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REGIONAL ECONOMIC GROWTH STRATEGY

WEST KENTUCKY WORKFORCE BOARD

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WEST KENTUCKY WORKFORCE BOARD

West Kentucky Workforce

The West Kentucky Workforce Board is a nonprofit organization responsible for responding to training needs, economic development, and workforce development programs throughout the Purchase and Pennyrile regions of West Kentucky (17 counties in total). The Workforce Board oversees the One-Stop Career Center System in the region in conjunction with local elected officials.

TIP STRATEGIES

TIP strategies AUSTIN • SEATTLE

TIP Strategies, Inc. (TIP) is a privately held economic development consulting firm, with offices in Austin and Seattle. Established in 1995, TIP focuses on economic development strategic planning and workforce assessment. Community leaders across the country have embraced the TIP model of Talent, Innovation, and Place to achieve successful and sustainable economies.

AVALANCHE CONSULTING

avalanche

Avalanche Consulting is the nation's premier economic development strategist. Avalanche is deeply driven to make a positive impact and seek clients who are equally inspired to energize their economies. Headquartered in Austin, Texas, Avalanche was established in 2005 and its team has assisted more than 200 communities across the US and abroad.

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INTRODUCTION

West Kentucky has a long history of economic success–as an early river distribution hub in the 19th century, an agricultural center, a nuclear-age site for uranium enrichment, and numerous manufacturing specialties. West Kentucky's geographic location is one of its strongest assets that can be leveraged for future economic development. Yet despite the region's geographic advantages, many outside businesses and investors are unaware of opportunities in West Kentucky and many younger residents leave the region in search of amenities in larger urban areas. In an increasingly global economy, it is critical that West Kentucky's leadership understands and adapts to changing dynamics and workforce requirements of business sectors to stay competitive.

In order to better respond to these challenges and opportunities, the West Kentucky Workforce Board hired TIP Strategies and Avalanche Consulting to conduct a detailed labor study, target sector analysis, and regional economic growth strategy. The project was supported by funding from the Commonwealth of Kentucky and the consulting team was selected through a competitive bid process. The project's "Discovery" phase included extensive qualitative input and quantitative analysis of the region's sectors and workforce.

Our qualitative analysis included extensive stakeholder input gained through 16 meetings with a total of 174 stakeholders. These meetings allowed direct feedback from employers and provided valuable insights about shared workforce challenges and other issues impacting the region's growth potential. Additional qualitative input was gathered through an online survey completed by 102 business and community leaders in West Kentucky.

Our quantitative analysis revealed challenges and opportunities facing West Kentucky's economic development potential. The analysis was split into two major sections:

1. A **Sector Analysis, which identifies emerging businesses,** and industries where the region has a competitive advantage.
2. A **Workforce Analysis** that defines the current nature of the workforce and identifies gaps in specific areas needed to attract business investment in the future.

WEST KENTUCKY REGIONAL ECONOMIC GROWTH FRAMEWORK

Vision – West Kentucky is a prosperous economic region driven by a diverse group of employers and fueled by a strong pipeline of talent.

Strategy 1 – Talent Development

Strategy 2 – Talent Retention & Attraction

Strategy 3 – Small Business & Entrepreneurship

Strategy 4 – Regional Collaboration

Target Sectors:

- Advanced Manufacturing
- Agriculture & Food
- Cultural Industries
- Health
- Information Technology
- Logistics & Distribution

The consulting team applied a three-pronged approach–quantitative, qualitative, and strategic–to identify West Kentucky's most significant barriers to growth and its best opportunities for economic development, which are summarized below.

West Kentucky has several distinct advantages that can be leveraged for economic development:

- Central location within a one-day drive (600-mile radius) of 132 million residents, 42 % of the US population.
- Strong partners committed to advancing the region's economy and workforce (West Kentucky Workforce Board; Purchase and Pennyrile Area Development Districts; regional higher education; local Chambers and EDCs; and others).
- Diverse sectors that are out-performing the national economy (manufacturing, agriculture, and logistics & distribution).
- Robust network of transportation infrastructure (highways, rail, water-based transport) with ongoing improvements along the IH-69 corridor.

West Kentucky also has substantial barriers to growth that could limit the area's growth potential if left unaddressed:

- Relatively low levels of workforce participation and educational attainment.
- Loss of talent to other states and metro areas, especially young adults.
- Workforce shortages in key occupations.

STRATEGIES

All strategies recommended in this report build towards the following vision for the region:

WEST KENTUCKY IS A PROSPEROUS ECONOMIC REGION DRIVEN BY A DIVERSE GROUP OF EMPLOYERS AND FUELED BY A STRONG PIPELINE OF TALENT.

Successful progress towards this vision will require new and expanded initiatives in four key areas: 1) Talent Development, 2) Talent Retention & Attraction, 3) Small Business & Entrepreneurship, and 4) Regional Collaboration.

STRATEGY 1. TALENT DEVELOPMENT

Access to a skilled workforce is a critical factor for the success of businesses in today's economy. According to *Area Development's* "30th Annual Survey of Corporate Executives (Q1 2016)", access to a skilled workforce ranked number one among 36 site selection factors. The previous year's survey ranked access to skilled workers as the second most important factor, behind highway accessibility, a sign that talent is an increasingly important consideration for employers.

National demographic trends are contributing to a shrinking working-age population as many Baby Boomers leave the workforce. Recent data show a concerning drop in labor participation rates among the existing working-age population. If job growth continues, even at a minimal rate, employers will only face greater difficulties finding skilled workers. This makes talent development an urgent priority for every region. Communities must develop a pipeline of talent to support the specific needs of existing and future employers. Regions with a large, skilled population have a competitive advantage over other areas. Employers are increasingly drawn these locations to ensure a steady supply of skilled workers.

West Kentucky employers are creating new jobs across many existing sectors. At the same time, domestic and international businesses are considering West Kentucky as a location for new facilities. These existing employers and potential new employers are the source of economic growth, but their success is not guaranteed. The ability of existing businesses to expand and new operations to open is dependent on the region's ability to provide a growing and skilled workforce.

Low labor force participation rates, low unemployment levels, and shortages in some skilled occupations make talent development a top priority for West Kentucky. The labor force participation rate in the region is significantly below the national average, only 57 % compared to a US rate of 64 %. This is especially important given the high number of projected job openings–nearly 12,000 jobs, or about 47 % of total job openings–over the next five years for low-skill jobs. Drawing workers from outside the region to fill these positions will be challenging due to relatively low regional wages. Fortunately, the region has a solid network of training and education providers who can help address skill shortages among the existing population. These efforts are led by the West Kentucky Workforce Board, Murray State University, the region's community and technical colleges, and a range of partners, such as K-12 schools and adult education providers.

TEACHERS IN INDUSTRY INTERNSHIP: FARGO, NORTH DAKOTA

Created through a partnership with North Dakota State University, South East Educational Cooperative, and Greater Fargo Moorhead Economic Development Corporation, the Teachers in Industry program places K-12 teachers in a corporate work environment for a four-week internship. The internship gives classroom teachers the opportunity to further develop their understanding and appreciation of the engineering design process through practical work experience. Participation in this course strengthens the teacher's ability to make curriculum content more relevant and applicable when returning to the classroom. The teacher can then deliver content in a more meaningful context that aligns with the goals of engineering and STEM education as well as state and national standards. Each teacher receives a $2,000 stipend, which is funded by the sponsoring company, the South East Education Cooperative and the ESTEEM Institute. Teachers in the program have been placed at Microsoft, Sanford Health, John Deere Electronic Solutions, Bobcat Company, Ulteig, and Moore Engineering.

For more information, visit: www.gfmedc.com/teachers-connect-industry-four-week-internship

1.1. Help employers find the skills they need.

- Connect local business leaders with youth in K-12 schools and young adults in higher education institutions.
  - Work with employers and educational institutions to increase the number of internships for high school and college students.
  - Create teacher externships for West Kentucky higher education instructors. This will create unique professional development opportunities for instructors by connecting the classroom to the workplace, ultimately leading to a more relevant learning experience for students.
  - Encourage regional businesses to share experienced employees as adjunct instructors with higher education institutions.
  - Incorporate more project-based learning in regional schools, with businesses coming into classrooms and providing resources for kids to work on real-world projects (Owensboro Innovation Academy is an example).
- Build up the Kentucky FAME (Federation of Advanced Manufacturing Education) program in West Kentucky.
  - Enhance awareness of the KY FAME program in the region among private sector employers.
- Facilitate regular, meaningful employer involvement in the development and ongoing evaluation of postsecondary programs that are relevant to their sector.
- Retrain workers that have been laid off (such as coal miners) for new jobs and emerging industries.
- Get ahead of future industry needs with a regional approach to training for in-demand and emerging occupations. An example of this in the healthcare sector would be training for medical scribes and health IT workers.

1.2. Support networking and leadership development among young adults and youth.

- Encourage collaboration across HYPE (Hopkinsville Young Professionals Engage) and PYP (Paducah Young Professionals), along with other young professionals groups in the region.
- Connect the region's civic leadership programs to bring together young leaders to discuss regional challenges and opportunities.
  - Also encourage emerging leaders in West Kentucky to participate in the Delta Leadership Institute.
- Support the "Leader in Me" program at more K-12 schools in the region.

KENTUCKY FAME (FEDERATION FOR ADVANCED MANUFACTURING EDUCATION)

The Kentucky Federation for Advanced Manufacturing Education (KY FAME) is a partnership of manufacturers and higher education institutions that provides apprenticeship-style training for technically-skilled workers in advanced manufacturing. The KY FAME program will be available in West Kentucky in August 2016 for the first time through a partnership between the region's three community colleges and more than a dozen local manufacturers and other large employers. KY FAME participants can earn an associate's degree in the advanced manufacturing technician track of industrial maintenance technology while gaining hands-on, paid work experience with a sponsoring manufacturing business.

KY FAME participants attend classes two days a week and work with a sponsoring manufacturer for a competitive wage at least 24 hours each week. This work-and-learn format gives students the opportunity to immediately apply what they learn on campus in a real-life work setting on the plant floor. Students who complete the five-semester program receive an associate's degree in applied science and often graduate with zero student loan debt. After just 21 months, students graduate not only with this degree, but with more than 2,000 hours of practical work experience. These critical skills—such as reliability, diligence, initiative, communication and teamwork—are lacking in the workforce according to local employers.

1.3. Utilize West Kentucky's greatest asset–the existing population.

- Encourage greater labor force participation by targeting segments of the population that have been out of the workforce (e.g., stay-at-home parents, ex-offenders, caretakers, retirees, veterans, people with disabilities).
  - Work with employers to understand the needs of these populations.
  - Launch promotional campaigns to reach these groups and generate awareness about employment opportunities.
  - Work with employers to make the job application process friendlier to these groups.
  - Develop job-seeker resources (e.g., resume writing, basic computer skills, interview skills, basic workplace communication skills) targeted specifically at these populations.
- Partner with community-based organizations to address foundational issues (ranging from treating substance abuse to providing childcare for low-income workers) that prevent segments of the population from entering the workforce and securing/maintaining employment.
- Focus on adult education and retraining of existing residents.
  - These individuals are established in the region, but often lack awareness of and access to training and education programs that can raise their skill levels and connect them with higher-paying, career-oriented jobs.
  - Community-based organizations and educational institutions will be strong partners in efforts to engage potential adult learners and develop their skills to match employer needs.
  - Work with Madisonville Community College and the Felix E. Martin Jr. Foundation to support programs that focus on serving the needs of adult learners across the region.

1.4. Expand the access, quality, and efficiency of postsecondary education in West Kentucky.

- Start early and involve families more closely in developing youth. Help connect parents to education through community resource directors at each school.
- Continue to support the Rotary Scholars program and other scholarship programs that reduce the financial burdens associated with pursuing higher education.
- Expand access to higher education in counties that do not have a brick-and-mortar college or university campus through innovative partnerships between K-12 schools and regional higher education institutions.
- Promote the "15 to Finish" campaign and other efforts that encourage on-time graduation at higher education institutions. Encourage regional colleges and universities to offer financial incentives for students that graduate on time.
- Promote among higher education institutions the usage of innovative models such as the KCTCS' "Learn on Demand" online training module program and the DACUM (Developing a Curriculum) process that engages high-performing workers to develop coursework based on the actual demands of the job.

FINANCIAL INCENTIVES FOR ON-TIME GRADUATION: GRAND VALLEY STATE UNIVERSITY

Many of Michigan's public universities struggle with low graduation rates. In fact, only 3 of the state's 15 public universities have graduation rates above the 31 % US average. These three institutions include the state's two flagship schools (University of Michigan and Michigan State University) and Grand Valley State University (GVSU). Back in 1990, GVSU also struggled with low graduation rates of about 15 %. To address this problem, university leaders implemented a unique program that cut tuition for students that stayed on track to graduate within four years, basically paying seniors to graduate on time. Since 1990, GVSU's graduation rate has more than doubled, thanks in large part to the financial incentives offered to students for on-time graduation. This program could serve as a model for other public universities and community/technical colleges as a way to reduce costs associated with higher education for students, parents, and the region as a whole.

For more information, visit: www.bridgemi.com/2014/07/paying-students-to-graduate

- Work with Murray State University to expand academic R&D investments, especially research that benefits or leverages the region's existing employers and sectors (advanced manufacturing and agriculture, in particular).
- Explore opportunities to build stronger partnerships between K-12 schools and post-secondary education institutions.
  - Current Kentucky regulations create some challenges to sharing resources and allowing students to access training across institutions.
  - If necessary, regional stakeholders should lobby the state government for more flexibility in programming.

STRATEGY 2. TALENT RETENTION & ATTRACTION

Developing local talent is a key strategy for increasing the availability of skilled labor, but it cannot be the only answer. The 17-county region is currently a net exporter of talent, losing more than 1,000 net residents from domestic migration in the most recent year (FY2013-FY2014) for which data is available. West Kentucky must become a net importer of talent. Providing an attractive environment with amenities and activities that appeal to young adults (e.g., walking, biking, and patronizing locally owned shops and restaurants) is critical for economic development. Even more important is creating well-paying job opportunities with long-term career paths to keep young residents in the community.

In recent decades, West Kentucky has struggled to retain and attract talented workers, especially young professionals. This struggle is not unique to the region–in fact, it's a national issue of many young people perceiving more social and career opportunities in large cities. The problem is especially challenging in small and mid-size metro areas that have fewer amenities and employment options than large metro areas. Despite the challenges associated with attracting skilled workers, West Kentucky has numerous assets already in place to become a destination for talent. Moreover, many of the specific actions required to attract talent will also help retain talented individuals already in the region.

Communities that can attract and retain skilled workers have a major competitive advantage in today's economy. In the pursuit to attract talent, economic developers often tout their community's "quality of life". Yet there is an important distinction between "quality of life" and "quality of place". Communities throughout the nation have positioned themselves by marketing their lifestyle amenities–good schools, safe streets, pleasant weather. These factors are important, but they are too narrow in their focus. Quality of life assumes that everyone thrives in the same environment and is attracted to the same amenities. But not every location can be New York City, and not every individual wants to live in New York City. Many young professionals want to live in places where they can afford a home, raise a family, enjoy the outdoors, and engage in a long career.

West Kentucky must build on the qualities that residents love about the community (the friendliness, the arts community, the natural beauty) while also addressing gaps in amenities sought by younger Americans. Local recruiters say that they face challenges getting individuals to visit the region, but once here, many fall immediately in love. West Kentucky must celebrate the qualities that make the region unique and tell that story to the world.

2.1. Support employers in their workforce recruitment efforts.

- Organize joint recruiting trips to nearby markets with large pools of talent for specific in-demand skills. Take advantage of West Kentucky's central geographic location, which is within a half-day drive to major metro

WORK[IT] NASHVILLE

To address a shortage of information technology workers in the region, the Nashville Area Chamber of Commerce launched WorkIT Nashville, a recruiting campaign designed to attract technology workers from cities across the country. An important goal of the campaign is creating a more thorough, consistent marketing message that area companies can use to attract out-of-town workers. A 40-page "guidebook" to Nashville has been prepared, outlining key economic indicators, profiling various neighborhoods, and highlighting the city's emerging tech scene. WorkIT Nashville also created a job-matching website and a digital media marketing strategy. The campaign emphasizes Nashville's below-average cost of living and highlights the city's well-known entertainment and cultural offerings. To provide the longer-term solution of growing talent within the Nashville area, a further initiative, the "Five Pillars" program, was developed to add tech-related curriculum in area middle and high schools and to create internships for local college students.

For more information, visit: www.talent.workitnashville.com areas (Nashville, Louisville, Indianapolis, St. Louis).

- Create common marketing materials and other tools for employers to use.
- Launch a region-wide campaign to build awareness about employment opportunities in West Kentucky.

2.2. Strengthen the linkages between Fort Campbell and regional employers, creating a pipeline of skilled talent.

- Partner with workforce development and educational institutions in both Kentucky and Tennessee to identify, categorize, and market the Fort Campbell workforce to current and future employers.
- Build awareness among West Kentucky employers about the skill sets represented by personnel separating from service at Fort Campbell.
- Encourage employers to participate in job fairs and related events at Fort Campbell.

2.3. Invest in recreation and healthy living amenities, downtown districts, new housing construction, and other place-based assets that are necessary to retain and attract talented individuals.

- Continue to upgrade and expand outdoor recreation amenities (trails, bike lanes, sports complexes) in the region's urban centers and rural areas.
  - Promote and expand the Paducah Greenway Trail and similar hike/bike trails across the region.
  - Support the plans for a major indoor sports complex in Hopkinsville.
  - Pursue "Trail Town" designation for communities associated with Land Between the Lakes. This will allow communities to benefit from marketing by the Kentucky Department of Travel and Tourism and being shown on adventure tourism destinations on state maps, visitor guides, and other promotional materials.
- Support place-making and revitalization efforts across the region's larger downtown districts (Paducah, Hopkinsville, and Madisonville) and in smaller communities (Central City, Cadiz, Murray, Mayfield, and others).
  - Tell the stories of successful downtown revitalization initiatives across the region (Sugg Street and MadCity Coffee in Madisonville, the riverfront in Paducah, Grand Rivers, and others).
  - Work with regional downtown groups and the agriculture sector to promote the growth of local farmers markets.
- Support efforts to develop and promote tourism in West Kentucky.
  - Engage more of West Kentucky's counties in the "Bluegrass, Blues & Barbecue Region", which currently only includes Hopkins and Muhlenberg Counties (in addition to the seven-county Green River region).

TALENT RETENTION & ATTRACTION: BATON ROUGE AREA CHAMBER OF COMMERCE

The Baton Rouge Area Chamber of Commerce (BRAC) launched its Talent Development Program in 2011 as part of its five-year strategic plan. The program focuses on talent retention and talent attraction. The program consists of a talent database, regional relocation resources (R3), and the Baton Rouge Area Intern Network (BRAIN). The talent database is a catalog of resumes of professionals who are seeking to further their careers in the Baton Rouge Area. To populate the database, BRAC works closely with alumni associations from the region's universities and high schools, including Louisiana State University, Southern University, the University Laboratory School, Baton Rouge High School, Episcopal High School, and McKinley High School. R3 assists area employers with their talent attraction efforts by connecting them with out-of-market candidates, creating tailor-made regional awareness presentations to aid in talent recruitment, leading tours of the region for recruits, and making out-of-market recruitment trips.

BRAIN works to increase the number of internships available to students in the area by providing resources to support the employers who create them and the students who are seeking them. An internship job posting board is one of the resources provided. In addition, BRAC recently launched www.livecapitalized.com, which is designed to be a resource for newcomers to connect and grow roots in the community.

For more information, visit: www.brac.org/ecocomp/talentdev.asp

- Promote the region's craft wineries (Purple Toad Winery in Paducah), distilleries (MB Roland), and breweries (Dry Ground Brewing Company in Paducah, Hopkinsville Brewing Company in Hopkinsville).
- Partner with state and regional organizations (Kentucky Cabinet for Tourism, Arts, and Heritage, Delta Regional Authority, Tennessee Valley Authority) to invest in developing and marketing tourism assets.
- Work with local convention & visitors bureaus to promote existing festivals and events (Trigg County Country Ham Festival, Fancy Farm Picnic, and others) and to identify opportunities to create new events.

STRATEGY 3. REGIONAL COLLABORATION

A regional approach is critical to modern workforce and economic development, especially in an area with a geographically dispersed population, such as West Kentucky. The more than four hundred thousand residents of West Kentucky are spread over seventeen counties and numerous cities, towns, and unincorporated areas – with a total population density of only 64 people per square mile – compared to 109 per square mile in Kentucky as a whole. These counties, communities, and individuals have unique histories, assets, and interests, but they share more commonalities than differences.

West Kentucky shares a common culture and geographic position that must be leveraged in a collaborative manner to effectively use limited and dispersed resources. Murray State University does not belong to Murray alone, but is a top-notch educational and research asset that serves all of West Kentucky, just as the community and technical colleges serve more than Paducah, Madisonville, and Hopkinsville. Each high school, postsecondary educational institution, economic development organization, and county itself in West Kentucky has specialized capabilities not available in other parts of the region. Maximizing the potential of each of these assets requires sharing and coordination of resources to avoid duplication of efforts–an important goal considering the limited funding available for education and economic development in the region.

The counties and communities in West Kentucky are working together better than ever before, but many residents and businesses recognize a need for even more collaboration and directed efforts. Each school district, postsecondary educational institution, and county often operates in its own silo–working hard to develop innovative educational programs, make investments in infrastructure, and raise wealth and economic standards throughout their community. At the same time, similar efforts may be occurring just down the road in another county and school district, with little or no communication between the two. With increased regional collaboration, the hard work and innovative efforts in each community can be better coordinated to create specializations and share resources to move all of West Kentucky forward.

SOAR - SHAPING OUR APPALACHIAN REGION: EASTERN KENTUCKY

In 2013, the conversation began on how to address the current and future challenges facing the fifty-four counties of Eastern Kentucky. Later that year, a summit of more than 1,700 concerned citizens participated in regional summit with hopes to better shape their region's future. From the summit, the organization SOAR – Shaping Our Appalachian Region was created and has gained support from such organizations as the Rural Policy Research Institute, USDA Rural Development, and the Appalachian Regional Commission.

SOAR's mission is to expand job creation, enhance regional opportunity, innovation, and identity, improve the quality of life, and support all those working to achieve these goals in Appalachian Kentucky. Ten working groups were developed from the initial summit in order to continue the regional conversation and encourage engagement and action. The working groups include: Agriculture, Community and Regional Foods, Natural Resources; Broadband; Business Incubation; Business Recruitment; Education and Retraining; Health; Infrastructure; Leadership Development and Youth Engagement; Regional Collaboration and Identity; and Tourism, Arts, and Heritage.

Several initiatives stemming from the initial SOAR Summit include: infrastructure improvement to the Mountain Parkway, construction of a statewide broadband network, and the TechHire Eastern Kentucky (TEKY) initiative.

For more information, visit: http://www.soar-ky.org/

Regional collaboration also has greatly improved West Kentucky's position when dealing with organizations and businesses outside the region–whether with the State of Kentucky or a prospective relocation project. Kentucky's workforce and economic development organizations are often dispersed and uncoordinated. This can create challenges for individual communities when trying to identify which State organization to approach for project support or who to lobby for a new local investment. By working as a unified region through the West Kentucky Workforce Board and other regional groups, West Kentucky will be better positioned to negotiate for strategic investments in the region's educational institutions, infrastructure, and more.

Marketing is another incredibly important piece of regional collaboration. There is a common perception that businesses and individuals living outside the region are unaware that West Kentucky exists. When marketing the many business and living opportunities in West Kentucky, it will be ever important to consolidate marketing dollars and advertise the shared resources of one, cohesive region rather than a series of disconnected individual counties and communities. When companies and site consultants consider a location for new investment, they search at a regional level. Business are more likely to find interest in the West Kentucky region—with its large workforce, robust infrastructure, numerous sites, and plethora of educational institutions—than one city or county on its own. The political boundaries between counties and cities are unimportant to these businesses, and once an operation locates in a West Kentucky county, it will have direct benefits for all other counties in the region.

The following recommendations are designed to improve regional collaboration throughout West Kentucky:

3.1. Promote coordinated economic and workforce development through partnerships with other regional organizations.

- Create an overarching West Kentucky regional group to advocate for expanded and better alignment of workforce, economic development, and infrastructure investments from the state and federal governments.
- Build stronger relationships with larger regional organizations including the Tennessee Valley Authority, Delta Regional Authority, and Fort Campbell.
  - Partners: West Kentucky Workforce Board, Chambers, Economic Developers, Elected Officials, Industry

3.2. Raise awareness of the employment opportunities available in the region.

- Utilize the existing WestKentuckyFuture.org website to promote the 17-county region – raising awareness about opportunities in target sectors and related careers paths, hosting a regional job board for all employers, promoting training resources, and highlighting regional success stories.
  - Partners: West Kentucky Workforce Board, Educators, Economic Developers, Chambers, Elected Officials

3.3. Align regional economic and workforce development programs to support the needs of current and future employers and connect students with promising local employment opportunities.

- Encourage increased coordination and collaboration between educational institutions, economic development organizations, and chambers of commerce within West Kentucky.
- Create industry associations within target sectors that bring together employers from across the region to discuss their business needs. Use these organizations to more systematically communicate their education and training needs to educational institutions and advocate for investments throughout the region.
- Streamline existing industry support and educational programs within the 17-county region to better align resources and reduce confusion among companies.

MANUFACTURING ADVISORY COMMITTEE: WORKFORCE INVESTMENT BOARD OF TULARE COUNTY

Tulare County, California was not unlike many other regions across the United States. They had a great resource in their local Workforce Investment Board (WIB) and regional education partners, and they also had a growing manufacturing sector. Unfortunately, these groups struggled to best align available resources with current needs, and therefore grant funding and available programming were leaving many hiring needs unfulfilled.

As a solution, the WIB created an Advisory Committee made up of representatives from each high-demand industry sector within manufacturing and chaired by a WIB member. The committees work to define the workforce issues within each sector; to develop and approve training agreements; to serve as an industry advisory group for career and technical training; and to review WIB expenditures for training within each sector. Since the initial creation of the Manufacturing Advisory Committee, efforts have expanded to include Agri-business, Health, and Green Initiatives.

For more information, visit: http://www.workforceinvestmentworks.com/customer_story.asp?id=156&st=CA&type=11

- Inventory specialized training programs and equipment at the high school and post-secondary levels and identify ways to share resources and allow students to participate in cross-jurisdictional and grade-level programs to maximize efficient use of resources.
  - Partners: West Kentucky Workforce Board, Educators, Economic Developers, Industry, KYFAME

3.4. Prepare the region for future economic growth.

- Evaluate opportunities for growth in West Kentucky target sectors and allocate funding for studies, workshops, training, and other related programs to develop these opportunities.
- Specific opportunities include:
  - Identified infrastructure and education needs within target sectors.
  - Investments, education, and marketing necessary to maximize opportunities presented by the Panama Canal expansion, new Foreign Trade Zone, I-69 Corridor, and other Logistics & Distribution sector areas.
  - Partners: West Kentucky Workforce Board, Educators, Economic Developers, Industry, KYFAME, Delta Regional Authority, other funding partners

STRATEGY 4. SMALL BUSINESS & ENTREPRENEURSHIP

Small businesses and entrepreneurs are the heart of the US economy–in 2013, 86 % of all businesses in the US had fewer than 20 employees–and these small businesses are fueling economic growth. The number of large corporate relocations and groundbreakings continues to diminish nationally, and competition for the remaining projects is steep. Job growth in communities is instead coming from expansions of small operations and entrepreneurs creating new businesses. According to the US Small Business Administration, 64 % of new private-sector jobs were created by small businesses between 2002 and 2010.

Economic development activities supporting small businesses and entrepreneurs fall into a range of categories, from 'economic gardening' activities to incubator spaces to business retention and expansion (BRE) programs. All of these activities share the primary goal of leveraging a community's greatest assets–the people that already live in the community. Creating programs to assist, educate, and sustain the entrepreneurial businesses and individuals in a community is proving to be one the most effective strategies for supporting sustained, long-term job creation.

It is important to remember that when we discuss entrepreneurs, we mean individuals who have started or plan to start their own business. Entrepreneurs produce goods and services in all sectors–not just technology fields. Small business and entrepreneurial programs can target 'mom and pop' retail stores, widget manufacturers, and software developers alike. The key to developing effective support programs is being strategic – identifying the types of businesses (retail, technology startups, goods producing, etc.) and stages of development (conceptual, operational, expansion, etc.) that a community targets and tailoring programs to match the needs of these entrepreneurs.

OWENSBORO INNOVATION ACADEMY: DAVIESS COUNTY, KENTUCKY

Growing the entrepreneurial spirit of a region starts with a shift in how we educate the future generations. Innovation in education, primarily through a project-based learning approach, teaches students such valuable lessons as teamwork, communication, and creative problem solving.

The Owensboro Innovation Academy provides project-based learning with a science, technology, engineering and math (STEM) and entrepreneurial curriculum. Its colocation within the Owensboro Centre for Business and Research-a local business accelerator and research facility-allows students to interact with local start-ups and gain valuable shadowing experience. The Owensboro Innovation Academy is Kentucky's first and only school affiliated with the New Tech Network, a partnership of more than 175 schools in 28 states and Australia that promotes an innovative and deeper learning experience for high school students.

For more information, visit: http://www.newtechnetwork.org/schools/owensboro-innovation-academy

West Kentucky has numerous supportive programs and resources spread across the region. These include state-supported programs from the Kentucky Innovation Network, the Small Business Development Center (SBDC) at Murray State, local economic development organizations, county and city chambers of commerce, area development districts, and many more. These organizations offer a mix of resources for multiple types of businesses at different stages, which are geographically dispersed. Effectively managing these multiple resources and directing small businesses and entrepreneurs to the appropriate assistance providers will be critical to the regional strategy.

Another key to small business and entrepreneurial alignment is education. New programs that teach children and students how to think entrepreneurially and understand business practices will have long-term benefits in the region. Small businesses often lack the resources to provide training for employees and would benefit from local community college and other training programs for business skills, machinery, software, and other skill sets. West Kentucky must also raise awareness among existing businesses and residents about the availability of resources to help their endeavors succeed.

The following recommendations are designed to make West Kentucky's small business and entrepreneurship system more effective:

4.1. Better connect the region's innovation and small business support programs.

- Create a centralized, online platform that connects small businesses and entrepreneurs with the appropriate West Kentucky resources and networks needed to help start, nurture, and expand their businesses.
- Expand the One Million Cups program in Madisonville to connect with entrepreneurs throughout West Kentucky.
  - Partners: West Kentucky Workforce Board, Chambers, Kentucky Innovation Network, Small Business Development Centers, One Million Cups Madisonville

4.2. Identify and build awareness of the most promising small business growth opportunities in West Kentucky.

- Develop a program to identify specific opportunities for small business and entrepreneurial activities within target sectors. Specific opportunities may include:
  - Research activities at Murray State, UK Engineering, and other schools with potential for commercial applications and new business ventures.
  - Supply-chain and customer gaps in West Kentucky's existing target sectors – such as component manufacturers for larger OEMs or cold-storage facilities within the distribution system infrastructure.
  - Precision-agriculture techniques and products that can improve the economic impact of West Kentucky's agricultural sector and create related business services.
  - Partners: West Kentucky Workforce Board, Kentucky Innovation Network, Small Business Development Centers, Industry
- Identify key skillsets and occupations that support a cross-section of target sectors and seek funding opportunities to develop programs that increase availability of workforce with these skillsets.
  - Partners: West Kentucky Workforce Board, Kentucky Innovation Network, Educators

SOUTH CENTRAL APPALACHIAN TECHHIRE: SERVING SOUTHWEST VIRGINIA AND WESTERN NORTH CAROLINA

Technology affects almost every aspect of our daily lives and as a result, careers in software development and programming are growing exponentially. In response to this growth, programming boot camps such as Dev Bootcamp, The Iron Yard and General Assembly are popping up in communities across the United States. In this innovate approach to education, students of all ages and backgrounds engage in an intense, hands-on learning experience that ranges anywhere from 8-24 weeks.

The White House has responded to the growing demand for tech workers with its own program, the TechHire Initiative. Its most recent partnership-the South Central Appalachian TechHire-represents a collaborative effort focused on building a regional workforce prepared to support the growing demand for IT talent. The South Central Appalachian TechHire has set a goal of training and placing 400 individuals in the rural areas of southwest Virginia and western North Carolina in to tech-related jobs by the year 2020.

For more information, visit: https://www.whitehouse.gov/blog/2016/06/27/seizing-techhire-opportunity-rural-america

4.3. Invest in assets and programs that enhance the region's appeal to small businesses and entrepreneurs.

- Identify opportunities for strategic innovation investments similar to Innovation Station in Madisonville. The creation of incubators, maker-spaces, and other entrepreneurial-oriented programs should be correlated to targeted sectors and opportunities in each county.
- Work with regional financial institutions and investors to improve access to capital for small businesses and entrepreneurs.
- Work with utility providers to improve the region's digital infrastructure (broadband internet, cellular, and satellite access).

4.4. Foster a creative culture that builds entrepreneurial talent in West Kentucky.

- Nurture the entrepreneurial spirit of West Kentucky by celebrating the success of local businesses, creating networking and mentoring opportunities, developing education initiatives centered on creative problem solving and project-based learning, and hosting competitions that inspire innovation.
- Support the arts, food, and recreation communities throughout West Kentucky to help grow Cultural Industries, attract tourist dollars, and create a locally supported, high quality of life.
    - Partners: West Kentucky Workforce Board, Educators, Industry, Press

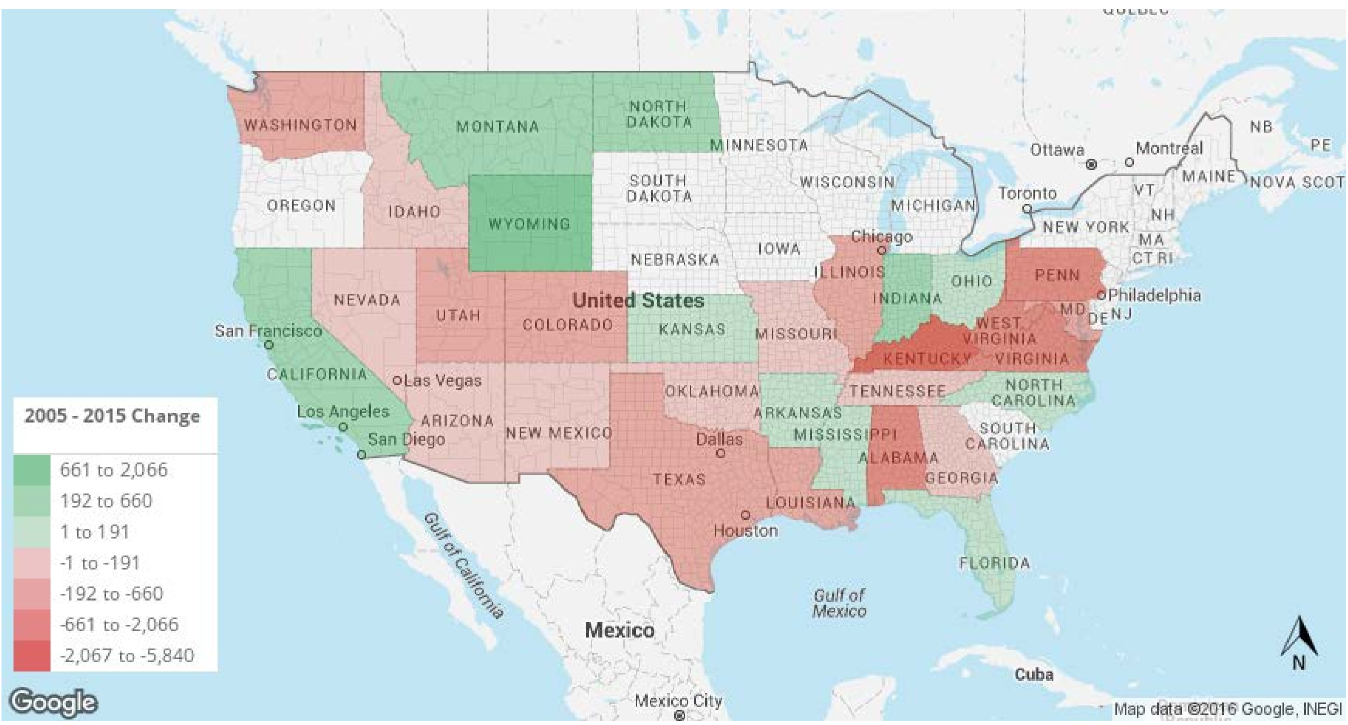
SPECIAL CONSIDERATIONS

During the planning process, the consulting team identified six unique assets that play a central role in West Kentucky's economic development, currently and in future years. Each of these assets will require focused efforts and initiatives from regional leadership in order to fully capitalize on the opportunities presented by them. Special consideration has been given in this section to the following regional assets:

- The Coal Industry
- Fort Campbell
- The IH-69 Corridor
- Murray State University
- The USEC (United States Enrichment Corporation) Site
- The River Counties

THE COAL INDUSTRY

Coal mining has been a major economic engine for the State of Kentucky over many decades. That engine is finally running its course. Since 2005, no state has experienced a greater decline in coal mining employment than Kentucky. In 2005, Kentucky had roughly 15,400 coal mining jobs. As of 2015, Kentucky had just over 9,300 coal mining jobs, a decline of nearly 40 % over 10 years. Nationwide, a combination of increased government regulations surrounding coal production, and the newer/cheaper coalmines operating in Wyoming and Montana, make it unlikely that the Kentucky coal industry will rebound.



Although the majority of jobs in the coal industry are located in the Eastern side of the state, West Kentucky also has a concentration of coal mining jobs in Hopkins County and Muhlenberg County. Recent plant closures and mass layoffs have affected the region.

In April 2016, two separate announcements of layoffs totaling more than 400 jobs were announced by Warrior Coal and Hopkins County Coal, both in Hopkins County. Earlier in 2016, Alliance Coal announced layoffs of 275 workers in its Hamilton and White Counties coal mines in Southern Illinois.

Retraining of coal workers for jobs in other sectors will be critical for West Kentucky's economic success. There are some promising efforts in other parts of the state already underway. For example, in Pikeville, Kentucky, a new technology company (Bit Source) is working to retrain former coal miners to become software coders.

FORT CAMPBELL

The single largest employer in West Kentucky is Fort Campbell, with an active soldier population of nearly 30,000 as of FY 2014 (although this figure does not include the loss of a Combat Aviation Brigade in 2015, which brought the number of active duty soldiers down to 26,500). Fort Campbell supports the fifth largest military population in the Army and the seventh largest in the Department of Defense. Beyond its direct role as a major employer and economic engine for West Kentucky, Fort Campbell offers the region a substantial talent pool of workers who could potentially fill many of these positions through the soldiers separating from service at the Post. Every month, 400-600 soldiers depart the Army from Fort Campbell as a result of ETS or retirement. According to a survey of soldiers participating in Fort Campbell's Army Career and Alumni (ACAP) program, 47 % would be willing to remain in the region after leaving the Army if desirable employment opportunities were available. Existing employers are enthusiastic about hiring veterans due to the discipline, leadership, and workplace skills instilled in them during their military service.

FORT CAMPBELL FACTS:

LOCATION & GEOGRAPHY	
Land Area (in acres):	105,000
Portion of Fort in Kentucky:	1/3
Portion of Fort in Tennessee:	2/3
Distance to Nashville (in miles):	60

POPULATION:	
Active Duty Military:	29,784
Family Members:	53,116
Retirees & Family & Reserve:	157,245
TOTAL:	240,145

Source: US Department of Defense

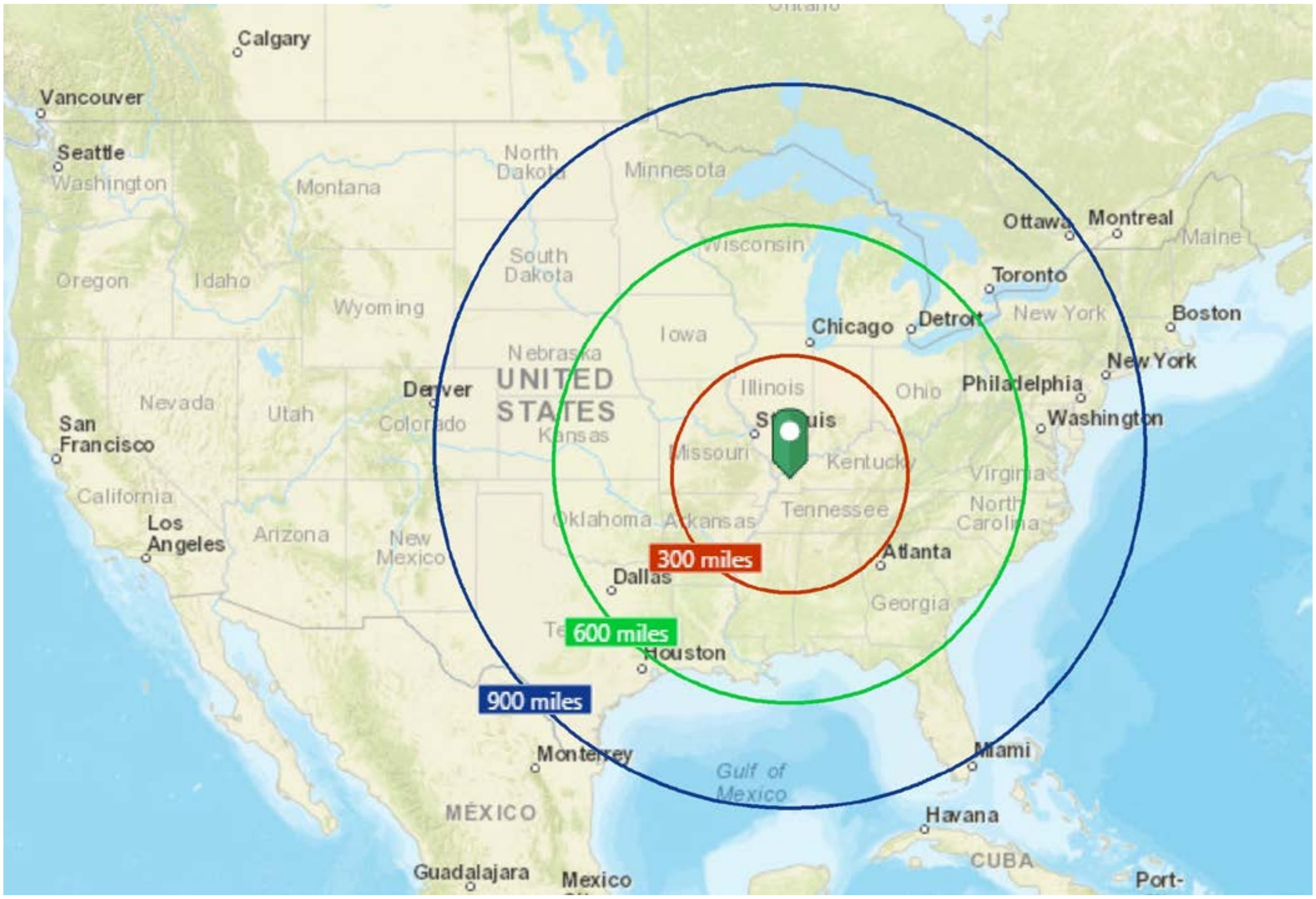
Conversations with employers, higher education officials, and workforce training professionals reveal a significant unmet demand for manufacturing occupations in the region. The demand is especially acute for technical positions within manufacturing operations (e.g., industrial maintenance, CNC operators). Employers report difficulty in finding qualified candidates who possess the skills, training, and/or personal qualities they are seeking to fill critical positions.

However, the critical gap between connecting veterans (as well as civilian workers) with high-demand manufacturing occupations is requisite training and certifications. The region's higher education institutions and workforce training organizations recognize this need and are developing training and education programs to address it. What they lack, however, are the resources and regional coordination needed to expand and regionally align advanced manufacturing education programs. The region's economic future will be much brighter if stakeholders work closely with Fort Campbell to better understand, support, and market the pool of talent represented by these soldiers.

THE IH-69 CORRIDOR

Interstate Highway 69 is the nation's first new cross-country expressway in decades, connecting Northern Mexico to Canada. Portions of IH-69 are already open, including some sections in West Kentucky, with additional segments expected to come online in the near future. West Kentucky occupies a strategic location along the IH-69 corridor, roughly halfway between the epicenter of the automotive sector in the Metro Detroit/Canada and the emerging Northern Mexico/Texas automotive manufacturing cluster. West Kentucky's position at the confluence of the nation's two busiest inland waterways (the Mississippi and Ohio Rivers) is another strategic advantage. Moreover, West Kentucky is within 100 miles of the nation's first and third busiest cargo airports (Memphis and Louisville), and IH-69 puts each of these international airports within easier reach.

From a market access perspective, the region offers easy access to a large population base: 31.7 million people within a half-day drive (300 mile radius), 136 million people within a one-day drive (600 mile radius), and 232 million people within a day-and-a-half drive (900 mile radius).



Efforts to support the ongoing development of IH-69 through West Kentucky, along with economic development and marketing initiatives led by the I-69 Industry Alliance and others, will be important for the region's future economic growth. In order to be fruitful, I-69 corridor partnership efforts should be highly targeted in their scope and anticipated outcomes. One of the most promising opportunities relates to the large existing concentration of automotive manufacturers and suppliers in Kentucky and in the Hopkinsville (and Clarksville, Tennessee) area in particular. Given the new transportation connectivity and the automotive sector's ongoing shift away from older manufacturing centers in the Midwest and towards the Southern US, West Kentucky is well-positioned to capitalize on future growth in this sector.

MURRAY STATE UNIVERSITY

One of West Kentucky's strongest assets is the abundance of educational and training institutions serving the region–especially Murray State University. Murray State University, a four-year public university serving approximately 11,000 students annually, a leader among these institutions. Over the years, Murray State has been recognized for its value, programming, and veteran friendliness by the *US News and World Report* on *Best Colleges*, *Forbes* list of *America's Best Colleges*, *Money Magazine* and others.

Murray State offers associate's, bachelor's, masters', specialist, and doctoral degrees through its six academic colleges and schools: Arthur J. Bauernfeind College of Business, College of Education and Human Services, College of Humanities and Fine Arts, Hutson School of Agriculture, Jesse D. Jones College of Science, Engineering, and Technology, and the School of Nursing and Health Professions.

In addition to the main campus, Murray State serves West Kentucky through five regional campuses located in Fort Campbell, Henderson, Hopkinsville, Madisonville, and Paducah, as well as through distance learning programs. Through its Regional Academic Outreach initiatives, Murray State offers online and certificate programs, camps, workshops, and other types of public support.

MURRAY STATE UNIVERSITY TOP 10 PROGRAMS BY NUMBER OF COMPLETIONS, 2014-2015

PROGRAM	COMPLETIONS
1. Education	348
2. Business	317
3. Health Professions	292
4. Public Administration	210
5. Engineering Technology	167
6. Communications	153
7. Liberal Arts	137
8. Agriculture	90
9. Computer & Information Science	76
10. Visual & Performing Arts	61

Source: National Center for Education Statistics

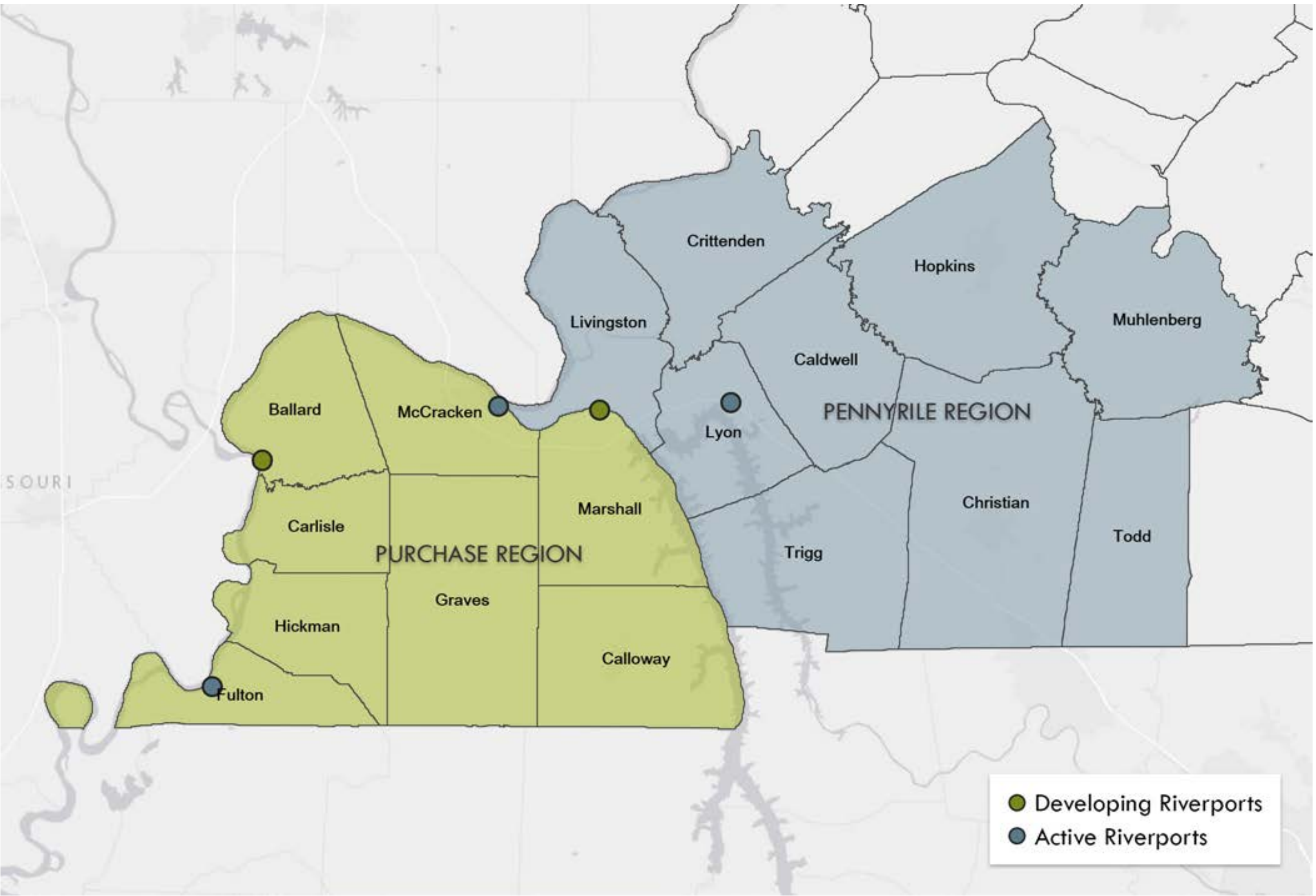
Their latest strategic plan (2015-2022) seeks to position Murray State as the "Premier University of Choice" for faculty, students and the community through initiatives focused on academic excellence, student success, research and scholarly activities and community engagement. Additional areas where Murray State can further contribute to the future of West Kentucky include: utilizing faculty knowledge and alumni networks for support of Entrepreneurship & Small Business; collaborating with industry to develop internship programs, youth summer programs and other applied learning opportunities within the target sectors; identifying ways to better leverage current programs to serve transitioning and displaced workers; and working together to strengthen collaboration across West Kentucky.

USEC SITE

The Paducah Gaseous Diffusion Plant (PGDP) was a 650-acre facility that produced low-enriched uranium from 1952-2013 for military reactors and nuclear weapons, and then later for commercial nuclear power. At its prime, the Plant employed more than 1,200 people and was an major economic driver for West Kentucky. Cleanup on the site began in 1988, and in 2014 Fluor Federal Services was awarded a $420 million contract to support the transition and preparation of the site for deactivation and decommissioning. Current estimates have the full site cleanup extending beyond 2040, however a large percentage of the 3,556-acre total site could be available for reuse and reindustrialization as early as 2020.

The closure of the PGDP was a loss for the region, but West Kentucky should focus on the potential opportunities created by the remediation process and on future development of the property. The region must continue to advocate for funding to properly clean up the site, as the process provides jobs and also has long-term potential by opening this unique industrial site for future development.. West Kentucky can utilize funding opportunities and community engagement efforts provided by Fluor and the Department of Energy (DOE) for applied learning and research activities, while also driving interest in STEM-related careers. As the cleanup progresses, regional leaders should begin exploring potential new uses for the property, along with a strategy for marketing the unique industrial assets it could provide.

RIVER COUNTIES



The four westernmost counties of Kentucky (Ballard, Carlisle, Fulton, and Hickman) make up the subregion known as the River Counties, a name stemming from their location along the Mississippi River. These four counties are rich in historical and cultural significance and in natural resources. They have a history of collaboration, the most recent example being the Kentucky Great River Region Organization (KYGRRO), an initiative to promote tourism and recreation along the Great River Road National Scenic Byway.

Some of the greatest assets of the River Counties include their strong education system which boasts above average graduation rates; an agricultural industry that leads the area in technology and efficiency; a plethora of tourism opportunities in both culture and recreation; and its strategic location along the Mississippi River. Despite these strengths, population in the River Counties has been at a steady decline since the end of World War II.

Increased collaboration among the River Counties will help them address their population concerns and create new opportunities for growth. Talent retention and attraction will be critical to the future of the River Counties. By focusing on creating more diverse jobs with available career opportunities, the River Counties may be able to curb the outflow of young residents and attract workers back. Areas to explore include: developing a strategy to leverage the River Counties location along the Mississippi River, with a strong emphasis on developing port infrastructure; researching funding opportunities to assist local farmers develop the complex marketing strategies needed to identify the highest and best use for their products and land; and expanding opportunities within the cultural industries. The River Counties must also explore livability concerns such as housing affordability and availability and the variety of food and entertainment establishments.

SECTOR ANALYSIS

No region can be all things to all businesses. In a constantly changing global market, the most successful communities regularly assess their competitive strengths and identify the sectors with the best opportunities to build on those strengths.

This section of the strategy begins with a review of broad industry cluster trends and global forces affecting West Kentucky. Examining trends and conditions informs the identification of future opportunities and specific target sectors for West Kentucky. The section concludes with profiles describing each target sector, niche sectors, and opportunities within West Kentucky.

Understanding occupational and business drivers for target sectors is critical to developing an overall workforce strategy for the West Kentucky region. Over the next five years, these sectors will drive employment growth in the region. The successful growth of each sector will partly depend on whether they can find and train skilled workers to fill positions as they expand.

To help the West Kentucky Workforce Board and regional partners effectively support growth and prepare workers in target sectors, this section includes the following pieces:

CLUSTER ANALYSIS – This subsection presents an analysis of West Kentucky's recent economic trends. It examines the size, growth, and relative concentration of each industry cluster in West Kentucky.

NATIONAL & GLOBAL FORCES – This subsection discusses the Top 10 National & Global forces affecting the modern economy and the opportunities each present for West Kentucky.

ASSETS & CHALLENGES INVENTORY – This subsection includes Strengths, Weaknesses, Opportunities, and Threats (SWOT) tables that summarize assets and challenges in three economic development categories applied to West Kentucky: Business Assets, Physical Assets, and Quality of Life Assets.

FUTURE ECONOMIC OPPORTUNITIES – Based on the analysis in the previous subsections, the consulting team recommends specific target sectors that show the greatest opportunity for future growth in West Kentucky. The subsection concludes with profiles of each sector that discuss their key business drivers and the assets and opportunities they offer for West Kentucky.

To supplement the analysis, data for West Kentucky's two area development districts as well as each of the 17 counties that comprise the region are presented in Appendix 1.

CLUSTER ANALYSIS

Location quotients (LQs) calculate the relative employment concentration of industries in a community or region compared to the US average. An LQ of 1.0 indicates parity with the US average. An LQ higher than 1.0 is more concentrated than the US average; LQs less than 1.0 indicate that employment is less concentrated than the US average.

Figure 3 (page 19) shows the performance of West Kentucky's 20 largest industry clusters. Within this "bubble chart," LQs for each cluster are shown on the vertical axis. The horizontal axis shows growth rates for the cluster. The size of the bubble indicates its employment base. An illustration is provided in Figure 1

The graph's four quadrants tell a story for each industry cluster (Figure 2). Clusters in the top right quadrant are competitive and potential target audiences for economic development. Bottom right clusters, with growing but below-average concentrations, are emerging opportunities for the region. These industries are also potential economic development targets, but to support continued growth, they may need additional assistance, such as infrastructure investments or talent development.

FIGURE 1. HOW TO READ BUBBLE CHARTS
AXES AND BUBBLE SIZE

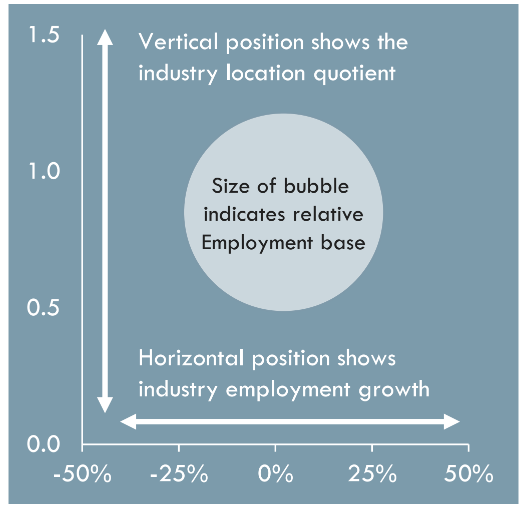


FIGURE 2. HOW TO READ BUBBLE CHARTS (PART 2)
INTERPRETING THE QUADRANTS

High Concentration

Negative Growth

Positive Growth

TOP LEFT (STRONG & DECLINING) Contains sector clusters that are concentrated in the region but are declining (negative employment growth). These clusters typically fall into the lower quadrant as job losses eventually produce a decline in concentration.	TOP RIGHT (STRONG & ADVANCING) Contains clusters that are more concentrated in the region and are growing. These clusters are strengths that help the region stand apart from the competition. Small, high growth clusters can be expected to become increasingly dominant over time.
BOTTOM LEFT (WEAK & DECLINING) Contains clusters that are under-represented in the region (low concentration) and are also losing jobs. In general, clusters in this quadrant lack competitiveness.	BOTTOM RIGHT (WEAK & ADVANCING) Contains clusters that are under-represented in the region but are growing (often quickly). If growth trends continue, these clusters will eventually move into the top-right quadrant. Clusters in this quadrant are considered "emerging" strengths for the region.

