to maintain or grow their populations.

MOBILIZING EMPLOYERS TO INVEST LOCALLY: WEST CENTRAL TEXAS

[Big Country Manufacturing Alliance \(BCMA\)](#) in West Central Texas is “a regional, voluntary alliance of manufacturers that supports the stability and growth of manufacturing in the Big Country.”³⁶ BCMA comprises a diverse group of manufacturing executives across a multi-county area who focus on growth opportunities and collaboration with business, education, and economic partners to advance high-quality manufacturing in the region. They aim to address a key challenge many organizations in the industry face: the need to communicate that modern manufacturing workplaces are safe, clean, and high-tech. The goals of the alliance include supporting the stability and growth of the manufacturing industry, coordinating shared partnerships with schools, increasing business-to-business connections, and creating a forum for the local manufacturing industry.

Embed Remote Opportunities

Geographic distance does not have to mean distance from education and employment opportunities. Rural communities can take advantage of online and remote education and work opportunities to build high-quality pathways that let residents remain in their communities.

As technology advances, opportunities to engage remotely in career exploration, dual enrollment, work-based learning, and work increase—a boon for rural communities. By developing remote and virtual opportunities, communities can overcome geographic challenges related to transportation and distance.

The COVID-19 pandemic accelerated the growth of remote work, which presents an opportunity for rural communities to retain community members, including young people who have the skills for success in a remote environment.

Learning and working remotely requires broadband and internet access. The digital divide

between urban and rural areas has narrowed in the last decade, and initiatives and funding opportunities such as recent federal infrastructure investments suggest it will continue to narrow. Between 2016 and 2021, rural broadband access increased by 9 percentage points, from 63 percent of rural residents who reported having a high-speed internet connection at home to 72 percent.³⁷ Continued growth in broadband access is a policy issue that often requires collaboration among local, state, and federal governments, but there are resources to find potential partnerships and funding sources, such as the USDA's "Broadband Resources for Rural America" guide.³⁸



Offer Online Dual Enrollment

Dual enrollment is a key element of JFF's Pathways to Prosperity framework and a proven pathways strategy that supports postsecondary enrollment and attainment.³⁹ Dual enrollment as a college-going strategy allows students who are less likely to go to college to boost their confidence as they complete courses while saving time and money as they progress toward a credential or degree. It is also a strength in rural communities: 23 percent of rural high school students participate in dual enrollment, compared to 16 percent of students nationwide.⁴⁰

However, the data on rural communities and college attainment tell a complex story. Despite high rates of participation in dual enrollment, postsecondary degree attainment is lower for rural students than for their peers, with 31 percent of rural students earning an associate's degree or higher, compared to 45 percent of urban students.⁴¹

If more rural students participate in dual enrollment, and dual enrollment has a positive impact on degree attainment, why are rural degree attainment rates lower?⁴² The primary challenge seems to be physical distance to a nearby college; geographic distance can present challenges in developing the partnerships between high schools and colleges that are essential to dual enrollment.⁴³ Surveys also show that rural residents have more skepticism about higher education's return on investment, which can be connected to misalignment between educational programs and rural labor market needs. One other nationwide challenge that could be a factor in degree attainment is "random acts of dual enrollment," in which students participate in dual enrollment courses that aren't integrated within pathways or don't support progress toward a degree.

Pathways that include online dual enrollment can address these challenges and ensure dual enrollment lives up to its promise for rural students. If distance is the primary challenge, more remote and hybrid higher education partnerships are needed. Many rural communities have already begun to embrace online dual enrollment out of necessity: 82 percent of the people who live in areas deemed "higher education deserts" (at least a 30-minute drive from a college or university) are rural residents.⁴⁴

If skepticism is the primary challenge, high schools and colleges can add more data-driven advising about the connection between education and career and more information on earnings connected to programs of study. When students take out loans to earn degrees and then can't find a job in their field of interest to pay off their debt, their trust in the value of a college education decreases.⁴⁵ But data show that, generally, more education does lead to increased earnings, and field of study has a significant impact on earnings.⁴⁶ Developing and implementing pathways ensures that students avoid random acts of dual enrollment and pursue a strategic sequence of courses that supports skill-building and entry into an in-demand industry that pays living wages.

Online dual enrollment must be high quality and rigorous to be effective. Effective virtual and remote instruction incorporates three key components: relationships that support and motivate learners; pedagogy that includes rigorous content and supports transfer of new concepts and skills; and technology that is accessible and blends various tools based on learning goals and context. These elements are all built on a foundation of self-directed learning, or the motivation that students need to stay engaged and skills necessary to carry work forward independently.⁴⁷



Develop Remote Work-Based Learning Experiences

JFF defines work-based learning as an experience in which a student goes into a workplace or works with an industry professional and performs meaningful job tasks that develop their skills, knowledge, and readiness for work, as well as support career entry or advancement. These experiences include opportunities like internships, apprenticeships, and on-the-job training. As a growing number of workplaces have created options

for remote work, opportunities have increased for remote work-based learning, where students interact with industry professionals and complete job tasks remotely, as professionals in the field do. Remote work-based learning can be completed without having to be in a physical office, but requires interns to have the necessary technology, like a laptop, and an appropriate workspace, whether that is a space at home, school, or a coffee shop or library. Tasks such as IT support, record keeping, scheduling, research, data analysis, web design, event planning, social media support, and developing marketing materials are all appropriate for work-based learning and can be done remotely.

