



A Vital Midwest

The Path to a
New Prosperity

John Austin
Alexander Hitch
JANUARY 2020



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FOREWORD

By Richard C. Longworth

Much of the world's attention to the Midwest is an almost indecent fascination, born of the 2016 presidential election, with the postindustrial rust and ruin of the region's old factory towns and rural hinterlands. With the nation's gaze thus averted, the rest of the Midwest has been reinventing itself. The result, half completed, looks nothing like the silos and smokestacks of yore.

That transformation is the theme of this important report.

The old Midwest was an industrial dynamo that powered the American economy. Its great cities—Chicago, Detroit, Cleveland, Pittsburgh, Flint, Milwaukee—became mighty locomotives that pulled the entire region behind them.

That Midwest is gone. The industrial age was replaced by globalization, making demands the old Midwest could not meet. Of the great cities, only Chicago and Pittsburgh truly thrive in the global age: both are transformed, neither industrial now nor a locomotive. Many cities and towns struggle to find their place. So do many of the smaller factory towns in their orbit. Some may recover eventually, others may not: the jury is out.

But already we see a new Midwest, powered by different places, people, and industries. This new Midwest thrives on brains, not brawn. It produces ideas and services, not ingots and autos.

Manufacturing still exists, of course, and is as productive as ever, but it generates only a fraction of the jobs it once did. In its place are new economic engines: business services, health and medical, clean energy, IT, bioscience. Will they grow in time to power the entire region? Again, the jury is out.

What we do know is that most of the economic capitals of this new Midwest are not the old industrial cities. The new economic centers are places like Columbus, Ohio; Des Moines, Iowa; Indianapolis, Indiana; Madison, Wisconsin; and Minneapolis, Minnesota. They have much in common. Many are state capitals or university towns or both. Few have a legacy of heavy industry to overcome. What they lack in brownfield sites they make up for in nonmanufacturing industries—insurance, publishing, healthcare—that have weathered the transition from the industrial age to the knowledge economy.

The new economic centers have other things in common. All have leaders who understand that the world has changed and their cities must change with it. And all know where they stand on the global supply chain. They are global cities now, earning their living from the global economy.

In this, the Midwest is not alone. The new Midwest mimics the pattern reshaping regions across the United States and around the world. Columbus and Indianapolis have counterparts in Austin, Texas, and Salt Lake City, Utah, in Stuttgart, Germany, and Toulouse, France.

None of this is easy. The Midwest, like other regions, is caught in the painful shift from one economy to another. There is a growing split between winners and losers, between well-educated city dwellers and the left-behind, angry residents of old factory towns and crumbling rural areas. The impact is political and social, not just economic.

The Midwest's transformation is not yet complete. The job now is to look closely at the places that are thriving in this new economy to understand what makes them successful. Their success can be replicated across the region. This report tells us how.

The industrial age shaped the Midwest—its cities and people and politics. The global age will do the same. The new Midwest will not look much like the old; for many of its citizens, that hurts. But the new Midwest is already here. As this report makes clear, the region is not helpless: leadership at the local, state, and national level is once again making the Midwest a good place to work and live.



EXECUTIVE SUMMARY

The Midwest has a unique economic, social, and cultural history and development story line.

The region stretching from Minnesota, Iowa, and Missouri in the west along the Great Lakes and Ohio River Valleys to Pennsylvania and New York in the east includes all or part of 12 states that built a highly interconnected agro-industrial economy over generations (Figure A). This region, home to more than 70 million people, possesses a dynamic political and economic history that lies at the center of America’s economic growth and keeps the region front and center in politics today.

A lot has changed since the Midwest served as the birthing ground of the great industries—processed food, retail commerce, aviation, cars, chemicals, steel, electronics, machinery, consumer durables, and many more—that powered 20th-century America.

Much has also changed since a generation ago, when globalization and new industrial rivals diminished the region’s economic primacy, shuttered hometown employers’ doors, and left many communities struggling. This collective transition earned the region its “Rust Belt” moniker.

Over recent years, the forces of technological disruption, new lifestyle and work preferences of young and mobile talent, changing demographics, and media in an increasingly wired world have continued to alter the dynamics of the global marketplace, the shape of communities, and the economic position and possibilities for the residents of the region.

Today the Midwest is neither an economic monolith nor, despite lingering popular misconceptions, a “Rust Belt.” Many Midwest communities, large and small, have successfully evolved from their industrial and farming roots and are winning in today’s globalized, tech-based, and knowledge-driven economy. Most of the region’s major metros—from the Twin Cities in the west to

Figure A: **The Midwest**



Source: Chicago Council on Global Affairs

Indianapolis at the nation's crossroads to Pittsburgh in the east—are diverse, thriving hothouses of knowledge work.

What's more, all of the communities anchored by one of the region's numerous top-flight research universities (such as Iowa City, Ann Arbor, and State College) are thriving in an economic era in which talent and innovation dominate.

Many other Midwest communities that are neither major metros nor home to top research universities have also found paths to new success by embracing the forces of economic change and building on their particular assets to create a new era of economic vitality.

These include cities such as Columbus, Indiana; Midland, Michigan; and Rochester, Minnesota—cities that are thriving as their anchor employers stay on the cutting edge of innovation in emerging sectors.

Others—such as Rockford, Illinois, and Troy, Michigan—succeed by engaging economically and socially with the world, selling to global markets, and welcoming immigrant talent and new populations.

Grand Rapids, Michigan, and Milwaukee are growing their economies and reinvigorating their communities through leadership in the “green” and “blue” economies of tomorrow, building a foundation in environmental sustainability and smart-water technologies.

Kalamazoo, Michigan, and Georgetown, Kentucky, succeed by marking themselves as either highly educated communities or places that have workers equipped with the skills needed to compete in a changed economy.

Others, such as Eau Claire, Wisconsin, and Brown County, Indiana, harness particular local assets of natural location, historical and cultural attributes, and a special quality of life.

Still others, such as Minneapolis-Saint Paul, having turned the economic corner, are accelerating growth by forging more inclusive communities and shared prosperity.

Additional efforts can be made to support communities that are making strides but have yet to fully turn the corner. In this report, we suggest a new designation for such cities and towns: “Communities in Transition.” Purposeful and strategic efforts on the part of Midwest public- and private-sector leaders, coupled with a federal designation that allows for increased financial assistance, can help support these and other communities to thrive in the new economy as the old one fades from view. And when Midwest communities do find economic purchase in this new era, their residents are often more optimistic, forward-looking, less responsive to nativism and nostalgia, and less inclined to retreat from the world.

Accelerating economic change across the Midwest

Today there are two Midwests. While many communities have successfully outgrown their industrial shells and boast diversified and dynamic economies, the region is also home to the country’s largest number of older industrial communities that, having lost anchor employers, remain adrift.

The region’s uneven success in adapting to economic change and residents’ anxieties about the future put the Midwest on the map in 2016, when key Midwestern states played a determinative role in the US presidential election.

As we enter 2020 and attention remains focused on the people and places of the Midwest, the region’s leadership, as well as national leaders looking to nurture new economic opportunity for Americans in many left-behind places, must articulate and make real an affirmative, outward-oriented economic vision for the future of the region—an agenda for action that reaches citizens and communities across the Midwest, building on the region’s many economic strengths, addressing its particular challenges, and helping residents adapt successfully to today’s disruptive forces of automation, global interdependence, and demographic change.

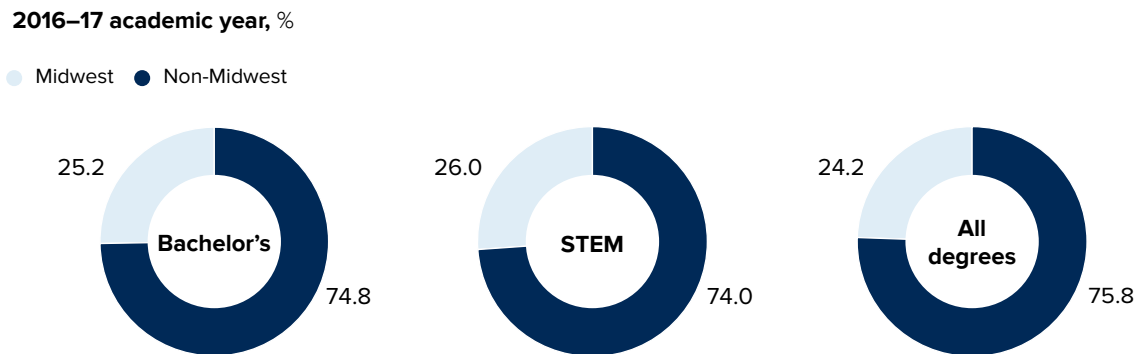
The good news is that the region has powerful assets that matter enormously in the economy of today. Home to globally engaged companies and producers, the Midwest remains a huge domestic market with an unrivaled network of top universities and colleges that, per capita, produce a larger share of US talent and innovations (Figure B).