Low Concentration

WEST KENTUCKY CLUSTER PERFORMANCE

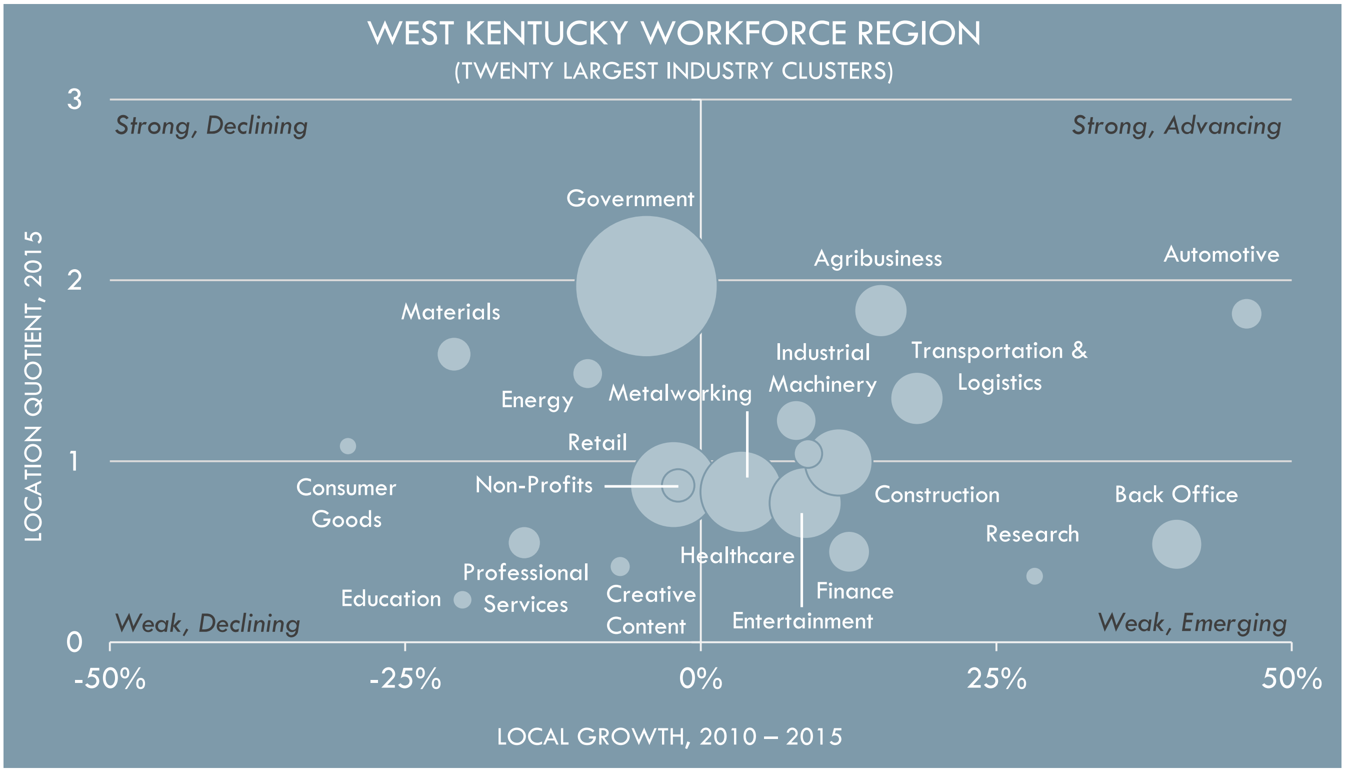
Government is the largest single employment cluster within the West Kentucky region. On a per capita basis, the region is home to twice as much Government employment relative to the US average. Government employment in West Kentucky dropped nearly 5% from 2010 to 2015, but the region remains home to over 65,000 Government workers. Other *Strong & Declining* employment clusters include **Energy** (-10% growth, 1.5 LQ), **Materials** (-201% growth, 1.6 LQ), and **Consumer Goods** (-30% growth, 1.1 LQ).

Importantly, several industry clusters are *Strong & Advancing* in West Kentucky. **Automotive** is the fastest growing cluster within the region; employment increased over 46% between 2010 and 2015. West Kentucky currently has 80% more Automotive jobs than the US average. With an LQ of 1.8, **Agribusiness** employment is also highly concentrated and growing in the region–between 2010 and 2015, Agribusiness employment grew 15% in West Kentucky. Though less concentrated, West Kentucky's **Transportation & Logistics** sector is also growing quickly–employment increased 18% from 2010 to 2015, and local employment is 30% more concentrated than the national average. Other *Strong & Advancing* clusters include **Industrial Machinery** (8% growth, 1.2 LQ), **Metalworking** (9% growth, 1.0 LQ), and **Construction** (12% growth, 1.0 LQ).

Back Office employment in West Kentucky is growing rapidly–regional employment rose over 40% from 2010 to 2015. Back Office employment within the region still remains 50% less concentrated than the US average. **Research** is also growing, with employment increasing over 28% the past five years. On a per capita basis, the Research cluster is 60% less concentrated than the national average. Other *Weak & Emerging* clusters include **Finance** (123% growth, 0.5 LQ), **Entertainment** (9% growth, 0.8 LQ), and **Healthcare** (3% growth, 0.8 LQ)

Weak & Declining employment clusters within West Kentucky include **Non-Profits** (-2% growth, 0.9 LQ); **Retail** (-2% growth, 0.9 LQ); **Creative Content** (-7%, 0.4 LQ); **Professional Services** (-15%, 0.5 LQ); and **Education** (-20% growth, 0.2 LQ).

FIGURE 3. WEST KENTUCKY INDUSTRY CLUSTER BUBBLE CHART



Source: EMSI 2016.1 – QCEW Employees, Non-QCEW Employees, and Self-Employed; Avalanche Consulting; TIP Strategies.
Note: Size of bubble indicates relative Employment base

FIGURE 4. WEST KENTUCKY INDUSTRY CLUSTER TRENDS

CLUSTER	2015 EMPLOYMENT	2010–2015 % GROWTH	LOCATION QUOTIENT
Government	65,127	-4.6%	2.0
Retail	24,286	-2.3%	0.9
Healthcare	21,570	3.4%	0.8
Entertainment	16,547	8.9%	0.8
Construction	14,582	11.7%	1.0
Transportation & Logistics	9,125	18.3%	1.3
Agribusiness & Food	9,071	15.2%	1.8
Back Office	8,267	40.3%	0.5
Finance	5,559	12.6%	0.5
Industrial Machinery	5,260	8.1%	1.2
Materials	3,861	-20.9%	1.6
Professional Services	3,574	-14.9%	0.5
Non-Profits	3,372	-1.9%	0.9
Automotive	3,194	46.2%	1.8
Energy	3,044	-9.6%	1.5
Metalworking	2,621	9.1%	1.0
Creative Content	1,410	-6.8%	0.4
Education	1,244	-20.2%	0.2
Research	1,108	28.2%	0.4
Consumer Goods Manufacturing	1,055	-29.9%	1.1
Software/Info. Tech.	934	-4.4%	0.2
Electronics	889	17.0%	0.3
Biomedical	831	31.7%	0.6
Shipbuilding	806	40.9%	4.3
Apparel & Textiles	772	-21.8%	1.0
Mining & Logging	721	3.7%	2.3
Telecom Services	647	-0.2%	0.6
Aerospace	607	34.3%	0.9
Furniture	146	-3.9%	0.2

Source: EMSI 2016.1 – QCEW Employees, Non-QCEW Employees, and Self-Employed; Avalanche Consulting; TIP Strategies.

NATIONAL & GLOBAL FORCES

We live in an increasingly interconnected world. Demographic, economic, and technological changes across the globe directly affect the abilities of businesses and individuals to succeed in even the smallest communities. As these factors disrupt traditional economies, they can present stark challenges for workers forced to adapt, but they also open new business and employment opportunities to proactive communities.

Understanding national and global forces and how they affect West Kentucky is critical to determining which sectors have the greatest potential to spark job growth. The following table presents a discussion of the Top 10 National & Global Forces to Monitor—including a description of the force and the opportunities presented to West Kentucky.

FIGURE 5. TOP 10 NATIONAL & GLOBAL FORCES TO MONITOR

TOPIC	NATIONAL & GLOBAL FORCE	OPPORTUNITY FOR WEST KENTUCKY
TECHNOLOGY	**The Mobile Economy**	
	Smart phones have changed our society. We have new ways to access media, consume information, and connect with our families and friends. Mobile technology also creates new opportunities for businesses to provide services, collect data, and market products to consumers. As consumers move away from large personal computers, many companies have moved away from large centralized operations. The Mobile Economy allows small software and services developers to operate from remote and rural locations—either independently or as branch offices for companies.	The Mobile Economy creates many opportunities for more rural areas where customers and businesses are geographically dispersed. West Kentucky's geography and population is ideal for many mobile business applications, from telemedicine operations developing technology that provides health services to remote patients to banking and mobile transaction technology.
	Open Source & the Cloud	
	Over the past twenty years, an online community of volunteers has developed free open-source software for a range of operations. These free programs make it easier for individuals to create their own websites and run businesses. This has coincided with the rapid expansion of web hosting on virtual servers (the Cloud), which allow individuals and small businesses to store data and host services at low costs. The availability of low-cost software and Cloud hosting services have made it easier than ever to start a web-services company or run an online retail store. Businesses are no longer tied to locations with large physical servers, and therefore can operate wherever they choose.	The high quality of life and relative affordability of West Kentucky make it a desirable place to live and work—and now, because of Open Source & the Cloud, residents can start and operate their own online businesses in a global market. Teaching West Kentucky residents about entrepreneurship, technical resources, and how to capitalize on those resources will be critical to nurturing an online business community.

TOPIC	NATIONAL & GLOBAL FORCE	OPPORTUNITY FOR WEST KENTUCKY
TECHNOLOGY	**New Materials**	
	The development of new metallic composites, biomaterials, and polymers are driving innovation in numerous industries. New airplanes are being built from composites that are lighter and stronger than aluminum. Researchers are developing bioresorbable polymers that can be used in medical implants and safely absorbed by the body as they break down. Polymers and plastics are used in nearly every manufactured product–from automotive and deep sea oil exploration to pharmaceuticals and hand lotion.	West Kentucky's chemical industry is one of the most highly concentrated in the nation. Existing companies are already building the new materials of the future and shipping them to clients across the region, nation, and globe. As automotive, agriculture, biomedical, and other sectors begin to integrate these new materials into their manufacturing processes, West Kentucky stands to benefit from clustering and collaboration with chemical manufacturers. These new materials will require new manufacturing skill sets and technologies for businesses and workers across the region.
CONSUMER BEHAVIOR	**Social Networking & the Sharing Economy**	
	Social media has become deeply integrated into our daily lives. Social networks such as Facebook are no longer only used to keep in touch with family and friends. Americans increasingly get their news from their Facebook feed. They look for jobs and share business tips on LinkedIn. They share local shopping bargains via Groupon. As these networks fundamentally reshape our lives, businesses are using them in new ways to market products and services to customers. Social networking has also led to the rapidly growing "Gig Economy" or "Sharing Economy," with business like Uber, Lyft, and Postmates using geolocation technology and freelance workers to provide informal services like ride-sharing and food delivery. These sharing businesses are evolving rapidly across the country–responding to high demand from customers and workers looking to make extra money or even a full-time job. While these businesses work out legal kinks in every community, they are using technology to disrupt traditional markets and filling gaps in the availability of services. One thing is clear: they are here to stay. Social networks are not just social, they are big business. Not only do they directly employ thousands across the country, but they allow people and businesses to share ideas, sell products, and promote business opportunities, and help connect job seekers with employers.	Utilizing LinkedIn and other networking sites can help bring together the geographically dispersed residents of West Kentucky. Remote entrepreneurs can connect with business resources and ask their peers for advice. Job seekers can explore training and job opportunities and directly connect with potential employers. The Sharing Economy is still a rapidly evolving business model, but has the potential to transform many markets. Conceptually, the Sharing Economy is about identifying gaps in the availability of services and coming up with creative ways to fill these gaps. That could mean businesses that purchase a piece of expensive equipment and allow small businesses to rent time with it–giving them access to new technology while avoiding significant capital costs for something they might not use every day. The Sharing Economy also has the potential to allow unemployed and underemployed workers to earn extra income in their free time and remain part of the local workforce. These new markets are in flux and must be watched closely to understand their legal and social implications, but they will likely have an impact on many sectors.

TOPIC	NATIONAL & GLOBAL FORCE	OPPORTUNITY FOR WEST KENTUCKY
	Retiring Baby Boomers & Longevity	
CONSUMER BEHAVIOR	The US continues to undergo demographic shifts as the largest generation in our history, the Baby Boomers, redefine retirement. Fewer retirees today are moving to the beach and hanging up their hats. Better medical care is expanding life expectancy. Increased longevity is leading many retirees to find creative ways fill their time and stay engaged in their communities. Some are choosing to continue working part-time. Others are starting their own businesses for the first time. Many look for ways to give back to their communities—through volunteering, advising entrepreneurs and small businesses, running for office, and other avenues. The wealth and experience of the Boomers are significant assets to the communities in which they retire. Longevity means a longer impact—in spending but also as business people and resources for entrepreneurs and community leaders. Longevity also means bigger business for medical centers and those that provide care and services to the elderly.	The natural beauty, welcoming community, relative affordability, availability of medical care, and geographic location all make West Kentucky an attractive destination for retiring Baby Boomers. Along with independent retirees seeking a new home or place for their business, many look for activity-oriented resorts and retirement communities as places to continue social engagement after they stop working full-time. If West Kentucky wishes to be a destination for the next generation of retirees, it will require a clear vision, coordination of efforts, marketing, and community investments. In particular, a growing retiring population will put increased demands on the regional healthcare system and continue to support demand for health workers and caregivers.
	Virtual Incubators & Bootstrapping	
NEW BUSINESS MODELS	Traditionally, incubators were seen strictly as a physical facility—often an office or laboratory space with subsidized rent, established by a university, economic development organization, non-profit, or government body. These spaces allow qualified startups to begin operating at relatively low cost. As physical space and financial resources become scarcer, many communities are exploring new models for supporting startups. One idea has been "Virtual Incubators"—essentially providing a portfolio of online tools and business advising services to qualifying startups, without a subsidized physical space. These Virtual Incubators have been important resources for many new entrepreneurs looking to "bootstrap" their companies. Essentially, Bootstrapping involves creating profitable and scalable products from a company's inception. This allows startups to avoid reliance on investors and maintain control of their vision.	Communities with dispersed populations face unique challenges supporting an entrepreneurial community. West Kentucky's spread-out cities and large rural areas create challenges for incubated companies to access physical spaces and resources. Creating Virtual Incubators and the resources to support companies looking to bootstrap themselves requires fewer financial resources and serves a broader geography. West Kentucky schools are starting to teach entrepreneurship from the K-12 level through college. A rising generation of entrepreneurial and business-minded residents will be increasingly ready to take advantage of virtual resources and create their own businesses.

TOPIC	NATIONAL & GLOBAL FORCE	OPPORTUNITY FOR WEST KENTUCKY
	Food Safety & Security	
	Maintaining strong domestic agricultural production has long been an important priority of the US government. The security of our food supply is considered a national security issue. In an era of large-scale corporate farming and food manufacturing, the American public has also become increasingly concerned about the quality and safety of the food available in stores. Quality assurance and quality control are important parts of the food manufacturing and distribution process–for both domestic and imported food. Alongside increased testing and monitoring of food distribution channels, quality and safety concerns have contributed to the "Buy Local" movement and consumer interest in knowing the origins of their food.	As a centrally located region with significant agricultural production and distribution operations, West Kentucky is well-positioned to be a leader in Food Safety & Security. As consumers seek food produced in relatively close geographic proximity with short transportation times, they will look to regions like West Kentucky. Agricultural products and manufactured foods from West Kentucky's farms can be sold to local consumers and millions of Americans within a one-day drive of the region.
GOVERNMENT POLICY	**Energy Management, Efficiency, & Alternatives**	
	Environmental concerns, new technology, and global politics are all contributing to rapid research and development of new sources of energy and delivery systems. Fossil fuels markets continue to be volatile, affected by advancements in fracking, the discovery of new reserves, and the policies of OPEC and other nations. This volatility, along with concerns about emissions, has contributed to the search for alternative energy and fuel sources, such as wind, solar, and biofuels. Alternative energies remain a small part of the global production system, but their costs continue to drop, and adoption is rising rapidly. Volatility and rising costs also contribute to a drive for greater efficiency and effectiveness in our management and delivery of existing resources. Looking at their bottom lines, businesses and consumers are also seeking greater Energy Efficiency in their products, vehicles, and structures. The slow but steady rise of smart cars is one testament to this trend.	Corn-based ethanol production has been a source of revenue for West Kentucky farmers in recent years. Production of energy from bio-fuels has been growing, including biomass plants, wood pellets for export, and new forms of ethanol. Professors at the University of Kentucky School of Engineering-Paducah are leading some of this research in collaboration with local farmers and businesses. The continued loss of coal-related jobs puts the shifting energy markets in sharp relief for Kentucky. The shift away from fossil fuels has consequences for many workers in the region. It is important that the region look for ways to transition these workers into new sectors.

TOPIC	NATIONAL & GLOBAL FORCE	OPPORTUNITY FOR WEST KENTUCKY
GLOBAL MARKETS	**A Growing Middle Class in China, India, & the Developing World**	
	The loss of American jobs to lower-cost countries over the past 20 years has contributed directly to a rapidly growing middle class in China, India, and other parts of the developing world. This process highlights the gradual leveling of the global economy–as developing nations slowly rise to meet the West–both in standard of living and cost. Positively, the growing middle class in the developing world is pushing more manufacturing jobs back to the US. These increasingly affluent populations in China, India, and elsewhere are becoming massive consumers–demanding a wide range of goods and services, from automobiles and industrial products to agricultural and consumer goods.	West Kentucky is well-situated to play a greater part in the expanding global economy. The region is a traditional hub of agriculture and manufacturing–the two greatest export industries. The region also has an extensive distribution network of water, highway, and rail, connecting the relatively rural communities with the rest of the US and international markets. The expansion of the Panama Canal will enable even greater freight traffic on an already busy inland waterway system. New ships will be able to travel to New Orleans and ship goods to and from the Midwest via barges at significantly lower cost and hassle than via trains from the West Coast. Growing demand for American commodities will also spur growth in shipments from the Midwest to China and feedstocks to support meat exports from the South.
	Foreign Direct Investment in the US	
	The recent rise in US manufacturing has been partly due to Foreign Direct Investment in the US. Research from the Brookings Institute found that in 2014, foreign-owned US affiliates directly employed 5.6 million workers across the entire economy. Foreign investors look to opportunities in the US because of our skilled workforce, innovative research, affordable utilities, and favorable tax and tariff systems. Foreign investment comes from across the globe: German and Japanese automakers, Italian designers, Korean semiconductors, British oil and gas, and numerous pharmaceuticals.	Kentucky continues to attract foreign investment – with manufacturing facilities for numerous Japanese and European companies. West Kentucky's topography and climate are attractive to many European companies due to its resemblance to their homes and the ease of air travel to Europe. We are seeing a rise of Chinese and other manufacturers investing their growing wealth in the US. Indian software companies are already purchasing US companies to provide better customer service from domestic employees–part of the recent "on-shoring" trend among call centers.

Source: Avalanche Consulting & TIP Strategies

ASSETS & CHALLENGES INVENTORY

The following SWOT analysis presents an inventory of Strengths, Weaknesses, Opportunities, and Threats to competitiveness in the West Kentucky region. These factors have a direct impact on the ability of the region to retain, grow, and attract businesses and workers across industries. The conclusions in the SWOT are drawn from a variety of sources, including stakeholder input from focus groups, interviews, and the community survey; data analysis of demographic and economic trends; and observations based on the consulting team's economic development expertise and national perspective.

The tables below present SWOT findings for **Business Assets**, **Physical Assets**, and **Quality of Place Assets**.

BUSINESS ASSETS

STRENGTHS

- Overall business costs, including labor and utility costs, are relatively less expensive in Kentucky. The state was ranked second lowest in “Cost of Doing Business” in the nation by CNBC in 2015.
- Kentucky offers a relatively competitive tax environment.
- West Kentucky has access to training and education opportunities through Murray State, Madisonville Community College, Hopkinsville Community College, West Kentucky Community & Technical College, and other providers.
- The region is in in the geographic center of the country and in close proximity to larger metropolitan areas such as Nashville, Evansville, and Louisville.
- The Kentucky Economic Development Finance Authority offers a number of incentives for business including financial, income tax credits, direct loans, tax increment financing (TIFs), industrial revenue bonds, and training grants. It also offers incentives for knowledge-based sectors.
- Most utility companies offer incentive rates and tax credits.

WEAKNESSES

- Kentucky is perceived as a pro-union environment and was ranked 40 out of 50 for “Business Friendliness” by CNBC in 2015 (based on the legal and regulatory environment).
- Due to its distance from Frankfort and larger urban centers in the state, West Kentucky is perceived as receiving less attention from state leadership.
- There is a lack of national and statewide awareness of West Kentucky as a branded region.
- The State of Kentucky does not have an economic development closing fund to incentivize relocations.
- According to a 2015 CNBC ranking, Kentucky ranks 21 out of 50 for “Access to Capital” (measured by venture capital investments and small business lending.)

OPPORTUNITIES

- The newly established Foreign Trade Zone #294 creates new opportunities for both manufacturing and distribution.
- The Panama Canal expansion and completion of I-69 will potentially increase freight traffic through the region.
- The region could benefit from more entrepreneurial and small business resources through local EDOs and the Kentucky Innovation Network.
- The region should explore opportunities to leverage exiting military personnel from Fort Campbell as a workforce source.
- Young residents offer the potential for new business and community initiatives through leadership programs like those in Paducah, Murray, and Hopkinsville.
- Growth of KY FAME in the region can build stronger connections between employers and youth looking for career opportunities.
- The recently passed House Bill 309, allowing public-private partnerships, is a symbol of an improving business climate and could lead to potential partnerships to build business and provide services throughout the region.
- Small businesses and entrepreneurs would benefit from increased grant and other funding resources, such as local revolving loan funds.
- The Delta Regional Authority and Tennessee Valley Authority could potentially provide funding for necessary infrastructure and other projects supporting economic development.

THREATS

- West Kentucky has experienced a loss of talented workers, especially young adults, to Nashville and other metro areas. Although some return, if the talent drain continues, it will be difficult for many businesses to find and retain skilled employees.
- Despite the strength of educational institutions, the State of Kentucky’s workforce training system is perceived as highly fragmented and disjointed—which causes confusion for employers and economic developers. State budget cuts to higher education funding have the potential to further acerbate these perceptions.
- In recent years, the State of Kentucky has been less engaged in economic development activities than many neighboring states, and if state economic development leadership continues to be relatively weak and underfunded, it will decrease the exposure of West Kentucky to opportunities.
- Lack of funding for economic development and regional promotion reduces the ability to attract companies and talent.
- State cuts to educational funding may limit the ability of educational institutions to provide training.

PHYSICAL ASSETS

STRENGTHS

- West Kentucky's geographical location allows distributors to easily reach a majority of the US population within a day.
- West Kentucky serves as the inland waterway link connecting Canada and the Great Lakes to Mexico and the deep-draft ports of New Orleans and Mobile.
- The region has numerous public and private riverports with available capacity, including the Paducah-McCracken County Riverport–home of the newly awarded FTZ, a flat-top crane, and the northernmost ice-free inland port in America.
- The region has Class I railway access provided by CSX Transportation, Canadian National (CN), Burlington Northern-Santa Fe (BNSF), and Class II Rail service provided by Paducah and Louisville (PAL).
- West Kentucky has numerous general aviation airports, and Barkley Regional Airport offers daily nonstop commercial service to and from Chicago O'Hare, putting Paducah within one hour of major national and international flights.
- The region is crossed by numerous interstate and other highways that provide ready logistical access to all parts of the country.
- West Kentucky has a broad inventory of industrial and commercial sites, including 1 megasite, 1 build-ready site, and 35 shovel-ready sites in a range of acreages.
- West Kentucky has abundant, affordable power and water.

WEAKNESSES

- Limited air service creates challenges for some businesses that require regular travel when interacting with customers.
- There are limited immediately available industrial buildings in the region. The Select Kentucky site only lists 15 available, and many existing buildings are aging and not suitable for modern manufacturing and other operations.
- Parts of the region have poor access to broadband internet, and speeds are relatively slow.

OPPORTUNITIES

- Rapid growth of inland water freight traffic has the potential to accelerate even further with the expansion of the Panama Canal, the Foreign Trade Zone designation, and the competitive cost of river freight distribution.
- The completion of the I-69 corridor will allow for greater trade, distribution and manufacturing opportunities.

THREATS

- If broadband internet speeds do not improve, it could limit the region's ability to build and support businesses in a variety of industries–from information technology to creative design.

QUALITY OF PLACE ASSETS

STRENGTHS

- Cost of living in West Kentucky is relatively affordable compared to surrounding areas. Kentucky overall is ranked the 6th lowest in the nation for Cost of Living by CNBC.
- West Kentucky has an abundance of outdoor recreation.
- Paducah has international recognition as a creative arts and cultural hub–demonstrated in its recent inclusion in the UNESCO Creative Cities Network.
- The region has multiple public and private healthcare providers that offer high-quality services to residents, including specialized care often only found in larger metros.
- The region has a significant concentration of post-secondary education systems, including Murray State University, Hopkinsville Community College, Madisonville Community College, and West Kentucky Community & Technical College, which was named one of the top three community colleges in America by the 2015 Aspen Prize.
- Region public schools are strong, offering dual enrollment programs and boasting graduation rates higher than state and national averages.
- All communities in West Kentucky are seen as welcoming and friendly, recognized by Murray's selection as one of the *Friendliest Small Towns in America* (2012).
- West Kentucky is within short driving distance of larger metropolitan areas, such as Nashville and Louisville, that offer professional sports and expanded entertainment and shopping options.

WEAKNESSES

- Dry designation in some counties limits the ability to sustain restaurants and entertainment venues.
- Limited new housing availability, particularly for rent, can make it difficult for new and younger residents to find a place to live.
- There is a common perception among younger adults that the region lacks the entertainment amenities and youth culture desired by single, recent college graduates. In positive contrast though, the region is seen as a great place to raise a family.

OPPORTUNITIES

- Many residents would like to see more retail options, including a Target.
- The region is slowly building more cultural amenities that are attractive to young people–new breweries, revitalization of downtown buildings, modern rental housing, and more. Continued expansion, marketing, and packing of these amenities may help retain more young residents.
- West Kentucky's location and history create entrepreneurial growth opportunities in cultural areas such as outdoor recreation expeditions, breweries, distilleries, and farm-to-table restaurants.
- The recently passed House Bill 309, allowing public-private partnerships, could allow new businesses to operate in state park systems.

THREATS

- A large share of West Kentucky residents are living below the poverty line and require government assistance, which puts a financial strain on the provision of services to residents.
- Although the region offers world-class general healthcare and some specialized services, there are some gaps in the system and concerns about higher costs. This may encourage some patients to seek care in larger markets like Nashville and St. Louis.
- Many West Kentucky residents are relatively unhealthy, and the region has a high share of preventable, premature deaths related to lifestyle choices. These health concerns and high drug usage create numerous challenges for local communities and make it difficult for employers to find qualified, healthy workers.

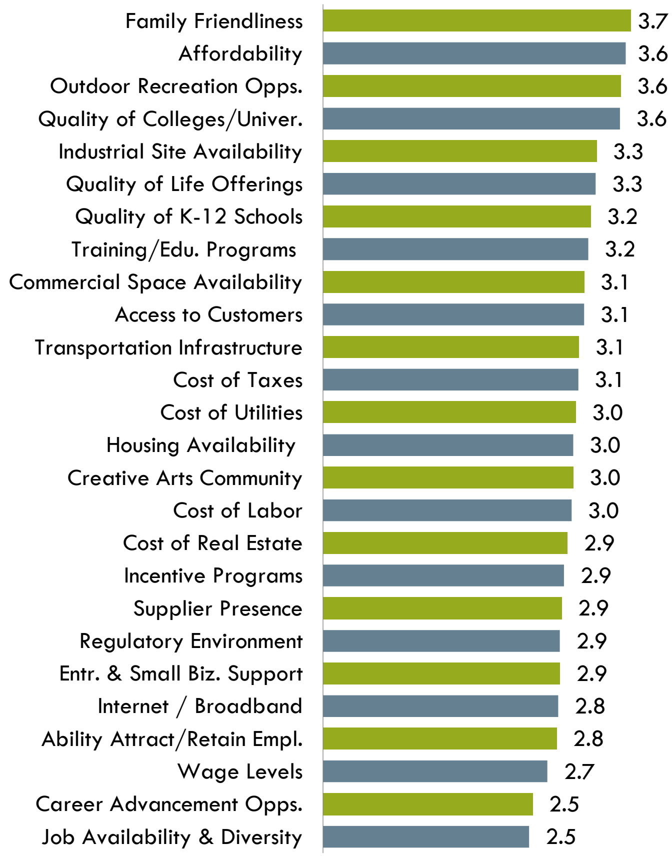
FUTURE ECONOMIC OPPORTUNITIES

In today's economy, successful community development relies on connecting assets and organizations in new ways to build on existing strengths while simultaneously addressing challenges and opening up new opportunities. This requires collaboration across multiple organizations and jurisdictions in order to most effectively and efficiently utilize limited resources to maximize outcomes.

Identifying future economic opportunities around target sectors is an important part of this process. With limited workforce and economic development resources spread across the entire region, West Kentucky must focus its activities on the sectors that best match local assets and opportunities. Ultimately this process aims to reorient the region toward high-growth sectors in which local businesses and workers can compete.

FIGURE 6. RATING OF WEST KY COMPETITIVE FEATURES

1= Poor / 3 = Average / 5 = Excellent



Source: West Kentucky Future Community Survey; Avalanche Consulting & TIP Strategies

TARGET SELECTION

Choosing the right target sectors for a community is not a perfect science. Markets are constantly changing. There are no guarantees of success, but by keeping a watchful eye on local and global trends and maintaining communications between educators, employers, and government leadership—communities can greatly improve opportunities to create jobs and support quality of life.

Because there is no formula to select target sectors, we rely on an iterative process that examines economic and demographic trends, engages with local businesses and residents, and takes an honest assessment of the competitive position of West Kentucky for each opportunity available.

When evaluating the wide list of potential target opportunities for West Kentucky, the consulting team asked a series of questions:

- How do national and global forces affect the opportunity for this cluster to grow in West Kentucky?
- Would growth in this sector match the vision and aspiration of West Kentucky residents?
- Does West Kentucky have the assets and resources to support growth in this sector?
- Is this sector creating jobs regionally and nationally?
- Does this sector pay wages above the regional average and create career tracks that will increase the wealth of residents?

The consulting team considered these and other questions while assessing West Kentucky's workforce, economy, and overall competitive position. Along with extensive quantitative and qualitative analysis, the consulting team drew perspective directly from West Kentucky residents and businesses through interviews, focus groups, regional tours, and the online *West Kentucky Future Community Survey*.

The feedback from the community played a critical role in developing the Assets & Challenges Inventory and identify target sectors.

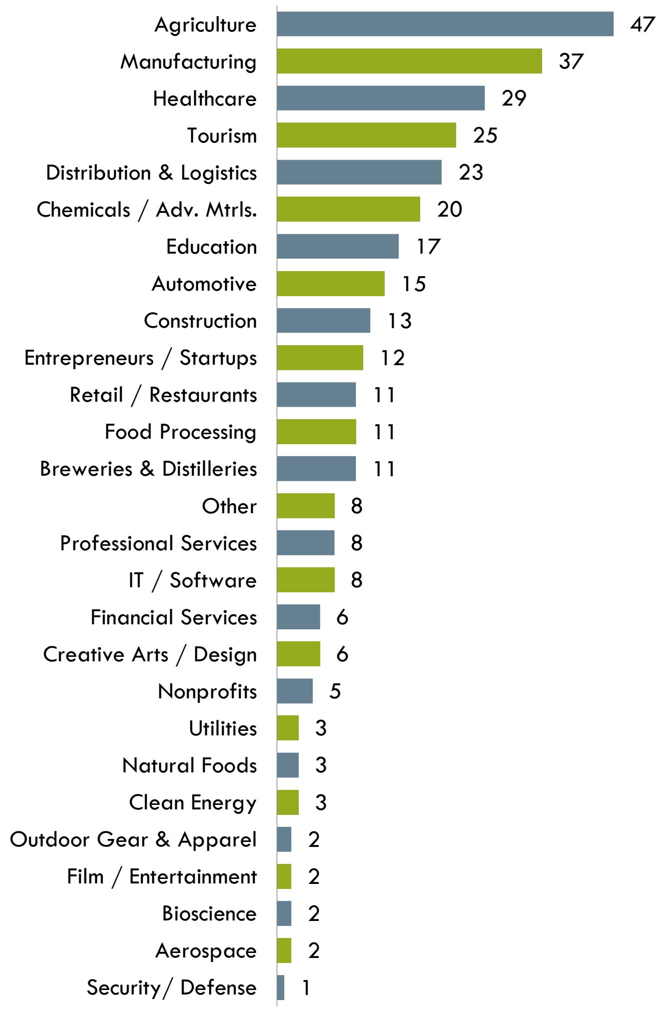
West Kentucky residents have a strong understanding of the region's strengths and challenges–seen clearly in Figure 6. Some of the strongest competitive features for supporting and enhancing target sectors include the quality of life, educational institutions, and transportation infrastructure. The weakest rated features and greatest perceived challenges relate to job opportunities, wage levels, and the ability to retain skilled workers.

Similarly, survey respondents had clear ideas regarding which industries present the greatest future opportunities–seen in Figure 7.

The top 10 opportunities perceived by respondents were:

- Agriculture
- Manufacturing
- Healthcare
- Tourism
- Distribution & Logistics
- Chemicals/Advanced Materials
- Education
- Automotive
- Construction
- Entrepreneurs/Startups

FIGURE 7. WHAT INDUSTRIES DO YOU SEE AS THE BIGGEST DRIVERS OF WEST KENTUCKY'S FUTURE?



Source: West Kentucky Future Community Survey; Avalanche Consulting & TIP Strategies

TARGET SECTOR RECOMMENDATIONS

Based on the analysis of regional trends, stakeholder input, and global forces, the consulting team recommends the following economic and workforce development target sectors and niche sectors for West Kentucky:

ADVANCED MANUFACTURING

NICHE SECTORS

- Aerospace Components
- Assembly
- Chemicals
- Energy Components
- Materials
- Metal Fabrication
- Transportation Equipment

AGRICULTURE & FOOD

NICHE SECTORS

- Agricultural Machinery
- Agricultural Technology
- Agrotourism
- Energy Crops
- Farm-to-Table
- Food Processing
- Industrial Hemp

CULTURAL INDUSTRIES

NICHE SECTORS

- Arts & Artisan Crafts
- Breweries & Distilleries
- Historic Tourism
- Outdoor Recreation

HEALTH

NICHE SECTORS

- Elder Care
- Medical Supply Systems
- Regional Healthcare
- Telemedicine

INFORMATION TECHNOLOGY

NICHE SECTORS

- Business Support Technology
- Maritime Logistical Software
- Web Design & Software

LOGISTICS & DISTRIBUTION

NICHE SECTORS

- Cold Storage
- Corporate Distribution Centers
- eCommerce Fulfillment Centers
- Maritime Support Services
- River Distribution
- Truck Transportation

TARGET SECTOR PROFILES

The Target Sector Profiles on the following pages provide detailed information about each recommended target sector. The profiles include the following topics:

- **Sector Overview**–a description of the nature of the sector, overall trends, and key business drivers affecting it. This also includes a chart showing employment trends, average salaries, and the location quotient for the sector in West Kentucky. A US Index is provided which sets the sector's employment in the nation equal to its employment in West Kentucky so that relative trends can be observed.
- **Niche Sectors**–short descriptions of the specific niche opportunities within each sector and why they make sense for West Kentucky.
- **Top Occupations**– a list of the largest occupations in terms of the share they comprise of the sector's workforce
- **SWOT**–A summary table showing strengths, weaknesses, opportunities, and threats related to the sector in West Kentucky.
- **Geographic Distribution**–A map showing the relative density of sector jobs in each county of West Kentucky.

These profiles are intended to educate regional leadership about each sector, their niche sector opportunities, and the key business drivers that will influence their growth in West Kentucky. These profiles will also arm the West Kentucky Workforce Board and regional educators and economic developers with the information and marketing messages to help support business expansion, startup, and recruitment activities.

ADVANCED MANUFACTURING

SECTOR OVERVIEW

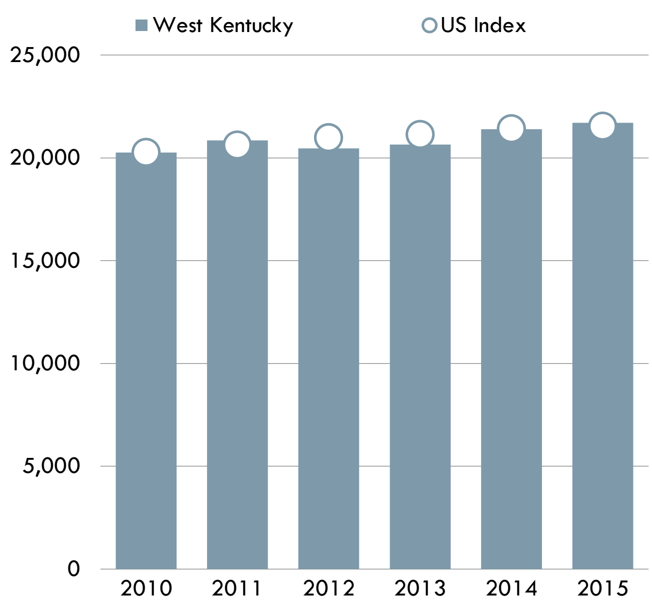
Manufacturing is the conversion of raw materials, components, or parts into a finished product by way of mechanical, physical, or chemical transformation. What was once a very labor-intensive, low-tech industry, manufacturing today has been transformed into a more sophisticated, highly automated and precision-based industry. Manufacturing offers a variety of quality career opportunities, is a driver of international trade, and serves as a source of technological innovation.

Manufacturers depend on the availability of a skilled workforce, which is influenced by population growth, access to training, and interest in specific career paths. One of the biggest issues facing manufacturers today is limited awareness or interest in well-paying manufacturing career opportunities. Many communities are looking for creative ways to introduce the next generation to the career possibilities in the new manufacturing age through STEM training, educational partnerships, apprenticeships, internships, and career fairs. Because manufacturing technology is constantly changing, many manufacturers benefit from responsive training programs that allow them to prepare existing and new workers on new equipment.

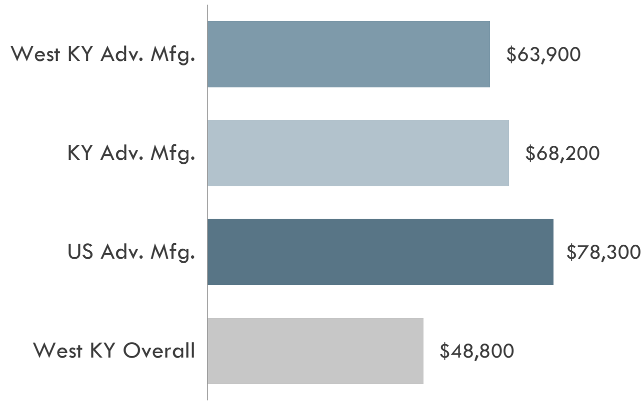
Factors related to cost management are other key business drivers for manufacturers. Most manufacturing operations require a strong transportation infrastructure network, connecting them to raw materials, part suppliers, and customers. Other cost factors include access to affordable and reliable utilities, and a favorable tax environment.

FIGURE 8. SECTOR TRENDS: ADVANCED MANUFACTURING

EMPLOYMENT 2010 TO 2015



AVERAGE ANNUAL EARNINGS



LOCATION QUOTIENT

Source: EMSI 2016.1 – QCEW Employees, Non-QCEW Employees, and Self-Employed, Avalanche Consulting, TIP Strategies.
Note: West Kentucky Overall shows average earnings across all industries. Comparable earnings data were not available for all sectors.

NICHE SECTORS

- **Aerospace Components** refers to the thousands of parts used in the manufacturing of aircraft, missiles and space vehicles. The aerospace market is driven largely by military budgets and airline traffic. Unlike the automotive industry, where suppliers must locate within a smaller mile-radius, aerospace component manufacturers have the ability to serve multiple markets. The geographical location of West Kentucky positions it to supply components to multiple growing clusters in St. Louis, Little Rock, Huntsville, Atlanta, Cincinnati and Dayton.
- **Assembly** is a part of many manufacturing sectors including automotive, aerospace, energy, and medical device. It refers to the process of assembling, inspecting, and testing parts to form a final product or sub-component. West Kentucky's geographic position and transportation infrastructure make it a competitive location for assembly operations in many subsectors. The new Foreign Trade Zone could also provide a sizeable cost savings and other benefits to assembly operations involved in importing or exporting.
- **Chemicals** makes up one of the largest manufacturing industries in the United States and are also one of our top export industries. The chemical industry is divided into five subcategories: Basic Chemicals like resins, dyes and pigments; Specialty Chemicals including adhesives, sealants and coatings; Agricultural Chemicals; Pharmaceuticals; and Consumer Products such as soaps, cleaners and cosmetics. The well-established chemical sector in Calvert City has been successful in the region thanks to its central location, infrastructure, cheap power costs, and availability of water. This sector has the potential to benefit from collaboration and clustering with other manufacturing sectors that use their chemical products.
- **Energy Components** refers to the design, manufacturing, and assembly of precision machined components used in both traditional and alternative energy. West Kentucky's central geographic location and experience in manufacturing, specifically in the compressor industry, are a strength to growing and recruiting energy component companies.
- **Materials**, especially advanced materials, serves as the building blocks for a wide variety of manufactured products and vehicles. Materials include metals, polymers, ceramics, glasses and composites. West Kentucky's chemical industry is already a player in this niche, as materials become a global driver of new manufacturing technology. The region's ability to ability to easily reach multiple customers in a variety of industries make it an attractive location for materials companies.
- **Metal Fabrication** is the creation of metal parts, machinery, or components by cutting, bending, assembling, and other processes. Fabricators typically specialize in a specific process that is based on either client needs or expertise. As metal fabrication is vital to virtually all manufacturing sectors, West Kentucky's current manufacturing base and proximity to other manufacturing regions is advantageous.
- **Transportation Equipment** (Automotive & Rail) refers to the manufacturing and assembly of motor vehicles and parts, as well as railroad rolling stock. The West Kentucky region benefits from the presence of existing companies in the sector and the proximity to other markets specializing in Transportation Equipment. The area centered on Hopkinsville (and stretching into Clarksville, Tennessee) is a significant hub of automotive parts manufacturers and related equipment providers.

TOP OCCUPATIONS (SOC CODE)

- Team Assemblers (51-2092)
- Machinists (51-4041)
- First-Line Supervisors of Production and Operating Workers (51-1011)
- Industrial Machinery Mechanics (49-9041)
- Welders, Cutters, Solderers, and Brazers (51-4121)
- Laborers and Freight, Stock, and Material Movers, Hand (53-7062)
- Inspectors, Testers, Sorters, Samplers, and Weighers (51-9061)
- Assemblers and Fabricators, All Other (51-2099)
- Packaging and Filling Machine Operators and Tenders (51-9111)
- Maintenance and Repair Workers, General (49-9071)

SWOT

STRENGTHS / ASSETS

- The West Kentucky region has a strong existing manufacturing sector supported by its workforce, affordable land and utilities, and historical presence.
- Major companies include: GE Aviation, Briggs & Stratton, International Auto Components, Pella Corporation, Barry Plastics, MCC Injection Molding, Westlake Vinyls and Arkema.
- West Kentucky's geographic location and robust distribution infrastructure allow manufacturing operations to serve multiple industries and customers.
- The region boasts strong workforce training capabilities through Murray State, the Skilled Craft Training Center, and the Community and Technical College campuses.

WEAKNESSES

- Limited educational funding and regulations regarding curriculum may limit the ability of schools, colleges, and universities to meet industry training needs.
- There is limited national and international awareness of manufacturing opportunities in West Kentucky.
- Companies lured to the area on the promise of low wages may face issues with high turnover.

OPPORTUNITIES

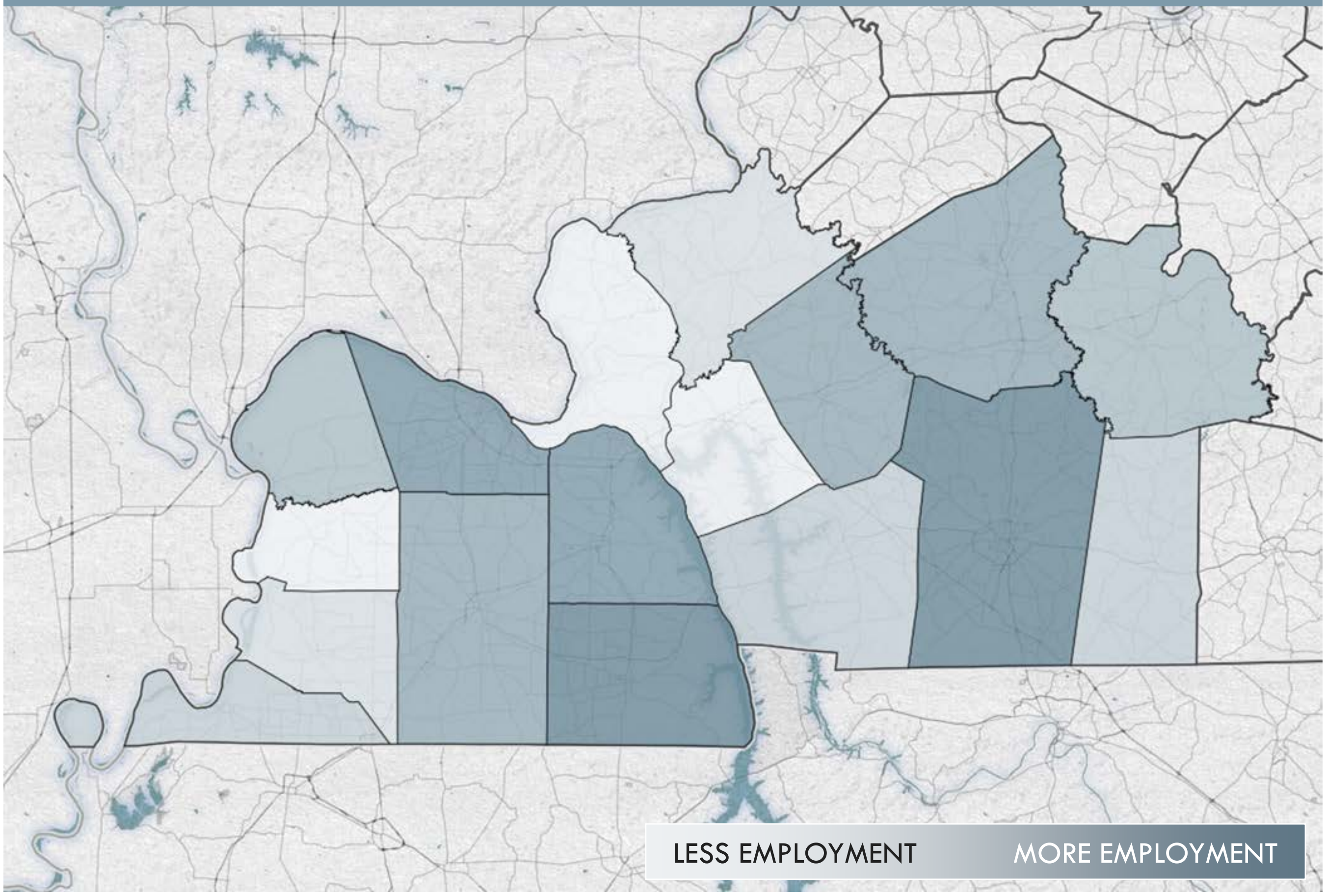
- Growth of KY FAME program will strengthen manufacturing workforce and interest in the region.
- There is potential for growth in assembly and trade with the establishment of a Foreign Trade Zone.
- There are opportunities to hire talent from Fort Campbell and Fort Knox, as well as displaced workers from the Coal industry.
- Adding more manufacturing-based curriculum to the Area Technology Centers, especially in the areas of skilled technicians and maintenance workers, could support business growth.
- I-69 nearing completion through West Kentucky puts the region strategically between the Mexico automotive manufacturing/assembly cluster and the Detroit/Canada automotive manufacturing cluster.

THREATS

- Negative population growth threatens the availability of future workforce, especially in manufacturing.
- There is a perception that Right-to-Work status prevents the region from being considered by potential relocating manufacturers.

GEOGRAPHIC DISTRIBUTION

ADVANCED MANUFACTURING EMPLOYMENT, 2015



AGRICULTURE & FOOD

SECTOR OVERVIEW

Agriculture and Food is a multitrillion-dollar sector that adds value to and increases demand for farm outputs. This sector includes activities such as handling, processing, packaging, storage, transportation, and marketing of food and non-food-related agricultural products.

The supply chain in Agriculture and Food encompasses a wide array of companies, including suppliers of machinery, seeds, chemicals, tests and vaccines, food processors, and data providers for precision agriculture.

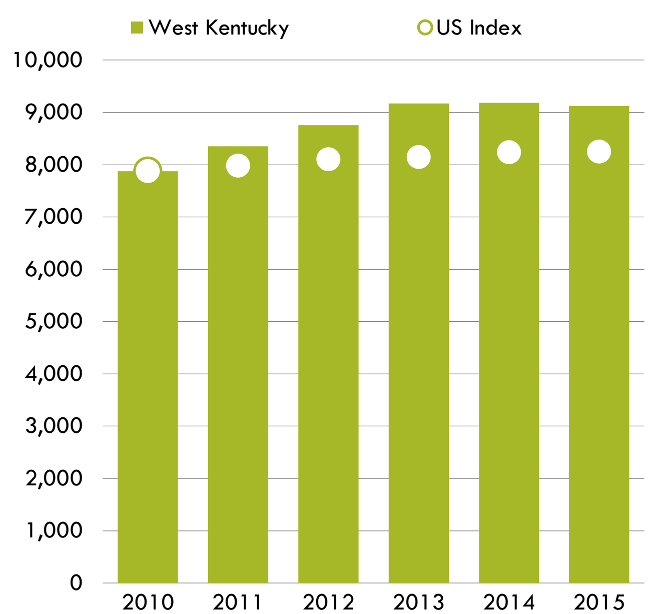
Uses for agricultural products and by-products have expanded to include industrial and pharmaceutical applications, as well as the continued development of alternative fuels. As the non-food uses for farm outputs have expanded, so too has consumer demand for buy-local and farm-to-table products. This has coincided with growth in Agrotourism and demonstrates that opportunities abound for both small and large farmers in the Agriculture & Food sector.

The most important factor in Agriculture & Food is availability of affordable, arable land, followed second by access to customers and suppliers. Advancements in technology are having positive effects on the sector by way of productivity, efficiency, and safety. Agriculture & Food operations also require workers with a range of skills–from a high-school degree for some laborers to advanced engineering degrees for those designing and manufacturing farming equipment and technology.

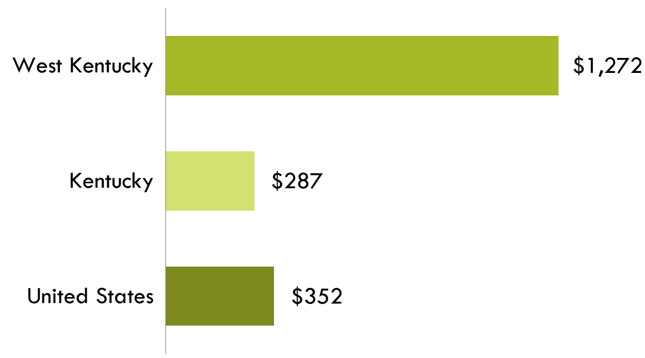
West Kentucky's Agriculture & Food sector out-performs Kentucky and the US, with above-average employment growth since 2010 and much higher earnings per capita than the state and US. The sector's performance indicates competitive strengths that can be further supported and promoted.

FIGURE 9. SECTOR TRENDS: AGRICULTURE & FOOD

EMPLOYMENT 2010 TO 2015



FARM EARNINGS PER CAPITA



LOCATION QUOTIENT

Source: EMSI 2016.1 – QCEW Employees, Non-QCEW Employees, and Self-Employed, US BEA, Avalanche Consulting, TIP Strategies
Note: West Kentucky Overall shows average earnings across all industries. Comparable earnings data were not available for all sectors.

NICHE SECTORS

- **Agricultural Technology** has transformed the agriculture sector by allowing it to become more efficient and more profitable. This sector involves the application of technology to improve precision agriculture operations. With the use of sensors, devices, and information technology, farmers are experiencing higher crop productivity, decreased use of inputs, reduced impact on the environment, and increased worker safety. West Kentucky is already a center for precision agriculture, and is well-positioned to grow existing companies in service of local farmers while also becoming a center for development and testing of new technologies.
- **Agrotourism** is the crossroads of agriculture and tourism and is considered a growing niche form of tourism. Examples include: picking fruits and vegetables; visiting farms, ranches and wineries; outdoor wedding venues (such as Burdoc Farms in Christian County); buying products from farmer's markets; and cutting your own Christmas tree. Many residents of urban areas are seeking these Agrotourism adventures, and West Kentucky's location in proximity to numerous major metropolitan areas, makes it an ideal location for visitors.
- **Farm-to-Table/Local Food** has seen an increase in demand as consumers learn more about the health concerns related to eating processed foods. Consumers increasingly place a premium on being able to purchase and to dine at restaurants where locally grown, organic produce and meats are utilized. Farm-to-Table operations benefit from developing direct relationships with restaurants in larger cities, and West Kentucky benefits from its proximity to large population centers and ability to quickly distribute fresh produce to consumers in those markets.
- **Food Processing** includes a variety of activities by which raw ingredients are made suitable for consumption, cooking or storage. In West Kentucky this includes: poultry processing at Pilgrim's Pride; Asian carp processing at Two Rivers Fisheries; and a variety of food production operations at Kenlake Foods, Saputo Dairy Foods, Prairie Farms Dairy and Dippin' Dots.
- **Industrial Hemp** is used worldwide to produce a variety of industrial and consumer products. Today, even Mercedes and BMW use hemp fiber for automotive panels. Although more than 30 nations grow hemp as a source of fiber and oilseed, the US requires a special permit from the Drug Enforcement Agency. If industrial hemp is to grow as a niche sector, assets within the universities and innovation networks will be important in developing end uses.

TOP OCCUPATIONS (SOC CODE)

- Farmers, Ranchers, and Other Agricultural Managers (11-9013)
- Farmworkers and Laborers, Crop, Nursery, and Greenhouse (45-2092)
- Food Batchmakers (51-3092)
- Slaughterers and Meat Packers (51-3023)
- Meat, Poultry, and Fish Cutters and Trimmers (51-3022)
- Packaging and Filling Machine Operators and Tenders (51-9111)
- Packers and Packagers, Hand (53-7064)
- Laborers and Freight, Stock, and Material Movers, Hand (53-7062)
- Food Processing Workers, All Other (51-3099)
- Industrial Machinery Mechanics (49-9041)

SWOT

STRENGTHS / ASSETS

- West Kentucky is the strongest agricultural area in the state with some of the most advanced agricultural practices in the US.
- Moderate climate with warm, but moist conditions combined with Crider soils make West Kentucky fertile land for agriculture.
- The region offers education opportunities through Murray State's Hutson School of Agriculture and Breathitt Veterinary Center and an ag-tech training program at Hopkinsville Community College.
- West Kentucky's major agricultural products include: corn, wheat, canola, soybeans, pork and chickens with some hemp and aquaculture.
- Existing local companies in this sector include Pilgrim's Pride, Two Rivers Fisheries, Kenlake Foods, Saputo Dairy Foods, Hutson, and Dippin' Dots.
- West Kentucky benefits from close geographic access to customers: ethanol facilities, poultry farms, large urban markets for Farm-to-Table, and other sector partners.

WEAKNESSES

- There remains a perception that you either own the farm or are just a hired hand. West Kentucky needs to raise awareness among children, students, and adults about career paths and job opportunities in agriculture–particularly on the technical side.
- A significant share of agricultural production in West Kentucky is feedstock that remains in the region. This serves a major export sector (meat production), but if the types of crops grown in the region were more diverse, it would make the overall economy more resilient and create additional new business opportunities.
- There are few non-chain and locally-sourced restaurants in the region, but the culture is changing as new, locally-owned businesses and restaurants look to represent the region.

