

Collaborative Blueprint created by and for Kentucky's Economic Developers



 **KAED**

**TEAM
KENTUCKY**
CABINET FOR
ECONOMIC DEVELOPMENT

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Letter of introduction

February 2024

Dear Kentucky Stakeholder,

Kentucky has experienced unprecedented successes in job and investment growth during the past several years. Whether by jobs, capital investment, or other measures of our economy's performance, Team Kentucky has earned a right to embrace a spirit of winning with integrity in this highly competitive and volatile world of economic development.

Such success brings even more responsibility. Our economic development practitioners always aim to create a better way of life for all Kentuckians. However, continued success is not a given. The global economy is undergoing transformative changes that affect every industry. Competition for the investments that drive economic growth has never been fiercer.

Our approaches to promote economic and community development must be finely tuned to deliver for Kentuckians now and in the years ahead. Our 120 unique, yet interdependent, counties are well equipped to face these realities together, think bigger, and overcome obstacles to achieve our full potential.

Governor Andy Beshear and the Kentucky Legislature have worked together to lead this historic economic transformation with a commitment to do what's best for our state. Within that framework, the Kentucky Cabinet for Economic Development (KCED) and the Kentucky Association for Economic Development (KAED) embarked upon an unprecedented planning process for economic developers by economic developers.

The effort brought together local, regional, and state economic development leaders and their partners to identify a set of priorities to help guide our work together across Kentucky over the next five years. We selected McKinsey & Company to help facilitate the process. McKinsey has global expertise in strategic planning, analytics, and economic development.

These insights helped us develop a blueprint for how the private, public, higher education, and nonprofit sectors can work together to drive meaningful and sustainable growth in Kentucky.

This report – *Collaborative Blueprint created by and for Kentucky's Economic Developers* – represents the culmination of this planning effort. The report is not a strategic plan for the Cabinet for Economic Development as an entity. Rather, it is a bold set of priorities and recommended set of actions to create a unified yet flexible process by which local, regional, and state economic developers (the members of KAED and professionals within KCED) can work collaboratively to shape actions that best fit locally to comprise a stronger Team Kentucky.

The blueprint identifies five priority sectors where focused business retention, expansion, and attraction efforts are expected to have an outsized influence and impact on the commonwealth's overall economic performance. Supporting these five sectors are five priority enablers essential to achieving success. The blueprint also highlights new models for coordination and collaboration among Kentucky's economic developers.

The collective voices and aspirations of leaders from economic development, business, community, education, infrastructure, and government, as well as extensive data analytics and expert insights, serve as the blueprint's foundation. Strategies and perspectives developed by partners across the commonwealth, including the Kentucky Chamber of Commerce, Kentucky Association of Manufacturers, Kentucky Council of Area

Development Districts, a cadre of workforce providers, multiple municipalities, counties, and higher education institutions have been instrumental in developing insights for the blueprint. This spirit of Team Kentucky exemplifies the shared commitment to make life better for all Kentuckians in their homes, their communities, and across the entire commonwealth.

The blueprint marks the starting point for the next phase in our efforts. While economic developers do not vote on legislation, cannot control local ordinances, or directly shape the workforce, they are the critical convenors and collaborators who bring together diverse stakeholders to agree upon a common vision and then forge the way to a shared future of prosperity for all Kentuckians.

We turn to that task now. The formula for success is understanding “shared responsibilities will lead to shared opportunities.”

On behalf of our stakeholders, we appreciate the time, energy, and input from all those who contributed to the development of the Collaborative Blueprint. This process and conversations across the commonwealth confirm Kentucky has a passionate, talented, and dedicated community of economic developers working alongside elected, education, community, and business leaders to make our future brighter.

Kentucky has momentum, and with it, decisions to be made to perpetuate our shared successes.

We hope the blueprint helps generate discussion among Kentucky’s economic development community about our path forward together. We believe that this points the way to shared priorities – priorities that can be tailored to each of our unique communities as well as advance our commonwealth for the collective good of all Kentuckians.

Sincerely,



Haley McCoy
President & CEO



Jeff Noel
Secretary



Executive Summary



This collaborative blueprint is a product of collaboration between the Kentucky Cabinet for Economic Development (KCED) and the Kentucky Association for Economic Development (KAED). This blueprint is by Kentucky's economic developers, for Kentucky's economic developers. It lays out an economic development blueprint that economic developers and their stakeholders could follow to spur growth in Kentucky over the next five years. The blueprint was not designed to cover policy areas, or other topics that fall outside economic developers' primary areas of influence.

The blueprint emphasizes a set of priorities, including five priority sectors and five priority enablers that will help realize growth in these priority sectors, where economic developers may choose to align, prioritize, and act to generate growth for the Commonwealth of Kentucky. These ten priorities also reflect how the Commonwealth's diverse communities can contribute to advancing Kentucky's prosperity in their unique yet still interdependent ways.

This blueprint builds upon the foundations of Kentucky's recent momentum, including historic wins in future-facing sectors such as electric vehicles. It looks toward sustaining this momentum by providing a guide for Kentucky's economic development professionals, in coordination with KCED and KAED, based upon data, insights, and experience in Kentucky and more broadly.

The blueprint also highlights how the role played by economic developers varies by priority. Economic developers will take the lead in identifying and delivering specific opportunities, including developing state, regional, and local priorities, specific strategies around site development, and assembling incentive packages, at the local and state levels to best enable success and attractive incentive packages. In other areas, their role will be more indirect. They will help convene and support other professionals who are recognized as the most expert and accountable in their domains, such as workforce and community development practitioners. Economic developers can thus play a critical role as the essential collaborators who bring together stakeholders to deliver results in the five priority sectors and five priority enablers across Kentucky's diverse regions.

Therefore, this blueprint seeks to foster clear ownership and defined collaboration to accelerate Kentucky's economic development.

Approach: Why now and how this collaborative blueprint came together

Why a collaborative blueprint now

Kentucky has realized unprecedented economic momentum and the next five years represent a critical opportunity to sustain, if not accelerate, this trajectory. For Kentucky, 2021 and 2022 were the two strongest years in its history for both job announcements and investments – with \$21.7 billion in new investment announcements representing over 34,000 new jobs.^{ES-1} By November 2023, Kentucky had attracted nearly \$4 billion in new investment announcements representing nearly 7,000 new jobs, as well as a robust pipeline of solid projects.^{ES-2} These economic development successes are also bringing more high-quality jobs to Kentucky. Recent incentivized wages, excluding benefits, for jobs announced approach \$27.00 per hour.^{ES-3}

Kentucky has “earned the right to win” in many sectors with distinctive expertise, experience, workforce, capabilities, and linkages to regional and global supply chains. These sectors include automotive, electric vehicles, and other core manufacturing sectors ranging from metals and basic materials to food processing and distilling. Other core industries such as distribution and logistics have strengthened and extended their business operations in the Commonwealth as well. Innovation and entrepreneurial systems at multiple levels across the Commonwealth continue to evolve, offering the potential for additional growth as well as the diversification of Kentucky’s economy.

Success opens doors to new opportunities. The theme of “opportunity” was pervasive throughout the development of the blueprint (see Exhibit ES-1). Economic development professionals across Kentucky are excited to build off this momentum.

Exhibit ES-1. “In one word, how would you describe Kentucky to an outsider?”



Note: Consolidated responses for all regional focus group participants (N=104). Words were edited for clarity, including converting plural nouns to singular form and removing punctuation.

Exhibit data source: Kentucky Association of Economic Development/Kentucky Cabinet for Economic Development Joint Regional Focus Groups (2023)

Kentucky's success comes at a time of historic disruptions, uncertainty, and opportunities across the national and global economy, including accelerating adoption of new technologies, supply chain disruptions, and new investments in infrastructure and critical industries. The impacts of – and potential benefits from – these disruptions are incorporated into this blueprint.

The choices made and actions taken by economic developers not only help create prosperity today but also shape opportunities for the next generation of Kentuckians. That is why a collaborative blueprint for economic development is important now. It allows for conversation and decision-making around common focus areas to generate alignment and shared direction. These are the first and most critical steps in impactful community and economic development. This blueprint also suggests priorities to help economic developers invest time and resources. At the same time, this blueprint is designed to be adaptable and tailored to unique local opportunities. Lastly, this blueprint can help energize diverse stakeholders around achieving shared ambitious but realistic goals. Overall, this blueprint offers a starting point to help guide what Kentucky's economic developers can do directly and in partnership with others in the next five years.

Objectives for Kentucky's collaborative blueprint for economic development

Extensive engagement during this process across the Commonwealth's economic development community highlighted a common destination for this blueprint in the next five years. That destination is to increase opportunities for all Kentuckians and attract others to invest, work, live, and recreate in the Commonwealth and its communities. A constellation of five objectives can guide this journey:

- **Inclusive growth** across all of Kentucky's 120 counties
- **High-quality jobs** that pay a family-sustaining wage
- **An environment that grows, attracts, and retains businesses** – small, medium, and large
- **Welcoming and diverse communities** where people from across the country will want to build their homes and the future for their families
- **Opportunities for Kentuckians to grow, develop, and create their own destinies**

How the collaborative blueprint came together

This blueprint builds upon insights from extensive stakeholder engagement, data analytics, and subject matter expert perspectives. This blueprint also takes into account existing efforts, such as the strategic plans of various cabinet departments, the Kentucky Chamber's *Kentucky's Winning Strategy*, and local and regional efforts like the City of Louisville's six-year strategic planning process. Developing the blueprint also involved engaging diverse communities across the Commonwealth – ranging from economic developers and businesses to utilities to educational institutions and workforce providers to government leaders. To accelerate progress, the effort tapped the leadership of critical stakeholder organizations spanning business, academia, and government. The business organizations alone represent over 3,500 members.

The total research effort conducted between August and November 2023 involved:

- **Working with trade associations and organizations representing thousands of members**, from the Kentucky Association of Area Development Districts, the Kentucky Association of Counties, and the Kentucky League of Cities to the Kentucky Chamber of Commerce and Kentucky Association of Manufacturers
- **1,000+** validated responses from **two** joint KAED/KCED joint surveys
- **50+** stakeholders engaged through nine virtual workshops
- **110+** cross-functional stakeholders engaged through **five** regional in-person workshops
- **75+** stakeholders engaged in one-on-one or small group interviews
- **40+** external subject matter expert consultations
- **30+** data sources
- **50+** reports

Context: Kentucky's economy in a world in transition

Kentucky's economy today

This blueprint aims to bridge Kentucky's proud past and the trends of today to an even brighter future for all Kentuckians.

Kentucky's current economic performance provides the starting point of this blueprint. Over the past decade, growth has been positive but lags peer states and the national average. Between 2012-2022, Kentucky's economy as measured by gross domestic product grew 11.9 percent^{ES-4} and population grew 2.8 percent, cumulatively.^{ES-5} Kentuckians' average wages also increased 36.7 percent, cumulatively.^{ES-6}

Kentucky's economy is diverse. Many sectors have demonstrated high growth and also have high employment specialization,* reflecting Kentucky's underlying strengths. Kentucky also has experienced notable successes in attracting new businesses with record-setting years in 2021 and 2022 for new announced investments and full-time jobs.

Economic developers and their stakeholders across Kentucky view the future with optimism and opportunity. Over 85 percent of the respondents to the KCED/KAED survey for this effort strongly or somewhat agreed that Kentucky's economy has a positive trajectory for the coming five years.^{ES-7}

At the same time, economic developers are realistic. They appreciate that despite this momentum, Kentucky's economy still faces challenges to reach its full potential. While Kentucky's economy, population, and wages all grew between 2012 and 2022, its pace was lower than peer and national trends. When compared to peer states and national averages, Kentucky has higher poverty rates and lower labor participation. Outcomes for Kentuckians vary within and across regions. Some communities endure infrastructure challenges. Others have experienced population declines. While survey respondents were positive about the future growth trajectory of the Commonwealth as a whole, they expressed lower levels of agreement with the proposition that future growth would equally benefit all communities across Kentucky.

*Note: Employment specialization is measured as the ratio of a sector's share of employment in a given area to that occupation's share of employment in the U.S. as a whole

Macro-level trends shaping the future

Looking ahead, macro-level trends are reshaping the global economy and how work gets done at the international, industry, and individual levels. Five such trends will likely have an outsized impact on Kentucky's economic future. They provide both challenges and opportunities:

- **Technological change:** Technologies such as Artificial Intelligence (AI) are rapidly changing how work gets done in every industry. How well Kentucky's industries and communities adapt to such change will shape the Commonwealth's future economic prospects.
- **Shifting labor force dynamics:** The combination of accelerating investments in automation with structural and demographic changes in the workforce has changed labor markets nationally. The United States had 9.4 million job openings as of September 2023.^{ES-8} These dynamics have affected Kentucky as well, which had approximately 126,000 job openings as of August 2023.^{ES-9} Looking forward, Kentucky's ability to retain its workforce, strengthen and build new talent pipelines, increase labor participation, and reskill workers will be critical.
- **Supply chain reconfigurations:** The COVID-19 pandemic exposed the vulnerability of global supply chains. Countries and companies alike began to rethink the balance between low-cost sources of supply and the reliability and resilience of their supply chains. Recent geopolitical developments have reinforced these trends. Many companies are "reshoring" supply chains, thus presenting a potential opportunity for Kentucky especially in its traditionally strong manufacturing sectors.
- **The low-carbon energy transition:** Energy production globally will continue to rely upon the full range of energy sources, including coal. Demand for and investment in low-carbon energy sources and decarbonization practices will likely accelerate globally. Innovation in manufacturing practices as well as new job growth in industries such as energy storage could present new opportunities. At the same time, original equipment manufacturers (OEMs) and larger suppliers in every industry have made lowering their carbon footprint a priority, and as such have begun expecting companies in their own supply chains to have plans for doing the same. Changing consumer patterns and policy guidelines at the federal level and in multiple states have been enacted to define a minimum threshold of electric vehicle (EV) auto and truck sales. In Kentucky, two out of every three counties have at least one automotive supplier, the vast majority only serving products for internal combustion engine (ICE) vehicles.^{ES-10} These changes in demand poses both challenges and opportunities in a state like Kentucky where manufacturing and automotive sectors are core engines of the economy.
- **Federal funding:** The federal government has increased investments to support supply chain onshoring, innovation in industries and higher education, and improved infrastructure. Competing for and then targeting such funding could provide "once in a generation" investment opportunities for states. Kentucky is already capitalizing on the inflow of funding and investment. For example, \$6.4 billion in Bipartisan Infrastructure Law (BIL) funding has been announced to date.^{ES-11} But the competition for funding is fierce, requiring focus and organization to win.

Collaborative blueprint: Ten priorities for Kentucky

Extensive, on-the-ground stakeholder engagement, rigorous analytics, and input from experts inside and outside of Kentucky together helped identify ten priorities for Kentucky’s economic developers (see Exhibit ES-2). Each priority matters independently to Kentucky’s economy. When integrated together, these priorities reinforce each other for greater impact. The five priority sectors answer “where” Kentucky could focus its economic development efforts. The five priority enablers describe “what” Kentucky could do to realize and drive growth in these priority sectors growth in these priority sectors. And an updated model for multi-level collaboration across economic developers ultimately defines “how” Kentucky could deliver the goals in this blueprint to accelerate economic development across the Commonwealth.

Exhibit ES-2. Ten priorities for the Commonwealth’s economic development

5 priority sectors

Where Kentucky could focus its economic development efforts



Priority sector 1. Automotive
Win the automotive future



Priority sector 2. Manufacturing
Be a leader in the U.S. manufacturing renaissance



Priority sector 3. Natural assets
Capitalize on what makes Kentucky unique, including supporting distribution and logistics and hospitality and tourism



Priority sector 4. Business, financial, and professional services
Capture Kentucky’s fair share of tomorrow’s jobs across the Commonwealth



Priority sector 5. Investing in high-potential opportunities
Make intelligent moves to cultivate industry clusters, including aerospace, agritech, and life sciences

5 priority enablers

What Kentucky could do to realize its priority sectors



Priority enabler 1. Competitive products
Invest to compete in strategic sectors



Priority enabler 2. Workforce
Partner to develop, energize, and support the workforce of the future



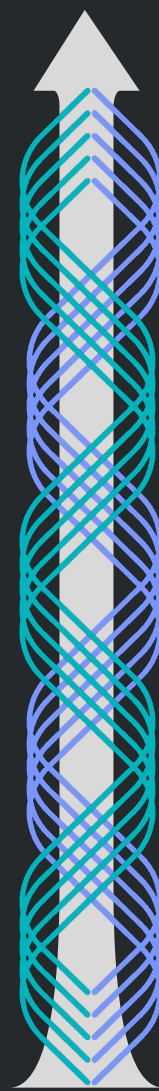
Priority enabler 3. Entrepreneurism and innovation
Catalyze ecosystems to build Kentucky’s reputation as a “make and ideate,” “launch-ready state”



Priority enabler 4. Infrastructure
Coordinate across Kentucky to accelerate growth



Priority enabler 5. Placemaking
Synchronize community and business efforts to build welcoming, inclusive, and diverse communities that enhance quality of life



How Kentucky could achieve success



Multi-level collaboration across economic developers
Build winning capabilities and accelerate collaboration across the local, regional, and state-level

Priority sectors: This blueprint begins with five priority tradeable* sectors where Kentucky can both claim an earned “right to win” because of its proven success and/or baseline capabilities, and opportunities Kentucky may want to win because of these sectors’ growth and impact potential in the next five years and beyond. These sectors have different levels of impact across the Commonwealth. Not every sector will fit in every community. Together, however, these five sectors could provide the focal point for economic developers’ actions. These are also the areas where economic developers will typically play a lead role, often leveraging traditional tools such as industrial site development while collaborating with diverse stakeholders.

- **Priority sector 1. Automotive:** Win the automotive future by assisting the evolution of Kentucky’s automotive base while strategically investing for growth in high-potential sectors (e.g., electric vehicles).
- **Priority sector 2. Manufacturing: Be a leader in the U.S. manufacturing renaissance** by helping Kentucky’s manufacturers navigate successful transitions in their industries and becoming a destination of choice for next-generation industry-leading manufacturers.
- **Priority sector 3. Natural assets: Capitalize on what makes Kentucky unique** from its lakes and natural resources to distribution and logistics through targeted infrastructure investments and tailored regional strategies.
- **Priority sector 4. Business, financial, and professional services: Capture Kentucky’s fair share of tomorrow’s jobs** in business, financial, information technology, and other professional services, including by enhancing rural remote work opportunities and partnering with existing anchor institutions to expand their footprint in the state.
- **Priority sector 5. Investing in high-potential opportunities: Make intelligent moves to cultivate industry clusters** in currently small but high-growth and high-potential opportunities in life sciences, agritech, and aerospace through targeted local strategies to bring together private companies, research and academic institutions, and commercialization assets.

Priority enablers: An additional five areas support the Commonwealth’s economy in a cross-cutting manner by “enabling” the growth and performance of Kentucky’s priority sectors. The alignment on priority sectors will thus help focus efforts within and across these enablers. Economic developers will help lead on defining and advocating for the right kind of “competitive products” such as sites and incentives for the priority sectors. At the same time, economic developers will play a more supporting role – as collaborators, conveners, and catalysts for action – for the priority enablers where other stakeholders have the accountabilities as well as the necessary skills, expertise, organizations, and resources to lead.

- **Priority enabler 1. Competitive products: Invest to compete in strategic sectors** by aligning incentives toolkit with priority sectors and developing a portfolio of sites with sector-specific attributes across all regions.
- **Priority enabler 2. Workforce: Partner to develop, energize, and support the workforce of the future** by bringing employers “to the table” and working closely with workforce partners to set strategic priorities for talent development through innovation and streamlining of workforce programming.

*Note: Tradeable sectors are those whose output in terms of goods and services can be traded beyond the borders of Kentucky, such as manufacturing.

- **Priority enabler 3. Entrepreneurism and innovation: Catalyze ecosystems to build Kentucky’s reputation as a “make and ideate”, “launch-ready” state** by nurturing home-grown growth, cultivating entrepreneurial niches, and being a landing pad for domestic and global start-ups and capital.
- **Priority enabler 4. Infrastructure: Coordinate across Kentucky to accelerate growth** by incorporating the voice of industry into infrastructure priorities and coordinating economic development activities with infrastructure investments.
- **Priority enabler 5. Placemaking: Synchronize community and business efforts to build welcoming, inclusive, and diverse communities that enhance quality of life** by mobilizing local private and civic leaders across all industries, including tourism.

Eastern Kentucky: Tailoring the collaborative blueprint to unique opportunities

This blueprint aims to help all parts of the Commonwealth benefit from future growth. While proposing ten shared priorities for Kentucky’s economic developers, the approach also appreciates the need to tailor to unique local advantages and opportunities. While rural areas across Kentucky share some commonalities, this planning effort was structured to explore more deeply specific complexities and opportunities of economic development in Eastern Kentucky.

The voices of economic development professionals, community members, and business leaders in Eastern Kentucky informed this blueprint. These leaders emphasized the area’s diversity, physical landscape, infrastructure, and current mix of sectors. They suggested tailoring Commonwealth-wide approaches to accelerate their local economic development efforts. Some portions of the region mirror the overall economic composition and dynamics of the rest of the state. Here, priorities can focus on developing more flexible and targeted incentives to attract major businesses in priority sectors, as well as specially adapted investments in workforce, entrepreneurship, infrastructure (including water, broadband, and roads), and placemaking.

At the same time, for some areas in Eastern Kentucky without a strong concentration of industry sectors such as automotive and manufacturing, and where topography may limit traditional site development opportunities or increases their costs, economic developers can collaborate with local stakeholders to focus more on major employer retention and expansion, including in sectors such as healthcare and education.

Making it happen: Building winning capabilities and collaborations

This is a blueprint by Kentucky’s economic developers. Economic developers do not control or coordinate all factors shaping Kentucky’s economic development. That said, they can play a special role in leading the collaborations to bind together priority sectors and enablers into a strong, cohesive effort.

This blueprint outlines how economic developers could work together at the state, regional, and local levels to accelerate Kentucky’s progress. These efforts could involve best practice sharing and enhancing the capabilities of economic developers across the Commonwealth, building greater expertise in sectors critical to future growth, and defining and standing up new ways of collaborating within and across regions. KCED and KAED will have important roles to play in promoting, catalyzing, and sustaining such new ways of working.



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Approach: Why now and how this collaborative blueprint came together

Why a collaborative blueprint now

Kentucky has generated unprecedented economic momentum and the next five years represent a critical opportunity to sustain, if not accelerate, this trajectory. For Kentucky, 2021 and 2022 were the two strongest years in its history for both job announcements and investments – with \$21.7 billion of new investment announcements representing over 34,000 new jobs.¹ As of November 2023, Kentucky has seen nearly \$4 billion of new investment announcements representing nearly 7,000 new jobs, as well as a robust pipeline of solid projects.² These economic development successes also bring more high-quality jobs to Kentucky. Recent incentivized wages, excluding benefits, for jobs announced approach \$27.00 per hour.³

Kentucky has “earned the right to win” in many sectors with distinctive expertise, experience, workforce, capabilities, and linkages to regional and global supply chains. These include automotive, including electric vehicles (EV), and other core manufacturing sectors ranging from metals and basic materials to food processing and distilling. Other core industries like distribution and logistics have strengthened and extended their business operations as well. Innovation and entrepreneurship systems at multiple levels throughout the state have matured with greater integration among public, private, and higher education stakeholders, offering additional growth and diversification opportunities for Kentucky’s economy.

Success opens doors to new opportunities. The theme of “opportunity” was pervasive throughout the development of this blueprint (see Exhibit 1). Economic development professionals across Kentucky are eager to build off this momentum. This blueprint highlights what economic developers can do both directly and by working with others to achieve this goal. Kentucky has built a foundation of success and can continue to win in economic development.

Exhibit 1. “In one word, how would you describe Kentucky to an outsider?”



Note: Consolidated responses for all regional focus group participants (N=104). Words were edited for clarity, including converting plural nouns to singular form and removing punctuation.

Exhibit data source: Kentucky Association of Economic Development/Kentucky Cabinet for Economic Development Joint Regional Focus Groups (2023)

Kentucky's success comes at a time of historic disruptions, uncertainty, and opportunities across the national and global economy, including accelerating adoption of new technologies, supply chain reconfigurations and onshoring, and new investments in infrastructure and critical industries. These trends create a landscape that is both more challenging and more important to navigate. Economic developers have bold objectives and must incorporate the potential impact of these disruptions – either by mitigating their impact or seizing them as opportunities – to further economic growth.

What is economic development, and who are economic developers?

Economic development creates the conditions for growth, jobs, and improved quality of life. At its most basic level, economic development is a function of the number of people working and how productive they are at doing so. In practice, economic development involves attracting investment, supporting growth, and building a strong workforce to expand the capacity of businesses and communities to continuously improve.⁴

Continuous improvements of this sort at the levels of a local, regional, or state economy depend upon a broad set of stakeholders. They include community leaders and elected officials, education and workforce development practitioners, training providers, utilities and other infrastructure providers, investors, employers, and others. Economic developers can be the stewards of the processes to drive these improvements, convening and collaborating with others.

Economic developers represent a broad community of practitioners. Some have formal titles and represent economic development organizations. Others work in higher education, private industry, or other associations. While economic developers may identify in myriad ways, they share an understanding that achieving economic development outcomes involves knitting together perspectives and actions across multiple sectors – public, private, and civic – and at multiple levels – local, regional, and statewide. Success in economic development, whether in speed of achieving it and/or the breadth and depth of its intended outcomes, is only realized when there is a common purpose and shared responsibilities in pursuing shared opportunities.

This blueprint considers any professional who devotes significant time to economic development activities an economic developer. The breadth of KAED's membership reflects this diversity, underscoring why its association of professionals is important to Kentucky's economic success.

That is why a collaborative blueprint for economic development is important now. It allows for conversation and decision-making around common focus areas to generate alignment and shared direction. These are the first and most critical steps in impactful community and economic development. This blueprint also suggests priorities to help economic developers invest time and resources. Such priorities can help economic developers and their partners navigate to a shared destination, while resisting the currents of competing opinions, naysayers, and perhaps those pursuing unrealistic goals. At the same time, this blueprint is designed to be adaptable and can be tailored to unique local opportunities. Lastly, this blueprint can help energize diverse stakeholders around achieving shared ambitious but realistic goals. Synchronizing diverse efforts locally and

across the Commonwealth on those pursuits that matter will be critical. In summary, this is a vehicle that offers a pathway to help define what Kentucky's economic developers could do directly and in partnership with others in the next five years.

While this collaborative blueprint offers a guide for conversation, the decisions economic developers make and actions they take with communities and colleagues will ultimately define impact for Kentucky. Momentum for greater collaboration among economic developers and across communities was emphasized throughout this planning effort. This blueprint aims to contribute to recent momentum and reinforce a spirit of winning in economic development with integrity across all of Kentucky's 120 unique yet independent counties.

Objectives for Kentucky's collaborative blueprint for economic development

Extensive engagement during this process across the Commonwealth's economic development community highlighted a common destination for this blueprint in the next five years. That destination is to increase opportunities for all Kentuckians and attract others to invest, work, live, and recreate in the Commonwealth and its communities. There is no single "north star" objective. Rather a constellation of five objectives can guide this journey:

- **Inclusive growth** across all of Kentucky's 120 counties
- **High-quality jobs** that pay a family-sustaining wage
- **An environment that grows, attracts, and retains businesses** – small, medium, and large
- **Welcoming and diverse communities** where people from across the country will want to build their homes and the future for their families
- **Opportunities for Kentuckians to grow, develop, and create their destinies**

How the collaborative blueprint came together

This blueprint builds upon insights from extensive stakeholder engagement, data analytics, and subject matter expert perspectives. This blueprint also takes into account existing efforts such as the strategic plans of various cabinet departments, the Kentucky Chamber's *Kentucky's Winning Strategy*, and regional efforts like the City of Louisville's six-year strategic planning process. Developing this blueprint also involved engaging diverse economic development communities across the Commonwealth. To accelerate progress, the effort tapped the leadership of critical stakeholder organizations spanning business, academia, and government. The business organizations alone represent over 3,500 members across the entire Commonwealth.

Together, these diverse insights provide a balance between rich, Kentucky-specific experience with external analyses and comparative lessons learned. The combination of vantage points helped generate original perspectives unique to Kentucky's opportunities in the next five years.

“**No matter where you stand – whether East, North, South, or West Kentucky – there's an opportunity for everybody, depending on what you're trying to accomplish. Some areas are more challenging than others, but there is opportunity**” – Focus group participant

Stakeholder engagement

Engagement with stakeholders across Kentucky provided the first pillar in developing this blueprint. The process engaged the major organizations involved in economic development across the Commonwealth. These stakeholders spanned economic development, workforce development, the private sector, infrastructure, utilities, higher education, and local and state government. These stakeholders were engaged in multiple ways, including surveys, interviews, working sessions, and focus groups.