Home to rich farmland and 20 percent of the world's surface freshwater in the Great Lakes, the Midwest boasts other valuable natural amenities as well.

As climate change takes an increasing toll on other regions, the Midwest's natural assets provide a haven and sustainable platform for population and economic growth. Home to rich farmland and 20 percent of the world's surface freshwater in the Great Lakes, the Midwest boasts other valuable natural amenities as well. These include 10,000 miles of freshwater coastline along the Great Lakes, thousands of inland lakes, countless rivers and forests, and many scenic and recreational areas. The Midwest is also home to communities with a rich quality of life and iconic architecture, arts, culture, and history—communities that are warmed by Midwestern traditions and values and provide a cost of living 20 percent lower than elsewhere in the country.

But to succeed uniformly, the region must also confront head-on the unique challenges presented by an economy and society built during the region's 20th-century heyday: a dearth of capital to turn the region's innovation into new jobs and businesses; many workers with only a basic high school education in a workplace defined by rising skill demands; and an economic security system of pensions, healthcare, and unemployment adjustment built for the industrial era that doesn't support the region's workers today.

Figure B: Midwest share of US higher-education degrees



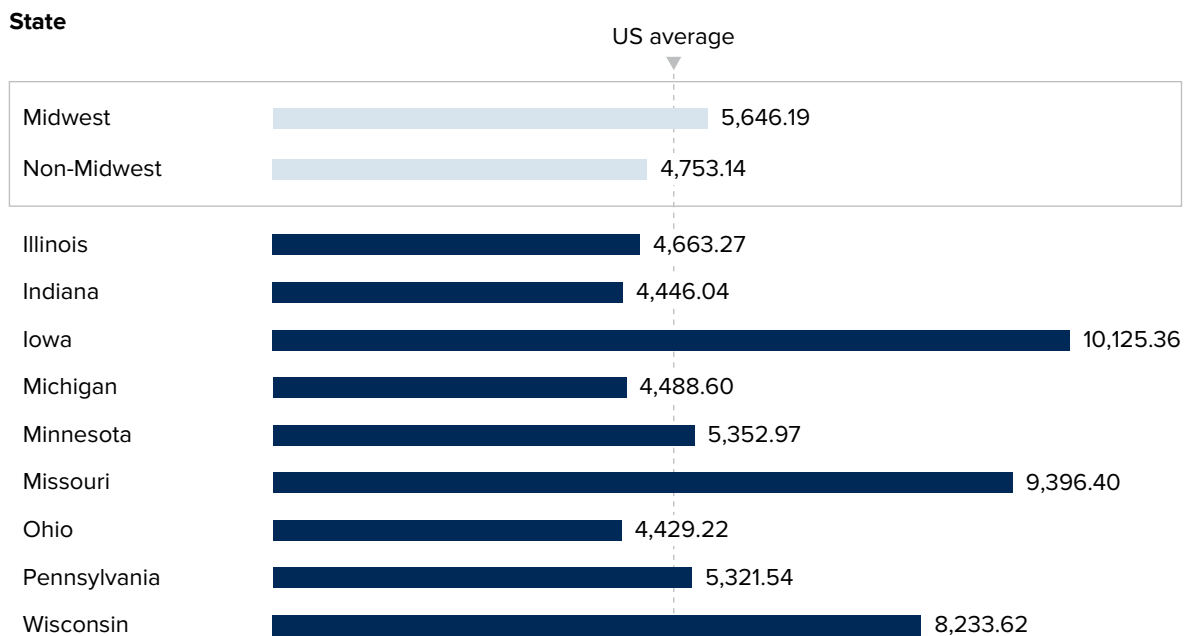
Note: Data include the states of Illinois, Indiana, Iowa, Minnesota, Michigan, Missouri, Ohio, Pennsylvania, and Wisconsin.

Source: National Center for Education Statistics; US Census Bureau

The Midwest has some of the country’s oldest infrastructure, and the costliest to repair (Figure C), with an outsize share of brownfields and polluted areas. The region is defined by a fractured political landscape and the most racially segregated communities in the country. And the existence of thousands of local government units, many with a dwindling tax base, means that communities have limited ability to organize to meet the needs of their own residents, not to mention compete with other global regions.

Figure C: Expensive Midwest infrastructure needs

Infrastructure costs per capita, \$



Source: 2017 Infrastructure Report Card, American Society of Civil Engineers, 2017

Despite these challenges, the success of so many people, places, and businesses, firmly anchored in the Midwest and succeeding in today’s global economy, demonstrates that there is a positive and achievable vision for a newly Vital Midwest—a Midwest that:

- Thrives in a globalized economy and adapts to dramatic technological, demographic, occupational, and environmental change, while accelerating business growth and innovation in emerging sectors
- Engages globally and is connected to the world, serving as a leader in international trade while building on its talent base and attracting new and diverse populations
- Harnesses unique place-based assets ranging from abundant woods and waters to special histories, culture, and values that help people and places find economic purchase in a changed economy

- Provides a new image of the Midwest as the center of innovation and growth in emerging jobs and industries, and as a magnet for talent enabled by attractive and globally engaged places to live, work, play, and operate businesses

It is no overstatement to say that in 2020 the eyes of the country, and much of the world, are focused on the economic position, attitudes, and disposition of Midwesterners, given their defining role in the 2016 election and the pivotal position of key swing states in 2020.

An urgent national and Midwestern priority is to foster more inclusive and broadly shared economic opportunity so that fewer people and communities feel abandoned, isolated, and unable to control their economic destiny. Leaders within the region and those seeking the presidency—who will likely require the support of Midwestern voters—must provide alternative visions to isolationism, protectionism, and nostalgia as fixes for residents’ economic woes.

The blueprint for spreading economic opportunity and optimism to more people in the region is to model existing community paths to success; implement effective programs, policies, and public–private partnerships; and advance reinforcing federal priorities.

In particular, the blueprint will rely on state and local partnerships and federal policies that support:

- **Emerging-sector innovation hubs:** Organize state and local public–private partnerships and increase federal investment in research, development, and innovation in the emerging sectors of energy, water, food systems, mobility, healthcare, and information technology (IT) focused through innovation institutes, housed at Midwestern research universities.
- **Capital for “Communities in Transition”:** Create additional state, local, and public–private innovation funds. And, as part of a new federal place-focused economic development agenda, create new investment funds to provide favorable tax treatment of private-sector investments in regions and communities with transitioning economies.
- **Open doors and fair trade:** Build state and local leader advocacy and organizations to support domestic exporters, explore foreign markets, and advocate for federal trade policy that creates a stable, predictable environment; opens markets; and secures opportunities for exports while ensuring a steady supply of fairly traded imports.
- **Green leadership:** Set goals for sustainability and provide leadership. Mayors, governors, and the US president can set a goal of 90 percent clean energy by 2050, and the federal government can recommit to global agreements to reduce carbon emissions and greenhouse gases. Such commitment will drive Midwest-based clean energy innovation, new technology development, and business and job growth.
- **“GI Bill for Workers”:** Support state policy leadership and federal flexibility allowing states to package dollars to deliver a financial guarantee for postsecondary credentialing for the existing workforce, with those most at risk of dislocation concentrated in the Midwest.

- **Portable pensions and healthcare:** Support federal policies that create incentives for states to develop public–private portable pension, savings, and healthcare programs to maintain worker security and support mobility in a changing labor market.
- **Community-based free college:** Catalyze community-based higher education “promise” programs similar to the Kalamazoo Promise through a new federal-state-local investment matching program.
- **Infrastructure policy and funding that significantly increases federal subsidies:** Provide additional federal resources for infrastructure modernization, with financing flexibility to support multimodal infrastructure priorities at the state and local levels.
- **Economic development focused on “Communities in Transition”:** Package existing federal economic and business development and support services, focusing them on newly defined transitioning economies. Incorporate criteria to support policies that reward collaborative, community-driven, inclusive growth strategies.
- **Heartland Visas for “Communities in Transition”:** Support immigration policies that provide greater access to newly designated Communities in Transition for high-skill immigrants, refugees, entrepreneurs, and guest workers, and that support paths to citizenship for DREAMers—young, undocumented immigrants who came to the United States as children.