OPPORTUNITIES

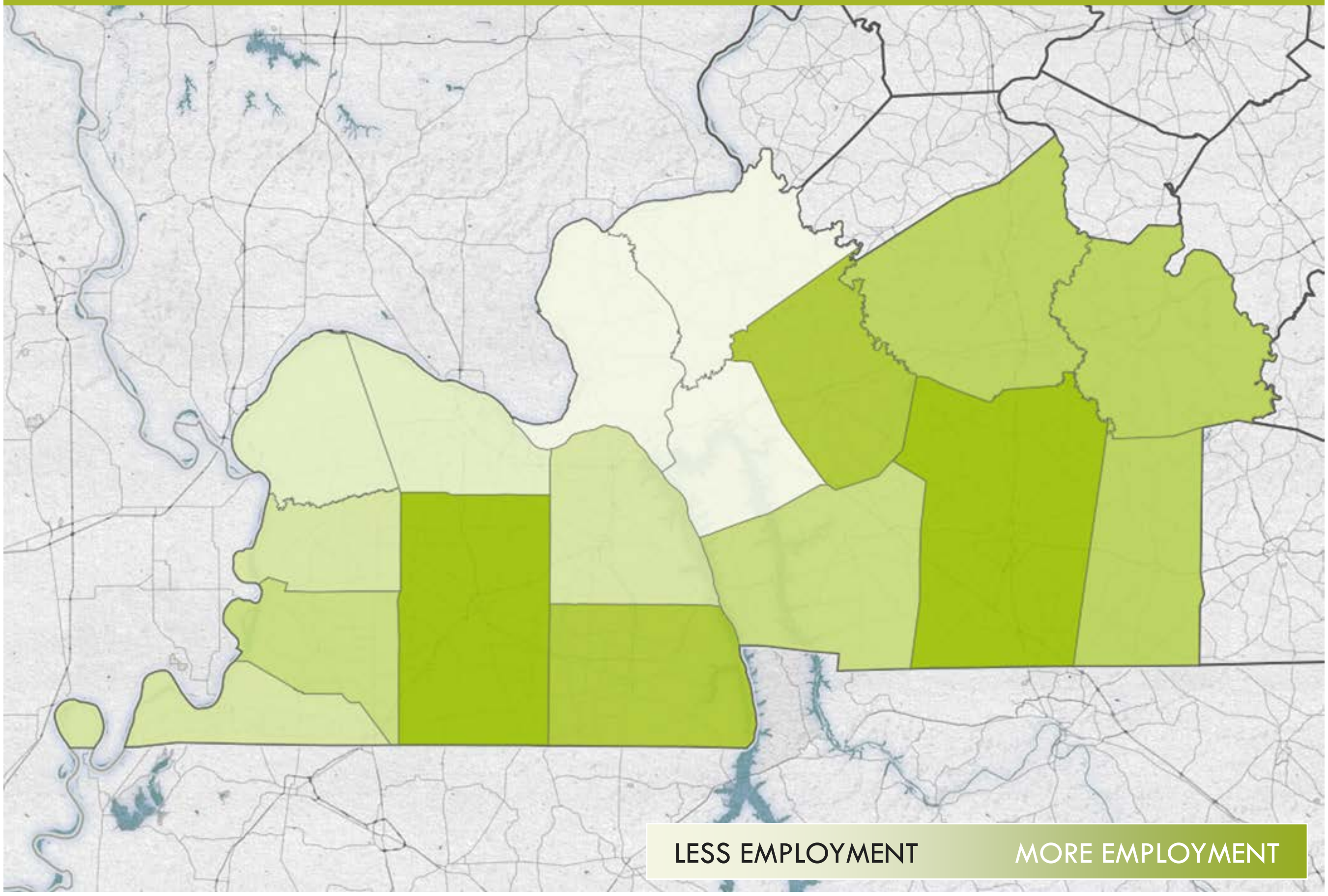
- Increased adoption of value-added agriculture and new seed technologies may help grow the sector in West Kentucky.
- The region has numerous technology-based agriculture companies that help modernize this sector and improve its competitive position. Local technology-based agriculture companies include TapLogic, Precision Management Consulting, and Integrity Ag Group.
- By utilizing advanced marketing strategies the region can determine the most profitable uses for agricultural products–including medical uses, energy production, and manufacturing.
- West Kentucky farmers could see advancements in production by working with existing chemical companies developing fertilizers and other related products.

THREATS

- The agriculture credit market is at risk of a "replay" of the 1980s farm credit crisis.
- The cost of farmland in the region is rising.
- The nation and region have seen increased extreme weather events in recent years–from flooding to drought.

GEOGRAPHIC DISTRIBUTION

AGRICULTURE AND FOOD EMPLOYMENT, 2015



CULTURAL INDUSTRIES

SECTOR OVERVIEW

Cultural Industries covers the intersection of art, culture, recreation, and the economy. The sector can be broken down by four main categories: the Arts, which include visual arts, performing arts and heritage; Cultural Activities such as film & video, TV & radio, music, books and press; Recreational Activities such as cycling, backpacking and camping; and Creative Industries including design, architecture and advertising.

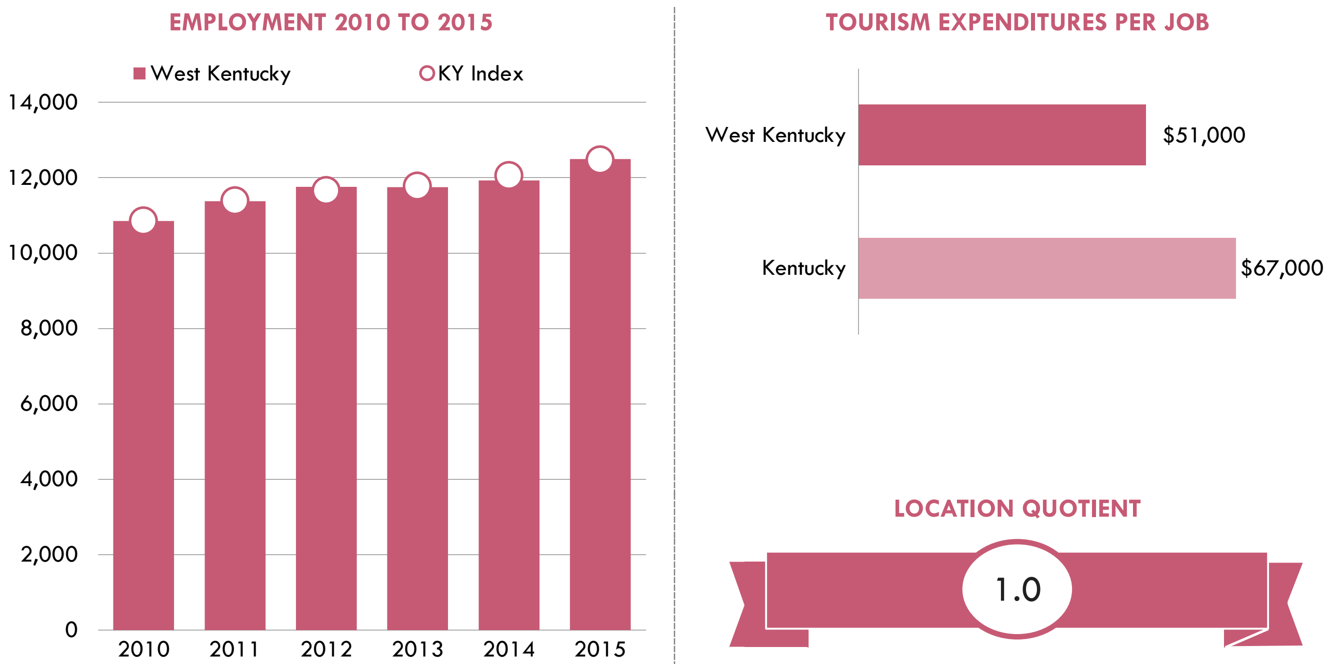
Cultural Industries generate employment and wealth in a region while also nurturing creativity and fostering innovation. A strong cultural sector improves quality of life and aids in the retention and attraction of talent and companies.

Like many other sectors, technology has been an agent of change for the Cultural Industries. Technology has increased the viability of the sector as an online presence–social media, and e-commerce have expanded the reach of many Cultural Industries from across the street to across the globe.

Because they are often small operations and include a wide range of skills, Cultural Industries businesses are less dependent on workforce training programs. Cultural Industries nonetheless often thrive in locations with strong arts schools and creative centers, such as the newly expanded Paducah School of Art & Design.

Cultural Industries are driven by the history of a region and the people that bring to life those cultural and creative aspects. Other factors that support the development of Cultural Industries include: an active and supportive community, a strong ability to create and leverage public-private partnerships, effective marketing of the region and its tourist attractions, and the availability of small business support services.

FIGURE 10. SECTOR TRENDS: CULTURAL INDUSTRIES



Source: KY Tourism, Arts, & Heritage Cabinet; Avalanche Consulting; TIP Strategies
Note: West Kentucky Overall shows average earnings across all industries. Comparable earnings data were not available for all sectors.

NICHE SECTORS

- **Arts and Artisan Crafts** encompasses a variety of activities and businesses including independent artists creating visual arts for sale and display; performing artists involved in theatre, dance and music; and skilled artisans creating handmade goods ranging from jewelry to textiles to culinary products. The market for art and artisan crafts continues to grow across the nation and has greatly benefited from the growing use of social media as a marketing platform.
- **Breweries & Distilleries** includes independent businesses that brew beer, distill alcohol, and then serve their beverages locally or distribute them through wholesalers. The number of craft brewers and small-scale producers is exploding across the country and is driven by the surge in interest in artisanal and locally-made products, as well as the demand of high-end products from Baby Boomers and Millennials. These businesses also enhance the quality of life and tourism offerings for a region. Kentucky has a rich heritage in the distilling business that dates back to the 18^{th} century, and numerous new breweries have opened in West Kentucky in recent years with strong success. These operations require skilled workers and tend to pay relatively high wages. They are also export industries that bring outside dollars back into a community. As of 2015, Kentucky accounts for 37 % (4,100) of the nation's 11,000 jobs in distilleries, with several growing distilleries in West Kentucky.
- **Historic Tourism** involves the leveraging of cultural, historic and natural resources to attract travelers to a region. Historic tourism is an excellent way to share a region's story while also preserving its rich history. The vast history of West Kentucky–Lewis and Clark, the Trail of Tears, the Civil War, and the Amish Community–and its abundance of natural resources are key to attracting tourism to the region.
- **Outdoor Recreation** includes a variety of activities from bicycling, camping, fishing, hunting, motorcycling, off-roading, trail sports, water sports and wildlife viewing. It is a fast growing industry that is enjoyed by people of all genders, ages and income levels. Outdoor recreation generates $8.4 billion in consumer spending and supports 105,000 jobs in the state of Kentucky each year, a number that could increase dramatically if West Kentucky leverages its abundance of natural resources.

TOP OCCUPATIONS (SOC CODE)

- Maids and Housekeeping Cleaners (37-2012)
- Hotel, Motel, and Resort Desk Clerks (43-4081)
- Waiters and Waitresses (35-3031)
- Maintenance and Repair Workers, General (49-9071)
- Landscaping and Groundskeeping Workers (37-3011)
- Amusement and Recreation Attendants (39-3091)
- Lodging Managers (11-9081)
- Cooks, Restaurant (35-2014)
- Musicians and Singers (27-2042)
- Janitors and Cleaners, Except Maids and Housekeeping Cleaners (37-2011)

SWOT

STRENGTHS / ASSETS

- Paducah and the region have international recognition through membership in the UNESCO Creative Cities Network, the National Quilt Society Museum and the American Quilters Society Quilt Show and Contest.
- The Paducah School of Art & Design draws in artists from across the region and country.
- Historical and cultural significance of region with Lewis & Clark, the Civil War, the Trail of Tears and the Amish Community is a historical tourisms draw.
- Recreation opportunities are abundant in the region, especially in the Land Between the Lakes–one of the world's largest man-made lakes.
- The region has a growing number of distilleries and breweries in region with Hillbilly Stills (Ballard), Paducah Distilled Spirits (The Moonshine Company) (McCracken), Silver Trail Distillery (Marshall), Casey Jones Distillery (Christian), Dry Ground, Brewing Company (McCracken) and MB Roland Distillery (Christian).
- There is a thriving creative arts community and a high concentration of artists and arts establishments in McCracken County.

WEAKNESSES

- The dry designation in some counties limits tourism opportunities.
- Many Cultural Industries jobs are low skill and pay below-average wages, but this sector brings in significant dollars per job through visitor expenditures. Additionally, some niche sectors, such as Breweries & Distilleries, have the potential to pay higher salaries.

OPPORTUNITIES

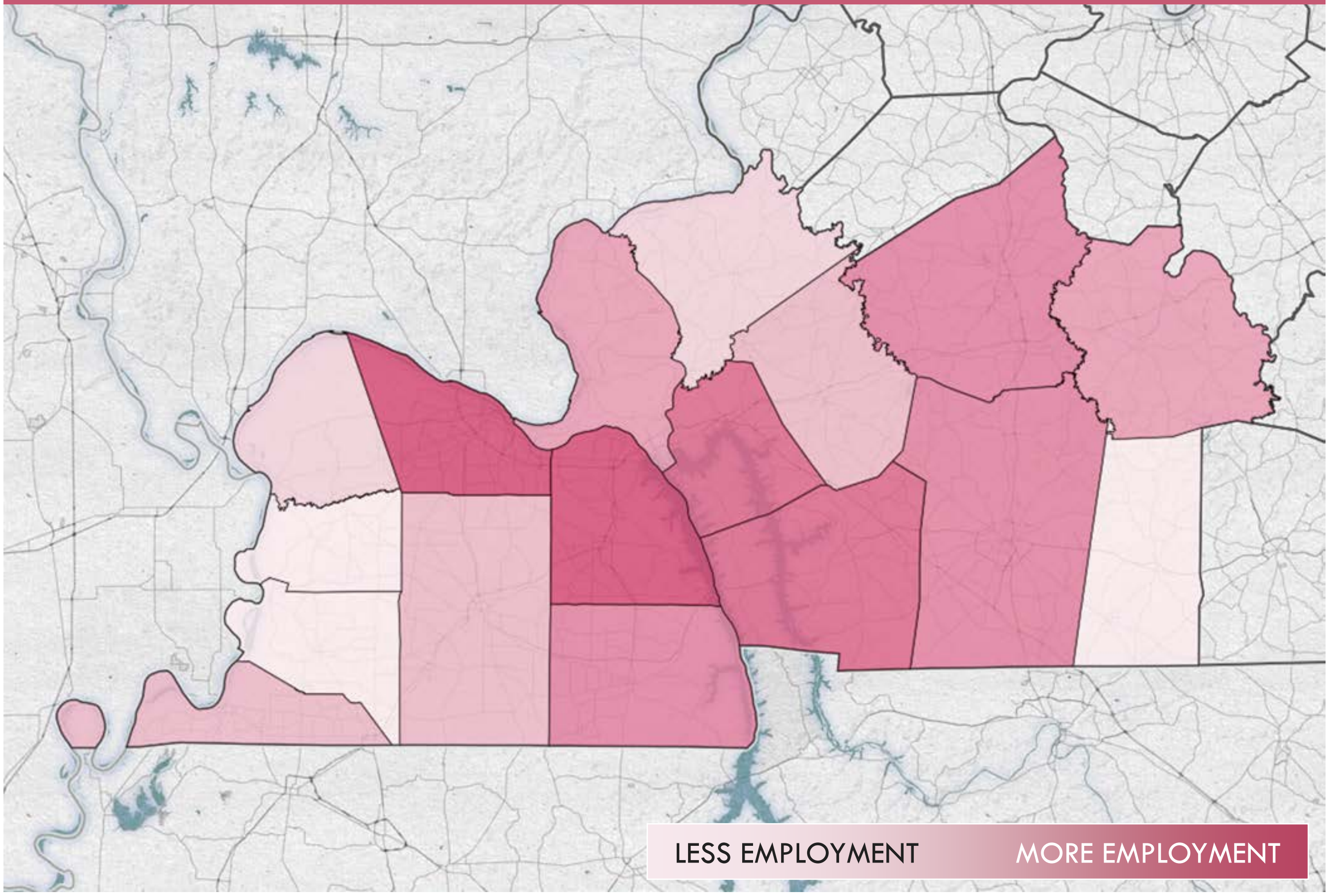
- The region could work more collaboratively to market and promote tourism assets as one package.
- Potential connections with the Bourbon Trail through Kentucky.
- Increasing the diversity of events at the Carson Center to better market towards younger adults.
- Recently passed House Bill 309, allowing public-private partnerships, can lead to improvements in state park systems and other quality of place assets that could improve tourism.

THREATS

- Downturns in the national economy have the potential to affect the ability of families in and outside the region to spend money on cultural activities in West Kentucky. Although, during the recent recession, many families chose to save money by vacationing closer to home and not overseas, which has the potential to benefit West Kentucky through its proximity to major population centers.

GEOGRAPHIC DISTRIBUTION

CULTURAL INDUSTRIES, 2015



HEALTH

SECTOR OVERVIEW

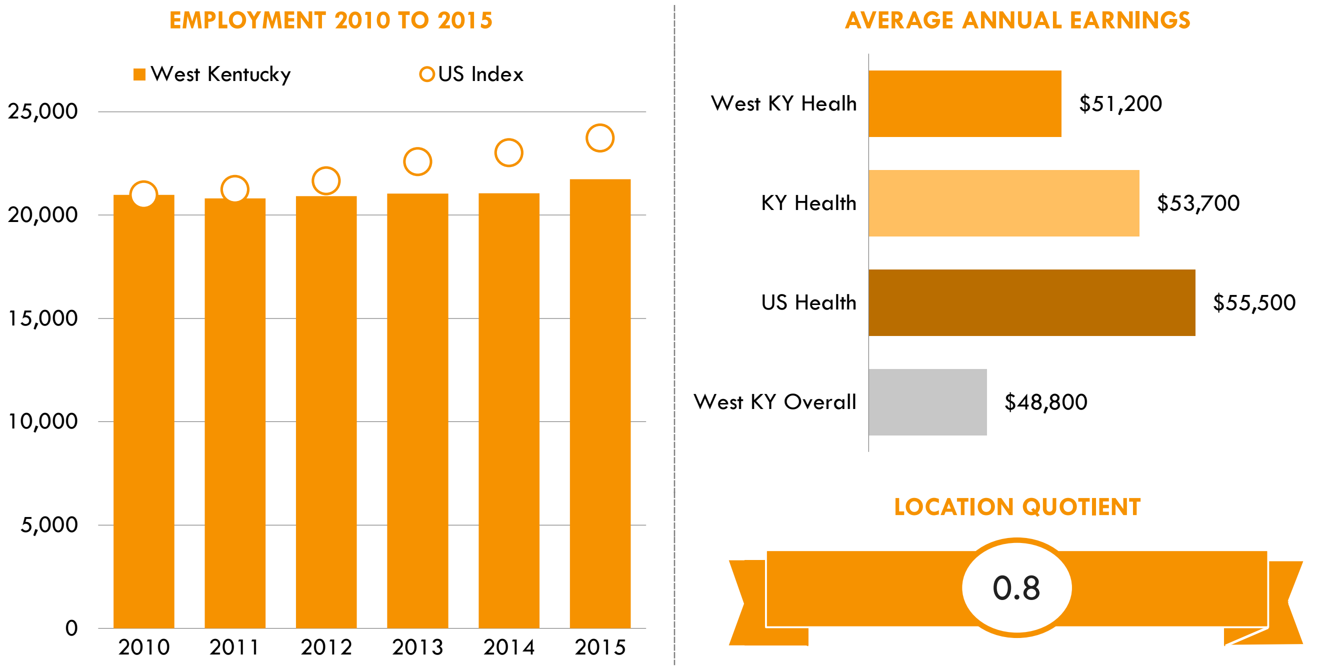
The Health sector is composed of providers of diagnostic, preventative, remedial and therapeutic services such as doctors, nurses, hospitals, and other organizations with the goal of maintaining and re-establishing health. It also includes manufacturers and distributors of medical equipment, supplies, and pharmaceuticals.

A strong Health sector can provide services to a large geographic area—drawing patients from outside the region to visit specialized healthcare centers. Technological advancements in the health sector—such as wearable devices and telemedicine—have enabled remote access to specialized care, monitoring and disease management, which is especially beneficial in more rural areas of the country.

The Health sector is growing rapidly across the nation and hiring in almost all communities—requiring new nurses, technicians, and doctors to meet demand created by growing and aging populations and new technologies and therapies. Above average salaries and stable employment in Health make it an attractive field for many workers, but communities must have strong training programs in place at local colleges and universities to fill demand.

The Health sector is often struggling to meet increased demands for healthcare services while reducing costs and navigating an ever-changing regulatory environment. West Kentucky can help support its Health sector by ensuring the region's healthcare providers have the training and programs necessary to sustain their employment growth, while continuing efforts to improve the overall health of regional residents.

FIGURE 11. SECTOR TRENDS: HEALTH



Source: EMSI 2016.1 – QCEW Employees, Non-QCEW Employees, and Self-Employed, Avalanche Consulting, TIP Strategies.
Note: West Kentucky Overall shows average earnings across all industries. Comparable earnings data were not available for all sectors.

NICHE SECTORS

- **Elderly Care** is specialized care unique to senior citizens and can include assisted living, adult day care, long-term care, nursing homes, hospice care, and home care. The demand for formal caregivers tends to increase as unemployment rates drop and family members go back to work. Continued advancements in technology, such as wearable health sensors, are partially reducing the need for live-in care, but the ongoing retirement of Baby Boomers continues to increase demand for Elderly Care operations. There is a strong market for Elderly Care in West Kentucky as the region ages and retirees across the East Coast, Midwest, and South look for attractive locations to retire. Moreover, West Kentucky has a significantly higher percentage of adults above age 65 than the US (16.3 % in West Kentucky compared to 13.7 % for the US as a whole), making it a desirable location for Elder Care.
- **Medical Supply Systems** consists of businesses that manufacture, purchase, and distribute medical equipment and supplies to healthcare providers such as medical and dental practitioners, clinics, and hospitals. The types of medical supplies vary from general equipment such as furniture, instruments, and apparatuses; to disposable supplies such a gloves, syringes, sutures, and compression products; and to more complex medical devices such as implants, prosthetics, and pacemakers. West Kentucky is well positioned for Medical Supply Systems given its geographic location, strong distribution networks, and regional healthcare hubs in Paducah, Murray, Madisonville, and Hopkinsville.
- **Regional Healthcare** includes the hospital systems, home health care services, diagnostic laboratories, independent physician offices and other ambulatory health care services based in a central location but servicing a broader regional population. Healthcare is important in evaluating a region's quality of life as it determines and promotes general physical and mental health and overall well-being. The Healthcare industry is a signification contributor to the regional economy, employing 22,000 in West Kentucky alone.
- **Telemedicine** is an emerging niche sector focused on utilizing telecommunications and new technological devices as a means to deliver health-related services that can include diagnosis, disease management, heath education, and monitoring of conditions. Methods include real-time interactions, store-and-forward, remote patient monitoring, and mobile health. Telemedicine allows healthcare providers to more quickly serve patients, gain access to remotely located patients, reduce the need for overnight stays in hospitals, and overall increase the efficiency and effectiveness of healthcare services. Telemedicine also offers a great opportunity for providing some of the specialized care to remote residents. West Kentucky's rural geography and population would allow Telemedicine operators to develop technology and services locally but with applications across the globe.

TOP OCCUPATIONS (SOC CODE)

- Registered Nurses (29-1141)
- Nursing Assistants (31-1014)
- Personal Care Aides (39-9021)
- Licensed Practical and Licensed Vocational Nurses (29-2061)
- Childcare Workers (39-9011)
- Receptionists and Information Clerks (43-4171)
- Medical Secretaries (43-6013)
- Medical Assistants (31-9092)
- Home Health Aides (31-1011)
- Maids and Housekeeping Cleaners (37-2012)

SWOT

STRENGTHS / ASSETS

- The region is supported by larger health systems like Baptist Health, Lourdes, Jackson Purchase Medical Center, Jennie Stuart Medical Center, and numerous county-owned medical facilities.
- Training programs are widely available and successful through Murray State, community and technical colleges, and area technology centers.
- Purchase Area Health Education Center connects students to health care careers and future professionals to communities.
- Lourdes and Baptist Health have active physician recruitment programs.
- Aging population has led to a specialization in elderly care in the region.

WEAKNESSES

- It is difficult to recruit physicians into smaller markets, but once many visit the region they are attracted to the high quality of life.
- There is a perception that the region needs to increase focus on preventative health care and health outcomes among the populace.
- Lower salaries in the region make it harder to recruit and retain Health workers.
- Limited availability of nursing faculty is a significant barrier to increasing graduation rates, but recruiting nursing faculty is difficult when they can earn twice as much in practice than academics.

OPPORTUNITIES

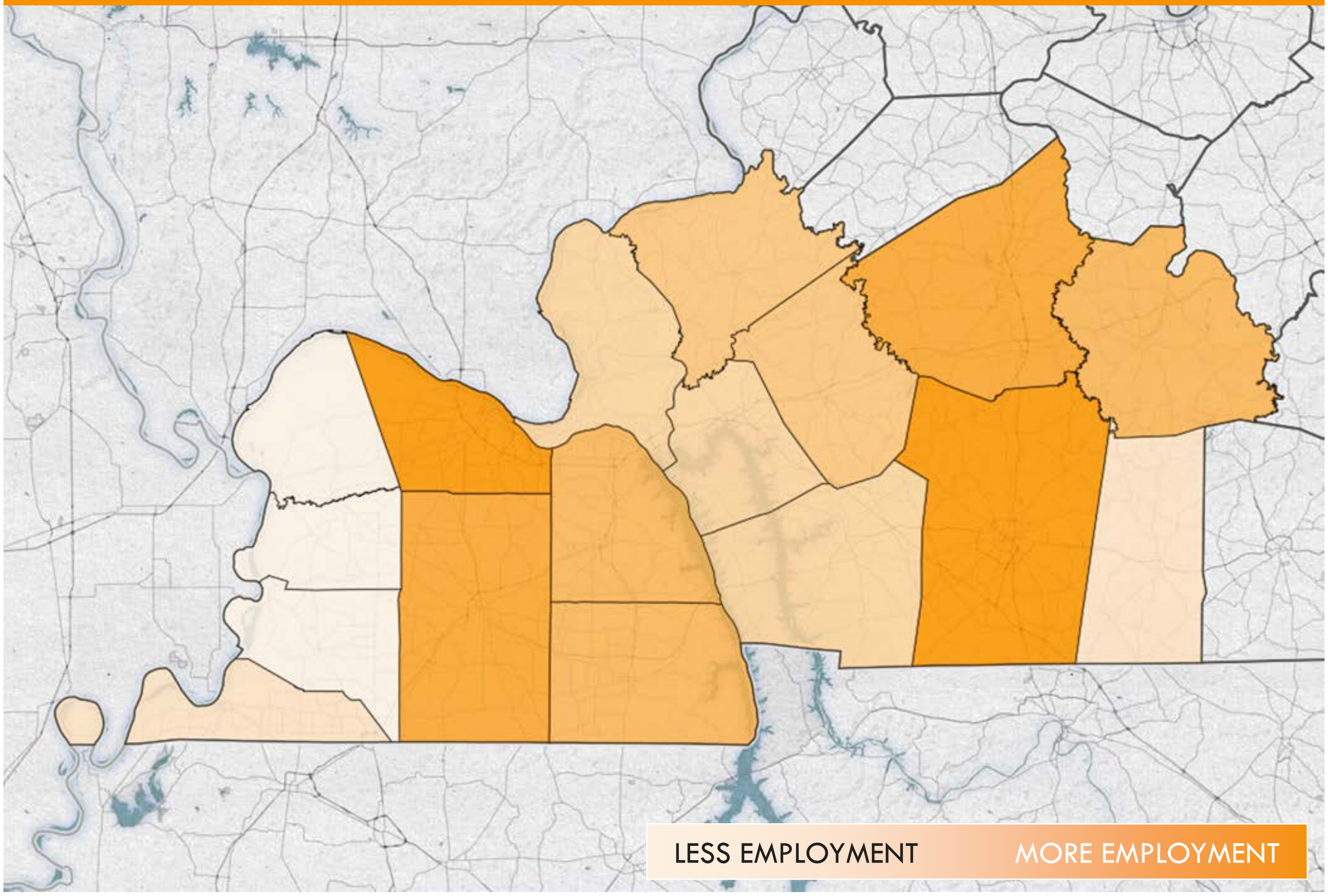
- There is an increased demand for nurses due to a greater emphasis on population health & home health.
- There is an increased need for “medical scribes” due to a growing tech focus in health care.
- Initiatives such as Healthy Paducah are aiming to coordinate Health operations, non-profits, and community leaders to help address community health needs and support sector growth.

THREATS

- The region may see leakage of patients to larger metro areas, such as Nashville, that can offer more affordable and specialized care options.
- Many local physicians are nearing retirement age with few replacements in the pipeline.
- If broadband internet speeds are not improved, it could limit the region’s ability to grow Telemedicine operations.

GEOGRAPHIC DISTRIBUTION

HEALTH EMPLOYMENT, 2015



INFORMATION TECHNOLOGY

SECTOR OVERVIEW

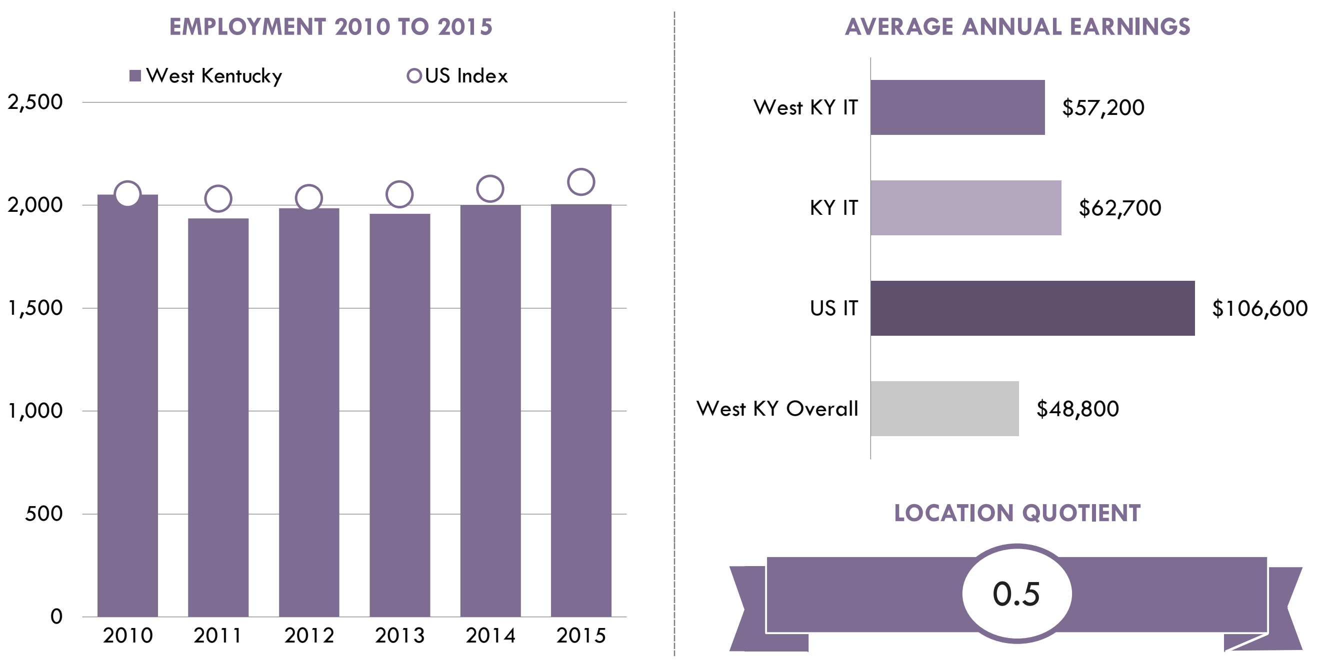
Information Technology includes companies involved in software design and support, computer systems design, and data processing facilities management. Their services cover design, development, integration, technical support, systems planning, enterprise resource planning, training and data warehousing. Demand for these services is driven by the rapid advancements in technology that are affecting virtually every sector, from agriculture to healthcare to manufacturing. Basic Information Technology services are a part of the everyday operations of most modern businesses–including billing, web design, computer support, and much more. Larger businesses may have in-house Information Technology divisions, but many small and medium sized businesses hire consultants to provide specific Information Technology services.

Talent is the most critical factor in the success of Information Technology businesses. Information Technology operations generally require workers with at least a bachelor's degree. As a result, Information Technology clusters often grow in proximity to universities and colleges that offer strong computer science and other IT-related training programs or in locations that can attract these well-educated workers.

IT workers are in-demand across the country and often have the ability to choose where they wish to live and work. Therefore, Information Technology operations often thrive in locations with a high quality of life. In the modern era, this does not necessarily mean large urban areas–there has been a growing trend of technology companies locating in rural areas, as large cities price them out. They desire locations where their workers can afford to raise families and enjoy a comfortable lifestyle.

The sector is also very entrepreneurial and benefits from access to capital, a strong networking environment, mentoring opportunities, incubators or co-working spaces, strong telecommunications and broadband networks, and incentives.

FIGURE 12. SECTOR TRENDS: INFORMATION TECHNOLOGY



Source: EMSI, Avalanche Consulting, TIP Strategies.
Note: West Kentucky Overall shows average earnings across all industries. Comparable earnings data were not available for all sectors.

NICHE SECTORS

- **Business Support Technology** refers to the provision and development of services, software, systems, applications, and devices used to streamline and support various business functions such as accounting, finance, human resources, marketing, and customer service. Business Support Technology is used in a cross section of industries, including manufacturing, education, professional services and logistics. Business Support Technology operations are especially critical to communities such as West Kentucky with many small to medium-sized businesses that look to outside consultants to fill their Information Technology service needs.
- **Maritime Logistical Software** includes companies that design and publish supply chain management and logistics software that manage and assist third-party logistics (3PL) providers; freight forwarders; air-, land- and maritime-based cargo companies; exporters; importers; and all related supply chain management operations in reducing errors and improving efficiency. As the competitiveness of river freight increases with the expansion of the Panama Canal and the Foreign Trade Zone designation, so does the importance of having advanced systems in place to handle the coordination of multi-modal supply chain networks. West Kentucky's large river transportation sector makes it an attractive location for the development of related software.
- **Web Design & Software** refers to the design, development, and optimization of websites and internet-based products. It specifically includes web and app development, user experience design, interface design, search engine optimization and other aspects of code writing. A company's online presence is often among the most important and effective means of communicating with its consumers, and its importance will continue to increase as online marketing and e-commerce grows.

TOP OCCUPATIONS (SOC CODE)

- Telecommunications Equipment Installers and Repairers, Except Line Installers (49-2022)
- Customer Service Representatives (43-4051)
- Sales Representatives, Services, All Other (41-3099)
- Software Developers, Applications (15-1132)
- Computer User Support Specialists (15-1151)
- Telecommunications Line Installers and Repairers (49-9052)
- General and Operations Managers (11-1021)
- Network and Computer Systems Administrators (15-1142)
- Computer Systems Analysts (15-1121)
- Computer Network Support Specialists (15-1152)

SWOT

STRENGTHS / ASSETS

- The West Kentucky region has diverse industries requiring Information Technology services and systems—especially agriculture, manufacturing, and healthcare.
- Home to the only 1 Million Cups chapter in Kentucky (Hopkins County).
- Existence of co-working spaces such as the Innovation Station in Madisonville; Share, the innovation lab in Paducah; and the WKCTC incubator.
- The Kentucky Innovation Network is increasing access and awareness for programs and opportunities
- Success of large, homegrown companies such a CSI and smaller startups such as TapLogic, PC Precision Management and Consulting and Integrity Ag Group demonstrates the viability of Information Technology in the region.

WEAKNESSES

- The region currently has limited workforce and training resources to develop advanced IT-related skills.
- Because many young people leave West Kentucky after completing school, it can currently be challenging to retain younger, skilled IT professionals and present the region as an attractive location to grow this sector.

OPPORTUNITIES

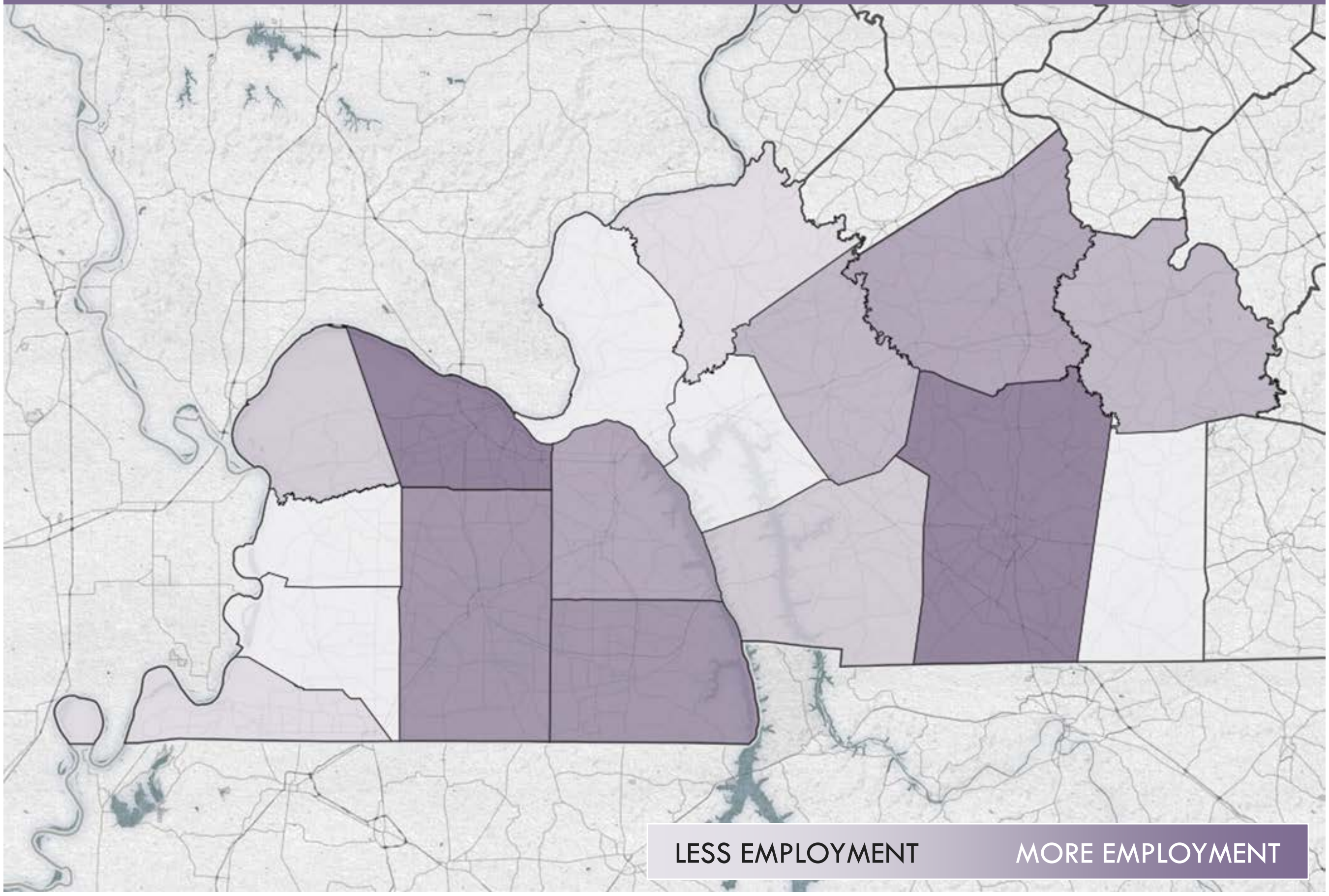
- The region could benefit from better alignment of innovation and small business development resources.
- Increasing rural-sourcing of IT jobs across the country, presents an opportunity for West Kentucky to benefit from its relative affordability and high quality of life.
- Increased awareness of education and career paths in Information Technology will help connect residents to jobs.

THREATS

- If broadband internet speeds are not improved, it could limit the region's ability to build and support Information Technology businesses.

GEOGRAPHIC DISTRIBUTION

INFORMATION TECHNOLOGY EMPLOYMENT, 2015



LOGISTICS & DISTRIBUTION

SECTOR OVERVIEW

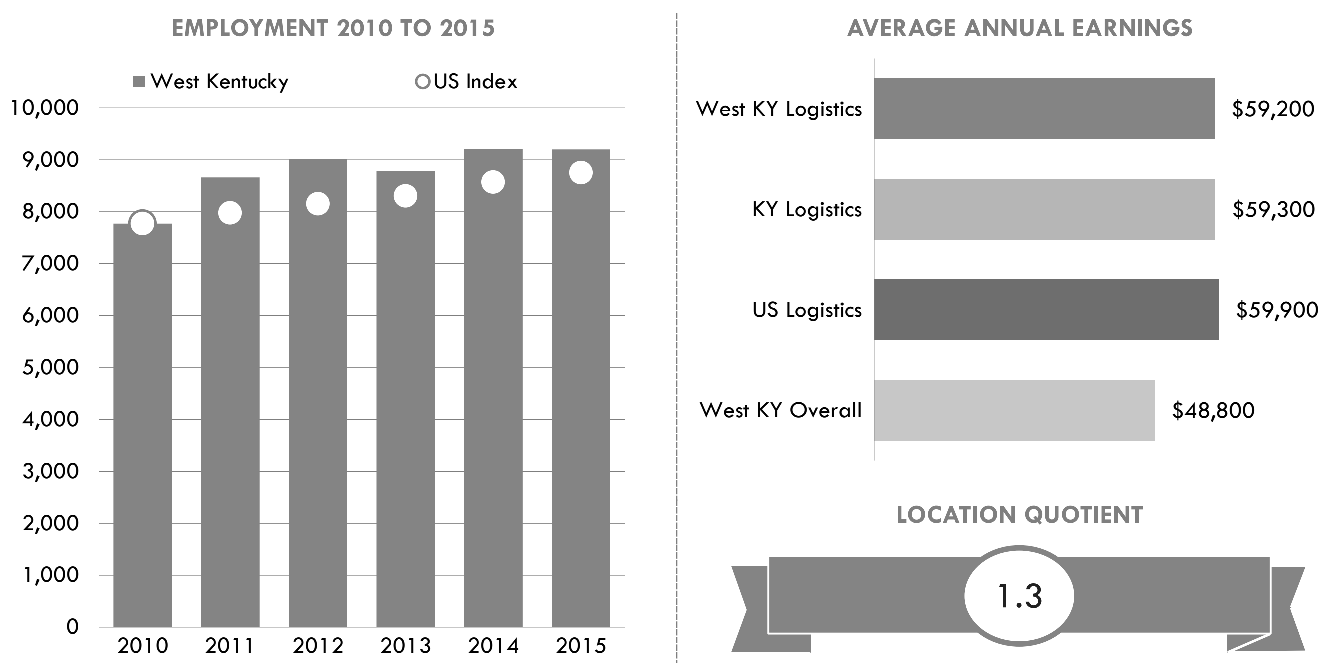
Logistics & Distribution encompasses a wide array of activities involved in the obtaining, storing and moving of goods to the locations where they are needed. It is a highly competitive, cost-driven sector that includes wholesale trade, air transportation, rail transportation, water transportation, truck transportation, support activities for transportation, and warehousing and storage.

In recent years, the Logistics & Distribution sector has experienced tremendous growth as a result of a domestic manufacturing resurgence and the dramatic increase in e-commerce. While freight traffic has surged, rising distribution costs and the demand for real-time information are putting an even stronger focus on the role of technology in this sector.

A well-developed infrastructure network-including rail, water, air and road-is a critical component of a successful Logistics & Distribution sector, as well as access to growing population centers. Logistics & Distribution operations also rely on workers trained and certified in a variety of occupations, especially truck drivers, forklift operators, and riverboat hands and captains. A big piece of maritime logistics includes the maintenance and repair of river vessels, which creates a high-demand for welders. West Kentucky's transportation assets (highway, rail, and water-based transport) are a major advantage for Logistics & Distribution operations. The region is also in close proximity to two of the country's busiest air cargo hubs (Memphis International Airport and Louisville International Airport). The development of the IH-69 corridor will additionally connect the region to Canada and Mexico.

Technology is also playing an increasingly role in Logistics & Distribution operations, creating increased demand for workers capable of using new equipment and technology at operational centers and on distribution vehicles.

FIGURE 13. SECTOR TRENDS: LOGISTICS & DISTRIBUTION



Source: EMSI 2016.1 – QCEW Employees, Non-QCEW Employees, and Self-Employed, Avalanche Consulting, TIP Strategies.
Note: West Kentucky Overall shows average earnings across all industries. Comparable earnings data were not available for all sectors.

NICHE SECTORS

- **Cold Storage** includes the temporary warehousing and storage of perishable products in refrigerated facilities. The global distribution of perishable products continues to grow rapidly, covering fresh foods, flowers, and other temperature sensitive goods. Rapid growth in demand for storage facilities in the cold supply chain network means that there are not enough facilities currently available across the globe. West Kentucky's geographic location, large agricultural base, and existing distribution networks make it a competitive location for Cold Storage operations.
- **Corporate Distribution Centers** are the main logistical coordination facilities for large corporations, i.e. Walmart, Dollar General, or Rite Aid. These distribution centers are used to receive, temporarily store, and redistribute goods according to demand, and are geographically positioned to help support a company's growth within a particular market. Established infrastructure and access to large population centers make West Kentucky a strong candidate for distribution.
- **eCommerce Fulfillment Centers** are dedicated to filling orders made on the internet and are known for shipping packages directly to consumers quickly and efficiently. These fulfillment centers are located to best serve consumer demand and can be owned outright by a particular company or by a third party. Established infrastructure and access to large population centers make West Kentucky a strong candidate for fulfillment centers.
- **Maritime Support Services** includes a range of riverport activities–boat repair and maintenance, freight loading and unloading, and all other services that support water transportation activities. The presence of numerous port facilities; major companies such as James Marine, Ingram Barge Company, and Marquette Transportation; and unique training facilities such as the Center for Maritime Education offer opportunities for growth in West Kentucky.
- **River Distribution** has typically been used to distribute much of the nation's agricultural and mineral bulk commodities and some chemicals. The rising cost of truck distribution due to traffic congestion and deterioration of many highways has contributed to a resurgence in river freight traffic in recent years. Coupled with the expansion of the Panama Canal and the push by the Mississippi River Consortium for container-on-barge traffic, this is accelerating utilization of our nation's inland waterways for distribution. As home to the northernmost, ice-free port in North America, West Kentucky is already benefiting from its geographic position as the waterway link between the Great Lakes, Canada, Mexico, and the Gulf.
- **Truck Transportation** is responsible for handling more than 9.2 billion tons of freight annually and is considered the predominant mode of transportation across most of the US. Advancements in technology have greatly improved the efficiency of the sector, but it is now facing a shortage of drivers in the long-haul segment. If able to prepare enough truck drivers, West Kentucky would be a strong candidate for growth in Truck Transportation with its multi-modal transportation network and central geographic location.

TOP OCCUPATIONS (SOC CODE)

- Heavy and Tractor-Trailer Truck Drivers (53-3032)
- Laborers and Freight, Stock, and Material Movers, Hand (53-7062)
- Captains, Mates, and Pilots of Water Vessels (53-5021)
- Sailors and Marine Oilers (53-5011)
- Industrial Truck and Tractor Operators (53-7051)
- Light Truck or Delivery Services Drivers (53-3033)
- Bus and Truck Mechanics and Diesel Engine Specialists (49-3031)
- First-Line Supervisors of Transportation and Material-Moving Machine and Vehicle Operators (53-1031)
- Machine Feeders and Offbearers (53-7063)
- First-Line Supervisors of Helpers, Laborers, and Material Movers, Hand (53-1021)

SWOT

STRENGTHS / ASSETS

- The region's geographical location gives access to more than 65% the nation's population within a 600-mile area.
- Kentucky serves as the waterway link between the Great Lakes, Canada, Mexico and the deep-draft ports of New Orleans and Mobile.
- The region has numerous public and private riverports with available capacity, including the Paducah-McCracken County Riverport–home of the newly awarded FTZ, a flat-top crane, and the northernmost ice-free inland port in America.
- The region has Class I railway access provided by CSX Transportation, Canadian National (CN), Burlington Northern-Santa Fe (BNSF), and Class II Rail service provided by Paducah and Louisville (PAL).
- The region is crossed by numerous interstate and other highways that provide ready logistical access to all parts of the country.
- Major companies including: Paschall Truck Lines, James Marine, Ingram Barge Company, Henry A Petter Supply Company, Marquette Transportation, ADM and Schwarz Supply Source.
- Unique training facilities like the Seamen's Church Institute's Center for Maritime Education that trains over 1,000 mariners each year, as well as the Inland Marine & Logistics Institute at West Kentucky Community and Technical College.

WEAKNESSES

- Many students are currently unaware of potential career paths in the river industries.

OPPORTUNITIES

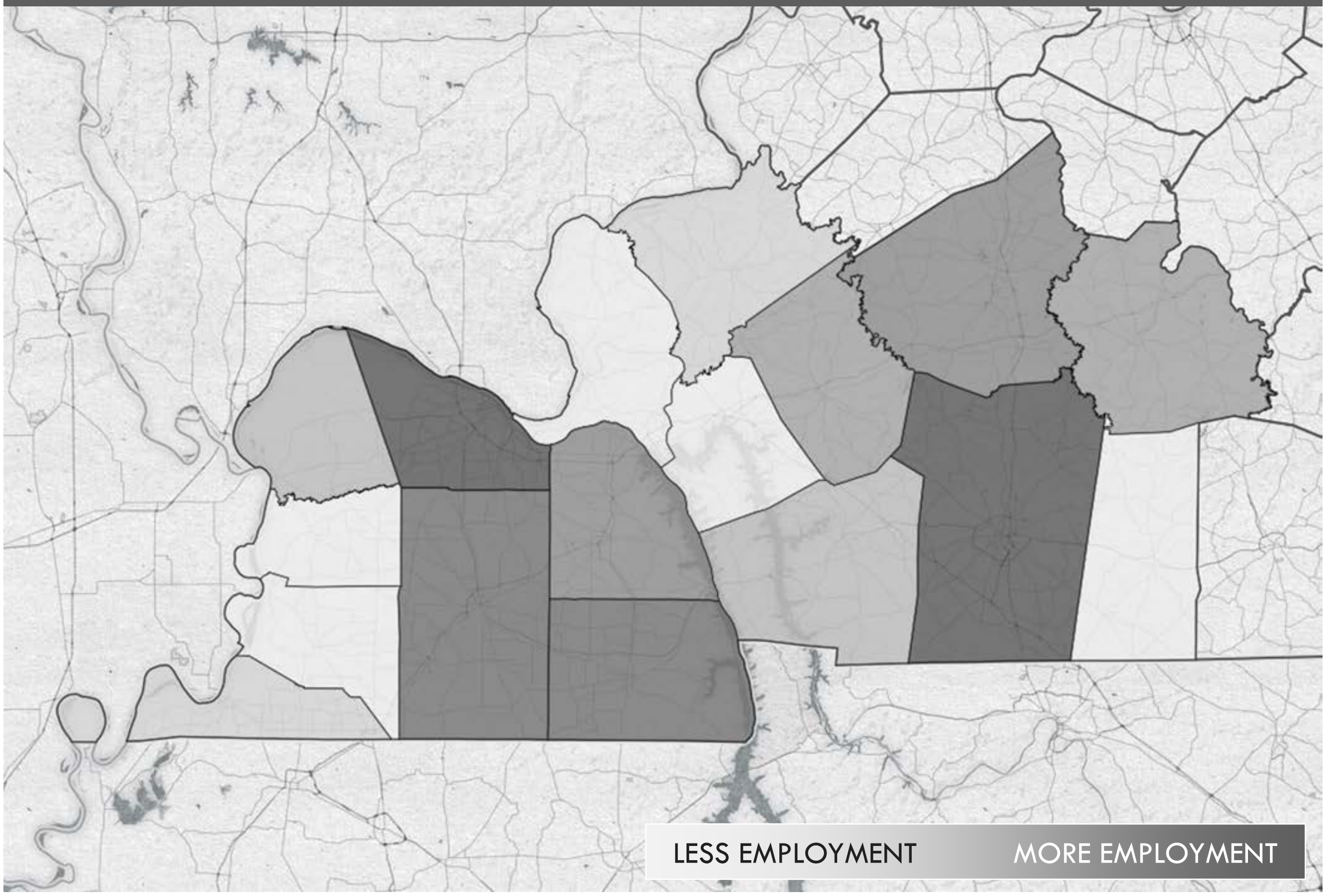
- Information Technology is playing an even larger role in Logistics & Distribution and could create new career opportunities for region.
- West Kentucky has the potential to develop cold storage warehousing by leveraging its location between the two major airfreight hubs of Memphis and Louisville.
- Potential for growth in assembly and trade with establishment of Foreign Trade Zone, Panama Canal Expansion and I-69 completion.
- Utilize KY FAME program to strengthen future Logistics & Distribution workforce and interest in the sector.
- Developing training programs and informational marketing to address shortages in material handlers and forklift and equipment operators.
- Increased involvement in the Mississippi River Cities and Town Initiatives could help support sector growth.

THREATS

- Limited State of Kentucky support for riverport development and upgrade could limit future growth in river transportation.
- The high-cost of constructing cold storage facilities could prevent new operations from opening in West Kentucky.

GEOGRAPHIC DISTRIBUTION

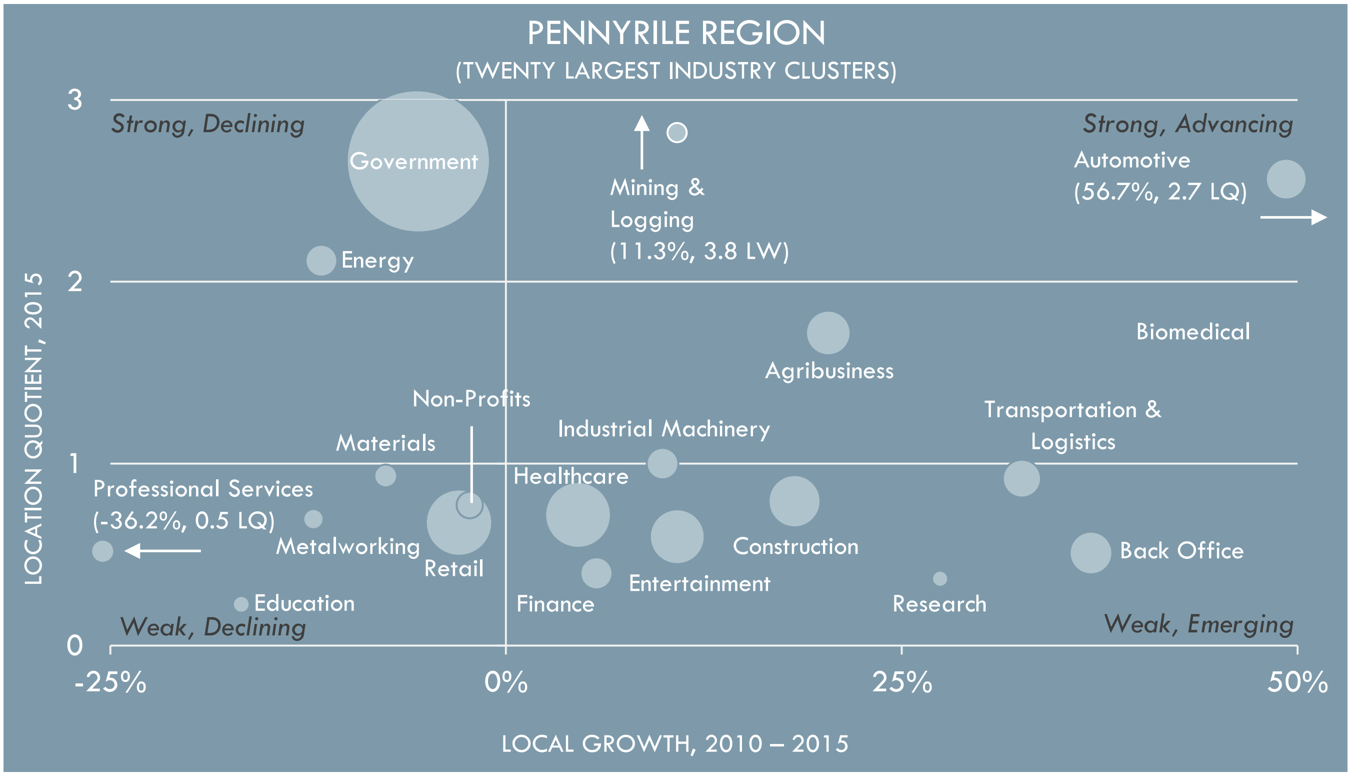
LOGISTICS & DISTRIBUTION EMPLOYMENT, 2015



REGIONAL CLUSTER TRENDS

PENNYRILE REGION CLUSTER TRENDS

FIGURE 14. PENNYRILE REGION INDUSTRY CLUSTER BUBBLE CHART



Source: EMSI 2016.1 – QCEW Employees, Non-QCEW Employees, and Self-Employed; Avalanche Consulting; TIP Strategies.
Note: Size of bubble indicates relative Employment base

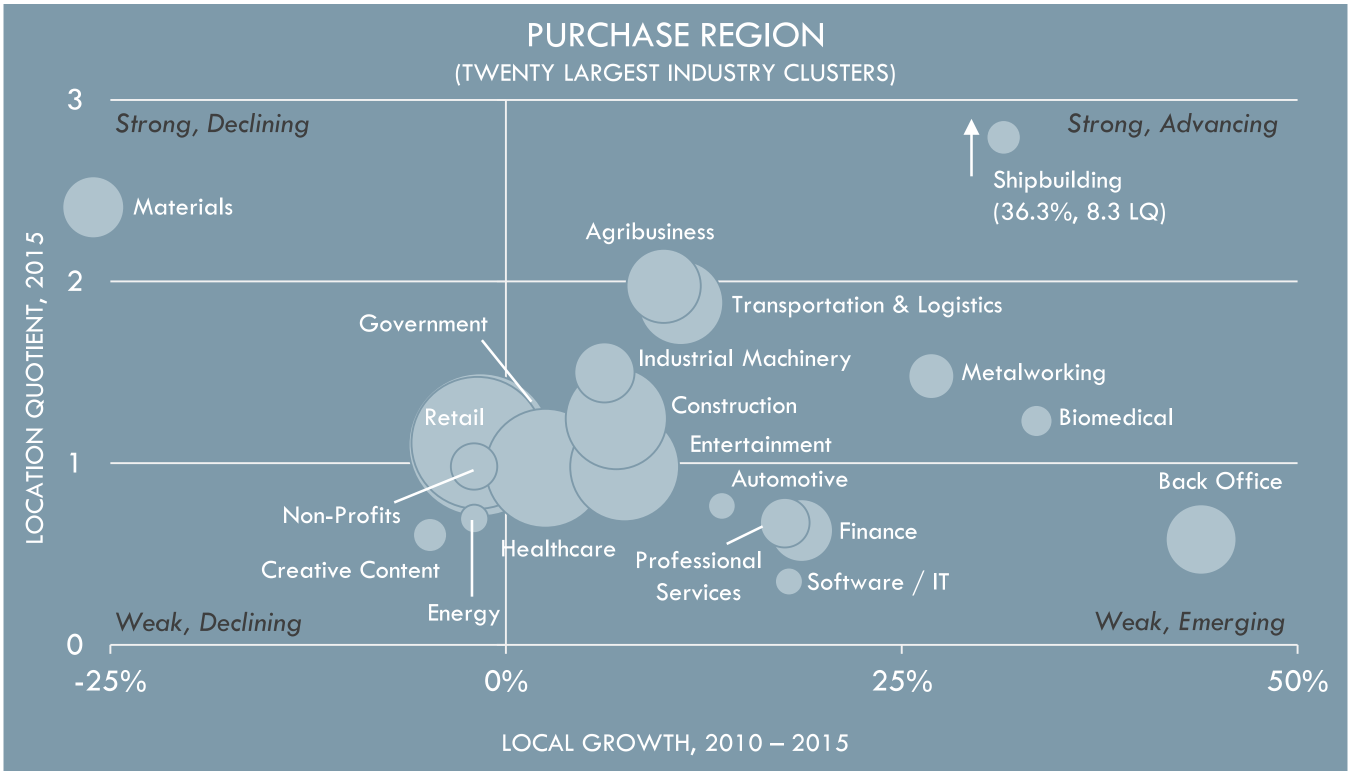
FIGURE 15. PENNYRILE REGION INDUSTRY CLUSTER TRENDS

CLUSTER	2015 EMPLOYMENT	2010–2015 % GROWTH	LOCATION QUOTIENT
Government	48,873	-5.5%	2.7
Retail	10,444	-3.0%	0.7
Healthcare	10,319	4.5%	0.7
Entertainment	7,137	10.8%	0.6
Construction	6,442	18.2%	0.8
Agribusiness & Food	4,708	20.3%	1.7
Back Office	4,310	37.0%	0.5
Transportation & Logistics	3,442	32.6%	0.9
Automotive	2,596	56.7%	2.7
Finance	2,442	5.7%	0.4
Energy	2,403	-11.7%	2.1
Industrial Machinery	2,379	9.9%	1.0
Non-Profits	1,664	-2.3%	0.8
Professional Services	1,621	-36.2%	0.5
Materials	1,253	-7.6%	0.9
Metalworking	968	-12.2%	0.7
Education	667	-16.7%	0.2
Mining & Logging	652	11.3%	3.8
Research	618	27.4%	0.4
Apparel & Textiles	611	-27.1%	1.4
Aerospace	607	34.3%	1.7
Consumer Goods Manufacturing	529	1.0%	1.0
Creative Content	495	-11.8%	0.3
Electronics	416	-3.5%	0.2
Software / Info. Tech.	331	-29.0%	0.2
Telecom Services	290	30.0%	0.5
Shipbuilding	109	78.7%	1.0
Furniture	74	0.0%	0.2
Biomedical	20	0.0%	0.0

Source: EMSI 2016.1 – QCEW Employees, Non-QCEW Employees, and Self-Employed; Avalanche Consulting; TIP Strategies.