Overview of stakeholder engagement

- **Leadership from trade associations and organizations representing thousands of members**, from the Kentucky Association of Area Development Districts, the Kentucky Association of Counties, and the Kentucky League of Cities to the Kentucky Chamber of Commerce and Kentucky Association of Manufacturers.
- **1,000+** validated responses from two Kentucky Association for Economic Developers/ Kentucky Cabinet of Economic Development joint surveys.
- **50+** stakeholders engaged through nine virtual workshops with the Economic Development Advisory Board, the East Kentucky Advisory Board, and representatives of Kentucky's utilities. See Appendix III for a list of members for the Economic Development Advisory Board and the East Kentucky Advisory Board.
- **110+** stakeholders engaged through five regional in-person and cross-functional workshops hosted in West Kentucky (Madisonville), South-Central Kentucky (Glasgow), Central Kentucky (Georgetown), and East Kentucky (Pikeville and Morehead).
- **75+** stakeholders engaged in one-on-one or small group interviews, including 30+ Kentucky state government agency leaders and 15+ workforce and education leaders.



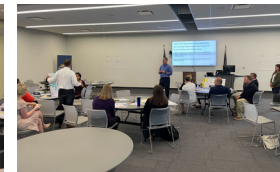
Glasgow focus group



Georgetown focus group



Madisonville focus group



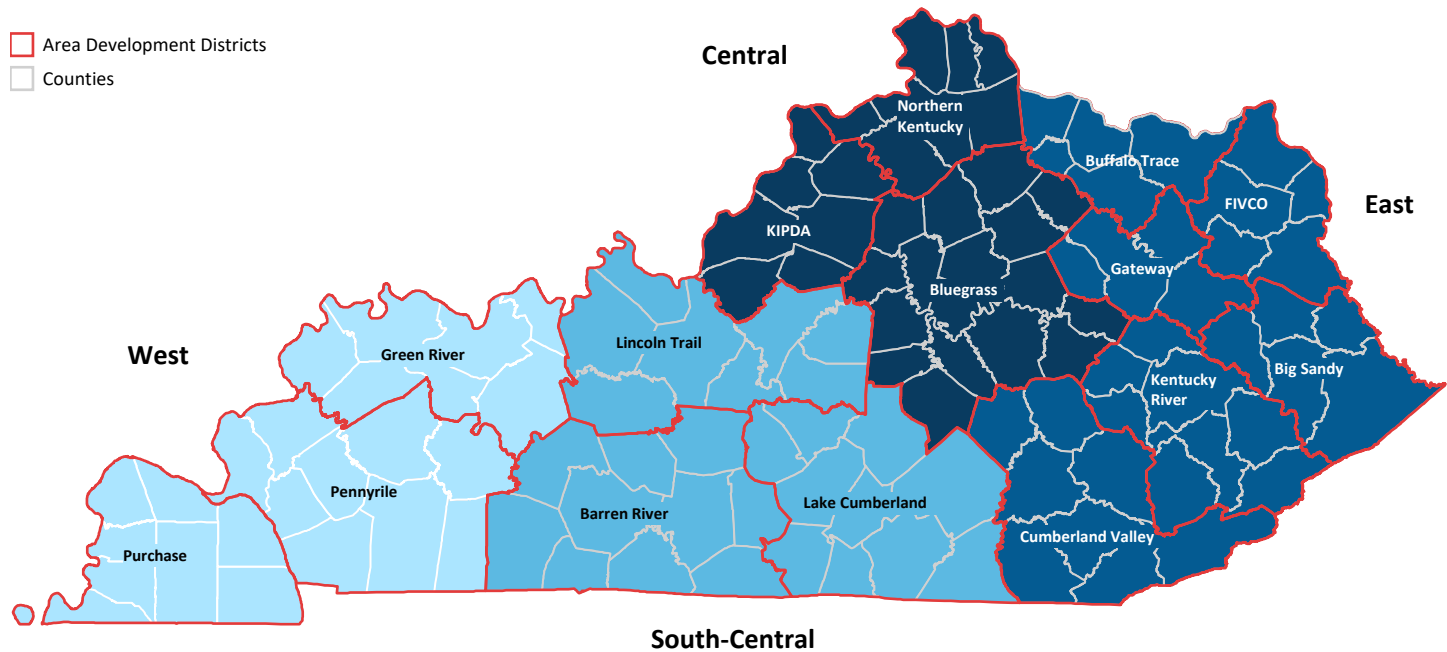
Morehead focus group



Pikeville focus group

While appreciating the great diversity within as well as across regions, the development of this blueprint adopted four regional groupings to facilitate engagement, coordination, and data analysis. These groupings incorporated multiple Area Development Districts to comprise West, South-Central, Central, and East regions (see Exhibit 2).

Exhibit 2. The blueprint's four regions for data analysis and facilitation



At the same time, this blueprint recognizes the diversity within each region. For example, two separate regional workshops were held in East Kentucky – one in Morehead, and one in Pikeville – given the distinct set of factors within the northern and southern parts of the region. This blueprint stresses the application of its perspectives will need to be tailored to each region's and community's opportunities.

Data analytics

Bespoke data-driven analyses provided the second input for this blueprint. These analyses illuminated the current and potential future state of Kentucky's economy, as well as strengths and gaps across Kentucky's business incentives, workforce, infrastructure, quality-of-life indicators, and innovation capabilities.

Sources include:

- **30+** databases, including Kentucky agency sources and external sources such as Moody's Analytics, Lightcast, and the Integrated Postsecondary Education Data System (IPEDS).
- **50+** articles and reports published by Kentucky agencies and external sources.

See Appendix I for a complete list of major sources referenced during this process.

Expert perspectives

Engagement with subject matter experts – within both KCED and KAED, government agencies, Kentucky's economic developer community, and external experts – provide the third and final pillar supporting this blueprint. More than 50 external subject matter experts from not just from Kentucky and the United States, but Europe and Asia as well, were consulted during this effort. The topics ranged from the future of the automotive industry to the main decision-making drivers for East Asian businesses when they consider investing in new facilities in the United States to the potential impacts of generative artificial intelligence on higher education.

Context: Kentucky's economy in a world in transition

Kentucky's economy today

This blueprint aims to bridge Kentucky's proud past with the trends of today to shape an even brighter future for all Kentuckians.

Kentucky has played a critical role in shaping the United States' economic development. Kentucky's economic history in many ways reflects the evolution of the country's economy – and helped accelerate it. From the founding of the country and Commonwealth in the late 18th century, Kentucky's history began with a thriving agricultural sector and as a transit corridor from the interior to the eastern seaboard. Kentucky's economy then transitioned with industrialization and its booming coal industry to power manufacturing nationwide in the late 19th and 20th centuries. At the start of the 21st century, Kentucky's economy is at a transition point as the nature of work and industries transform yet again.

Kentucky's recent economic performance provides the starting point of this blueprint. Over the past decade, while Kentucky's overall economic trajectory has been positive, economic developers are realistic and recognize there are challenges to overcome for the Commonwealth to reach full potential. Between 2012-2022, Kentucky's economy as measured by gross domestic product (GDP) grew 11.9 percent⁵ and population grew 2.8 percent, cumulatively.⁶ At the same time, peer states saw GDP growth of 24.2 percent and the U.S. GDP grew at 25.1 percent.⁷ Peer states experienced population growth of 7.0 percent and the U.S. population grew at 6.2 percent.⁸ Kentuckians' average wages also increased 36.7 percent, cumulatively, while peer states saw average wage increases of 40.6 percent and the U.S. average wage growth was 41.9 percent.⁹ There also remain challenges such as a higher poverty rate (17.1 percent in Kentucky versus 12.5 percent in peer states and 11.5 percent in the U.S.) and a lower labor force participation rate (57.8 percent in Kentucky versus 60.0 percent in peer states and 62.2 percent in the U.S.).¹⁰

Alabama, Arkansas, Georgia, Indiana, North Carolina, Ohio, South Carolina, and Tennessee served as Kentucky's peers for these analyses.

Kentucky's economy is diverse. Many sectors have demonstrated high growth and also high employment specialization,* reflecting Kentucky's underlying strengths. As noted above, Kentucky also has experienced notable successes in attracting new businesses with record-setting years in 2021 and 2022 for new announced investments and full-time jobs.

Economic developers and their stakeholders across Kentucky view the future with optimism. Against this backdrop, over 85 percent of the respondents to the KAED/KCED joint survey strongly or somewhat agreed with the statement that "Kentucky is on a positive economic growth trajectory for the next five years."¹¹ This pattern was largely consistent across regions, as well as urban and rural areas.

Outcomes for Kentuckians do vary within and across regions. Some communities endure infrastructure challenges. Others have experienced population declines. For instance, in the past decade population growth

*Note: Employment specialization is measured as the ratio of a sector's share of employment in a given area to that occupation's share of employment in the U.S. as a whole

among Kentucky's 120 counties ranged from increases of 20.7 percent to declines of 16.7 percent.¹² And focus group participants as well as KCED/KAED joint survey respondents highlighted additional challenges faced by the Commonwealth, such as potential regional disparities in benefits from Kentucky's economic growth (e.g., only 33 percent strongly agreed that "All parts of the Commonwealth benefit from Kentucky's growth").¹³

That said, the prevailing mood expressed by stakeholders throughout the planning process is one of "opportunity" when looking to Kentucky's economic future.

Macro-level trends shaping the future

Looking ahead, macro-level trends are reshaping the global economy and how work gets done at the international, industry, and individual levels. Kentucky is at the center of these changes. Its core industries, for instance, are all undergoing their own transitions. These include increasing electrification of automobiles, automation of manufacturing and now business services, and digitization of logistics.

Five such trends will likely have an outsized impact on Kentucky's economic future. They will provide both challenges and opportunities for the Commonwealth:

Technological change

Artificial Intelligence (AI), and now Generative Artificial Intelligence (GenAI), grab headlines nearly every day. What will matter most in the next five years, though, is not just one technology but rather how different technologies will come together to change how people, industries, and economies work. The current era of connectivity, advanced analytics, automation, and advanced manufacturing technology has the potential to change fundamentally the future of production.¹⁴ In the United States alone, annual investment reached roughly \$150 billion in AI, \$250 billion in Internet of Things (IoT) technologies, and \$300 billion in cloud computing by 2022.¹⁵ One important application of these advancements is reviving the U.S. manufacturing sector through cutting-edge innovation. Kentucky's core manufacturing industries, for instance, are already adapting to advanced analytics, automation, and advanced manufacturing technologies. Their continued adaptation will be critical to the Commonwealth's long-term success.

Shifting labor force dynamics

Accelerated investment in automation, structural and demographic changes in the U.S. economy – such as an aging workforce – and lingering disruptions the COVID-19 pandemic have all contributed to a significant talent gap. Nationwide, there were 9.4 million job openings as of September 2023 and 6.7 million unemployed persons, thereby creating an excess gap of 2.7 million jobs.¹⁶ These dynamics have affected Kentucky as well. Kentucky had 126,000 unfilled positions as of August 2023 and 88,000 unemployed persons, thereby creating an excess gap of 38,000 jobs.¹⁷ Looking forward, technological trends, and the changing ways of working will continue to reshape labor markets. By 2030, an additional 12 million occupational transitions may be needed, including many in higher-wage jobs in the United States.¹⁸ Some job categories such as STEM jobs are projected to increase by over 20 percent in this period as organizations undergo major digital transformations. Other job categories, such as administrative and retail jobs, are projected to decline.¹⁹ While disruptive to many of Kentucky's traditional employment bases, these changes also provide opportunities to attract new investments, develop targeted workforce development initiatives, and strengthen communities that can take advantage of combining remote work and with a good quality of life.

Supply chain reconfigurations

The COVID-19 pandemic exposed the vulnerability of many global supply chains. Countries and companies alike began to rethink the balance between low-cost sources of supply and the reliability and resilience of their supply chains. Recent geopolitical developments have reinforced these trends. In response, and accelerated by federal funding programs, many companies are “reshoring” their supply chains to the United States. In a survey of 113 supply chain leaders worldwide conducted in 2022, 44 percent of respondents, up from 25 percent the previous year, reported their organizations were developing regionalized supply networks to minimize the impacts of global uncertainty.²⁰ This trend offers potential opportunities for Kentucky given its presence of manufacturing sectors, such as automotive, chemicals, machinery, pharmaceuticals, and medical devices – all examples of industries with reshoring potential.

Low-carbon energy transition

Demand for and investment in low-carbon energy sources and decarbonization practices will likely accelerate globally. Innovation in manufacturing practices as well as new job growth in industries such as energy storage could present new opportunities. At the same time, OEMs and larger suppliers in every industry have made lowering their carbon footprint a priority, and as such have begun expecting companies in their own supply chains to have plans for doing the same. Changing consumer patterns and policy guidelines at the federal and multiple states have been enacted to define a minimum threshold of EV auto and truck sales. In Kentucky, two out of every three counties have at least one automotive supplier, the vast majority only serving ICE products.²¹ Investment in low-carbon energy sources – which include renewable energy sources such as wind power and solar power, as well as non-carbon sources like nuclear power – and decarbonization practices continue to reach record highs with increasing global alignment around climate goals. Production of low-carbon energy in the United States is increasing every year, reaching nearly 40 percent of all energy generated in 2022,²² up from 29 percent in 2000.²³ Across the United States, states, including historically coal-dependent ones such as Wyoming, are developing balanced energy portfolios.²⁴ These include increasing production and consumption of low-carbon energy sources to support decarbonization efforts and remain competitive for new economic development projects, while also including coal and gas-generated power in the mix to meet demands for reliable supply today. These changes can cause challenges – or present an opportunity – in a state like Kentucky where manufacturing and automotive sectors are core engines of the economy.

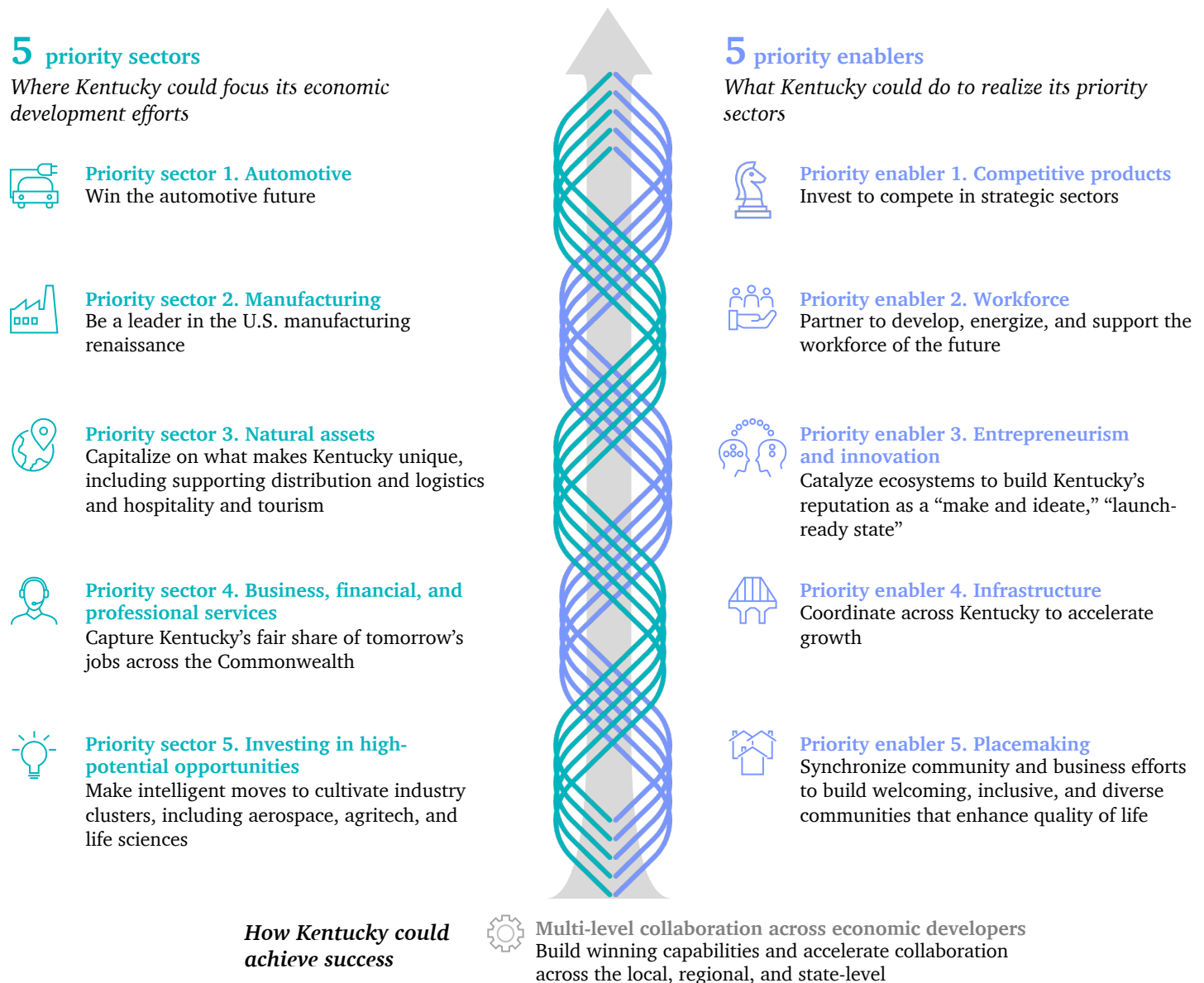
Federal funding

The federal government has substantially increased investments to promote innovation in industries and higher education, as well as improve infrastructure. Since 2021, the federal government has passed legislation such as the Bipartisan Infrastructure Law (BIL), the Inflation Reduction Act (IRA), the CHIPS and Science Act, and the Tech Hubs program. Federal agencies also have over \$600 billion in available funding to support communities historically reliant on coal for economic prosperity.²⁵ Kentucky is already capitalizing on the inflow of funding and investment. In addition to over \$13 billion in private sector investments in manufacturing,²⁶ \$6.4 billion in BIL funding has been announced.²⁷ In October 2023, the University of Louisville Research Foundation received a strategic development grant through the Tech Hubs program.²⁸ Kentucky has also collaborated with neighboring states to develop regional opportunities for mutual benefit in areas like infrastructure (e.g., Brent Spence Bridge linking Covington to Cincinnati) and emerging technologies (e.g., being eligible for up to \$925 million to build the Appalachian Regional Clean Hydrogen Hub (ARCH2) with West Virginia and Ohio).²⁹ But the competition for such federal support is fierce, as across the country – including most of Kentucky’s immediate neighbors – states have organized to compete to win.

Collaborative blueprint: Ten priorities for Kentucky

Extensive, on-the-ground stakeholder engagement, rigorous analytics, and input from experts inside and outside of Kentucky together helped identify ten priorities for Kentucky’s economic developers (see Exhibit 3). Each priority matters independently to Kentucky’s economy. When integrated together, these priorities reinforce each other for greater impact. The five priority sectors answer “where” Kentucky could focus its economic development efforts. The five priority enablers describe “what” Kentucky could do to drive growth in these priority sectors. And an updated model for multi-level collaboration across economic developers ultimately defines “how” Kentucky could deliver the collaborative blueprint to accelerate economic development across the Commonwealth.

Exhibit 3. Ten priorities for the Commonwealth’s economic development



The ten priorities offer common themes for economic development and their many partners across Kentucky. At the same time, the Commonwealth's great diversity means how these priority sectors and enablers, and well as methods of multi-level collaboration, are delivered will need to be tailored to unique local contexts. Not every priority sector will be appropriate for every community, for instance. Together, however, these priorities could provide the foundation for future growth across the Commonwealth.

Priority sectors

Why and how priority sectors were identified

Identifying priority sectors provides the core architecture for this blueprint. Priority sectors define the main drivers of future growth. They also help inform prioritization of economic development resources and efforts at every level. Critically, the priority sectors also provide the focal point for defining, prioritizing, and sequencing priority enablers.

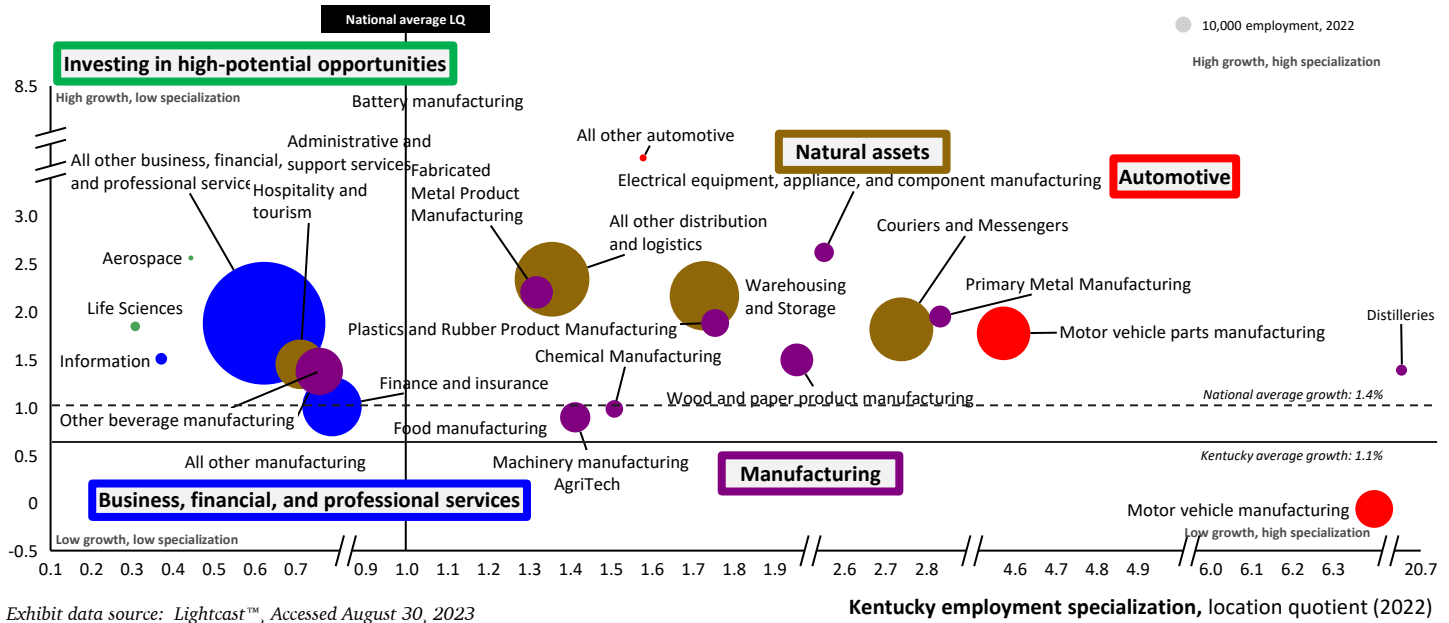
The identification of priority sectors is informed by multiple factors. The starting point is assessing the Commonwealth's existing tradable sectors by the historical and forecasted employment growth, as well as their employment specialization, and then grouping them by major theme (see Exhibit 4).

Tradable sectors – sectors whose outputs can be traded beyond the borders of Kentucky, such as manufacturing – are a focal point for priority economic development sector strategies. Tradable sectors drive economic growth by attracting to or growing in a region capital and jobs. At the same time, non-tradable sectors – sectors that serve local markets, such as local retail and food services – remain critical to economic mobility and household income stability. Growth in tradeable sectors contributes to the health and growth of businesses in non-tradable sectors. The estimated employment growth impact from an additional job in a tradeable sector business upon the rest of the economy is called a “multiplier effect.”

Forecasted employment growth is the anticipated increase in a region's employment within a specific industry over a defined period. Such forecasts are typically based on economic and market trends. Forecasted growth for an industry can be compared to forecasted growth for all industries both regionally and nationally.

Employment specialization is a region's share of employment in a specific sector compared to the average national share. This measure is called a “location quotient” (LQ). If a region has a location quotient of 1.0 in a sector, it means its level of employment specialization in that sector is on par with the U.S. average. A location quotient equal to 2.0 means the region's economy has twice the share of employment in that sector compared to the U.S. average. A higher level of specialization suggests that the region has natural or accumulated advantages in that sector, such as a more developed industrial base, supply chains, workforce, expertise, integration into local communities, and innovation networks.

Exhibit 4. Kentucky's mix of tradable sectors



Additional factors then help refine the assessment, such as the sector’s innovation potential (measured by patents and R&D funding), level of foreign direct investment (FDI) (in absolute terms and relative to both for Kentucky and U.S. overall levels), value of exports, venture capital funding (both for Kentucky and the United States overall), average wages, employment multiplier effects, and stakeholder perspectives on the importance of the sector to the Commonwealth. The potential impact of macro-level trends – such as supply chain reshoring potential, labor market dynamics, and federal funding flows – was also considered.

These factors help clarify sectors where Kentucky has an “earned right to win” – where Kentucky has proven success and/or capabilities – and where Kentucky could see “opportunities to win” in the future – sectors with forecasted growth and/or impact potential (see Exhibit 5 for highlights and Appendix IV for full list of factors).

Exhibit 5. Each priority sector has its own mix of “earned right to win” and “opportunities to win” factors

Priority sectors	Where Kentucky has “earned right to win”						Where Kentucky could see “opportunities to win”					
	Share of total employment in KY (2022, %)	KY employment specialization (2022, location quotient)	Projected employment growth in KY relative to U.S. (2022-27)	KY patents ¹ (2016-21, #)	KY share of U.S. foreign direct investment (2017-2022, %)	KY exports ² (2017-2022, \$ million)	U.S. projected employment growth (2022-27, %)	KY average yearly wage (2022, \$ thousand)	Employment multiplier (2022)	Total U.S. venture capital investment ⁴ (2017-2022, \$ billion)	Total U.S. foreign direct investment (2017-2022, \$ billion)	Stakeholder engagement (% ranked as top 3 most important industry)
Traditional automotive and electric vehicles	3.0	4.3	-0.5	342	12.0	30,172	1.9	68.5	2.7	140.1	90.6	72
Materials	3.0	1.7	0.7	658	3.3	26,706	1.2	71.0	2.3	n/a ⁵	78.4	16
Food and beverage processing	1.9	1.5	0.5	170	9.2	5,025	1.6	66.2	2.9	36.6	28.1	18
Other manufacturing	3.9	1.2	0.9	1960	2.1	34,318	0.6	65.8	2.1	125.6	88.0	66
Distribution and logistics	6.2	1.8	-0.1	920	2.0	n/a	2.3	62.7	1.8	135.1	9.8	49
Hospitality and tourism	1.5	0.7	0.3	595	0	n/a	2.6	36.9	1.6	n/a ⁵	8.8	75
Business, financial, and professional services	6.6	0.7	-0.2	440	0.1	n/a	2.1	87.9	2.2	170.5	47.9	82
Aerospace	0.1	0.4	4.6	97	2.2	64,889 ³	0.6	81.1	2.2	18.4	4.3	18
AgriTech	0.1	1.4	-1.3	11	0	0	1.7	56.1 ⁶	1.8	20.8	0.5	26
Life sciences	0.3	0.3	1.4	467	0.1	16,513	2.3	96.0	2.2	272.6	31.1	23

1. USPTO patents granted 2017-2021, based on assignee location, patents can be assigned to multiple industries
 2. PitchBook verticals are not directly aligned to sector definitions by 6-digit NAICS codes; VC funding is directional, not comprehensive
 3. PitchBook verticals did not directly align to Materials or Hospitality & Tourism sectors; VC funding may be present at a more granular level
 4. Exports of good only; does not include services
 5. Includes aerospace parts not manufactured in Kentucky that are repackaged and shipped out of Kentucky from the GE Erlanger Parts Warehouse at the Cincinnati/Northern Kentucky Air
 6. Wage data is at the NAICS code level; wages for AgriTech may be higher based on occupation type within the sector (e.g., software engineer, project manager)

Exhibit data source: Lightcast™, Accessed August 30, 2023; U.S. Patent and Trademark Office; fDi Markets, a service from the Financial Times 2023. All Rights Reserved; U.S. Patent and Trademark Office; U.S. Census Bureau: Economic Indicators Division USA Trade Online. Source: U.S. Import and Export Merchandise trade statistics; PitchBook Data Inc. Data has not been reviewed by PitchBook Analysts; Kentucky Association for Economic Development/Kentucky Cabinet of Economic Development Joint Survey (2023)

It is important to note that the Commonwealth-wide perspectives provide an overall guide. They should then be considered at a more granular regional or more local level because the specific priority sector mixes and “earned right to win” can vary significantly across regions (see Exhibit 6). Regional specialization analyses, for instance, can help further clarify current sector strengths and potential future opportunities.