Remote work-based learning benefits students, employers, and local economies because remote and hybrid work-based learning build skills and can lead to future job opportunities for students, which can help communities retain skilled professionals. Work-based learning is a key entry point into a full-time job: In 2021, 66.4 percent of interns became full-time employees.⁴⁸ Work-based learning is also a crucial strategy for students to develop their professional networks and build professional social capital, which includes the social connections and resources a person has access to and can use to achieve their goals. In a world where many entry-level jobs require professional experience, work-based learning and professional social capital provide a critical entryway to career opportunities.

ECONOMIC DEVELOPMENT CORPORATION SUPPORTS TECH INTERNSHIPS: FREMONT, COLORADO

In 2018, Cañon City High School, the Fremont campus of Pueblo Community College (PCC), and the [Fremont Economic Development Corporation's TechSTART](#) program partnered with about 25 small businesses to create a three-month internship program.⁴⁹ The tech-focused internships spanned a variety of projects that met the needs of local employers: traditional software development; drone flights; geographic information system and photogrammetry for ecological river restoration; digital marketing for a tech startup; computer-aided design for local architectural projects and ag-robotics; PC support for cybersecurity; software quality assurance testing; and digital media arts, including website design, podcast recording, and digital videography. This strategy allowed them to win the first ever rural P-TECH grant, providing participating students two years of tuition-free college at PCC. During the pandemic, the program transitioned to a remote model, and while stakeholders agree in-person connection leads to higher-quality internship outcomes, FEDC TechSTART has created processes and resources to support remote internships that are still utilized on a smaller scale, particularly for students who are physically distant from their employers.

The program includes substantial onboarding conversations that connect students directly to business colleagues to support developing employability skills, such as communication skills and the ability to work on a team. FEDC TechSTART also has two volunteers who provide mentoring and coaching services to interns, including a [video series](#) to support employability skills development. Another strategy TechSTART recommends is to bring interns and business partners together in person at least monthly.

Support Remote Workers and Work Opportunities

Creating infrastructure for remote workers allows rural communities to retain existing residents and attract new ones. Given the limited number of employers in many rural communities, remote work is a key strategy for ensuring residents have access to a diverse range of job opportunities that pay a living wage. Remote workers bolster local economies by bringing in tax revenue and spending their money locally.⁵⁰

Building infrastructure for remote work means includes focusing on access to high-quality broadband, as most remote work requires internet access. Many remote workers spend a portion of their day on video

conferencing platforms, which require a stable, high-speed internet connection. Another strategy to support remote work is to make physical coworking space available, which allows employees to work remotely but not within their homes. Coworking spaces can support professional networking and potentially increase productivity for workers without good workspaces at home. Coworking spaces may be traditional office spaces or located in public institutions like libraries or community colleges.

Conclusion: Toward a Rural Pathways Policy Set

The strategies described in this report and the accompanying framework are designed to support pathways leaders in rural areas in identifying and implementing pathways strategies that make sense in their contexts. With the strategies described—building on local strengths and context, prioritizing inclusive economic development, and embedding remote opportunities—rural communities can develop high-quality pathways that strengthen connections between education and careers to create new opportunities for young people and support economic development.



This report recognizes the unique strengths and assets that rural communities bring to bear in pathways development—while also working within what can be limiting state policy contexts. Rural pathways leaders can share lessons learned and ongoing challenges in pathways development with local and state policymakers and advocate for needed policy changes to sustain pathways in rural communities over the long term. The specific policy changes required will vary from state to state, and regional pathways leaders in each state will be best positioned to identify policy opportunities in their states. An initial list of high-level policy considerations might include:

- Providing state resources to support the development of regional infrastructure for pathways, including providing funding for intermediaries
- Allowing for flexibility in seat-time and other requirements to spur the growth of innovative models and partnerships
- Ensuring that K-12 and higher education funding models that provide funding on a per-student basis do not place rural districts and colleges with small student populations at a disadvantage
- Permitting flexibility in the use of state funds to support efforts to braid funding at the regional level

- Pursuing state economic development strategies that are inclusive of rural voices and needs
- Ensuring that state infrastructure planning, including for broadband and transportation, addresses the needs of rural communities
- Recognizing the role of state, county, and local governments as major employers who should participate as employer partners in pathways efforts

Rural communities can develop pathways from a place of strength while simultaneously advocating for needed supports and policy changes. Leaders have an opportunity to implement pathways that build on rural assets and address the inequities—including racial wealth gaps, racial disparities in accessing and completing education programs, and occupational segregation—that exist in the education and workforce systems of both rural and urban communities across the country. Ensuring rural students experience equitable access to and outcomes from high-quality pathways is essential to our country’s prosperity.



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