PURCHASE REGION CLUSTER TRENDS

FIGURE 16. PURCHASE REGION INDUSTRY CLUSTER BUBBLE CHART



Source: EMSI 2016.1 – QCEW Employees, Non-QCEW Employees, and Self-Employed; Avalanche Consulting; TIP Strategies.
Note: Size of bubble indicates relative Employment base

FIGURE 17. PURCHASE REGION INDUSTRY CLUSTER TRENDS

CLUSTER	2015 EMPLOYMENT	2010–2015 % GROWTH	LOCATION QUOTIENT
Government	16,254	-1.6%	1.1
Retail	13,835	-1.8%	1.1
Healthcare	11,254	2.5%	1.0
Entertainment	9,408	7.5%	1.0
Construction	8,138	7.0%	1.2
Transportation & Logistics	5,685	11.0%	1.9
Agribusiness & Food	4,360	10.0%	2.0
Back Office	3,953	43.9%	0.6
Finance	3,120	18.7%	0.6
Industrial Machinery	2,872	6.2%	1.5
Materials	2,611	-26.0%	2.4
Professional Services	1,951	17.6%	0.7
Non-Profits	1,704	-2.0%	1.0
Metalworking	1,658	26.9%	1.5
Creative Content	911	-4.8%	0.6
Biomedical	805	33.5%	1.2
Shipbuilding	698	36.3%	8.3
Energy	634	-2.0%	0.7
Software/Info. Tech.	607	17.9%	0.3
Automotive	600	13.6%	0.8
Education	575	-24.4%	0.2
Consumer Goods Manufacturing	526	-46.3%	1.2
Research	490	29.3%	0.4
Electronics	474	41.9%	0.3
Telecom Services	358	16.0%	0.7
Apparel & Textiles	158	0.0%	0.5
Furniture	73	-11.0%	0.2
Mining & Logging	73	35.4%	0.5

Source: EMSI 2016.1 – QCEW Employees; Avalanche Consulting; TIP Strategies.

WORKFORCE ANALYSIS

Ensuring the availability of a skilled workforce is central to the success of the Regional Growth Strategy. This section provides a detailed analysis of the West Kentucky workforce. It includes the following elements:

- *Regional profile.* Basic demographic and socioeconomic data for the 17-county region.
- *Occupational analysis.* An overview of the region's occupational structure, including an analysis of demand occupations.
- *Education & Training.* A review of publicly available information on education and training.

To supplement the analysis, data for West Kentucky's two area development districts as well as each of the 17 counties that comprise the region are presented in Appendix 1. The workforce analysis relies on three federal classification systems–the North American Industrial Classification System (NAICS), the Standard Occupational Classification System (SOC), and the Classification of Instructional Programs (CIP)–which are described in 0.

REGIONAL PROFILE

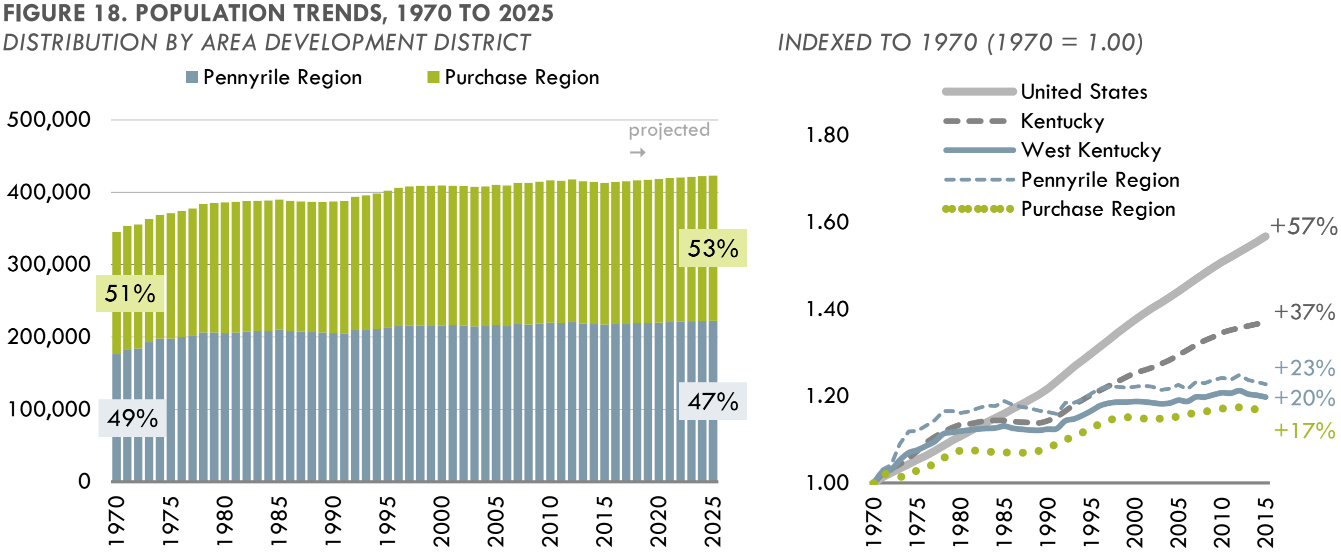
This section provides a general overview of the 17-county region with comparisons to the state and the US where applicable. Topics addressed include population trends, demographic characteristics, commuting patterns, migration patterns and labor market statistics. Where applicable, statistics for the Pennyrile and Purchase Regions are provided.

DEMOGRAPHICS

West Kentucky is home to nearly 413,000 residents, with the population split roughly evenly between the two area development districts. The Pennyrile Region added residents at a faster pace in the early 1970s than the Purchase Region, shifting from 51% of West Kentucky's population in 1970 to 53% by 1975. This share has varied little over four decades. Population growth in West Kentucky tracked the state fairly closely until the 1990s when Kentucky's growth rate accelerated. Since that point, the region has grown much more slowly than the state as a whole, adding just 20% to its population in 45 years compared with 37% for the state and 57% nationally.

Data from the American Community Survey provides detail on the region's demographics. Seniors make up a slightly larger share of the West Kentucky population than either the US or the state (Figure 19, page 63). Youth and young adults make up a similar share of the region's total population, leaving the share of residents of experienced working age (defined here as

FIGURE 18. POPULATION TRENDS, 1970 TO 2025



Sources: U.S. Census Bureau (population estimates), Moody's Analytics (population projections) those between the ages of 35 and 64) slightly below state and national levels. Both the region and the Kentucky as a whole are less diverse than the national average, with just 15 %or less of the population comprised of non-Hispanic whites, compared with 27% of the national population.

The Clarksville and Paducah areas show sharp differences from the state and US and from each another on these points. More than 50% of the population of the Clarksville metro area is under the age of 35. By contrast, nearly 60% of the Paducah micropolitan area is 35 years or older. Likewise, racial and ethnic diversity in the Clarksville metro area more closely mirrors the nation, while the Paducah area is more similar to the state and West Kentucky region.

West Kentucky residents are less likely to have extended their education beyond high school than either the state or US population according to the American Community Survey. More than one-half of adults in the region (52.4%) do not hold any credentials beyond a high school diploma. And one in roughly one in six (16.0%) did not finish high school or attain an equivalency. West Kentucky residents are also less likely than state or national averages to hold a four-year degree or higher. However, they are slightly more likely to have completed some college, a category which includes associate’s degrees.

LABOR MARKET INFORMATION

The civilian labor force of the 17-county region approached 170,000 workers in the most recent period. With the addition of key laborshed counties, Massac County (IL) and Montgomery County (TN), this figure surpasses 250,000. Unemployment rates for the West Kentucky region have remained consistently above state and national levels for the past two decades. In the period leading up to the most recent recession, however, unemployment levels in West Kentucky and the state began to rise at a faster rate. This gap has narrowed in recent years.

Labor force participation rates compare the portion of the workforce that is employed or looking for work with the population that is labor-force eligible (defined here as those 16 years or older). West Kentucky rates are well below the US average, with some counties having less than one-half of working-age residents in the labor force. Participation often reflects an area’s demographics. For example, an area with an above-average share of retirees would have below-average rates (since these individuals would still be considered labor-force eligible). High levels of unemployment can also influence this statistic, as chronic unemployment can result in the growth in the number of discouraged workers, (those who are labor force eligible but who have stopped actively looking for work).

FIGURE 19. SELECTED DEMOGRAPHIC CHARACTERISTICS

	WEST KENTUCKY	KENTUCKY	US	CLARKSVILLE METRO AREA	PADUCAH MICRO AREA
Age structure					
Youth (0-19)	25.7%	25.9%	26.3%	30.3%	24.0%
Young adults (20-34)	19.9%	19.9%	20.6%	27.1%	16.7%
Experienced working age (35-64)	38.2%	40.1%	39.3%	33.2%	41.4%
Seniors (65+)	16.3%	14.0%	13.7%	9.5%	17.9%
Race/ethnicity					
White, non-Hispanic	85.4%	85.8%	62.8%	67.7%	86.7%
Hispanic (all races)	3.1%	3.2%	16.9%	8.0%	2.1%
Black, non-Hispanic	8.4%	7.8%	12.2%	18.2%	8.4%
Asian, non-Hispanic	0.8%	1.2%	4.9%	1.8%	0.8%
Other	2.3%	2.0%	3.1%	4.3%	2.1%
Educational attainment (pop. 25+ years)					
Less than high school	16.0%	16.5%	13.7%	10.9%	14.3%
High school/GED	36.4%	33.7%	28.0%	31.6%	33.5%
Some college (incl. associate's)	30.7%	28.0%	29.1%	36.1%	32.8%
Bachelor's or higher	16.8%	21.8%	29.3%	21.4%	19.5%

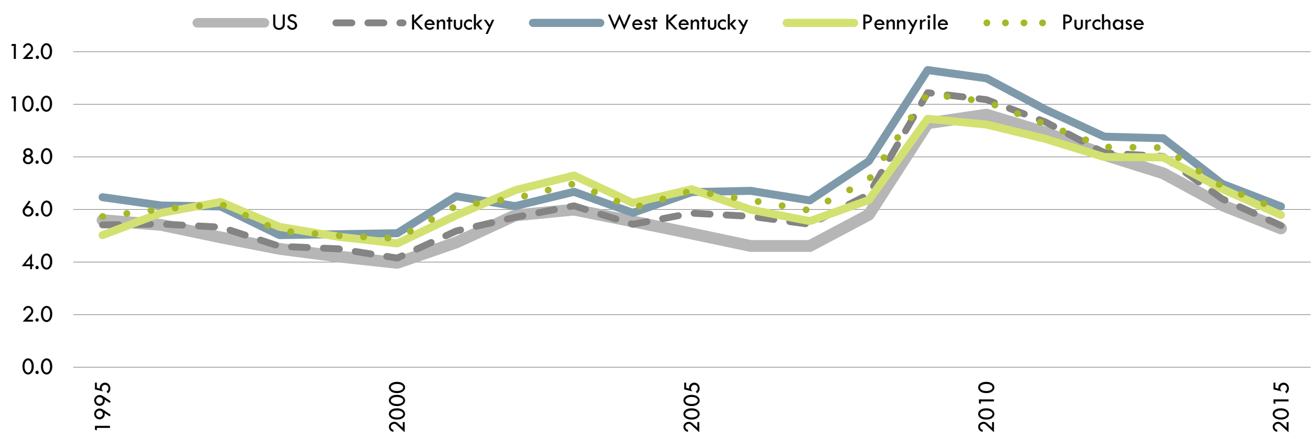
Source: 2010-2014 American Community Survey 5-Year Estimates (DP-03). Note: Highest and lowest values are highlighted for each variable.

FIGURE 20. LABOR MARKET OVERVIEW, APRIL 2016

GEOGRAPHY	CIVILIAN LABOR FORCE	EMPLOYED	UNEMPLOYED	UNEMPLOYMENT RATE		
				Apr-16	*Apr-15*	*12-Month Chg.*
US	158.9 million	151.0 million	7.9 million	5.0	5.4	▼ -0.4
Kentucky	1,982,338	1,876,515	105,823	5.3	5.3	+0.0
West Kentucky Region	169,764	159,611	10,153	6.0	5.8	▲ +0.1
Pennyrile Region	83,688	78,628	5,060	6.0	6.0	▲ +0.1
Purchase Region	86,076	80,983	5,093	5.9	5.7	▲ +0.2

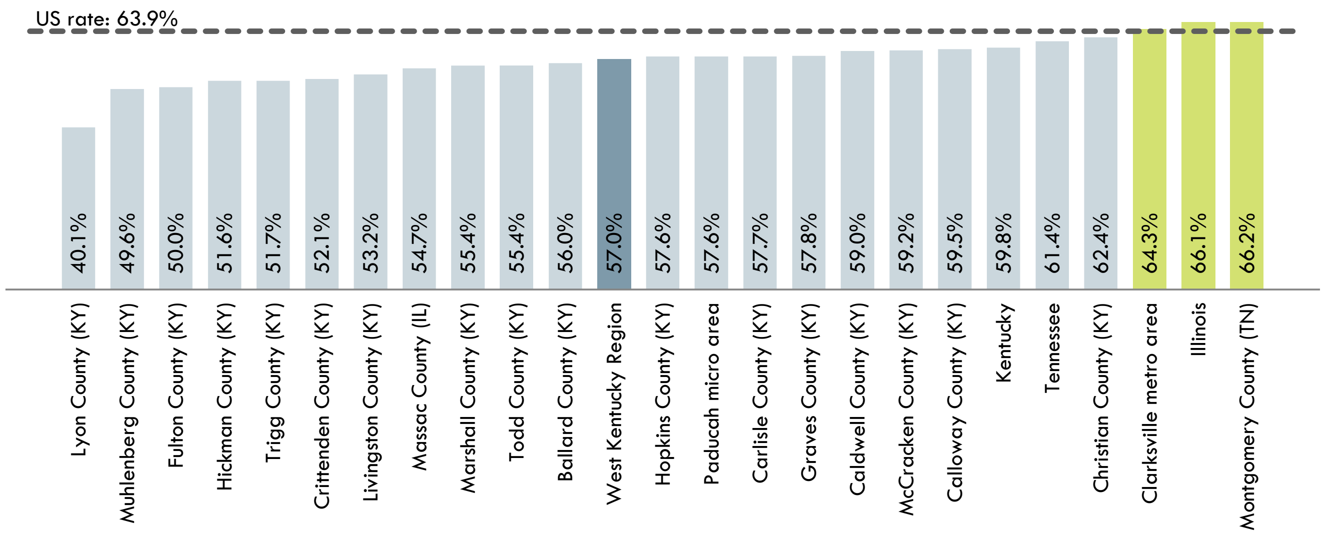
Source: US Bureau of Labor Statistics, Local Area Unemployment Series (state and local) and Current Population Survey (US) accessed via Moody's Analytics.

FIGURE 21. ANNUAL AVERAGE UNEMPLOYMENT, 1990 – 2015



Source: US Bureau of Labor Statistics, Local Area Unemployment Series (state and local) and Current Population Survey (US) accessed via Moody's Analytics.

FIGURE 22. LABOR FORCE PARTICIPATION RATE
SHARE OF POPULATION AGE 16 YEARS AND OVER IN LABOR FORCE



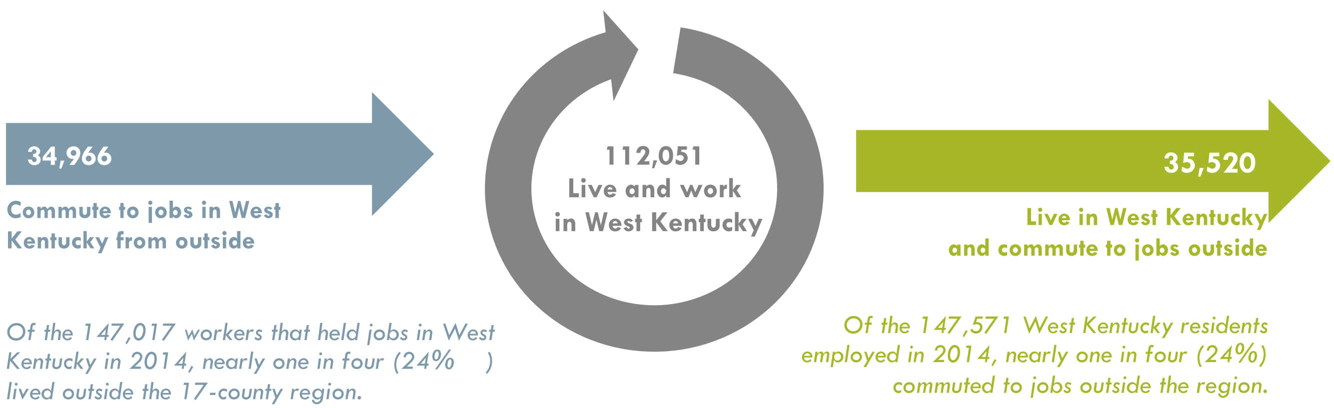
Source: Calculated by TIP Strategies using 2010-2014 American Community Survey 5-Year Estimates (DP-03). Rates above US average are highlighted.

COMMUTING PATTERNS

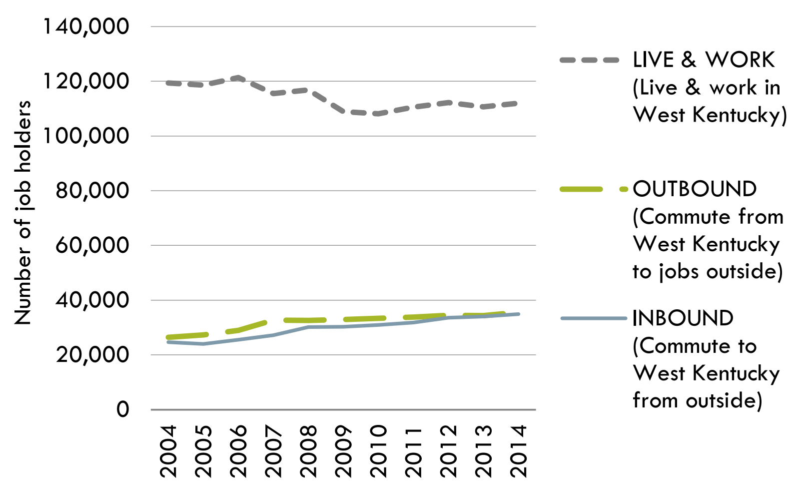
West Kentucky's labor market is relatively self-contained (Figure 23, top). According to data compiled as part of a state-federal partnership, three out of four workers (76%) lived in the 17-county region in 2014. This figure represents a decrease since 2004, when 82% of the region's workforce (roughly four out of five workers) was supplied locally. The West Kentucky region experienced an increase in outbound commuting in the mid-2000s. This gap has narrowed in recent years due to an uptick in the number of inbound commuters (Figure 23, bottom).

Like most areas of the country, workers are driving longer distances between work and home (Figure 24, page 66). Between 2004 and 2014, the share of the region's workforce that traveled more than 50 miles to their place of employment rose by 5%. McCracken, Christian, and Hopkins Counties represent the top three counties for employment and place of residence within the West Kentucky region. However, workers circulate throughout the 17 counties, with more than 38,000 employed residents crossing county lines for employment within the region in 2014.

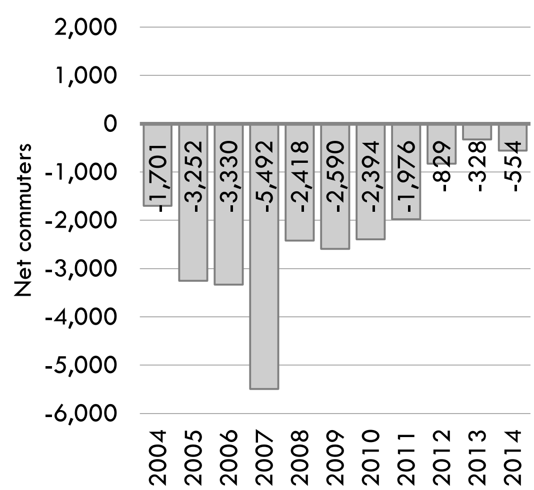
FIGURE 23. COMMUTING FLOWS, 2014
INFLOW/OUTFLOW FOR 17-COUNTY WEST KENTUCKY REGION



LONG-TERM TRENDS BY TYPE OF COMMUTER
(outbound, inbound, internal)



NET FLOWS
(inbound minus outbound)

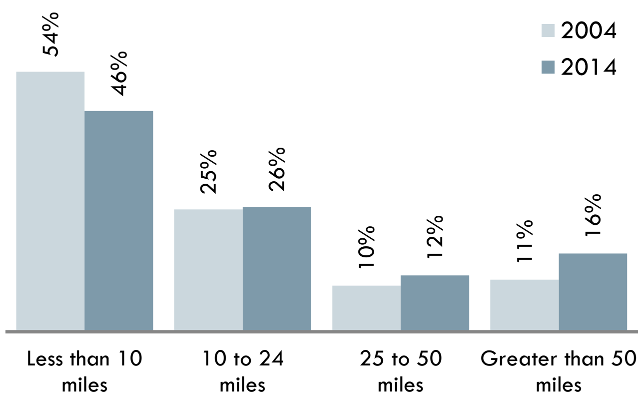


Source (all figures this page): US Census Bureau, Local Employment Dynamics; TIP Strategies. Note: Overlay arrows in inflow/outflow graphic are for illustrative purposes and do not indicate directionality of worker flow between home and employment locations.

FIGURE 24. SOURCES/DESTINATIONS OF COMMUTING FLOWS

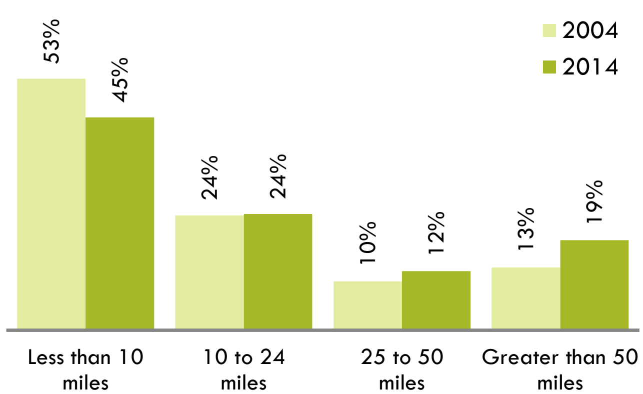
*PEOPLE WHO **WORK** IN WEST KENTUCKY*

DISTANCE TRAVELED



*EMPLOYED PEOPLE WHO **LIVE** IN WEST KENTUCKY*

DISTANCE TRAVELED



*WHERE WEST KENTUCKY **WORKERS** LIVE*
TOP 20 COUNTIES

	County	Count	Share
1	McCracken County, KY	21,358	14.5%
2	Christian County, KY	14,839	10.1%
3	Hopkins County, KY	12,916	8.8%
4	Graves County, KY	11,506	7.8%
5	Calloway County, KY	10,895	7.4%
6	Marshall County, KY	10,610	7.2%
7	Muhlenberg County, KY	6,933	4.7%
8	Caldwell County, KY	4,017	2.7%
9	Montgomery County, TN	3,808	2.6%
10	Trigg County, KY	3,289	2.2%
11	Livingston County, KY	2,708	1.8%
12	Crittenden County, KY	2,410	1.6%
13	Ballard County, KY	2,386	1.6%
14	Todd County, KY	2,224	1.5%
15	Massac County, IL	2,183	1.5%
16	Jefferson County, KY	1,949	1.3%
17	Lyon County, KY	1,766	1.2%
18	Carlisle County, KY	1,742	1.2%
19	Daviess County, KY	1,732	1.2%
20	Warren County, KY	1,425	1.0%
	All Other Locations	26,321	17.9%
	Total	**147,017**	**100.0%**

*WHERE EMPLOYED WEST KENTUCKY **RESIDENTS** WORK*
TOP 20 COUNTIES

	County	Count	Share
1	McCracken County, KY	27,689	18.8%
2	Christian County, KY	16,962	11.5%
3	Hopkins County, KY	12,655	8.6%
4	Calloway County, KY	12,379	8.4%
5	Marshall County, KY	9,221	6.2%
6	Graves County, KY	8,776	5.9%
7	Muhlenberg County, KY	6,187	4.2%
8	Jefferson County, KY	4,883	3.3%
9	Caldwell County, KY	3,568	2.4%
10	Daviess County, KY	2,824	1.9%
11	Trigg County, KY	2,506	1.7%
12	Livingston County, KY	2,166	1.5%
13	Warren County, KY	1,956	1.3%
14	Ballard County, KY	1,950	1.3%
15	Montgomery County, TN	1,818	1.2%
16	Lyon County, KY	1,816	1.2%
17	Fayette County, KY	1,812	1.2%
18	Henderson County, KY	1,740	1.2%
19	Crittenden County, KY	1,712	1.2%
20	Todd County, KY	1,456	1.0%
	All Other Locations	23,495	15.9%
	Total	**147,571**	**100.0%**

Source (all figures this page): US Census Bureau, Local Employment Dynamics; TIP Strategies.

A look at cross-region commuting flows by county and area development district (Figure 25) points to the interconnected nature of the region and the extent of its shared workforce. The substantial movement of workers among the West Kentucky counties is apparent. With few exceptions, each county sends workers to the majority of the other counties in the region. Although not explicitly tallied in the figure below, more than 38,000 workers crossed county lines within the region for employment in 2014.

Several counties draw in workers from virtually every corner of West Kentucky. These major employment centers include McCracken, Christian, Hopkins, Graves, Marshall, and Calloway Counties. With the exception of these counties, circulation is slightly less prominent across area development districts. In other words, Pennyrile Region residents are more likely to work in one of the Pennyrile Region counties and Purchase Region residents are more likely to work in one of the Purchase Region counties.

In terms of commuting flow by industry (Figure 26, page 68), the Transportation & Warehousing sector has the largest net inflow of workers on a regional basis. The sector has experienced relatively steady increases in net commuting flows over the decade, as has the Professional, Scientific, & Technical Services sector. For other sectors, including Retail Trade, Healthcare & Social Assistance, and Construction, net flows have been more volatile.

At the other end of the spectrum, the Manufacturing sector had the largest net outflow of commuters from the region in 2014, although the trend has been largely positive in recent years. While this uptick in Manufacturing flows could be the result of a net gain in the sector's employment in the region, it could also reflect a decrease in employment in the sector outside West Kentucky. Other sectors with primarily negative commuting flows include the Administrative Support and Waste Management. However, unlike Manufacturing, this sector has largely trended downward since 2004.

FIGURE 25. COMMUTING FLOWS BY AREA DEVELOPMENT DISTRICT AND COUNTY, 2014

	LIVE IN																
	PENNYRILE REGION									PURCHASE REGION							
WORK IN	Caldwell	Christian	Crittenden	Hopkins	Livingston	Lyon	Muhlenberg	Todd	Trigg	Ballard	Calloway	Carlisle	Fulton	Graves	Hickman	Marshall	McCracken
Caldwell	**1,994**	149	175	384	66	276	35	21	137	17	53	-	-	50	-	111	85
Christian	474	**12,431**	64	941	46	102	360	846	1,095	26	112	14	19	136	12	85	199
Crittenden	119	37	**1,133**	47	117	60	15	-	-	-	19	14	-	22	-	45	55
Hopkins	344	550	133	**9,923**	52	67	1,046	56	76	17	65	12	-	74	11	73	146
Livingston	69	17	284	15	**836**	124	12	-	20	31	44	34	-	79	-	343	244
Lyon	346	31	180	62	72	**715**	22	-	73	-	30	13	-	39	-	121	89
Muhlenberg	67	166	37	689	15	27	**4,931**	74	22	-	28	-	11	32	-	20	51
Todd	15	203	-	45	-	-	86	**1,048**	22	-	-	-	-	-	-	-	-
Trigg	178	328	16	86	14	71	15	36	**1,530**	-	57	-	-	17	-	87	51
Ballard	-	-	-	20	-	-	-	-	-	**791**	28	169	-	175	32	71	648
Calloway	50	238	37	105	59	41	53	31	107	67	**8,466**	62	46	1,203	59	1,218	537
Carlisle	-	-	-	-	-	-	-	-	-	61	21	**469**	-	103	60	16	59
Fulton	-	-	-	15	-	-	-	-	-	-	42	35	**733**	212	136	26	57
Graves	17	89	16	63	18	11	57	20	21	94	521	248	132	**5,947**	215	475	832
Hickman	-	-	-	-	-	-	-	-	-	34	20	87	67	117	**535**	19	26
Marshall	119	69	105	94	354	202	55	14	94	126	582	70	19	696	32	**5,189**	1,401
McCracken	219	525	220	414	1,051	66	227	64	77	1,088	804	494	94	2,598	168	2,708	**16,872**

Source: US Census Bureau, Local Employment Dynamics; TIP Strategies.

FIGURE 26. COMMUTING FLOWS BY MAJOR INDUSTRY SECTOR, 2004 TO 2014
NET FLOWS (INBOUND MINUS OUTBOUND FLOWS) BY 2-DIGIT NAICS CODES

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	TREND
Transportation & Warehousing	-14	-106	31	480	786	762	571	1,147	1,389	1,406	1,573	
Prof., Scientific, & Technical Svcs.	106	102	82	214	124	-72	182	335	752	1,004	421	
Retail Trade	278	483	170	168	807	790	821	-50	38	158	316	
Health Care & Social Assistance	645	287	168	-419	485	197	495	111	-129	-31	213	
Construction	-507	-380	-407	-147	-115	-184	-257	218	53	-48	207	
Information	17	32	45	25	15	-36	-13	3	-3	30	46	
Agr., Forestry, Fishing & Hunting	-87	-78	-58	-96	-83	-12	-13	-51	5	-12	43	
Real Estate/Rental & Leasing	-71	-63	-105	-114	-67	-94	-108	-87	92	60	33	
Educational Services	155	-239	-30	-376	-106	-321	-307	-123	4	-41	-47	
Utilities	-56	-103	-74	-114	-83	-111	-82	-71	-130	-101	-51	
Accommodation & Food Services	185	136	34	-26	-248	245	84	-81	54	-194	-104	
Other Services (excl. Public Admin.)	2	-173	-139	-291	-192	-160	-185	-151	-190	-123	-142	
Mining, Quarrying, O&G	-82	-65	118	44	289	149	-396	-194	190	342	-153	
Arts, Entertainment, & Recreation	-311	-219	-287	-307	-277	-308	-267	-251	-236	-243	-178	
Mgmt. of Companies & Enterprises	-82	-133	-91	-114	-122	-217	-160	-179	-243	-197	-249	
Wholesale Trade	-186	-223	-353	-220	-171	-146	-16	-88	-207	-176	-364	
Finance and Insurance	-275	-323	-394	-359	-406	-440	-426	-387	-419	-430	-380	
Public Administration	-83	-145	-250	-405	-205	-424	-305	-364	-428	-487	-412	
Admin./Support & Waste Mgmt.	75	-26	-41	-520	-559	-370	-413	-783	-334	-657	-593	
Manufacturing	-1,410	-2,016	-1,749	-2,915	-2,290	-1,838	-1,599	-930	-1,087	-588	-733	

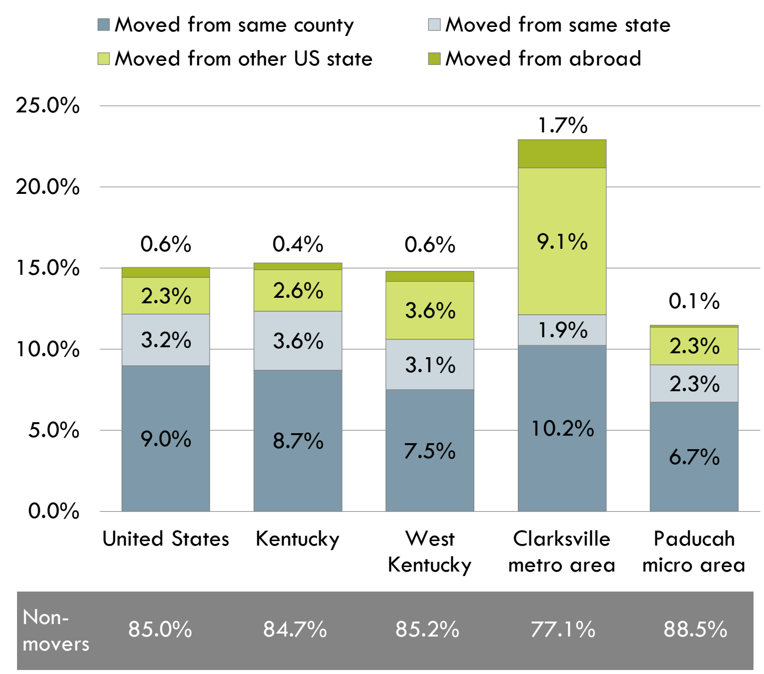
Source (all figures this page): US Census Bureau, Local Employment Dynamics; TIP Strategies.

MIGRATION

Only about 15% of the US population changes residences in a given year according to the American Community Survey. And less than 3% move across state lines or outside the US. West Kentucky residents move at roughly the same rate, however, they are slightly more likely than average to have moved to the region from a state other than Kentucky. Residents of the Clarksville metro area are much more mobile, both in terms of movement within the county and from outside the state, a pattern common to regions with active duty military. By contrast, Paducah area residents are less likely to have changed residences in the prior year.

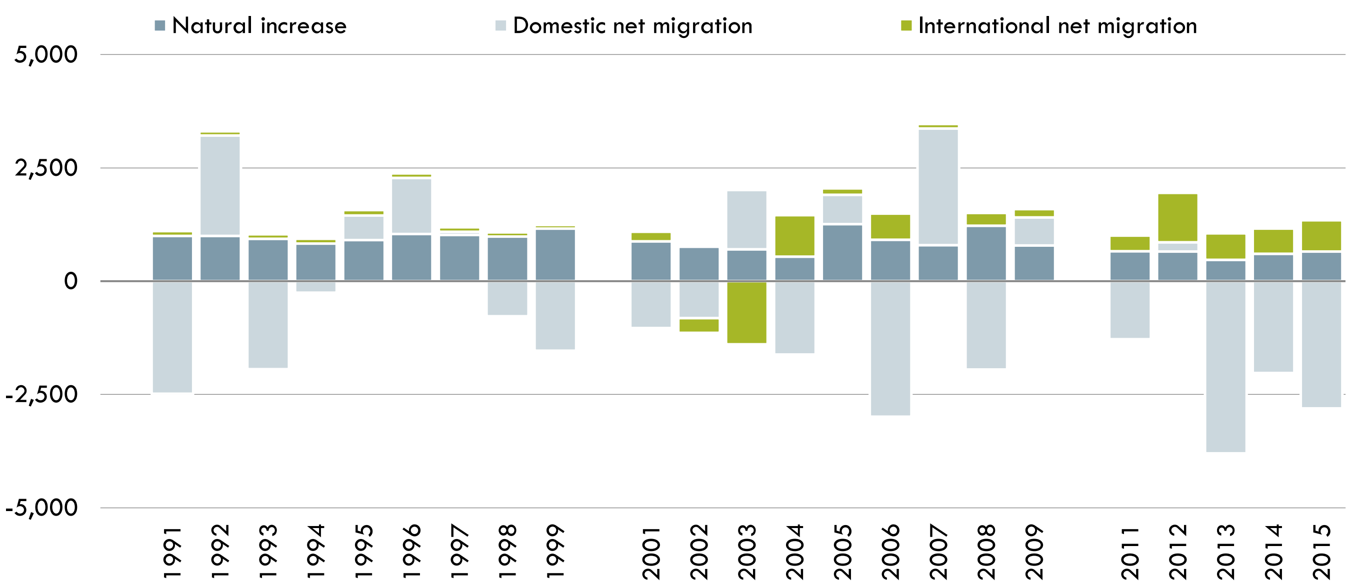
Estimates of the components of population change provide another indicator of the role of migration in the region. These data illustrate the share of population change from natural increase (more births than deaths) and net migration from within the US (domestic) and internationally. Annual estimates within a decade (called intercensal estimates) are typically superseded by figures from the decennial census. As a result, estimates from prior decades should be viewed with caution. However, a look at long-term trends is instructive. Unlike other demographic trends—which tend to

FIGURE 27. PLACE OF RESIDENCE ONE YEAR AGO
SHARE OF THE POPULATION AGE 1 YEAR AND OLDER



Source: 2010-2014 American Community Survey 5-Year Estimates

FIGURE 28. COMPONENTS OF POPULATION CHANGE, 17-COUNTY WEST KENTUCKY REGION



Source: US Census Bureau Population Estimates Program accessed via Moody's Analytics. Note: Intercensal estimates are superseded by decennial census results. Estimates from prior decades (1990 and 2000) are provided for reference only and should be viewed with caution.

shift in long waves, with only incremental changes from one year to the next–domestic migration tends to be much more volatile, often correlating with activities that are cyclical in nature, such as job growth and housing construction. This volatility can be seen in the components of change estimates shown in Figure 28 (page 69). The role of domestic net migration in West Kentucky has fluctuated over the last 25 years, with the largest level of positive gains from domestic migration coming in 2007. Although the trend in the most recent estimates is almost exclusively negative, with the region experiencing net losses of as many as 3,800 residents in a given year (2013).

Net international migration saw large fluctuations during the prior decade. It is likely, however, that the contribution of international migration to the region's population is largely a reflection of the movement of military personnel between the US and abroad. The impact of the winding down of military operations in Iraq and Afghanistan at the start of this decade can be seen the gains from net international migration during recent years.

One tool for understanding domestic migration patterns in greater detail is the County-to-County Migration data collected by the Internal Revenue Service as a byproduct of federal tax filings. Through this massive dataset, year-over-year comparisons of address changes by tax filers provide a basis for illustrating domestic population movements. Although not an exact match, tax returns are used to represent households. Figure 29 shows data for the 2013–2014 tax year for West Kentucky counties. A single year of data does not tell the complete story, however, it does point to a net outflow of residents from the region, with virtually every county losing more households to other counties than they gained. While it is highly likely some counties lost population to other counties in the region, the cumulative loss at the regional level was roughly 1,000 households during the year analyzed. Like the American Community Survey findings, the IRS data suggest greater circulation with other US states than with other counties in Kentucky. West Kentucky's proximity to multiple states and the presence of Fort Campbell help to explain this finding.

FIGURE 29. HOUSEHOLD MIGRATION FLOWS BY COUNTY AND SOURCE, 2013-2014 TAX YEAR
DISTRIBUTION OF MIGRATION FLOWS BY SOURCE (I.E., KENTUCKY, OTHER US, AND FOREIGN)

	IN-MIGRANTS				OUT-MIGRANTS				NET FLOWS
		DOMESTIC				DOMESTIC			
	TOTAL	*Kentucky*	*Other US*	FOREIGN	TOTAL	*Kentucky*	*Other US*	FOREIGN	
West Kentucky Region	**10,143**	**43%**	**54%**	–	**11,205**	**40%**	**59%**	–	-1,062
Pennyrile Region	**6,062**	**35%**	**62%**	**3%**	**6,848**	**31%**	**67%**	**1%**	-786
Caldwell County	252	77%	23%	–	262	75%	25%	–	-10
Christian County	3,575	13%	81%	6%	4,145	11%	87%	2%	-570
Crittenden County	179	65%	35%	–	166	67%	33%	–	+13
Hopkins County	674	68%	32%	–	807	58%	42%	–	-133
Livingston County	253	76%	24%	–	255	77%	23%	–	-2
Lyon County	216	66%	34%	–	181	67%	33%	–	+35
Muhlenberg County	398	71%	29%	–	414	73%	27%	–	-16
Todd County	212	49%	51%	–	286	46%	54%	–	-74
Trigg County	303	50%	50%	–	332	53%	47%	–	-29
Purchase Region	**4,081**	**57%**	**43%**	–	**4,357**	**53%**	**47%**	–	-276
Ballard County	175	69%	31%	–	192	71%	29%	–	-17
Calloway County	763	47%	53%	–	846	45%	55%	–	-83
Carlisle County	89	60%	40%	–	108	81%	19%	–	-19
Fulton County	132	39%	61%	–	155	45%	55%	–	-23
Graves County	680	64%	36%	–	690	58%	42%	–	-10
Hickman County	100	69%	31%	–	97	70%	30%	–	+3
Marshall County	685	67%	33%	–	690	65%	35%	–	-5
McCracken County	1,457	52%	48%	–	1,579	46%	54%	–	-122

Source: Internal Revenue Service, Statistical Information Office. Note: Figures are based on year-over-year changes in address on federal tax returns. Flows to or from APO/FPO ZIP Codes are characterized as "foreign" migration. Flows with fewer than 20 tax returns are suppressed. As a result, some counties may have a small amount of foreign migration not shown here.

The analysis of migration flows shown in Figure 29 also supports the assumption that international migration in the region is driven almost exclusively by Christian County and is likely to reflect the impact of defense actions. The IRS suppresses data for categories with fewer than 20 returns. As a result, other counties may have small numbers of tax filers coming from outside the US which are not reflected here. For example, county-level data from the American Community Survey not captured in regional totals points to slightly higher levels of international movers in Calloway County. The presence of Murray State provides a likely explanation for this difference.

In addition to data on the number of returns and exemptions, IRS migration data also aggregates the adjusted gross income (AGI) of filers. While not a perfect substitute for actual income, an analysis of the AGI of migrants can also help shed light on differences in income levels of households leaving an area relative to those moving in. During the 2013–2014 tax year, the differential between in-movers and out-movers was mixed (**FIGURE 30**). Several counties saw net inflows of residents with higher AGIs on balance. For example, households moving into Lyon County had income levels 32% higher on average than those leaving the county. By contrast, the AGI data suggest income levels of households moving into Marshall County were significantly lower than those moving out. Average AGI for in-migrant households in the year analyzed was just 73% of those moving out. Again, a single year of data is not conclusive evidence, but it does provide an indication of migration patterns.

FIGURE 30. HOUSEHOLD MIGRATION FLOWS BY COUNTY WITH AGI, 2013-2014 TAX YEAR
INCLUDING COMPARISON OF ADJUSTED GROSS INCOME (AGI) OF MOVERS BY DIRECTION (IN VS. OUT)

	IN-MIGRANT		OUT-MIGRANT		NET LOSS/GAIN	AGI/HH
	Households	*AGI/HH*	*Households*	*AGI/HH*	*In-Migrant HHs – Out-Migrant HHs*	*In:Out*
West Kentucky	**10,143**	**$35,824**	**11,205**	**$34,545**	**-1,062**	**1.04**
Pennyrile	6,062	$32,436	6,848	$32,036	-786	1.01
Caldwell County	252	$31,460	262	$32,794	-10	0.96
Christian County	3,575	$28,466	4,145	$30,107	-570	0.95
Crittenden County	179	$39,363	166	$31,313	+13	1.26
Hopkins County	674	$38,693	807	$38,600	-133	1.00
Livingston County	253	$33,277	255	$33,345	-2	1.00
Lyon County	216	$45,745	181	$34,718	+35	1.32
Muhlenberg County	398	$43,053	414	$33,976	-16	1.27
Todd County	212	$33,151	286	$30,675	-74	1.08
Trigg County	303	$37,446	332	$36,211	-29	1.03
Purchase	4,081	$40,857	4,357	$38,490	-276	1.06
Ballard County	175	$37,771	192	$33,630	-17	1.12
Calloway County	763	$34,564	846	$32,739	-83	1.06
Carlisle County	89	$32,506	108	$34,574	-19	0.94
Fulton County	132	$26,356	155	$22,387	-23	1.18
Graves County	680	$32,393	690	$34,209	-10	0.95
Hickman County	100	$26,680	97	$36,371	+3	0.73
Marshall County	685	$38,169	690	$44,393	-5	0.86
McCracken County	1,457	$52,533	1,579	$43,432	-122	1.21

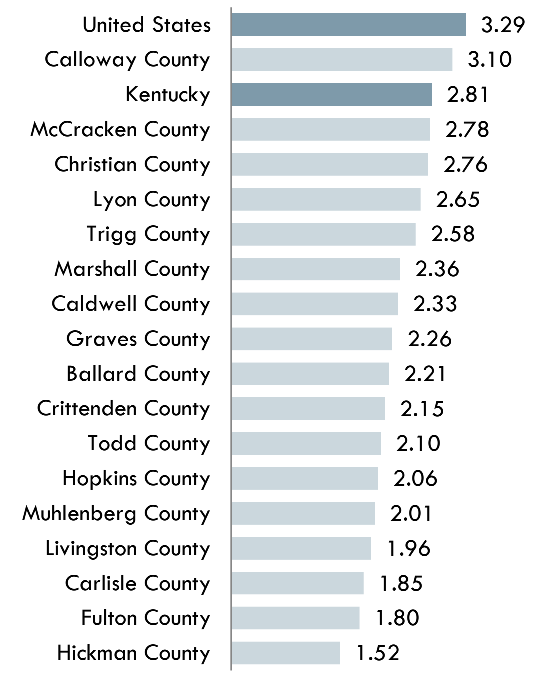
Source: Internal Revenue Service, Statistical Information Office. Note: Figures are based on year-over-year changes in address on federal tax returns. Data are for a single tax year and should be viewed with caution. Estimated AGI per household (HH) of in-migrant households is compared with that of out-migrant HHs to illustrate approximate differences in income levels between those moving into the county versus those leaving. Ratios below 1.00 are highlighted.

AFFORDABILITY

Cost of living data are not produced by the federal government below the state and major metropolitan area. However, a simple ratio comparing median home value to median household income illustrates the region's affordability (Figure 31). Ratios below the US ratio of 3.29 suggest the area is more affordable than the national average. By this measure, all of the region's 17 counties are more affordable than the US and, with the exception of Calloway County, are also more affordable than the state average. In other words, after housing costs are taken into account, West Kentucky residents effectively have a larger share of their incomes available for other uses.

Cost-of-living (COL) adjusted earnings produced by EMSI give further support for the region's affordability. COL are based on a simplified version of the widely used Cost of Living Index (COLI) produced by C2ER. When unadjusted earnings are compared to the US, only three counties had earnings that were within 15 percentage points of the national average (including Ballard, which actually exceeded the US average). However, when COL-adjusted earnings are compared against national figures, the relative standing of all counties improves, moving three additional counties above this threshold. The use of COL-adjusted wages and earnings could help potential recruits to the region better understand how offered salaries compare with their current position.

FIGURE 31. HOUSING AFFORDABILITY RATIOS



Source: Calculated by TIP Strategies using 2010-2014 American Community Survey 5-Year Estimates

FIGURE 32. COMPARISON OF AVERAGE EARNINGS AND COST-OF-LIVING ADJUSTED AVERAGE EARNINGS, 2015

	AVERAGE EARNINGS (ALL INDUSTRIES)		COST-OF-LIVING ADJUSTED AVG. EARNINGS	
COUNTY	VALUE	RELATIVE TO US UNADJ. EARNINGS (US = 1.00)	VALUE	RELATIVE TO US UNADJ. EARNINGS (US = 1.00)
Ballard County	$64,867	1.07	$68,582	1.13
Caldwell County	$37,096	0.61	$40,622	0.67
Calloway County	$38,832	0.64	$42,692	0.71
Carlisle County	$32,928	0.54	$35,812	0.59
Christian County	$55,967	0.92	$61,309	1.01
Crittenden County	$33,252	0.55	$36,648	0.61
Fulton County	$39,018	0.64	$42,542	0.70
Graves County	$40,432	0.67	$44,608	0.74
Hickman County	$32,864	0.54	$34,259	0.57
Hopkins County	$49,172	0.81	$52,895	0.87
Livingston County	$48,687	0.80	$53,301	0.88
Lyon County	$35,018	0.58	$39,011	0.64
Marshall County	$54,861	0.91	$59,005	0.97
McCracken County	$48,564	0.80	$50,813	0.84
Muhlenberg County	$50,264	0.83	$56,017	0.93
Todd County	$34,713	0.57	$38,347	0.63
Trigg County	$35,427	0.59	$37,231	0.61

Source: EMSI 2016.1 – QCEW Employees, Non-QCEW Employees, and Self-Employed.

OCCUPATIONAL ANALYSIS

This section examines the occupational composition of the region at the major group and detailed occupation level. The analysis highlights regional occupational strengths (concentrations) as well as occupations currently in demand by regional employers based both traditional and real-time labor market data.

MAJOR OCCUPATIONAL GROUP (2-DIGIT SOC)

The region's largest industries are mirrored in its largest occupational groups: Office and Administrative Support (which contributes to a range of industries including Government), Transportation and Material Moving (which includes workers in logistics and distribution activities), and Production (an essential group of occupations that drive the Manufacturing sector). Of the three largest, only Production occupations as a group have a median hourly wage rate that exceeds the regional average of $16.81.

FIGURE 33. OVERVIEW OF WEST KENTUCKY MAJOR OCCUPATIONAL GROUPS

SOC Code	Description	2015 Jobs	Projected Annual Openings through 2020	Location Quotient (US = 1.00)	Median Hourly Wages
	TOTAL	**210,277**	**+6,628**	**–**	**$16.81**
43	Office and Administrative Support	23,418	+766	0.73	$13.82
53	Transportation and Material Moving	17,925	+809	1.33	$15.72
51	Production	16,930	+478	1.35	$17.00
41	Sales and Related	16,490	+665	0.76	$12.46
35	Food Preparation and Serving Related	15,852	+666	0.91	$9.02
29	Healthcare Practitioners and Technical	11,360	+441	1.00	$29.66
47	Construction and Extraction	10,457	+454	1.11	$18.73
11	Management	10,128	+314	0.90	$27.23
25	Education, Training, and Library	9,853	+309	0.83	$21.66
49	Installation, Maintenance, and Repair	9,377	+353	1.18	$20.74
37	Building/Grounds Cleaning and Maintenance	6,445	+223	0.80	$9.98
39	Personal Care and Service	5,566	+202	0.66	$9.45
31	Healthcare Support	5,018	+199	0.86	$12.33
13	Business and Financial Operations	4,668	+173	0.45	$25.06
21	Community and Social Service	3,229	+127	0.96	$18.58
33	Protective Service	2,459	+91	0.52	$14.54
17	Architecture and Engineering	2,445	+82	0.71	$33.94
45	Farming, Fishing, and Forestry	1,888	+90	1.19	$12.44
27	Arts, Design, Entertainment, Sports, and Media	1,733	+75	0.47	$14.22
15	Computer and Mathematical	1,546	+57	0.27	$24.62
19	Life, Physical, and Social Science	891	+40	0.52	$26.90
23	Legal	698	+18	0.40	$27.94

Source: EMSI 2016.1 – QCEW Employees, Non-QCEW Employees, and Self-Employed. Note: Excludes military and unclassified occupations. Groups with LQs above 1.15 are **highlighted** (rather than 1.25) to draw attention to group-level employment concentrations. Wage rates above the regional median ($16.81) are highlighted.

Like the state and US, office workers and other administrative support workers represent the largest group of occupations in the region. While the group accounts for a significant share of the workforce in West Kentucky (13.1%), this is a slightly smaller share of overall employment than at the state or national level, where this group accounts for roughly 15% of total employment.

The Transportation & Material Moving group comprises a higher share of total jobs in Kentucky generally than the national average. West Kentucky has similar levels of employment in this group, driven by above-average employment in this area among the Purchase Region counties. West Kentucky also has high levels of employment in the Production occupational group relative to the US. At roughly 8% of total employment, compared with 6% nationally, this manufacturing-related employment represents an important part of the regional job base.

At the other end of the spectrum, the region has only modest levels of employment in occupational groups associated with professional services industries. Most notable among these is Computer & Mathematical occupations. With less than 1% of total employment in the region, West Kentucky lags behind the average for the state (1.7% of total employment) and the nation (2.7%) in this important occupational group.

FIGURE 34. EMPLOYMENT DISTRIBUTION BY MAJOR OCCUPATIONAL GROUP, 2015
AS A SHARE OF TOTAL EMPLOYMENT, RANKED BY % OF TOTAL WEST KENTUCKY EMPLOYMENT

SOC Code	Description	West Kentucky	Pennyrile Region	Purchase Region	Kentucky	US
43	Office & Administrative Support	**13.1%**	**12.4%**	**13.8%**	**14.7%**	**15.4%**
53	Transportation & Material Moving	**10.0%**	**9.7%**	**10.4%**	8.7%	6.5%
51	Production	**9.5%**	**11.0%**	8.1%	**9.7%**	6.1%
41	Sales & Related	9.2%	8.1%	**10.3%**	**9.4%**	**10.4%**
35	Food Preparation & Serving Related	8.9%	8.3%	9.4%	8.7%	**8.4%**
29	Healthcare Practitioners & Technical	6.4%	6.4%	6.3%	6.3%	5.5%
47	Construction & Extraction	5.9%	6.0%	5.7%	4.5%	4.5%
11	Management	5.7%	6.0%	5.4%	5.2%	5.4%
25	Education, Training, & Library	5.5%	5.7%	5.4%	5.6%	5.7%
49	Installation, Maintenance, & Repair	5.3%	5.0%	5.5%	4.4%	3.8%
37	Building/Grounds Cleaning & Maint.	3.6%	3.4%	3.8%	3.6%	3.9%
39	Personal Care & Service	3.1%	3.1%	3.1%	3.5%	4.0%
31	Healthcare Support	2.8%	2.8%	2.9%	2.7%	2.8%
13	Business & Financial Operations	2.6%	2.8%	2.4%	3.7%	5.0%
21	Community & Social Service	1.8%	2.2%	1.5%	1.7%	1.6%
33	Protective Service	1.4%	1.7%	1.1%	1.8%	2.3%
17	Architecture & Engineering	1.4%	1.4%	1.4%	1.2%	1.7%
45	Farming, Fishing, & Forestry	1.1%	1.2%	0.9%	0.6%	0.8%
27	Arts, Design, Entertainment, & Media	1.0%	0.8%	1.1%	1.2%	1.8%
15	Computer & Mathematical	0.9%	0.8%	0.9%	1.7%	2.7%
19	Life, Physical, & Social Science	0.5%	0.5%	0.5%	0.5%	0.8%
23	Legal	0.4%	0.4%	0.4%	0.6%	0.8%

Source: EMSI 2016.1 – QCEW Employees, Non-QCEW Employees, and Self-Employed. Note: Excludes military and unclassified occupations. The three largest occupational groups within each geography are highlighted to facilitate comparison.

A look at location quotients (LQs) can suggest areas where a region possesses a competitive advantage relative to other parts of the country (see box). At the group level, concentrations are more subtle because of the wide range of individual occupations encompassed. For this reason, concentrations even slightly above the national level can be noteworthy, calling for the use of a slightly lower threshold when highlighting areas of potential advantage.

Figure 35 highlights several occupational groups where West Kentucky's employment exceeds expected levels for a labor market of its size, including LQs of 1.25 or higher in Production; Transportation & Material Moving; Farming, Fishing, & Forestry; Installation, Maintenance, & Repair; and Construction & Extraction. Within West Kentucky, Purchase Region counties as a group also exhibit higher-than-average concentrations in employment related to healthcare and social services.

ABOUT LOCATION QUOTIENTS (LQs)

Location quotient analysis is a statistical technique used to suggest areas of relative advantage. LQs are calculated as an industry's share of total employment locally divided by the same industry's share of employment at the national level.

If the local industry and national industry are perfectly proportional, the LQ will be 1.00. LQs greater than 1.25 are presumed to indicate a comparative advantage; those below 0.75 suggest areas of weakness but also point to opportunities for expansion or attraction.