Exhibit 6. Regional specialization by Area Development Districts differs across the priority sectors

LQ ≥ 0.7 LQ ≥ 1 LQ ≥ 2 LQ ≥ 3 LQ ≥ 4

Priority sectors	KY LQ ¹	West KY employment specialization (LQ)				South-Central KY employment specialization (LQ)			Central KY employment specialization (LQ)			East KY employment specialization (LQ)				
		Green River	Penny-rile	Purchase	Barren River	Lake Cumberland	Lincoln Trail	Blue-grass	KIPDA	Northern KY	Big Sandy	Buffalo Trace	Cumberland Valley	FIVCO	Gateway	KY River
Traditional automotive and electric vehicles	4.3	2.0	4.0	1.9	9.9	5.8	8.7	4.9	4.8	1.4	0.5	3.5	3.7	0.0	4.0	0.0
Materials	1.7	4.5	1.3	2.1	3.4	1.1	2.5	1.3	1.2	2.0	0.2	1.3	1.0	1.5	2.7	0.3
Food and beverage processing	1.2	1.4	0.8	1.0	1.4	1.9	1.7	1.2	1.3	1.1	0.2	2.5	1.0	0.8	1.7	0.2
Other manufacturing	1.5	4.4	1.2	1.6	2.0	1.8	2.5	1.0	1.0	1.7	0.6	1.5	2.2	0.9	3.9	0.2
Distribution and logistics	1.8	0.7	1.3	2.1	0.9	0.6	0.7	0.9	2.6	4.0	0.5	0.9	1.2	1.1	0.8	0.8
Hospitality and tourism	0.7	0.4	0.6	0.6	0.8	0.5	0.4	0.8	0.8	0.9	0.2	0.4	0.6	0.4	0.3	0.3
Business, financial, and professional services	0.7	0.2	0.2	0.5	0.4	0.2	0.4	0.6	1.0	0.8	0.2	0.3	0.5	0.3	0.3	0.3
Aerospace	0.4	0.8	0.9	0.0	0.3	0.2	1.1	0.7	0.0	1.1	0.0	0.0	0.0	0.0	0.0	0.0
AgriTech	1.4	1.5	7.8	1.3	3.1	14.3	0.0	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Life sciences	0.3	0.2	0.3	0.4	0.3	0.2	0.1	0.5	0.2	0.4	0.0	0.0	0.1	0.1	0.3	0.2

Exhibit data source: Lightcast™, Accessed August 30, 2023

Role of economic developers in priority sectors

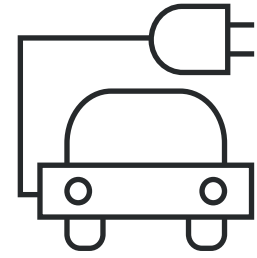
Each priority sector is different and, therefore, requires different approaches. Their importance varies by region and locality. Expanding upon an established base may involve different tactics than attracting an industry to a region for the first time. The relative mix of enablers may also vary, for instance, with some sectors more dependent upon industrial sites whereas others more linked to R&D collaborations with higher education institutions.

Ultimately, economic developers are responsible for navigating this complexity and helping define the appropriate strategy and tactics to advance business retention, expansion, and attraction in priority sectors across the Commonwealth and in specific regions. KCED, KAED, hundreds of local economic developers, and their counterparts each will play important roles in delivering in these priority sectors.

The discussion of each priority sector is divided into four main parts: the goal for the sector, where Kentucky is today (i.e., an overview of the current state), how the sector is evolving (i.e., an overview of major themes and trends), and what it could take for Kentucky to win (i.e., the path forward for economic developers and their counterparts).

Priority sector 1

Automotive



Kentucky is positioned at the heart of the U.S. “Auto Alley” that connects the Midwest and South, from Michigan to Alabama and Georgia. The automotive industry is core to Kentucky’s economy. Kentucky has a strong “earned right to win” across many regions. This includes a strong talent base, developed supply chain networks, and successes attracting FDI to power future growth in the sector. The industry also has promising “opportunities to win” in the future with high-paying jobs and continued evolution toward EVs.

Goal

Win the automotive future by assisting the evolution of Kentucky’s automotive base while strategically investing in growth in high-potential sectors (e.g., electric vehicles).

Traditional automotive and electric vehicles

Where we are today

Kentucky has an extensive network of automotive production facilities and suppliers across the state. Their origins date back over a century to when Ford first opened a sales and service office on South Third Street in Louisville in 1912.³⁰ Today, Kentucky is home to four automotive production facilities operated by three of the world’s leading manufacturers – Ford, General Motors, and Toyota. Hundreds of suppliers in the state support automotive manufacturers in and beyond Kentucky. Kentucky has also capitalized on multiple recent tailwinds in the sector, including winning dozens of competitive deals in the EV industry (see Exhibit 7).



Exhibit 7. Electric vehicle and battery industry projects, by announced capital investment

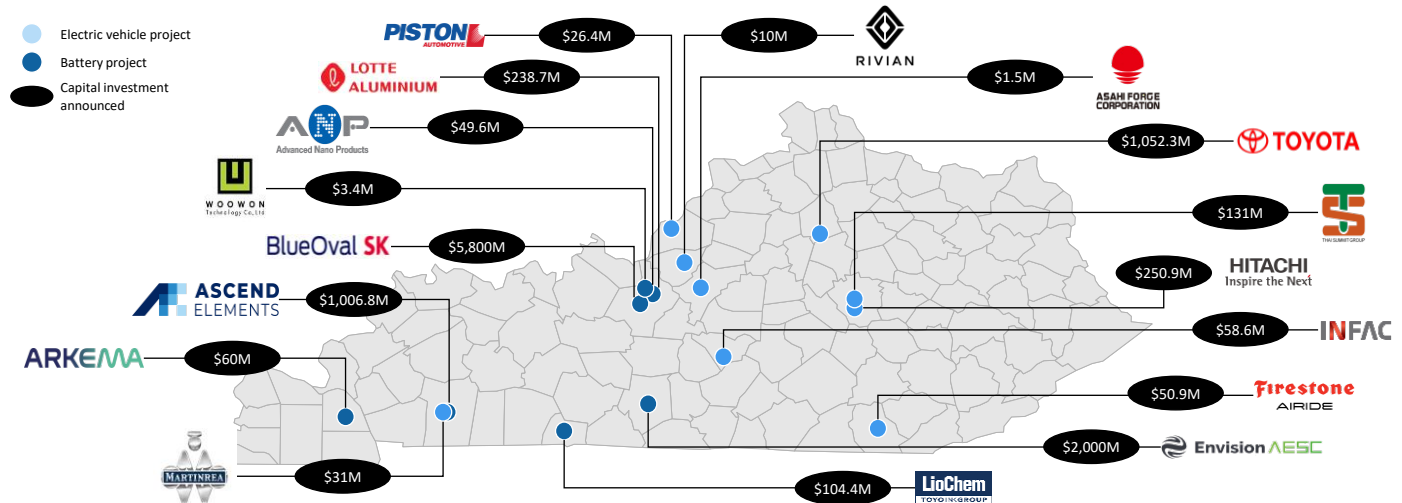


Exhibit data source: Kentucky Cabinet for Economic Development (2023)

Earned right to win

- **Share of total employment in KY:** 3.0 percent of total employment as of 2022, equivalent to 60,900 jobs.³¹
- **KY employment specialization:** 4.3 location quotient as of 2022, the highest among priority sectors.³²
- **KY share of U.S. FDI:** 12.0 percent of national inbound FDI from 2017-2022, equivalent to \$10.9 billion.³³

Opportunities to win

- **Employment multiplier:** 2.7 additional indirect jobs are created for every new job.³⁴
- **Total U.S. FDI:** \$90.6 billion in inbound U.S. FDI from 2017 to 2022, the highest amount among priority sectors.³⁵
- **Stakeholder engagement:** 72 percent of survey respondents selected “automotive” among the top three current major industries most important to Kentucky’s prosperity in the next five years.³⁶

Recent success story: BlueOval SK Battery Park

In the largest economic development project in Kentucky’s history, Ford Motor Company and SK On will build two EV battery plants at the BlueOval SK Battery Park. Located within the Glendale Megasite in Hardin County, Kentucky, this \$5.8 billion project will produce batteries for the next generation of Ford and Lincoln EVs. It will be one of the largest EV battery production sites globally. BlueOval SK Battery Park will also train 5,000 workers at a new training center, located on the 1,500-acre BlueOval SK Battery Park site. The training center is the only co-branded learning facility within the Kentucky Community and Technical College System and involves a \$25 million investment by the Commonwealth.

When completed, this project will reinforce Kentucky’s longstanding position as a national leader in automotive production and put Kentucky on a path to continue its leadership position in the emerging EV market.³⁷

How the sector is evolving

- **The transition from Internal Combustion Engine (ICE) to EVs and other types of sustainable mobility is accelerating:** Between 2016 and 2022, ICE sales steadily decreased by 2 percent each year while EV sales grew by ~26 percent.³⁸ Looking ahead, EVs could account for 35 percent or more of all global car sales by 2030.³⁹
- **Consumer's preferences are changing:** 57% of consumers globally state that their next vehicle will be electric or plug-in hybrid electric and 10% will buy only one more traditional ICE vehicle.⁴⁰
- **Supply chains are becoming increasingly regionalized:** Since the passage of the IRA, over \$165 billion in new EV and battery-related projects have been announced in U.S., resulting in over 170,000 new jobs.⁴¹
- **New talent and expertise are increasingly needed:** The rapid shift towards manufacturing EVs is intensifying the demand for specialized talent, such as engineers and chemists with experience in battery production.⁴²
- **Manufacturers are investing in innovation:** Automotive manufacturers are investing in improving their capabilities across autonomous driving, connectivity, electrification, and shared/smart mobility to stay competitive, while also implementing new technologies to improve efficiencies.⁴³
- **Companies are seeking to reduce carbon emissions:** More than 90 automotive companies and organizations have pledged to reduce carbon emissions by at least 50 percent by 2030.⁴⁴

What it could take for Kentucky to win

Changes to the automotive industry will have profound implications for the business models of automotive manufacturers and suppliers, especially those servicing the ICE market. Opportunities for economic developers to help secure Kentucky's leadership position in the automotive future include:

Assist and evolve base

- **Support, retain, and help ICE suppliers grow and adapt to an evolving industry**

Supplier transitions from ICE to EV markets will involve retooling plants and reskilling workers. The Commonwealth could consider targeted grants/funding (including dedicated funding streams), technical assistance, or incentives. For example, KCED could explore potential enhancements to the Kentucky Reinvestment Act to provide additional incentives to companies that reinvest in existing facilities. Other states are also creating specific programs to address changes in the automotive industry. Michigan established, for instance, the Office of Future Mobility & Electrification and published a Future Mobility Plan, which includes cash grants for retrofitting automotive component facilities and provides transition strategy resources to communities affected by ICE facility closures.⁴⁵ Kentucky's economic developers could also conduct proactive outreach to ICE suppliers to better assess their needs and help identify potential adjacent markets to serve.

- **Help existing automotive manufacturers keep up with technological and regulatory changes**

Automotive manufacturers could benefit from additional types of economic development support when looking to adjust to new environmental regulations, advanced technologies, and increasing demand for a wider portfolio of vehicle types. Kentucky's economic developers could work closely with automotive manufacturers to inform them of existing incentive programs and collaborate with KCED to make sure program eligibility criteria and offerings directly meet their needs. KCED could also explore options to earmark specific funds to provide cost offsets for automotive manufacturers investing in facility upgrades and expansions.

- **Strengthen local automotive innovation capabilities**

Economic developers could lead collaboration efforts across universities and automotive and battery industry alliances to increase automotive innovation activity in Kentucky. For example, as manufacturers look towards alternatives to lithium-ion batteries due to their high reliance on raw materials with vulnerable supply chains, Kentucky could develop stronger capabilities in EV battery innovation. Kentucky could build upon existing research capabilities, such as the University of Louisville's Conn Center for Renewable Energy Research.

Attract new business investment

- **Invest in mega-site development**

Mega-site development to support economies of scale through consolidated production processes is a potential approach to attract EV and battery manufacturers. States across the United States, including Georgia and North Carolina, are offering ready-to-build mega-sites to EV manufacturers as part of their business attraction strategies, in addition to streamlining environmental and construction permitting processes.⁴⁶ Site development for automotive and EV could create opportunities across regions in the Commonwealth as part of a broader site portfolio strategy (see Priority enabler 1. Competitive products for more details).

- **Explore competitive, tailored incentives for advanced mobility**

States are earmarking specific funds for EV incentive packages to win competitive deals – for example, Illinois's Reimagining Energy and Vehicles Act, South Carolina's Battery Manufacturing Tax Credit, and Georgia's Alternative Fuel and Advanced Vehicle Job Creation Tax Credit.⁴⁷ Kentucky could consider expanding its portfolio of competitive incentives for advanced mobility, such as increasing benefits for businesses investing in battery research and development in the Commonwealth.

- **Nurture EV supplier ecosystems**

Kentucky is already establishing a supplier network to serve the EV market. This network includes both existing and new companies in the Commonwealth. Local competitiveness could be enhanced through deliberate efforts to build clusters of suppliers in priority regions, including those strategically located near EV and EV battery manufacturers in Kentucky or near bordering states with strong EV and EV battery ecosystems.

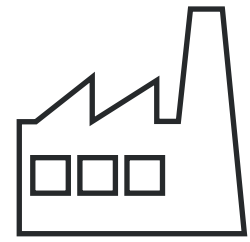
- **Scale FDI from Asia and Europe**

Encouraged by IRA incentives, foreign manufacturers are investing record amounts of capital in U.S. states, including in EV and EV battery facilities. Priority countries for automotive and battery manufacturing include South Korea and Japan from Asia – the two highest source countries for FDI in Kentucky and the U.S. from 2017 to 2022 – and Germany from the European Union.⁴⁸ To ensure that Kentucky is top of mind for global mobility leaders, economic developers can strengthen international relationships by pursuing a number of strategies, such as connecting to local trade offices, attending relevant trade shows, and investing in relationships with existing foreign suppliers in Kentucky. They can also work with local communities and the private sector to help them prepare for international engagements, such as having the right talent and cultural sensitivities.

- **Focus across the full automotive supply chain for business attraction**

Economic developers can prioritize automotive industry business attraction efforts in high-opportunity parts of the automotive supply chain, developing areas where Kentucky is differentiated today. They can also support lifecycle opportunities, such as recycling, especially as manufacturers become increasingly focused on sustainable manufacturing practices.

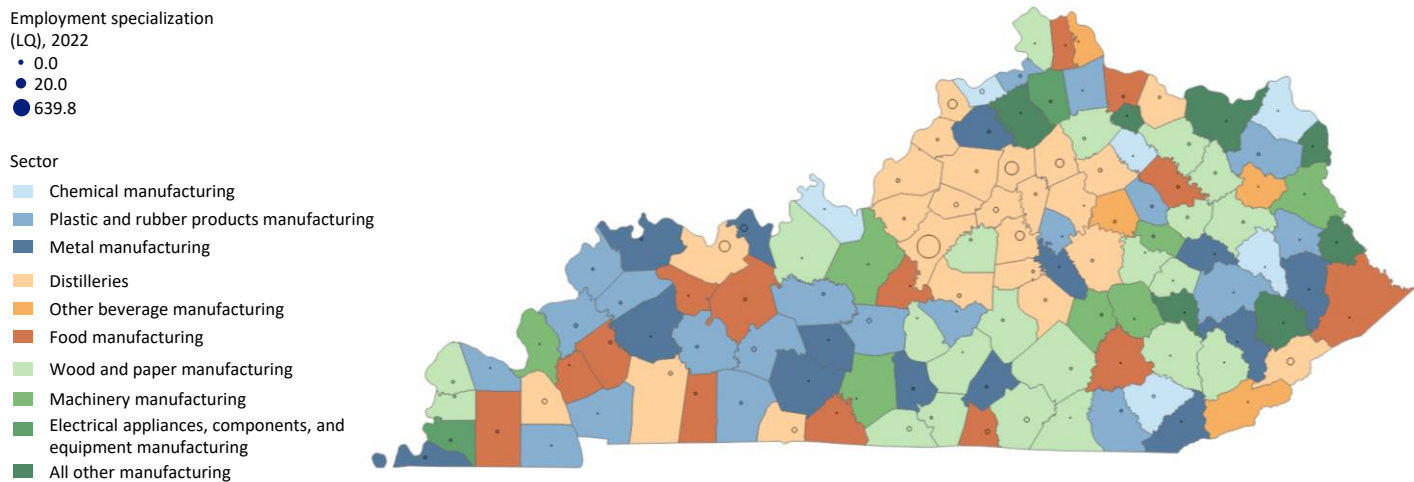
Priority sector 2: Manufacturing



Kentucky’s manufacturing sector remains a vital engine of economic growth and employment. The sector’s “earned right to win” comes from Kentucky’s diverse industrial base across regions – for example, chemical manufacturing in Western Kentucky, steel manufacturing and food processing and bourbon distilling in Central Kentucky, and wood product manufacturing in Eastern Kentucky. Continued investments in facilities and technology further bolster regional manufacturing prowess.

This priority sector includes sections on material manufacturing (metals, plastics and rubber, and chemicals), food and beverage processing, and other manufacturing (e.g., wood products, electrical products, machinery). Each county has a distinctive specialization across manufacturing sectors, which is indicative of current strengths – a factor that could be built upon to deepen specialization into other sectors as well (see Exhibit 8).

Exhibit 8. Top manufacturing sectors and employment specialization by county, 2022



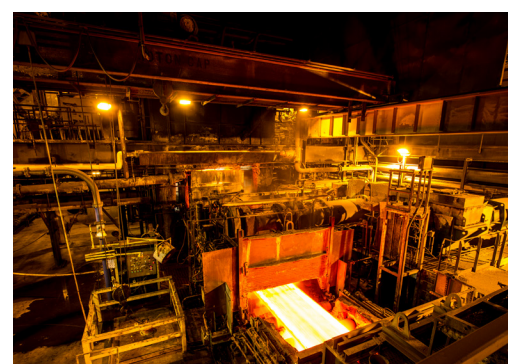
Note: Shows level of employment specialization for select sectors within manufacturing

Exhibit data source: Lightcast™, Accessed August 30, 2023

Goal

Be a leader in the U.S. manufacturing renaissance by helping Kentucky’s manufacturers navigate successful transitions in their industries and becoming a destination of choice for next-generation industry-leading manufacturers.

Materials (metals, plastics and rubber, and chemicals)



Where Kentucky is today

Kentucky boasts a strong base in material manufacturing, with specific expertise in a range of metals, plastics and rubber, and chemicals. Specific strengths include steel, iron, and aluminum within metals; polystyrene foam products, hoses, and plastic packaging within plastics and rubber; and synthetic rubber, wood chemicals, and printing ink within chemicals. Many of these industries also serve Kentucky's other priority sectors such as automotive and aerospace manufacturing. Most regions have their own manufacturing strengths, for instance, metal products in Barren River, plastics and rubber in Lincoln Trail, and chemicals in Purchase.

Earned right to win

- **Projected employment growth in KY relative to U.S.:** 0.7 percentage points higher projected employment growth than U.S. average from 2022 to 2027.⁴⁹
- **KY patents:** 658 patents generated from 2017 to 2021, the third highest among priority sectors.⁵⁰

Opportunities to win

- **Employment multiplier:** 2.3 additional indirect jobs are created for every new job.⁵¹
- **KY average yearly wage:** \$71,000 average yearly wage, nearly \$16,000 above Kentucky's average of \$54,900.⁵²
- **Total U.S. FDI:** \$78.4 billion in in-bound U.S. FDI from 2017 to 2022.⁵³

Recent success story: Metals Innovation Initiative

The Metals Innovation Initiative (MI2) is a Kentucky-based non-profit that provides collaborative, industry-led executive leadership to attract and promote advanced research, sustainability, commercialization, and talent development in the state's metals industry. MI2 strives for Kentucky to be the preeminent destination for metal innovation.

Since its inception in 2022 with support from KCED, MI2 has launched multiple pilot projects, collaborated with KCED to develop a metals industry guide, and convened its first annual conference focused on the "factory of the future" in September 2023. MI2 aims to not only strengthen the sector locally but also help propel Kentucky to the forefront of metals innovation. This includes by tracking upcoming grant opportunities and creating strategic alliances with higher education institutions. Although still evolving, MI2 provides a promising example of public-private partnership in support of distinctive sector excellence.⁵⁴

Food and beverage processing



Where Kentucky is today

Many food and beverage products are synonymous with Kentucky. Foremost among them is bourbon, where Kentucky's world-class bourbon manufacturers contribute 95 percent of global supply.⁵⁵ Numerous nationally recognized food and beverage players are located in the state, contributing to an expanding hospitality and tourism industry, especially along the "Bourbon Trail" of landmark distilleries, in the famed "bluegrass" horse country, and, increasingly, in the mountains and hollers of Eastern Kentucky. Kentucky also has a strong network of food manufacturers, such as meat processing and packaging.

Earned right to win

- **Projected employment growth in KY relative to U.S.:** 0.5 percentage points higher projected employment growth than U.S. average from 2022 to 2027.⁵⁶
- **KY share of U.S. FDI:** 9.2 percent of national inbound FDI from 2017-2022, equivalent to \$28.1 billion.⁵⁷

Opportunities to win

- **Employment multiplier** 2.9 additional indirect jobs are created for every new job, the highest multiplier among priority sectors.⁵⁸
- **KY average yearly wage:** \$66,200 average yearly wage, nearly \$12,000 above Kentucky's average of \$54,900.⁵⁹

Recent success story: Brothers Wright Distilling Co.

Brothers Wright Distilling Co. is a \$38 million investment in East Kentucky that will refurbish land used by repurposing a coal mine in Pike County. The company will age its Kentucky-made bourbon at the site, encompassing 1,400 acres underground, on the mine property that operated from 1913 through 1946.

Jobs at the operation will include 28 full-time positions, ranging from production and maintenance to sales and tours. Company leaders plan to construct a 12,000-square-foot distillery, rickhouse, welcome center, museum and restaurant on a 20-acre tract, along Kentucky Highway 292 in Pike County. Plans include lodging and an underground visitor experience, and the company is already using the mines to age some of their products. Construction of the new facility is expected to be completed by the end of 2024.⁶⁰

Other Manufacturing



Where Kentucky is today

Some of Kentucky's largest manufacturing sectors by employment include machinery, paper, wood products, and electrical equipment and appliances. These industries benefit from Kentucky's own ecosystem, such as its hardwood species mix, and have played a historically significant role in Kentucky's development. This diverse range of manufacturing spans the Commonwealth from wood and lumber in the East to appliance manufacturing in Louisville (headquarters for GE Appliances) to machinery manufacturing in Paducah.

Earned right to win

- **Projected employment growth in KY relative to U.S.:** 0.9 percentage points higher projected employment growth than U.S. average from 2022 to 2027.⁶¹
- **KY patents:** 1960 patents generated from 2016 to 2021, the highest among priority sectors.⁶²
- **KY exports:** \$34.3 billion in exports from 2017 to 2022, the second highest among priority sectors.⁶³

Opportunities to win

- **Total U.S. FDI:** \$88 billion in inbound U.S. FDI from 2017 to 2022.⁶⁴
- **Employment multiplier:** 2.1 additional indirect jobs are created for every new job.⁶⁵
- **Stakeholder engagement:** 66 percent of survey respondents selected "manufacturing" among the top three current major industries most important to Kentucky's prosperity in the next five years.⁶⁶

Recent success story: Pratt Industries

Located in Henderson, Kentucky, Pratt Industries is a paper mill and box factory that provides 320 jobs across its two facilities. Pratt Industries is investing nearly \$500 million to construct a the second of two facilities in a 1.15 million-square-foot space, which will represent the largest investment in the region for the past 25 years. Pratt's state-of-the-art paper mill produces 100 percent recycled corrugated sheets and boxes for major distributors and big box stores. It sets the standard for manufacturing in Western Kentucky. The project received a \$175,000 grant through the Kentucky Product Development Initiative program to extend natural gas lines. The project shows Kentucky's ability to help companies select locations, construct, and quickly begin operations.⁶⁷



How these sectors are evolving

- **Commodity prices are fluctuating, impacting margins:** Manufacturing input costs are highly cyclical due to volatile commodity prices. Inflation is also impacting commodity pricing, leading to an input price increase of 33.9 percent from 2020 to 2022.⁶⁸
- **Manufacturers are adopting sustainable practices:** Manufacturers are adopting initiatives such as large-scale recycling efforts, producing “greener” goods (e.g., green steel, alternative proteins), and using low-carbon energy processes. These trends are also increasing demand for new technologies, biodegradable materials, and recycled materials.⁶⁹
- **Plants are becoming increasingly automated and digitized:** Manufacturers are applying digital technologies at scale in their operations, and industry pioneers are already reporting significant returns from this type of investment.⁷⁰
- **Manufacturing skills keep evolving, impacting expectations from workforce:** Digitization and automation often create new roles faster than workforce training has historically been able to keep up. The skills in developing, managing, and maintaining automated equipment and digital processes that manufacturers need have changed profoundly and are expected to continue to evolve.⁷¹
- **Reshoring supply chains continues:** Pandemic-induced disruptions continue to impact manufacturing supply chains by amplifying the need for shorter, closer, and more resilient operations, including domestic sourcing.⁷² Over 90 percent of senior executives in a recent survey reported considering increasing supply chain resilience a priority.⁷³
- **Rising costs are lowering margins for manufacturers:** Automation, costs of supply chain disruptions, and regulations related to carbon emissions are among multiple drivers impacting potential future profitability for manufacturers.⁷⁴

What it could take for Kentucky to win

While Kentucky has earned a “right to win” in many manufacturing areas, continued growth is not guaranteed. The evolution of the sectors highlights potential challenges and opportunities to Kentucky’s established manufacturers.

Opportunities for economic developers to establish Kentucky as a leader of the U.S. manufacturing renaissance include:

- **Invest in “traditional” economic development toolkit**

The traditional economic development toolkit (see Priority enabler 1 for more details) for manufacturers includes a range of sites developed in strategic locations, streamlined permitting processes, and industry-aligned incentives. KCED and KAED could continue to build out a comprehensive site portfolio across regions, including streamlined permitting processes. KCED could also focus on further aligning incentive programs with priority manufacturing industries. Strengthening Kentucky’s fact base about trends shaping the current manufacturing landscape could also help ensure the toolkit is continuously adapting to industry needs.

- **Support manufacturers in adopting innovative and sustainable practices**

States are helping manufacturers adopt more sustainable and resilient operations, including through funding for innovation, support in the development of large-scale recycling facilities, and state-wide input-sourcing networks. For example, Connecticut's Manufacturing Innovation Fund (MIF) provides matching funds for local manufacturers to enable them to keep pace with state-of-the-art product development and manufacturing technology.⁷⁵ The Kentucky Sustainable Manufacturing Initiative is assisting manufacturers to integrate sustainability into their day-to-day practices.

- **Help manufacturers take a holistic approach to industrial workforce development**

Manufacturers increasingly need to cultivate their workforce and retain talent to remain competitive. Many companies are cultivating talent through trade school partnerships and clear advancement pathways. Others are leveraging skills-based hiring to improve business and employee recruitment and retention outcomes. Economic developers could work closely with manufacturers to identify how to best support their workforce needs and through which partners, including by scaling up existing workforce development initiatives such as the Kentucky Federation Advanced Manufacturing Education program.

- **Capture nearshoring and reshoring supply chain opportunities**

Kentucky's public sector is already helping take advantage of supply chain opportunities, including through CONNEX Kentucky – an initiative led by KCED and the Kentucky Association of Manufacturers. CONNEX Kentucky is a searchable supply chain database for local manufacturers. Scaling these types of initiatives could not only attract new firms looking to insulate their operations from global supply chain uncertainty, but also enable already-existing firms in Kentucky to future-proof their supply chains.

- **Expand business attraction and expansion efforts beyond production facilities**

Kentucky's economic developers could proactively engage with manufacturers to explore how to bring other parts of their businesses to Kentucky. For example, corporate or regional headquarters and strategy operations are potential target opportunities, made especially attractive because of their high-quality jobs and wages.

- **Deepen partner strategies across public and private sectors to support retention, growth, and innovation**

Current partnerships across the public and private sectors are already supporting retention, growth, and innovation in the manufacturing sector. For example, researchers at the University of Kentucky are innovating in the critical minerals industry. Kentucky, in partnership with Tennessee, has also taken advantage of federal funding opportunities through the National Science Foundation (NSF) to fund solutions that minimize waste in industrial processes.⁷⁶ Kentucky's economic developers could seek to deepen and broaden such partnerships, including by building templates that best define retention and growth programs for manufacturers. Kentucky's economic developers could also work with regional partners to continually refine and focus on targeted companies for recruitment.

Priority sector 3. Natural assets



Kentucky could take advantage of its distinctive topography and geographic location in two very different ways – by continuing to build out its distribution and logistics sector, and by developing its hospitality and tourism sector. While very different, these sectors have some similarities from an economic and workforce perspective. They both provide a large source of entry-level, sometimes seasonal job opportunities across the Commonwealth. These types of job opportunities can support increased labor force participation by creating employment pathways in both urban and rural areas. Maintaining and strengthening Kentucky’s natural assets can also support economic development goals more broadly. For example, investments in tourism can enhance a community’s overall quality of life, while investments in distribution networks can attract new businesses to the Commonwealth.

Goal

Capitalize on what makes Kentucky unique from its lakes and natural resources to distribution and logistics through targeted infrastructure investments and tailored regional strategies.