There was a time when the nation and Midwestern leaders joined together to develop land, higher education institutions, and an economic infrastructure that supported one of the strongest economies on earth and put the region, and the country, at the front of the world stage. In the early part of the 20th century, the forward economic march of the Midwest faced a wave of isolationism and nativism driven by the First World War and the seismic economic dislocations of the Great Depression. But rather than succumb to these trends, the region’s business, labor, civic, and political leaders crafted an affirmative and engaged economic and social response to a changing world. That time has come again. A new 21st-century vision and partnership to build a Vital Midwest will help reinvigorate our nation’s economy by extending opportunity to people and places that have been left out of today’s economic transformation, and go a long way toward healing our nation’s political divides as well.



1

INTRODUCTION

The American Midwest holds a special place in the economic story of the United States and, by extension, the world.

It was America's first frontier, then the cradle of its agricultural and industrial might. It was the birthplace of great industries and a mecca for migrants seeking a better life and economic opportunity. It became the forge of America's middle class and its social compact.

During the early 20th century, the Midwest experienced many political and economic struggles. But the region's business, labor, civic, and political leaders crafted an economic and social response to a changing world. The region built on its tremendous assets—raw materials, rich farmland, and robust manufacturing base—and sold its products and services across the globe. It translated a commitment to scholarship, innovation, and equality into investments in universal education, infrastructure, and leading research and postsecondary institutions, all while building America's worker employment security safety net. By midcentury, the Midwest powered America's postwar economic prosperity and global economic leadership. The result was a period of unrivaled economic success that shaped the international order, with the Midwest playing an outside role thanks to its dominant industrial, manufacturing, and agricultural sectors.

The region is making an uneven transition from the industrial era it helped create to find success in the new technology- and knowledge-based global economy.

Then the world changed again. Revolutions in communications, transportation, technology, and trade reorganized the world economy and reshaped the region's mighty industries, shrinking employment and populations in many manufacturing communities. The region became known as the Rust Belt.

Indeed, many parts of the Midwest were hollowed out. Boarded-up towns, empty factories, aging populations, and deteriorating infrastructure defined numerous communities. But that is not the region's entire story. Many communities have harnessed assets honed in the industrial era—acumen in innovation, global companies, talent-producing colleges and universities, and history and place attributes both natural and man-made—to find success in a changed economy.¹ In short, the region is making an uneven transition from the industrial era it helped create to find success in the new technology- and knowledge-based global economy.

Of course, the Midwest has no physical border clearly delineating its states and communities. Instead, the region is defined by a shared economic, social, and cultural development and history. It encompasses all or part of 12 US states¹ and includes interconnected production and distribution systems that tie in the bordering Canadian province of Ontario (Figure 1). This regional definition was detailed in two complementary works: the 2008 book *Caught in the Middle: America's Heartland in the Age of Globalism* by Chicago Council on Global Affairs Senior Fellow Richard C. Longworth, and the 2006 report *The Vital Center—A Federal State Compact to Renew the Great Lakes Region* by Brookings Institution Nonresident Senior Fellow John C. Austin.² Both chronicled the economic and cultural history of the region as well as its unique economic strengths and challenges.

Much has happened in the ensuing decade. Today, the Midwest is not a broad region of decline as it is often portrayed. While some communities remain adrift, many others have turned an economic corner. The region's uneven success in adapting to economic change has underlined residents' anxieties about the future, drawing renewed attention to the region as it played a politically determinative role in the 2016 election.

¹ The economic region that shares a highly interdependent agro-industrial, social, and cultural development pattern stretches from Minnesota, Iowa, and Missouri in the west along the Great Lakes and Ohio River Valleys and includes Wisconsin, Illinois, Michigan, Indiana, Ohio, western Pennsylvania, and sections of northern Kentucky, West Virginia along the Ohio River, and western New York. Data incorporated in this analysis draw on the core states and parts of other states where practical, and where results are not skewed (for example, New York state data often skew to favor the eastern portion and New York City and are in such instances omitted). The Canadian province of Ontario is included in the analysis where relevant.

Figure 1: **The Midwest**



Source: Chicago Council on Global Affairs

The purpose of this report

This report aims to accelerate the Midwest's economic transformation. At this critical moment, it is important for the region's leadership, as well as national leaders looking to nurture new economic opportunity for Americans in many left-behind places, to articulate a positive and hopeful vision for the future of the region.

This must be informed by a fulsome and nuanced understanding of the Midwestern economy and society. Today the Midwest is exhibiting a divergence in economic opportunities similar to what the United States is experiencing more broadly. For those unfamiliar with the Midwest, this report offers a primer on the unique economic, social, and cultural story lines that have shaped the region's development and its economic positioning today, including a discussion of the varied experiences of the region's residents.

This report identifies and illustrates the varied economic success paths of the numerous Midwestern communities that *are* thriving in a new economic era. Sprinkled throughout are vignettes about communities, large and small, that are finding economic success. Their stories illustrate the key levers and the varied paths by which once prosperous, then struggling, and now thriving communities are finding economic purchase. Their stories also show there is much the Midwest's state and local leadership is doing right: harnessing communities' particular economic assets while attending to real economic deficits to rebuild economic success for a new era. The recommendations for action that follow identify additional priorities and interrelated practices that can help federal, state, and local leaders accelerate community transformation.

The bulk of the report identifies and describes key components of the Midwestern economy's advantages and deficits, which collectively mount a bold vision for how to spread economic opportunity, security, and newfound optimism to more people and communities in the Midwest. A section at the end of the report summarizes an agenda for action to deliver economic opportunity to more of the region's residents.

Chicago, given its global stage presence, is clearly an anchor of the Midwest economy and culture; however, the experience of its residents and the path of its development are different from those of other Midwestern cities. Likewise, while rural agricultural communities have long formed a rich layer of the region's tapestry, and some host assets that may spur new growth and development, on balance their development will also follow a fundamentally different path in this new economy.

Most importantly, this report provides a positive alternative vision to global disengagement and economic nostalgia. It frames an agenda for action that reaches citizens and communities across the Midwest, building on their many economic strengths, treating their particular challenges, and helping them adapt to today's disruptive forces of automation, global interdependence, and demographic change.

There is no monolithic Midwest or Rust Belt economy, but rather two Midwesterns: one in which major metros, university towns, and communities with particular economic, geographic, or lifestyle assets grow and thrive, and another consisting of communities that have fallen further behind their peers as the economy has changed. Today's challenge, as well as its opportunity, centers on how to accelerate economic change and adaptation beyond the success stories. How can we speed the transition to a winning, globally engaged economy and extend it to more of the region's communities and residents?

VISION FOR THE MIDWEST

The forces responsible for the unraveling of the Midwest’s manufacturing-based economy in the late 20th century are well documented. A global economy, flattened by revolutions in communications and transportation, enabled new international competitors. Accelerating technological change and automation dramatically restructured the region’s industries, obliterating a huge number of well-paying assembly line jobs and shuttering many Midwestern factories.

Less well-known is the explosion of new markets enabling new business and job growth—including in the Midwest—in many sectors such as IT, finance, education, medicine, and consumer and business service, as well as growth in places now serving the lifestyles and changing preferences of mobile talent. In some places, new technologies and a globally integrated economy have largely meant disruption and dislocation as job opportunities have vanished, young people have fled, and the residents who remain have grown frustrated over diminished job prospects. In other communities, however, these advancements have led to an economic rebirth and rebranding.

In recent years, the forces enabling globalization have accelerated, while new forces have emerged to shape the patterns and prospects for community development and economic opportunity in the Midwest:

- Automation and artificial intelligence continue to reshape work patterns, redefining and in some cases obliterating occupations, increasing education and skill demands, and facilitating growth in new jobs and businesses in heretofore unimagined arenas.
- Changes in the patterns of work and the preferences of workers in a knowledge-driven economy are accelerating urbanization and geographic and income polarization.
- These location preferences of increasingly mobile talent place a premium on lifestyle, amenities, and quality of life as local economic development drivers.
- The response to climate change is catalyzing a reworking of community and business systems for sustainability and resilience—creating new markets and demands for sustainable solutions, products, and services—while affording locational advantages to regions like the Midwest with more predictable water and weather.
- Demographic change is accelerating population diversity, pressing all communities to bridge divides of race and ethnicity and maximize economic advantage by forging more inclusive economic growth in an improved economy.
- The faster pace, immediate communication, and interdependence of global cultures and economies demand aggressive efforts to make these interrelationships mutually constructive, not destructive and destabilizing.