FIGURE 35. EMPLOYMENT CONCENTRATION BY MAJOR OCCUPATIONAL GROUP, 2015

LOCATION QUOTIENTS (LQS) FOR TOP OCCUPATIONAL GROUPS, RANKED BY LQ IN WEST KENTUCKY (US = 1.00)

SOC Code & Description		West Kentucky	Pennyrile Region	Purchase Region	Kentucky	US
51	Production	**1.57**	**1.82**	**1.34**	**1.59**	1.00
53	Transportation & Material Moving	**1.54**	**1.49**	**1.59**	**1.34**	1.00
45	Farming, Fishing, & Forestry	**1.39**	**1.61**	1.19	0.78	1.00
49	Installation, Maintenance, & Repair	**1.37**	**1.31**	**1.42**	1.14	1.00
47	Construction & Extraction	**1.30**	**1.33**	**1.27**	0.99	1.00
29	Healthcare Practitioners & Technical	1.16	1.17	1.16	1.15	1.00
21	Community & Social Service	1.11	**1.32**	0.92	1.05	1.00
35	Food Preparation & Serving Related	1.06	1.00	1.12	1.04	1.00
11	Management	1.04	1.10	0.99	0.95	1.00
31	Healthcare Support	1.00	0.98	1.01	0.96	1.00
25	Education, Training, & Library	0.96	0.98	0.94	0.98	1.00
37	Building/Grounds Cleaning & Maint.	0.93	0.89	0.97	0.93	1.00
41	Sales & Related	0.89	0.78	0.98	0.90	1.00
43	Office & Administrative Support	0.85	0.81	0.90	0.95	1.00
17	Architecture & Engineering	0.82	0.82	0.82	0.74	1.00
39	Personal Care & Service	0.77	0.77	0.77	0.88	1.00
33	Protective Service	0.61	0.75	0.48	0.80	1.00
19	Life, Physical, & Social Science	0.61	0.63	0.58	0.64	1.00
27	Arts, Design, Entertainment, & Media	0.55	0.46	0.62	0.67	1.00
13	Business & Financial Operations	0.52	0.57	0.48	0.73	1.00
23	Legal	0.46	0.51	0.42	0.73	1.00
15	Computer & Mathematical	0.32	0.31	0.32	0.63	1.00

Source: EMSI 2016.1 – QCEW Employees, Non-QCEW Employees, and Self-Employed. Note: Excludes military and unclassified occupations. Groups with LQs above 1.15 are **highlighted** (rather than 1.25) to draw attention to group-level employment concentrations.

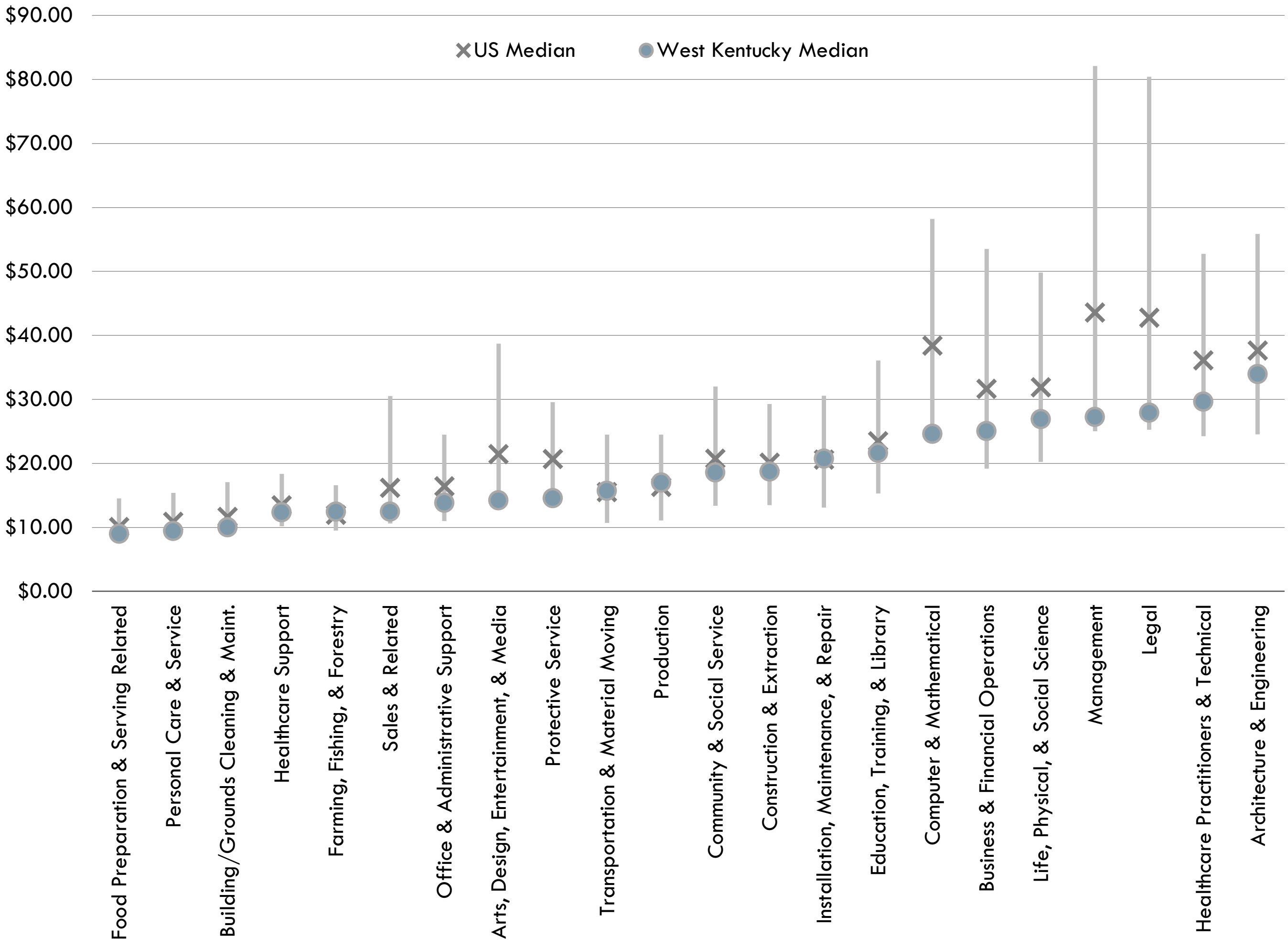
Median wage rates in the region fall at or near the bottom of the national range for nearly all occupational groups. The disparity between the West Kentucky median and the US is greatest in those where national rates vary most widely. These groups include a wide range of professional services occupations, such as the Legal, Management, and Computer & Mathematical occupational groups.

However, even in occupational groups with a much narrow range, the region's rates fall near the bottom. Occupations in agriculture, transportation, manufacturing, and installation & repair are exceptions where regional medians compare favorably with national rates. One reason rates tend to be lower in the region is West Kentucky's relatively low cost of living compared with other places in the US.

FIGURE 36. WEST KENTUCKY WAGES BY MAJOR OCCUPATIONAL GROUP

PRESENTED IN THE CONTEXT OF US WAGE RATES

Line = US wage range from the 10th to the 90th percentile   Markers = Median hourly wage rates for US (x) and West Kentucky (dot)



Source: EMSI 2016.1 – QCEW Employees, Non-QCEW Employees, and Self-Employed. Note: Excludes military and unclassified occupations.

DETAILED OCCUPATIONS (5-DIGIT SOC)

The prior figures gave an overview of the regional workforce at the major occupational group level. The remainder of this section presents data on individual occupations. To understand regional strengths, occupations were evaluated based on a range of factors, beginning with LQs. In addition, "top" occupations were identified based on size (number of jobs in 2015), rate of net job change (growing and declining occupations in both numeric and percentage terms), and wages. The occupations with the highest LQs are presented in Figure 37. Additional occupations, along with a comparison to the state for the identified occupations, is provided in Appendix 2. Figure 38 (starting page 78) shows the top 10 occupations in each of the other indicators (among occupations employing 50 or more workers in the region in 2015).

- *Most concentrated.* West Kentucky has strong concentrations of workers in production, extraction, and transportation-related occupations. Among the top 10, Captains, Mates, & Pilots of Water Vessels (NAICS 53-5021) is the largest with nearly 800 workers in 2015. This occupation also had the highest rate of growth among the most concentrated occupations, with employment up 49% from 2010.
- *Largest.* Like much of the nation, West Kentucky's 10 largest occupations include many in population-driven industries, including retail sales positions and food service workers. These positions often require little educational preparation and pay relatively low wages. However, the top 10 also includes occupations associated with three key occupations in the region: registered nurses (healthcare), truck drivers (logistics), and team assemblers (manufacturing). Hourly wage rates for these positions are significantly higher, with nurses having the highest median rate ($24.66) among those listed.
- *Highest wages.* Healthcare occupations dominate the list of the highest-paying occupations, accounting for eight of the top 10. This is a common finding given the highly specialized training required for many positions in the industry. Pharmacists were the largest occupation in this group, with roughly 330 jobs in 2015.
- *Fastest growing.* Two maritime positions– Captains, Mates, & Pilots of Water Vessels (SOC 53-5021) and Sailors & Marine Oilers (SOC 53-5011)–were in the top 10 fastest-growing occupations in both numeric and percentage terms. Other transportation-related occupations projected to have relatively robust net new growth in the region in numeric terms include stock clerks (anticipated to add more than 325 jobs through 2020) and truck drivers (+300).
- *Fastest declining.* Occupations expected to lose jobs in the region between now and 2020 include a number of production-related positions, such as Sewing Machine Operators (SOC 51-6031) and Engine & Other Machine Assemblers (SOC 51-2031). These occupations were among the 10 fastest declining both in numeric and percentage terms. Of the declining occupations (both numeric and percentage declines), only Chemical Equipment Workers (SOC 51-9011) and Postal Service Mail Carriers (SOC 43-5052) paid wages above the regional median of $16.81 in 2015.

FIGURE 37. WEST KENTUCKY, TOP 10 MOST CONCENTRATED OCCUPATIONS
RANKED BY 2015 LQ (US = 1.00)

SOC CODE	DESCRIPTION	2015 LQ (US=1.00)	2015 JOBS	% CHANGE FROM 2010	MEDIAN HOURLY EARNINGS	WAGE PREMIUM (US = 1.00)
53-7111	Mine Shuttle Car Operators	31.85	103	-27%	$22.34	1.99
47-5061	Roof Bolters, Mining	28.37	195	-26%	$25.90	1.78
53-5021	Captains, Mates, & Pilots of Water Vessels	16.97	780	+49%	$38.16	0.81
53-5011	Sailors & Marine Oilers	14.81	565	+45%	$15.87	0.45
47-5051	Rock Splitters, Quarry	11.45	54	+16%	$15.96	0.25
53-5031	Ship Engineers	10.90	151	+34%	$30.94	2.97
47-5042	Mine Cutting & Channeling Machine Operators	10.51	89	-19%	$23.28	0.83
51-8099	Plant & System Operators, All Other	6.61	103	-7%	$35.48	0.89
51-2031	Engine & Other Machine Assemblers	6.30	326	+19%	$13.65	1.19
47-5041	Continuous Mining Machine Operators	6.24	88	-18%	$25.96	2.48

Source: EMSI 2016.1 – QCEW Employees, Non-QCEW Employees, and Self-Employed. Note: Excludes military and unclassified occupations. Wage rates above the regional median ($16.81) are highlighted. And wage rates greater than 10% above the national median are highlighted.

FIGURE 38. WEST KENTUCKY TOP OCCUPATIONS RANKED BY KEY INDICATORS

Employment in 2015	LARGEST	Median hourly earnings
5,926	Combined Food Prep. & Servers, Incl. Fast Food	$8.47
5,189	Retail Salespersons	$9.74
4,577	Cashiers	$8.82
4,274	Registered Nurses	$24.66
4,017	Heavy & Tractor-Trailer Truck Drivers	$15.99
3,357	Secretaries/Admin. Asst., Exc. Legal, Med., & Exec.	$13.39
3,233	Laborers/Freight, Stock, & Material Movers, Hand	$11.10
2,997	Waiters & Waitresses	$8.66
2,976	Team Assemblers	$15.42
2,665	Janitors & Cleaners, Exc. Maids & Housekeepers	$10.08

Employment in 2015	HIGHEST-PAYING ($)	Median hourly earnings
226	Physicians & Surgeons, All Other	$105.20
105	Anesthesiologists	$98.12
75	Surgeons	$94.46
104	Family & General Practitioners	$88.23
59	Internists, General	$80.11
92	Nurse Anesthetists	$69.93
87	Dentists, General	$69.39
331	Pharmacists	$64.23
279	Chief Executives	$56.81
71	Airline Pilots, Copilots, & Flight Engineers	$56.30

Net change	FASTEST-GROWING, 2015-20 (#)	Median hourly earnings
+327	Laborers/Freight, Stock, & Material Movers, Hand	$11.10
+300	Heavy & Tractor-Trailer Truck Drivers	$15.99
+269	Registered Nurses	$24.66
+248	Captains, Mates, & Pilots of Water Vessels	$38.16
+244	Combined Food Prep. & Servers, Incl. Fast Food	$8.47
+199	Personal Care Aides	$8.60
+184	Retail Salespersons	$9.74
+183	Secretaries/Admin. Asst., Exc. Legal, Med., & Exec.	$13.39
+177	Sailors & Marine Oilers	$15.87
+171	Customer Service Representatives	$12.65

continued next page

FIGURE 38. WEST KENTUCKY TOP OCCUPATIONS RANKED BY

% change	FASTEST-GROWING, 2015-20 (%)	Median hourly earnings
+59%	Service Unit Operators, Oil, Gas, & Mining	$25.16
+35%	Fishers & Related Fishing Workers	$17.35
+32%	Captains, Mates, & Pilots of Water Vessels	$38.16
+31%	Sailors & Marine Oilers	$15.87
+31%	Physical Therapist Assistants	$25.43
+27%	Paving, Surfacing, & Tamping Equip. Operators	$15.65
+25%	Substitute Teachers	$11.55
+25%	Helpers--Extraction Workers	$19.41
+25%	Ship Engineers	$30.94
+24%	Food Servers, Nonrestaurant	$8.96

Net change	FASTEST-DECLINING, 2015-20 (#)	Median hourly earnings
-163	Sewing Machine Operators	$10.03
-136	Farmers, Ranchers, & Other Agricultural Mgrs.	$11.85
-115	Team Assemblers	$15.42
-85	Engine & Other Machine Assemblers	$13.65
-52	Waiters & Waitresses	$8.66
-47	Cutting, Punching, & Press Machine, Metal/Plastic	$14.93
-45	Childcare Workers	$8.05
-41	Chemical Equipment Workers	$26.16
-41	Postal Service Mail Carriers	$23.63
-33	Cashiers	$8.82

% change	FASTEST-DECLINING, 2015-20 (%)	Median hourly earnings
-68%	Sewing Machine Operators	$10.03
-51%	Door-to-Door Sales, Street Vendors, & Related	$7.48
-26%	Engine & Other Machine Assemblers	$13.65
-25%	Logging Equipment Operators	$13.96
-21%	Pressers, Textile, Garment, & Related	$9.32
-18%	Floral Designers	$10.27
-15%	Barbers	$9.53
-14%	Extruding/Forming Machine, Synth. & Glass Fibers	$13.21
-13%	Molding, Coremaking, & Casting, Metal/Plastic	$14.32
-12%	Cabinetmakers & Bench Carpenters	$13.64

Source: EMSI 2016.1 – QCEW Employees, Non-QCEW Employees, and Self-Employed. Note: Figures exclude occupations with fewer than 50 jobs in the region in 2015, as well as military and unclassified occupations.

DEMAND OCCUPATIONS

This section uses both traditional and real-time labor market information to identify occupations in demand by area employers. Findings from the quantitative data are supplemented by insights gained through interviews and a survey of area residents and business owners.

PROJECTED OPENINGS

An analysis of openings by occupation helps to illustrate employer needs due to new job growth and replacement demand. Federal data on typical education, experience, and training requirements by occupation was used to segment the data by skill level. Low-skilled occupations are defined as those requiring a high school diploma or less, while occupations requiring a bachelor's degree or above are categorized as high skill. The remaining jobs–those typically requiring more than high school, but less than a four-year degree–are deemed middle-skills jobs. The subject of middle skills has garnered significant attention in recent years. This broad category encompasses a number of jobs that are essential to a wide range of industries including skilled trades positions, such as plumbers and electricians, as well as production workers, healthcare technicians, and administrative support functions.

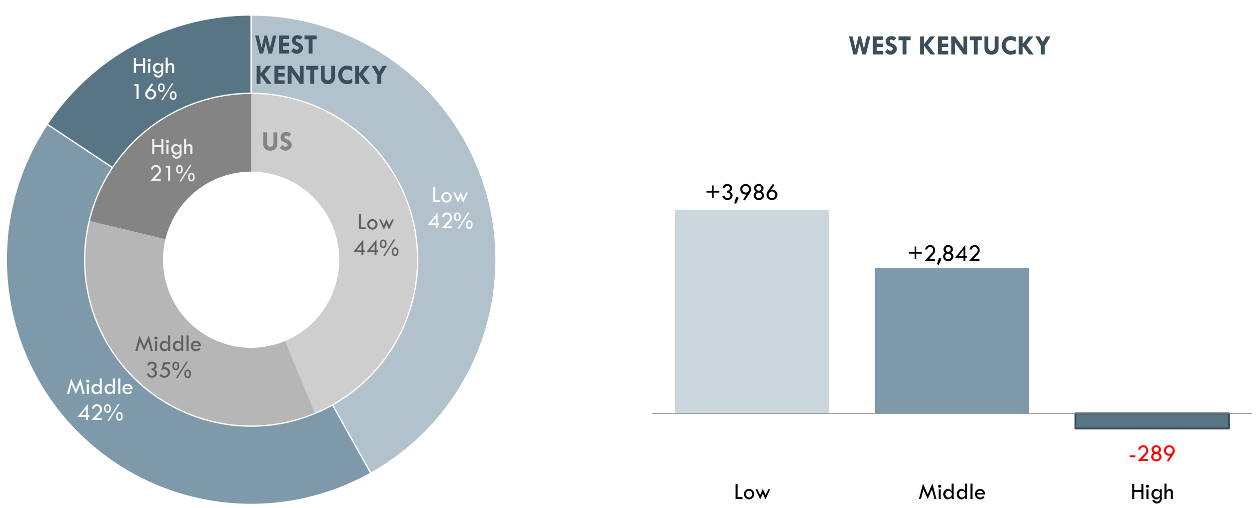
ABOUT OPENINGS DATA

Openings provide an indicator of employer demand for an occupation stemming from two sources: new job growth and the replacement of existing workers. Replacement demand is an estimate of the number of workers required to replace incumbent workers who leave due to a variety of factors such as retirement, career advancement, or exiting the workforce to raise children or attend school.

Middle-skills positions account for a much greater share of West Kentucky's total job base than the national average, representing 42% of regional employment, compared with just 35% nationally (Figure 39). This finding reflects the needs of the region's growth clusters, including various Manufacturing industries, Transportation & Warehousing, and Construction. By contrast, the 17 counties have significantly lower levels of high-skilled jobs which comprise 16% of jobs in the region versus 21% on average nationally. Low-skilled jobs as a group represent a slightly higher share of employment in the region than the US (42% and 44%, respectively). These jobs have also experienced higher rates of growth in the region historically. A look at recent trends shows that jobs requiring a high school diploma or less accounted for just over 60% of the region's growth between 2010 and 2015, while high-skilled jobs declined slightly during the same period.

FIGURE 39. WEST KENTUCKY OCCUPATIONS BY SKILL LEVEL, WITH COMPARISON TO THE US

DISTRIBUTION OF OCCUPATIONS BY SKILL LEVEL, 2015 *HISTORIC CHANGES BY SKILL LEVEL, 2010-2015*



Source (all figures): EMSI 2016.1 – QCEW Employees, Non-QCEW Employees, and Self-Employed. Note: Excludes military and unclassified occupations.

Looking forward, West Kentucky is expected to have just over 25,000 openings between 2016 and 2020 or roughly 6,200 job openings annually. Of these, nearly one-half (47%) are projected to be in low-skilled occupations, a share similar to national projections (Figure 41). Middle-skill job openings in the region are expected to outpace the national trend by a wide margin, with these positions accounting for 37% of West Kentucky openings compared with 31% nationwide. In addition to being in demand nationally, middle-skills jobs tend to pay above-average wages and often require a relatively short period of training beyond high school, making them a good return on investment for students. Furthermore, these mid-level jobs often have more robust career ladders than low-skilled work.

Three out of four job openings through 2020 (76%) are projected to be due to replacement demand. This figure is higher for low-skill positions, which tend to have more turnover. Within this group, four out of five openings (80%) are likely to come from replacement needs. High-skilled positions are expected to have the highest share of job openings from net growth, with more than one-third (37%) of openings through 2020 anticipated to represent net gains.

FIGURE 40. TOP JOBS, ALL SKILL LEVELS
BASED ON AVG. ANNUAL OPENINGS THRU 2020

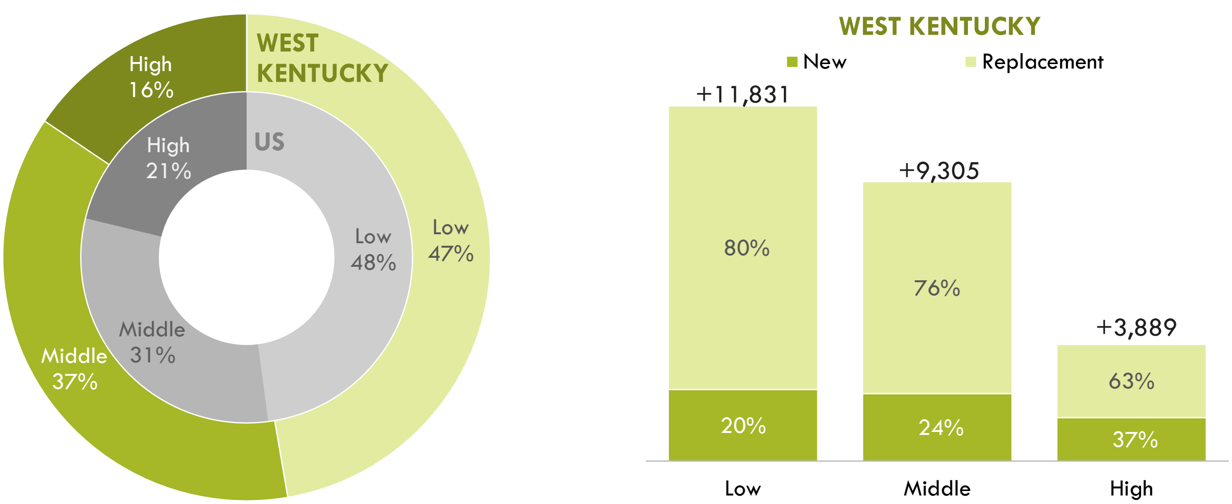
Combined Food Prep./Servers, Incl. Fast Food	+279
Retail Salespersons	+228
Cashiers	+217
Laborers/Freight, Stock, & Material Movers, Hand	+171
Waiters & Waitresses	+148
Heavy & Tractor-Trailer Truck Drivers	+143
Registered Nurses	+140
Captains, Mates, & Pilots of Water Vessels	+89
Customer Service Representatives	+87
Janitors & Cleaners, Exc. Maids/Housekeepers	+85
Stock Clerks & Order Fillers	+79
Secretaries/Admin. Asst., Exc. Legal, Med., & Exec.	+77
Nursing Assistants	+76
Office Clerks, General	+73
Construction Laborers	+71
General & Operations Managers	+67
Farmers, Ranchers, & Other Agricultural Mgrs.	+67
Sailors & Marine Oilers	+64
Maids & Housekeepers	+61

Note: Figures include net new growth and replacement demand.

Figure 42 (page 82) shows individual occupations with the highest levels of demand grouped by education requirements. Among low-skilled occupations, the largest demand is anticipated for positions in sales, food service, transportation and warehousing, and office environments. In keeping with the findings shown in Figure 41, demand for the majority of these occupations is driven by replacement of existing workers.

Two factors–low wage rates and aging workers–are likely contributors to replacement pressures for these occupations. Only two of the highlighted occupations are projected to have greater than 50% of openings generated by new growth: Personal Care Aides (SOC 39-9021) and Service Unit Operators, Oil, Gas, & Mining (SOC 47-5013). For some, like Engine & Other Machine Assemblers (SOC 51-2031), 100% of openings are expected to be from replacement. The occupation is, in fact, expected to decline in both numeric and percentage terms through 2020 (see Figure 38, page 78).

FIGURE 41. WEST KENTUCKY PROJECTED ANNUAL OPENINGS BY SKILL LEVEL, 2016-2020
DISTRIBUTION OF ANTICIPATED OPENINGS BY SKILL LEVEL *PROJECTED CHANGE BY SKILL LEVEL & SOURCE OF DEMAND*



Source (all figures): EMSI 2016.1 – QCEW Employees, Non-QCEW Employees, and Self-Employed. Note: Excludes military and unclassified occupations.

Among the occupations requiring a postsecondary certificate or associate's degree, demand is highest for Heavy & Tractor-Trailer Truck Drivers (SOC 53-3032), with slightly more than 140 openings projected annually through 2020. Demand for nursing skills is expected to be similar, with roughly one-third of this demand (36%) attributable to net job growth rather than replacement needs. This occupation is categorized here based on typical education requirements. In reality, a growing number of employers are seeking candidates with a bachelor's degree even to fill entry-level positions in this field. Registered Nurses also face replacement pressures due to an aging workforce, with an estimated 24% of the workforce age 55 or older. Medical Secretaries (SOC 43-6013) are expected to have the highest share of openings from new growth (68%).

High-skilled demand occupations in the region include a number in the Education, Training, & Library group (SOC 25-0000), as such as education administrators, guidance counselors, and librarians. Other high-skill occupations expected to be in high demand include General & Operations Managers (SOC 11-1021), Pharmacists (SOC 29-1051) and Physicians & Surgeons (SOC 29-1069). Among the demand occupations requiring a four-year degree or higher, only Clergy (SOC 21-2011) and Management Analysts (SOC 13-1111) are projected to have at least one-half of future openings from net new job growth.

Like the major occupational group data shown in Figure 36 (page 76), wage rates for these high-demand occupations fall below national levels. However, those that exceed the national average do so by a relatively wide margin suggesting employers are competing more heavily for workers in these positions. Occupations with a wage premium (10% or more above the US) include Industrial Machinery Mechanics (SOC 49-9041). Demand for workers with these skills expected to average nearly 50 openings annually, driven largely by replacement needs of regional employers.

FIGURE 42. DEMAND FACTORS BY SKILL LEVEL FOR WEST KENTUCKY REGION

ESTIMATED ANNUAL OPENINGS (THROUGH 2020) WITH ESTIMATE OF NET CHANGE AND REPLACEMENT DEMAND

			DEMAND FACTORS			WAGES		AGE
SOC CODE	DESCRIPTION	2015 Jobs	Projected Annual Openings (2016-20)	New jobs	Replacement	Median Hourly	Relative Wage (US=1.00)	Age 55+ Yrs.
LOW-SKILL *(HIGH SCHOOL OR LESS)*								
35-3021	Combined Food Prep. & Servers, Incl. Fast Food	5,926	279	14%	86%	$8.47	0.94	9%
41-2031	Retail Salespersons	5,189	228	17%	83%	$9.74	0.93	25% ◀
53-7062	Laborers/Freight, Stock, & Material Movers, Hand	3,233	171	37%	63%	$11.10	0.92	15%
43-4051	Customer Service Representatives	1,863	87	37%	63%	$12.65	0.83	17%
37-2011	Janitors & Cleaners, Exc. Maids & Housekeepers	2,665	85	28%	72%	$10.08	0.88	29% ◀
43-6014	Secretaries/Admin. Asst., Exc. Legal, Med., & Exec.	3,357	77	44%	56%	$13.39	0.83	31% ◀
43-9061	Office Clerks, General	2,080	73	37%	63%	$12.87	0.92	27% ◀
39-9021	Personal Care Aides	1,567	52	70%	30%	$8.60	0.85	30% ◀
47-5013	Service Unit Operators, Oil, Gas, & Mining	162	27	62%	38%	$25.16	**1.14**	-
43-5052	Postal Service Mail Carriers	452	15	-	100%	$23.63	0.88	31% ◀
41-2022	Parts Salespersons	325	14	23%	77%	$12.46	0.87	27% ◀
13-1199	Business Operations Specialists, All Other	514	13	44%	56%	$27.44	0.84	27% ◀
43-4199	Information & Record Clerks, All Other	255	6	-	100%	$17.41	0.95	29% ◀
51-2031	Engine & Other Machine Assemblers	326	5	-	100%	$13.65	0.71	29% ◀

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FIGURE 42. DEMAND FACTORS BY SKILL LEVEL FOR WEST KENTUCKY REGION (CONTINUED)

			DEMAND FACTORS			WAGES		AGE
SOC CODE	DESCRIPTION	2015 Jobs	Projected Annual Openings (2016-20)	New jobs	Replacement	Median Hourly	Relative Wage (US=1.00)	Age 55+ Yrs.
MIDDLE-SKILL *(MORE THAN HIGH SCHOOL, LESS THAN 4 YEARS)*								
53-3032	Heavy & Tractor-Trailer Truck Drivers	4,017	143	36%	64%	$15.99	0.85	29% ◀
29-1141	Registered Nurses	4,274	140	37%	63%	$24.66	0.74	24%
31-1014	Nursing Assistants	2,479	76	30%	70%	$10.62	0.86	18%
11-9013	Farmers, Ranchers, & Other Agricultural Mgrs.	2,657	67	-	100%	$11.85	0.81	50% ◀
49-9071	Maintenance & Repair Workers, General	2,074	61	30%	70%	$17.62	1.00	28% ◀
49-9041	Industrial Machinery Mechanics	1,096	48	27%	73%	$28.37	**1.20**	26% ◀
47-2073	Operating Eng. & Other Constr. Equip. Operators	719	43	54%	46%	$18.88	0.86	25% ◀
43-3031	Bookkeeping, Accounting, & Auditing Clerks	2,170	42	48%	52%	$14.81	0.84	33% ◀
41-4012	Sales Reps., Whls. & Mfg., Exc. Tech. & Scientific	1,167	39	33%	67%	$21.06	0.80	27% ◀
47-1011	First-Line Supvsr., Constr. Trades & Extraction	971	37	50%	50%	$25.42	0.92	23%
39-5012	Hairdressers, Hairstylists, & Cosmetologists	772	31	35%	65%	$9.68	0.87	30% ◀
49-1011	First-Line Supvsr., Mechanics, Install, & Repair	840	30	20%	80%	$27.50	0.92	27% ◀
43-6013	Medical Secretaries	655	28	68%	32%	$13.10	0.83	26% ◀
51-9061	Inspectors, Testers, Sorters, Samplers, & Weighers	721	21	14%	86%	$15.67	0.89	26% ◀
43-3051	Payroll & Timekeeping Clerks	201	8	38%	62%	$17.28	0.89	27% ◀
HIGH SKILL *(FOUR-YEAR DEGREE OR ABOVE)*								
11-1021	General & Operations Managers	2,106	67	27%	73%	$34.03	0.71	24%
25-2021	Teachers, Elementary (Except Special Ed.)	1,680	59	31%	69%	$24.17	0.90	27% ◀
25-1099	Teachers, Postsecondary	1,595	43	42%	58%	$28.92	0.89	32% ◀
25-2031	Teachers, Secondary (Exc. Special Ed. & CTE)	1,140	39	14%	86%	$24.65	0.88	27% ◀
21-2011	Clergy	416	21	51%	49%	$20.78	0.99	46% ◀
29-1051	Pharmacists	331	17	46%	54%	$64.23	**1.10**	29% ◀
13-1111	Management Analysts	267	16	71%	29%	$33.56	0.90	35% ◀
11-9032	Educ. Administrators, Elem. & Secondary	370	12	11%	89%	$39.09	0.89	34% ◀
29-1069	Physicians & Surgeons, All Other	226	11	34%	66%	$105.20	**1.19**	27% ◀
21-1012	Educ., Guidance, School, & Vocational Counselors	353	10	18%	82%	$26.43	1.01	25% ◀
11-1011	Chief Executives	279	9	25%	75%	$56.81	0.77	41% ◀
17-2051	Civil Engineers	210	8	24%	76%	$34.88	0.88	27% ◀
25-4021	Librarians	200	6	17%	83%	$26.62	0.97	42% ◀

Source: EMSI 2016.1 – QCEW Employees, Non-QCEW Employees, and Self-Employed. Note: Excludes military and unclassified occupations. Occupations with median wage rates greater than 10% of the US average and those with 25% or more of their workforce age 55 or over are highlighted. Occupations for which demographic data were insufficient are noted with –.

REAL-TIME LABOR MARKET INFORMATION

While traditional LMI remains the best source of data for understanding long-term trends and strategic decision-making, real-time labor market information (LMI) gleaned from online job posting provides a useful tool for understanding the needs of West Kentucky employers. Despite some limitations, most notably the underrepresentation of some occupations (production and skilled trades) and the overrepresentation of others (healthcare and IT), real-time LMI still offers timely insights regarding specific skills, educational attainment, and certifications local employers are seeking. In addition, it can highlight occupations that are hard-to-fill in real-time, something traditional sources of LMI cannot do.

Our analysis of job postings compiled by Wanted Analytics aligns with many of the findings from the data analysis presented previously. As shown in Figure 43, demand for Heavy & Tractor-Trailer Truck Drivers (SOC 53-3032) accounted for one in five postings during the three-month period analyzed. Likewise, nursing, retail, and food services positions were also well-represented in the real-time data. Employers in Christian and McCracken Counties accounted for slightly more than one-half (51%) of the region's postings.

Figure 44 (page 85) shows the top certifications and hard skills culled from West Kentucky-area job postings. As with other data presented in this section, the region's key sectors are reflected in the specific job requirements sought by regional employers. Commercial driver's license tops the list of desired certifications. Healthcare-related qualifications are common among both the requested skills and certifications.

FIGURE 43. TOP ONLINE JOB POSTINGS BY WEST KENTUCKY EMPLOYERS

TOP ADVERTISED OCCUPATIONS(MARCH 1, 2016 – JUNE 1, 2016)

SOC	DESCRIPTION	#	% OF POSTINGS
53-3032	Heavy & Tractor-Trailer Truck Drivers	2,627	19.4%
41-1011	First-Line Supvsr., Retail Sales Workers	640	4.7%
29-1141	Registered Nurses	634	4.7%
41-2031	Retail Salespersons	561	4.2%
35-1012	First-Line Supvsr., Food Prep. & Servers	381	2.8%
35-3021	Combined Food Prep. & Servers, Incl. Fast Food	311	2.3%
43-5081	Stock Clerks & Order Fillers	268	2.0%
43-4051	Customer Service Representatives	203	1.5%
29-2061	Licensed Practical/Vocational Nurses	157	1.2%
11-9111	Medical & Health Services Managers	155	1.1%
31-1014	Nursing Assistants	155	1.1%
29-1123	Physical Therapists	153	1.1%
15-1151	Computer User Support Specialists	149	1.1%
49-9071	Maintenance & Repair Workers, General	138	1.0%
51-1011	First-Line Supvsr., Production & Operating Wrkrs.	133	1.0%
27-1026	Merchandise Displayers & Window Trimmers	131	1.0%
41-2011	Cashiers	131	1.0%
53-3033	Light Truck or Delivery Services Drivers	126	0.9%
43-1011	First-Line Supvsr., Office & Admin. Support	115	0.9%
41-3021	Insurance Sales Agents	108	0.8%
53-3031	Driver/Sales Workers	108	0.8%
43-3071	Tellers	106	0.8%
53-7062	Laborers/Freight, Stock, & Material Movers, Hand	105	0.8%
21-1093	Social & Human Service Assistants	100	0.7%

DISTRIBUTION OF EMPLOYERS POSTING JOBS ONLINE BY COUNTY

PENNYRILE REGION	
Christian	25%
Hopkins	10%
Muhlenberg	5%
Caldwell	3%
Trigg	2%
Livingston	2%
Todd	1%
Crittenden	1%
Lyon	1%

PURCHASE REGION	
McCracken	26%
Calloway	8%
Graves	7%
Marshall	4%
Ballard	2%
Fulton	2%
Hickman	1%
Carlisle	1%

Source: Wanted Analytics

REGIONAL EMPLOYERS

Findings from both traditional and real-time LMI were validated based on input from local employers gathered as part of the engagement (see Appendix 3). Employer input points to specific shortages in a number of industries, including healthcare, manufacturing, logistics, and maritime.

Truck drivers, welders, process control/instrumentation, and maintenance workers are key pain points among regional employers. Within the healthcare sector, the region is experiencing a significant shortage of primary care physicians. Other healthcare skills in demand include EMTs/paramedics, medical laboratory technicians, physical and occupational therapy occupations, stenography, dental assistant, dental hygiene, radiography, and pharmacy technicians. In addition, implementation of the Affordable Care Act has increased demand for frontline workers, such as medical assistants. Some employers report difficulty finding part-time help and workers to fill a variety of lower-wage occupations, such as childcare, warehousing, poultry processing, and agricultural positions.

Wage rates remain an issue in the recruitment and retention of labor generally in West Kentucky. However, pay scales are a critical challenge to filling skilled positions in the region, such as chemical engineers, physicians, and nurses. Feedback from local employers in a wide range of sectors also point to soft skills and employability concerns (e.g., ability to pass screening

FIGURE 44. TOP 30 SKILLS AND CERTIFICATIONS REQUESTED BY WEST KENTUCKY EMPLOYERS
COMPILED FROM ONLINE JOB POSTINGS MARCH 1, 2016 TO JUNE 1, 2016

SKILLS	CERTIFICATIONS
Quality Assurance	Commercial Driver's License
Bilingual/Bilingual Spanish	Driver's License
Technical support	Certified Registered Nurse
Society for Worldwide Interbank Financial Telecomm.	HAZMAT
Geriatrics	Basic Life Support
Quality control	Secret Clearance
Food preparation	Certified Purchasing Manager
Apple Safari	Certification in Cardiopulmonary Resuscitation
Preventative maintenance inspections	Licensed Practical Nurse
Critical care	Advanced Cardiac Life Support
Preventive maintenance	Physical Therapist Certification
Pediatrics	Certified in Nursing Administration
Behavioral health	Associate Degree in Nursing
Patient Electronic Medical Record	Occupational Safety & Health Admin. Certification
Material Handling	Food safety programs
Retail merchandising	Certified Practical Nurse, Long-term care
Process controls / Instrumentation	Certified Nursing Assistant
Aviation maintenance	Tanker and Hazmat Endorsement
Business sales	DOT Medical card
Electrical systems	Certified Coding Specialist
Customer relationship management	Health Ins. Portability & Accountability Act (HIPPA)
Production control	First Aid certification
Time and attendance	Class A Commercial Driver’s License
Emergency room	Board Certified
Acute rehabilitation	Certified in Long Term Care
Pharmacy Benefit Management	Automotive Service Excellence
Equipment Maintenance	Speech and Language Pathologist
MEDITECH	Pediatric Advanced Life Support
Medicaid	ICD-10 / ICD-9
Microsoft SharePoint	Special Education

Source: Wanted Analytics

requirements) as a significant barrier to hiring. Continuing to build partnerships between the Workforce Board, employers, educators, and economic development professionals will be required to increase the availability of pre-employment training for new entrants to the labor market and skills training for incumbent workers.

Other specific needs identified by area stakeholders include increasing access to labor market information early in the education pipeline, improving basic communication and math skills, and providing a clear understanding of employer expectations with regard to the workplace (e.g., professionalism, attendance).

The planning process highlighted a number of initiatives aimed at addressing human resource challenges in the region, including several sector-based initiatives. For example, the region's community and technical colleges are working with 25 major employers (especially in the manufacturing sector, but also including some healthcare organizations) to address some of the workforce shortages through the Kentucky FAME (Federation of Advanced Manufacturing Education) program. Using a joint academic training/apprenticeship model originally developed in partnership with Toyota and the Bluegrass Community College, West Kentucky is creating a new pipeline of skilled workers to support regional employers.

Regional employers are building partnerships to find new sources of skilled labor to fulfill their needs. The Purchase Area Health Education Consortium works to connect high school students with medical fields and promote internships. In addition, new efforts are underway to partner with Fort Campbell to connect soldiers separating from service with employment opportunities in West Kentucky. This approach is proving successful for some employers, especially in the manufacturing industry, and could be expanded to better satisfy the region's workforce demands. Articulating career paths in agriculture and raising awareness of opportunities in maritime were also identified by employers as needs.

FIGURE 45. NATIONAL CAREER READINESS CERTIFICATE (NCRC)
STATUS REPORT BY COUNTY, MAY 2016

COUNTY	SHARE OF WORKING-AGE POPULATION (18-65 YEARS)
Caldwell	11.83%
Hopkins	11.78%
Muhlenberg	11.45%
Fulton	6.94%
Lyon	5.97%
Carlisle	5.70%
Graves	5.60%
McCracken	5.59%
Hickman	5.34%
Crittenden	5.29%
Todd	5.25%
Marshall	4.83%
Ballard	4.28%
Trigg	3.47%
Livingston	2.93%
Calloway	2.32%
Christian	1.36%

Source: Workready.ky.gov.

In addition to the sector-specific initiatives, communities are focusing on becoming "work ready." As of May 2016, five West Kentucky counties were certified Work Ready (Carlisle, Hopkins, Marshall, McCracken, and Trigg), with applications in progress in seven additional counties (Ballard, Caldwell, Christian, Fulton, Hickman, Muhlenberg, and Todd). According to state-level data, 14,394 National Career Readiness Certificates (NCRC) have been awarded to West Kentucky workers. The share of the working-age population that has earned this credential is highest in Caldwell, Hopkins, and Muhlenberg Counties.

EDUCATION & TRAINING

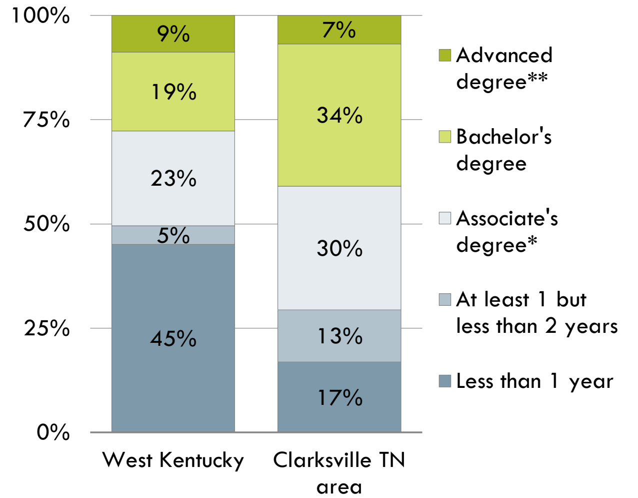
This section provides an overview of published data on education and training in the region. Data are presented for postsecondary and K-12 institutions.

POSTSECONDARY

Under the Higher Education Act of 1965, every college, university, and vocational or technical institution that participates in federal financial student aid programs (such as Pell grants or federally backed student loans) is required to report annually to the US Department of Education on a range of indicators. Data are collected through a system of interrelated surveys and are made available via the Integrated Postsecondary Education Data System (IPEDS). Each fall, institutions report on the number of awards conferred for credit by field of study (as defined by Classification of Instructional Programs or CIP code), by level (associate's, bachelor's, master's, doctor's, and postsecondary certificates), and by the race or ethnicity and gender of the recipient. These data are referred to as "completions."

FIGURE 46: COMPLETIONS BY AWARD LEVEL, 2013-14

SHARE OF AWARDS/DEGREES CONFERRED BY SELECTED INSTITUTIONS IN WEST KENTUCKY & CLARKSVILLE TN AREA



Data on completions for the most recent academic year available (2013-2014) were downloaded from the IPEDS Data Center

FIGURE 47. COMPLETIONS BY AWARD LEVEL AND INSTITUTION, 2013-14

	BY AWARD LEVEL						
	<1 year	At least 1 but <2 years	Associate's*	Bachelor's degree	Advanced degree**	TOTAL	
WEST KENTUCKY INSTITUTIONS	**3,594**	**359**	**1,812**	**1,504**	**703**	**7,972**	**100%**
West Kentucky Community & Technical College	2,074	225	740			3,039	38%
Murray State University			17	1,493	703	2,213	28%
Hopkinsville Community College	833	44	523			1,400	18%
Madisonville Community College	687	56	419			1,162	15%
Brown Mackie College-Hopkinsville		30	55			85	1%
Daymar College-Paducah Main		3	39	11		53	1%
Daymar College-Madisonville		1	19			20	<1%
CLARKSVILLE TN AREA INSTITUTIONS	**778**	**576**	**1,365**	**1,572**	**316**	**4,607**	**100%**
Austin Peay State University			256	1,546	316	2,118	46%
Nashville State Community College	425	286	646			1,357	29%
TN College of Applied Technology-Dickson	92	160	109			361	8%
Miller-Motte Technical College-Clarksville	144	99	87			330	7%
North Central Institute	117	25	94			236	5%
Daymar Institute-Clarksville		6	173	26		205	4%

Source (both figures): National Center for Education Statistics, Integrated Postsecondary Education Data System (IPEDS) surveys. Note: IPEDS data include only schools eligible to participate in federal financial aid programs. Figures shown include first and second majors. *Associate's-degree-level completions include a small number of awards categorized by IPEDS as "Award of at least two but less than four academic years." **Advanced-level completions represent all awards above the bachelor's-degree level.

for all schools in the 17-county region that participate in IPEDS surveys as well as for selected institutions serving the Clarksville metro area. Completions are typically reported at the institution level and are not available for individual campuses. As a result, the data presented in this section do not capture graduates of programs like the Paducah Campus of the University of Kentucky's College of Engineering.

Together, the institutions in the analysis conferred nearly 12,600 degrees/awards in credit-bearing programs during the 2013-2014 academic year. The distribution of awards by award level varied significantly between the West Kentucky and Clarksville area institutions (Figure 46). Among the West Kentucky institutions analyzed, nearly three out of four completions (72%) were awards of two years or less. Completions for Clarksville-area institutions were more likely to be awards of four years or more, with 41% of awards falling into this category in the year analyzed.

A look at completions by career cluster (Figure 48) and by major field of study (Figure 49, page 89) reveals that a significant share of the region's awards are made in healthcare-related fields. Nearly 3,000 awards were conferred in connection with the completion of healthcare-related coursework during the period analyzed. Of these, roughly two out of five awards (43%) were certificates of less than one year. Manufacturing represents another area with a significant number of completions in the region, most of which were also awards of one year or less. Among the schools analyzed, the majority of awards during the period were conferred by West Kentucky institutions: 75% of completions in the Health Science cluster and 81% of Manufacturing completions.

FIGURE 48. COMPLETIONS BY CAREER CLUSTER AND AWARD LEVEL, 2013-14
SORTED BY TOTAL NUMBER OF AWARDS CONFERRED

		BY AWARD LEVEL					BY GEOGRAPHY	
CAREER CLUSTER	TOTAL	<1 year	At least 1 but <2 years	Associate's degree*	Bachelor's degree	Advanced degree**	West Kentucky	Clarksville area
Education & Training	3,100	403	191	1,354	755	397	46%	54%
Health Science	2,940	1,257	402	763	428	90	75%	25%
Business Management & Administration	1,285	481	67	189	353	195	70%	30%
Manufacturing	940	692	52	174	17	5	81%	19%
Human Services	693	186	85	39	265	118	61%	39%
Information Technology	648	401	1	117	110	19	76%	24%
Transportation, Distribution & Logistics	636	449	39	148			42%	58%
Science, Technology, Engineering & Mathematics	596	60	8	107	341	80	58%	42%
Architecture & Construction	402	302	32	39	29		88%	12%
Arts, Audio/Video Technology & Communications	401	39	29	41	251	41	45%	55%
Law, Public Safety, Corrections & Security	340	34	2	138	166		46%	54%
Government & Public Adminstration	173				123	50	68%	32%
Agriculture, Food & Natural Resources	159	21	8	11	95	24	81%	19%
Finance	99		8	33	58		66%	34%
Hospitality & Tourism	98	47	11	24	16		76%	24%
Marketing	69				69		100%	0%
TOTAL	**12,579**	**4,372**	**935**	**3,177**	**3,076**	**1,019**	**63%**	**37%**

Source National Center for Education Statistics, Integrated Postsecondary Education Data System (IPEDS) surveys. Note: Largest category of awards is highlighted for each Career Cluster. See Figure 47, page 87 for additional notes. CIP data were crosswalked to Career Clusters using Table 7 from the NRCCTE's Crosswalk Validation Project. Under the crosswalk, completions in Liberal Arts And Sciences, General Studies And Humanities (CIP 24) are assigned to the Education & Training Career Cluster.

FIGURE 49. COMPLETIONS BY MAJOR FIELD OF STUDY (2-DIGIT CIP CODE) AND AWARD LEVEL 2013-2014
SORTED BY TOTAL NUMBER OF AWARDS CONFERRED

2-DIGIT CIP CODE & DESCRIPTION		TOTAL	BY AWARD LEVEL					BY GEOGRAPHY	
			<1 year	At least 1 but <2 years	Associate's degree*	Bachelor's degree	Advanced degree**	West Kentucky	Clarksville area
51	Health Professions and Related Programs	2,922	1,257	402	763	411	89	75%	25%
24	Liberal Arts and Sciences, Gen. Studies, and Humanities	2,103	375	191	1,320	211	6	46%	54%
52	Business, Mgmt. Marketing, and Related	1,392	498	75	228	406	185	69%	31%
47	Mechanic and Repair Technologies/Technicians	702	445	55	202			49%	51%
11	Computer and Info. Sciences and Support Services	648	401	1	117	110	19	76%	24%
13	Education	646			16	287	343	60%	40%
48	Precision Production	593	537	29	27			94%	6%
15	Engineering Technologies and Related Fields	440	130	21	105	111	73	77%	23%
43	Security, Law Enforcement, and Protective Services	303	28	2	107	166		48%	52%
44	Public Administration and Social Service Professions	283			19	151	113	70%	30%
46	Construction Trades	253	219	26	8			94%	6%
19	Family and Consumer Sciences/Human Sciences	235	167	12	38	17	1	80%	20%
09	Communication, Journalism, and Related Programs	218				184	34	52%	48%
12	Personal and Culinary Services	202	94	84	24			45%	55%
31	Parks, Recreation, Leisure, and Fitness Studies	195				163	32	16%	84%
50	Visual and Performing Arts	184	2	19	30	125	8	37%	63%
49	Transportation and Materials Moving	175	166		9			52%	48%
42	Psychology	134				114	20	25%	75%
01	Agriculture, Ag. Operations, and Related Sciences	127	4	8	8	83	24	76%	24%
45	Social Sciences	127				121	6	34%	66%
26	Biological and Biomedical Sciences	108				97	11	41%	59%
23	English Language and Literature/Letters	104				79	25	42%	58%
54	History	86				73	13	33%	67%
30	Multi/Interdisciplinary Studies	77			77			100%	0%
10	Communications Tech. and Support Svcs.	67	37	10	11	9		100%	0%
40	Physical Sciences	66				61	5	47%	53%
27	Mathematics and Statistics	47				40	7	70%	30%
22	Legal Professions and Studies	37	6		31			38%	62%
16	Foreign Languages, Literatures, and Linguistics	36				36		67%	33%
41	Science Technologies/Technicians	35			30		5	23%	77%
14	Engineering	20	6		7	7		35%	65%
03	Natural Resources and Conservation	12				12		100%	0%
38	Philosophy and Religious Studies	2				2		50%	50%
TOTAL		**12,579**	**4,372**	**935**	**3,177**	**3,076**	**1,019**	**63%**	**37%**

Source: National Center for Education Statistics, Integrated Postsecondary Education Data System (IPEDS) surveys. Note: Largest category of awards is highlighted for each CIP. See Figure 47, page 87 for additional notes.

K-12 STATISTICS

The Kentucky Department of Education (KDE) compiles a wide array of data on the state's K-12 system. Available data includes "accountability" rankings, graduation rates, and career and technical education enrollment. Selected data points from this vast repository are provided in Figure 50. Of the region's 22 school districts, nearly one-half (45%) were classified as "Distinguished." This ranking is based on the distribution of district scores on various performance metrics by percentile across the state. As a result, a district may not meet all metrics, but still score well relative to other districts statewide. Within the Distinguished group, two school districts were rated as "Distinguished/Progressing." Progressing schools are those that have met their Annual Measurable Objectives, as well as targets related to student participation and graduation rates.

The KDE data also include statistics on career pathway enrollments (Figure 51, page 91). During the 2014-2015 school year more than 22,400 West Kentucky students (38%) were enrolled in a career pathway, with just over 2,500 receiving either an industry certification or a Kentucky Occupational Skills Standards Assessment. Of the 72 career pathways reported in the data, seven comprised one-half of all enrollments: Consumer & Family Management, Administrative Support, Animal Science Systems, Business Management, Horticulture & Plant Science Systems, Agricultural Power Structural Technical Systems, and Early Childhood Education.

FIGURE 50. SELECTED INDICATORS, KENTUCKY DEPARTMENT OF EDUCATION, 2014-2015 SCHOOL YEAR

DISTRICT	TOTAL K-12 ENROLLMENT	CLASSIFICATION	4-YR ADJUSTED COHORT GRADUATION RATE			MET GRADUATION RATE GOAL?
			2013	2014	2015	
PENNYRILE REGION						
Caldwell County	1,962	Distinguished	90.8	91.9	89.5	No
Christian County	8,676	Needs Improvement	81.3	83.6	87.9	Yes
Crittenden County	1,295	Proficient	83.5	83.9	83.0	No
Dawson Springs Ind. (Hopkins Co.)	627	Proficient	98.4	97.1	91.9	No
Hopkins County	6,774	Distinguished	87.4	91.3	87.1	No
Livingston County	1,162	Proficient	94.9	98.6	97.6	Yes
Lyon County	862	Distinguished	97.0	96.6	95.9	No
Muhlenberg County	4,935	Proficient	87.8	88.6	89.0	No
Todd County	1,949	Needs Improvement	93.0	92.8	95.9	Yes
Trigg County	1,976	Proficient	91.8	92.4	89.1	No
PURCHASE REGION						
Ballard County	1,267	Distinguished	92.4	89.6	94.4	Yes
Calloway County	3,053	Distinguished/Progressing	93.0	94.3	94.7	Yes
Murray Independent	1,559	Distinguished	94.9	97.1	97.8	Yes
Carlisle County	739	Needs Improvement	95.4	82.1	92.9	No
Fulton County	519	Needs Improvement/Progressing	97.7	100.0	100.0	Yes
Fulton Independent	369	Proficient	80.6	96.7	95.2	Yes
Graves County	4,341	Distinguished	91.9	92.4	92.9	No
Mayfield Independent	1,631	Proficient/Progressing	91.6	97.1	94.8	Yes
Hickman County	739	Distinguished/Progressing	100.0	100.0	98.1	Yes
Marshall County	4,687	Distinguished	91.9	89.0	92.7	No
McCracken County	6,712	Distinguished	88.7	91.4	94.2	Yes
Paducah Ind. (McCracken Co.)	2,843	Needs Improvement	81.8	86.6	84.0	No

Source: Kentucky Department of Education, School and District Report Cards (selected reports). Note: Classifications reflect the district's overall performance score as percentiles within the state: "Distinguished" = a score in the 90th to 99th percentile statewide, "Proficient" = 70th to 89th percentile, "Needs Improvement" = scores below the 70th percentile. A "Progressing" district has met its Annual Measurable Objectives, as well as student participation rate for the all students group and each subgroup, and its graduation rate goal.

FIGURE 51. CAREER PATHWAY (CP) ENROLLMENT, 2014-2015 SCHOOL YEAR

BY REGION AND DISTRICT

DISTRICT NAME	TOTAL (CP) ENROLLMENT	DISTRICT SHARE OF WEST KY CP ENROLLMENT
PENNYRILE REGION	**11,979**	**53.4%**
Trigg County	1,639	7.3%
Hopkins County	3,276	14.6%
Crittenden County	573	2.6%
Muhlenberg County	2,023	9.0%
Lyon County	336	1.5%
Todd County	731	3.3%
Livingston County	370	1.6%
Christian County	2,436	10.9%
Caldwell County	548	2.4%
Dawson Springs Ind. (Hopkins Co.)	47	0.2%
PURCHASE REGION	**10,466**	**46.6%**
Ballard County	870	3.9%
Marshall County	3,151	14.0%
Calloway County	1,364	6.1%
Fulton Independent	130	0.6%
Graves County	1,376	6.1%
McCracken County	1,927	8.6%
Hickman County	207	0.9%
Carlisle County	190	0.8%
Mayfield Independent	378	1.7%
Paducah Ind. (McCracken Co.)	536	2.4%
Murray Independent	282	1.3%
Fulton County	55	0.2%
WEST KENTUCKY	**22,445**	**100%**

BY PATHWAY (TOP 25)

CAREER PATHWAY	ENROLLED	% OF CP ENROLLM ENT
TOTAL	**22,445**	**100.0%**
Consumer & Family Management	2,226	9.9%
Administrative Support	1,986	8.8%
Animal Science Systems	1,525	6.8%
Business Management	1,468	6.5%
Horticulture And Plant Science Systems	1,454	6.5%
Ag. Power Structural Technical Systems	1,330	5.9%
Early Childhood Education	1,120	5.0%
Business Technology	936	4.2%
Culinary & Food Services	855	3.8%
Visual Arts	680	3.0%
PLTW Engineering	672	3.0%
Allied Health	635	2.8%
Information Processing	628	2.8%
Pre-Nursing	589	2.6%
Marketing	475	2.1%
PLTW Biomedical Sciences	433	1.9%
Army JROTC	338	1.5%
Agribusiness Systems	278	1.2%
Navy/Marine Corps JROTC	260	1.2%
Carpenter Assistant	249	1.1%
Music Instrumental Ensemble	237	1.1%
Graphic & Digital Comm. Tech.	230	1.0%
Advanced Nursing Assistant	212	0.9%
Auto Maintenance & Light Repair Tech.	193	0.9%
Welder Entry Level	185	0.8%

Source: Kentucky Department of Education, School and District Report Cards (selected reports)

WORKFORCE SWOT ANALYSIS

STRENGTHS

- The region offers a low cost of living relative to many areas of the US.
- West Kentucky has high concentrations of workers in a number of middle-skills jobs relative to the US.
- Residents and employers have access to strong postsecondary assets (e.g., West Kentucky Community & Technical College, Hopkinsville Community College, Madisonville, Community College, Murray State University).
- Sector-based efforts are in progress in the region, e.g., collaboration between major employers and higher education through Kentucky FAME (Federation of Advanced Manufacturing Education) and Purchase Area Health Education Consortium.
- The labor pool associated with Fort Campbell is a significant resource (e.g., Soldiers separating from services, retirees, and spouses and other family members).

WEAKNESSES

- Low wage rates relative to US presents a disadvantage in talent retention and recruitment.
- Negative perceptions of the state and the region can a challenge in recruitment.
- A perceived lack of flexibility in postsecondary education system makes it difficult to be responsive.
- The region has had consistently low rates of population growth relative to the state and US over an extended period.
- Labor force participation rates are below average across the region.

OPPORTUNITIES

- Supporting and expanding existing sector-based collaborations could help connect employers with needed talent.
- Articulating career paths in agriculture and raising awareness of opportunities in maritime were identified by employers as needs.
- Pursuing strategies to increase labor participation rates in the region should be a priority.
- Increasing participation in work ready initiatives and the number of NCRC awards can help strengthen the regional talent pipeline.