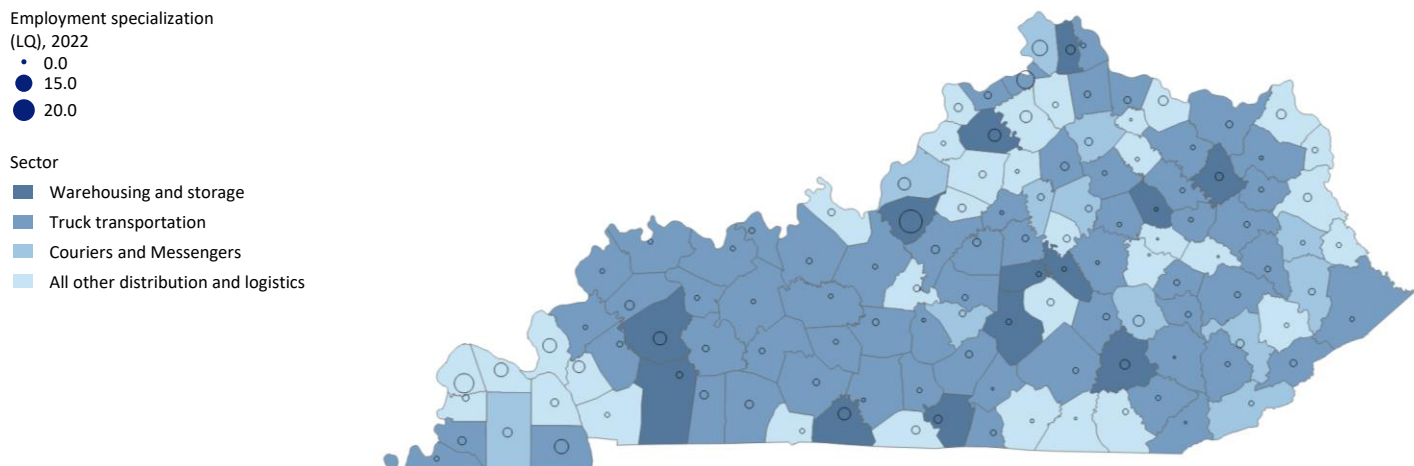
Distribution and logistics

Where Kentucky is today

Located at the center of a 34-state distribution area, and within a day’s drive of 65 percent of the U.S. population, Kentucky’s geography facilitates the distribution of raw materials and finished products to a massive industrial and consumer market. It does so through multiple modes of transport including inland ports, interstate highways, air freight centers, and rail.⁷⁷ These advantages have fueled a booming distribution and logistics industry, making Kentucky home to multiple of the world’s industry leaders, including three major air-cargo delivery hubs – managed by UPS, Amazon, and DHL – and dozens of fulfillment centers. Distribution and logistics companies also have a track record of collaborating with Kentucky universities and community colleges to upskill and develop local talent, ranging from trade to corporate leadership programs.

Specialization for distribution and logistics differs by region, with the most number of counties specialized in truck transportation (see Exhibit 9).

Exhibit 9. Top distribution and logistics sectors and employment specialization by county, 2022



Note: Shows level of employment specialization for select sectors within distribution and logistics

Exhibit data source: Lightcast™, Accessed August 30, 2023

Earned right to win

- **Share of total employment in KY:** 6.2 percent of total employment as of 2022, equivalent to 127,700 jobs, the second highest volume among priority sectors.⁷⁸
- **Employment specialization:** 1.8 location quotient as of 2022, the second highest among priority sectors.⁷⁹
- **KY patents:** 920 patents generated from 2016 to 2021, the second highest among priority sectors.⁸⁰

Opportunities to win

- **U.S. projected employment growth:** 2.3 percent projected growth from 2022 to 2027 equivalent to 665,000 new jobs nationwide.⁸¹
- **Stakeholder engagement:** 49 percent of survey respondents selected “distribution and logistics” among the top three current major industries most important to Kentucky’s prosperity in the next five years.⁸²

Recent success story: Norton Healthcare-UPS Health Care Career Tracks

In 2019, Norton Healthcare and UPS partnered to develop the Norton Healthcare-UPS Health Care Career Tracks, a tuition-free pathway for UPS employees to a healthcare career. UPS employees, Metropolitan College students, and Norton Healthcare High School Academy Program, and School to Work students are eligible. Students can access career tracks in diagnostic imaging, health information management, laboratory science, medical assistance, nursing, pharmacy technology, respiratory therapy, and surgical technology.⁸³ Norton has also expanded tuition assistance for a number of eligible health care degrees.⁸⁴

How the sector is evolving

- **Goods are being moved in more efficient and sustainable ways:** Leaders are using multimodal logistics centers to make decisions about the best transportation modes for freight, whether by land, air, or water. Major players have also begun to make large renewable energy investments and commitments to emission reductions in their freight and logistics operations.⁸⁵
- **Technological advancements are changing the logistics landscape:** Businesses are bringing in different technologies including AI, machine learning, and a robotics-enabled workforce to improve operations and supply chain resiliency and diversification.⁸⁶
- **Drones are changing last-mile delivery:** In 2022, over 2,000 commercial drone deliveries happened daily.⁸⁷ As the industry grows, drones are expected to become a more cost-effective option especially in regions that are difficult to reach.
- **E-commerce continues to grow:** The rise of e-commerce requires key changes in business models, such as strategic warehousing placements to help with last-mile delivery. Globally, nearly 20 percent of total global sales in 2021 were made from online purchases. By 2025, nearly a quarter of all global sales are expected to be made online.⁸⁸
- **Freight rates remain volatile:** While freight rates have dropped from record highs during 2021, delays and volatile shipping costs are still a reality, impacting margins for distribution and logistics companies.⁸⁹

What it could take for Kentucky to win

The distribution and logistics sector is important to both the Commonwealth's and nation's growth. Though many warehousing jobs in this sector have relatively lower wages, expansion of Kentucky's distribution and logistics footprint can also spur growth in other critical sectors, like automotive and manufacturing. Economic developers could also seek to build relationships with existing companies in this sector to find creative ways to expand operations with higher wages (e.g., corporate operations) in Kentucky.

Opportunities for economic developers to capitalize on Kentucky's natural assets to support growth and evolution in distribution and logistics include:

- **Help distribution and logistics companies embrace new technologies**

As distribution and logistics leaders face increasing competition to adopt technology-centric approaches to moving goods, Kentucky can proactively support businesses through funding and technical assistance. As the industry adopts more artificial intelligence – for example, to assist in delivery volume – economic developers can work with industry to support alternative employment pathways for workers who may be vulnerable to automation. Eastern Kentucky's USA Drone Port, as well as the University of Louisville's Automation and Robotics Institute, are examples of potential initiatives to consider scaling.

- **Work with anchor companies to expand their footprint in Kentucky, focusing on high value-add functions**

Kentucky's economic developers could proactively work with existing employers in the distribution and logistics industry to bring a wider share of their operations to Kentucky. These include regional headquarters, strategy operations, and innovation centers. Rural remote work opportunities could also be leveraged here as a way of bringing higher-wage jobs in the distribution and logistics industry to the Commonwealth, to build on the momentum of institutions such as the USA Drone Port located in Eastern Kentucky.

- **Work with anchor companies to invest in upskilling pathways**

Building off successes such as UPS's investments in Louisville with Metropolitan College and Norton Healthcare, Kentucky could encourage its distribution and logistics leaders to scale new upskilling pathways, potentially through tailored incentive programs.

- **Develop a business expansion and attraction strategy that leverages Kentucky's geographic attributes**

Building off the Commonwealth's geographic location and multimodal opportunities, Kentucky's economic developers could proactively identify business expansion and attraction strategies in the distribution and logistics sector. This would involve sharing of information and resources, including up-to-date maps of infrastructure assets, across various economic development agencies.



Hospitality and tourism



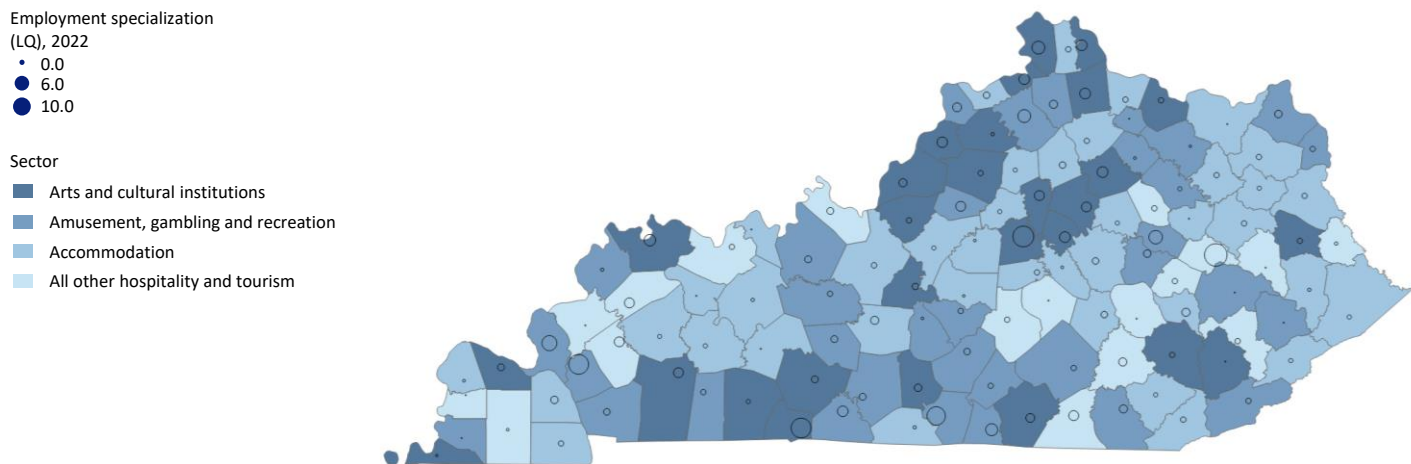
Where Kentucky is today

Kentucky’s hospitality and tourism sector features a range of world-class attractions, including horse racing – notably the Kentucky Derby and the Bourbon Trail. Kentucky’s 44 State Parks host nationally recognized golf courses, historic sites, trails, and campgrounds.⁹⁰ Kentucky has benefited from national growth in tourism. 2022 was a record-breaking year with nearly 76 million tourists.⁹¹

The Bourbon Trail’s success highlights the potential for this sector to enable economic development more broadly. For example, tourism and hospitality is attractive in parts of Kentucky where the rugged landscape makes traditional industrial development more challenging. Recent commitments by the Commonwealth, such as the Kentucky Department of Tourism’s 2022-2026 Strategic Plan, are already setting a bold path forward for the industry.⁹²

Specialization for hospitality and tourism differs greatly by region, a testament to the widespread variety of opportunities throughout different parts of the Commonwealth (see Exhibit 10).

Exhibit 10. Top hospitality and tourism sectors and employment specialization by county, 2022



Note: Shows level of employment specialization for select sectors within hospitality and tourism

Exhibit data source: Lightcast™, Accessed August 30, 2023

Earned right to win

- **Historical employment growth in KY relative to U.S.:** 1.8 percentage points higher historical employment growth than U.S. average from 2017 to 2022, the highest growth rate among priority sectors.⁹³
- **KY patents:** 595 patents generated from 2016 to 2021.⁹⁴

Opportunities to win

- **U.S. projected employment growth:** 2.6 percent projected growth from 2022 to 2027 nationally, the highest growth rate among priority sectors.⁹⁵
- **Stakeholder engagement:** 75 percent of survey respondents selected “tourism and hospitality” among the top three potential future major industries most important to Kentucky’s prosperity in the next five years.⁹⁶

Recent success story: Tourism projects in Eastern Kentucky

Multiple recent and ongoing Eastern Kentucky tourism projects are attracting visitors and stimulating economic growth:

- *Backroads of Appalachia:* Founded to increase economic growth through motor sports, Backroads of Appalachia held 82 events in 2023, bringing nearly 42 thousand visitors to the region.⁹⁷
- *Mint Gaming Hall:* In 2022, the Mint Gaming Hall opened in Williamsburg, Whitley County. With 450 gaming machines, the hall is employing over 150 people and contributing tax revenue to the Commonwealth as a whole. ⁹⁸
- *Revolutionary Racing Kentucky, LLC:* Two projects are in development in Boyd County: Sandy Ridge – a quarter horse racing track – and Sandy’s Racing | Gaming – an 80,000 square foot building that will house an eventful sports bar and gaming floor. The projects are expected to employ an estimated 150 full- and part-time workers.
- *ECL Corbin, LLC:* In partnership with Keeneland Association, Inc., ECL Corbin, LLC is developing a horse racing and entertainment facility in Knox County and entertainment center and hotel in Whitley County. Nearly 350 workers are expected to be employed.

How the sector is evolving

- **Domestic tourism has sustained growth:** The domestic tourism market is projected to have 17.7 percent growth per year through 2030.⁹⁹
- **Tourists are increasingly eco-conscious and interested in agritourism:** Agritourism is expected to grow by 13.4 percent per year by 2027.¹⁰⁰ This trend is burgeoning in Kentucky as promoted by the “Farms are Fun” program, bringing in eco-friendly practices and promoting regenerative agriculture.
- **Travelers are becoming more cost conscious:** Most customers pull back on their typical spending, opting for less expensive domestic locations and cost-saving travel options. The concept of “conscious travel” is gaining traction, including tourists intentionally supporting local businesses.¹⁰¹
- **Consumers are seeking wellness and experience:** As wellness and self-care become increasingly important to consumers, there is an increasing demand for holistic hospitality that incorporates health and well-being, such as yoga retreats, meditation workshops, spa facilities, and farm-to-table dining.¹⁰²
- **Digital nomads are blending business and leisure:** The COVID-19 pandemic changed some employees’ working styles, leading to the emergence of “b-leisure travelers” or even “digital nomads.” Since 2010, hotels creating office spaces have increased by 21 percent and is expected to double in the late 2020s.¹⁰³

What it could take for Kentucky to win

The hospitality and tourism sector is a core driver of employment across both urban and rural parts of the Commonwealth. Similar to distribution and logistics, hospitality and tourism average wages tend to be relatively lower than other industries. Also, economic developers rarely have direct influence over of tourism investments. That said, investments in tourism can be linked to placemaking efforts and attracting visitors to support broader growth. Economic developers can collaborate with tourism counterparts to help focus investments to support broader economic growth outcomes.

Opportunities for economic developers to capitalize on Kentucky’s natural assets to strengthen the hospitality and tourism industry include:

- **Ensure tourism investments bring physical, place-based investments to communities**

Beyond increased job opportunities, hospitality and tourism industry could also support long-term economic growth in communities. By coordinating with hospitality and tourism leaders to advocate for foundational investments in their communities, Kentucky’s economic developers could help enhance overall quality of life for visitors and residents alike.

- **Coordinate with other agencies and organizations leading tourism strategies**

With increasing interest in domestic tourism and widespread customer demands, Kentucky’s economic developers could proactively work with hospitality and tourism leaders to develop creative approaches to increasing visitors, such as tourism segmentation strategies by customer needs. For example, in rural areas, economic developers could work with businesses on developing nature-focused marketing efforts to increase visibility of Kentucky as a destination of choice for visitors.

Priority sector 4. Business, financial, and professional services



Kentucky's business, professional, and financial services sector has a substantial employment footprint of well-paying jobs. Future national growth in this sector is an opportunity not only to expand the number of high-paying jobs across the Commonwealth but also to enable Kentucky to diversify further its economy. Global trends favoring remote work, including in rural areas, could offer an opportunity for some Kentucky communities to target new growth in these services.

For purposes of this blueprint, a distinction was drawn between working from home as part of a hybrid model in which the employee is typically required to work in the office so many days per week and from home the balance versus "remote workers". Remote workers are those that are not required to work within an office during the week, thus allowed to work away from the office for extended periods, if not permanently. This "remote work" characterization versus "working from home" definition is therefore intended to address remote work opportunities for the more rural portions of the state, and not work from home policies found in more urban areas.

Goal

Capture Kentucky's fair share of tomorrow's jobs in business, financial, information technology, and other professional services, including by enhancing rural remote work opportunities and partnering with existing anchor institutions to expand their footprint in the state.

Business, financial, and professional services

Where Kentucky is today

Kentucky's major cities – including Louisville, Lexington, and Covington – fuel its business, financial, and professional services, and related industries, including headquarters, accounting, human relations consulting, and information technologies. Multiple Fortune 1000s are headquartered in Kentucky, including Humana, Yum! Brands, Texas Roadhouse, Brown-Forman Corporation, and Churchill Downs – based in Louisville – and Tempur Sealy International – based in Lexington.

Earned right to win

- **Share of total employment in KY:** 6.6 percent of total employment as of 2022, equivalent to 136,400 jobs, the highest volume among priority sectors.¹⁰⁴
- **KY patents:** 440 patents generated from 2016 to 2021.¹⁰⁵

Opportunities to win

- **U.S. projected employment growth:** 2.1 percent projected growth from 2022 to 2027 nationally, equivalent to 1.7 million new jobs nationwide, the highest volume among priority sectors.¹⁰⁶
- **KY average yearly wage:** \$87,900 average yearly wage, nearly \$33,000 above Kentucky's average of \$54,900.¹⁰⁷
- **Total U.S. VC investment:** \$170.6 billion in national VC investment from 2017 to 2022.¹⁰⁸

Recent success story: SOAR's Eastern Kentucky Remote Worker Attraction Program

Cities and regions across Kentucky have had continued success with bringing out-of-state residents and companies into their communities, by using incentives to draw remote employees and companies. These strategies can be tailored and replicated to focus on business services and technology sectors specifically.

Through a series of coordinated programs, Eastern Kentucky invites entrepreneurs and business owners to bring their companies to the Bluegrass State. By attracting talent outside of Kentucky with the promise of enhanced quality of life, remote work opportunities, and a series of resources and incentives, Eastern Kentucky follows a creative approach to workforce development by connecting companies and talent together. Eastern Kentucky Remote has received over 4,000 applications from out-of-state talent interested in relocation to the region. The presence of Eastern Kentucky-supported businesses adds to the diversity of business offerings in the region.

The Eastern Kentucky program introduced new companies to the state, including the communications manufacturer Rajant. Rajant is expanding in Morehead and recruiting graduates from Morehead State's Space Science Center program.¹⁰⁹

How the sector is evolving

- **Services are digitizing rapidly:** Companies are investing record amounts in the digitization of their business' front ends (for customers) and back ends (for internal operations). These trends are expected to accelerate with the introduction of Generative AI tools and solutions, which are already enabling automation of tasks that require greater cognitive skills.¹¹⁰
- **Companies are more open to change:** The COVID-19 pandemic forced many companies to act fast in the face of change and commit to action. In some situations, the adoption of new technologies and ways of working have been accelerated from over a year before COVID-19 to less than a month today.¹¹¹
- **Start-ups are innovating in this sector:** The financial services industry in particular has been profoundly reshaped by the rise and valuation of FinTech start-ups.¹¹²
- **Automation is increasing demand for specialized skills:** Automation and self-service processes reduce the need to complete simple, transactional tasks, but increase demand for specialized skills, with companies rethinking their approach to staffing towards flexible models.¹¹³
- **Employees are adopting hybrid or remote working models:** Post the COVID-19 pandemic, economies with a higher concentration of workers in the professional services, information technology, and finance industries have lower average rates of office attendance.¹¹⁴

What it could take for Kentucky to win

While the business services landscape is rapidly changing, it will continue to represent a significant portion of jobs, both nationally and regionally.

Opportunities for economic developers to ensure Kentucky captures its fair share of tomorrow's jobs include:

- **Enhance and create new rural remote work opportunities in priority regions**

Kentucky's economic developers could work to implement strategic workforce initiatives aimed at drawing remote workers and employers. This could build upon recent amendments to the Kentucky Business Investment (KBI) program, whereby, under certain conditions, companies that create remote jobs in Kentucky may now qualify for KBI incentives. Additional efforts could prioritize attracting out-of-state professionals to rural remote opportunities, including through job matching programs.. These could mirror successful models such as the Tulsa Remote Work Program with its incentives, support, and affordable living to foster community engagement and growth.¹¹⁵ Promoting rural remote work-friendly communities requires high-speed broadband availability and coordinated workforce, quality-of-life, and placemaking efforts in both urban and rural areas. Pockets of rural Kentucky, including both East and West, with strong high-speed internet infrastructure hold promise as potential locations to attract remote workers seeking a more rural lifestyle.

- **Consider creating incentives for rural remote worker job creation**

Programs such as Utah's Rural Employment Development Initiative – which provides grants for companies creating new high-paying jobs in qualified rural communities, either remotely, online, in a satellite hub/office space, or physically located – could serve as inspiration for the development of new incentives for employers to create new positions in rural counties.¹¹⁶ Such efforts could increase tax revenues and improve the economic health in these areas.

- **Consider expanding incentives for non-capital-intensive sectors**

Kentucky has the potential to expand opportunities for non-capital-intensive sectors, such as business, financial, and professional services. Incentives that support the retention, expansion, and attraction of non-capital-intensive sectors could help differentiate Kentucky, including those that target headquarter attraction.

- **Encourage partnerships to develop talent pipelines, including recruitment, community benefits, and on-boarding programs**

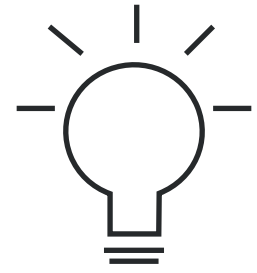
Partnerships between businesses and educational institutions are important for early talent development into business services. They can help ensuring consistency between the workforce pipeline and the labor market. Other partnerships that could strengthen the pipeline include collaborating with business schools for diverse talent attraction, research institutions that drive innovations for existing and adjacent industries, and communities willing to retain young talent in the area. In 2021, Brookings and Louisville Metro Government also developed a strategic roadmap for making it a stronger and more equitable city for AI and data jobs.¹¹⁷

- **Work with anchor employers to support the broader ecosystem**

Humana provides an example of how anchor employers can bolster the business services ecosystem through partnerships with higher education institutions. Its partnership with the University of Louisville focuses on upskilling and reskilling underserved community members and providing a talent pipeline for Louisville's significant concentration of major healthcare companies.



Priority sector 5. Investing in high-potential opportunities



Kentucky has a number of smaller, regionally focused sectors with high potential for growth and further development. While employment in these sectors is small today, they offer potential opportunities for future growth given their high-wage potential, and attractiveness to out-of-state investment, including from venture capital firms. Based on current levels of development, the sectors identified to have the highest potential for Kentucky include aerospace, agritech, and life sciences.

Goal

Make intelligent moves to cultivate industry clusters in currently small, but high-growth and high-potential opportunities in aerospace, agritech, and life sciences through targeted local strategies that bring together private companies, research and academic institutions, and commercialization assets.



Aerospace

Where Kentucky is today

Kentucky plays an important role in national aerospace manufacturing and aviation safety. While the sector's employment footprint is small, Kentucky is home to many leaders in commercial- and defense-related aerospace, including Raytheon, Lockheed Martin, and GE Aviation. Manufacturing and innovation in aerospace are bolstered by multiple military bases in Kentucky, for example, the helicopter training facility at Fort Campbell.

Earned right to win

- **KY exports:** \$64.9 billion in exports from 2017 to 2022, the largest volume among priority sectors.*¹¹⁸
- **Projected employment growth in KY relative to U.S.:** 4.6 percentage points higher projected employment growth rate than U.S. average from 2022 to 2027, the largest percentage point increase among priority sectors.¹¹⁹

Opportunities to win

- **KY average yearly wage:** \$81,100 average yearly wage, nearly \$26,000 above Kentucky's average of \$54,900.¹²⁰
- **Employment multiplier:** 2.2 additional indirect jobs are created for every new job.¹²¹

Recent success story: Morehead State University NASA Space Grant

Federal and private funding in higher education is fueling advancements in Kentucky's aerospace industry. Morehead State University (MSU) is one of 31 Kentucky affiliates associated with the NASA Kentucky Space Grant Consortium (KSGC). KSGC supports student fellowships and internships, research projects, and workforce development in STEM areas of interest to NASA and Kentucky. The National Space Grant College & Fellowship Program promotes networking cooperation among education, industry, and government at the local, state, and federal levels.

Through this program, Morehead State University has built a leading Space Systems Engineering Program supported by its Space Science Center. It has moved to the forefront of the field with several space exploration projects, including the launch of five NASA-funded satellites. MSU has also partnered with companies such as Honeywell, Radiance Technologies, and I-Space and supported European-US projects with the European Space Agency. KSGC has brought funding and expertise to MSU to bolster Kentucky's aerospace capabilities.¹²²

How the sector is evolving

- **New types of air mobility are disrupting the industry:** Technological advancements have led to the rise of emerging markets such as space, supersonics/hypersonics, and advanced air mobility (AAM) – new technologies being applied to aviation transport. The future air mobility industry now has a record amount of planned aircraft, representing an estimated \$111 billion in sales.¹²³
- **Automotive manufacturers are investing in aerospace-related mobility:** Automotive and EV manufacturers are investing future mobility industries – for example, Hyundai established Supernal in 2021 to enter the AAM market. As a result, regional airports may become potential hubs for AAM development and deployment.¹²⁴

*Note: Includes aerospace parts not manufactured in Kentucky that are repackaged and shipped out of Kentucky from the GE Erlanger Parts Warehouse at the Cincinnati/Northern Kentucky Airport

- **Supply chain vulnerabilities are accelerating reshoring:** Although the demand of aircraft production is rebounding, supply chain risk is now a critical issue for the aerospace industry given geopolitical disruptions and long-term underinvestment in infrastructure. Players must now consider methodological approaches to scaling production and how to mitigate future risk and disruptions.¹²⁵
- **Manufacturers are adopting sustainable practices, including fuel types:** While the aerospace industry is one of the most challenging to decarbonize, the industry is moving towards using sustainable aviation fuels at scale and new propulsion technologies such as electric, hydrogen, and hybrid.¹²⁶
- **Demand for highly skilled STEM talent continues to grow:** As technology, automation, and digitization become increasingly important priorities, the aerospace industry has a greater demand for a workforce with more advanced technology skills, such as software and systems engineering, that keep up with shifting industry needs.¹²⁷

AgriTech

Where Kentucky is today

Agriculture has historically been a foundation of Kentucky's economy. There are over 73,000 farms in the state, spread across 13 million acres (equivalent to nearly 50 percent of the state's total acreage).¹²⁸ Kentucky's burgeoning agritech industry has been propelled by research universities, such as University of Kentucky's Martin-Gatton College of Agriculture, Food, and Environment. Further growth in the industry can develop technologies that directly benefit farms, equine businesses, and agribusinesses in Kentucky, as explained by the *Lexington/Bluegrass Food & Ag Tech Development Strategy*.¹²⁹

Earned right to win

- **Employment specialization:** 1.4 location quotient as of 2022.¹³⁰
- **KY share of U.S. VC investment:** 1.3 percent of total U.S. VC investment between 2017 and 2022, the highest share among priority sectors.¹³¹

Opportunities to win

- **U.S. projected employment growth:** 1.7 percent projected growth from 2022 to 2027 nationally.¹³²
- **Employment multiplier:** 1.8 additional indirect jobs are created for every new job.¹³³

Recent success story: Bluegrass AgTech

Bluegrass AgTech was developed through a partnership among the City of Lexington, the Kentucky Department of Agriculture, the University of Kentucky Martin-Gatton College of Agriculture, Food and Environment, and Alltech, one of the world's top five animal health and nutrition companies.

The goal of this initiative is to connect agricultural innovators and entrepreneurs with both public and private funding to transform Kentucky into a leader in high-tech innovation in agriculture in the United States. Current focus areas include sustainable food systems, solutions for mid-size farming, and animal proteins. This initiative seeks to grow new agri-food and agri-business companies, attract good jobs, and unlock a more affordable, nutritious food for Kentucky and beyond.¹³⁴

How the sector is evolving

- **Farmers are increasingly relying on technology:** 61% of farmers in North America are currently using or planning to use technological equipment for farming in the next two years.¹³⁵ Robots and sensors are playing an increasingly important role in daily farming operations, including the use of precision agriculture – where crop yields can be optimized through highly digital crop management systems.¹³⁶
- **Indoor, vertical farming is growing:** To reduce water usage and improve energy use, farmers are adopting indoor farming systems, otherwise known as controlled environment agriculture (CEA).¹³⁷
- **Drones reduce labor intensiveness of farming:** Drones are being used for to support various analyses (e.g., soil quality, crop health), as well as to help with planting, crop spraying, and irrigation.¹³⁸
- **Urgency to produce more food with fewer resources is building:** As disruptions from climate- and plant-related epidemics increase in frequency and intensity, the competition to develop more resilient crop types also intensifies.¹³⁹
- **Consumers preferences are changing:** Consumers have higher willingness to pay for non-packaged foods, including health-oriented offerings (e.g., probiotics) or alternative proteins.¹⁴⁰

Life sciences

Where Kentucky is today

Kentucky is home to a growing biomanufacturing cluster, including large pharmaceutical corporations, start-ups, and contract research organizations. These provide a foundation for a clinical trial and logistical sector for major pharmaceutical brands. State and local governments are also partnering with companies to strengthen the infrastructure needed to support life sciences organizations' growth as well as attract new companies to Kentucky.

Earned right to win

- **KY R&D spend:** \$498 million in academic R&D spend in 2020, the highest amount priority sectors.¹⁴¹
- **Projected employment growth in KY relative to U.S.:** 1.4 percentage points higher projected employment growth rate than U.S. average from 2022 to 2027, the second highest rate among priority sectors.¹⁴²

Opportunities to win

- **KY average yearly wage:** \$96,000 average yearly wage, which is approximately \$41,000 above Kentucky's average wage of \$54,900.¹⁴³
- **Employment multiplier:** 2.2 additional indirect jobs are created for every new job.¹⁴⁴
- **Total U.S. VC investment:** \$272.6 billion in national VC investment from 2017 to 2022, the highest amount among priority sectors.¹⁴⁵

Recent success story: A hub for Life Sciences in Northern Kentucky

In 2023, the Kentucky General Assembly passed a budget that included \$15 million for the City of Covington to help fund the Life Sciences Lab. Kentucky-based companies came together to launch this initiative to develop more space to support the growing life science ecosystem. \$12 million will be used to purchase a 99-year lease at the OneNKY Center, a facility that broke ground at the end of August 2023. The other \$3 million support building out and equipping a 15,000-square-foot lab.