The Midwest’s response to today’s drivers of economic change shapes the opportunity for economic success across the region. To meet these ongoing changes, we describe a vision for a Midwest economy that harnesses these forces and puts them to work to create a new round of economic opportunity and prosperity.

We envision a Vital Midwest that:

- Thrives in a globalized economy, responding positively to dramatic technological, demographic, occupational, and environmental change while accelerating business growth and innovation in emerging sectors with global reach
- Engages globally and is connected to the world, is a leader in international trade, builds on its talent base, and attracts new and diverse populations
- Harnesses the region's unique variety of place-based assets—its abundant woods, waters, and farmlands around communities with unique histories, its strong values, and its sense of community—to help people and places find economic purchase in a changed economy
- Builds toward a new image of the Midwest as the center of innovation and growth in emerging jobs and industries—a magnet for talent enabled by globally engaged places to live, work, play, and operate businesses

Realizing the vision: Accelerating Midwestern economic transformation

The Midwest's formerly booming industrial economy has experienced decades of economic dislocation, leaving many challenges in globalization's wake. Yet the region has tremendous economic assets, many built on the legacy of its industrial and civic history. Numerous Midwestern communities have harnessed these assets and the forces of change to build a more diverse, knowledge-based, technology-driven, urbanized economy. Cities such as Pittsburgh; Columbus, Ohio; Indianapolis; and Minneapolis are dynamic, economically diversified metro centers. They are no longer understood as mid-20th-century agro-industrial monocultures, such as when Minneapolis was christened the "Flour City" and Pittsburgh the "Steel City." University towns such as Madison, Wisconsin; Ann Arbor, Michigan; State College, Pennsylvania; and Bloomington, Indiana, are magnets of global talent and innovation centers that are largely resistant to recession. As documented in this report, other smaller and midsize communities that lack a leading research university and have lost their anchors still found new economic purchase by staying on the cutting edge of education and innovation, embracing a globalized world, and building on natural and man-made assets of place.

Today's challenge, as well as its opportunity, centers on how to accelerate this economic change and catalyze it beyond these success stories. How can we speed the transition to a winning, globally engaged economy and extend it to more of the region's communities and residents?

This blueprint focuses the attention of regional and national leaders on six priorities that constitute a vision of how to spread economic opportunity, security, and optimism to more people in the Midwest and their communities:

- Driving innovation in the growth sectors of tomorrow
- Forging inclusive growth
- Building and investing in talent
- Enhancing global engagement
- Remaking infrastructure
- Harnessing place-based assets

More Midwestern communities and residents have the opportunity for a robust, engaged future. This report aims to help show the way.



2

DRIVING INNOVATION IN THE GROWTH SECTORS OF TOMORROW

The Midwest was the 20th century’s innovation leader, bringing food, clothing, transportation, and consumer goods to the world while building a prosperous middle class. The next economic transformation centers on how a growing, rapidly urbanizing world develops and deploys solutions and builds communities with IT-driven sustainable energy, water, mobility, and food systems. This transformation must also protect and improve the quality of life of citizens in the United States and around the world. The Midwest has the assets to be an educational, research and development, innovation, and business leader in this economy of the future.

Perhaps the most potent of the Midwest’s economic assets is its network of top colleges and universities (Figure 2). This network includes 20 of the world’s top 200 research universities (including Canadian institutions in southern Ontario)—more than any other region in the country—alongside hundreds of private and public colleges established by the Midwest’s civic, business, and religious leaders in the 19th and 20th centuries.³ Twenty-one of 65 schools in the Association of American Universities are in the Midwest. Moreover, according to *Forbes*, six of the top 25 science, technology, engineering, and mathematics (STEM) schools are in the Midwest.⁴

Much of the research and development (R&D), STEM, and management talent built through the region’s university base is anchored by the Big Ten Academic Alliance,⁵ one of the largest university networks in the country. The 14 mostly Midwestern schools in the Big Ten enroll 600,000 students from the region and world, employ 50,000 faculty, and conduct \$10.6 billion in funded research, nearly as much as the Ivy League and the University of California system combined.⁶

Figure 2: **Top-ranked research universities in the Greater Midwest**

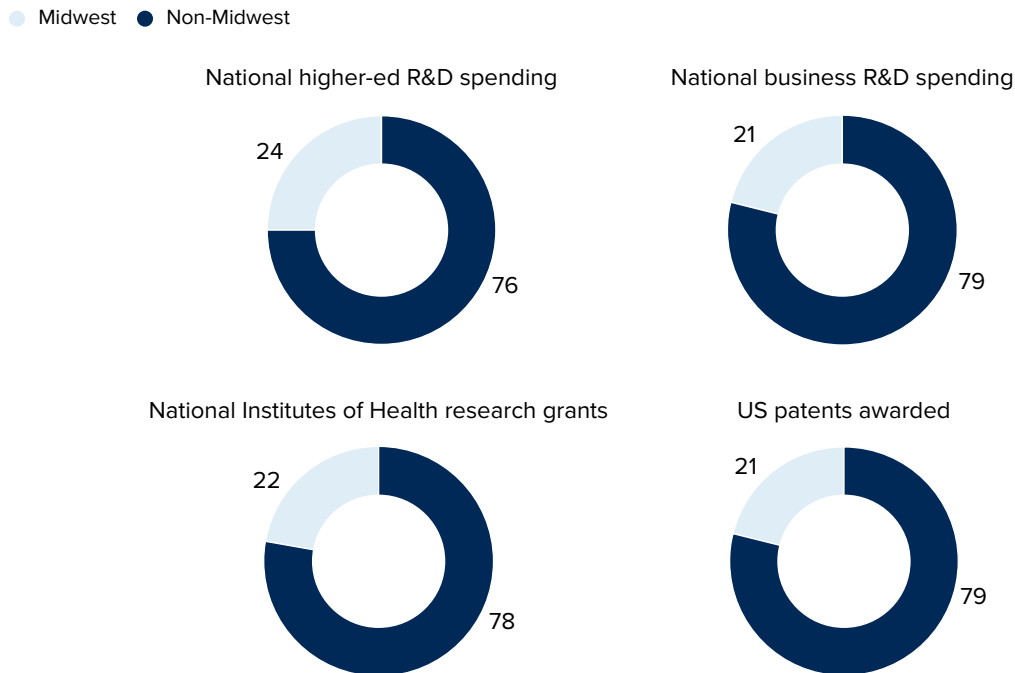
World ranking	Institution	State/province
10	University of Chicago	Illinois
20	University of Michigan, Ann Arbor	Michigan
21	University of Toronto	Ontario
24	Carnegie Mellon University	Pennsylvania
25	Northwestern University	Illinois
43	University of Wisconsin–Madison	Wisconsin
50	University of Illinois at Urbana-Champaign	Illinois
54	Washington University in St. Louis	Missouri
64	Purdue University	Indiana
71	University of Minnesota, Twin Cities	Minnesota
71	The Ohio State University	Ohio
77	McMaster University	Ontario
81	Pennsylvania State University	Pennsylvania
93	Michigan State University	Michigan
110	University of Pittsburgh	Pennsylvania
132	Case Western Reserve University	Ohio
146	Indiana University Bloomington	Indiana
163	University of Rochester	New York
173	University of Notre Dame	Indiana
190	Western University	Ontario

Source: “World University Rankings 2019,” *Times Higher Education*, 2019

These universities, alongside nearly 150 Fortune 500 companies founded or headquartered in the region, provide an unrivaled innovation base. And indeed, the Midwest remains strong in many metrics associated with innovation (Figure 3). While the Midwest contains all or part of 12 states in total, eight of the nine primary Midwest statesⁱⁱ rank in the top half of states by the number of patents awarded per total number of scientists and engineers.⁷ These same nine states in the Midwest are responsible for 20.99 percent of the country’s new patents, 21.25 percent of total business R&D, and 24.28 percent of educational R&D. This R&D foundation also includes 22.36 percent of the nation’s highly competitive National Institutes of Health (NIH) research funding grants, key to creating new drugs and medical technologies.

ⁱⁱ These states include Illinois, Indiana, Iowa, Michigan, Minnesota, Missouri, Ohio, Pennsylvania, and Wisconsin.

Figure 3: High share of innovation from Midwest



Note: Data includes Illinois, Indiana, Iowa, Michigan, Minnesota, Missouri, Ohio, Pennsylvania, and Wisconsin.