THREATS

- Continued economic pressures on key sectors (e.g., defense, manufacturing, agriculture) could threaten growth nationally and regionally.
- The aging of the workforce regionally and nationally will increase the demand for workers.
- Reductions in federal spending, including defense, could negatively impact economic growth in the region
- The pending change in administration (federal) typically creates uncertainty and could result in delays in funding.
- Global uncertainty regarding trade and economic conditions may continue to keep investors out of the market.

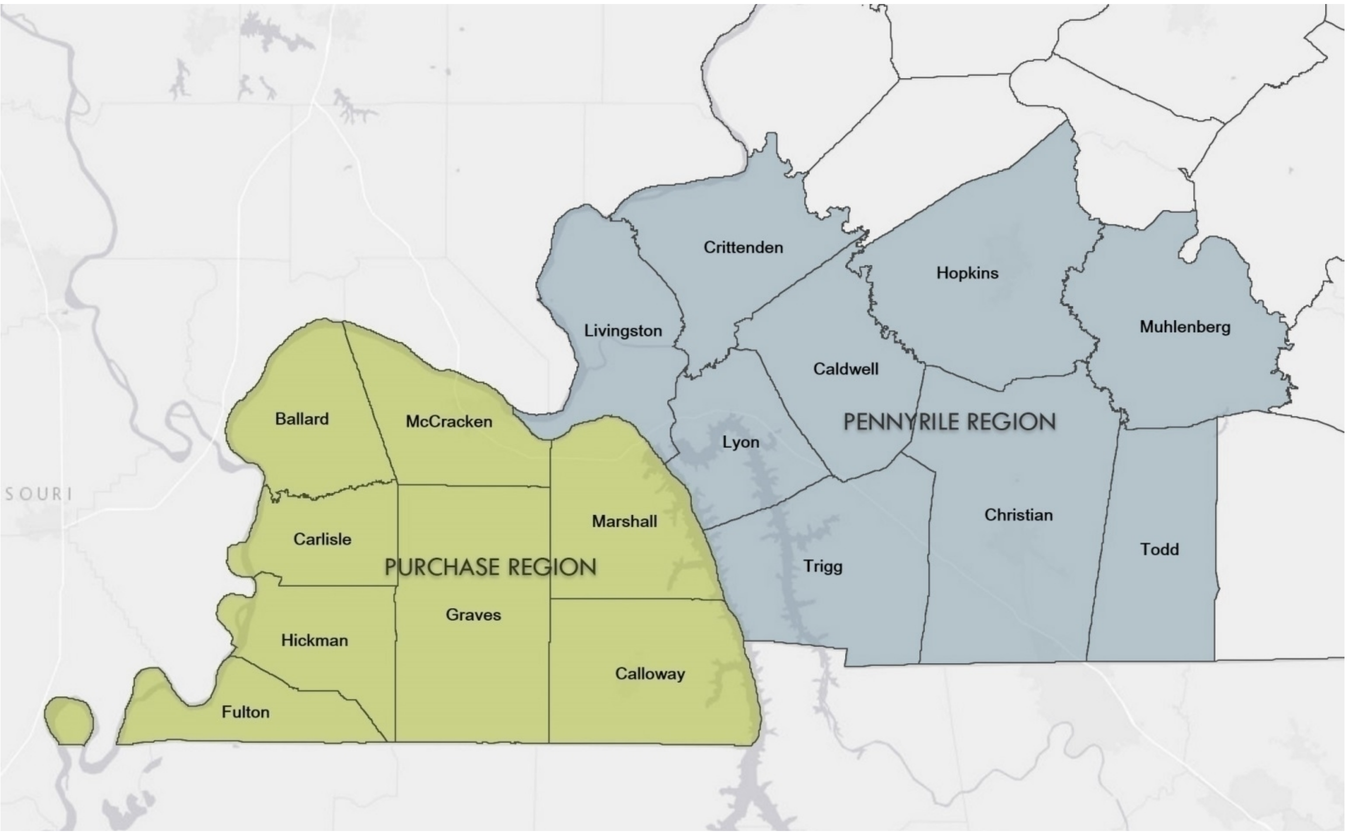
APPENDIX 1. DATA PROFILES

This section provides data profiles for the Pennyrile and Purchase Regions and for each of West Kentucky's 17 counties. Each profile contains data on the regional workforce (demographics, commuting patterns, and top occupations) and selected economic indicators (employment growth, unemployment rate, gross regional product) as well as an overview of the area's performance with regard to the target sectors identified earlier in this report.

Data for these profiles was drawn from both public and proprietary data sources, including:

- *EMSI.* EMSI integrates economic, labor market, demographic, and education data from over 90 government and private-sector sources. Unlike "covered employment" figures produced by state and federal agencies (which includes only those industries covered by unemployment insurance), EMSI produces estimates for all industries, including self-employment.
- *American Community Survey.* The American Community Survey is a nationwide survey conducted by the US Census Bureau that collects and produces information on demographic, social, economic, and housing characteristics. Questionnaires are mailed to approximately 295,000 households each month, or more than 3.5 million each year.
- *On the Map.* Commuting patterns data were compiled using On the Map, part of the US Census Bureau's Local Employment Dynamics (LED) program. This state-federal partnership combines data from state administrative records with federal data products, such as censuses and surveys, to provide a comprehensive picture of the labor force.
- *Moody's Analytics.* Moody's Analytics provides economic, consumer credit and financial data, analysis, and forecasting at the global, macro, and regional levels.

FIGURE 52. MAP OF WEST KENTUCKY REGION, INCLUDING SUB-REGIONS

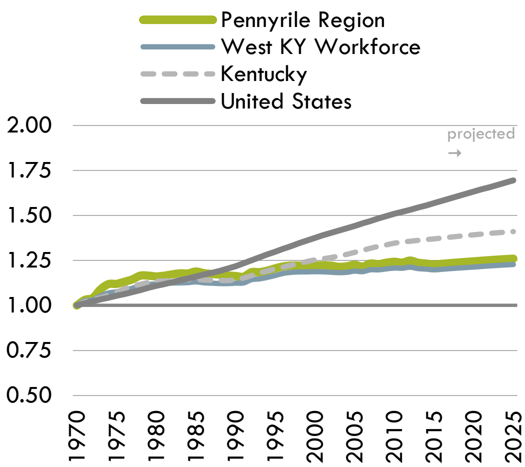


Source: TIP Strategies

PENNYRILE REGION

DEMOGRAPHICS

POPULATION TRENDS (1970 = 1.00)



DEMOGRAPHIC SNAPSHOT

VARIABLE	REGION	WEST KY
Population, 2015	216,964	412,783
% change from 2010	-1.2%	-0.8%
Age (selected categories as % of total population)		
Adult working age (25 to 64 years)	49.5%	49.7%
Seniors (65+ years)	16.5%	17.5%
Median age (in years, US = 37.4)	—	—
Educational attainment (% of pop. 25+ years)		
Less than high school	17.0%	16.0%
High school/GED	38.0%	36.4%
Some college, no degree	31.2%	30.7%
Bachelor's degree or higher	13.8%	16.8%
Median household income	$44,732	—
Share of population in poverty	19.2%	18.5%

COMMUTING PATTERNS, 2014

WORK IN PENNYRILE REGION

	LIVE *IN:*		% WORKERS
1	Christian County, KY	13,912	20.8%
2	Hopkins County, KY	12,192	18.2%
3	Muhlenberg County, KY	6,522	9.8%
4	Montgomery County, TN	3,671	5.5%
5	Caldwell County, KY	3,606	5.4%

LIVE IN PENNYRILE REGION

	WORK *IN:*		% EMPL. RESIDENTS
1	Christian County, KY	16,359	22.4%
2	Hopkins County, KY	12,247	16.8%
3	Muhlenberg County, KY	6,028	8.3%
4	Caldwell County, KY	3,237	4.4%
5	McCracken County, KY	2,863	3.9%

EMPLOYMENT TRENDS - SELECTED OCCUPATIONS, 2010 TO 2015

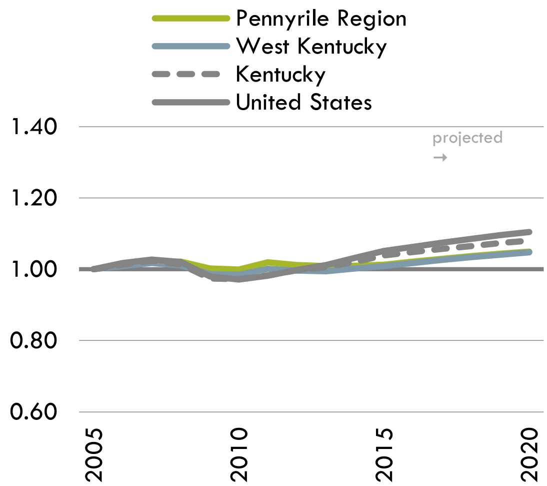
RANK	SOC & DESCRIPTION		2010	2015	LQ (US = 1.00)	MED. HRLY. EARNINGS	CHG., 2010-2015 NET	CHG., 2010-2015 %
	TOTAL		**114,975**	**116,493**		**$16.32**	**+1,518**	**+1%**
1	11-9013	Farmers, Ranchers, & Other Agricultural Mgrs.	1,392	1,523	4.01	$11.80	+131	+9%
2	51-2099	Assemblers & Fabricators, All Other	414	606	3.23	$12.17	+192	+46%
3	51-2092	Team Assemblers	1,512	2,336	2.67	$15.73	+824	+55%
4	51-4041	Machinists	479	634	2.11	$22.78	+156	+33%
5	53-3022	Bus Drivers, School or Special Client	783	758	2.07	$13.77	-25	-3%
6	49-9041	Industrial Machinery Mechanics	464	515	2.06	$28.59	+51	+11%
7	47-2073	Operating Eng. & Other Constr. Equip. Operators	422	488	1.75	$18.82	+66	+16%
8	35-2012	Cooks, Institution & Cafeteria	546	538	1.67	$10.33	-8	-1%
9	53-7051	Industrial Truck & Tractor Operators	483	657	1.63	$15.22	+174	+36%
10	33-3012	Correctional Officers & Jailers	506	480	1.44	$12.35	-26	-5%

Sources: U.S. Census Bureau (population estimates); Moody's Analytics (population projections); 2010-2014 American Community Survey 5-Year Estimates (snapshot variables, except population); U.S. Census Bureau, OnTheMap Application and LEHD Origin-Destination Employment Statistics (commuting); EMSI, 2016.1 – QCEW Employees, Non-QCEW Employees, and Self-Employed (occupations)

PENNYRILE REGION (CONTINUED)

ECONOMY

EMPLOYMENT TRENDS (2005 = 1.00)



ECONOMIC SNAPSHOT

VARIABLE	COUNTY	WEST KY
Employment, 2015	116,493	210,277
Change (%) in employment from 2010	+1.3%	2.4%
Share (%) of regional employment, 2015	+55.4%	100.0%
Number of establishments	4,822	10,516
Civilian labor force (April 2016)	83,688	169,764
Unemployed (April 2016)	5,060	10,153
Unemployment rate (April 2016)	6.0	6.0
Change in UE rate from prior 12-months	+0.1	+0.1
Average earnings(all industries), 2015	$51,082	$48,822
COL-adjusted average earnings, 2015	$55,798	$52,913
Relative earnings (US = 100%)	84.4%	80.6%
Gross regional product (GRP)	$11.79B	$19.35B
Share (%) of regional GRP	60.9%	100.0%

SECTOR ANALYSIS OVERVIEW, 2015

ADVANCED MANUFACTURING		
EMPLOYMENT 11,195	**LQ** 1.2	**EARNINGS/JOB** $59.5K

AGRICULTURE & FOOD		
EMPLOYMENT 4,863	**LQ** 1.8	**FARM EARNINGS/JOB** $44.9

CULTURAL INDUSTRIES		
EMPLOYMENT 5,862	**LQ** 0.8	**TOURISM EXPENDITURES/JOB** $42.4K

HEALTH		
EMPLOYMENT 10,337	**LQ** 0.7	**EARNINGS/JOB** $48.1K

INFORMATION TECHNOLOGY		
EMPLOYMENT 653	**LQ** 0.3	**EARNINGS/JOB** $50.9K

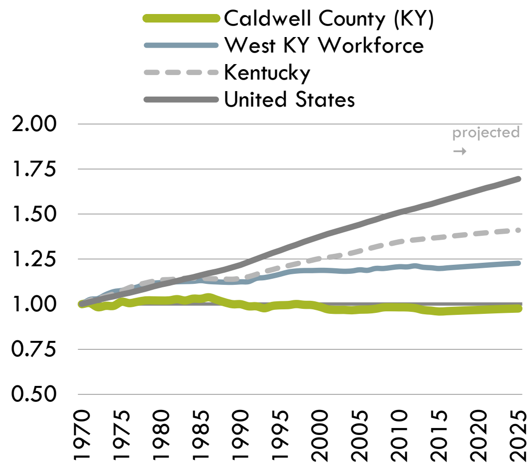
LOGISTICS & DISTRIBUTION		
EMPLOYMENT 3,474	**LQ** 0.9	**EARNINGS/JOB** $56.1K

Sources: EMSI, 2016.1 – QCEW Employees, Non-QCEW Employees, and Self-Employed; US Bureau of Labor Statistics (labor market info) via Moody's Analytics; US Bureau of Economic Analysis (farm income); Kentucky Tourism, Arts, & Heritage Cabinet (tourism data).

CALDWELL COUNTY

DEMOGRAPHICS

POPULATION TRENDS (1970 = 1.00)



DEMOGRAPHIC SNAPSHOT

VARIABLE	COUNTY	WEST KY
Population, 2015	12,681	412,783
% change from 2010	-2.4%	-0.8%
Age (selected categories as % of total population)		
Adult working age (25 to 64 years)	50.5%	49.7%
Seniors (65+ years)	19.7%	17.5%
Median age (in years, US = 37.4)	42.5	—
Educational attainment (% of pop. 25+ years)		
Less than high school	12.2%	16.0%
High school/GED	43.3%	36.4%
Some college, no degree	27.3%	30.7%
Bachelor's degree or higher	17.3%	16.8%
Median household income	$42,640	—
Share of population in poverty	18.2%	18.5%

COMMUTING PATTERNS, 2014

WORK IN CALDWELL COUNTY

	LIVE *IN:*		*% WORKERS*
1	Caldwell County, KY	1,994	38.8%
2	Christian County, KY	474	9.2%
3	Lyon County, KY	346	6.7%
4	Hopkins County, KY	344	6.7%
5	McCracken County, KY	219	4.3%

LIVE IN CALDWELL COUNTY

	WORK *IN:*		*% EMPL. RESIDENTS*
1	Caldwell County, KY	1,994	38.8%
2	Christian County, KY	474	9.2%
3	Lyon County, KY	346	6.7%
4	Hopkins County, KY	344	6.7%
5	McCracken County, KY	219	4.3%

EMPLOYMENT TRENDS - SELECTED OCCUPATIONS, 2010 TO 2015

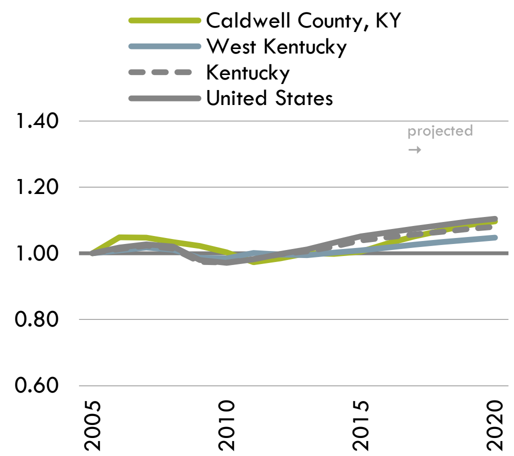
RANK	SOC & DESCRIPTION		2010	2015	LQ (US = 1.00)	MED. HRLY. EARNINGS	CHG., 2010-2015 NET	CHG., 2010-2015 %
	TOTAL		**4,797**	**4,806**		**$14.73**	**+9**	**+0%**
1	51-3092	Food Batchmakers	88	101	26.43	$16.66	+12	+14%
2	11-9013	Farmers, Ranchers, & Other Agricultural Mgrs.	46	165	10.52	$13.59	+119	+260%
3	53-7064	Packers & Packagers, Hand	51	55	2.45	$9.93	+4	+7%
4	45-2092	Farmworkers & Laborers, Crop & Greenhouse	26	53	2.23	$12.26	+27	+102%
5	53-3032	Heavy & Tractor-Trailer Truck Drivers	80	115	1.98	$17.79	+35	+43%
6	41-1011	First-Line Supvsr., Retail Sales Workers	78	84	1.86	$14.91	+6	+8%
7	35-3021	Combined Food Prep. & Servers, Incl. Fast Food	149	182	1.80	$8.08	+33	+22%
8	31-1014	Nursing Assistants	86	76	1.64	$9.19	-10	-12%
9	41-2011	Cashiers	166	173	1.61	$8.42	+7	+4%
10	41-2031	Retail Salespersons	259	201	1.38	$9.12	-58	-22%

Sources: U.S. Census Bureau (population estimates); Moody's Analytics (population projections); 2010-2014 American Community Survey 5-Year Estimates (snapshot variables, except population); U.S. Census Bureau, OnTheMap Application and LEHD Origin-Destination Employment Statistics (commuting); EMSI, 2016.1 – QCEW Employees, Non-QCEW Employees, and Self-Employed (occupations)

CALDWELL COUNTY (CONTINUED)

ECONOMY

EMPLOYMENT TRENDS (2005 = 1.00)



ECONOMIC SNAPSHOT

VARIABLE	COUNTY	WEST KY
Employment, 2015	4,806	210,277
Change (%) in employment from 2010	+0.2%	+2.4%
Share (%) of regional employment, 2015	+2.3%	100.0%
Number of establishments	329	10,516
Civilian labor force (April 2016)	5,353	169,764
Unemployed (April 2016)	325	10,153
Unemployment rate (April 2016)	6.1	6.0
Change in UE rate from prior 12-months	+0.7	+0.1
Average earnings(all industries), 2015	$37,096	$48.8K
COL-adjusted average earnings, 2015	$40,622	$59.2K
Relative earnings (US = 100%)	61%	81%
Gross regional product (GRP)	$357.49M	$19.35B
Share (%) of regional GRP	1.8%	100%

SECTOR ANALYSIS OVERVIEW, 2015

ADVANCED MANUFACTURING		
EMPLOYMENT 871	**LQ** 2.3	**EARNINGS/JOB** $55.6K

AGRICULTURE & FOOD		
EMPLOYMENT 968	**LQ** 8.6	**FARM EARNINGS/JOB** $13.1K

CULTURAL INDUSTRIES		
EMPLOYMENT 80	**LQ** 0.3	**TOURISM EXPENDITURES/JOB** $62.0K

HEALTH		
EMPLOYMENT 533	**LQ** 0.9	**EARNINGS/JOB** $34.4K

INFORMATION TECHNOLOGY		
EMPLOYMENT 59	**LQ** 0.7	**EARNINGS/JOB** $42.4K

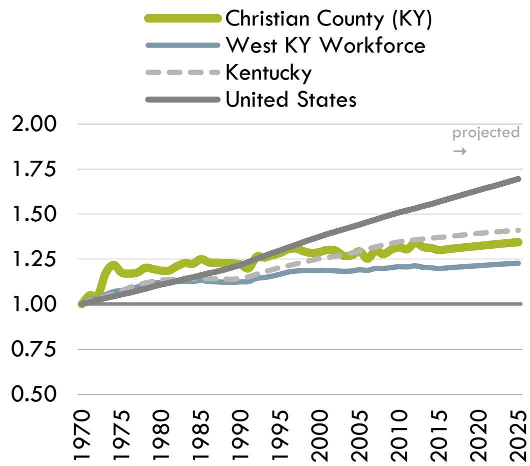
LOGISTICS & DISTRIBUTION		
EMPLOYMENT 144	**LQ** 0.9	**EARNINGS/JOB** $59.3K

Sources: EMSI, 2016.1 – QCEW Employees, Non-QCEW Employees, and Self-Employed; US Bureau of Labor Statistics (labor market info) via Moody's Analytics; US Bureau of Economic Analysis (farm income); Kentucky Tourism, Arts, & Heritage Cabinet (tourism data).

CHRISTIAN COUNTY

DEMOGRAPHICS

POPULATION TRENDS (1970 = 1.00)



DEMOGRAPHIC SNAPSHOT

VARIABLE	COUNTY	WEST KY
Population, 2015	73,309	412,783
% change from 2010	-1.1%	-0.8%
Age (selected categories as % of total population)		
Adult working age (25 to 64 years)	45.7%	49.7%
Seniors (65+ years)	11.4%	17.5%
Median age (in years, US = 37.4)	28.5	—
Educational attainment (% of pop. 25+ years)		
Less than high school	14.3%	16.0%
High school/GED	33.7%	36.4%
Some college, no degree	36.3%	30.7%
Bachelor's degree or higher	15.7%	16.8%
Median household income	$36,736	—
Share of population in poverty	21.6%	18.5%

COMMUTING PATTERNS, 2014

WORK IN CHRISTIAN COUNTY

	LIVE *IN:*		*% WORKERS*
1	Christian County, KY	12,431	49.4%
2	Montgomery County, TN	3,359	13.3%
3	Trigg County, KY	1,095	4.4%
4	Hopkins County, KY	941	3.7%
5	Todd County, KY	846	3.4%

LIVE IN CHRISTIAN COUNTY

	WORK *IN:*		*% EMPL. RESIDENTS*
1	Christian County, KY	12,431	60.7%
2	Montgomery County, TN	903	4.4%
3	Jefferson County, KY	613	3.0%
4	Hopkins County, KY	550	2.7%
5	McCracken County, KY	525	2.6%

EMPLOYMENT TRENDS - SELECTED OCCUPATIONS, 2010 TO 2015

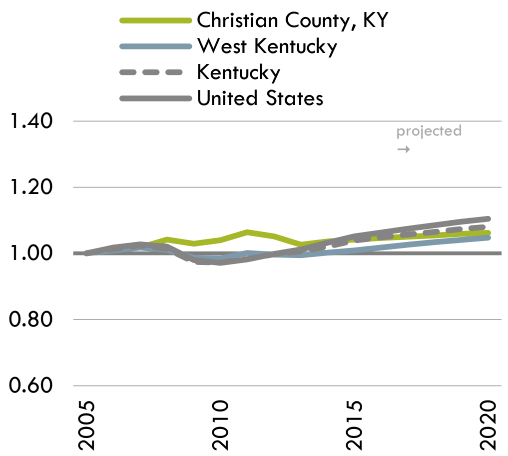
RANK	SOC & DESCRIPTION		2010	2015	LQ (US = 1.00)	MED. HRLY. EARNINGS	CHG., 2010-2015 NET	CHG., 2010-2015 %
	TOTAL		**65,625**	**65,755**		**$16.06**	**+130**	**+0%**
1	53-7063	Machine Feeders & Offbearers	161	222	4.88	$17.87	+61	+38%
2	51-4122	Welding, Soldering, & Brazing Machine	63	112	4.45	$18.08	+49	+77%
3	51-2092	Team Assemblers	1,130	1,836	3.72	$15.97	+707	+63%
4	31-9099	Healthcare Support Workers, All Other	178	159	3.61	$16.56	-19	-10%
5	51-4031	Cutting, Punching, & Press Machine, Metal/Plastic	196	286	3.54	$16.08	+90	+46%
6	51-2099	Assemblers & Fabricators, All Other	218	349	3.30	$13.07	+131	+60%
7	51-9121	Coating, Painting, & Spraying Machine Workers	75	117	2.99	$16.03	+42	+56%
8	51-9199	Production Workers, All Other	174	265	2.60	$13.30	+91	+52%
9	51-6031	Sewing Machine Operators	285	156	2.34	$10.07	-128	-45%
10	43-4199	Information & Record Clerks, All Other	227	185	2.20	$17.36	-42	-18%

Sources: U.S. Census Bureau (population estimates); Moody's Analytics (population projections); 2010-2014 American Community Survey 5-Year Estimates (snapshot variables, except population); U.S. Census Bureau, OnTheMap Application and LEHD Origin-Destination Employment Statistics (commuting); EMSI, 2016.1 – QCEW Employees, Non-QCEW Employees, and Self-Employed (occupations)

CHRISTIAN COUNTY (CONTINUED)

ECONOMY

EMPLOYMENT TRENDS (2005 = 1.00)



ECONOMIC SNAPSHOT

VARIABLE	COUNTY	WEST KY
Employment, 2015	65,755	210,277
Change (%) in employment from 2010	+0.2%	+2.4%
Share (%) of regional employment, 2015	+31.3%	100.0%
Number of establishments	1,666	10,516
Civilian labor force (April 2016)	25,551	169,764
Unemployed (April 2016)	1,546	10,153
Unemployment rate (April 2016)	6.1	6.0
Change in UE rate from prior 12-months	-0.4	+0.1
Average earnings(all industries), 2015	$55,967	$48.8K
COL-adjusted average earnings, 2015	$61,309	$59.2K
Relative earnings (US = 100%)	92.4%	81%
Gross regional product (GRP)	$7.49B	$19.35B
Share (%) of regional GRP	38.7%	100%

SECTOR ANALYSIS OVERVIEW, 2015

ADVANCED MANUFACTURING		
EMPLOYMENT 5,820	**LQ** 1.1	**EARNINGS/JOB** $59.5K

AGRICULTURE & FOOD		
EMPLOYMENT 1,494	**LQ** 1.0	**FARM EARNINGS/JOB** $49.7K

CULTURAL INDUSTRIES		
EMPLOYMENT 1,132	**LQ** 0.3	**TOURISM EXPENDITURES/JOB** $80.2K

HEALTH		
EMPLOYMENT 3,752	**LQ** 0.5	**EARNINGS/JOB** $50.3K

INFORMATION TECHNOLOGY		
EMPLOYMENT 310	**LQ** 0.3	**EARNINGS/JOB** $57.0K

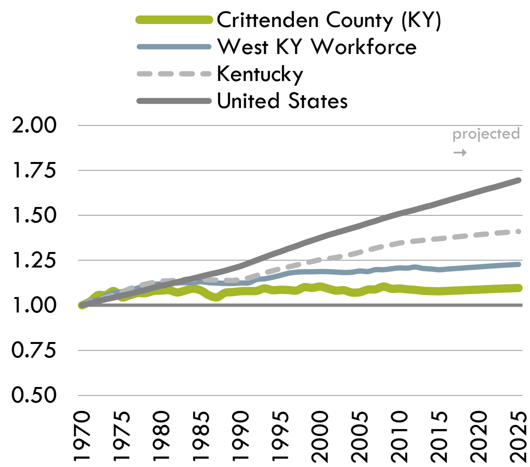
LOGISTICS & DISTRIBUTION		
EMPLOYMENT 1,469	**LQ** 0.7	**EARNINGS/JOB** $57.4K

Sources: EMSI, 2016.1 – QCEW Employees, Non-QCEW Employees, and Self-Employed; US Bureau of Labor Statistics (labor market info) via Moody's Analytics; US Bureau of Economic Analysis (farm income); Kentucky Tourism, Arts, & Heritage Cabinet (tourism data).

CRITTENDEN COUNTY

DEMOGRAPHICS

POPULATION TRENDS (1970 = 1.00)



DEMOGRAPHIC SNAPSHOT

VARIABLE	COUNTY	WEST KY
Population, 2015	9,183	412,783
% change from 2010	-1.4%	-0.8%
Age (selected categories as % of total population)		
Adult working age (25 to 64 years)	50.7%	49.7%
Seniors (65+ years)	19.8%	17.5%
Median age (in years, US = 37.4)	42.2	—
Educational attainment (% of pop. 25+ years)		
Less than high school	20.8%	16.0%
High school/GED	37.8%	36.4%
Some college, no degree	30.1%	30.7%
Bachelor's degree or higher	11.3%	16.8%
Median household income	$38,338	—
Share of population in poverty	20.3%	18.5%

COMMUTING PATTERNS, 2014

WORK IN CRITTENDEN COUNTY

	LIVE *IN:*		% WORKERS
1	Crittenden County, KY	1,133	56.5%
2	Caldwell County, KY	119	5.9%
3	Livingston County, KY	117	5.8%
4	Lyon County, KY	60	3.0%
5	McCracken County, KY	55	2.7%

LIVE IN CRITTENDEN COUNTY

	WORK *IN:*		*% EMPL. RESIDENTS*
1	Crittenden County, KY	1,133	32.0%
2	Livingston County, KY	284	8.0%
3	Union County, KY	239	6.8%
4	McCracken County, KY	220	6.2%
5	Lyon County, KY	180	5.1%

EMPLOYMENT TRENDS - SELECTED OCCUPATIONS, 2010 TO 2015

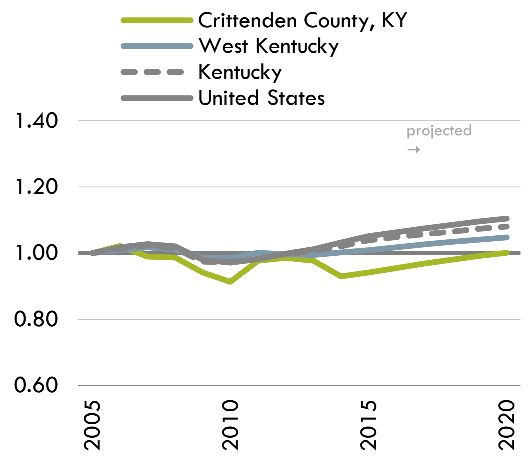
RANK	SOC & DESCRIPTION		2010	2015	LQ (US = 1.00)	MED. HRLY. EARNINGS	CHG., 2010-2015 NET	CHG., 2010-2015 %
	TOTAL		**2,211**	**2,277**		**$15.55**	**+66**	**+3%**
1	51-4041	Machinists	19	45	7.57	$24.58	+25	+129%
2	35-3021	Combined Food Prep. & Servers, Incl. Fast Food	138	145	3.02	$8.12	+6	+5%
3	31-1014	Nursing Assistants	51	52	2.39	$9.78	+2	+3%
4	35-1012	First-Line Supvsr., Food Prep. & Servers	28	30	2.25	$10.62	+2	+6%
5	47-2031	Carpenters	29	30	2.02	$13.26	+2	+5%
6	25-9041	Teacher Assistants	36	36	1.92	$10.55	-0	-0%
7	29-1141	Registered Nurses	87	78	1.91	$21.11	-9	-10%
8	53-3032	Heavy & Tractor-Trailer Truck Drivers	37	51	1.84	$14.79	+13	+36%
9	25-2021	Teachers, Elementary (Except Special Ed.)	34	36	1.82	$21.63	+2	+5%
10	39-9011	Childcare Workers	28	28	1.48	$7.96	-0	-0%

Sources: U.S. Census Bureau (population estimates); Moody's Analytics (population projections); 2010-2014 American Community Survey 5-Year Estimates (snapshot variables, except population); U.S. Census Bureau, OnTheMap Application and LEHD Origin-Destination Employment Statistics (commuting); EMSI, 2016.1 – QCEW Employees, Non-QCEW Employees, and Self-Employed (occupations)

CRITTENDEN COUNTY (CONTINUED)

ECONOMY

EMPLOYMENT TRENDS (2005 = 1.00)



ECONOMIC SNAPSHOT

VARIABLE	COUNTY	WEST KY
Employment, 2015	2,277	210,277
Change (%) in employment from 2010	+3.0%	+2.4%
Share (%) of regional employment, 2015	+1.1%	100.0%
Number of establishments	176	10,516
Civilian labor force (April 2016)	3,792	169,764
Unemployed (April 2016)	213	10,153
Unemployment rate (April 2016)	5.6	6.0
Change in UE rate from prior 12-months	+0.2	+0.1
Average earnings(all industries), 2015	$33,252	$48.8K
COL-adjusted average earnings, 2015	$36,648	$59.2K
Relative earnings (US = 100%)	54.9%	81%
Gross regional product (GRP)	$158.26M	$19.35B
Share (%) of regional GRP	0.8%	100%

SECTOR ANALYSIS OVERVIEW, 2015

ADVANCED MANUFACTURING		
EMPLOYMENT 337	**LQ** 1.9	**EARNINGS/JOB** $39.4K

AGRICULTURE & FOOD		
EMPLOYMENT 31	**LQ** 0.6	**FARM EARNINGS/JOB** $297.5K

CULTURAL INDUSTRIES		
EMPLOYMENT 60	**LQ** 0.4	**TOURISM EXPENDITURES/JOB** $65.2K

HEALTH		
EMPLOYMENT 391	**LQ** 1.4	**EARNINGS/JOB** $37.3K

INFORMATION TECHNOLOGY		
EMPLOYMENT 19	**LQ** 0.4	**EARNINGS/JOB** $51.8K

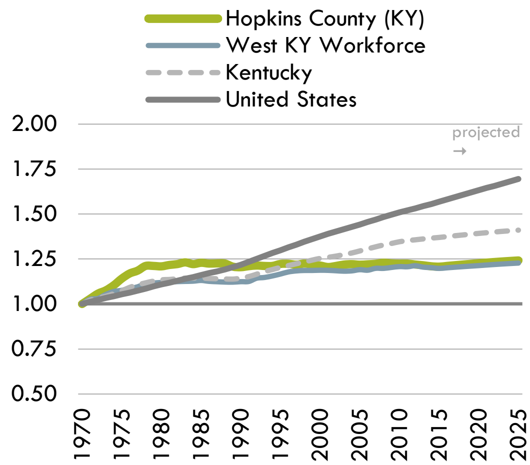
LOGISTICS & DISTRIBUTION		
EMPLOYMENT 42	**LQ** 0.6	**EARNINGS/JOB** $36.4K

Sources: EMSI, 2016.1 – QCEW Employees, Non-QCEW Employees, and Self-Employed; US Bureau of Labor Statistics (labor market info) via Moody's Analytics; US Bureau of Economic Analysis (farm income); Kentucky Tourism, Arts, & Heritage Cabinet (tourism data).

HOPKINS COUNTY

DEMOGRAPHICS

POPULATION TRENDS (1970 = 1.00)



DEMOGRAPHIC SNAPSHOT

VARIABLE	COUNTY	WEST KY
Population, 2015	46,222	412,783
% change from 2010	-1.4%	-0.8%
Age (selected categories as % of total population)		
Adult working age (25 to 64 years)	52.2%	49.7%
Seniors (65+ years)	17.6%	17.5%
Median age (in years, US = 37.4)	40.3	—
Educational attainment (% of pop. 25+ years)		
Less than high school	16.3%	16.0%
High school/GED	39.8%	36.4%
Some college, no degree	30.0%	30.7%
Bachelor's degree or higher	13.9%	16.8%
Median household income	$42,477	—
Share of population in poverty	16.9%	18.5%

COMMUTING PATTERNS, 2014

WORK IN HOPKINS COUNTY

	LIVE IN:		% WORKERS
1	Hopkins County, KY	9,923	57.7%
2	Muhlenberg County, KY	1,046	6.1%
3	Webster County, KY	768	4.5%
4	Christian County, KY	550	3.2%
5	Daviess County, KY	493	2.9%

LIVE IN HOPKINS COUNTY

	WORK IN:		% EMPL. RESIDENTS
1	Hopkins County, KY	9,923	52.6%
2	Christian County, KY	941	5.0%
3	Henderson County, KY	871	4.6%
4	Daviess County, KY	790	4.2%
5	Webster County, KY	762	4.0%

EMPLOYMENT TRENDS - SELECTED OCCUPATIONS, 2010 TO 2015

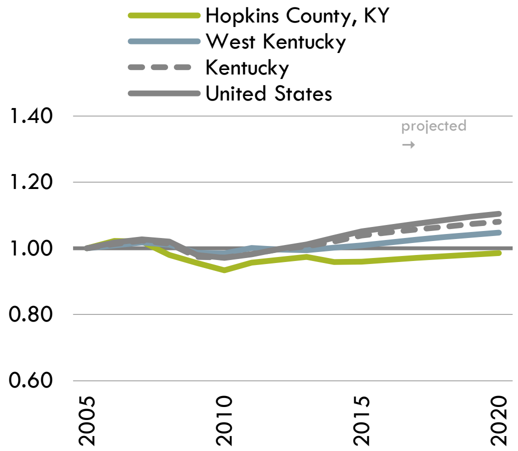
RANK	SOC & DESCRIPTION		2010	2015	LQ (US = 1.00)	MED. HRLY. EARNINGS	CHG., 2010-2015 NET	CHG., 2010-2015 %
	TOTAL		**19,252**	**19,797**		**$17.84**	**+545**	**+3%**
1	47-5061	Roof Bolters, Mining	157	104	160.10	$27.61	-53	-34%
2	49-9051	Electrical Power-Line Installers & Repairers	103	115	7.59	$37.02	+12	+12%
3	49-9041	Industrial Machinery Mechanics	164	172	4.06	$29.13	+8	+5%
4	51-2099	Assemblers & Fabricators, All Other	86	120	3.78	$11.40	+35	+41%
5	53-7051	Industrial Truck & Tractor Operators	90	193	2.81	$16.86	+103	+115%
6	51-4041	Machinists	137	143	2.81	$27.24	+6	+5%
7	47-2073	Operating Eng. & Other Constr. Equip. Operators	146	124	2.63	$20.55	-21	-15%
8	35-2012	Cooks, Institution & Cafeteria	143	141	2.56	$10.17	-2	-2%
9	33-3012	Correctional Officers & Jailers	147	128	2.26	$12.86	-19	-13%
10	11-9013	Farmers, Ranchers, & Other Agricultural Mgrs.	157	139	2.15	$13.89	-18	-11%

Sources: U.S. Census Bureau (population estimates); Moody's Analytics (population projections); 2010-2014 American Community Survey 5-Year Estimates (snapshot variables, except population); U.S. Census Bureau, OnTheMap Application and LEHD Origin-Destination Employment Statistics (commuting); EMSI, 2016.1 – QCEW Employees, Non-QCEW Employees, and Self-Employed (occupations)

HOPKINS COUNTY (CONTINUED)

ECONOMY

EMPLOYMENT TRENDS (2005 = 1.00)



ECONOMIC SNAPSHOT

VARIABLE	COUNTY	WEST KY
Employment, 2015	19,797	210,277
Change (%) in employment from 2010	+2.8%	+2.4%
Share (%) of regional employment, 2015	+9.4%	100.0%
Number of establishments	1,106	10,516
Civilian labor force (April 2016)	19,595	169,764
Unemployed (April 2016)	1,111	10,153
Unemployment rate (April 2016)	5.7	6.0
Change in UE rate from prior 12-months	+0.1	+0.1
Average earnings(all industries), 2015	$49,172	$48.8K
COL-adjusted average earnings, 2015	$52,895	$59.2K
Relative earnings (US = 100%)	81.2%	81%
Gross regional product (GRP)	$1.85B	$19.35B
Share (%) of regional GRP	9.6%	100%

SECTOR ANALYSIS OVERVIEW, 2015

ADVANCED MANUFACTURING		
EMPLOYMENT 2,189	**LQ** 1.4	**EARNINGS/JOB** $73.9K

AGRICULTURE & FOOD		
EMPLOYMENT 648	**LQ** 1.4	**FARM EARNINGS/JOB** $71.6K

CULTURAL INDUSTRIES		
EMPLOYMENT 826	**LQ** 0.7	**TOURISM EXPENDITURES/JOB** $68.2K

HEALTH		
EMPLOYMENT 3,152	**LQ** 1.3	**EARNINGS/JOB** $56.8K

INFORMATION TECHNOLOGY		
EMPLOYMENT 117	**LQ** 0.3	**EARNINGS/JOB** $53.2K

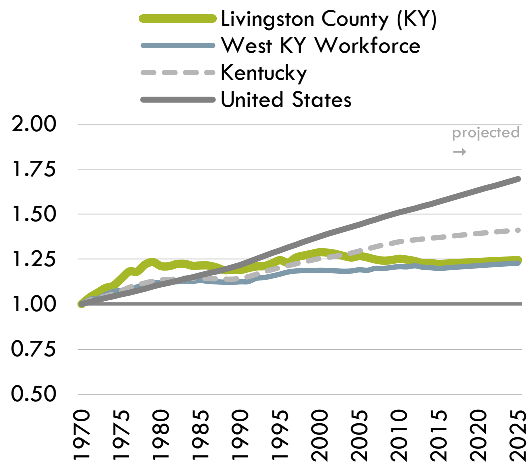
LOGISTICS & DISTRIBUTION		
EMPLOYMENT 1,160	**LQ** 1.8	**EARNINGS/JOB** $50.7K

Sources: EMSI, 2016.1 – QCEW Employees, Non-QCEW Employees, and Self-Employed; US Bureau of Labor Statistics (labor market info) via Moody's Analytics; US Bureau of Economic Analysis (farm income); Kentucky Tourism, Arts, & Heritage Cabinet (tourism data).

LIVINGSTON COUNTY

DEMOGRAPHICS

POPULATION TRENDS (1970 = 1.00)



DEMOGRAPHIC SNAPSHOT

VARIABLE	COUNTY	WEST KY
Population, 2015	9,316	412,783
% change from 2010	-2.3%	-0.8%
Age (selected categories as % of total population)		
Adult working age (25 to 64 years)	52.2%	49.7%
Seniors (65+ years)	20.4%	17.5%
Median age (in years, US = 37.4)	45.8	—
Educational attainment (% of pop. 25+ years)		
Less than high school	17.9%	16.0%
High school/GED	45.7%	36.4%
Some college, no degree	26.4%	30.7%
Bachelor's degree or higher	10.0%	16.8%
Median household income	$42,892	—
Share of population in poverty	14.1%	18.5%

COMMUTING PATTERNS, 2014

WORK IN LIVINGSTON COUNTY

	LIVE *IN:*		% WORKERS
1	Livingston County, KY	836	34.1%
2	Marshall County, KY	343	14.0%
3	Crittenden County, KY	284	11.6%
4	McCracken County, KY	244	10.0%
5	Lyon County, KY	124	5.1%

LIVE IN LIVINGSTON COUNTY

	WORK *IN:*		*% EMPL. RESIDENTS*
1	McCracken County, KY	1,051	31.2%
2	Livingston County, KY	836	24.8%
3	Marshall County, KY	354	10.5%
4	Jefferson County, KY	118	3.5%
5	Crittenden County, KY	117	3.5%

EMPLOYMENT TRENDS - SELECTED OCCUPATIONS, 2010 TO 2015

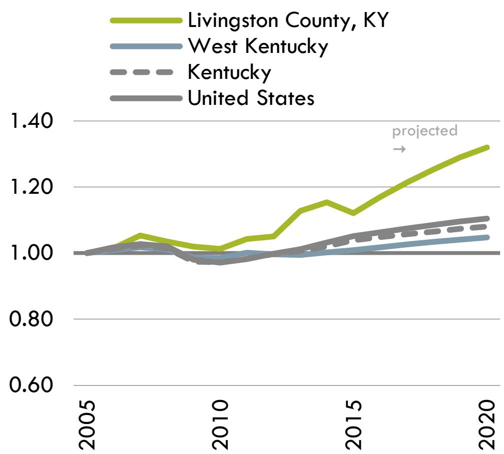
RANK	SOC & DESCRIPTION		2010	2015	LQ *(US = 1.00)*	MED. HRLY. EARNINGS	CHG., 2010-2015 NET	CHG., 2010-2015 %
	TOTAL		**2,988**	**3,306**		**$17.24**	**+318**	**+11%**
1	47-5051	Rock Splitters, Quarry	29	37	494.15	$16.75	+8	+29%
2	53-7032	Excavating/Loading & Dragline Operators	42	58	50.94	$21.48	+16	+38%
3	47-2073	Operating Eng. & Other Constr. Equip. Operators	59	111	14.09	$19.81	+52	+88%
4	49-3042	Mobile Heavy Equip. Mechanics, Except Engines	21	32	11.52	$26.47	+11	+53%
5	47-2051	Cement Masons & Concrete Finishers	15	41	11.33	$18.03	+26	+179%
6	47-1011	First-Line Supvsr., Constr. Trades & Extraction	38	70	5.31	$27.61	+32	+85%
7	47-2061	Construction Laborers	64	128	4.65	$16.21	+64	+101%
8	47-2031	Carpenters	43	74	3.39	$17.14	+31	+73%
9	51-4121	Welders, Cutters, Solderers, & Brazers	19	28	3.26	$16.96	+8	+43%
10	53-3032	Heavy & Tractor-Trailer Truck Drivers	94	123	3.06	$15.65	+29	+30%

Sources: U.S. Census Bureau (population estimates); Moody's Analytics (population projections); 2010-2014 American Community Survey 5-Year Estimates (snapshot variables, except population); U.S. Census Bureau, OnTheMap Application and LEHD Origin-Destination Employment Statistics (commuting); EMSI, 2016.1 – QCEW Employees, Non-QCEW Employees, and Self-Employed (occupations)

LIVINGSTON COUNTY (CONTINUED)

ECONOMY

EMPLOYMENT TRENDS (2005 = 1.00)



ECONOMIC SNAPSHOT

VARIABLE	COUNTY	WEST KY
Employment, 2015	3,306	210,277
Change (%) in employment from 2010	+10.6%	+2.4%
Share (%) of regional employment, 2015	+1.6%	100.0%
Number of establishments	203	10,516
Civilian labor force (April 2016)	3,588	169,764
Unemployed (April 2016)	252	10,153
Unemployment rate (April 2016)	7.0	6.0
Change in UE rate from prior 12-months	+0.0	+0.1
Average earnings(all industries), 2015	$48,687	$48.8K
COL-adjusted average earnings, 2015	$53,301	$59.2K
Relative earnings (US = 100%)	80.4%	81%
Gross regional product (GRP)	$299.36M	$19.35B
Share (%) of regional GRP	1.5%	100%

SECTOR ANALYSIS OVERVIEW, 2015

ADVANCED MANUFACTURING		
EMPLOYMENT 133	**LQ** 0.5	**EARNINGS/JOB** $50.9K

AGRICULTURE & FOOD		
EMPLOYMENT 40	**LQ** 0.5	**FARM EARNINGS/JOB** $234.0K

CULTURAL INDUSTRIES		
EMPLOYMENT 462	**LQ** 2.2	**TOURISM EXPENDITURES/JOB** $35.6K

HEALTH		
EMPLOYMENT 344	**LQ** 0.8	**EARNINGS/JOB** $40.7K

INFORMATION TECHNOLOGY		
EMPLOYMENT <10	**LQ** 0.1	**EARNINGS/JOB** INSF. DATA

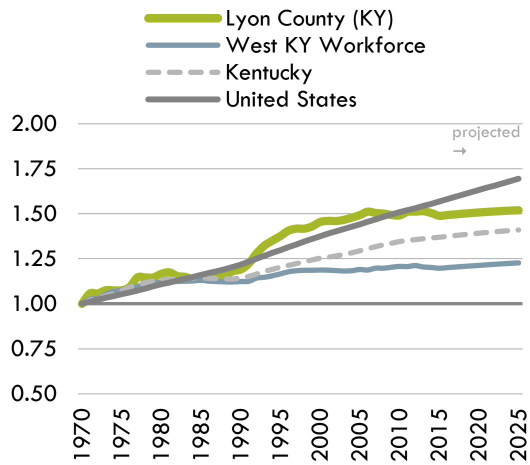
LOGISTICS & DISTRIBUTION		
EMPLOYMENT 199	**LQ** 1.8	**EARNINGS/JOB** $69.5K

Sources: EMSI, 2016.1 – QCEW Employees, Non-QCEW Employees, and Self-Employed; US Bureau of Labor Statistics (labor market info) via Moody's Analytics; US Bureau of Economic Analysis (farm income); Kentucky Tourism, Arts, & Heritage Cabinet (tourism data).

LYON COUNTY

DEMOGRAPHICS

POPULATION TRENDS (1970 = 1.00)



DEMOGRAPHIC SNAPSHOT

VARIABLE	COUNTY	WEST KY
Population, 2015	8,306	412,783
% change from 2010	-0.1%	-0.8%
Age (selected categories as % of total population)		
Adult working age (25 to 64 years)	54.3%	49.7%
Seniors (65+ years)	24.0%	17.5%
Median age (in years, US = 37.4)	48.6	—
Educational attainment (% of pop. 25+ years)		
Less than high school	14.2%	16.0%
High school/GED	38.8%	36.4%
Some college, no degree	31.2%	30.7%
Bachelor's degree or higher	15.8%	16.8%
Median household income	$43,067	—
Share of population in poverty	15.4%	18.5%

COMMUTING PATTERNS, 2014

WORK IN LYON COUNTY

	LIVE *IN:*		*% WORKERS*
1	Lyon County, KY	715	33.8%
2	Caldwell County, KY	346	16.3%
3	Crittenden County, KY	180	8.5%
4	Marshall County, KY	121	5.7%
5	McCracken County, KY	89	4.2%

LIVE IN LYON COUNTY

	WORK *IN:*		*% EMPL. RESIDENTS*
1	Lyon County, KY	715	30.2%
2	Caldwell County, KY	276	11.6%
3	Marshall County, KY	202	8.5%
4	Livingston County, KY	124	5.2%
5	Christian County, KY	102	4.3%

EMPLOYMENT TRENDS - SELECTED OCCUPATIONS, 2010 TO 2015

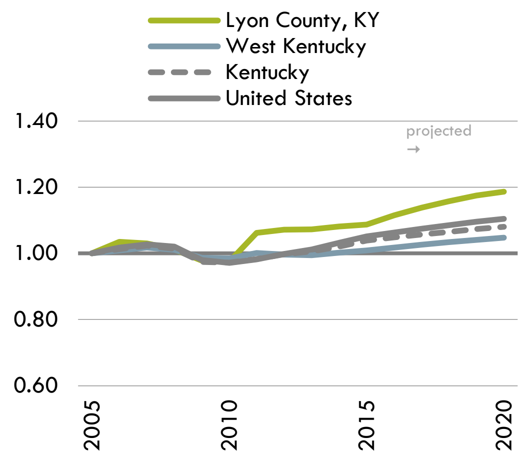
RANK	SOC & DESCRIPTION		2010	2015	LQ (US = 1.00)	MED. HRLY. EARNINGS	CHG., 2010-2015 NET	CHG., 2010-2015 %
	TOTAL		**2,315**	**2,580**		**$15.06**	**+265**	**+11%**
1	33-3012	Correctional Officers & Jailers	77	99	13.49	$10.91	+22	+29%
2	21-1021	Child, Family, & School Social Workers	36	48	9.18	$15.88	+12	+32%
3	35-2012	Cooks, Institution & Cafeteria	23	27	3.76	$9.67	+4	+15%
4	31-1014	Nursing Assistants	45	71	2.86	$9.18	+26	+59%
5	29-2061	Licensed Practical/Vocational Nurses	19	31	2.54	$15.78	+13	+68%
6	45-2092	Farmworkers & Laborers, Crop & Greenhouse	14	28	2.17	$10.29	+14	+100%
7	35-2014	Cooks, Restaurant	37	42	2.17	$8.55	+6	+15%
8	35-3031	Waiters & Waitresses	82	90	2.15	$8.46	+8	+10%
9	35-1012	First-Line Supvsr., Food Prep. & Servers	30	31	2.06	$11.45	+1	+3%
10	37-2012	Maids & Housekeepers	41	51	2.02	$8.34	+10	+24%

Sources: U.S. Census Bureau (population estimates); Moody's Analytics (population projections); 2010-2014 American Community Survey 5-Year Estimates (snapshot variables, except population); U.S. Census Bureau, OnTheMap Application and LEHD Origin-Destination Employment Statistics (commuting); EMSI, 2016.1 – QCEW Employees, Non-QCEW Employees, and Self-Employed (occupations)

LYON COUNTY (CONTINUED)

ECONOMY

EMPLOYMENT TRENDS (2005 = 1.00)



ECONOMIC SNAPSHOT

VARIABLE	COUNTY	WEST KY
Employment, 2015	2,580	210,277
Change (%) in employment from 2010	+11.4%	+2.4%
Share (%) of regional employment, 2015	+1.2%	100.0%
Number of establishments	198	10,516
Civilian labor force (April 2016)	2,859	169,764
Unemployed (April 2016)	196	10,153
Unemployment rate (April 2016)	6.8	6.0
Change in UE rate from prior 12-months	+1.1	+0.1
Average earnings(all industries), 2015	$35,018	$48.8K
COL-adjusted average earnings, 2015	$39,011	$59.2K
Relative earnings (US = 100%)	57.8%	81%
Gross regional product (GRP)	$162.64M	$19.35B
Share (%) of regional GRP	0.8%	100%

SECTOR ANALYSIS OVERVIEW, 2015

ADVANCED MANUFACTURING		
EMPLOYMENT 55	**LQ** 0.3	**EARNINGS/JOB** $48.3K

AGRICULTURE & FOOD		
EMPLOYMENT 51	**LQ** 0.8	**FARM EARNINGS/JOB** $165.3K

CULTURAL INDUSTRIES		
EMPLOYMENT 1,507	**LQ** 9.4	**TOURISM EXPENDITURES/JOB** $19.4K

HEALTH		
EMPLOYMENT 303	**LQ** 0.9	**EARNINGS/JOB** $30.7K

INFORMATION TECHNOLOGY		
EMPLOYMENT <10	**LQ** 0.1	**EARNINGS/JOB** INSF. DATA

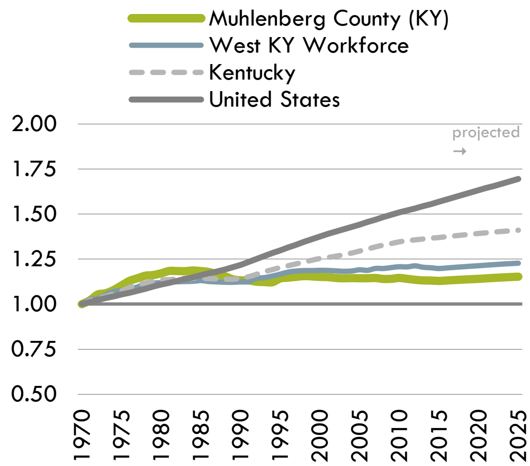
LOGISTICS & DISTRIBUTION		
EMPLOYMENT 24	**LQ** 0.3	**EARNINGS/JOB** $67.5K

Sources: EMSI, 2016.1 – QCEW Employees, Non-QCEW Employees, and Self-Employed; US Bureau of Labor Statistics (labor market info) via Moody's Analytics; US Bureau of Economic Analysis (farm income); Kentucky Tourism, Arts, & Heritage Cabinet (tourism data).* Proprietors' income can be negative when production expenses are greater than gross output, i.e., operating at a loss.

MUHLENBERG COUNTY

DEMOGRAPHICS

POPULATION TRENDS (1970 = 1.00)



DEMOGRAPHIC SNAPSHOT

VARIABLE	COUNTY	WEST KY
Population, 2015	31,183	412,783
% change from 2010	-1.4%	-0.8%
Age (selected categories as % of total population)		
Adult working age (25 to 64 years)	52.0%	49.7%
Seniors (65+ years)	18.3%	17.5%
Median age (in years, US = 37.4)	41.3	—
Educational attainment (% of pop. 25+ years)		
Less than high school	22.5%	16.0%
High school/GED	41.4%	36.4%
Some college, no degree	26.6%	30.7%
Bachelor's degree or higher	9.6%	16.8%
Median household income	$38,916	—
Share of population in poverty	21.6%	18.5%

COMMUTING PATTERNS, 2014

WORK IN MUHLENBERG COUNTY

	LIVE IN:		% WORKERS
1	Muhlenberg County, KY	4,931	56.9%
2	Hopkins County, KY	689	8.0%
3	Ohio County, KY	528	6.1%
4	Daviess County, KY	281	3.2%
5	McLean County, KY	206	2.4%

LIVE IN MUHLENBERG COUNTY

	WORK IN:		% EMPL. RESIDENTS
1	Muhlenberg County, KY	4,931	44.7%
2	Hopkins County, KY	1,046	9.5%
3	Daviess County, KY	672	6.1%
4	Ohio County, KY	492	4.5%
5	Jefferson County, KY	392	3.6%

EMPLOYMENT TRENDS - SELECTED OCCUPATIONS, 2010 TO 2015

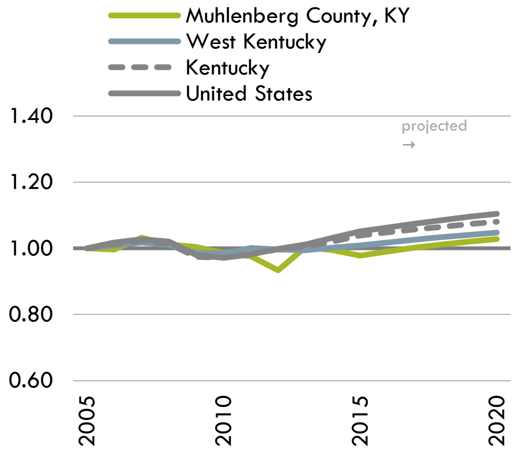
RANK	SOC & DESCRIPTION		2010	2015	LQ (US = 1.00)	MED. HRLY. EARNINGS	CHG., 2010-2015 NET	CHG., 2010-2015 %
	TOTAL		**10,692**	**10,608**		**$16.96**	**-84**	**-1%**
1	11-9013	Farmers, Ranchers, & Other Agricultural Mgrs.	328	313	9.07	$10.40	-15	-4%
2	47-2073	Operating Eng. & Other Constr. Equip. Operators	91	101	4.00	$18.69	+10	+11%
3	47-1011	First-Line Supvsr., Constr. Trades & Extraction	105	130	3.06	$26.04	+24	+23%
4	47-2031	Carpenters	142	190	2.72	$16.34	+48	+34%
5	45-2092	Farmworkers & Laborers, Crop & Greenhouse	108	117	2.23	$10.45	+9	+9%
6	53-3032	Heavy & Tractor-Trailer Truck Drivers	269	260	2.02	$18.01	-9	-3%
7	35-3021	Combined Food Prep. & Servers, Incl. Fast Food	325	374	1.68	$8.53	+49	+15%
8	25-9041	Teacher Assistants	139	144	1.67	$11.40	+5	+3%
9	25-2021	Teachers, Elementary (Except Special Ed.)	144	153	1.65	$23.88	+8	+6%
10	25-2031	Teachers, Secondary (Exc. Special Ed. & CTE)	100	103	1.58	$24.62	+3	+3%

Sources: U.S. Census Bureau (population estimates); Moody's Analytics (population projections); 2010-2014 American Community Survey 5-Year Estimates (snapshot variables, except population); U.S. Census Bureau, OnTheMap Application and LEHD Origin-Destination Employment Statistics (commuting); EMSI, 2016.1 – QCEW Employees, Non-QCEW Employees, and Self-Employed (occupations)

MUHLENBERG COUNTY (CONTINUED)

ECONOMY

EMPLOYMENT TRENDS (2005 = 1.00)



ECONOMIC SNAPSHOT

VARIABLE	COUNTY	WEST KY
Employment, 2015	10,608	210,277
Change (%) in employment from 2010	-0.8%	+2.4%
Share (%) of regional employment, 2015	+5.0%	100.0%
Number of establishments	616	10,516
Civilian labor force (April 2016)	11,638	169,764
Unemployed (April 2016)	822	10,153
Unemployment rate (April 2016)	7.1	6.0
Change in UE rate from prior 12-months	+0.3	+0.1
Average earnings(all industries), 2015	$50,264	$48.8K
COL-adjusted average earnings, 2015	$56,017	$59.2K
Relative earnings (US = 100%)	83.0%	81%
Gross regional product (GRP)	$977.71M	$19.35B
Share (%) of regional GRP	5.1%	100%

SECTOR ANALYSIS OVERVIEW, 2015

ADVANCED MANUFACTURING		
EMPLOYMENT 798	**LQ** 1.0	**EARNINGS/JOB** $50.8K

AGRICULTURE & FOOD		
EMPLOYMENT 702	**LQ** 2.8	**FARM EARNINGS/JOB** $44.5K

CULTURAL INDUSTRIES		
EMPLOYMENT 561	**LQ** 0.8	**TOURISM EXPENDITURES/JOB** $47.0K

HEALTH		
EMPLOYMENT 1,282	**LQ** 1.0	**EARNINGS/JOB** $42.7K

INFORMATION TECHNOLOGY		
EMPLOYMENT 84	**LQ** 0.4	**EARNINGS/JOB** $35.8K

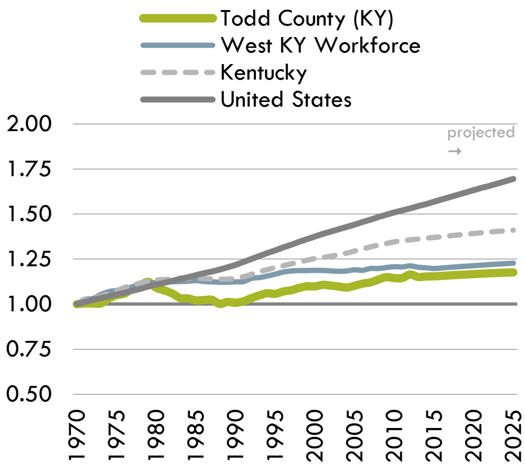
LOGISTICS & DISTRIBUTION		
EMPLOYMENT 286	**LQ** 0.8	**EARNINGS/JOB** $65.1K

Sources: EMSI, 2016.1 – QCEW Employees, Non-QCEW Employees, and Self-Employed; US Bureau of Labor Statistics (labor market info) via Moody's Analytics; US Bureau of Economic Analysis (farm income); Kentucky Tourism, Arts, & Heritage Cabinet (tourism data).