Bexion Pharmaceuticals, Gravity Diagnostics, and CTI Clinical Trial will be the initial tenants using the Life Sciences Lab. Officials plan for the space to provide other start-up companies a space to incubate their ideas with resources at a reduced cost. With many growing life sciences organizations under one roof, the expectation is these companies may collaborate on projects together. Construction on the facility is expected to be completed for an April 2025 opening.¹⁴⁶

How the sector is evolving

- **There are record levels amount of available funding, driving innovation:** Funding along the life sciences value chain quadrupled during the pandemic and is now at twice its historical base.¹⁴⁷
- **Companies are rapidly innovating new drug types:** New drugs are being approved to go to market within months, versus years, accelerating the timeline for drug delivery.¹⁴⁸
- **Faster delivery timelines are creating bottlenecks for manufacturers:** Biomanufacturers are seeking to build and scale facilities, launch commercial products from clinical sites, and reskill labor to keep up with the pace of innovation.¹⁴⁹

- **Disease focus areas are shifting:** Research and development funding is increasingly focusing on less common disease types.¹⁵⁰
- **New biotechnology hubs are forming across the United States:** Eleven of the 31 Phase I Tech Hub designees are focused on biotechnology, including numerous focused on biomanufacturing and medical device manufacturing.¹⁵¹

What it could take for Kentucky to win

The playbook to develop high-growth opportunities requires participation from the innovation ecosystem, including anchor employers and institutions, economic developers, workforce developers, and higher education institutions. See Priority enabler 3 for more details on how Kentucky can spur innovation and entrepreneurship.

Opportunities for economic developers to cultivate high-growth and high-potential opportunities in Kentucky include:

- **Work with local anchor institutions to support targeted regional growth**

Anchor institutions play an important role in cultivating and investing in innovation. Beyond local employers, each high-potential opportunity has its own unique set of potential anchor institutions – for example, existing manufacturers as well as military bases such as Fort Knox and Fort Campbell for aerospace, established agribusinesses for agritech, and research universities and healthcare companies for life sciences. Kentucky’s economic developers could work with and convene these anchors around a core set of goals to support industry expansion and innovation in regions that with a relatively high concentration of jobs and expertise.

- **Expand and build partnerships in target sectors**

Industry alliances and partnerships across public sector, private sector, and higher education stakeholders play an important role in nurturing small, high-growth sectors. There are already a number of alliances committed to the expansion of potential future growth sectors (e.g., the Commonwealth of Kentucky Aerospace Industry Consortium, the Bluegrass AgTech Development Corp., and the Kentucky Life Sciences Council). Kentucky’s economic developers could support these initiatives through collaboration to explore potential additional funding and programmatic support.

- **Scale targeted talent development programs**

Further growth of high-potential opportunities could be catalyzed by strong, local talent pipelines with expertise in manufacturing as well as R&D. Kentucky’s economic developers could partner with workforce providers to identify and foster talent development initiatives – such as Eastern Kentucky’s aviation degree programs and University of Kentucky’s Agriculture and Medical Biotechnology degree programs – and then focus on retaining talent by matching them with local employers.

Priority enablers

Why and how enabler priority action areas were identified

Economic development enablers are those critical factors or actions that facilitate economic growth and development both broadly and in specific sectors. Most simply, enablers create the necessary conditions for businesses and communities to thrive. In doing so, they help establish virtuous cycles of attracting talent and expanding employment that then leads to further investments and development in a community. In turn, this leads to further attraction to further attraction of businesses and talent. The presence and effectiveness of these enablers can influence the pace and sustainability of economic development especially during a time of structural transition like today.

Enablers are grouped into five overarching priorities to inform the Commonwealth's collaborative blueprint: competitive products, workforce, entrepreneurship and innovation, infrastructure, and placemaking.

Role of economic developers in priority enablers

KCED, KAED, hundreds of local economic developers, and their counterparts each play a collaborative role in marshalling these enablers. Economic developers are most directly responsible for shaping and executing competitive products, for example, by working with businesses to identify which incentive programs may best fit their needs. They will also be responsible for providing sector-specific insights and guidance to help inform other stakeholders as they design and deliver their own programs. For workforce, entrepreneurship, and innovation, economic developers can be important collaborators representing the voice of the private sector to stakeholders such as higher education institutions. For infrastructure and placemaking, economic developers can help inform investment priorities to best accelerate economic development statewide, regionally, and in their communities.

This section presents the five priority enablers that are foundational to Kentucky's future growth: competitive products, workforce, entrepreneurship and innovation, infrastructure, and placemaking.

The discussion of each priority enabler is divided into three main parts: the goal for the enabler, where Kentucky is today (i.e., an overview of the current state), and what it could take for Kentucky to win (i.e., the path forward for economic developers and their counterparts).



Priority enabler 1. Competitive products



Competitive products provide the centerpiece of today’s economic development activities. From the customer’s perspective of a business considering expansion or relocation, “competitive products” are the defining characteristics of a potential deal. These include the quality and availability of “shovel-ready” sites in some sectors, incentive packages, overall cost of doing business, workforce and talent environment, and ease of navigating regulatory and other processes. A wide portfolio of competitive products facilitates business retention, expansion, and attraction while providing a spectrum of support to ensure economic growth.

Goal

Invest to compete in strategic sectors by aligning incentives toolkit with priority sectors and developing a portfolio of sites with sector-specific attributes across all regions.

Where Kentucky is today

Kentucky offers a wide range of competitive products to enhance economic growth and job creation, including tax incentives, grant programs, and loan programs. These products help position the Commonwealth to compete as a destination of choice for businesses around the world and create a business environment where the cost of doing business is 4 percentage points below the national average.¹⁵²

Over the last five years, Kentucky has deployed incentives efficiently relative to its peers. The Commonwealth has consistently strong incentive performance across sectors. The breadth of Kentucky’s financial incentives is also competitive with other states, from workforce incentives (e.g., job creation and retention) to R&D incentives and small business support. For example, from 2017-2022, Kentucky ranked 6th nationally for number of deals, 9th nationally for size of capex invested, 11th nationally for total jobs created, and 12th nationally for size of incentives.¹⁵³ In turn, Kentucky ranked 5th nationally for size of incentives as a share of GDP and 4th nationally for new jobs created as a share of employment.¹⁵⁴ When compared to peers, Kentucky’s incentives are relatively efficient in terms of incentive dollar per capital expenditure invested and job (see Exhibit 11).

Exhibit 11. Kentucky's incentive efficiency compared to peers, 2017-2022

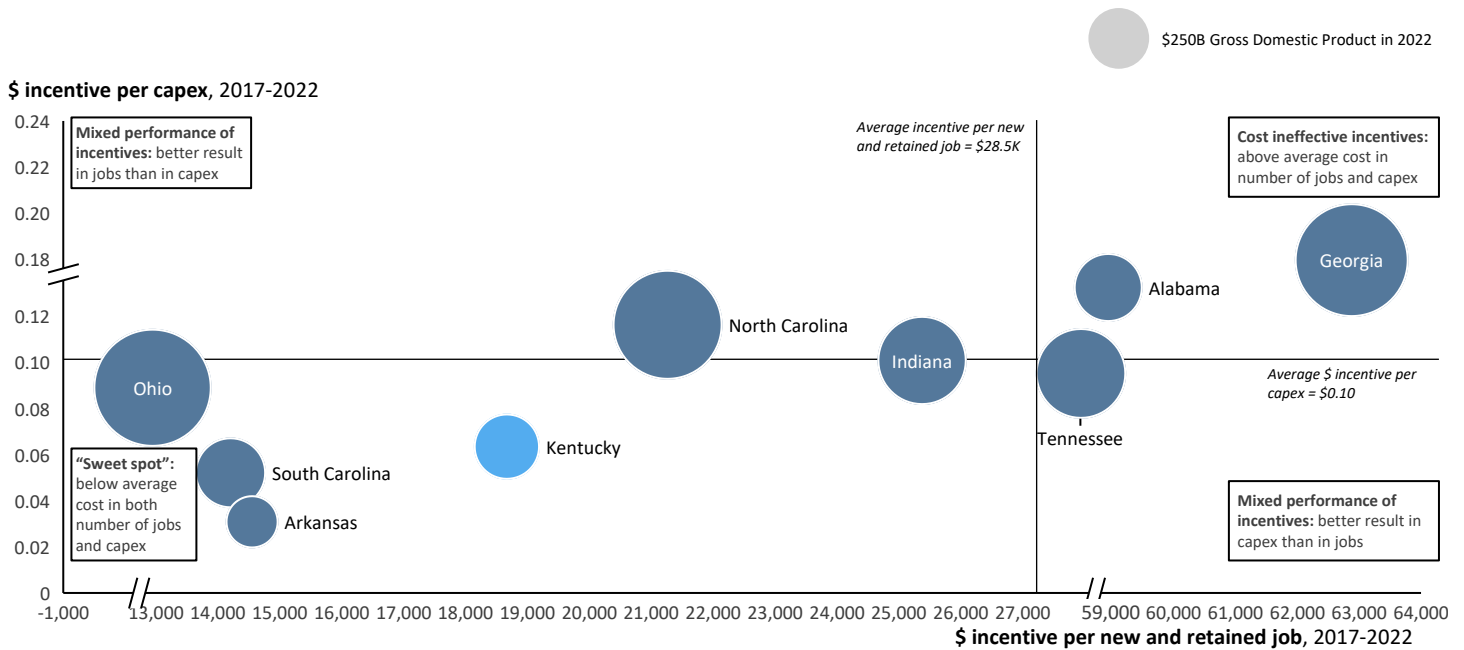


Exhibit data source: *Incentives Flow, a service from the Financial Times 2023. All Rights Reserved; Moody's Analytics*

Kentucky has a number of hallmark incentive programs to strengthen the local business climate, including:

- The Kentucky Business Incentive (KBI) program, focused on industry and job growth, provides income tax credits and wage assessments to new and existing businesses in key sectors and functions (e.g., agribusinesses, manufacturing companies, and renewable energy production).
- The Kentucky Reinvestment Act (KRA), focused on job retention, provides tax incentives to companies with equipment-related costs, offsetting equipment costs and ensuring high worker retention.
- The Kentucky Product Development Initiative (KPDI) provides \$100 million in statewide support to upgrade industrial sites and has played a pivotal role in supporting site development in urban and rural parts of the Commonwealth.

Kentucky Product Development Initiative (KPDI)

Local governments and economic development organizations may apply for KPDI funding assistance for transformative site and infrastructure improvement projects with the potential to accelerate economic development and job creation for Kentucky residents. Projects are reviewed and scored by an independent site consultant.

Funding is available through a competitive application process. Round 1 funding was calculated based on population. Round 2 has a maximum funding amount of \$2 million per county per project. Applicants are encouraged to submit regional projects, which allows multiple counties to combine the funding to increase the maximum funding for a single project.

As of October 2023, 46 site and building development projects statewide have been approved for over \$26 million in state funding through KPDI.¹⁵⁵

These incentive programs and support structures have helped attract hundreds of businesses to Kentucky, including foreign manufacturers. Cultivating FDI is a critical strength for the Commonwealth and brings significant opportunity. From 2017 to 2022, Kentucky captured \$18.5 billion in FDI, over half of all investment in the Commonwealth.¹⁵⁶ Japan and South Korea are the top countries for FDI in Kentucky, followed by European Union (notably Germany and France).¹⁵⁷ Kentucky also ranks 4th nationally for FDI jobs as a share of employment, with Japan and Germany contributing the largest share of jobs by foreign-owned affiliates.¹⁵⁸

There are potential gaps in Kentucky's portfolio of competitive products and overall services to businesses, however, as suggested by Kentucky ranking of 20th for business climate in the United States by *Site Selection* magazine in November 2023.¹⁵⁹ Kentucky is less competitive in some non-financial incentives, including customized workforce training programs offered by states such as Georgia, Missouri, North Carolina, South Carolina, Tennessee, and Virginia. Stakeholders engaged throughout the process highlighted these gaps: only 17 percent of survey respondents strongly agree that "The Commonwealth has a robust set of incentives that are attractive to businesses that are interested in expanding in or relocating to the Commonwealth," including only 12 percent of respondents representing businesses.¹⁶⁰

What it could take for Kentucky to win

Opportunities for economic developers to develop a competitive product portfolio and stimulate regional growth as well as priority sectors include:

- **Invest in a portfolio of strategically located, shovel-ready mega-sites and/or regional hubs across Kentucky**

Kentucky could prioritize building a portfolio of shovel-ready sites across priority sectors, geographic regions, and population centers. Statewide economic development leaders, like KCED, could set goals and clear parameters for the site portfolio, including total number of sites, representation across geography, and representation across sectors. Statewide and local leaders can then work together to identify and prioritize geographically strategic sites for priority sectors. Proactively developing sites to be "industry ready" could enable Kentucky to compete for deals in priority sectors, especially automotive/EV and manufacturing. By following a portfolio approach, Kentucky could strategically determine best use for each site across sectors versus just using a ready site for the "next available" deal.

- **Align incentive business attraction toolkit with sector needs and best-in-class practices**

Neighboring and nearby states are already seizing opportunities to enhance their product portfolios for business attraction. For example, multiple states have created closing funds to win highly competitive deals, including in the EV industry. States have also launched programs to support businesses pre- and post-investment such as Georgia's QuickStart program which provides customized workforce training for companies.¹⁶¹ KCED and the economic developer community could work explore and promote options to improve their toolkit of offerings for workforce- and site development-related incentives.

- **Refine and expand business retention and expansion toolkit**

By conducting proactive outreach to identify needs and gaps across its current employers, KCED could work with stakeholders to refine Kentucky's competitive product toolkit to better support businesses already investing locally and choosing to remain in the Commonwealth. For example, incentives focused on job retention or facility retooling could encourage an anchor employer to remain in Kentucky. Low-interest loan offerings could also help existing companies with expansion-related investments while also creating revolving revenue opportunities for the state. For example, the JobsOhio Growth Fund Loan or the 166 Direct Loan, are examples of how states support growth through low-interest loans.¹⁶²

- **Deepen relationships with countries to attract FDI to priority sectors**

FDI is a critical source of economic development. KCED already has multiple initiatives to capture FDI opportunities, including foreign offices in Japan and Germany. To further cultivate FDI, KCED could deepen its fact base of priority source countries (e.g., by assessing which countries are the top source countries for FDI nationally in priority sectors, by comparing export outflows with FDI inflows from countries) and develop a targeted relationship strategy. There are multiple approaches that could be used to deepen relationships with priority countries, including attending conferences (e.g., the Consumer Electronics Show), establishing relationships through US-based trade offices from high-priority countries (e.g., Taiwan External Trade Development Council offices in Dallas, New York, San Francisco, Chicago, and Los Angeles), more proactive outreach to existing foreign businesses to explore new growth and/or supply chain opportunities, and lastly, expanding overseas KCED presence.

- **Incorporate greater flexibility in grant and incentive programs to match local needs**

Kentucky's 120 counties have diverse resources, capabilities, and needs. Greater flexibility in how grant and incentive programs are structured (e.g., matching requirements) can help more local economic developers benefit from the great tools offered in the Commonwealth. For example, Kentucky could consider sliding match requirements for certain counties to obtain state funding, or a lower eligibility criterion for jobs created for businesses in specific areas to obtain state incentives. KAED could play an active role in understanding these different capabilities and conveying them to statewide leaders. Stakeholders highlighted the importance of greater incentives flexibility to account for local circumstances. For instance, some celebrated the role KPDI played in local capability building but expressed concerns local economic development agencies do not always have available funding to meet KPDI matching requirements.

- **Work with local communities to strengthen incentive toolkits**

KCED and KAED could help ensure local communities have a robust understanding of the Commonwealth's incentive toolkit, including by proactively educating and updating local elected officials and economic developers about specific details of each incentive program. KCED and KAED could also collaboratively develop new tools to help local communities respond more quickly to proposals and track potential business opportunities.

Priority enabler 2. Workforce



Talent is the human capital fuel for economic growth. A skilled, adaptive workforce attracts business, sparks innovation, and enhances productivity within priority sectors as well as the broader economy. Economic developers could collaborate with a broad range of stakeholders, including employers, higher education institutions, public sector officials, and community organizations, to develop the talent pipelines that help Kentucky compete in priority sectors.

Goal

Partner to develop, energize, and support the workforce of the future by bringing employers “to the table” and working closely with workforce partners to set strategic priorities for talent development through innovation and streamlining of workforce programming.

Where Kentucky is today

Kentucky’s talent base, supported by an extensive network of higher education institutions and workforce development organizations, fuels its economic development activities. Stakeholders engaged throughout this process acknowledged the importance of talent in Kentucky’s economic successes. Approximately two-thirds of survey respondents agreed that “Talent & human capital is a core strength in the Commonwealth’s ability to attract, expand, and retain businesses.”¹⁶³ Kentucky has many critical assets to develop its talent base, including a competitive network of higher education institutions (such as two R1 institutions, the University of Louisville and the University of Kentucky, and dozens of community and technical colleges) and programs designed to support employers and workers (e.g., Kentucky Federation for Advanced Manufacturing Education, Everybody Counts, Digital Skills for Equitable Outcomes, Kentucky Chamber Foundation, Kentuckiana Works, Workforce Center Online Matching Tool, and Second Chance Academy).

Kentucky Federation for Advanced Manufacturing Education

The Kentucky Federation for Advanced Manufacturing Education (KY FAME) is a partnership of regional manufacturers to implement career pathways and apprenticeship-style educational programs to create a pipeline of highly skilled workers. Students split time between classes and working with a local sponsor’s manufacturing facility, thereby earning a competitive wage while learning new skills.

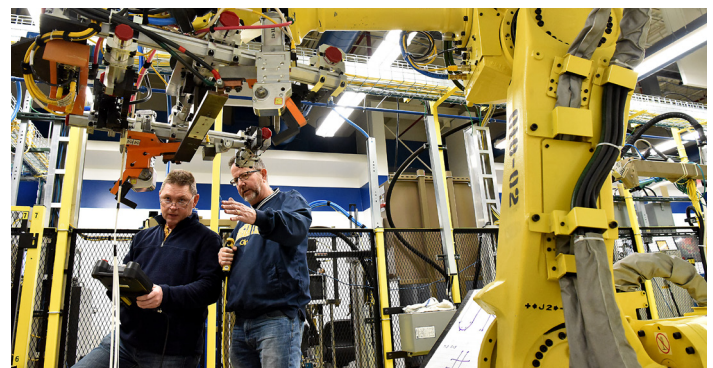
Regional FAME chapters operated by local community colleges connect manufacturers with high-achieving high school students and veterans to ensure an ongoing supply of well-trained employees remains available to local employers. KY FAME’s manufacturing partners include Toyota, Xerox, the Buffalo Trace Distillery, Fluor, Span-on, Georgia-Pacific, Brown Precision, and 3M.¹⁶⁴

Kentucky Community and Technical College System

Kentucky Community and Technical College System (KCTCS) through its provider Workforce Solutions has worked with nearly 1,200 companies to train new and incumbent employees through customized talent development programs, with almost 19,000 business training enrollments from 2022 to 2023. The top sector impacts have been in manufacturing, logistics, and business services, as well as healthcare.¹⁶⁵

Kentucky’s Council on Postsecondary Education has responded to evolving demands from industry. For example, its Statewide Strategic Agenda for Kentucky Postsecondary Education for 2022-2030 highlights the importance of employer partnerships to increase the relevance of academic programs.¹⁶⁶ Community and technical colleges likewise have adapted to create new degree and certificate programs to help Kentuckians prepare for new opportunities. The two-year Advanced Manufacturing Technology program at Bluegrass Community and Technical College that can lead to a job or a bachelor’s degree is one such example.

“ The community technical college system is the best kept secret”
– Focus group participant



However, Kentucky also faces several workforce-related headwinds that could inhibit future competitiveness. These include lower education attainment compared to the U.S. average (30.8 percent of Kentuckians have a bachelor's degree or higher versus 34.1 percent nationally as of 2022),¹⁶⁷ barriers towards student retention (less than half of Kentucky's graduates with a bachelor's degree or higher remain in the state after graduating as of 2023),¹⁶⁸ and lower rates of apprenticeship opportunities (Kentucky ranks 26th nationally for apprenticeship program participants as of 2022).¹⁶⁹ Some Kentuckians face structural barriers to entering the workforce such as lack of affordable childcare, inability to find work, and ill-health and physical disabilities. While all parts of Kentucky have opportunities to strengthen the local workforce, the scale and root causes of workforce-related challenges vary by region. For example, labor force participation in the East Kentucky region is 42.8 percent as of 2022, nearly 15 percentage points below the Commonwealth average.¹⁷⁰

When discussing such workforce headwinds, stakeholders repeatedly cited the need for greater collaboration between economic developers and workforce providers. Focus group participants also echoed this point from the perspective of workforce developers. As one participant explained, "When we get a call from an employer, we don't know where to send them to get them workforce solutions."

“ **An end-to-end solution would set Kentucky apart – and we can do that. We're all willing**” – Focus group participant

What it could take for Kentucky to win

Kentucky's economic developers could be a critical link between workforce developers and employers. They play an outsized role in influencing workforce development, ensuring that programming and investments match to the evolving needs of Kentucky's employers. Most importantly, economic developers could work with businesses to identify trusted workforce partners, which vary by geography and capability.

Opportunities for economic developers to partner to develop, energize, and support the workforce of the future include:

- **Collaborate to set workforce priorities and widely communicate goals, and define roles between economic developers and workforce leaders**

Stakeholder conversations emphasized the importance of clearly communicated and aligned priorities for the workforce system. Statewide and local leaders, led by KCED and KAED, could work closely with key partners, including the Education and Labor Cabinet, R1 academic institutions, KCTCS, and the Council on Postsecondary Education, to inform these priorities. These efforts could include identifying occupations aligned to priority sectors and/or foundational skills that are common across priority sectors. These priority occupations and skills could then inform higher education and training programs. Local economic developers could work closely with their local workforce partners to develop additional tailored programming to other sectors important to the local economy (e.g., the film industry, healthcare, or the food services industry). Such an approach could build upon or scale existing efforts like FAME.

- **Help streamline and codify workforce programming**

Kentucky has a range of workforce programs and incentives to help Kentuckians access and learn skills in demand by employers. However, stakeholders in interviews and focus groups highlighted the existing programming is often hard to understand and navigate for both employers and job seekers. Furthermore, some programs overlap in their objectives. KCED could work with its state workforce partners (e.g., Education and Labor Cabinet, KCTCS) to develop resources to catalogue available resources and offer suggestions to harmonize or streamline programming wherever possible.

After identifying priorities, where needed, KCED and KAED could help design tools (e.g., publicly sharable catalogs of workforce resources by priority sector) to ensure all Kentuckians have access to training information and employment opportunities. KCED with its partners could also consider identifying funding sources for reskilling and upskilling grants tailored to priority sectors. For example, Virginia’s FastForward program covers up to two thirds of the cost for industry certification and occupational license training programs for in-demand occupations.¹⁷¹ Kentucky could explore comparable approaches.

- **Better integrate the private sector into workforce development activities**

KCED and KAED could further integrate the private sector into workforce development activities to represent and help meet private sector workforce needs. For example, KCED and KAED could represent private sector workforce requirements to decision-makers among higher education training providers (e.g., four-year and two-year institutions) and workforce developers. Similarly, they could help accelerate matchmaking initiatives between employers and graduates from local institutions to ensure local talent pipelines are better synchronized with local employment opportunities.

Kentucky’s economic developers could encourage anchor businesses to support workforce development programs as well. Private sector support has developed such partnerships (e.g., a partnership with Toyota, University of Kentucky, and Bluegrass Community and Technical College) and promoted the adoption of skills-based hiring as part of its track record of investing in local talent development in Kentucky.

- **Work with workforce developers to make Kentucky students “post-high school ready”**

Kentucky’s economic developers could work with workforce providers to align better the higher education system with employer needs. For instance, degree programs and technical education pathways could be in line with sector priorities and job requirements. At the same time, economic developers could also help build awareness and support for programs that expose middle and high school Kentuckians to job opportunities in priority sectors. Innovative work-study programs involving internships, apprenticeships, and other models can help engage high school students with employers to build job-ready skills and awareness of career opportunities in priority sectors before their graduation.

Additional ideas from regional focus groups

- **Diversity-focused talent attraction:** Build recruitment plan to fill workforce gaps (e.g., in engineering)
- **State-led workforce development programs:** Replicate wins from FAME into other industries
- **Scaled micro-credentialing programs:** Expand Career and Technical Education (CTE) micro-credentialing
- **Targeted upskilling into priority sectors:** Collaborate with workforce developers to create upskilling pipelines into priority sectors (e.g., upskilling former coal miners to work in aerospace)

Priority enabler 3. Entrepreneurism and innovation



Entrepreneurism and innovation are by-products of “ecosystems” with robust business growth and concerted efforts by a wide variety of stakeholders, including investor networks providing capital and mentorship, incubators providing business resources, and research laboratories generating ideas that could potentially lead to commercial products and services. With industries and the nature of work in transition, greater innovation is important across all priority sectors ranging from automotive and manufacturing to smaller, high-growth niches such as aerospace, agritech, and life sciences.

Goal

Catalyze ecosystems to build Kentucky’s reputation as a “make and ideate,” “launch-ready” state by nurturing home-grown growth, cultivating entrepreneurial niches, and being a landing pad for domestic and global start-ups and capital.

Where Kentucky is today

Entrepreneurship in Kentucky has emerged as an important contributor to economic growth and innovation. The state fosters an environment for entrepreneurs and small businesses through various initiatives and support structures, such as the KY Innovation Hubs including Amplify Louisville, Awesome Inc, Blue North, CREATE, GroWest, WKU Innovation Campus and SOAR Innovation. These initiatives and support structures are enabled by incentive programs (e.g., Angel Investment Tax Credit and the Kentucky Small Business Credit Initiative) and Kentucky legislation such as the Kentucky Innovation Act.

The Kentucky Innovation Act, a hallmark piece of legislation in Kentucky’s history, established the KY Innovation program – private-public partnerships that provide statewide infrastructure to support innovators and entrepreneurs throughout the Commonwealth. The KY Innovation was formalized into an office of the Cabinet in 2013. Today, state-led and private organizations, like Commonwealth Seed Capital (CSC), Kentucky Commercialization Ventures, Keyhorse Capital, and over 40 Kentucky business lending institutions, work with KY Innovation to provide funds for local entrepreneurs. The impact has been significant; for example, Keyhorse Capital has invested over \$45M in Kentucky companies,¹⁷² and as of 2021, CSC had made nearly \$25M in direct company investments.¹⁷³ This is on a similar scale to other public state venture firms; for example, Colorado’s Venture Authority invested \$24M in Colorado companies as of 2021.¹⁷⁴

Kentucky Commercialization Ventures

Established in 2020, Kentucky Commercialization Ventures (KCV) is a public-private partnership between the Kentucky Science and Technology Corporation, the Cabinet for Economic Development's KY Innovation, the University of Kentucky, the University of Louisville, and the Council on Postsecondary Education. KCV advances innovation and provides intellectual property resources for faculty and students at 22 designated universities and colleges.

In addition to providing hundreds of coaching sessions and trainings, KCV has already generated dozens of invention disclosures, overseen commercialization transactions, and assisted with filing intellectual property assets. The group also formed the Kentucky Intellectual Property Alliance, one of only five state organizations dedicated to promoting and supporting IP protection resources in Kentucky. KYIPA's board and membership are credited with advocating for the successful creation of an IP section of the Kentucky Bar Association.

In 2022, KCV launched its IMPACT competition to fund inventions from partners and a fellowship for students. KCV has been nationally recognized by the U.S. Small Business Administration for inclusive innovation and presented to the American Association of Law Schools on its legal clinic collaboration with Kentucky law schools.¹⁷⁵

Kentucky also received \$117 million in federal funding in 2023 that will expand access to capital for small businesses across the state – a historic investment in entrepreneurship, small business growth, and innovation.¹⁷⁶

From idea generation to start-up formation, Kentucky faces challenges and opportunities. For example, for R&D spend, Kentucky ranks 39th nationally for academic R&D spend as a percentage of GDP.¹⁷⁷ The scale of entrepreneurial and innovative activity is low. From 2017 to 2022, there were 223 Kentucky-based start-ups. This represented 0.4 percent of start-ups nationwide. Similarly, there were 495 Venture Capital (VC)-related deals, equivalent to 0.4 percent of total deals nationwide. And \$1.4B was invested by VC firms, equivalent to 0.1 percent of total VC investment nationwide.¹⁷⁸ Overall, Kentucky ranks 31st nationally for rate of new entrepreneurs and 26th for startup early survival rate.¹⁷⁹

These challenges resonated with stakeholders. For example, only 17 percent of survey respondents strongly agreed that “The ability to turn R&D generated from university and/or industry into private, commercialized ideas that are the foundation for new start-ups is a strength for the Commonwealth.”¹⁸⁰

What it could take for Kentucky to win

By building off local strengths while directly addressing gaps in resources and commercialization opportunities, Kentucky's economic developers can focus on a consistent approach to support local entrepreneurs and emerging businesses. Improving the business climate so that emerging businesses across sectors can mature and commercialize their products will be important.