Source: "Patent Counts by Origin and Type: Calendar Year 2018," US Patent and Trademark Office, accessed January 14, 2020; "Science & Engineering Indicators 2018," National Science Board, accessed January 14, 2020; "NIH Awards by Location & Organization," United States Department of Health & Human Services, accessed January 8, 2020

The power of these assets to spur economic development and contribute to a modern, post-Rust Belt economy can already be seen. Three of the eight fastest-growing tech talent markets in North America are Madison (number 3), Pittsburgh (number 5), and Cleveland (number 8), according to the 2018 rankings from CBRE Group.⁸ Driven by Carnegie Mellon University and the University of Pittsburgh, the city of Pittsburgh—often characterized as a Rust Belt poster child in national political discourse—has rebuilt its economic fortunes around IT, energy, and healthcare innovation. Similarly, Indianapolis is emerging as a tech hub with a focused, business-led effort to attract and retain talent from the city's leading universities. Innovation guru Ian Hathaway's latest report on communities receiving venture capital (VC) funding—a proxy for an active startup culture—notes that Ann Arbor, Madison, and Pittsburgh are rising faster than national peers.⁹

Clearly, the Midwest has the research, production, and innovation base to become a larger player and build on its comparative advantage in a number of emerging sectors central to the economy of tomorrow. Moreover, today's global challenges provide an opportunity for business growth and job creation in the "Green and Blue" economy—sustainable green sectors, but also "blue" sectors around water technology and innovation, cleanup, and placemaking—and other emerging fields of

work with high social impact. We outline how a targeted, strategic approach could help the region anchor its revitalization in seven sectors:

- *Water solutions*, a growing \$891 billion market (2017)¹⁰
- *Data analytics and IT*, a \$3.76 trillion market (2019)¹¹
- *Energy solutions*, a \$1.35 trillion global market (2016)¹²
- *Food systems*, a \$5 trillion market (2015)¹³
- *Transportation and mobility*, an \$8.1 trillion market (2015)¹⁴
- *Health and bioscience*, a sector accounting for 17 percent of the economy (healthcare),¹⁵ with life sciences directly contributing 1.2 million jobs and exports of nearly \$90 billion (2017)¹⁶
- *Advanced manufacturing*, with applications across a variety of sectors, from healthcare to aerospace to water-sensing devices to bioengineered human–body replacement parts

While many of the Midwest’s long-standing industries, such as auto production, are mature or face a future of diminished demand, emerging industries are meeting new needs on a global scale. Each of these sectors is already large and growing (see sidebar “Driving innovation in the growth sectors of tomorrow: Iowa City, Iowa”), and the Midwest is well positioned to pioneer solutions and reap the rewards of new jobs and growing incomes.

Water solutions

The Midwest is well positioned to strategically develop its water-technology industry, a growing \$1 trillion global market. The region contains 80 percent of the country’s freshwater, water that fed and powered the rise of the Midwest’s agricultural and manufacturing industries. Today, the region is home to leading water-technology firms and innovators including the Milwaukee-area water-technology cluster, guided by the employer-led Water Council (see sidebar “Driving innovation in the growth sectors of tomorrow: Milwaukee, Wisconsin”). The Water Council has developed into a global research and technology hub through the coordinated efforts of the private and public sectors, academic institutions, and government programs.

Other communities around the region are organizing to support emerging water-technology startup clusters, such as Cleveland’s Water Alliance and Cincinnati’s Water Technology Innovation Cluster. This innovative bent is supported by a network of leading water research and education centers, such as the University of Wisconsin–Milwaukee, the University of Illinois at Urbana-Champaign, the University of Michigan’s Water Center, and McMaster University in Hamilton, Ontario.¹⁷

In the private sector, startups such as Pipeline H2O and competitions such as Erie Hack, which nurtures water-technology startups around the Great Lakes,¹⁸ are moving the needle on water technology in the Midwest. In Michigan in particular, more than 400 water-technology employers are making great strides. The activity is anchored by innovators in smart water use at Whirlpool

Corporation (appliances and smart-water systems), Dow Chemical Company (water filters for manufacturing), and Ford Motor Company, which recently ranked as the world's greenest company in a survey conducted by Interbrand.¹⁹

DRIVING INNOVATION IN THE GROWTH
SECTORS OF TOMORROW

IOWA CITY

Iowa

Amid the farm fields of eastern Iowa, the University of Iowa and its associated hospital anchor a fast-growing, economically vibrant university town. Iowa City's labor market is one of the tightest in the nation, with an unemployment rate that has hovered around 2 percent for more than two years.¹ Johnson County, in which Iowa City sits, grew a staggering 25.9 percent between 2010 and 2017.² While the university and medical complex are the largest employers, other local businesses are taking advantage of the talent pool as well, including ACT, Inc, International Automotive Components, and Procter & Gamble. The university has also spun out several innovative startups, including IDx Technologies, which uses artificial intelligence for medical diagnoses and has

raised over \$54 million,³ and iotaMotion, Inc, which develops advanced cochlear implants. Private development is booming, and the university is expanding with new academic buildings, student housing, an art museum, and a mixed-use arena and sports complex.⁴ The city was also the first in the United States to be designated a City of Literature,⁵ in part because of the University of Iowa's famed Iowa Writers' Workshop, whose graduates include novelists John Irving and Flannery O'Connor.

¹ "Local Area Unemployment Statistics," US Bureau of Labor Statistics, accessed November 14, 2019, https://data.bls.gov/timeseries/LAUMT192698000000003?amp%253bdata_tool=XGtable&output_view=data&include_graphs=true.

² Zach Berg and Zachary Oren Smith, "11 Iowa City Area Development Projects to Watch in 2019," *Iowa City Press-Citizen*, December 27, 2018, <https://www.press-citizen.com/story/news/2018/12/27/11-iowa-city-area-development-projects-watch-2019/2362506002/>.

³ Paul Sawers, "Idx Raises \$33 Million for AI Diagnostic Systems That Detect Eye Disease and Other Conditions," *VentureBeat*, September 27, 2018, <https://venturebeat.com/2018/09/27/idx-raises-33-million-for-ai-diagnostic-systems-that-detect-eye-disease-and-other-conditions>.

⁴ Berg and Smith, "11 Iowa City Area Development Projects to Watch in 2019."

⁵ "About," Iowa City UNESCO City of Literature, accessed November 14, 2019, <http://www.iowacityofliterature.org/about-iowa-city-unesco-city-of-literature>.





DRIVING INNOVATION IN THE GROWTH
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MILWAUKEE

Wisconsin

Two decades ago, Milwaukee leaders laid the foundation to rebrand their community, shifting from a focus on manufacturing, beer, and motorcycles to an asset central to the city's economic history and storyline: an abundant water supply. Leaders envision that Milwaukee will become a leader in water technology, central to the region's economic and community development strategy. To solidify this change, Milwaukee business leaders organized the Water Council to guide the development of a global research and technology hub through the coordinated efforts of the private and public sectors, academic institutions, and federal government programs. Twenty years on, Milwaukee is home to a network of 238 water-technology businesses. The Water Council and the

City of Milwaukee offer small-business services, promote tech challenges to drive innovation, and provide resources, programming, and networking opportunities to those involved in the water industry. Moreover, Milwaukee's Water Technology District spurred more than \$211 million in development between 2010 and 2014;¹ indeed, the overall water industry cluster has been a national success story, with annual revenues exceeding \$10 billion.² Other industries and sectors have contributed resources as well: in 2009, Marquette University Law School launched a new curriculum in water law that further "positions the Milwaukee region as the world water hub."³

¹ "Economic Analysis Shows Milwaukee's Water Technology District Has Spurred \$211.6 Million in Development," Water Council, September 24, 2015, <https://thewatercouncil.com/media/newsroom/releases/economic-analysis-shows-milwaukees-water-technology-district-has-spurred-211-6-million-in-development>.

² Nick Williams, "Brookings Study Cites Milwaukee's Water Tech Hub as a Model Industry Cluster," *Milwaukee Business Journal*, July 25, 2018, <https://www.bizjournals.com/milwaukee/news/2018/07/25/brookings-study-cites-milwaukees-water-tech-hub-as.html>.

³ "Water Law," Marquette University Law School, accessed January 5, 2020, <https://law.marquette.edu/programs-degrees/water-law>.