TODD COUNTY

DEMOGRAPHICS

POPULATION TRENDS (1970 = 1.00)



DEMOGRAPHIC SNAPSHOT

VARIABLE	COUNTY	WEST KY
Population, 2015	12,531	412,783
% change from 2010	0.8%	-0.8%
Age (selected categories as % of total population)		
Adult working age (25 to 64 years)	48.9%	49.7%
Seniors (65+ years)	16.0%	17.5%
Median age (in years, US = 37.4)	37.1	—
Educational attainment (% of pop. 25+ years)		
Less than high school	22.3%	16.0%
High school/GED	41.6%	36.4%
Some college, no degree	25.9%	30.7%
Bachelor's degree or higher	10.2%	16.8%
Median household income	$40,002	—
Share of population in poverty	19.3%	18.5%

COMMUTING PATTERNS, 2014

WORK IN TODD COUNTY

	LIVE *IN:*		*% WORKERS*
1	Todd County, KY	1,048	49.8%
2	Christian County, KY	203	9.7%
3	Montgomery County, TN	163	7.8%
4	Logan County, KY	150	7.1%
5	Muhlenberg County, KY	86	4.1%

LIVE IN TODD COUNTY

	WORK *IN:*		*% EMPL. RESIDENTS*
1	Todd County, KY	1,048	27.5%
2	Christian County, KY	846	22.2%
3	Montgomery County, TN	403	10.6%
4	Logan County, KY	372	9.8%
5	Jefferson County, KY	106	2.8%

EMPLOYMENT TRENDS - SELECTED OCCUPATIONS, 2010 TO 2015

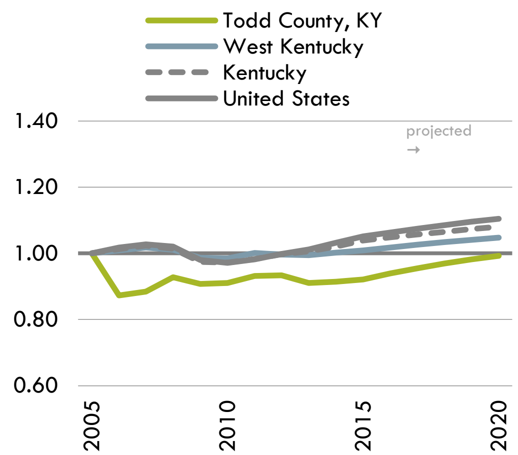
RANK	SOC & DESCRIPTION		2010	2015	LQ (US = 1.00)	MED. HRLY. EARNINGS	CHG., 2010-2015 NET	CHG., 2010-2015 %
	TOTAL		**3,045**	**3,083**		**$15.17**	**+38**	**+1%**
1	51-7041	Sawing Machine Workers, Wood	27	32	32.34	$9.40	+6	+21%
2	11-9013	Farmers, Ranchers, & Other Agricultural Mgrs.	257	208	20.75	$10.66	-49	-19%
3	45-2092	Farmworkers & Laborers, Crop & Greenhouse	85	96	6.28	$11.21	+11	+13%
4	53-3022	Bus Drivers, School or Special Client	41	34	3.47	$12.23	-8	-18%
5	35-2012	Cooks, Institution & Cafeteria	28	27	3.21	$9.48	-0	-2%
6	53-3032	Heavy & Tractor-Trailer Truck Drivers	83	91	2.43	$15.72	+7	+9%
7	25-9041	Teacher Assistants	62	59	2.37	$10.29	-3	-4%
8	25-2021	Teachers, Elementary (Except Special Ed.)	60	61	2.27	$21.53	+1	+2%
9	25-2022	Teachers, Middle School (Exc. Special Ed. & CTE)	27	28	2.22	$21.36	+1	+2%
10	25-2031	Teachers, Secondary (Exc. Special Ed. & CTE)	42	41	2.18	$22.14	-1	-1%

Sources: U.S. Census Bureau (population estimates); Moody's Analytics (population projections); 2010-2014 American Community Survey 5-Year Estimates (snapshot variables, except population); U.S. Census Bureau, OnTheMap Application and LEHD Origin-Destination Employment Statistics (commuting); EMSI, 2016.1 – QCEW Employees, Non-QCEW Employees, and Self-Employed (occupations)

TODD COUNTY (CONTINUED)

ECONOMY

EMPLOYMENT TRENDS (2005 = 1.00)



ECONOMIC SNAPSHOT

VARIABLE	COUNTY	WEST KY
Employment, 2015	3,083	210,277
Change (%) in employment from 2010	+1.2%	+2.4%
Share (%) of regional employment, 2015	+1.5%	100.0%
Number of establishments	250	10,516
Civilian labor force (April 2016)	5,494	169,764
Unemployed (April 2016)	272	10,153
Unemployment rate (April 2016)	5.0	6.0
Change in UE rate from prior 12-months	+0.5	+0.1
Average earnings(all industries), 2015	$34,713	$48.8K
COL-adjusted average earnings, 2015	$38,347	$59.2K
Relative earnings (US = 100%)	57.3%	81%
Gross regional product (GRP)	$225.51M	$19.35B
Share (%) of regional GRP	1.2%	100%

SECTOR ANALYSIS OVERVIEW, 2015

ADVANCED MANUFACTURING		
EMPLOYMENT 412	**LQ** 1.7	**EARNINGS/JOB** $42.5K

AGRICULTURE & FOOD		
EMPLOYMENT 467	**LQ** 6.4	**FARM EARNINGS/JOB** $26.8K

CULTURAL INDUSTRIES		
EMPLOYMENT 31	**LQ** 0.2	**TOURISM EXPENDITURES/JOB** $87.5K

HEALTH		
EMPLOYMENT 218	**LQ** 0.6	**EARNINGS/JOB** $23.7K

INFORMATION TECHNOLOGY		
EMPLOYMENT 12	**LQ** 0.2	**EARNINGS/JOB** $23.7K

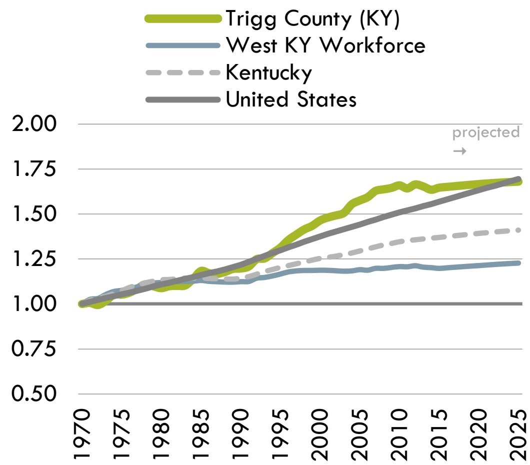
LOGISTICS & DISTRIBUTION		
EMPLOYMENT 119	**LQ** 1.2	**EARNINGS/JOB** $52.1K

Sources: EMSI, 2016.1 – QCEW Employees, Non-QCEW Employees, and Self-Employed; US Bureau of Labor Statistics (labor market info) via Moody's Analytics; US Bureau of Economic Analysis (farm income); Kentucky Tourism, Arts, & Heritage Cabinet (tourism data).

TRIGG COUNTY

DEMOGRAPHICS

POPULATION TRENDS (1970 = 1.00)



DEMOGRAPHIC SNAPSHOT

VARIABLE	COUNTY	WEST KY
Population, 2015	14,233	412,783
% change from 2010	-0.8%	-0.8%
Age (selected categories as % of total population)		
Adult working age (25 to 64 years)	49.9%	49.7%
Seniors (65+ years)	21.7%	17.5%
Median age (in years, US = 37.4)	44.7	—
Educational attainment (% of pop. 25+ years)		
Less than high school	17.2%	16.0%
High school/GED	30.5%	36.4%
Some college, no degree	34.7%	30.7%
Bachelor's degree or higher	17.6%	16.8%
Median household income	$44,676	—
Share of population in poverty	15.8%	18.5%

COMMUTING PATTERNS, 2014

WORK IN TRIGG COUNTY

	LIVE *IN:*		*% WORKERS*
1	Trigg County, KY	1,530	50.5%
2	Christian County, KY	328	10.8%
3	Caldwell County, KY	178	5.9%
4	Marshall County, KY	87	2.9%
5	Montgomery County, TN	87	2.9%

LIVE IN TRIGG COUNTY

	WORK *IN:*		*% EMPL. RESIDENTS*
1	Trigg County, KY	1,530	35.3%
2	Christian County, KY	1,095	25.3%
3	Caldwell County, KY	137	3.2%
4	Montgomery County, TN	123	2.8%
5	Calloway County, KY	107	2.5%

EMPLOYMENT TRENDS - SELECTED OCCUPATIONS, 2010 TO 2015

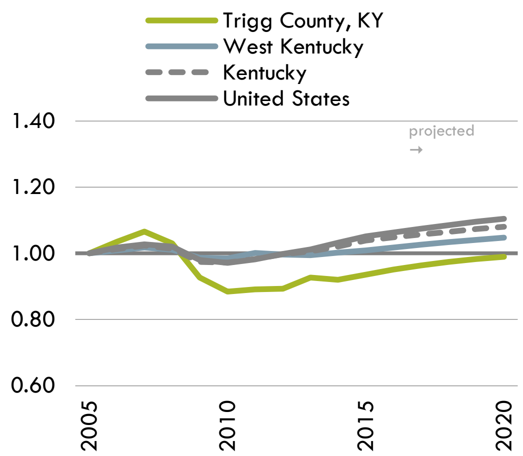
RANK	SOC & DESCRIPTION		2010	2015	LQ (US = 1.00)	MED. HRLY. EARNINGS	CHG., 2010-2015 NET	CHG., 2010-2015 %
	TOTAL		**4,051**	**4,282**		**$14.75**	**+231**	**+6%**
1	11-9013	Farmers, Ranchers, & Other Agricultural Mgrs.	198	301	21.55	$12.63	+103	+52%
2	51-2092	Team Assemblers	66	159	4.93	$15.40	+92	+139%
3	53-3022	Bus Drivers, School or Special Client	66	66	4.89	$12.79	-0	-1%
4	51-2099	Assemblers & Fabricators, All Other	16	26	3.72	$12.22	+9	+59%
5	45-2092	Farmworkers & Laborers, Crop & Greenhouse	41	77	3.66	$10.57	+36	+87%
6	51-4041	Machinists	39	35	3.18	$20.40	-3	-9%
7	47-2031	Carpenters	82	73	2.58	$14.37	-9	-11%
8	41-2011	Cashiers	111	231	2.41	$8.14	+120	+107%
9	47-2141	Painters, Construction & Maintenance	34	25	2.23	$12.85	-9	-27%
10	25-2022	Teachers, Middle School (Exc. Special Ed. & CTE)	36	39	2.23	$24.92	+3	+7%

Sources: U.S. Census Bureau (population estimates); Moody's Analytics (population projections); 2010-2014 American Community Survey 5-Year Estimates (snapshot variables, except population); U.S. Census Bureau, OnTheMap Application and LEHD Origin-Destination Employment Statistics (commuting); EMSI, 2016.1 – QCEW Employees, Non-QCEW Employees, and Self-Employed (occupations)

TRIGG COUNTY (CONTINUED)

ECONOMY

EMPLOYMENT TRENDS (2005 = 1.00)



ECONOMIC SNAPSHOT

VARIABLE	COUNTY	WEST KY
Employment, 2015	4,282	210,277
Change (%) in employment from 2010	+5.7%	+2.4%
Share (%) of regional employment, 2015	+2.0%	100.0%
Number of establishments	279	10,516
Civilian labor force (April 2016)	5,818	169,764
Unemployed (April 2016)	322	10,153
Unemployment rate (April 2016)	5.5	6.0
Change in UE rate from prior 12-months	+0.1	+0.1
Average earnings(all industries), 2015	$35,427	$48.8K
COL-adjusted average earnings, 2015	$37,231	$59.2K
Relative earnings (US = 100%)	58.5%	81%
Gross regional product (GRP)	$274.79M	$19.35B
Share (%) of regional GRP	1.4%	100%

SECTOR ANALYSIS OVERVIEW, 2015

ADVANCED MANUFACTURING		
EMPLOYMENT 579	LQ 1.7	EARNINGS/JOB $48.9K

AGRICULTURE & FOOD		
EMPLOYMENT 465	LQ 4.6	FARM EARNINGS/JOB $30.4K

CULTURAL INDUSTRIES		
EMPLOYMENT 1,203	LQ 4.5	TOURISM EXPENDITURES/JOB $14.7K

HEALTH		
EMPLOYMENT 362	LQ 0.7	EARNINGS/JOB $37.7K

INFORMATION TECHNOLOGY		
EMPLOYMENT 37	LQ 0.5	EARNINGS/JOB $50.2K

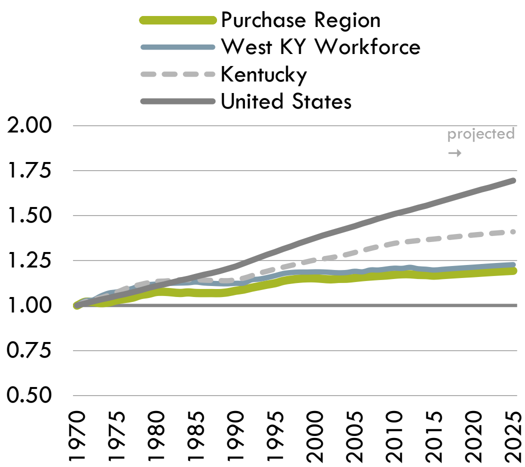
LOGISTICS & DISTRIBUTION		
EMPLOYMENT 30	LQ 0.2	EARNINGS/JOB $38.8K

Sources: EMSI, 2016.1 – QCEW Employees, Non-QCEW Employees, and Self-Employed; US Bureau of Labor Statistics (labor market info) via Moody's Analytics; US Bureau of Economic Analysis (farm income); Kentucky Tourism, Arts, & Heritage Cabinet (tourism data).

PURCHASE REGION

DEMOGRAPHICS

POPULATION TRENDS (1970 = 1.00)



DEMOGRAPHIC SNAPSHOT

VARIABLE	REGION	WEST KY
Population, 2015	195,819	412,783
% change from 2010	-0.4%	-0.8%
Age (selected categories as % of total population)		
Adult working age (25 to 64 years)	49.9%	49.7%
Seniors (65+ years)	18.7%	17.5%
Median age (in years, US = 37.4)	—	—
Educational attainment (% of pop. 25+ years)		
Less than high school	15.1%	16.0%
High school/GED	34.6%	36.4%
Some college, no degree	30.3%	30.7%
Bachelor's degree or higher	20.0%	16.8%
Median household income	—	—
Share of population in poverty	17.8%	18.5%

COMMUTING PATTERNS, 2014

WORK IN PURCHASE REGION

	LIVE *IN:*		% WORKERS
1	McCracken County, KY	20,432	25.5%
2	Graves County, KY	11,051	13.8%
3	Calloway County, KY	10,484	13.1%
4	Marshall County, KY	9,722	12.1%
5	Ballard County, KY	2,269	2.8%

LIVE IN PURCHASE REGION

	WORK *IN:*		*% EMPL. RESIDENTS*
1	McCracken County, KY	24,826	33.3%
2	Calloway County, KY	11,658	15.6%
3	Graves County, KY	8,464	11.3%
4	Marshall County, KY	8,115	10.9%
5	Jefferson County, KY	2,564	3.4%

EMPLOYMENT TRENDS - SELECTED OCCUPATIONS, 2010 TO 2015

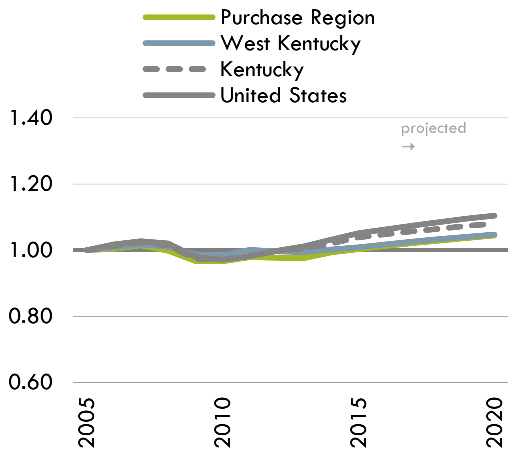
RANK	SOC & DESCRIPTION		2010	2015	LQ (US = 1.00)	MED. HRLY. EARNINGS	CHG., 2010-2015 NET	CHG., 2010-2015 %
	TOTAL		**90,340**	**93,784**		**$17.42**	**+3,444**	**+4%**
1	53-5021	Captains, Mates, & Pilots of Water Vessels	485	737	35.94	$38.11	+252	+52%
2	53-5011	Sailors & Marine Oilers	351	526	30.92	$15.90	+175	+50%
3	11-9013	Farmers, Ranchers, & Other Agricultural Mgrs.	756	1,133	3.71	$11.92	+378	+50%
4	49-9041	Industrial Machinery Mechanics	546	581	2.89	$28.18	+35	+7%
5	51-4041	Machinists	529	613	2.53	$25.74	+84	+16%
6	35-2012	Cooks, Institution & Cafeteria	597	619	2.38	$10.87	+22	+4%
7	53-3032	Heavy & Tractor-Trailer Truck Drivers	2,232	2,403	2.11	$16.05	+171	+8%
8	47-2152	Plumbers, Pipefitters, & Steamfitters	413	503	1.83	$23.44	+90	+22%
9	47-2111	Electricians	525	641	1.60	$25.24	+116	+22%
10	35-3021	Combined Food Prep. & Servers, Incl. Fast Food	2,624	3,051	1.55	$8.48	+427	+16%

Sources: U.S. Census Bureau (population estimates); Moody's Analytics (population projections); 2010-2014 American Community Survey 5-Year Estimates (snapshot variables, except population); U.S. Census Bureau, OnTheMap Application and LEHD Origin-Destination Employment Statistics (commuting); EMSI, 2016.1 – QCEW Employees, Non-QCEW Employees, and Self-Employed (occupations)

PURCHASE REGION (CONTINUED)

ECONOMY

EMPLOYMENT TRENDS (2005 = 1.00)



ECONOMIC SNAPSHOT

VARIABLE	COUNTY	WEST KY
Employment, 2015	93,784	210,277
Change (%) in employment from 2010	+3.8%	+2.4%
Share (%) of regional employment, 2015	+44.6%	100.0%
Number of establishments	5,694	10,516
Civilian labor force (April 2016)	86,076	169,764
Unemployed (April 2016)	5,093	10,153
Unemployment rate (April 2016)	5.9	6.0
Change in UE rate from prior 12-months	+0.2	+0.1
Average earnings(all industries), 2015	$46,016	$48.8K
COL-adjusted average earnings, 2015	$49,442	$59.2K
Relative earnings (US = 100%)	76%	81%
Gross regional product (GRP)	$7.56B	$19.35B
Share (%) of regional GRP	39.1%	100%

SECTOR ANALYSIS OVERVIEW, 2015

ADVANCED MANUFACTURING		
EMPLOYMENT 10,510	**LQ** 1.4	**EARNINGS/JOB** $68.7K

AGRICULTURE & FOOD		
EMPLOYMENT 4,256	**LQ** 1.9	**FARM EARNINGS/JOB** $46.1K

CULTURAL INDUSTRIES		
EMPLOYMENT 6,633	**LQ** 1.1	**TOURISM EXPENDITURES/JOB** $58.6

HEALTH		
EMPLOYMENT 11,401	**LQ** 1.0	**EARNINGS/JOB** $53.9K

INFORMATION TECHNOLOGY		
EMPLOYMENT 1,352	**LQ** 0.8	**EARNINGS/JOB** $60.2K

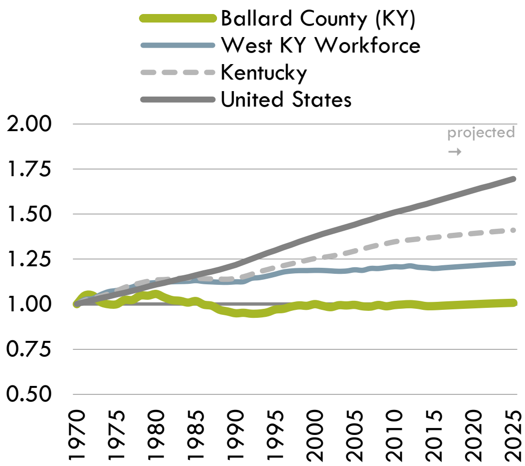
LOGISTICS & DISTRIBUTION		
EMPLOYMENT 5,726	**LQ** 1.9	**EARNINGS/JOB** $61.1K

Sources: EMSI, 2016.1 – QCEW Employees, Non-QCEW Employees, and Self-Employed; US Bureau of Labor Statistics (labor market info) via Moody's Analytics; US Bureau of Economic Analysis (farm income); Kentucky Tourism, Arts, & Heritage Cabinet (tourism data).

BALLARD COUNTY

DEMOGRAPHICS

POPULATION TRENDS (1970 = 1.00)



DEMOGRAPHIC SNAPSHOT

VARIABLE	COUNTY	WEST KY
Population, 2015	8,212	412,783
% change from 2010	-0.6%	-0.8%
Age (selected categories as % of total population)		
Adult working age (25 to 64 years)	51.0%	49.7%
Seniors (65+ years)	20.0%	17.5%
Median age (in years, US = 37.4)	42.5	—
Educational attainment (% of pop. 25+ years)		
Less than high school	16.2%	16.0%
High school/GED	40.8%	36.4%
Some college, no degree	30.6%	30.7%
Bachelor's degree or higher	12.4%	16.8%
Median household income	—	—
Share of population in poverty	16.8%	18.5%

COMMUTING PATTERNS, 2014

WORK IN BALLARD COUNTY

	LIVE IN:		% WORKERS
1	Ballard County, KY	791	35.3%
2	McCracken County, KY	648	28.9%
3	Graves County, KY	175	7.8%
4	Carlisle County, KY	169	7.5%
5	Marshall County, KY	71	3.2%

LIVE IN BALLARD COUNTY

	WORK IN:		% EMPL. RESIDENTS
1	McCracken County, KY	1,088	36.4%
2	Ballard County, KY	791	26.4%
3	Marshall County, KY	126	4.2%
4	Jefferson County, KY	101	3.4%
5	Graves County, KY	94	3.1%

EMPLOYMENT TRENDS - SELECTED OCCUPATIONS, 2010 TO 2015

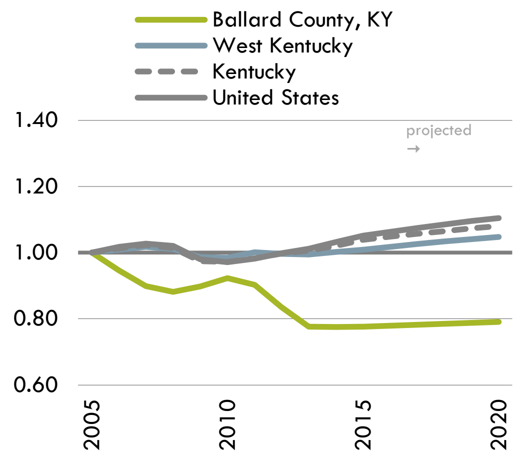
RANK	SOC & DESCRIPTION		2010	2015	LQ (US = 1.00)	MED. HRLY. EARNINGS	CHG., 2010-2015 NET	CHG., 2010-2015 %
	TOTAL		**2,963**	**2,491**		**$19.38**	**-472**	**-16%**
1	47-4071	Septic Tank Servicers & Sewer Pipe Cleaners	88	46	107.32	$14.45	-42	-47%
2	51-9196	Paper Goods Machine Workers	114	100	67.64	$28.76	-14	-13%
3	47-4041	Hazardous Materials Removal Workers	108	43	62.12	$26.55	-64	-60%
4	47-2152	Plumbers, Pipefitters, & Steamfitters	61	74	10.12	$26.46	+13	+22%
5	49-9041	Industrial Machinery Mechanics	55	49	9.14	$28.75	-6	-11%
6	49-9021	HVAC/Refrig. Mechanics & Installers	20	26	5.23	$20.72	+6	+28%
7	47-1011	First-Line Supvsr., Constr. Trades & Extraction	47	32	3.21	$28.27	-15	-32%
8	49-1011	First-Line Supvsr., Mechanics, Install, & Repair	22	19	2.55	$29.87	-4	-17%
9	35-2012	Cooks, Institution & Cafeteria	19	17	2.50	$11.65	-2	-8%
10	45-2092	Farmworkers & Laborers, Crop & Greenhouse	17	29	2.37	$10.39	+13	+75%

Sources: U.S. Census Bureau (population estimates); Moody's Analytics (population projections); 2010-2014 American Community Survey 5-Year Estimates (snapshot variables, except population); U.S. Census Bureau, OnTheMap Application and LEHD Origin-Destination Employment Statistics (commuting); EMSI, 2016.1 – QCEW Employees, Non-QCEW Employees, and Self-Employed (occupations)

BALLARD COUNTY (CONTINUED)

ECONOMY

EMPLOYMENT TRENDS (2005 = 1.00)



ECONOMIC SNAPSHOT

VARIABLE	COUNTY	WEST KY
Employment, 2015	2,491	210,277
% change from 2010	-15.9%	2.4%
Share of regional employment, 2015	+1.2%	100.0%
Number of establishments	184	
Civilian labor force (April 2016)	3,607	169,764
Unemployed (April 2016)	305	10,153
Unemployment rate (April 2016)	8.5	6.0
Change in rate from prior 12-months	+2.0	+0.1
Average earnings(all industries), 2015	$64,867	$48,822
COL-adjusted average earnings, 2015	$68,582	$52,913
Relative earnings (US = 100%)	107%	80.6%
Gross regional product (GRP)	$321.03M	$19.35B

SECTOR ANALYSIS OVERVIEW, 2015

ADVANCED MANUFACTURING		
EMPLOYMENT 582	**LQ** 3.0	**EARNINGS/JOB** $94.3K

AGRICULTURE & FOOD		
EMPLOYMENT 78	**LQ** 1.3	**FARM EARNINGS/JOB** $105.6K

CULTURAL INDUSTRIES		
EMPLOYMENT 69	**LQ** 0.4	**TOURISM EXPENDITURES/JOB** $53.3K

HEALTH		
EMPLOYMENT 146	**LQ** 0.5	**EARNINGS/JOB** $38.4K

INFORMATION TECHNOLOGY		
EMPLOYMENT 41	**LQ** 0.9	**EARNINGS/JOB** $64.7K

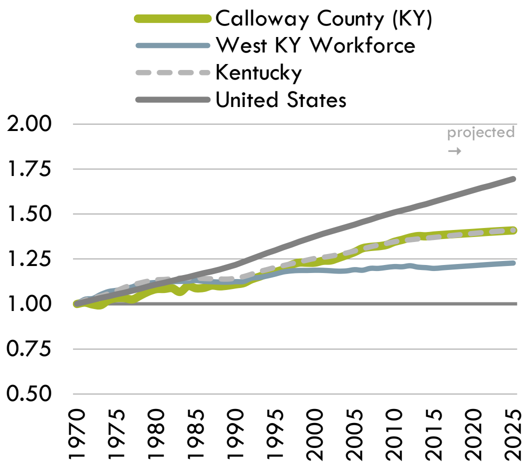
LOGISTICS & DISTRIBUTION		
EMPLOYMENT 12	**LQ** 0.1	**EARNINGS/JOB** $69.3K

Sources: EMSI, 2016.1 – QCEW Employees, Non-QCEW Employees, and Self-Employed; US Bureau of Labor Statistics (labor market info) via Moody's Analytics; US Bureau of Economic Analysis (farm income); Kentucky Tourism, Arts, & Heritage Cabinet (tourism data).

CALLOWAY COUNTY

DEMOGRAPHICS

POPULATION TRENDS (1970 = 1.00)



DEMOGRAPHIC SNAPSHOT

VARIABLE	COUNTY	WEST KY
Population, 2015	38,343	412,783
% change from 2010	2.6%	-0.8%
Age (selected categories as % of total population)		
Adult working age (25 to 64 years)	44.8%	49.7%
Seniors (65+ years)	16.3%	17.5%
Median age (in years, US = 37.4)	33.4	—
Educational attainment (% of pop. 25+ years)		
Less than high school	13.2%	16.0%
High school/GED	31.3%	36.4%
Some college, no degree	28.0%	30.7%
Bachelor's degree or higher	27.5%	16.8%
Median household income	$37,705	—
Share of population in poverty	20.2%	18.5%

COMMUTING PATTERNS, 2014

WORK IN CALLOWAY COUNTY

	LIVE *IN:*		% WORKERS
1	Calloway County, KY	8,466	54.2%
2	Marshall County, KY	1,218	7.8%
3	Graves County, KY	1,203	7.7%
4	Henry County, TN	829	5.3%
5	McCracken County, KY	537	3.4%

LIVE IN CALLOWAY COUNTY

	WORK *IN:*		*% EMPL. RESIDENTS*
1	Calloway County, KY	8,466	63.4%
2	McCracken County, KY	804	6.0%
3	Marshall County, KY	582	4.4%
4	Graves County, KY	521	3.9%
5	Jefferson County, KY	494	3.7%

EMPLOYMENT TRENDS - SELECTED OCCUPATIONS, 2010 TO 2015

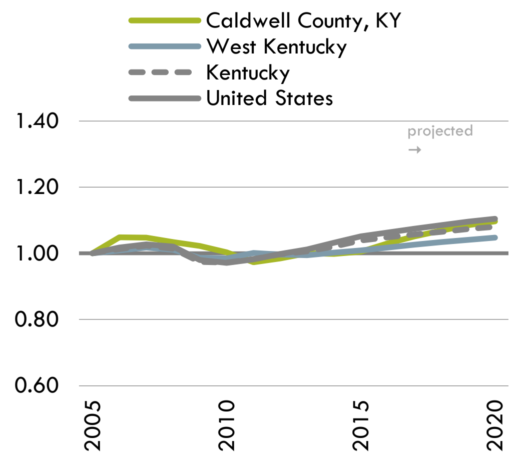
RANK	SOC & DESCRIPTION		2010	2015	LQ *(US = 1.00)*	MED. HRLY. EARNINGS	CHG., 2010-2015 NET	CHG., 2010-2015 %
	TOTAL		**17,369**	**18,939**		**$16.84**	**1,570**	**+9%**
1	51-2031	Engine & Other Machine Assemblers	208	249	53.36	$13.27	+40	+19%
2	53-3032	Heavy & Tractor-Trailer Truck Drivers	1,081	1,316	5.73	$14.65	+235	+22%
3	51-4041	Machinists	214	249	5.09	$25.61	+35	+16%
4	49-3031	Bus/Truck Mechanics & Diesel Engine Specialists	111	128	4.01	$15.44	+17	+15%
5	25-1099	Teachers, Postsecondary	719	727	3.99	$32.27	+7	+1%
6	11-9013	Farmers, Ranchers, & Other Agricultural Mgrs.	79	115	1.86	$14.02	+35	+45%
7	53-7051	Industrial Truck & Tractor Operators	103	107	1.63	$15.10	+4	+4%
8	35-1012	First-Line Supvsr., Food Prep. & Servers	153	163	1.46	$10.92	+10	+6%
9	43-6014	Secretaries/Admin. Asst., Exc. Legal, Med., & Exec.	387	470	1.44	$13.90	+82	+21%
10	35-3021	Combined Food Prep. & Servers, Incl. Fast Food	527	562	1.41	$8.15	+35	+7%

Sources: U.S. Census Bureau (population estimates); Moody's Analytics (population projections); 2010-2014 American Community Survey 5-Year Estimates (snapshot variables, except population); U.S. Census Bureau, OnTheMap Application and LEHD Origin-Destination Employment Statistics (commuting); EMSI, 2016.1 – QCEW Employees, Non-QCEW Employees, and Self-Employed (occupations)

CALLOWAY COUNTY (CONTINUED)

ECONOMY

EMPLOYMENT TRENDS (2005 = 1.00)



ECONOMIC SNAPSHOT

VARIABLE	COUNTY	WEST KY
Employment, 2015	18,939	210,277
Change (%) in employment from 2010	+9.0%	+2.4%
Share (%) of regional employment, 2015	+9.0%	100.0%
Number of establishments	999	10,516
Civilian labor force (April 2016)	17,874	169,764
Unemployed (April 2016)	869	10,153
Unemployment rate (April 2016)	4.9	6.0
Change in UE rate from prior 12-months	+0.0	+0.1
Average earnings(all industries), 2015	$38,832	$48.8K
COL-adjusted average earnings, 2015	$42,692	$59.2K
Relative earnings (US = 100%)	64.1%	81%
Gross regional product (GRP)	$1.12B	$19.35B
Share (%) of regional GRP	5.8%	100%

SECTOR ANALYSIS OVERVIEW, 2015

ADVANCED MANUFACTURING		
EMPLOYMENT 2,672	**LQ** 1.8	**EARNINGS/JOB** $51.6K

AGRICULTURE & FOOD		
EMPLOYMENT 1,033	**LQ** 2.3	**FARM EARNINGS/JOB** $37.1K

CULTURAL INDUSTRIES		
EMPLOYMENT 653	**LQ** 0.6	**TOURISM EXPENDITURES/JOB** $76.0K

HEALTH		
EMPLOYMENT 943	**LQ** 0.4	**EARNINGS/JOB** $38.4K

INFORMATION TECHNOLOGY		
EMPLOYMENT 225	**LQ** 0.6	**EARNINGS/JOB** $46.3K

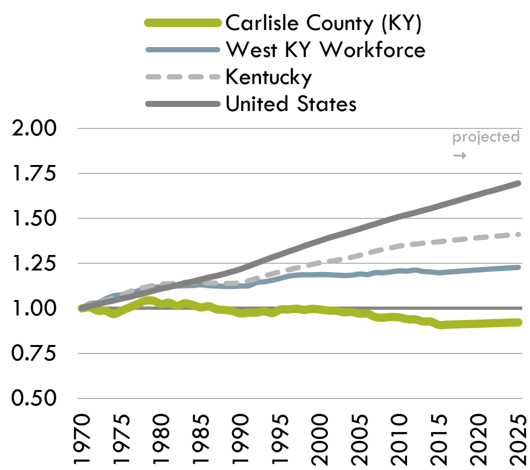
LOGISTICS & DISTRIBUTION		
EMPLOYMENT 1,899	**LQ** 3.1	**EARNINGS/JOB** $34.2K

Sources: EMSI, 2016.1 – QCEW Employees, Non-QCEW Employees, and Self-Employed; US Bureau of Labor Statistics (labor market info) via Moody's Analytics; US Bureau of Economic Analysis (farm income); Kentucky Tourism, Arts, & Heritage Cabinet (tourism data).

CARLISLE COUNTY

DEMOGRAPHICS

POPULATION TRENDS (1970 = 1.00)



DEMOGRAPHIC SNAPSHOT

VARIABLE	COUNTY	WEST KY
Population, 2015	4,874	412,783
% change from 2010	-4.5%	-0.8%
Age (selected categories as % of total population)		
Adult working age (25 to 64 years)	50.3%	49.7%
Seniors (65+ years)	20.4%	17.5%
Median age (in years, US = 37.4)	42.5	—
Educational attainment (% of pop. 25+ years)		
Less than high school	18.2%	16.0%
High school/GED	37.8%	36.4%
Some college, no degree	30.9%	30.7%
Bachelor's degree or higher	13.1%	16.8%
Median household income	$40,701	—
Share of population in poverty	17.0%	18.5%

COMMUTING PATTERNS, 2014

WORK IN CARLISLE COUNTY

	LIVE *IN:*		*% WORKERS*
1	Carlisle County, KY	469	50.2%
2	Graves County, KY	103	11.0%
3	Ballard County, KY	61	6.5%
4	Hickman County, KY	60	6.4%
5	McCracken County, KY	59	6.3%

LIVE IN CARLISLE COUNTY

	WORK *IN:*		*% EMPL. RESIDENTS*
1	McCracken County, KY	494	23.3%
2	Carlisle County, KY	469	22.1%
3	Graves County, KY	248	11.7%
4	Ballard County, KY	169	8.0%
5	Hickman County, KY	87	4.1%

EMPLOYMENT TRENDS - SELECTED OCCUPATIONS, 2010 TO 2015

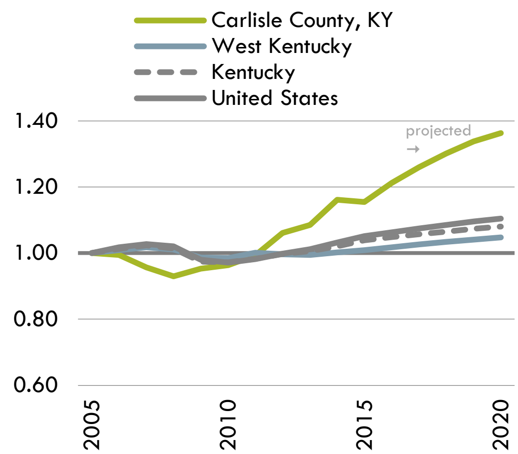
RANK	SOC & DESCRIPTION		2010	2015	LQ (US = 1.00)	MED. HRLY. EARNINGS	CHG., 2010-2015 NET	CHG., 2010-2015 %
	TOTAL		**1,179**	**1,413**		**$14.90**	**234**	**+20%**
1	51-7041	Sawing Machine Workers, Wood	17	21	47.21	$8.60	+5	+28%
2	11-9013	Farmers, Ranchers, & Other Agricultural Mgrs.	144	168	36.48	$12.70	+24	+17%
3	45-2092	Farmworkers & Laborers, Crop & Greenhouse	36	51	7.27	$11.46	+15	+41%
4	37-2011	Janitors & Cleaners, Exc. Maids & Housekeepers	26	76	3.25	$10.96	+51	+197%
5	49-9071	Maintenance & Repair Workers, General	22	41	3.10	$19.15	+19	+85%
6	47-2031	Carpenters	23	28	2.97	$15.47	+4	+18%
7	25-2021	Teachers, Elementary (Except Special Ed.)	23	23	1.82	$21.50	-0	-0%
8	25-9041	Teacher Assistants	21	20	1.77	$10.27	-1	-3%
9	47-2061	Construction Laborers	17	21	1.76	$13.10	+4	+22%
10	37-2012	Maids & Housekeepers	11	24	1.71	$8.93	+13	+120%

Sources: U.S. Census Bureau (population estimates); Moody's Analytics (population projections); 2010-2014 American Community Survey 5-Year Estimates (snapshot variables, except population); U.S. Census Bureau, OnTheMap Application and LEHD Origin-Destination Employment Statistics (commuting); EMSI, 2016.1 – QCEW Employees, Non-QCEW Employees, and Self-Employed (occupations)

CARLISLE COUNTY (CONTINUED)

ECONOMY

EMPLOYMENT TRENDS (2005 = 1.00)



ECONOMIC SNAPSHOT

VARIABLE	COUNTY	WEST KY
Employment, 2015	1,413	210,277
Change (%) in employment from 2010	+19.8%	+2.4%
Share (%) of regional employment, 2015	+0.7%	100.0%
Number of establishments	120	10,516
Civilian labor force (April 2016)	2,356	169,764
Unemployed (April 2016)	160	10,153
Unemployment rate (April 2016)	6.8	6.0
Change in UE rate from prior 12-months	+1.6	+0.1
Average earnings(all industries), 2015	$32,928	$48.8K
COL-adjusted average earnings, 2015	$35,812	$59.2K
Relative earnings (US = 100%)	54.4%	81%
Gross regional product (GRP)	$93.52M	$19.35B
Share (%) of regional GRP	0.5%	100%

SECTOR ANALYSIS OVERVIEW, 2015

ADVANCED MANUFACTURING		
EMPLOYMENT 78	**LQ** 0.7	**EARNINGS/JOB** $31.2K

AGRICULTURE & FOOD		
EMPLOYMENT 265	**LQ** 8.0	**FARM EARNINGS/JOB** $18.8K

CULTURAL INDUSTRIES		
EMPLOYMENT <10	**LQ** INSF. DATA	**TOURISM EXPENDITURES/JOB** $152.9K

HEALTH		
EMPLOYMENT 111	**LQ** 0.6	**EARNINGS/JOB** $41.4K

INFORMATION TECHNOLOGY		
EMPLOYMENT –	**LQ** –	**EARNINGS/JOB** –

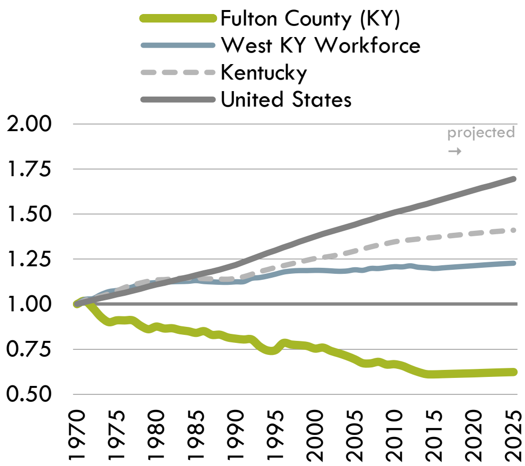
LOGISTICS & DISTRIBUTION		
EMPLOYMENT 23	**LQ** 0.5	**EARNINGS/JOB** $57.3K

Sources: EMSI, 2016.1 – QCEW Employees, Non-QCEW Employees, and Self-Employed; US Bureau of Labor Statistics (labor market info) via Moody's Analytics; US Bureau of Economic Analysis (farm income); Kentucky Tourism, Arts, & Heritage Cabinet (tourism data).

FULTON COUNTY

DEMOGRAPHICS

POPULATION TRENDS (1970 = 1.00)



DEMOGRAPHIC SNAPSHOT

VARIABLE	COUNTY	WEST KY
Population, 2015	6,238	412,783
% change from 2010	-8.4%	-0.8%
Age (selected categories as % of total population)		
Adult working age (25 to 64 years)	51.4%	49.7%
Seniors (65+ years)	19.9%	17.5%
Median age (in years, US = 37.4)	42.6	—
Educational attainment (% of pop. 25+ years)		
Less than high school	24.5%	16.0%
High school/GED	36.6%	36.4%
Some college, no degree	25.8%	30.7%
Bachelor's degree or higher	13.2%	16.8%
Median household income	$30,671	—
Share of population in poverty	31.2%	18.5%

COMMUTING PATTERNS, 2014

WORK IN FULTON COUNTY			
	LIVE *IN:*		*% WORKERS*
1	Fulton County, KY	733	33.5%
2	Obion County, TN	517	23.7%
3	Graves County, KY	212	9.7%
4	Hickman County, KY	136	6.2%
5	Weakley County, TN	120	5.5%

LIVE IN FULTON COUNTY			
	WORK *IN:*		*% EMPL. RESIDENTS*
1	Fulton County, KY	733	37.6%
2	Obion County, TN	282	14.5%
3	Graves County, KY	132	6.8%
4	McCracken County, KY	94	4.8%
5	Jefferson County, KY	73	3.7%

EMPLOYMENT TRENDS - SELECTED OCCUPATIONS, 2010 TO 2015

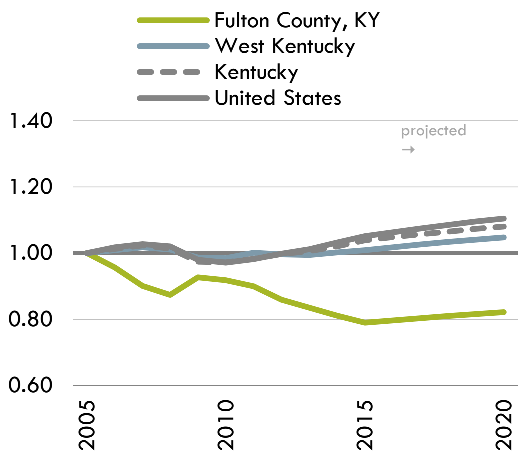
RANK	SOC & DESCRIPTION		2010	2015	LQ (US = 1.00)	MED. HRLY. EARNINGS	CHG., 2010-2015 NET	CHG., 2010-2015 %
	TOTAL		**2,914**	**2,506**		**$15.55**	**-408**	**-14%**
1	11-9013	Farmers, Ranchers, & Other Agricultural Mgrs.	57	98	12.01	$13.00	+41	+73%
2	45-2092	Farmworkers & Laborers, Crop & Greenhouse	45	32	2.57	$12.26	-13	-30%
3	53-3032	Heavy & Tractor-Trailer Truck Drivers	85	61	1.99	$16.89	-25	-29%
4	41-2011	Cashiers	131	103	1.84	$8.24	-28	-21%
5	41-1011	First-Line Supvsr., Retail Sales Workers	50	39	1.68	$14.18	-11	-22%
6	25-9041	Teacher Assistants	32	31	1.54	$10.30	-1	-1%
7	35-3021	Combined Food Prep. & Servers, Incl. Fast Food	80	78	1.48	$8.30	-2	-3%
8	49-9071	Maintenance & Repair Workers, General	36	34	1.46	$15.70	-2	-7%
9	25-2021	Teachers, Elementary (Except Special Ed.)	32	31	1.41	$21.61	-1	-4%
10	43-5081	Stock Clerks & Order Fillers	74	43	1.39	$9.02	-31	-42%

Sources: U.S. Census Bureau (population estimates); Moody's Analytics (population projections); 2010-2014 American Community Survey 5-Year Estimates (snapshot variables, except population); U.S. Census Bureau, OnTheMap Application and LEHD Origin-Destination Employment Statistics (commuting); EMSI, 2016.1 – QCEW Employees, Non-QCEW Employees, and Self-Employed (occupations)

FULTON COUNTY (CONTINUED)

ECONOMY

EMPLOYMENT TRENDS (2005 = 1.00)



ECONOMIC SNAPSHOT

VARIABLE	COUNTY	WEST KY
Employment, 2015	2,506	210,277
Change (%) in employment from 2010	-14.0%	+2.4%
Share (%) of regional employment, 2015	+1.2%	100.0%
Number of establishments	203	10,516
Civilian labor force (April 2016)	2,078	169,764
Unemployed (April 2016)	154	10,153
Unemployment rate (April 2016)	7.4	6.0
Change in UE rate from prior 12-months	-0.4	+0.1
Average earnings(all industries), 2015	$39,018	$48.8K
COL-adjusted average earnings, 2015	$42,542	$59.2K
Relative earnings (US = 100%)	64.4%	81%
Gross regional product (GRP)	$173.73M	$19.35B
Share (%) of regional GRP	0.9%	100%

SECTOR ANALYSIS OVERVIEW, 2015

ADVANCED MANUFACTURING

EMPLOYMENT	LQ	EARNINGS/JOB
339	1.7	$52.5K

AGRICULTURE & FOOD

EMPLOYMENT	LQ	FARM EARNINGS/JOB
162	2.8	$38.7K

CULTURAL INDUSTRIES

EMPLOYMENT	LQ	TOURISM EXPENDITURES/JOB
74	0.5	$68.8K

HEALTH

EMPLOYMENT	LQ	EARNINGS/JOB
252	0.8	$55.2K

INFORMATION TECHNOLOGY

EMPLOYMENT	LQ	EARNINGS/JOB
13	0.3	$42.8K

LOGISTICS & DISTRIBUTION

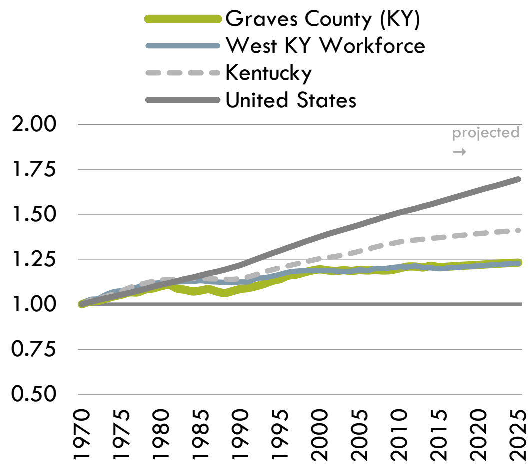
EMPLOYMENT	LQ	EARNINGS/JOB
84	1.0	$49.8K

Sources: EMSI, 2016.1 – QCEW Employees, Non-QCEW Employees, and Self-Employed; US Bureau of Labor Statistics (labor market info) via Moody's Analytics; US Bureau of Economic Analysis (farm income); Kentucky Tourism, Arts, & Heritage Cabinet (tourism data).

GRAVES COUNTY

DEMOGRAPHICS

POPULATION TRENDS (1970 = 1.00)



DEMOGRAPHIC SNAPSHOT

VARIABLE	COUNTY	WEST KY
Population, 2015	37,421	412,783
% change from 2010	0.5%	-0.8%
Age (selected categories as % of total population)		
Adult working age (25 to 64 years)	50.1%	49.7%
Seniors (65+ years)	17.7%	17.5%
Median age (in years, US = 37.4)	40.3	—
Educational attainment (% of pop. 25+ years)		
Less than high school	19.1%	16.0%
High school/GED	37.3%	36.4%
Some college, no degree	27.0%	30.7%
Bachelor's degree or higher	16.7%	16.8%
Median household income	$39,247	—
Share of population in poverty	17.7%	18.5%

COMMUTING PATTERNS, 2014

WORK IN GRAVES COUNTY

	LIVE *IN:*		*% WORKERS*
1	Graves County, KY	5,947	56.4%
2	McCracken County, KY	832	7.9%
3	Calloway County, KY	521	4.9%
4	Marshall County, KY	475	4.5%
5	Carlisle County, KY	248	2.4%

LIVE IN GRAVES COUNTY

	WORK *IN:*		*% EMPL. RESIDENTS*
1	Graves County, KY	5,947	42.7%
2	McCracken County, KY	2,598	18.7%
3	Calloway County, KY	1,203	8.6%
4	Marshall County, KY	696	5.0%
5	Jefferson County, KY	466	3.3%

EMPLOYMENT TRENDS - SELECTED OCCUPATIONS, 2010 TO 2015

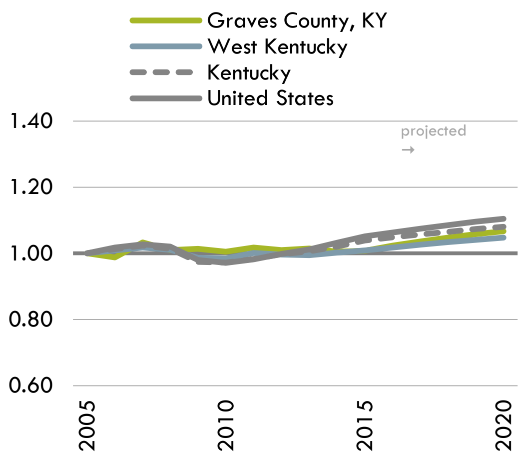
RANK	SOC & DESCRIPTION		2010	2015	LQ (US = 1.00)	MED. HRLY. EARNINGS	CHG., 2010-2015 NET	CHG., 2010-2015 %
	TOTAL		**12,782**	**12,820**		**$16.04**	**+38**	**+0%**
1	51-3023	Slaughterers & Meat Packers	246	223	31.41	$14.53	-23	-9%
2	51-3022	Meat, Poultry, & Fish Cutters & Trimmers	182	172	13.48	$11.80	-11	-6%
3	49-9051	Electrical Power-Line Installers & Repairers	87	119	12.07	$30.02	+31	+36%
4	11-9013	Farmers, Ranchers, & Other Agricultural Mgrs.	227	338	8.09	$11.35	+111	+49%
5	45-2092	Farmworkers & Laborers, Crop & Greenhouse	126	158	2.49	$11.71	+32	+25%
6	31-1014	Nursing Assistants	210	194	1.57	$10.07	-16	-8%
7	47-2031	Carpenters	134	124	1.47	$14.31	-9	-7%
8	25-9041	Teacher Assistants	167	153	1.47	$10.59	-14	-8%
9	53-7062	Laborers/Freight, Stock, & Material Movers, Hand	288	295	1.42	$10.73	+8	+3%
10	25-2021	Teachers, Elementary (Except Special Ed.)	160	157	1.40	$23.60	-4	-2%

Sources: U.S. Census Bureau (population estimates); Moody's Analytics (population projections); 2010-2014 American Community Survey 5-Year Estimates (snapshot variables, except population); U.S. Census Bureau, OnTheMap Application and LEHD Origin-Destination Employment Statistics (commuting); EMSI, 2016.1 – QCEW Employees, Non-QCEW Employees, and Self-Employed (occupations)

GRAVES COUNTY (CONTINUED)

ECONOMY

EMPLOYMENT TRENDS (2005 = 1.00)



ECONOMIC SNAPSHOT

VARIABLE	COUNTY	WEST KY
Employment, 2015	12,820	210,277
Change (%) in employment from 2010	+0.3%	+2.4%
Share (%) of regional employment, 2015	+6.1%	100.0%
Number of establishments	864	10,516
Civilian labor force (April 2016)	15,287	169,764
Unemployed (April 2016)	956	10,153
Unemployment rate (April 2016)	6.3	6.0
Change in UE rate from prior 12-months	-0.1	+0.1
Average earnings(all industries), 2015	$40,432	$48.8K
COL-adjusted average earnings, 2015	$44,608	$59.2K
Relative earnings (US = 100%)	66.8%	81%
Gross regional product (GRP)	$1.01B	$19.35B
Share (%) of regional GRP	5.2%	100%

SECTOR ANALYSIS OVERVIEW, 2015

ADVANCED MANUFACTURING

EMPLOYMENT	LQ	EARNINGS/JOB
1,872	1.9	$42.3K

AGRICULTURE & FOOD

EMPLOYMENT	LQ	FARM EARNINGS/JOB
1,743	5.8	$21.6K

CULTURAL INDUSTRIES

EMPLOYMENT	LQ	TOURISM EXPENDITURES/JOB
143	0.2	$148.5K

HEALTH

EMPLOYMENT	LQ	EARNINGS/JOB
1,615	1.0	$43.8K

INFORMATION TECHNOLOGY

EMPLOYMENT	LQ	EARNINGS/JOB
140	0.6	$52.3K

LOGISTICS & DISTRIBUTION

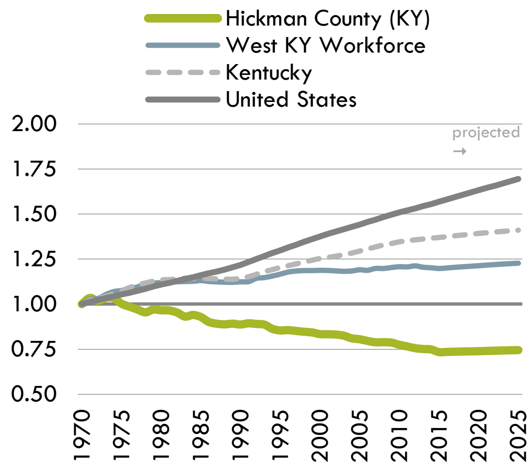
EMPLOYMENT	LQ	EARNINGS/JOB
363	0.9	$44.9K

Sources: EMSI, 2016.1 – QCEW Employees, Non-QCEW Employees, and Self-Employed; US Bureau of Labor Statistics (labor market info) via Moody's Analytics; US Bureau of Economic Analysis (farm income); Kentucky Tourism, Arts, & Heritage Cabinet (tourism data).