Opportunities for economic developers to catalyze ecosystems that propel Kentucky's reputation as a "make and ideate," "launch-ready" state include:

- **Establish innovation as a Commonwealth priority**

It will take significant and sustained effort for Kentucky to emerge as a "make and ideate" state in priority sectors. While the private sector and higher education institutions will play a critical role, so too could public officials at all levels. Statewide and local economic developers could encourage state leaders and policymakers to explore ways to support entrepreneurs or help attract greater capital. For example, Maryland offers enhanced tax credits for biotechnology companies with fewer than 50 people.¹⁸¹ Similarly, the New Jersey Economic Development Authority has an Angel Match program which disburses Federal State Small Business Credit Initiative (SSBCI) funds to support investments in early-stage, product-based companies in target industries.¹⁸² Economic developers could also nurture Kentucky's brand as a destination of choice for entrepreneurs and innovators by investing in incentive programs to support innovation outcomes, tailored marketing campaigns, and encouraging established business leaders and entrepreneurs to mentor emerging entrepreneurs.

- **Work with higher education to align innovation support with sector priorities and community needs**

Translational research is a top priority for investors and backers of innovation, including the federal government. Kentucky's economic developers could work with decision-makers in innovation across the network of higher education institutions to ensure academic R&D spend is informed by market-backed research, considers commercialization gaps in priority sectors, directly addresses community needs (e.g., improved healthcare outcomes), and/or national investment community's appetite for ideas attractive to venture capital investment. Tactically, this could involve facilitating partnerships between industry and academia or directly providing input to higher education institutions on specific industry needs that could benefit from targeted research. In interviews, leaders at Kentucky's higher education institutions expressed the desire for a clearer understanding of Kentucky's economic development priorities (e.g., specific sectors for growth) to better orient research and related efforts toward these priorities.

- **Convene, recruit, and align investors around Commonwealth economic development goals**

Kentucky's economic developers could focus on convening investors to align upon economic development goals. Investors include private sector industry groups, VC firms, angel investing groups, and federal agencies. While the inflow of VC funding – both internal and external – into Kentucky is limited, Kentucky's economic developers could enhance access to capital for local entrepreneurs through targeted partnerships, building off recent momentum of organizations such as MI2 investing in local innovation (see recent success story on page 18). With the federal government serving as one of the largest investors in higher-education innovation and start-ups, Kentucky's economic developers could work with partners to help apply for federal funding to meet local goals, and also collaborate to ensure local firms are well versed on federal support opportunities.

For example, economic developers could connect local enterprises with the Kentucky APEX Accelerator and the Kentucky State Trade Expansion Program (KY STEP), which are provided at no cost to Kentucky small businesses by KY Innovation, the Small Business Administration, and the Department of Defense. These programs specialize in broadening markets for Kentucky companies by facilitating access to export opportunities for their products overseas and promoting them to government purchasers. Also, the statewide Small Business Development Center, offered by the University of Kentucky and Small Business Administration, specializes in coaching Kentucky businesses to attract small business lending capital.

- **Scale programs that help fill funding and opportunity gaps for entrepreneurs**

Multiple states have moved to fill funding gaps for entrepreneurs, including by creating state-backed venture capital firms. For example, Colorado's Venture Capital Authority partners with private funds that invest in seed and early-stage Colorado businesses.¹⁸³ The Missouri Technology Corporation similarly has invested over \$47 million in over 145 early-stage Missouri companies in priority technology sectors that have also raised over \$1.3 billion in private capital.¹⁸⁴

Each of Kentucky's state-backed venture capital programs have provided widespread investments in early-stage companies, and achieved a return on funds that is reinvested into future Kentucky startups. Each of these programs could be eligible for expansion in partnership and collaboration with federal, state, and/or local stakeholders. KCED could explore scaling these types of initiatives to help accelerate the growth of local innovative companies in priority sectors.

- **Help streamline processes for start-ups and small businesses in partnership with organizations and agencies**

While Kentucky already has several programs supporting small businesses (e.g., the SBA-funded Kentucky Small Business Development Center, Kentucky Science & Engineering Foundation, and the KY Innovation Hubs), economic developers could also proactively identify areas to further streamline product commercialization processes for entrepreneurs. For example, KAED and KCED could collect feedback from entrepreneurs and small businesses throughout the state to identify high-priority areas for improvement.

Priority enabler 4. Infrastructure



Physical infrastructure, such as roads, bridges, ports, and water systems, as well as communications infrastructure, such as broadband, provides the foundation for economic activities to thrive. Such infrastructure ensures seamless business operations, expedites the flow of goods, and helps link Kentucky enterprises to international markets.

Goal

Coordinate across Kentucky to accelerate growth by incorporating the voice of industry into infrastructure priorities and coordinating economic development activities with infrastructure investments

Where Kentucky is today

Kentucky's extensive infrastructure, notably its highly connected transportation networks (see Exhibit 12), is among the most important enablers for business retention, expansion, and attraction efforts. More than two thirds (68 percent) of survey respondents agreed or strongly agreed that "Physical infrastructure (e.g., roads, bridges, utilities, water, and wastewater) is a core strength in the Commonwealth's ability to attract, expand, and retain businesses."¹⁸⁵ Nationally, Kentucky is ranked 23rd for overall infrastructure quality, including 7th for quality of roads as of 2023.¹⁸⁶

The Kentucky Transportation Cabinet has multiple ongoing commitments to build upon these networks – which include interstates (I-65, I-24, I-64, I-71, and I-75), 2,640 miles of railroads, inland ports, and airports – to improve local and cross-state infrastructure. Striving to improve mobility and access across all modes of transportation, major ongoing infrastructure projects include the Brent Spence Bridge, I-69 Bridge, and Mountain Parkway expansion.

Mountain Parkway

Mountain Parkway expansion will improve accessibility between Eastern Kentucky and other parts of the state, closing the gap in a 400-mile, four lane high-speed corridor from Paducah to Pikeville. It is enhancing road safety, creating quality job opportunities, enhancing access to healthcare and educational opportunities across the state, and it is expected to be completed by 2027.¹⁸⁷

Exhibit 12. Kentucky's transportation networks

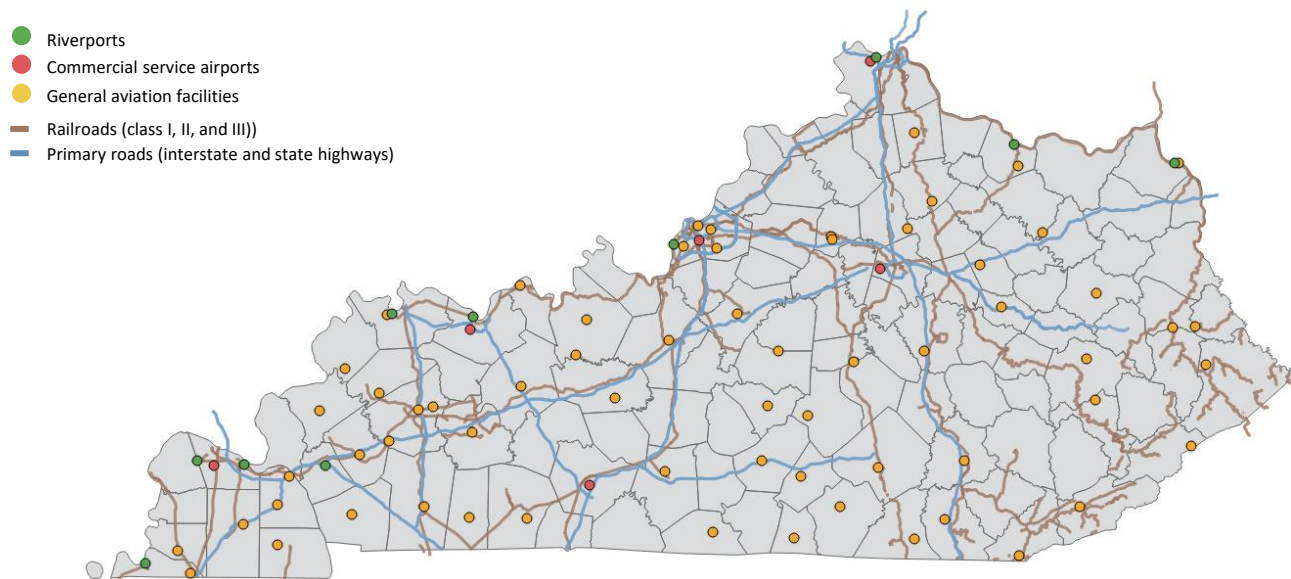


Exhibit data source: KYGovMaps Open Data Portal; Kentucky Riverports, Highway, and Rail Freight Study, Kentucky Transportation Cabinet; US Department of Homeland Security Homeland Infrastructure Foundation-Level Data (HIFLD)

Beyond transportation networks, Kentucky has multiple additional physical infrastructure assets, including extensive public water systems (over 400 throughout the state), strong wastewater infrastructure, and relatively low energy costs (ranked 18th nationally as of 2023).¹⁸⁸ The state is also investing in hydrogen and carbon capture research as well as supporting the diversification of its energy generation portfolio to help meet higher demand for electricity.

Kentucky's communications infrastructure is also relatively strong. For example, 60 percent of survey respondents also agreed or strongly agreed that "Communications infrastructure (e.g., broadband, phone lines) is a core strength in the Commonwealth's ability to attract, expand, and retain businesses."¹⁸⁹ 91.6 percent of households in Kentucky, by Census blocks, are served by high-speed internet.¹⁹⁰ The Kentucky Communications Network Authority (KCNA) oversees the state's unique KentuckyWired "open-access" broadband network. This 3,000+ mile "middle mile" network connects all counties, and is currently being extended to government buildings across the Commonwealth.¹⁹¹ Kentucky's Office of Broadband Development, established in 2022, is coordinating nearly \$1.1 billion in federal investment through the Broadband Equity, Access, and Deployment (BEAD) program to support digital equity goals.¹⁹²

However, numerous stakeholders, notably utilities experts, highlighted ongoing infrastructure-related challenges in the next five years. Disparities in the quality of physical and communications infrastructure are common across regions and within regions. For example, parts of Western and Eastern Kentucky have significantly higher commercial energy prices. Kentucky's energy mix also remains heavily dependent on coal, a potential area of competitive disadvantage for business attraction as more businesses move to decarbonize their manufacturing operations and supply chains. Utility providers noted it would be beneficial for local economic developers to build a deeper understanding of the utility landscape, especially when considering the pace of adding capacity to support new manufacturing sites.

What it could take for Kentucky to win

Given the myriad of institutions, regional divisions, and potential providers that each industrial site may have, Kentucky's economic developers could help link infrastructure stakeholders and businesses. They could help convey the cost and availability of infrastructure, communicate the local low-carbon energy offset offerings to the private sector, and coordinate negotiations and investments with potential utility providers.

Opportunities for economic developers to augment collaboration and strengthen capabilities across all infrastructure stakeholders include:

- **Create resources for economic developers to remain informed on infrastructure**

KCED and KAED could help local economic developers become better informed about the business models and capabilities of infrastructure stakeholders, including utility providers. For example, KCED and KAED could create and distribute tools, such as fact sheets, or host information sessions or “go see” visits to utilities to help Kentucky's economic developers understand better how electricity and other utility providers support business operations. In turn, Kentucky's economic developers could help set expectations with businesses expanding or building a new facility in the state.

- **Be the voice of industry to help inform infrastructure priorities**

Kentucky's economic developers could represent private sector needs, including those in priority sectors, to infrastructure stakeholders. Each company has a unique set of needs, such as specific transportation modes in/out of a site, use of water, wastewater treatment facilities, broadband speed, and energy requirements. By ensuring that infrastructure stakeholders are making investments that meet these needs, are tracking and sharing information, and coordinating with infrastructure stakeholders across the public and private sector, Kentucky's economic developers can ensure that investment directly supports business interests.

- **Support scaling of available infrastructure funding for priority sectors**

KCED and other state agencies could explore the potential to scale new or existing funding to support infrastructure tied to priority sectors. Such approaches could involve matching grant programs or direct investments to complete site development projects. Access to funding may be critical to enhancing the Commonwealth's infrastructure in a targeted manner, given high capital expenditures required to improve road quality, lay broadband fiber, and transition to low-carbon energy sources for energy generation.

Additional ideas from regional focus groups

- **Collaboration with local public sector leaders:** Convene local county judge executives and mayors to align on regional utility needs.
- **Coal transition advisory board:** Develop advisory board with coal advocates from across to KY help find smart ways to incorporate its workforce into renewable energy roles.
- **Tailored tools:** Build capacity for utility companies to track breakdown of load information on different energy sources, such as natural gas.

Priority enabler 5. Placemaking



Placemaking encompasses the broad range of activities to improve quality of life by expanding access to critical services and enhancing the aesthetic and functional dimensions of communities. Together these factors inform Kentucky’s attractiveness for current and future residents.

Goal

Synchronize community and business efforts to build welcoming, inclusive, and diverse communities and enhance quality of life by mobilizing local private and civic- leaders across all industries, including hospitality and tourism.

Where Kentucky is today

Kentucky has the 19th lowest cost of living in the U.S.¹⁹³ and has lower average costs for housing, food, childcare, and other necessities overall. Over half (56 percent) of survey respondents agreed or strongly agreed that “Quality of life/placemaking factors are a core strength of the Commonwealth and its ability to attract businesses and encourage economic growth.”¹⁹⁴

Ongoing public and private initiatives focused on placemaking include the Kentucky Main Street Program, which seeks to reverse economic decline in Kentucky’s downtowns through funding and community coordination, and the Community and Economic Development Initiative of Kentucky (CEDIK), a University of Kentucky program committed to community and economic development.

Kentucky Main Street Program

In 2022, participants in the Kentucky Main Street program reported \$47.8 million of investment in downtown commercial districts, representing \$16.2 million of private investment matched by \$29.2 million in public improvements. Over four decades, KYMS has documented over \$4.7 billion of public-private investment throughout the Commonwealth.¹⁹⁵

However, placemaking factors such as regional disparities of access to childcare, healthcare, and housing can hinder both business growth and community well-being. The need for more affordable housing and childcare were recurring themes in focus groups and also highlighted as among top priorities by survey participants.



For example, while Kentucky’s childcare costs ranked 4th nationally for affordability as of 2020,¹⁹⁶ a common theme in all regional focus groups was underdeveloped access to childcare. Approximately, 1.3 million Kentuckians live in areas with “childcare deserts”.¹⁹⁷ These are often in rural communities. Integrating childcare into local placemaking strategies can improve accessibility gaps for the workforce.

Similarly, for healthcare, while many of Kentucky’s hospitals are nationally recognized, and 96 percent of Kentucky’s population has access to a primary care physician, 48 percent of rural counties are situated beyond a 30-minute drive of a hospital with emergency room services (see Exhibit 13). 65 percent of rural counties is situated beyond a 30-minute drive of a hospital with labor or delivery units or maternity care services.¹⁹⁸

Exhibit 13. 30-minute drive time coverage to a hospital with emergency services,¹ 2023

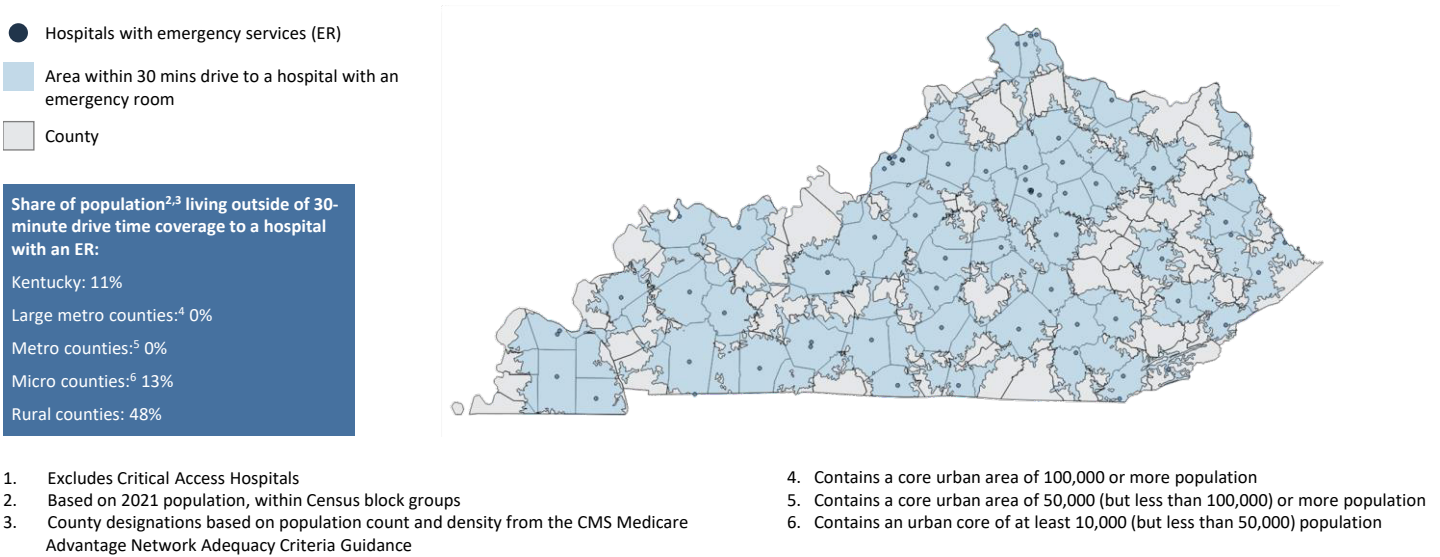


Exhibit data source: *Definitive Healthcare*, accessed 8/14/2023; *US Census American Community Survey, 2021 5-year estimates*

And for housing, while Kentucky ranked 7th nationally for cost of housing as of 2022,¹⁹⁹ there are significant regional disparities in both the cost of housing and the growth of housing costs. For example, the median sale price as of 2022 is highest in Kentucky’s urban cores (e.g., Jefferson County), but the growth in housing sale price per square footage from 2017 to 2022 was highest in McCracken, Grayson, Carter, and Lawrence counties.²⁰⁰ Kentucky also faces an estimated 75,000 affordable housing unit shortage as of 2021.²⁰¹

What it could take for Kentucky to win

As with other priority enablers, Kentucky’s economic developers could play a distinctive role of forging collaborations among placemaking stakeholders, businesses, and communities. They could help mobilize business and local community leaders around specific placemaking goals. They could also help those leading placemaking initiatives to target investments in ways to ensure broad-based benefit for communities following business expansion and attraction projects.

Opportunities for economic developers to coordinate community and business needs around enhanced quality of life include:

- **Help establish and/or scale local private sector, public sector, and civic efforts**

KCED, KAED, and the economic developer community could convene community development organizations to define a common agenda to guide investments and/or attract resources for local placemaking efforts. They could also support investment and building local capabilities. Such collaborations could involve convening CEO councils to align upon community priorities and support funding to close local childcare or healthcare gaps, or repurposing potential industrial sites for alternative uses such as increasing affordable housing supply.

- **Support the allocation of funding for local placemaking**

Economic developers could encourage placemaking grant competitions or community-led investments in specific areas. For example, economic developers could work with placemaking stakeholders to scale or replicate programs such as the Kentucky Heritage Council’s Main Street Program. They could also explore how to adapt to Kentucky lessons learned from other states’ economic development programs. One such example is Indiana’s Regional Economic Acceleration and Development Initiative, which involves an innovative \$500 million matching fund program to promote strategic investments in placemaking. Indiana’s program has already generated \$13 billion in matching investments.²⁰²

- **Integrate flexibility into incentives programs to support placemaking efforts**

KCED could consider more expansive definitions of “site development” in designing incentive programs. More flexible provisions to support counties and communities make investments in priority placemaking enablers, such as affordable housing and childcare, could accelerate rejuvenation of healthier communities. Other states are exploring such ideas. For instance, Arkansas has business incentive programs for companies to support early childhood education for children of working families.²⁰³

Additional ideas that came out of regional focus groups

- **Childcare campaigns:** Develop a public awareness campaign about the public childcare system.
- **Affordable housing campaigns:** Conduct housing studies at both the regional and county level to identify and map the latest affordable housing across Kentucky.
- **Talent recruitment:** Recruit healthcare professionals and essential services professionals (e.g., volunteer firefighters) to meet essential community needs.

Eastern Kentucky: Tailoring the collaborative blueprint to unique opportunities

This blueprint aims to help all parts of the Commonwealth benefit from future growth. While proposing ten shared priorities for Kentucky's economic developers, the approach also appreciates the need to tailor to unique local advantages and opportunities across the Commonwealth's regions and 120 counties. While rural areas across Kentucky share some commonalities, this planning effort was structured to explore more deeply specific complexities and opportunities of economic development in Eastern Kentucky.

The voices of economic development professionals, community members, and business leaders in Eastern Kentucky informed this blueprint through in-person focus groups in Pikeville and Morehead, tailored questions as part of the KCED/KAED joint surveys, and the problem solving with the dedicated East Kentucky Advisory Board.

These leaders emphasized the impact of the physical landscape, infrastructure, and current mix of sectors. Economic developers from Eastern Kentucky stressed, for example, how the mountainous landscape can hinder site development, especially on the Eastern border with Virginia and West Virginia. They also noted how limitations in basic infrastructure can hamper business attraction – whether distance from major interstate highways or challenged wastewater systems and energy costs.

Comparisons of quantitative measures from the Commonwealth overall to Eastern Kentucky for sector mix, economic growth, and outcomes, highlight nuance and complexity in considering the region's opportunities (see Exhibit 14).

When compared to the Commonwealth averages, Eastern Kentucky's overall economic performance differs significantly, whether the indicators are sector mix, GDP, and population trends, or other outcomes. Likewise, survey respondents and focus group discussions highlighted some differences from the rest of the Commonwealth. For instance, nearly 90% percent of Eastern Kentucky survey respondents identified tourism and hospitality among the top three future priority sectors for the region,²⁰⁴ a level of consistent agreement not seen elsewhere in the Commonwealth.



For the purposes of this blueprint, Eastern Kentucky was defined as the six Area Development Districts (ADDs) in the Northeastern and Southeastern parts of Kentucky: Gateway, Buffalo Trace, Cumberland Valley, FIVCO, Kentucky River, and Big Sandy.

Similarly, Eastern Kentucky’s responses emphasized the importance of healthcare, a non-tradeable sector, as the most important anchor institution in their communities.²⁰⁵

“ Healthcare needs to be a foundational piece for our future”
 – Focus group participant

Exhibit 14. Eastern Kentucky economic indicators

Different from Kentucky average ■ ■ ■ ■ Similar to Kentucky average

	Sector mix		Economic measures				Outcomes		
	Share of jobs in priority sectors (2022, %)	Share of jobs in healthcare (2022, %)	Gross domestic product (2012-22, cumulative growth)	Population (2012-22, cumulative growth)	Employment (2012-22, cumulative growth)	Labor force participation (2022)	Poverty rate (2022)	Attainment of bachelor’s degree or higher (2022)	Life expectancy (2018-2020, years)
Commonwealth average	26.6%	11.4%	11.9%	2.8%	7.0%	57.9%	16.3%	30.8%	74.1
Eastern Kentucky average	16.8%	16.3%	-8.6%	-4.5%	-5.9%	42.8%	24.7%	16.3%	72.0
Big Sandy	6.6%	19.4%	-18.6%	-11.1%	-16.6%	37.6%	25.7%	15.1%	71.6
Buffalo Trace	21.5%	11.9%	2.6%	-1.2%	-1.6%	49.6%	19.2%	17.7%	73.4
Cumberland Valley	21.4%	15.6%	0.4%	-3.3%	1.1%	43.6%	27.0%	15.3%	71.7
FIVCO	14.2%	18.3%	-13.3%	-2.8%	-7.9%	44.1%	20.8%	17.6%	74.2
Gateway	24.6%	11.2%	-2.8%	4.4%	2.8%	48.4%	21.9%	19.4%	74.5
Kentucky River	8.2%	19.6%	-16.9%	-8.4%	-17.2%	34.5%	28.8%	13.9%	69.0

Exhibit data source: Lightcast™, Accessed August 30, 2023; Moody’s Analytics; U.S. Census Bureau

Such overall perspectives for Eastern Kentucky may obscure, however, meaningful variations within the region. When viewed at the level of Area Development Districts (ADDs) such variations within the region are striking. The Gateway ADD, for instance, experienced population increases more rapid than the state average, and its composition from priority sectors is roughly comparable to the rest of the Commonwealth. At the other end of the spectrum, the economies of Kentucky River, Big Sandy, and FIVCO ADDs differ structurally from the rest of the Commonwealth (for example, less than 15 percent of employment is in the priority sectors).²⁰⁶ Qualitatively, focus group participants in the northeast (Morehead) and southeast (Pikeville) offered different perspectives on the prospect for priority sectors like automotive and manufacturing.

In light of these trends, Eastern Kentucky economic developers emphasized the need to tailor state funding and support to these complexities. For instance, 43 percent of survey respondents from Eastern Kentucky strongly agreed that “In the future, KPDI matching requirements should be tailored to meet community resource availability and needs,” 13 percentage points above the Commonwealth average.²⁰⁷ Similarly, Eastern Kentucky focus group participants emphasized how programs such as KPDI could help smaller, rural counties with site development projects and business attraction overall if they had more flexible matching requirements for some communities or locales.



We need to find creative ways for matching on programs to make state-sponsored programming actually work for small, rural counties”
– Focus group participant

Implications for the collaborative blueprint

Against this backdrop, the Eastern Kentucky economic developers suggested tailoring Commonwealth-wide approaches to accelerate their local economic development efforts. Some portions of the region mirror the overall economic composition and dynamics of the rest of the state. Here, priorities can focus on developing more flexible and targeted incentives to attract major businesses in priority sectors, as well as specially adapted investments in workforce, entrepreneurship, infrastructure (including water, broadband, and roads), and placemaking. At the same time, for areas in Eastern Kentucky without a strong starting point in priority sectors, such as automotive and manufacturing, and where mountainous terrain can limit site development, economic developers can collaborate with local stakeholders to focus more on major employer retention and expansion, including in sectors critical to overall employment, such as healthcare and education.

Sector themes

This blueprint’s proposed priority sectors for the Commonwealth also have near-term potential for much of Eastern Kentucky. This includes expanding manufacturing and automotive supply chains into the region. In addition to the five priority sectors for the Commonwealth, the following approaches could be tailored to Eastern Kentucky to support growth of priority sectors:

Priority sector 1. Automotive and Priority sector 2. Manufacturing

- Create flexibility in incentives for industries with heavy capital expenditure requirements to recognize and address differences in levels of resourcing and needs (e.g., due to higher cost of electricity) to attract companies in automotive and manufacturing sectors.

Priority sector 3. Natural assets

- Develop hospitality and tourism industry to create jobs in rural areas, including by identifying new potentially attractive locations, and support marketing campaigns to bring more visitors to Eastern Kentucky.

Priority sector 4. Business, financial, and professional services

- Leverage the unparalleled beauty and quality of life offerings of Eastern Kentucky to support proactive rural remote worker attraction programs for business and financial services, including local efforts to help match residents to rural remote work opportunities, as well as marketing remote work placement programs in specific areas.

Priority sector 5. Investing in high-potential opportunities

- Work with local businesses and higher education institutions to incubate small innovation ecosystems for emerging strengths (e.g., aerospace).

The following approaches could also be tailored to counties with a lower share of jobs in priority sectors:

- Enable use of incentives and investments to help maintain major employers, including those in non-tradable, anchor industries such as healthcare and government services.

- Work with local economic developers to identify and invest in specific entry points for priority sectors based on local talent pools and capabilities.

Enabler themes

Overall, the priority enablers identified for the Commonwealth will also be relevant for Eastern Kentucky. In addition to the five priority enablers for the Commonwealth, the following approaches could be tailored to Eastern Kentucky:

Priority enabler 1. Competitive products

- For regional site development in Eastern Kentucky, identify and invest in sites to strengthen local infrastructure (e.g., wastewater investment for a site can also provide local access to wastewater access) around “hubs” where scale impact of the surrounding areas is possible. Also, consider creating additional flexibility in how state funding programs are deployed (e.g., matching requirements based on local available resources, expand definition of allowable uses to include non-site-development-related infrastructure improvements) to create greater access for local economic developers in Eastern Kentucky.

Priority enabler 2. Workforce

- Coordinate with stakeholders to scale proactive workforce development programs for displaced workers (e.g., by supporting career counselling on potential pathways).

Priority enabler 3. Entrepreneurism and innovation

- Explore the potential with anchor institutions, including companies and universities, to be more connected to efforts to support local innovation.

Priority enabler 4. Infrastructure

- Consider options to scale incentives to offset capital expenditures for transportation stakeholders who revamp decommissioned rail lines in Eastern Kentucky formerly used to transport coal.