Data analytics and information technology

IT and data-analytics solutions are embedded in the development of most emerging sectors, constituting a \$3.8 trillion global business market.²⁰ While many perceive IT capabilities as being clustered in a few coastal metro areas, the Midwest is home to a growing base of companies

focused on data analytics and resilient computing (see sidebar “Driving innovation in the growth sectors of tomorrow: Madison, Wisconsin”).²¹ From Carnegie Mellon in Pittsburgh to the University of Illinois at Urbana-Champaign, the Midwest possesses some of the country’s leading computer science programs, including five of the top 25 schools for computer science and engineering.²²

Years ago, Big Ten universities in the region pioneered early web browsers and search engine technology and helped pave the way for the internet.²³ These universities continue to lead the development of the next generation of the internet. The Midwest’s IT and data analytics assets also include Chicago’s burgeoning tech startup ecosystem, as well as the large Salesforce hub in Indianapolis. In the emerging fields of cybersecurity, autonomous cars, and robotics, Pittsburgh and Detroit have the unique advantage of being able to integrate software with the hardware produced locally for decades.

Energy solutions

The Midwest could position itself at the center of the transition to renewable energy sources. From large-scale wind turbines to the commodity markets in Chicago, the region has built-in advantages in energy generation, financing, and storage. The region is already a leader in fuel ethanol production, contributing 64 percent of the US supply.²⁴ The Midwest also produces a significant share of natural gas (23 percent).²⁵

However, much of the region’s strength in energy production lies in wind energy; including New York, Pennsylvania, and West Virginia, the Midwest currently operates 29 percent of the country’s total installed wind capacity, with Iowa ranking as the second-largest state in the country in terms of wind capacity²⁶ (see sidebar “Driving innovation in the growth sectors of tomorrow: Adair County, Iowa”). By measures of annual wind capacity additions, five Midwestern states (Iowa, Illinois, Missouri, Michigan, and Indiana) sit in the top 10 as of 2017.²⁷ Moreover, while total US renewable electricity capacity increased from 3.8 percent to 19.7 percent from 2008 to 2017, Indiana outpaced this growth by making a 900 percent increase in installed renewable capacity over the same period.²⁸ The Midwest is also a leader in nuclear energy production, accounting for 28 percent of total US capacity, with the states of Illinois and Pennsylvania ranking first and second, respectively.²⁹

The Midwest could position itself at the center of the transition to renewable energy sources.



DRIVING INNOVATION IN THE GROWTH
SECTORS OF TOMORROW

MADISON

Wisconsin

The capital of Wisconsin and its second-largest city, Madison has an economy chiefly powered by the University of Wisconsin–Madison, one of the world’s largest and most renowned research institutions. The university encompasses UW Health, the largest employer in Dane County,¹ and drives local businesses and startup spillovers. Examples include the metro region’s second largest employer, Epic Systems, which handles the health records of 54 percent of patients in the United States,² as well as American Family Insurance, American Girl, Lands’ End, and Trek Bicycle Corporation. Moreover, Madison ranked first nationally in tech talent growth in 2017³ and 14th worldwide in per capita venture-capital deals,⁴ bucking a regional dearth of venture-capital funding. The city is home to EatStreet, which offers food delivery and takeout in 250 cities, and to a multitude of healthcare startups, such as software firm Redox, which has raised more than \$50 million,⁵ and health solutions firm Propeller, which was acquired in 2018 for \$225 million.⁶ Google and Zendesk also have large operations in the city.

Madison’s cultural assets and quality of life also contribute to the growth of talent. It is one of the most bike-friendly cities in America and has the highest number of parks per capita.⁷ The city hosts weekly concerts on the lawn of the state capitol, a renowned Saturday farmers’ market, and Great Taste of the Midwest, one of the premier beer festivals in the United States.

¹ Joe Vanden Plas, “Largest Employers in Dane County,” *In Business Madison*, September 2018, p. 2, <https://www.ibmadison.com/In-Business-Madison/September-2018/Largest-Employers-in-Dane-County--Job-one-Creating-jobs/index.php?cparticle=2&siarticle=1&requiresl=true#artanc>.

² Jeff Glaze, “Epic Systems Draws on Literature Greats for Its Next Expansion,” *Madison.com*, January 6, 2015, https://madison.com/news/local/govt-and-politics/epic-systems-draws-on-literature-greats-for-its-next-expansion/article_4d1cf67c-2abf-5cfd-8ce1-2da60ed84194.html.

³ Madison Named Top City for Tech Talent Growth, Ranking #1 on CBRE’s Annual List of Tech Momentum Markets,” CBRE, July 19, 2017, <https://www.cbre.us/about/media-center/madison-named-top-city-for-tech-talent-growth-ranking-1-cbre-annual-list-tech-momentum-markets>.

⁴ Phoebe Petrovic, “Madison Ranks High Globally for Startup Cities,” Wisconsin Public Radio, October 9, 2018, <https://www.wpr.org/madison-ranks-high-globally-startup-cities>.

⁵ “Redox,” Crunchbase, accessed November 14, 2019, <https://www.crunchbase.com/organization/100health#section-overview>.

⁶ “Resmed to Acquire Propeller Health, a Leader in COPD and Asthma Connected Health Solutions, for \$225 Million,” Business Wire, December 3, 2018, <https://www.businesswire.com/news/home/20181203005218/en/ResMed-Acquire-Propeller-Health-Leader-COPD-Asthma>.

⁷ “2017 City Park Facts,” The Trust for Public Land, 2017, https://www.tpl.org/sites/default/files/files_upload/CityParkFacts_2017.4_7_17_FIN_LO.pdf.

Complementing this transition, the Midwest's research universities are key partners in developing next-generation energy technologies through engagement in the Energy Innovation Hub network.³⁰ This network develops energy innovations to convert biomass to energy and researches advanced battery storage, materials technologies, more efficient solar cells, and nuclear power generation. Put together, these innovations could have a significant impact on the global energy market and serve as an engine for fast-growing, profitable industries.

DRIVING INNOVATION IN THE GROWTH
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ADAIR COUNTY

Iowa

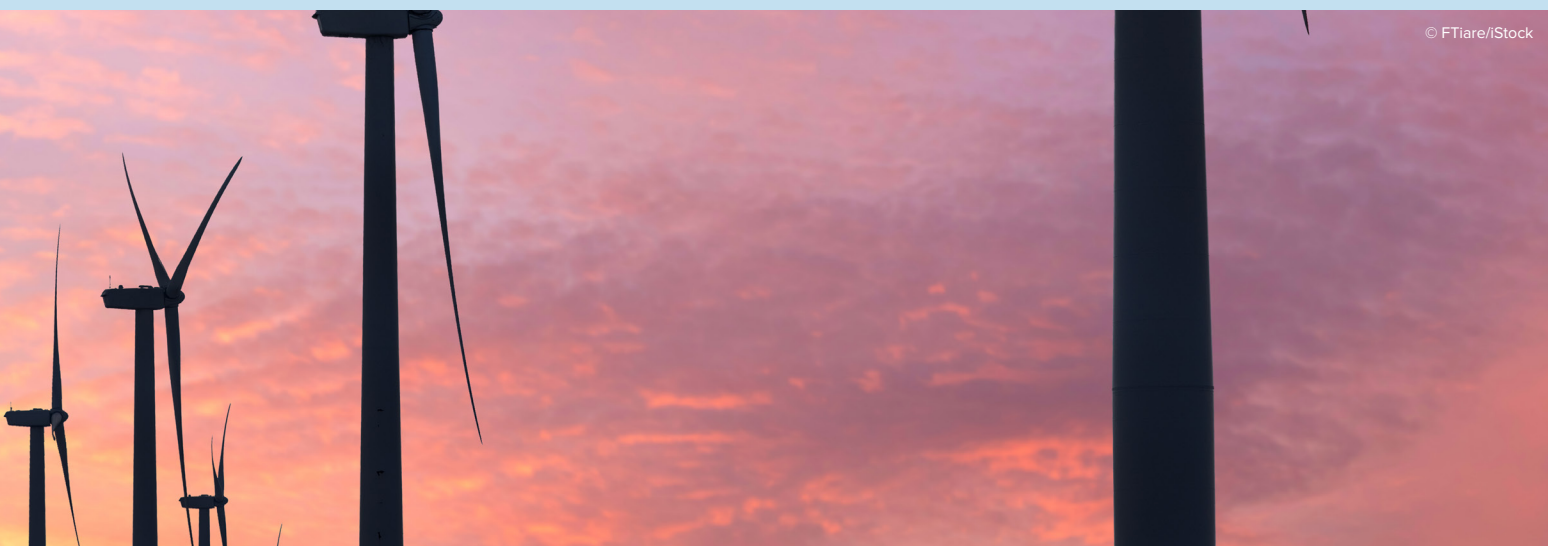
By setting ambitious goals, Iowa has become the second-largest wind energy producer in the United States, leading the nation in megawatt capacity per capita.¹ It is on track to be the first state to derive 40 percent of its energy from wind. Wind farms are spread throughout the state, but two large new projects are currently under construction in rural Adair County, nestled between Des Moines and Omaha. These projects are part of Des Moines-based MidAmerican Energy Company's Project XI, the nation's largest wind energy project.