HICKMAN COUNTY

DEMOGRAPHICS

POPULATION TRENDS (1970 = 1.00)



DEMOGRAPHIC SNAPSHOT

VARIABLE	COUNTY	WEST KY
Population, 2015	4,612	412,783
% change from 2010	-5.3%	-0.8%
Age (selected categories as % of total population)		
Adult working age (25 to 64 years)	49.2%	49.7%
Seniors (65+ years)	24.2%	17.5%
Median age (in years, US = 37.4)	47.2	—
Educational attainment (% of pop. 25+ years)		
Less than high school	17.8%	16.0%
High school/GED	38.0%	36.4%
Some college, no degree	32.5%	30.7%
Bachelor's degree or higher	11.7%	16.8%
Median household income	$41,588	—
Share of population in poverty	18.4%	18.5%

COMMUTING PATTERNS, 2014

WORK IN HICKMAN COUNTY

	LIVE IN:		% WORKERS
1	Hickman County, KY	535	49.6%
2	Graves County, KY	117	10.8%
3	Carlisle County, KY	87	8.1%
4	Fulton County, KY	67	6.2%
5	Obion County, TN	58	5.4%

LIVE IN HICKMAN COUNTY

	WORK IN:		% EMPL. RESIDENTS
1	Hickman County, KY	535	30.9%
2	Graves County, KY	215	12.4%
3	McCracken County, KY	168	9.7%
4	Fulton County, KY	136	7.9%
5	Obion County, TN	88	5.1%

EMPLOYMENT TRENDS - SELECTED OCCUPATIONS, 2010 TO 2015

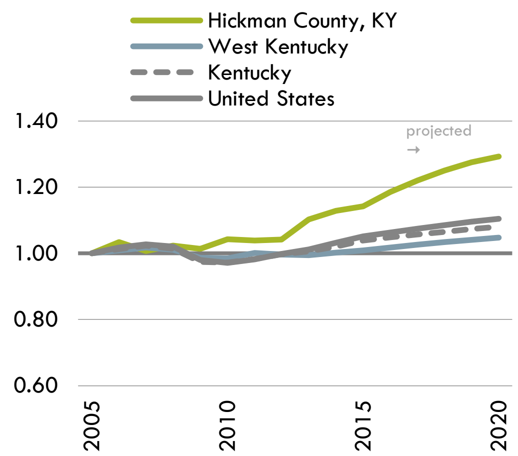
RANK	SOC & DESCRIPTION		2010	2015	LQ (US = 1.00)	MED. HRLY. EARNINGS	CHG., 2010-2015 NET	CHG., 2010-2015 %
	TOTAL		**1,408**	**1,542**		**$14.72**	**+134**	**+10%**
1	11-9013	Farmers, Ranchers, & Other Agricultural Mgrs.	154	255	50.80	$12.26	+101	+66%
2	45-2092	Farmworkers & Laborers, Crop & Greenhouse	37	69	9.09	$11.59	+32	+85%
3	43-3071	Tellers	16	23	4.47	$10.66	+7	+46%
4	31-1014	Nursing Assistants	56	49	3.29	$10.45	-7	-13%
5	29-2061	Licensed Practical/Vocational Nurses	18	17	2.38	$17.47	-0	-2%
6	37-2011	Janitors & Cleaners, Exc. Maids & Housekeepers	38	56	2.19	$9.18	+18	+47%
7	47-2031	Carpenters	14	21	2.10	$14.56	+7	+53%
8	37-2012	Maids & Housekeepers	23	30	2.00	$7.80	+7	+29%
9	51-2092	Team Assemblers	12	16	1.36	$12.68	+3	+27%
10	47-2061	Construction Laborers	11	17	1.35	$12.67	+7	+65%

Sources: U.S. Census Bureau (population estimates); Moody's Analytics (population projections); 2010-2014 American Community Survey 5-Year Estimates (snapshot variables, except population); U.S. Census Bureau, OnTheMap Application and LEHD Origin-Destination Employment Statistics (commuting); EMSI, 2016.1 – QCEW Employees, Non-QCEW Employees, and Self-Employed (occupations)

HICKMAN COUNTY (CONTINUED)

ECONOMY

EMPLOYMENT TRENDS (2005 = 1.00)



ECONOMIC SNAPSHOT

VARIABLE	COUNTY	WEST KY
Employment, 2015	1,542	210,277
Change (%) in employment from 2010	+9.5%	+2.4%
Share (%) of regional employment, 2015	+0.7%	100.0%
Number of establishments	107	10,516
Civilian labor force (April 2016)	2,158	169,764
Unemployed (April 2016)	122	10,153
Unemployment rate (April 2016)	5.6	6.0
Change in UE rate from prior 12-months	+0.1	+0.1
Average earnings(all industries), 2015	$32,864	$48.8K
COL-adjusted average earnings, 2015	$34,259	$59.2K
Relative earnings (US = 100%)	54.3%	81%
Gross regional product (GRP)	$89.24M	$19.35B
Share (%) of regional GRP	0.5%	100%

SECTOR ANALYSIS OVERVIEW, 2015

ADVANCED MANUFACTURING		
EMPLOYMENT 140	**LQ** 1.2	**EARNINGS/JOB** $26.5K

AGRICULTURE & FOOD		
EMPLOYMENT 449	**LQ** 12.4	**FARM EARNINGS/JOB** $10.5K

CULTURAL INDUSTRIES		
EMPLOYMENT 40	**LQ** 0.4	**TOURISM EXPENDITURES/JOB** $11.1K

HEALTH		
EMPLOYMENT 165	**LQ** 0.9	**EARNINGS/JOB** $33.7K

INFORMATION TECHNOLOGY		
EMPLOYMENT <10	**LQ** 0.2	**EARNINGS/JOB** INSF. DATA

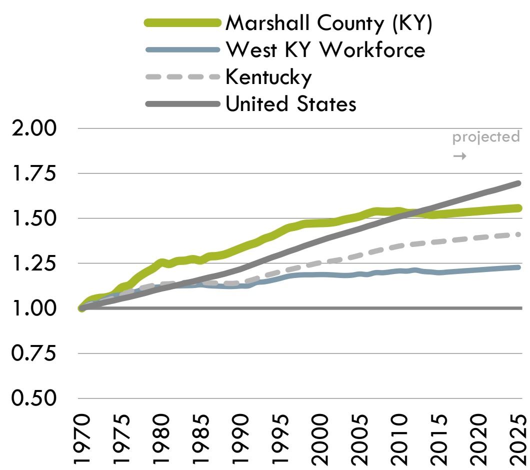
LOGISTICS & DISTRIBUTION		
EMPLOYMENT 41	**LQ** 0.8	**EARNINGS/JOB** $74.2K

Sources: EMSI, 2016.1 – QCEW Employees, Non-QCEW Employees, and Self-Employed; US Bureau of Labor Statistics (labor market info) via Moody's Analytics; US Bureau of Economic Analysis (farm income); Kentucky Tourism, Arts, & Heritage Cabinet (tourism data).

MARSHALL COUNTY

DEMOGRAPHICS

POPULATION TRENDS (1970 = 1.00)



DEMOGRAPHIC SNAPSHOT

VARIABLE	COUNTY	WEST KY
Population, 2015	31,101	412,783
% change from 2010	-1.2%	-0.8%
Age (selected categories as % of total population)		
Adult working age (25 to 64 years)	51.3%	49.7%
Seniors (65+ years)	21.6%	17.5%
Median age (in years, US = 37.4)	44.5	—
Educational attainment (% of pop. 25+ years)		
Less than high school	13.9%	16.0%
High school/GED	39.4%	36.4%
Some college, no degree	30.3%	30.7%
Bachelor's degree or higher	16.4%	16.8%
Median household income	$45,596	—
Share of population in poverty	13.1%	18.5%

COMMUTING PATTERNS, 2014

WORK IN MARSHALL COUNTY

	LIVE *IN:*		*% WORKERS*
1	Marshall County, KY	5,189	48.1%
2	McCracken County, KY	1,401	13.0%
3	Graves County, KY	696	6.4%
4	Calloway County, KY	582	5.4%
5	Livingston County, KY	354	3.3%

LIVE IN MARSHALL COUNTY

	WORK *IN:*		*% EMPL. RESIDENTS*
1	Marshall County, KY	5,189	41.4%
2	McCracken County, KY	2,708	21.6%
3	Calloway County, KY	1,218	9.7%
4	Graves County, KY	475	3.8%
5	Jefferson County, KY	371	3.0%

EMPLOYMENT TRENDS - SELECTED OCCUPATIONS, 2010 TO 2015

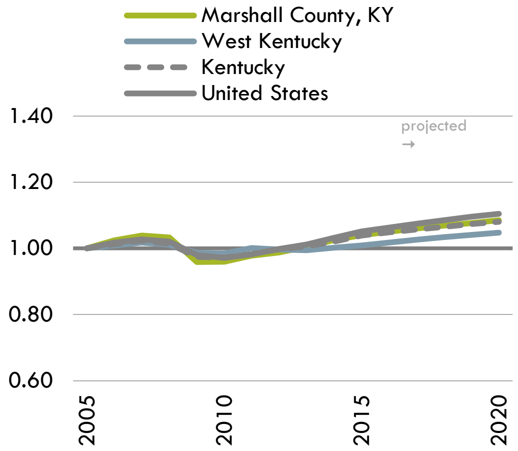
RANK	SOC & DESCRIPTION		2010	2015	LQ (US = 1.00)	MED. HRLY. EARNINGS	CHG., 2010-2015 NET	CHG., 2010-2015 %
	TOTAL		**11,604**	**12,579**		**$17.95**	**+975**	**+8%**
1	51-9011	Chemical Equipment Workers	183	203	38.08	$25.60	+19	+10%
2	51-4023	Rolling Machine Workers, Metal/Plastic	40	60	22.53	$20.29	+20	+51%
3	51-8091	Chemical Plant & System Operators	62	61	19.94	$31.46	-0	-1%
4	17-2041	Chemical Engineers	44	50	18.07	$45.05	+6	+13%
5	51-9023	Mixing & Blending Machine Workers	105	104	10.29	$15.58	-0	-0%
6	49-9041	Industrial Machinery Mechanics	128	177	6.57	$27.78	+50	+39%
7	47-2152	Plumbers, Pipefitters, & Steamfitters	112	165	4.49	$26.20	+53	+48%
8	47-2111	Electricians	157	195	3.64	$26.64	+38	+24%
9	51-2099	Assemblers & Fabricators, All Other	53	64	3.17	$11.43	+11	+21%
10	47-1011	First-Line Supvsr., Constr. Trades & Extraction	100	145	2.88	$28.83	+45	+45%

Sources: U.S. Census Bureau (population estimates); Moody's Analytics (population projections); 2010-2014 American Community Survey 5-Year Estimates (snapshot variables, except population); U.S. Census Bureau, OnTheMap Application and LEHD Origin-Destination Employment Statistics (commuting); EMSI, 2016.1 – QCEW Employees, Non-QCEW Employees, and Self-Employed (occupations)

MARSHALL COUNTY (CONTINUED)

ECONOMY

EMPLOYMENT TRENDS (2005 = 1.00)



ECONOMIC SNAPSHOT

VARIABLE	COUNTY	WEST KY
Employment, 2015	12,579	210,277
Change (%) in employment from 2010	+8.4%	+2.4%
Share (%) of regional employment, 2015	+6.0%	100.0%
Number of establishments	781	10,516
Civilian labor force (April 2016)	28,093	169,764
Unemployed (April 2016)	1,680	10,153
Unemployment rate (April 2016)	6.0	6.0
Change in UE rate from prior 12-months	+0.0	+0.1
Average earnings(all industries), 2015	$54,861	$48.8K
COL-adjusted average earnings, 2015	$59,005	$59.2K
Relative earnings (US = 100%)	90.6%	81%
Gross regional product (GRP)	$1.36B	$19.35B
Share (%) of regional GRP	7.0%	100%

SECTOR ANALYSIS OVERVIEW, 2015

ADVANCED MANUFACTURING		
EMPLOYMENT 2,320	**LQ** 2.6	**EARNINGS/JOB** $70.0K

AGRICULTURE & FOOD		
EMPLOYMENT 137	**LQ** 0.1	**FARM EARNINGS/JOB** $266.6K

CULTURAL INDUSTRIES		
EMPLOYMENT 3,077	**LQ** 1.2	**TOURISM EXPENDITURES/JOB** $72.7K

HEALTH		
EMPLOYMENT 7,429	**LQ** 1.4	**EARNINGS/JOB** $60.9K

INFORMATION TECHNOLOGY		
EMPLOYMENT 831	**LQ** 1.1	**EARNINGS/JOB** $66.9K

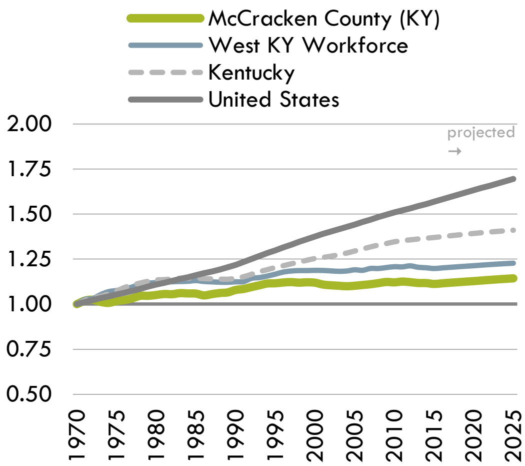
LOGISTICS & DISTRIBUTION		
EMPLOYMENT 2,978	**LQ** 2.2	**EARNINGS/JOB** $80.7K

Sources: EMSI, 2016.1 – QCEW Employees, Non-QCEW Employees, and Self-Employed; US Bureau of Labor Statistics (labor market info) via Moody's Analytics; US Bureau of Economic Analysis (farm income); Kentucky Tourism, Arts, & Heritage Cabinet (tourism data).

MCCRACKEN COUNTY

DEMOGRAPHICS

POPULATION TRENDS (1970 = 1.00)



DEMOGRAPHIC SNAPSHOT

VARIABLE	COUNTY	WEST KY
Population, 2015	65,018	412,783
% change from 2010	-0.8%	-0.8%
Age (selected categories as % of total population)		
Adult working age (25 to 64 years)	52.0%	49.7%
Seniors (65+ years)	18.7%	17.5%
Median age (in years, US = 37.4)	42.4	—
Educational attainment (% of pop. 25+ years)		
Less than high school	12.8%	16.0%
High school/GED	31.0%	36.4%
Some college, no degree	33.5%	30.7%
Bachelor's degree or higher	22.7%	16.8%
Median household income	$41,216	—
Share of population in poverty	17.5%	18.5%

COMMUTING PATTERNS, 2014

WORK IN MCCRACKEN COUNTY

	LIVE *IN:*		*% WORKERS*
1	McCracken County, KY	16,872	45.9%
2	Marshall County, KY	2,708	7.4%
3	Graves County, KY	2,598	7.1%
4	Massac County, IL	1,769	4.8%
5	Ballard County, KY	1,088	3.0%

LIVE IN MCCRACKEN COUNTY

	WORK *IN:*		*% EMPL. RESIDENTS*
1	McCracken County, KY	16,872	64.8%
2	Marshall County, KY	1,401	5.4%
3	Jefferson County, KY	917	3.5%
4	Graves County, KY	832	3.2%
5	Ballard County, KY	648	2.5%

EMPLOYMENT TRENDS - SELECTED OCCUPATIONS, 2010 TO 2015

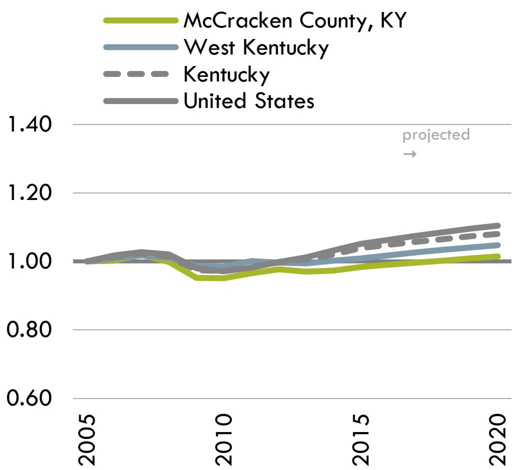
RANK	SOC & DESCRIPTION		2010	2015	LQ (US = 1.00)	MED. HRLY. EARNINGS	CHG., 2010-2015 NET	CHG., 2010-2015 %
	TOTAL		**40,121**	**41,496**		**$18.15**	**+1,375**	**+3%**
1	53-5021	Captains, Mates, & Pilots of Water Vessels	457	720	79.37	$38.19	+263	+58%
2	53-5011	Sailors & Marine Oilers	332	514	68.24	$15.93	+182	+55%
3	51-2099	Assemblers & Fabricators, All Other	175	226	3.38	$9.74	+50	+29%
4	35-2012	Cooks, Institution & Cafeteria	265	296	2.57	$11.19	+31	+12%
5	51-4121	Welders, Cutters, Solderers, & Brazers	247	264	2.48	$18.65	+17	+7%
6	43-3021	Billing & Posting Clerks	262	282	2.00	$14.36	+20	+7%
7	51-4041	Machinists	187	210	1.96	$25.31	+23	+12%
8	35-3021	Combined Food Prep. & Servers, Incl. Fast Food	1,289	1,638	1.88	$8.78	+349	+27%
9	29-1141	Registered Nurses	1,367	1,389	1.86	$25.49	+22	+2%
10	35-1012	First-Line Supvsr., Food Prep. & Servers	378	440	1.80	$12.13	+62	+16%

Sources: U.S. Census Bureau (population estimates); Moody's Analytics (population projections); 2010-2014 American Community Survey 5-Year Estimates (snapshot variables, except population); U.S. Census Bureau, OnTheMap Application and LEHD Origin-Destination Employment Statistics (commuting); EMSI, 2016.1 – QCEW Employees, Non-QCEW Employees, and Self-Employed (occupations)

MCCRACKEN COUNTY (CONTINUED)

ECONOMY

EMPLOYMENT TRENDS (2005 = 1.00)



ECONOMIC SNAPSHOT

VARIABLE	COUNTY	WEST KY
Employment, 2015	41,496	210,277
Change (%) in employment from 2010	+3.4%	+2.4%
Share (%) of regional employment, 2015	+19.7%	100.0%
Number of establishments	2,436	10,516
Civilian labor force (April 2016)	14,622	169,764
Unemployed (April 2016)	846	10,153
Unemployment rate (April 2016)	5.8	6.0
Change in UE rate from prior 12-months	+0.4	+0.1
Average earnings(all industries), 2015	$48,564	$48.8K
COL-adjusted average earnings, 2015	$50,813	$59.2K
Relative earnings (US = 100%)	80.2%	81%
Gross regional product (GRP)	$3.39B	$19.35B
Share (%) of regional GRP	17.5%	100%

SECTOR ANALYSIS OVERVIEW, 2015

ADVANCED MANUFACTURING		
EMPLOYMENT 2,320	**LQ** 2.6	**EARNINGS/JOB** $70.0K

AGRICULTURE & FOOD		
EMPLOYMENT 137	**LQ** 0.1	**FARM EARNINGS/JOB** $225.9K

CULTURAL INDUSTRIES		
EMPLOYMENT 3,077	**LQ** 1.2	**TOURISM EXPENDITURES/JOB** $72.7K

HEALTH		
EMPLOYMENT 7,429	**LQ** 1.4	**EARNINGS/JOB** $60.9K

INFORMATION TECHNOLOGY		
EMPLOYMENT 831	**LQ** 1.1	**EARNINGS/JOB** $66.9K

LOGISTICS & DISTRIBUTION		
EMPLOYMENT 2,978	**LQ** 2.2	**EARNINGS/JOB** $80.7K

Sources: EMSI, 2016.1 – QCEW Employees, Non-QCEW Employees, and Self-Employed; US Bureau of Labor Statistics (labor market info) via Moody's Analytics; US Bureau of Economic Analysis (farm income); Kentucky Tourism, Arts, & Heritage Cabinet (tourism data).

APPENDIX 2. ADDITIONAL WORKFORCE ANALYSIS FIGURES

FIGURE 53. WEST KENTUCKY OCCUPATIONAL STRENGTHS, RANKED BY 2015 LOCATION QUOTIENT (LQ)
OCCUPATIONS WITH LQ OF 1.25 OR GREATER, WITH COMPARISON TO THE STATE AND US WAGE RATES

		WEST KENTUCKY				
SOC CODE	**DESCRIPTION**	*2015 Jobs*	*% change from 2010*	*2015 LQ (US=1.00)*	*Median Hourly Earnings*	*Wage Premium (US = 1.00)*
53-7111	Mine Shuttle Car Operators	103	-27%	31.85	$22.34	1.99
47-5061	Roof Bolters, Mining	195	-26%	28.37	$25.90	1.78
53-5021	Captains, Mates, & Pilots of Water Vessels	780	+49%	16.97	$38.16	0.81
53-5011	Sailors & Marine Oilers	565	+45%	14.81	$15.87	0.45
47-5051	Rock Splitters, Quarry	54	+16%	11.45	$15.96	0.25
53-5031	Ship Engineers	151	+34%	10.90	$30.94	2.97
47-5042	Mine Cutting & Channeling Machine Operators	89	-19%	10.51	$23.28	0.83
51-8099	Plant & System Operators, All Other	103	-7%	6.61	$35.48	0.89
51-2031	Engine & Other Machine Assemblers	326	+19%	6.30	$13.65	1.19
47-5041	Continuous Mining Machine Operators	88	-18%	6.24	$25.96	2.48
47-5081	Helpers--Extraction Workers	125	-10%	4.35	$19.41	1.79
51-9011	Chemical Equipment Workers	367	-24%	4.13	$26.16	0.79
51-3099	Food Processing Workers, All Other	245	+6%	4.06	$14.08	0.87
11-9013	Farmers, Ranchers, & Other Agricultural Mgrs.	2,657	+24%	3.88	$11.85	0.27
53-7032	Excavating/Loading & Dragline Operators	275	-9%	3.80	$20.33	0.41
51-7041	Sawing Machine Workers, Wood	253	+22%	3.74	$9.78	0.59
39-4031	Morticians, Undertakers, & Funeral Directors	135	+1%	3.67	$19.94	0.90
49-3041	Farm Equip. Mechanics & Service Technicians	183	+8%	3.54	$14.73	0.70
53-6031	Automotive & Watercraft Service Attendants	483	+12%	3.29	$9.08	0.23
51-2099	Assemblers & Fabricators, All Other	1,083	+33%	3.20	$11.30	0.46
53-7063	Machine Feeders & Offbearers	464	+31%	3.19	$15.54	0.33
49-3051	Motorboat Mechanics & Service Technicians	107	+16%	3.08	$14.69	0.67
49-3043	Rail Car Repairers	89	+7%	3.03	$28.72	0.96
45-2011	Agricultural Inspectors	64	-3%	3.01	$20.97	0.49
33-3011	Bailiffs	64	+6%	2.86	$12.12	1.19
51-3091	Food & Tobacco Machine Workers	76	+18%	2.85	$12.56	0.13
51-3023	Slaughterers & Meat Packers	313	+9%	2.69	$14.59	0.76
49-9051	Electrical Power-Line Installers & Repairers	431	+7%	2.67	$33.61	2.03
51-6091	Extruding/Forming Machine, Synth. & Glass Fibers	70	+4%	2.60	$13.21	0.77
47-4071	Septic Tank Servicers & Sewer Pipe Cleaners	95	-27%	2.59	$13.69	0.58

Source: EMSI 2016.1 – QCEW Employees, Non-QCEW Employees, and Self-Employed. Note: Excludes military and unclassified occupations. Wage rates greater than 10% above the national median are highlighted.

FIGURE 54. COMPARABLE DATA FOR KENTUCKY
COMPARABLE DATA FOR KENTUCKY

		KENTUCKY				
SOC CODE	**DESCRIPTION**	*2015 Jobs*	*% change from 2010*	*2015 LQ (US=1.00)*	*Median Hourly Earnings*	*Wage Premium (US=1.00)*
53-7111	Mine Shuttle Car Operators	407	-39%	12.70	$24.94	2.22
47-5061	Roof Bolters, Mining	998	-35%	14.58	$25.74	1.77
53-5021	Captains, Mates, & Pilots of Water Vessels	1,270	+26%	2.78	$37.65	0.80
53-5011	Sailors & Marine Oilers	959	+22%	2.53	$15.35	0.43
47-5051	Rock Splitters, Quarry	233	+6%	4.94	$16.05	0.25
53-5031	Ship Engineers	302	+24%	2.19	$31.04	2.98
47-5042	Mine Cutting & Channeling Machine Operators	452	-32%	5.35	$25.15	0.89
51-8099	Plant & System Operators, All Other	454	-2%	2.94	$29.72	0.75
51-2031	Engine & Other Machine Assemblers	1,115	+21%	2.17	$17.30	1.50
47-5041	Continuous Mining Machine Operators	700	-36%	4.98	$24.21	2.31
47-5081	Helpers--Extraction Workers	517	-31%	1.81	$16.48	1.52
51-9011	Chemical Equipment Workers	1,960	+3%	2.22	$25.43	0.77
51-3099	Food Processing Workers, All Other	1,333	+6%	2.22	$11.39	0.70
11-9013	Farmers, Ranchers, & Other Agricultural Mgrs.	9,756	-18%	1.43	$11.55	0.26
53-7032	Excavating/Loading & Dragline Operators	1,283	-24%	1.78	$19.47	0.39
51-7041	Sawing Machine Workers, Wood	1,590	+18%	2.37	$10.95	0.66
39-4031	Morticians, Undertakers, & Funeral Directors	808	+12%	2.21	$20.14	0.91
49-3041	Farm Equip. Mechanics & Service Technicians	857	+15%	1.67	$14.71	0.70
53-6031	Automotive & Watercraft Service Attendants	2,041	+7%	1.40	$10.22	0.26
51-2099	Assemblers & Fabricators, All Other	11,066	+36%	3.29	$12.24	0.50
53-7063	Machine Feeders & Offbearers	5,696	+24%	3.94	$14.72	0.31
49-3051	Motorboat Mechanics & Service Technicians	364	+16%	1.06	$14.45	0.66
49-3043	Rail Car Repairers	575	+21%	1.96	$26.45	0.89
45-2011	Agricultural Inspectors	213	-5%	1.00	$20.22	0.47
33-3011	Bailiffs	546	+0%	2.46	$12.88	1.26
51-3091	Food & Tobacco Machine Workers	454	+1%	1.71	$12.73	0.13
51-3023	Slaughterers & Meat Packers	1,572	-1%	1.36	$12.18	0.64
49-9051	Electrical Power-Line Installers & Repairers	2,554	+10%	1.59	$29.52	1.78
51-6091	Extruding/Forming Machine, Synth. & Glass Fibers	386	+9%	1.44	$12.87	0.75
47-4071	Septic Tank Servicers & Sewer Pipe Cleaners	471	-5%	1.30	$13.34	0.57

Source: EMSI 2016.1 – QCEW Employees, Non-QCEW Employees, and Self-Employed. Note: Excludes military and unclassified occupations. Wage rates greater than 10% above the national median are highlighted.

APPENDIX 3. STAKEHOLDER ENGAGEMENT

Throughout the planning process, TIP Strategies and Avalanche Consulting gathered input from regional employers and other stakeholders via focus groups and interviews. In addition, an online survey was made available via the West Kentucky Workforce Board site and was circulated by regional partners. This section provides a brief overview of these engagement tasks.

FOCUS GROUPS & INTERVIEWS

Focus groups and interviews were conducted in the Pennyrile and Purchase Regions. The following is a list of stakeholder meetings, including attendees.

Economic Development/Chamber
April 11 at Pennyrile Area Development District

- Kelli Pendleton, Christian County Chamber
- Ken Robinson, Muhlenberg Alliance For Progress
- Lee Lingo, Hopkins Regional Chamber
- Chris Wooldridge, Murray State University
- Dan Bozarth, Cadiz-Trigg Economic Development Commission
- Penny Fletcher, Kentucky Innovation Network
- Vonda Gates, South Western Kentucky Economic Development Council
- Amy Frogue, Pennyrile Area Development District
- Jason Vincent, Pennyrile Area Development District
- Tom Sholar, West Kentucky Workforce Board

KY Fame
April 11 at Pennyrile Area Development District

- Carol Kirves, Hopkinsville Community College
- Lea Martin, Hopkinsville Community College
- Vonda Gates, SWK EDC
- Phil Dunn, TRAD North America
- Amy Frogue, Pennyrile Area Development District
- Tom Sholar, West Kentucky Workforce Board

I-69 Industry Alliance- Madisonville, KY
April 12 at Madisonville Community College

- Kent Waide, I-69 Industry Alliance/Ruby Concrete
- Kim Thompson, I-69 Industry Alliance
- Mike Davenport, I-69 Industry Alliance
- Britney Mitchell, I-69 Industry Alliance
- Tom Sholar, West Kentucky Workforce Board
- Lee Lingo, Hopkins County Chamber of Commerce

Logistics & Transportation
April 12 at West Kentucky Community & Technical College

- Ashley Diveley, James Marine, Inc.
- Jim Ferguson, Henry A Petter Supply
- Kris Gallimore, Schwarz Supply (Bunzl)

- Paul Dutton, Marquette Transportation
- David Varvel, Marquette Transportation
- Ross Wagner, Wagner Enterprises
- Ryan Wagner, Wagner Enterprises
- Mary A. Medlock, West Kentucky Workforce Board

Agri-Business/Value Added Ag
April 12 at West Kentucky Community & Technical College

- Ashley Johnson, PADD
- Jason Vincent, PADD
- Jerry Gilliam, AgQuest Financial Services
- Debbie Reed, MSU Breathitt Veterinary Center
- Robert Alexander, Farm Credit Mid-America
- Brandon Garnett, Farm Credit Mid-America
- Josh Arnall, H&R Agri-Power
- Steve Hunt, Hunt Farms
- Sheila Clark, West Kentucky Workforce Board

Healthcare
April 12 at West Kentucky Community & Technical College

- Angela Birney, Lourdes Hospital
- Nikki Coursey, Lourdes Hospital
- Peggy Block, West Kentucky Community & Technical College Allied Health
- Tena Payne, West Kentucky Community & Technical College
- Shari Gholson, West Kentucky Community & Technical College

Healthcare Group
April 12 at Madisonville Community College

- Lisa Howerton, Madisonville Community College
- Linda Thomas, Madisonville Community College, Baptist Health
- Kim Qualls, Madisonville Community College, Occupational Therapy
- Paula Lange, Madisonville Community College, Radiography
- Amanda Wagoner, Madisonville Community College, Baptist Health/Radiology
- Justin Cardwell, Medical Center Ambulance Service
- Jon Luck, Medical Center Ambulance Service
- Tom Sholar, West Kentucky Workforce Board

KY Fame
April 12 at Madisonville Community College

- James Bundren, Madisonville-Hopkins County Economic Development Corporation (Kentucky EDC)
- Britney Mitchell, Madisonville Community College
- Mike Davenport, Madisonville Community College
- Tom Sholar, West Kentucky Workforce Board

River Counties Meeting
April 12 at the Purchase Area Development District

- Judge Jim Martin, Fulton County
- Judge Greg Terry, Carlisle County

- Judge Vicki Viniard, Ballard County
- Judge Kenny Wilson, Hickman County

West Kentucky Workforce Board Meeting
April 13 at West Kentucky Community & Technical College

- Clyde Elrod, West Kentucky Workforce Board-Ballard County Business Representative
- Dennis Courtney, West Kentucky Workforce Board-Calloway County Business Representative
- Brad Youngblood, West Kentucky Workforce Board-Graves County Business Representative
- David Puckett, Puckett Fine Jewelry
- Will McDowell, Paducah Economic Development
- Jason Redfern, West Kentucky Workforce Board-Caldwell County Business Representative
- Jackie Jones, West Kentucky Workforce Board-Christian County Business Representative
- Ben Spears, Alliance Resource Partners (Coal)
- Gary Jones, Mulhenberg Alliance for Progress
- Randy Major, Lake Barkley Partnership
- Wayne Belanger, West Kentucky Workforce Board-Todd County Business Representative
- Phil Dunn, T.RAD Heat Exchangers
- Don Fraher, Pella Windows
- Jim Key, West Kentucky Workforce Board-Purchase Labor Representative
- Gina Johnston, Office of Employment & Training
- Kyle Henderson, West Kentucky Workforce Board-Training Representative
- Vickie Hutcheson, Kentucky Farmworkers Program
- Leigh Ann Jarvis, J.U. Kevil
- Robert Tashjian, 4-H Club
- Becki Wells, Challenge House
- Katie Lopez, Veterans Affairs
- Dr. Brian VanHorn, Murray State University
- Dr. Jay Allen, Hopkinsville Community College
- Dr. Deborah Cox, Madisonville Community College
- Dr. Barbara Veazey, West Kentucky Community & Technical College
- Don Howerton, Adult Education
- Mark Manning, West Kentucky Workforce Board-Purchase Economic Development Representative
- Dan Bozarth, West Kentucky Workforce Board-Pennyrile Economic Development Representative
- Jennifer Beck-Walker, Purchase Area Development District
- Parvin Gibbs, Kentucky Workforce Innovation Board
- Lanita Wilson, Christian County Chamber of Commerce
- Carol Kirves, Hopkinsville Community College
- David Zoeller, Paducah Sun
- Jillian Henson, Marshall County Adult Education
- Janece Everett, Congressman Whitfield's office
- Kate Prince, Congressman Whitfield's office
- Jim Pape, West KY Community & Technical College
- Bob Leeper, Chief Elected Official-McCracken County Fiscal Court
- Kelly Gates, Christian County Public Schools
- Tammy Maines, West Kentucky Community & Technical College
- Tammy Hardy, Madisonville Community College
- Jody O'Neill, J.U. Kevil
- Chris Wooldridge, Murray State University
- Stan Hill, Office of Employment & Training
- Jon Pendergrass, Office of Employment & Training

- Brenda Crabtree, Experience Works
- Gina Winchester, Murray State University
- Janet Level, Hopkinsville Community College
- Penny Fletcher, Murray State University
- Andrea Hampton, Trigg County Adult Education
- Blair Travis, West Kentucky Community & Technical College
- Jim LeFevre, Ballard County Economic Development

Educators Meeting
April 13 at West Kentucky Community & Technical College

- Chris Wooldridge, Murray State University
- Gina Winchester, Murray State University
- Penny Fletcher, Murray State University
- Dr. Deborah Cox, Madisonville Community College
- Dr. Barbara Veazey, West Kentucky Community & Technical College
- Jim Pape, West Kentucky Community & Technical College
- Don Howerton, Kentucky Adult Education
- Dr. Jay Allen, Hopkinsville Community College
- Carol Kirves, Hopkinsville Community College

Advanced Manufacturing
April 14 at Purchase Area Development District

- Andy Pana, Stella-Jones
- Chris Pane, Kayser Automotive
- Michelle Arnett, Centrifugal Technologies
- Diane McIntyre, Letica Corporation

Manufacturers
May 25 at Hopkinsville Community College

- Troy Courtney, West Kentucky Workforce Board/West Kentucky Community & Technical College
- Cindy Massip, West Kentucky Workforce Board
- Tom Sholar, West Kentucky Workforce Board
- Greg Baker, U.S. Smokeless Tobacco
- Regina Dawson, U.S. Smokeless Tobacco
- Shevron Chilton, Metalsa
- Lea Martin, Hopkinsville Community College
- Carol Kirves, Hopkinsville Community College
- Jennifer Beussink, TG Automotive Sealing Kentucky (TGASK)
- Julie Davis, Amfine Chemical Corporation
- Laura Thomas, Riken Elastomers
- Sandra Richey, MSSC (a division of Mitsubishi Steel Manufacturing Company, Ltd.)

Healthcare
May 25 at Hopkinsville Community College

- Danny Anderson, Hopkinsville Community College
- Tammy Sisk, Jennie Stuart Medical Center
- Tammy Workman, Christian Heights NF
- Summer Lindsey, Pennyroyal Center
- Kelly Martin, Pennyroyal Hospice

- Cindy Massie, West Kentucky Workforce Board
- Tom Sholar, West Kentucky Workforce Board

Society of Human Resource Manager's Meeting
May 26 at JobNet Career Center

- G. Michael Burton, Baptist
- April Covington, Electro Cycle
- Tammy Rzepka, People Plus
- Lisa French, Par 4 Plastics
- Wade Boss, Par 4 plastics
- Courtney Woolfork, River View Coal
- Pam Moore, River View Coal
- Ashley Brown, River View Coal
- Tara Adams, Armstrong Coal
- Mary Lee Knight, Armstrong Coal
- Buddy Johnston, Armstrong Coal
- Kim Jones, Continue Care Hospital
- Janice Parish, Tradewater Health & Rehabilitation
- Brandy Moore, Ridgewood Terrace
- Judi Fiddler, Dawson Health
- Jeff Johnson, Cole & Durham Insurance
- Joe Ling, Integrated Metal Solutions, LLC
- Tom Sholar, West Kentucky Workforce Board

Hopkinsville Young Professionals
May 26 at Pennyrile Area Development District

- Jason Bell, Car Spa
- Levar Daniel, Car Spa
- Lea Martin, Hopkinsville Community College
- Angie Goode, Hopkinsville Community College
- Amy Frogue, Pennyrile Area Development District
- Rebecca Pepper, US Bank
- Jacob Holland, US Bank
- Danielle Grace, Heritage Bank
- Ryan Milauskas, Heritage Bank
- Brad Fancher, Restoration House Family Worship Center
- Annie Catron, WKDZ (106.5 FM)
- Adam Murphy, Harbor Insurance Agency

RESIDENT & EMPLOYER SURVEY

As part of the West Kentucky Future strategy, the consulting team conducted an online survey of businesses and residents in the region. The survey had 102 total respondents from across the region. This appendix presents a summary of responses to the survey.

WEST KENTUCKY RESIDENTS

FIGURE 55. IN WHICH WEST KY COUNTY DO YOU LIVE?

Respondents to the survey live in 10 out of the seventeen West Kentucky counties. The highest responses rates came from Christian, Marshall, Graves, McCracken, and Hopkins counties.

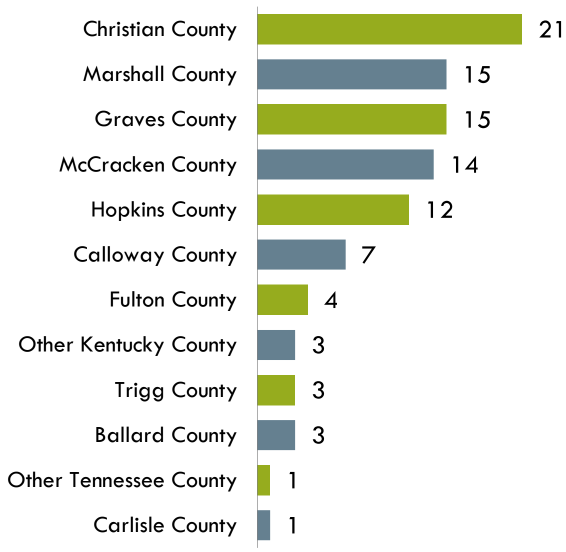


FIGURE 57. HOW WOULD YOU GRADE WEST KY'S ECONOMIC PERFORMANCE OVER THE PAST FIVE YEARS?

When asked to grade West Kentucky's economic performance in recent years, respondents gave the region an average grade of C+.

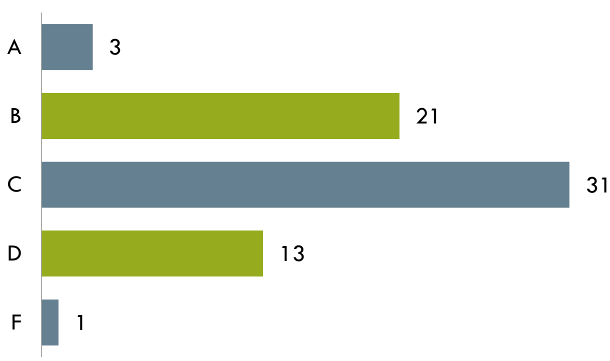
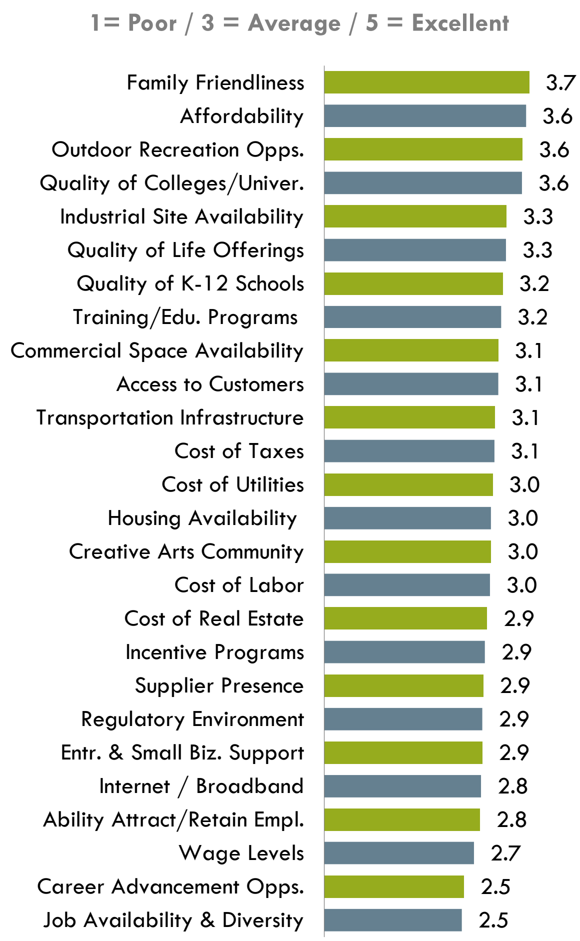


FIGURE 56. RATING OF WEST KY COMPETITIVE FEATURES

Respondents rated West Kentucky's competitive features. The features that received the highest ratings were Family Friendliness, Affordability, Outdoor Recreation Opportunities, Quality of Colleges/Universities, and Industrial Site Availability.

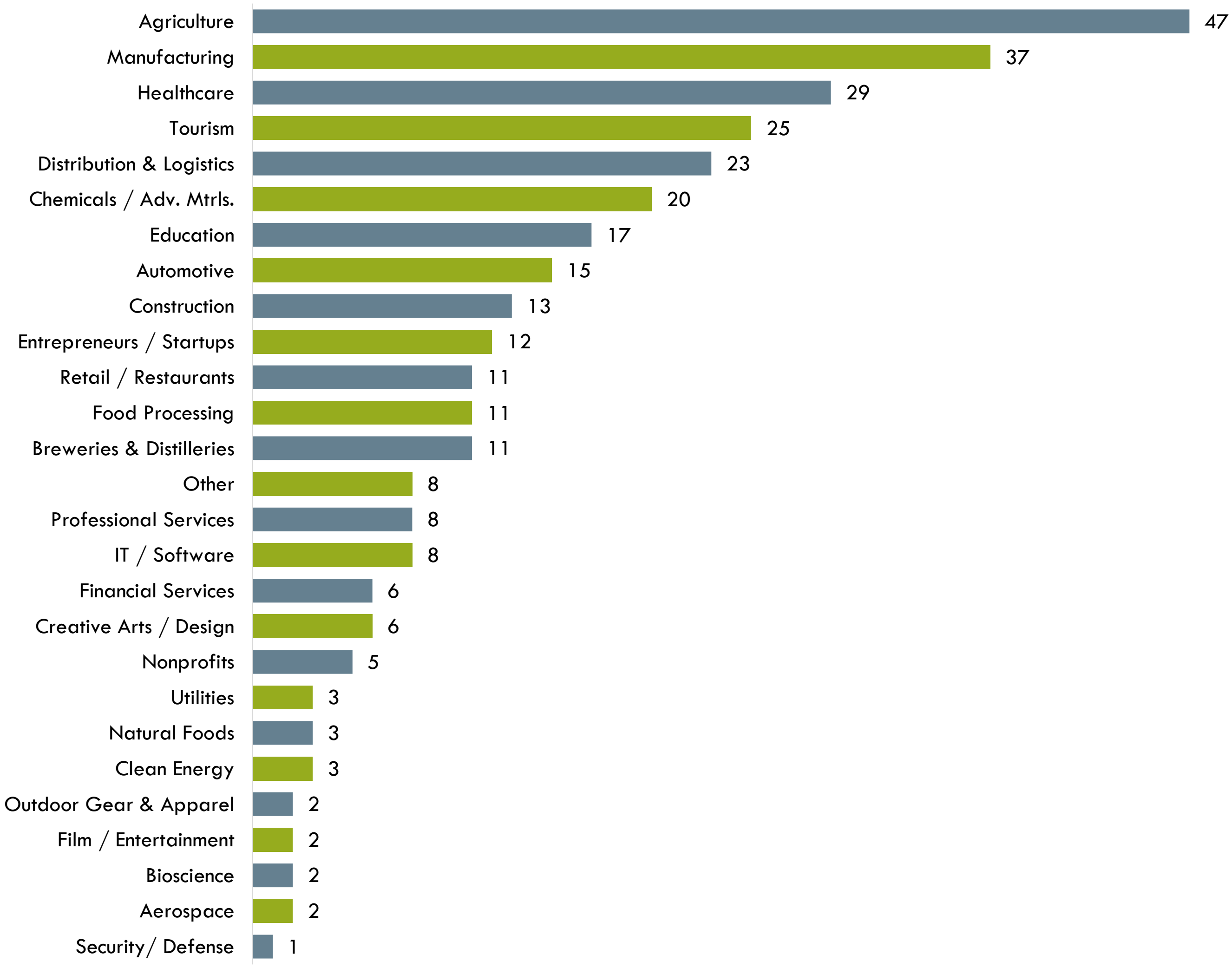
The features that received the lowest ratings were Job Availability & Diversity, Career Advancement Opportunities, Wage Levels, Ability to Attract/Retain Employees, and Internet/Broadband.



Source: (All Figures) West Kentucky Future Community Survey; Avalanche Consulting & TIP Strategies

FIGURE 58. WHAT INDUSTRIES DO YOU SEE AS THE BIGGEST DRIVERS OF WEST KENTUCKY'S FUTURE?

Survey respondents saw the greatest opportunities for economic growth in Agriculture, Manufacturing, Healthcare, Tourism, and Distribution & Logistics.



Source: (All Figures) West Kentucky Future Community Survey; Avalanche Consulting & TIP Strategies

BUSINESS OWNERS

FIGURE 59. IN WHICH WEST KY COUNTY IS YOUR BUSINESS LOCATED?

Twenty-nine survey respondents owned or managed a business in West Kentucky. Of these businesses, seventeen were headquartered in the region.

Not all survey respondents chose to identify the location of their business, but the majority came from McCracken, Graves, Christian, and Marshall Counties.

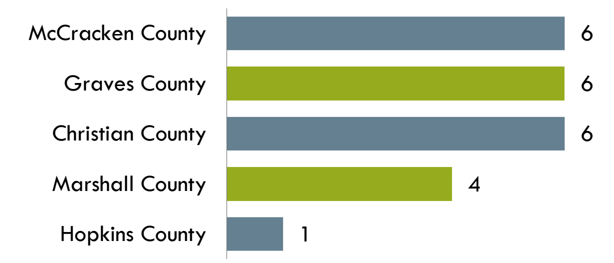


FIGURE 60. APPROXIMATELY HOW MANY PEOPLE ARE CURRENTLY EMPLOYED BY YOUR BUSINESS IN WEST KY?

The average business responding to the survey has 86 full-time employees in West Kentucky

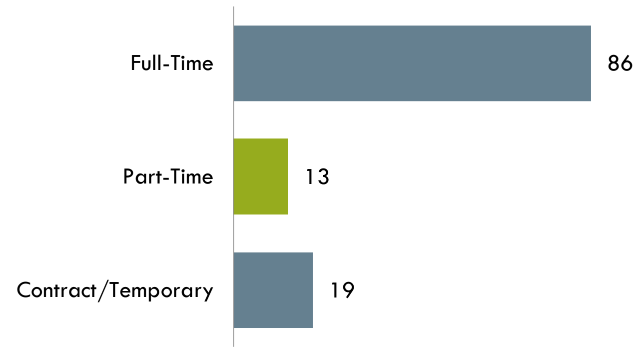


FIGURE 61. WHICH OF THE FOLLOWING BEST DESCRIBES YOUR INDUSTRY?

Business owners represented a range of sectors, including Financial Services, Education, Utilities, and Manufacturing.

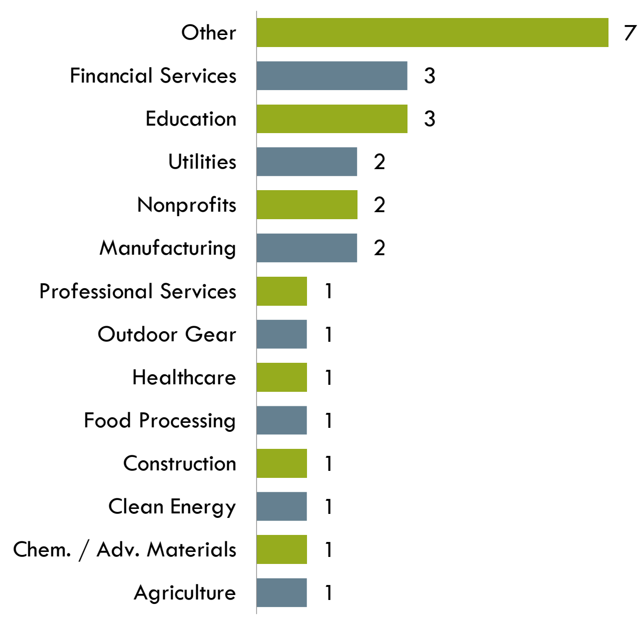
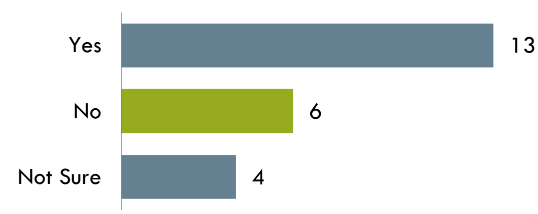


FIGURE 62. DO YOU PLAN TO HIRE ADDITIONAL EMPLOYEES IN WEST KENTUCKY IN THE NEXT 2 YEARS?

A majority of business respondents plan to hire additional employees in West Kentucky over the next two years.



Source: (All Figures) West Kentucky Future Community Survey; Avalanche Consulting & TIP Strategies

FIGURE 63. WHAT BARRIERS MAKE IT DIFFICULT TO RECRUIT NEW EMPLOYEES INTO WEST KENTUCKY?

Business owners cited the greatest barriers to recruiting new employees into West Kentucky as Limited Career Development Opportunities, the Image of the Region, Salary Levels, Entertainment Options, and the Geographic Location.

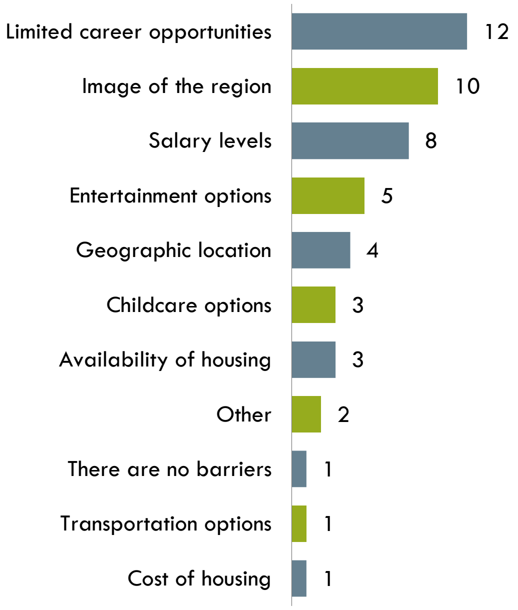
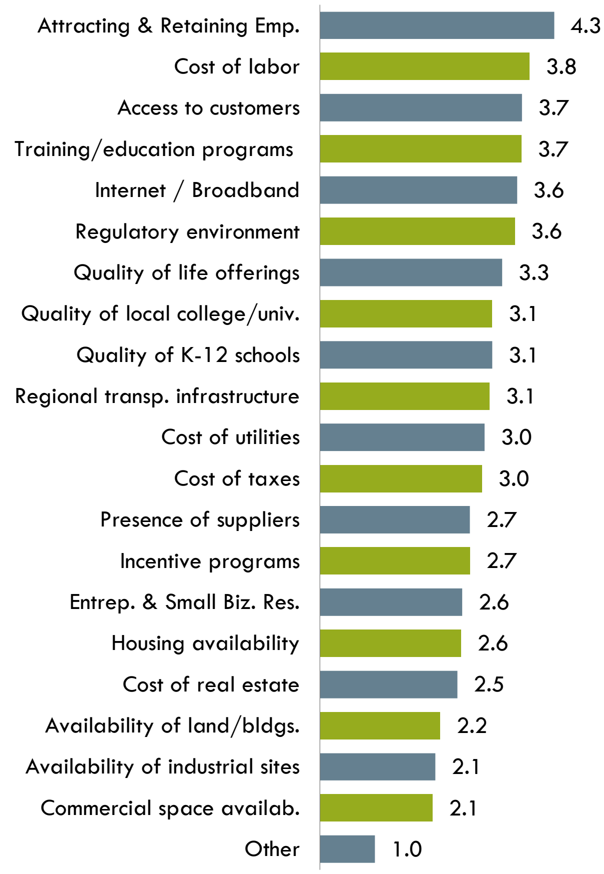


FIGURE 64. RATING OF FACTORS BASED ON THEIR INFLUENCE ON BUSINESS SUCCESS

Business owners were asked to rate the factors most important to the success of their operations. Top factors included workforce attraction and retention, access to training, and the availability of broadband.

1= Not Important / 3 = Important / 5 = Very Important



Source: (All Figures) West Kentucky Future Community Survey; Avalanche Consulting & TIP Strategies

APPENDIX 4. CLASSIFICATION SYSTEMS

Much of the analysis presented in this report relies on three separate classification systems: A brief overview of each is presented below.

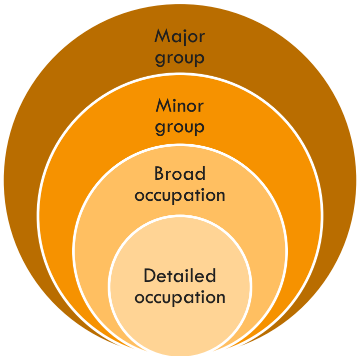
The Standard Occupational Classification (SOC) system is used by federal statistical agencies to classify workers into categories for the purpose of collecting, calculating, or disseminating data. This system groups all occupations in which work is performed for pay or profit according to the type of work performed and, in some cases, on the skills, education, or training needed to perform the work at a competent level. Under the 2010 SOC system, workers are classified into one of 840 detailed occupations, which are combined to form 461 broad occupations, 97 minor groups, and 23 major groups.

The North American Industry Classification System (NAICS, pronounced "Nakes") was developed under the direction and guidance of the Office of Management and Budget (OMB) as the standard for use by Federal statistical agencies in classifying business establishments for the collection, tabulation, presentation, and analysis of statistical data describing the US economy. The classification system was developed jointly with government agencies in Canada and Mexico to allow for a high level of comparability in business statistics among the North American countries.

The version of NAICS currently in wide use was released in 2007 and classifies industries into 20 sectors based on production processes. These sectors are broken into subsectors, industry groups, and individual industries. An additional level of detail is provided to accommodate industry codes that are specific to the three countries. The classification system is updated every five years. The 2012 NAICS structure was finalized in August 2011. Federal statistical agencies were directed to begin using the new system for data published for reference years beginning on or after January 1, 2012.

FIGURE 65. STANDARD OCCUPATIONAL CLASSIFICATION (SOC) SYSTEM

STRUCTURE



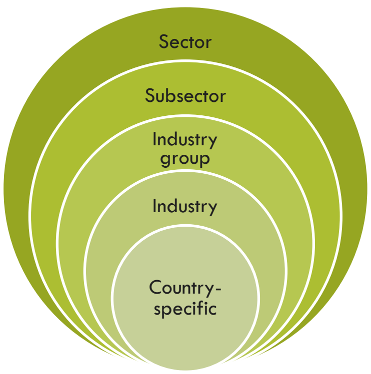
EXAMPLE

- **Major group** 51-0000 Production occupations
  - **Minor group** 51-2000 Assemblers and fabricators
    - **Broad occupation** 51-2090 Miscellaneous assemblers and fabricators

Source: US Bureau of Labor Statistics; TIP Strategies

FIGURE 66. NORTH AMERICAN INDUSTRY CLASSIFICATION SYSTEM

STRUCTURE



EXAMPLE

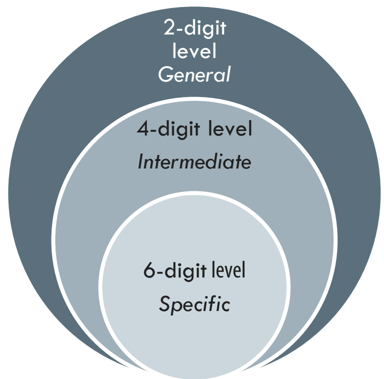
- **Sector** 31-33 Manufacturing
  - **Subsector** 336 Transportation equipment manufacturing
    - **Industry group** 3361 Motor vehicle manufacturing
      - **Industry** 33611 Automobiles and light duty motor vehicles, including chassis
        - **Country-specific** 336111 Automobiles and light duty motor vehicles, incl chassis

Source: US Census Bureau; TIP Strategies

The Classification of Instructional Programs (CIP) is the accepted federal government statistical standard on instructional program classifications. Developed in 1980 by the National Center for Education Statistics, the CIP is used by state agencies, national associations, academic institutions, and employment counseling services for collecting, reporting, and analyzing instructional program data.

FIGURE 67. CLASSIFICATION OF INSTRUCTIONAL PROGRAMS (CIP)

STRUCTURE



EXAMPLE

- **General** 14. Engineering
  - **Intermediate** 14.08 Civil engineering
    - **Specific** 14.0802 Geotechnical engineering

Source: National Center for Education Statistics; TIP Strategies

The CIP titles and program descriptions are intended to be generic categories into which program completions data can be placed, and are not exact duplicates of specific major or field of study titles used by individual institutions. The vast majority of CIP titles correspond to academic and occupational instructional programs offered for credit at the postsecondary level. These programs result in recognized completion points and awards, including degrees, certificates, and other formal awards. The CIP also includes other types of instructional programs, such as residency programs in various dental, medical, podiatric, and veterinary specialties that may lead to advanced professional certification; personal improvement and leisure programs; and instructional programs that lead to diplomas and certificates at the secondary level only.

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