Priority enabler 5. Placemaking

- Work with the private sector and local government to identify and develop focal points (e.g., vibrant main streets) in Eastern Kentucky that could increase the attractiveness of the region to employers and employees.

The following approaches could also be tailored to counties with a lower share of jobs in priority sectors:

- Convene stakeholders, including community organizations, to identify needs of workforce and allocate funding for investments in support and wrap-around services (e.g., addiction recovery programs).
- Collaborate with the private sector and local government to increase investment in essential services (e.g., childcare) near employment hubs.

Eastern Kentucky is a unique region, but also interconnected with rest the Commonwealth. Tailoring approaches to realize the shared priorities – and reinforcing linkages across county and regional borders whether by extending infrastructure or deepening supply chains – can help accelerate the region’s development as well as the Commonwealth’s other regions. In doing so, Eastern Kentucky’s success could help show how this blueprint might be adapted to other parts of the Commonwealth.

Making it happen: Building winning capabilities and collaborations

A strong and consistent theme running throughout the process of developing this blueprint – the advisory board discussions, one-on-one and group interviews, focus group discussions, survey responses, and review of local, regional, and state strategies – was the idea that improving how economic developers work together and with their partners was critical to delivering a brighter economic future for all Kentuckians. Ultimately, how the collaborative blueprint is adopted, adapted, and realized depends upon economic developers’ capabilities and tools, as well as the ways in which they collaborate at the local, regional, and state levels.

Kentucky’s economic developers and their organizations are as diverse as the state they serve. They differ by level and sources of resources (e.g., “one person shops” versus fully staffed teams), experience (e.g., new developers to practitioners with decades of experience), mandate (e.g., local versus multi-county), and role in site development (e.g., site owners versus coordinating with site owners), to name a few factors. In sum, the community of practitioners spans teams of different capabilities and capacities.

Survey data, interviews, and focus group discussions all highlighted economic developers’ desire to improve collaboration within their community and with their partners. Of course, the very nature of economic development is competitive – with sometimes neighbors competing for “the next deal.” That said, the Commonwealth’s economic developers simultaneously highlighted the enormous potential to combine their expertise and resources to have greater competitive scale – to compete better internationally, vis-à-vis other states and for their regions and communities. Most simply, competing together is oftentimes stronger than competing alone. A majority of survey respondents and focus group participants, for example, voiced support for greater collaboration across administrative boundaries in the Commonwealth. A majority also agreed at least somewhat that collaboration with neighboring states could benefit their communities. The opportunity, therefore, is to find practical ways to incentivize and nurture collaboration among diverse, fragmented, and sometimes competitive players across such boundaries.

KCED and KAED have unique roles in bringing together Kentucky’s economic developers given their statewide mandates and, in the case of KAED, diverse membership. Together, they can help convene and catalyze the discussions to align upon how best to strengthen the Commonwealth’s economic development capabilities and collaboration at the local, regional, state, and even cross-state levels. Their sustained engagement could help generate the momentum to deliver this collaborative blueprint in the next five years.



Consequently, this blueprint’s final priority – one that could help knit together the five priority sectors and five enablers into a focused, cohesive effort – is to find ways to enhance the capabilities and processes for effective, multi-level collaboration among Kentucky’s economic developers.

Goal

Build winning capabilities and accelerate multi-level collaboration by connecting and “upskilling” economic developers, enhancing statewide, regional, and local collaboration, and building tools to enable collaboration, deliver better products, and manage performance.

Where Kentucky is today

Kentucky’s economic development engine is fueled by a network of actors, initiatives, and resources across the Commonwealth. While KCED and KAED take a statewide perspective to economic development, nearly 150 local economic development organizations affiliated with counties, chambers of commerce, or specific industries design and execute local and regional economic development. The 15 multi-county Area Development Districts, coordinated by the Department for Local Government, serve as extensions of local governments and provide planning and technical assistance for economic development, including transportation, infrastructure, and workforce development support.

Kentucky has a diverse network of professional economic developers with varying capabilities and capacity. For this blueprint, Kentucky’s economic development organizations can be grouped into three broader categories:

- **Larger, regional independent players** who tend to have larger budgets (>\$1 million) and staff (>5 full-time employees) and are typically focused on multiple areas around urban hubs. These economic development organizations own and develop sites, and autonomously manage multiple economic development programs.
- **Established small or midsized players** who have midsize budgets from private sector contribution and local government allocations and 2+ full-time staff. These economic development organizations are either directly managing multiple economic development programs or the center point for partnerships and collaboration with other local/regional organizations.
- **Small, local brokers** who have smaller budgets and staff and are focused on a small local area or set of adjacent counties. These economic developers often do not own sites, but rather coordinate with local site development/management authorities.

Today, collaboration among these diverse organizations remains inconsistent. Only 26 percent of KCED/KAED survey respondents strongly agreed that “economic developers in my locality collaborate effectively,” while only 16 percent of survey respondents strongly agreed that “economic developers across the Commonwealth collaborate effectively.”²⁰⁸

That said, economic developers highlighted their desire to improve collaboration within this diverse economic development community, and also celebrated some notable successes from greater collaboration. For instance, 69 percent of survey respondents strongly agreed that “Developing practical ways for economic development

stakeholders to collaborate across administrative boundaries will be critical to business attraction and retention in the next 5 years,” while an additional 21 percent somewhat agreed.²⁰⁹ A combined 90 percent level of agreement for improved regional collaboration is remarkable. And that response was largely consistent across regions and types of survey respondents.

“ We have to think beyond our county, and need to be regionally, state-aligned” – Focus group participant

Building new forms of collaboration could impact economic development in the Commonwealth in multiple ways. Survey respondents highlighted opportunities such as coordinating regional infrastructure investments (e.g., utilities, roads), improving regional competitiveness for federal funding opportunities, and sharing economic development best practices both within and across regions. Stakeholder engagements also highlighted how Kentucky’s economic developers have delivered impactful collaborations in the past, and how these examples should be studied and scaled where possible (see recent success stories below).

Defining methods of collaboration with clear roles and responsibilities – wherein economic developers can collaborate with neighbors and across regions, with the private, public, higher education, and nonprofit sectors – to help build capabilities and capacities across all economic development stakeholders will be instrumental to delivering this blueprint’s potential impact. At the same time, the economic developers highlighted the need to maintain flexibility, adaptability, and speed and to avoid creating new “structures.” They emphasized the opportunities to build first upon existing foundations and relationships for collaboration. The opportunity ahead, therefore, is not to design a single network for economic development collaboration, but rather to develop a network of networks to reinforce collaboration at every level and among economic developers and their partners across the Commonwealth.

Success story: Southern Kentucky Business Park

The Southern Kentucky Business Park (SKPB) exemplifies how sustained efforts to build trust and find creative solutions across economic development organizations and counties can deliver results. Founded in 1999, the industrial park is a joint effort among Bell, Clay, Knox, Lauren, McCreary, and Whitley counties.

Ownership and governance of the park is maintained by Southeast Kentucky Industrial Development Authority (SKIDA), which represents the 6 partnering counties. Together they offered nearly 600 acres of land for business operations. Each county receives 15 percent of the occupational tax and net profit tax from occupying businesses. Today, the park is home to four companies, including three from Japan and Europe. Since 2011, SKIDA has tripled its funding to continue this economic development effort from state funding and federal grants. Through creative collaboration SKPB has contributed to its region’s development by both retaining and recruiting businesses.²¹⁰

Success story: Kentucky Cornerstone

The development of BlueOval SK Park in Elizabethtown and BlueOval City in Tennessee offered an opportunity for collaboration in Western Kentucky. Communities located within 100 miles came together as Kentucky Cornerstone to focus on branding the region and marketing their collective sites to EV projects and their associated supply chains.

Formally established in January 2022, the regional alliance comprises the economic development offices across twelve counties. This group seeks to build upon the existing chemical, plastic, metal, and automotive supply chains within the region. The approach encompasses creating a regional marketing consortium to promote communities within the area to attract projects by capitalizing on the region's abundant natural resources, infrastructure, education, and more. Since its formation, the nonprofit organization has also supported an array of infrastructure projects and advocated for policies to accelerate the entire region's development.²¹¹

What it could take for Kentucky to win

Again, this is a blueprint by and for economic developers. Kentucky's economic developers do not control or coordinate all factors influencing Kentucky's economic development. That said, they are uniquely positioned to lead the collaborations to bind together priority sectors and enablers into a strong, cohesive effort.

This blueprint outlines how economic developers could work together at the state, regional, and local levels to accelerate Kentucky's progress. These efforts could involve best practice sharing and enhancing the capabilities of economic developers across the Commonwealth, building greater expertise in sectors critical to future growth, and defining and standing up new ways of collaborating within and across regions. KCED and KAED could have important roles to play in promoting and catalyzing such new ways of working.

Success in shaping Kentucky's future involves economic developers embracing the full range of their potential roles and responsibilities. Economic developers could deliver impact by:

- **Setting and communicating economic priorities**, which could include priority sectors at a state, regional, and local level to inform economic development as well as the planning and resourcing of priority enabler efforts.
- **Leading and coordinating on economic development-led priorities**, including state-level and local-level coordination in areas like site development, deal execution, and support for business expansion and retention, as well as coordination with broader stakeholders, like utilities and workforce providers, to reinforce all these efforts.
- **Actively collaborating and being present “at the table”** to represent critical priorities where economic developers may not have a lead role, including workforce, infrastructure, and community development, and to work together with diverse stakeholders to build trust and shared direction.
- **Being voice of the private sector** to other stakeholders and vice versa.

- **Identifying and sharing achievements** to establish “what good looks like,” show progress, motivate others, and maintain momentum.

With these roles as a foundation, opportunities for economic developers could include:

- **Strengthen economic developer capabilities, including building sector-based expertise to win in priority sectors (e.g., Auto/EV) and functional expertise.**

Access to deep expertise for priority sectors will be critical. Such expertise could be embedded in the KCED, KAED, and regional organizations’ teams, or tapped in a part-time manner through a variety of formal or informal channels such as relationships with former executives or experts based in higher education institutions. Such sector expertise could help Kentucky stay at the forefront of trends and changes in priority sectors. Armed with such insights, economic developers could better tailor deal-making activities to specific company needs. These activities include developing “pitch” materials for a specific sector or even site, crafting marketing campaigns, and developing tailored incentive packages for recruitment and retention. Such deep expertise could also help economic developers coach counterparts in workforce development and other areas on how to tailor their efforts more effectively to the needs of priority sectors. Finally, this expertise could help build credibility and relationships with companies by “speaking the language of industry” and demonstrating a keen understanding of specific needs.

Economic developers equipped with distinctive sector insights could be better positioned to shift from a more reactive stance – i.e., waiting for deals – to a more proactive one whereby they develop pipelines of opportunities and engage with prospective companies to anticipate and therefore shape their strategic moves. These moves range from business retention, expansion, and attraction. At a more tactical level, sector expertise could inform the adaptation of resources and tools, such as templates and playbooks for site visits, as well as multi-county collaboration models.

Deepening relationships with Kentucky’s higher education institutions and building upon the successes such as Murray State University’s economic development certificate program could also help the Kentucky economic developer community build both sector and functional expertise to deliver priorities. KAED’s semi-annual conferences and other convenings could provide for other such sharing of sector and functional expertise.

- **Strengthen “end-to-end” deal engine, including best-in-class prospect management**

Kentucky has demonstrated strengths in deal execution through its recent wins. The potential “impact” of a deal depends on context, where smaller- to medium-sized deals can have an outsized impact in some regions or communities. Helping economic developers have the tools they need to identify highest-potential deals for their communities, and lead and coordinate best-in-class engagement with prospective investors including managing site visits, could help with even more wins in Kentucky.

Local templates and playbooks, tailored to the specific needs of regional economic developers, are examples of such tactical tools and resources. Playbook topics could include site prep and development, deal execution (e.g., clarity on roles and responsibilities, checklist for completion), site visits (e.g., who to have in attendance, top decision-making factors for a prospect), and cross-county coordination for site and infrastructure investments (e.g., approaches for responsibility sharing).

- **Scale collaboration locally, regionally, and statewide**

As noted above, one of the most consistent themes across surveys, focus groups, and interviews was a call for greater collaboration among economic developers and their stakeholders. Collaboration underpins execution

of activities within an economic developer's purview, including site prep, incentive package development, and prospect engagement. It is also critical to ensure priority enablers, like workforce and infrastructure, are aligned to the priority sectors and needs of local communities. Collaboration at a local and regional level, across different counties and regions, could enable greater scale of investments in sites and workforce. Collaboration could also help economic developers share functional expertise across boundaries, such as best practices for identifying a site selection consultant or grant writing.

Focus group participants expressed interest in continuing regionally based conversations convened by KCED. These regular meetings could provide spaces to continue to share information, align on priorities, build capabilities, and strengthen networks within Kentucky's economic developer community. The dialogues also suggested the potential to take current convenings as a starting point, such as KAED's two annual gatherings, and scale the frequency or replicate them on a smaller scale. Stakeholders too, including regional focus group participants, expressed an openness to exploring both informal and formal mechanisms to achieve greater collaboration. For example, 36 percent of survey respondents strongly agreed that "Establishing 5-7 regional organizations could improve coordination among economic development stakeholders and KCED on an on-going basis."²¹²

Discussions emphasized the importance of leveraging existing relationships and organizations instead of creating new formal organizational structures for collaboration. For instance, Kentucky's Area Development Districts (ADDs) could provide an important channel to support regional collaboration. ADDs were established nearly 70 years ago. Today, the discussions highlighted, ADDs do not consistently have the full set of resources to coordinate and mobilize economic development initiatives across the regions they serve due to funding and capacity challenges. KCED and KAED could help convene the discussions among stakeholders to streamline approaches for collaboration across the counties served by an ADD and across ADDs as well. ADDs could also bring resources for local economic developers, including through grant writing, marketing, and research support. In turn, incentive programs could reflect the importance of regional collaboration, for example by favoring programs that are cross-ADD.

- **Systematically track and report data and metrics to inform decision-making and manage economic development performance**

Stakeholders highlighted consistently the desire to improve information and data sharing across the Commonwealth. For example, one best practice for economic development organizations is to manage performance based on specific indicators – which can be collected and shared across organizations. Collecting and sharing statewide metrics could help local economic developers make decisions on how to deploy resources, improve their own internal performance management, help KCED and KAED better adapt overall priorities, and also ensure the broader economic development community has a standard approach and fact-base to engage with partners and stakeholders.

Example metrics to track and share could include:

Sectors' performance

- Growth in overall share of priority sectors as a percent of employment at the state-level and regionally
- Growth rate relative to peer states
- Deal performance relative to peer states
- Deal flow by sector, including by region
- CAPEX investments by sector and region
- Number of jobs created by sector and region
- Average wage by sector and region

Enablers' performance

- Incentive efficiency compared to peers, both overall and by sector
- Incentive packages used by sector and region
- Talent production and supply/demand gaps in priority occupations, including by region
- National rankings for infrastructure
- National rankings for cost of doing business and business climate
- Quality of life metrics

“ It would be really helpful to have more data to make decisions for investments to make in my community and local sites. For example, what were the common themes from Requests for Information (RFIs) in the last twelve months in terms of sector, square footage of the site, specific infrastructure needs?” – Focus group participant

With its statewide perspective, mandate, and capabilities, KCED could become the steward of such data and analytics. Such metrics, alongside information on operational topics such as the inventory of the Commonwealth's current “shovel-ready” sites, could create a “single source of truth.” By providing such information to economic developers and their partners across the state, KCED and KAED together could collaborate to help local and regional economic developers best leverage such information to inform local decision-making and improve outcomes for communities across Kentucky.

Looking forward

Today, Kentucky's economy is in transition. Global forces are reshaping how work gets done at the level of industries and individuals. Whether it is the potential for reshoring supply chains, redesigning industrial processes, or relocating where people can work, how most Kentuckians actually work will change in next decade. New businesses and even perhaps industries will emerge, while established ones will need to evolve. New jobs will rise, and old jobs will be done in new ways with new tools and skills. Individuals and communities alike will need to adapt to thrive.

While the future is inevitably uncertain, such change presents opportunities for the Commonwealth. "Opportunity" was a consistent theme throughout this planning effort by Kentucky's economic developers for Kentucky's economic developers. They highlighted opportunities to shape a brighter future for all Kentuckians. At the same time, challenge is the other side of the coin to opportunity. That said, the economic developers drew confidence from the Commonwealth's long history of innovating and adapting to grow and prosper.

Kentucky's recent economic development successes across many industries – exemplified by the major investments in the future of EVs – reinforce such confidence. Kentucky has proven it can compete and win in the global economy when it builds upon its strengths and rallies diverse stakeholders together with shared purpose. There are numerous examples of such successes across the Commonwealth. Nonetheless, Kentucky's economic development practitioners know best how the game of economic development is becoming more competitive, more complex, and more dynamic. Winning is not inevitable.

That is why developing a new economic development model throughout the state now is so timely. This blueprint represents the culmination of months of dialogue with economic developers and their partners across the Commonwealth of Kentucky. It is critically informed by data analytics and subject matter expert consultations in not just Kentucky or even the United States, but internationally as well. This blueprint was guided throughout by a constellation of objectives to increase opportunities for all Kentuckians and attract others to invest, work, live, and recreate in the Commonwealth and its communities.

As described in detail above, the effort together provides a fact base and also identifies ten priorities that could provide a collaborative blueprint in the coming five years. Five broad priority sectors could help identify where to focus economic development efforts at the Commonwealth level. Likewise, the five priority enablers – when tailored and focused on accelerating the priority sectors at the local, regional, and state levels – could be critical to delivering the potential of each sector in mutually reinforcing ways.

This blueprint is designed to focus on fundamentals that could then be tailored to specific opportunities across Kentucky's diverse 120 counties. Communities have different strengths and starting points. Not every sector would fit in every community or region of Kentucky. Similarly, success will involve prioritizing investments across enablers to fit specific circumstances. As shown in the in-depth discussion of Eastern Kentucky, the blueprint can adapt to such diversity. Nonetheless, when taken together, the priority sectors supported by the priority enablers could offer the greatest potential for meaningful future growth across the Commonwealth.

Kentucky's community of economic development practitioners is positioned to play a decisive role in how such a blueprint is designed and delivered. Ultimately, economic developers have critical roles to play in leading traditional economic development activities and, equally important, helping rally and inform other partners and stakeholders to focus on achieving common goals. These roles bring together diverse skills from strategist, analyst, and manager to leader, bridge-builder, and communicator. The process of developing this blueprint highlighted how the diversity of the Commonwealth is also embodied in the diversity of the economic development community too. Success will involve building new skills and, most important, finding new ways to collaborate at the state, regional, and local levels to align diverse partners on a common mission.

The *Collaborative Blueprint* is not an end, but rather a beginning. This blueprint is meant to provide a starting point for the next phase of dialogue among Kentucky's economic development community and its partners. It is intended to help generate discussion, debate, and, ultimately, decisions about their priorities and how best to achieve them at the state, regional, and local levels. Together KCED and KAED could play critical roles in leading these dialogues and catalyzing new forms of collaboration across the Commonwealth. In that way, the work of shaping Kentucky's economic future begins now.

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Appendix II. Survey methodology

The Kentucky Association for Economic Development and Kentucky Cabinet of Economic Development oversaw two joint surveys conducted between August and October 2023. These surveys played an important role in the data collection process for the blueprint. Over 1,000 respondents participated in the two joint KAED/KCED surveys, including those who reported demographic questions and proceeded to various points of completion.

KAED/KCED Joint Survey #1

The first KAED/KCED joint survey covered six major topics of economic development:

- Sectors and firms
- Talent and human capital
- Capital and innovation
- Infrastructure
- Macro environment
- Economic development operating capabilities

KAED/KCED Joint Survey #2

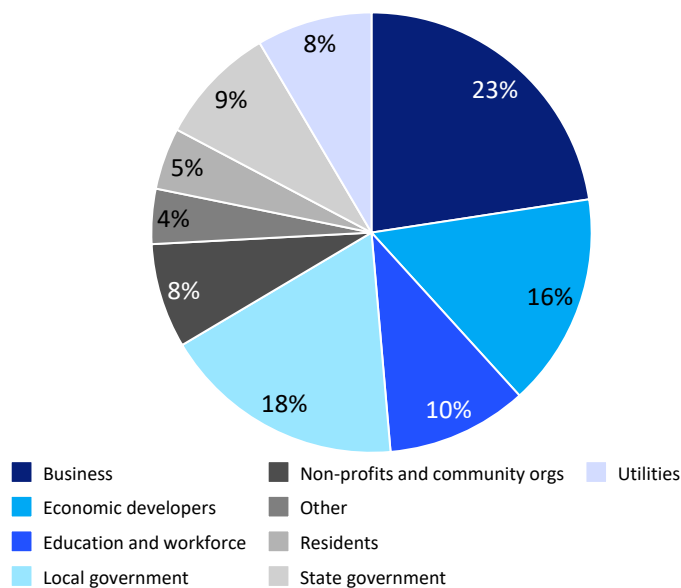
The second KAED/KCED joint survey covered five major topics of economic development:

- Regional collaboration
- Workforce development
- Placemaking
- Site readiness
- East Kentucky priorities

There was diverse representation from stakeholder groups and regions for the two joint KAED/KCED surveys (see Exhibit A-1).

Exhibit A-1. Demographics of two joint KAED/KCED surveys

Stakeholder distribution of respondents



Regional distribution of respondents

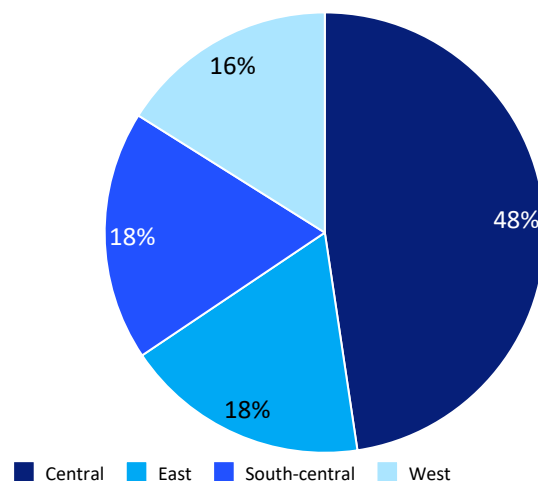


Exhibit data source: Kentucky Association of Economic Development/Kentucky Cabinet for Economic Development Joint Surveys (2023)

Appendix III. Advisory Boards

Two Advisory Boards supported the planning process for the blueprint. Their members met regularly to provide insights and feedback that informed the report’s analyses and perspectives. The Kentucky Cabinet for Economic Development and the Kentucky Association for Economic Development thank the members of the Advisory Boards for their generous investment of time and energy to help with this project. Their participation in the Advisory Boards does not suggest they endorse the blueprint’s specific conclusions.

Economic Development Advisory Board

Board member	Organization
Matthew Adkins	Kentucky I-71 Economic Development Alliance
Claude Bacon	Greater Owensboro Economic Development Corporation
Ron Bunch	Bowling Green Chamber of Commerce
Bruce Carpenter	Southern Kentucky Economic Development Agency
Lee Crume	BE Northern Kentucky Growth Partnership
Amanda Davenport	Lake Barkley Partnership
Meredith Dubree	Breckinridge County United Economic Development
Rick Games	Elizabethtown Hardin County Industrial Foundation
Tim Gibbs	Ashland Alliance
Chris Girdler	Somerset-Pulaski Economic Development Authority
Gina Greathouse	Commerce Lexington
Carter Hendricks	Southwestern Kentucky Economic Development Council
Kim Huston	Nelson County Economic Development Agency
Colby Kirk	One East Kentucky
Mark Manning	Murray-Calloway Economic Development Corporation
Elizabeth Griffith Mudd	Kentucky Lake Economic Development
Pat Mulloy	Louisville Metro Government
Bob Quick	Commerce Lexington
Brett Traver	Southeast Kentucky Economic Development Corporation
Missy Vanderpool	Henderson Economic Development Corporation
Bruce Wilcox	Greater Paducah Economic Development

East Kentucky Advisory Board

Board member

Organization

Bruce Carpenter

Southern Kentucky Economic Development Agency

Tim Gibbs

Ashland Alliance

Colby Hall

Shaping Our Appalachian Region

Colby Kirk

One East Kentucky

Cole Raines

One Harlan County

Jason Sloan

Morehead-Rowan County Chamber of Commerce and Economic Development

Paula Thompson

London-Laurel County Economic Development Authority

Brett Traver

Southeast Kentucky Economic Development Corporation

Jeff VanHook

Rockcastle County Industrial Development Authority

Appendix IV. Detailed heatmap

Extensive data analytics helped inform the list of priority sectors. Over 15 factors were considered to assess where Kentucky has “earned the right to win” and where Kentucky could see “opportunities to win” (see Exhibit A-2 for the full list of factors). This is a more detailed version of Exhibit 5 in the blueprint.

Exhibit A-2. Each priority sector has its own mix of “earned right to win” and “opportunities to win” factors






Where Kentucky has “earned right to win”									
Priority sectors	Share of total employment in KY (2022, %)	KY employment specialization (2022, location quotient)	Historical employment growth in KY relative to U.S. (2022-27)	Projected employment growth in KY relative to U.S. (2022-27)	KY Research & Development spend ¹ (2021, \$M)	KY patents ³ (2016-21, #)	KY share of U.S. venture capital (VC) investment ⁴ (2017-2022, %)	KY share of U.S. foreign investment (FDI) direct investment (2017-2022, %)	KY exports ⁶ (2017-2022, \$M)
 Traditional automotive and electric vehicles	60.9	4.3	-1.8	-0.5	101	342	0.4	12	30,172
 Materials	61.3	1.7	0.4	0.7	275	658	n/a ⁵	3.3	26,706
Food/beverage processing	38.6	1.5	0.5	0.5	75	170	0.02	9.2	5,025
Other manufacturing	79.6	1.2	-0.5	0.9	151	1960	0.2	2.1	34,318
 Distribution and logistics	127.7	1.8	-0.9	-0.1	3	920	0.2	2.0	n/a
Hospitality and tourism	30.4	0.7	1.8	0.3	n/a	595	n/a ⁵	0	n/a
 Business, financial, and professional services	136.4	0.7	-0.4	-0.2	157	440	0.01	0.1	n/a
 Aerospace	2.9	0.4	-0.2	4.6	<1	97	0.03	2.2	64,889 ⁷
AgriTech	1.6	1.4	-1.8	-1.3	<0.5	11	1.3	0	0
Life Sciences	5.9	0.3	0.9	1.4	498 ²	467	0.2	0.1	16,513

Exhibit data source: Lightcast™, Accessed August 30, 2023; National Center for Science and Engineering Statistics and Census Bureau, Business Enterprise Research and Development Survey, 2021; National Center for Science and Engineering Statistics, Higher Education Research and Development Survey, FY 2021; U.S. Patent and Trademark Office; JDi Markets, a service from the Financial Times 2023. All Rights Reserved; U.S. Census Bureau: Economic Indicators Division USA Trade Online, Source: U.S. Import and Export Merchandise trade statistics; PitchBook Data Inc. Data has not been reviewed by PitchBook Analysts; Kentucky Association for Economic Development/Kentucky Cabinet for Economic Development Joint Surveys (2023)

Where Kentucky could see “opportunities to win”

Least differentiated Most differentiated

U.S. projected employment growth (2022-27, %)	U.S. projected employment size (2022-2027, K)	KY average yearly wage (2022, \$ thousand)	U.S. average yearly wage (2022, \$ thousand)	Employment multiplier (2022)	Total U.S. VC investment ^a (2017-2022, \$B)	Total U.S. FDI (2017-2022, \$B)	Stakeholder engagement (% ranked as top 3 most important industry)
1.9	105	68.5	72.7	2.7	140.1	90.6	72
1.2	172	71.0	74.7	2.3	n/a ⁵	78.4	16
1.6	167	66.2	57.7	2.9	36.6	28.1	18
0.6	146	65.8	81.4	2.1	125.6	88.0	66
2.3	665	62.7	60.2	1.8	135.1	9.8	49
2.6	447	36.9	53.9	1.6	n/a ⁵	8.8	75
2.1	1,703	87.9	135.5	2.2	170.5	47.9	82
0.6	14	81.1	113.2	2.2	18.4	4.3	18
1.7	8	56.1 ⁸	67.7	1.8	20.8	0.5	26
2.3	176	96.0	140.7	2.2	272.6	31.1	23

- NSF R&D categories are not directly aligned to sector definitions by 6-digit NAICS codes; R&D funding is directional, not comprehensive
- Life Sciences R&D spend is 2021 academic R&D; data for remaining sectors are 2020 corporate R&D spend
- USPTO patents granted 2017-2021, based on assignee location, patents can be assigned to multiple industries
- PitchBook data technology verticals are not directly aligned to sector definitions by 6-digit NAICS codes; VC funding is directional, not comprehensive
- PitchBook data technology verticals did not directly align to Materials or Hospitality & Tourism sectors; VC funding may be present at a more granular level for those sectors
- Exports of goods only, does not include services
- Includes aerospace parts not manufactured in Kentucky that are repackaged and shipped out of Kentucky from the GE Erlanger Parts Warehouse at the Cincinnati/Northern Kentucky Air
- Wage data is at the NAICS code level; wages for AgriTech may be higher based on occupation type within the sector (e.g., software engineer, project manager)

Shading methodology

- Shading for “share of total employment in KY” is based on share of total employment in Kentucky by sector (less than 1 percent, 1 to 5 percent, greater than 5 percent); shading for “KY employment specialization” is based on the location quotient by sector [LQ] (less than 0.7 LQ, 0.7-1 LQ, 1-2 LQ, 2-4 LQ, greater than 4 LQ)
- Shading for “historical employment growth in KY relative to U.S.” is based on the sector’s historical employment growth in KY compared to the U.S. historical employment growth of 0.7 percent for all sectors (0.1 percentage point or more lower, 0.1 percentage point lower to 0.1 percentage point higher, 0.1 percentage point or more higher)
- Shading for “projected employment growth in KY relative to U.S.” is based on the sector’s projected employment growth in KY compared to U.S. projected employment growth of 1.4 percent for all sectors (0.1 percentage point or more lower, 0.1 percentage point lower to 0.1 percentage point higher, 0.1 percentage point or more higher)
- Shading for “KY Research & Development [R&D] spend” is based on the share of total U.S. R&D spend by sector (less than 0.1 percent, 0.1 to 0.2 percent, 0.2 to 0.3 percent, 0.3 to 0.4 percent, greater than 0.4 percent)
- Shading for “KY patents” is based on the share of total U.S. patents by sector (less than 0.2 percent, 0.2 to 0.4 percent, 0.4 to 0.6 percent, 0.6 to 0.8 percent, greater than 0.8 percent); shading for “KY share of U.S. Venture Capital investment [VC]” is based on the share of total U.S. VC investment by sector (less than 0.5 percent, 0.5 to 1 percent, greater than 1 percent)
- Shading for “KY share of U.S. Foreign Direct Investment [FDI]” is based on the share of total U.S. FDI by sector (0 percent, less than 3 percent, 3 to 5 percent, 5 to 7 percent, 7 to 9 percent, greater than 9 percent)
- Shading for “KY exports” is based on the share of total Kentucky exports by sector (0 percent, 0 to 5 percent, 5 to 10 percent, 10 to 15 percent, 15 to 20 percent, greater than 20 percent)
- Shading for “U.S. projected employment growth” is based on the sector’s projected employment growth in the U.S. compared to U.S. projected employment growth of 1.4 percent for all sectors (0.1 percentage point or more lower, 0.1 percentage point lower to 0.1 percentage point higher, 0.1 percentage point or more higher)
- Shading for “U.S. projected employment size” is based on the sector’s projected employment volume in the U.S. (less than 100,000 jobs, 100,000 to 500,000 jobs, greater than 500,000 jobs)
- Shading for “KY average yearly wage” is based on the sector’s average yearly wage in Kentucky compared to Kentucky’s average yearly wage of \$54,900 for all sectors (less than \$5,000, \$5,000 lower to \$5,000 higher, greater than \$5,000)
- Shading for “U.S. average yearly wage” is based on the sector’s average yearly wage in the U.S. compared to Kentucky’s average yearly wage of \$69,000 for all sectors (less than \$5,000, \$5,000 lower to \$5,000 higher, greater than \$5,000)
- Shading for “employment multiplier” is based on the sector’s employment multiplier compared to the employment multiplier for all sectors less than 0.1 percent, 0.1 percent lower to 0.1 percent higher, greater than 0.1 percent)

- Shading for “total U.S. VC investment” is based on the volume of VC investment by sector (less than \$25 billion, \$25 to \$50 billion, \$50 to \$100 billion, \$100 to \$150 billion, greater than \$150 billion)
- Shading for “total U.S. FDI” is based on the share of total U.S. FDI by sector (0 percent, 0 to 3 percent, 3 to 5 percent, 5 to 7 percent, 7 to 9 percent, greater than 9 percent)
- Shading for stakeholder engagement is based on the volume of survey respondents who selected the sector as the top 1, top 2, or top 3 most important industry (less than 20 percent, 20 to 35 percent, 35 to 50 percent, 50 to 65 percent, greater than 65 percent)

Appendix V. Infrastructure and placemaking maps

Multiple geospatial analyses informed the perspectives for Priority enabler 4. Infrastructure and Priority enabler 5. Placemaking. The following maps provide additional context for these priority enablers and further demonstrate regional differences throughout the Commonwealth.