The two wind farms, Arbor Hill and Orient, will add 550 megawatts of capacity to the grid and power more than 230,000 homes.² The development is set to bolster the county's bottom line, adding an estimated \$6.6 million in annual county property taxes and \$4.8 million in landowner payments. The expected income from the project has been used to improve roads throughout the county and on projects such as bridges and green infrastructure. The wind farms could also bring construction and long-term maintenance jobs to a community that has struggled to keep workers.³

¹ "U.S. Installed and Potential Wind Power Capacity and Generation," WINDEXchange, accessed November 14, 2019, <https://windexchange.energy.gov/maps-data/321>.

² Michelle Froese, "MidAmerican Energy Announces Two New Iowa Wind Farm Projects," Windpower Engineering & Development, May 2, 2018, <https://www.windpowerengineering.com/midamerican-energy-announces-two-new-iowa-wind-farms-as-part-of-wind-xi-project/>.

³ "Adair County, Iowa Population 2019," US Counties: IA Counties, World Population Review, accessed November 14, 2019, <http://worldpopulationreview.com/us-counties/ia/adair-county-population/>.



Food systems

As home to five of the top 10 states for agricultural output, the Midwest is firmly entrenched as a center for global agriculture and maintains its advantage as the country's breadbasket.³¹ From the productive fields of Iowa and Illinois to the headquarters of corporate giants such as Archer Daniels Midland Company, ConAgra Brands, General Mills Inc, and the Monsanto Company, the key players in agriculture are rooted in the Midwest. Producers have now branched beyond commodity and processed food into new markets, including specialty foods as well as local, organic, and niche market products such as craft beers (see sidebar "Driving innovation in the growth sectors of tomorrow: Decorah, Iowa").

The global marketplace for food and food products continues to grow, constituting a \$5 trillion sector today.³² This presents an opportunity for the region to expand its reach globally, should US trade policy allow it. Beyond this traditional strength, however, the Midwest region is also home to top-tier agricultural research and education, with three top-25 global agricultural research and teaching institutions (Michigan State University, the University of Wisconsin, and the University of Illinois at Urbana-Champaign).³³ In addition, other universities, such as the University of Michigan, The Ohio State University, and Purdue University, continue to drive and extend agricultural innovation, working to solve global problems by pioneering urban food systems and sustainable global agricultural practices.³⁴

Transportation and mobility

Transportation and new-mobility solutions represent a rapidly changing and growing market estimated at \$8.1 trillion in 2015 and projected to nearly double that figure by 2024.³⁵ While the Midwest's manufacturing economy is diverse, a significant portion of manufacturing is related directly or indirectly to the automobile industry.³⁶ But as mobility and transportation preferences change, a new market has emerged, not dominated by personal ownership of automobiles but by a "new mobility" landscape. This new sector is defined by multimodal transport and a fast-changing variety of products and service innovations, such as shared-service scooters and ride-sharing applications, all made possible by next-generation IT and business models.

As home to five of the top 10 states for agricultural output, the Midwest is firmly entrenched as a center for global agriculture and maintains its advantage as the country's breadbasket.



DRIVING INNOVATION IN THE GROWTH
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DECORAH

Iowa

Reflecting the growing trend of farm-to-table experiences and sustainable food systems, small cities and rural regions in the Midwest are harnessing the changing dynamic of global food systems. Decorah, a small city of fewer than 10,000 residents, has developed into a rural foodie

hot spot, hosting varied food experiences at everything from local wineries and breweries to “pizza farms,” a component of the farm-to-fork movement.¹ Large breweries such as Toppling Goliath and wineries such as Winneshiek Wildberry Winery tap into a growing interest in organic and local food. Decorah has used these strengths to create a strong tourist culture that features outdoor activities and museums that supplement this food sector-based growth.

¹ Liz Zabel, “Pizza Farms, Like Luna Valley Farm in Decorah, Close the Farm-to-Fork Connection,” *Gazette* (Cedar Rapids, Iowa), April 16, 2019, <https://www.thegazette.com/pizza-farms-luna-valley-farm-in-decorah-farm-to-fork-connection-300-acre-farm-tom-maren-beard-20190416>.

Centered on autonomous car technology led regionally by Detroit and Pittsburgh (see sidebar “Driving innovation in the growth sectors of tomorrow: Detroit and southeast Michigan”), the Midwest is at the leading edge of this transition. Automakers are positioning themselves ahead of this shift, becoming nimbler and replicating some of the risk-taking culture of startup regions like Silicon Valley. This growing ecosystem is a positive for the region at large, as new-mobility startups combine software with hardware design, prototyping, manufacturing, and deployment.

DRIVING INNOVATION IN THE GROWTH
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DETROIT AND SOUTHEAST MICHIGAN

Southeast Michigan is moving fast to claim leadership of the multimodal, IT-laced new-mobility sector of tomorrow. Locally developed automakers Ford Motor Company and GM are redefining themselves as transportation solution-based businesses. For example, GM has a strategic investment and partnership with Lyft and launched its own car-sharing service, Maven. New-mobility testing and projects have already come to Michigan, not just from the traditional Big Three automakers but also from technology companies. Alphabet (Google's parent company) is working with Fiat Chrysler to develop and test autonomous vehicles in Novi, and Uber opened

an innovation hub in Wixom to work on self-driving technology with automakers.¹ Emerging innovations are also being pursued by the region's two national prototyping centers for autonomous vehicles: Mcity at the University of Michigan and the new American Center for Mobility at the former Willow Run bomber facility in Ypsilanti.² The confluence of innovation and new technology development is creating a self-sustaining new-mobility startup business ecosystem, aided by Detroit's Techstars Mobility Accelerator, which brings startup founders from around the country to cross-pollinate innovations in the Motor City.³ Companies as diverse as Revvo (which makes sensing devices to monitor tire health) to LaneSpotter (a cycling app) are among the startups in the organization's fourth class of nascent businesses.

¹ Richard Truett, "Uber Plans to Open Technology Office in Wixom," *Crain's Detroit Business*, January 11, 2017, <https://www.craigslist.com/article/20170111/NEWS/170119943/uber-plans-to-open-technology-office-in-wixom>.

² Anisa Jibrell, "Michigan Mobility Efforts Get \$7.5 Million Federal Grant for Self-Driving Car Development," *Crain's Detroit Business*, September 12, 2019, <https://www.craigslist.com/mobility/michigan-mobility-efforts-get-75-million-federal-grant-self-driving-car-development>.

³ Pete Bigelow, "Mobility Startups Gain Traction," *Crain's Detroit Business*, October 15, 2018, <https://www.craigslist.com/mobility/mobility-startups-gain-traction>.

Health and bioscience

Healthcare and biosciences are booming sectors of the United States’ economy, consistently creating high-paying jobs and facilitating large amounts of research and development that translate into new products and services. The industry grows in and around healthcare centers, teaching hospitals, medical research complexes, and universities, all of which the Midwest has in abundance. The region has seven of the top 25 research medical schools in the country and 15 of the top 50 (Figure 4). Moreover, in 2019 the University of Michigan, Washington University in St. Louis, and the University of Pittsburgh ranked second, third, and fourth in NIH funding.³⁷

Figure 4: **Top-ranked research medical schools in the Midwest**

US ranking	Institution	State
8	Washington University in St. Louis	Missouri
9	Mayo Clinic Alix School of Medicine	Minnesota
13	University of Pittsburgh	Pennsylvania
16	University of Michigan, Ann Arbor	Michigan
16	University of Chicago	Illinois
19	Northwestern University	Illinois
24	Case Western Reserve University	Ohio
27	University of Wisconsin–Madison	Wisconsin
30	The Ohio State University	Ohio
36	University of Rochester	New York
38	University of Iowa	Iowa
38	University of Cincinnati	Ohio
43	University of Minnesota	Minnesota
48	Indiana University	Indiana
50	University of Illinois at Chicago	Illinois

Source: “Best Medical Schools: Research,” *U.S. News & World Report*, 2019

The contribution of these medical research and teaching complexes to local economic development is demonstrated by Rochester’s Mayo Clinic (see sidebar “Driving innovation in the growth sectors of tomorrow: Rochester, Minnesota”), Grand Rapids’ Medical Mile, and the Cleveland Clinic’s collaboration with Case Western Reserve University. In addition, clusters of bioscience, medical parts, and tool design and production companies have helped many older industrial communities, such as Kalamazoo, Michigan (biotech and medical equipment), and Warsaw, Indiana (orthopedics), build or maintain vibrant local economies centered around medical manufacturing.