Priority enabler 4. Infrastructure Electricity

Exhibit A-3. Residential electricity price by service area, 2021

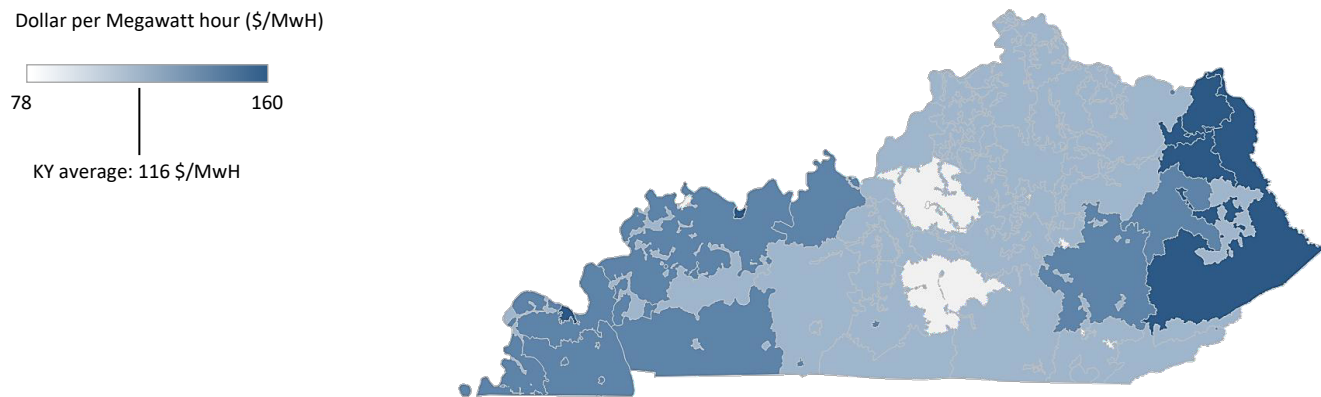


Exhibit data source: U.S. Energy Information Administration

Exhibit A-4. Commercial electricity price by service area, 2021

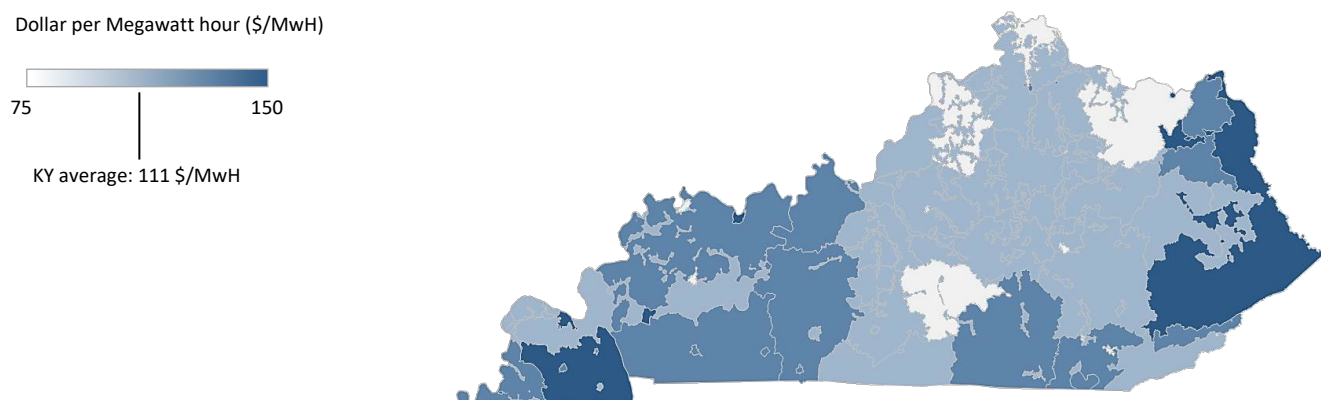


Exhibit data source: U.S. Energy Information Administration

Exhibit A-5. Industrial electricity prices by service area, 2021

Dollar per Megawatt hour (\$/MWh)



KY average: 74 \$/MWh

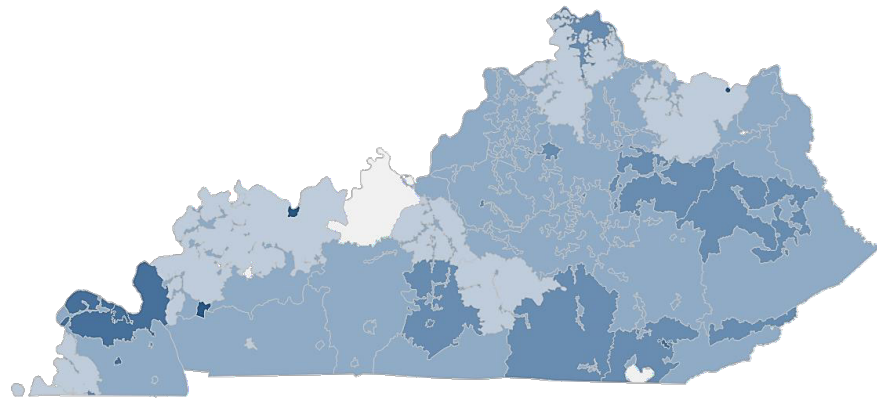


Exhibit data source: U.S. Energy Information Administration

Exhibit A-6. Number of annual outages by service area, 2021

Number of outages

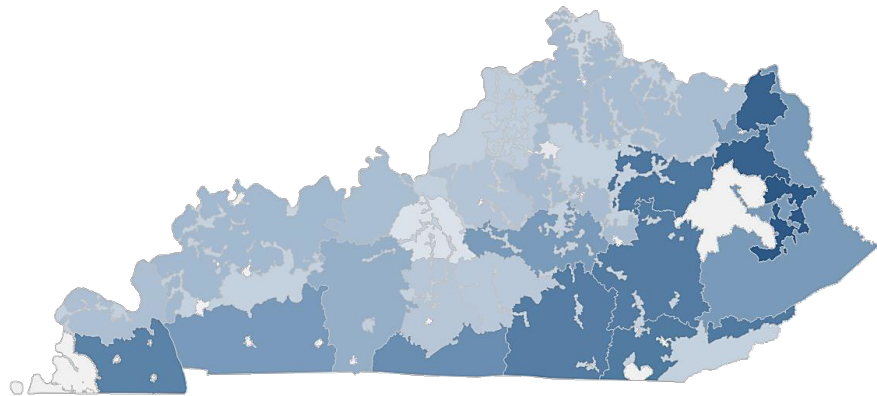


Exhibit data source: U.S. Energy Information Administration

Water

Exhibit A-7. Public water systems, 2023

● Water tanks

— Water lines

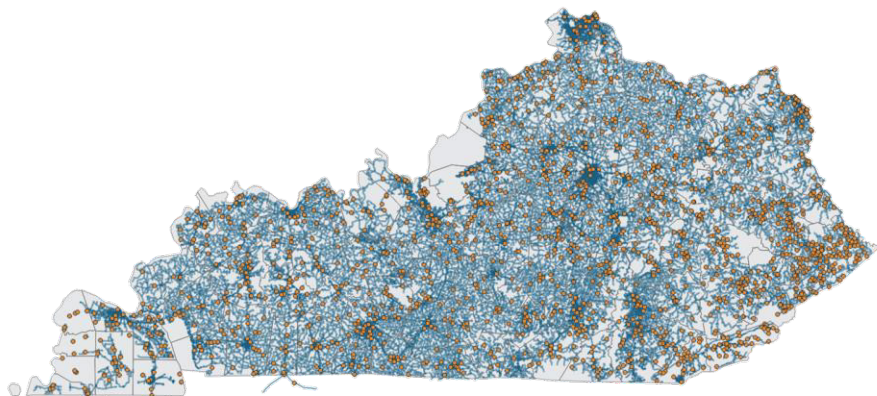


Exhibit data source: KYGovMaps Open Data Portal

Exhibit A-8. Public wastewater systems, 2023

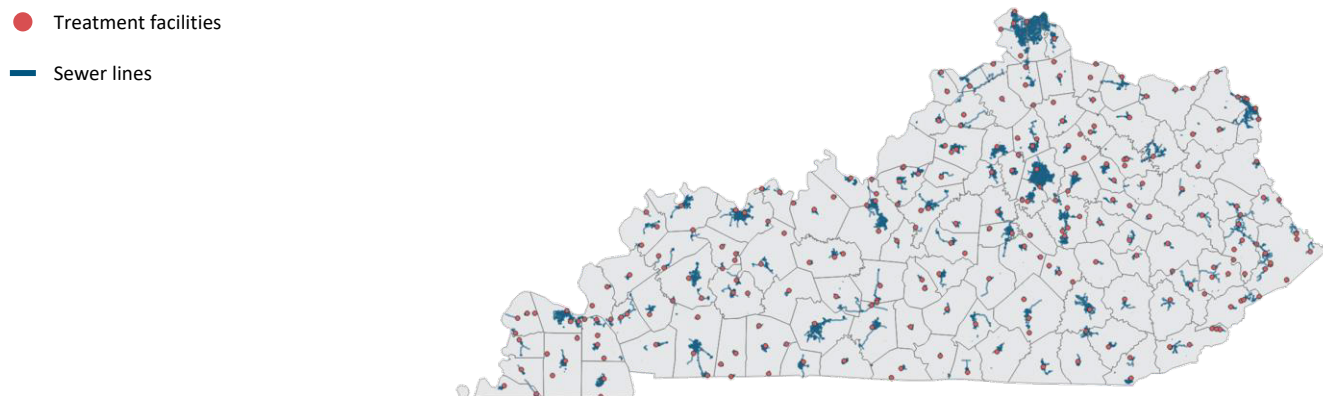


Exhibit data source: KYGovMaps Open Data Portal

Broadband

Exhibit A-9. Percent of households served by broadband, with access to internet speed of 100/20 megabytes per second or higher, by Census block, 2023

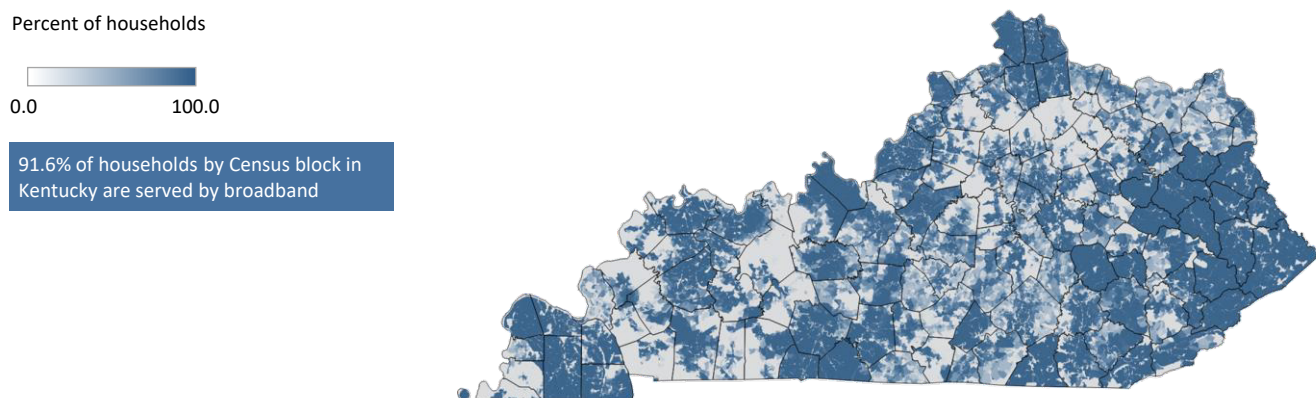


Exhibit data source: Federal Communications Commission (2023); U.S. Census Bureau

Exhibit A-10. Percent of households underserved by broadband, with access to internet speed between 25/3 megabytes per second and 100/20 megabytes per second, by Census block, 2023

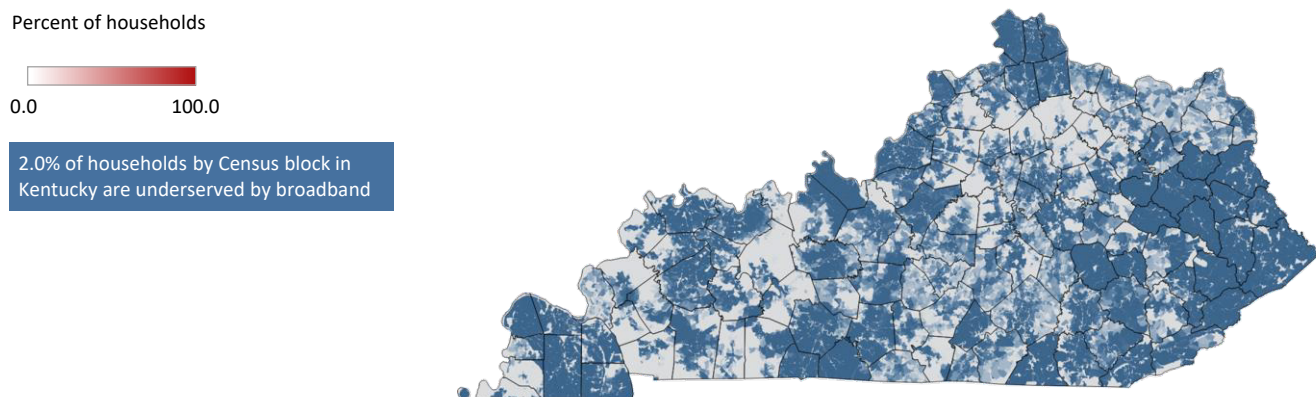


Exhibit data source: Federal Communications Commission (2023); U.S. Census Bureau

Exhibit A-11. Percent of households not served by broadband, with access to internet speed of 25/3 megabytes per second or lower, by Census block, 2023

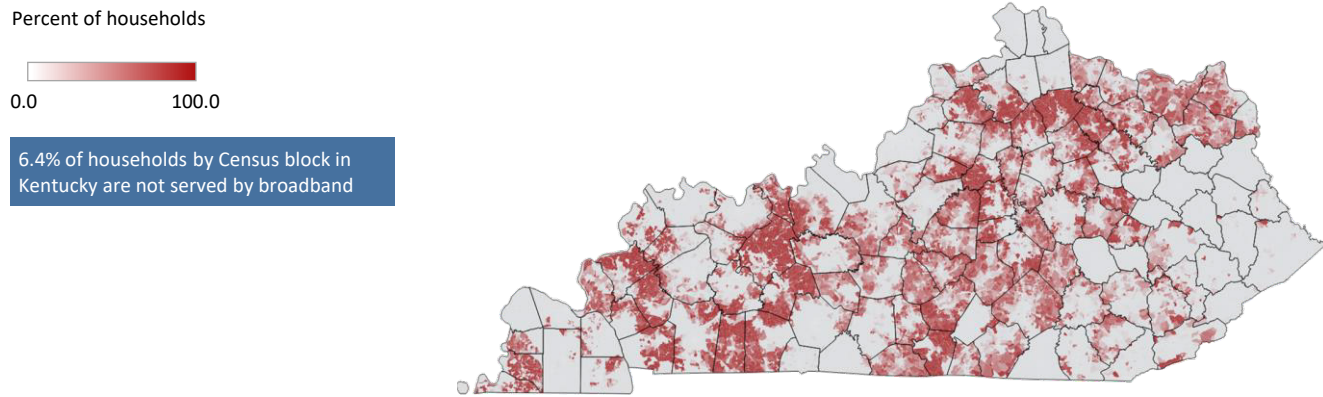


Exhibit data source: Federal Communications Commission (2023); U.S. Census Bureau

Exhibit A-12. Number of broadband providers who provide internet speeds of 100/20 megabytes per second or higher, by Census block, 2023

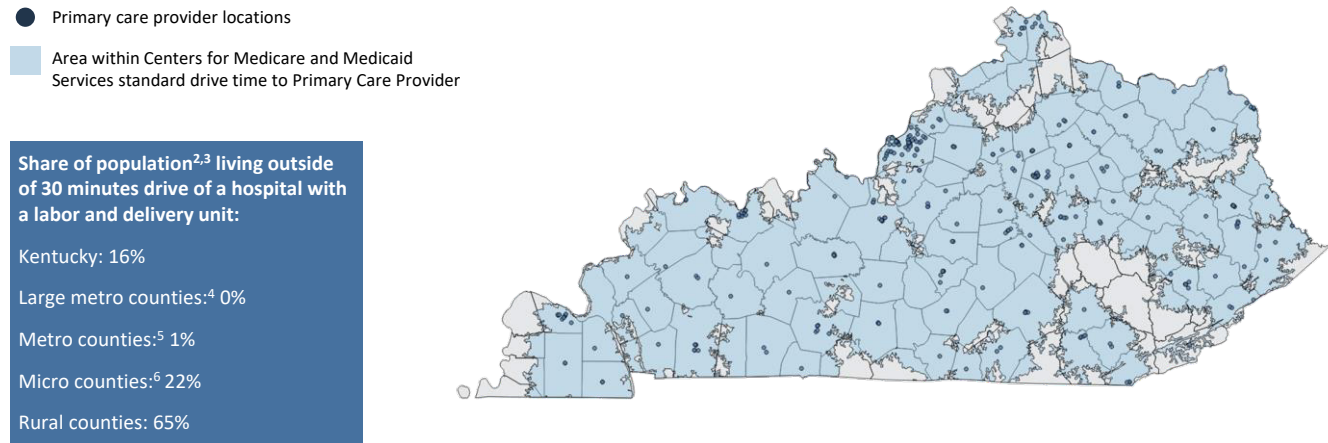


Exhibit data source: Federal Communications Commission (2023); U.S. Census Bureau

Priority enabler 5. Placemaking

Healthcare

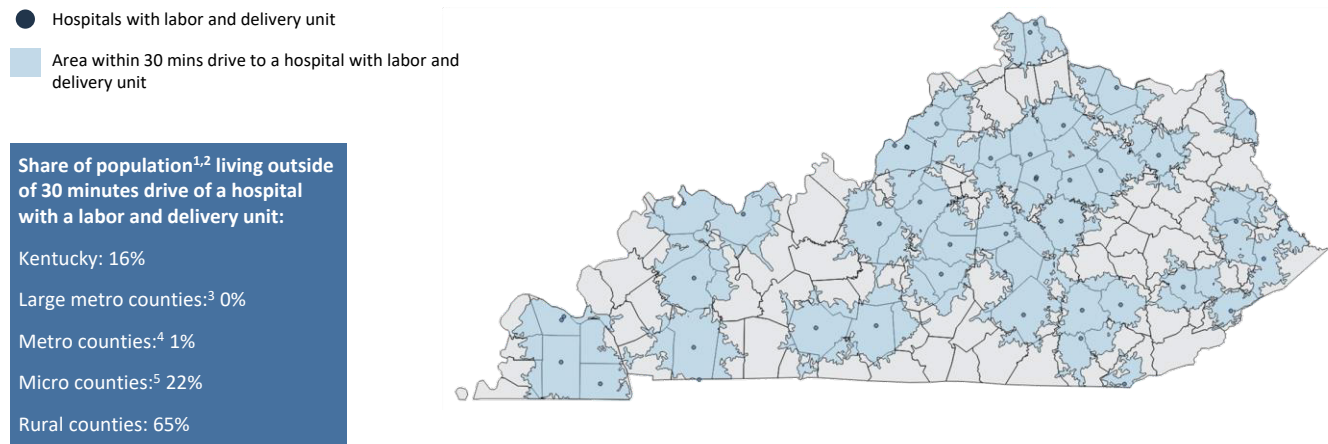
Exhibit A-13. Drive time coverage area¹ to a primary care provider



1. Drive time varies by county type, using county designations and drive times from the Centers for Medicare and Medicaid Services (CMS)
2. Based on 2021 population, within Census block groups
3. County designations based on population count and density from the CMS Medicare Advantage Network Adequacy Criteria Guidance
4. Contains a core urban area of 100,000 or more population
5. Contains a core urban area of 50,000 (but less than 100,000) or more population
6. Contains an urban core of at least 10,000 (but less than 50,000) population

Exhibit data source: *Definitive Healthcare, accessed 8/14/2023; US Census American Community Survey, 2021 5-year estimates*

Exhibit A-14. 30-minute drive time coverage to a hospital with a labor and delivery unit or maternity care services



Housing

Exhibit A-15. Median housing sale price for single family homes by county, 2022

Median sale price for single family homes, \$

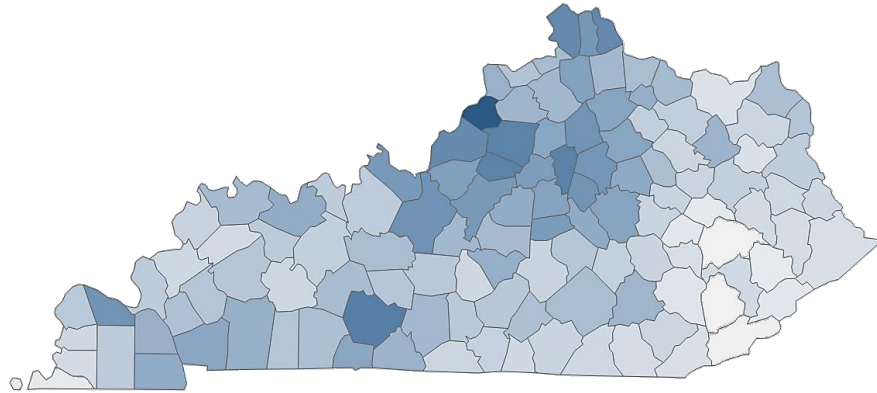
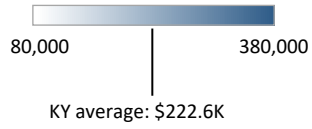
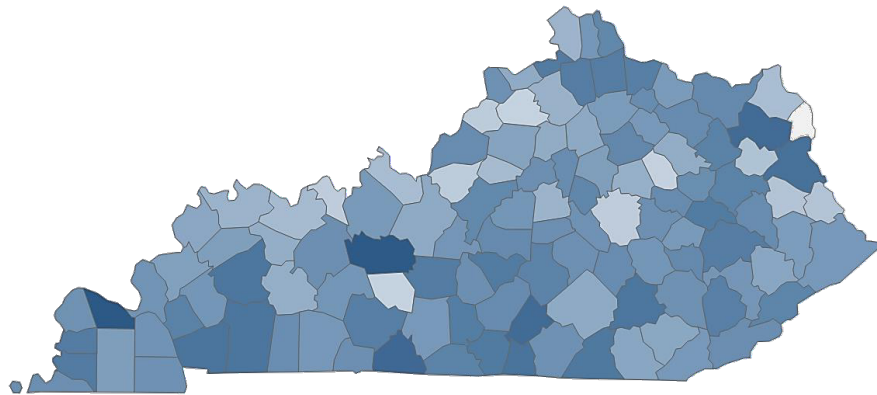
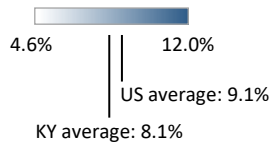


Exhibit data source: Moody's Analytics; National Association of Realtors

Exhibit A-16. Growth in median housing sale price for single family homes by county, 2017-2022

Yearly growth rate in median sale price for single family homes, 2017-2022¹



Childcare

Exhibit A-17. Childcare locations and population density by county, 2022

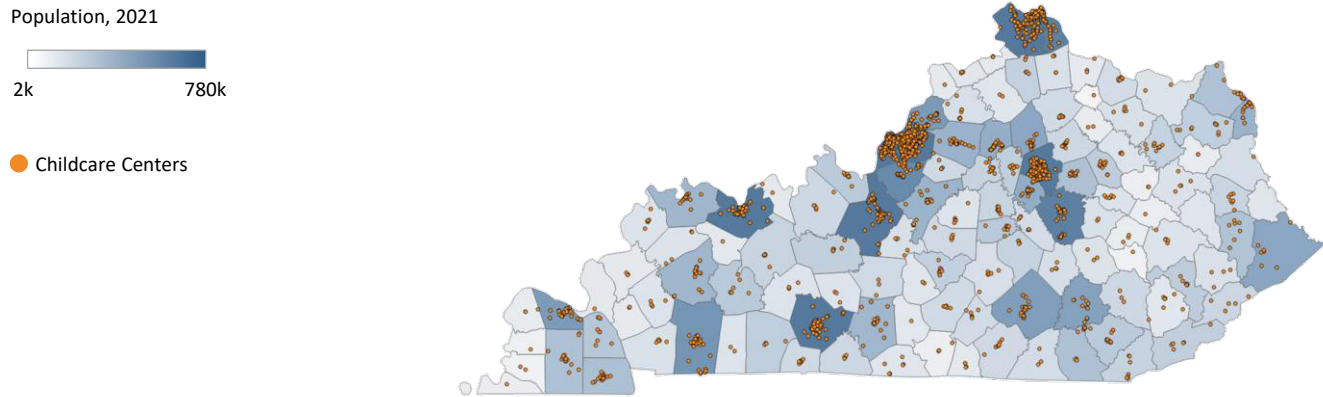


Exhibit data source: Kynect Benefits, Homeland Infrastructure Foundation-Level Data (HIFLD)



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