MAYO CLINIC

DRIVING INNOVATION IN THE GROWTH
SECTORS OF TOMORROW

ROCHESTER Minnesota

Located along the banks of the Zumbro River in southeastern Minnesota, Rochester is primarily known for the Mayo Clinic, founded in 1864 by William Worrall Mayo, an immigrant from England who became Rochester's "country doctor." The clinic grew exponentially in the 20th century; today it employs 65,000 people, including more than 4,800 doctors and researchers.¹ In 2018–19, *U.S. News & World Report* ranked the Mayo Clinic as the top hospital in the country.² With more than 2 million patients a year, Mayo contributes to the success of other employers, including the Federal Medical Center Rochester (one of six intensive medical centers for federal inmates in the country) and the local service industry.³ With more than 2,700 employees, IBM is the second-largest

employer in the city,⁴ as Rochester has historically been one of its most important research-and-development sites, with some of the fastest supercomputers in the world.⁵ Rochester is regularly ranked as one of the most livable and successful cities in America,⁶ and in 2018 it was ranked as one of the most innovative cities in the country.⁷

¹ "An Inside Look at Mayo Clinic," Mayo Clinic, 2019, <https://mcforms.mayo.edu/mc7300-mc7399/mc7360.pdf>.

² "Mayo Clinic," *U.S. News & World Report*, accessed November 14, 2019, <https://health.usnews.com/best-hospitals/area/mn/mayo-clinic-6610451>.

³ "Rochester: Economy," *Cities of the US: The Midwest*, City-Data, accessed November 14, 2019, <http://www.city-data.com/us-cities/The-Midwest/Rochester-Economy.html>.

⁴ Jeff Kiger, "Rochester IBM Head Count: 2,740," *Post Bulletin*, November 18, 2013, https://www.postbulletin.com/news/business/rochester-ibm-head-count/article_b21477fa-de71-58b5-b4c1-59b64c3cdc8c.html.

⁵ Matt McKinney, "Rochester Team Helped Build World's Fastest Supercomputer," *Star Tribune*, June 30, 2018, <http://www.startribune.com/rochester-team-helped-build-world-s-fastest-supercomputer/487031701>.

⁶ "2018 Top 100 Best Places To Live: Ranking Data," *Best Places to Live, Livability*, accessed November 14, 2019, <https://livability.com/best-places/top-100-best-places-to-live/2018/ranking-data>.

⁷ John Harrington and Michael Sauter, "America's Most Innovative Cities," *24/7 Wall St.*, October 30, 2018, <https://247wallst.com/special-report/2018/10/30/americas-most-innovative-cities-2/>.

Advanced manufacturing

The Midwest has the opportunity to be an innovation and technology creation center that prototypes, develops, and manufactures new products and processes. While not a sector in its own right, advanced manufacturing is a series of improvements to traditional material fabrication that enhances the precision of each component through computer-controlled production. This integration of traditional skilled labor with increased automation has revolutionized the factory floor and labor markets in the past several decades, producing a new set of high-skill, high-wage jobs. Manufacturing continues to become more refined across the Midwest, from robotics in Pittsburgh to Mcity and the American Center for Mobility in southeast Michigan. As innovators look to deliver tangible products into the real world, the Midwest can build on its long-standing know-how and competencies in manufacturing and production to build itself into future supply chains.

While US manufacturing employment has recently steadied to around 8 percent of total US employment after decades of decline, several states and regions in the Midwest still possess greater percentages of manufacturing workers than the national average.³⁸ According to *Forbes*, of the top 15 large cities for manufacturing in 2018, several are in the Midwest: the Omaha–Council Bluffs region in Nebraska and Iowa; Louisville, Kentucky; Troy, Michigan; and Grand Rapids, Michigan.³⁹ Through constant innovation and highly skilled labor, Midwestern manufacturing firms can stay competitive in their traditional industrial homes (see sidebar “Driving innovation in the growth sectors of tomorrow: Rockford, Illinois”).

Challenges in translating innovation into new businesses and jobs

The companies and universities in the region and the tremendous wealth generated by the regional economy have endowed the Midwest with formidable innovation, talent-generation, and wealth-creation assets. Yet despite new interest and activity on the part of investors, the Midwest’s innovation has not spurred as many local new businesses and jobs as expected.⁴⁰ Investable ideas and technologies can languish at big companies and universities. While Midwestern universities generate between one-quarter and one-third of the country’s new ideas, technologies, and talent, less than 6 percent of the nation’s total VC investment, which peaked at \$84 billion dollars in 2017, is spent in the Midwest.⁴¹

Promising early-stage companies spawned in the region are too often acquired and encouraged to relocate close to coastal investors, taking the jobs they create with them. Too few newly minted MBAs and budding investment professionals find a home in the region, resulting in a net brain drain.⁴² The reality of Midwest venture investing—a vital component to catalyzing economic growth⁴³—is that the region’s VC firms are fewer, smaller, and dispersed across a broad geography. This comes at a time when trends in the VC industry are demanding larger funding rounds at every stage of early capital investing, leading to fewer, bigger exits.⁴⁴



DRIVING INNOVATION IN THE GROWTH
SECTORS OF TOMORROW

ROCKFORD Illinois

Located on the northern fringe of Illinois, Rockford is the state's largest city outside the immediate orbit of Chicago. Although decades of deindustrialization hit Rockford's traditional employers hard, a continued commitment to innovation in advanced manufacturing, healthcare, and education has enabled the city's population to grow while other Midwestern cities have lost population. More than 20 percent of the metro area's residents now work in advanced manufacturing; a combined 50 percent work in the three sectors of advanced manufacturing, healthcare, and education.¹ Rockford's globally competitive manufacturers include Collins Aerospace, Fiat Chrysler Automobiles, and Magna

International, Inc. and Woodward, Inc.,² putting Boone County—one of two counties in the metro area—among the top 50 counties in the country for exports as a percentage of GDP.³ Outside of manufacturing, Rockford is home to UPS's second-largest air package operation, as well as General Mills, Inc. and Mondelēz International, Inc. Although the metro area has no major universities, it is working toward providing free four-year in-state education to every Rockford high school graduate through an initiative called the Rockford Promise—akin to the Kalamazoo Promise, a higher education scholarship program for Kalamazoo Public Schools graduates in Michigan.⁴

¹ 2018 Quick Reference Guide: Rockford, Illinois, MSA, Rockford, Illinois, March 2018, <https://rockfordil.com/wp-content/uploads/2018/03/QRG-2018-RAEDC.pdf>.

² 2018 Quick Reference Guide.

³ Drew DeSilver, "As Trade Disputes Intensify, Counties That Rely Most on Exports Tend to Be Small and in the South, Midwest," Pew Research Center, June 19, 2019, <https://www.pewresearch.org/fact-tank/2019/06/19/us-counties-that-rely-most-on-exports-tend-to-be-small-in-south-midwest>.

⁴ Jeff Kolkey, "Challenge Issued at Rockford Mayor's State of the City," *Rockford Register Star*, May 16, 2018, <https://www.rstar.com/news/20180516/challenge-issued-at-rockford-mayors-state-of-city>.

The painful irony is that the Midwest generates a great deal of the talent that drives innovation and the wealth that funds new startups but loses both human and investment capital to larger and denser innovation ecosystems outside the region. Because of the small sizes and relatively modest number of Midwestern VC firms, the Midwest's wealth does not routinely translate into new jobs and businesses in the region (Figure 5). A 2019 study of some of the region's leading institutional investors showed that they had collectively invested in 71 VC funds since 2008, but only one of those funds was managed locally.⁴⁵

Figure 5: **Select Midwest large foundations and venture-capital investments**

2019

Foundation	Headquarters	Assets under management, \$ millions	Total commitments: Initial VC funds	Total commitments: Second-stage VC funds and fund of funds
Battelle Memorial Institute	Columbus, OH	1,054	3	3
Bush Foundation	Saint Paul, MN	897	24	10
Charles Stewart Mott Foundation	Flint, MI	2,782	29	20
Cincinnati Children's Hospital Medical Center	Cincinnati, OH	3,906	1	1
Colcom Foundation	Pittsburgh, PA	510	9	6
Ewing Marion Kauffman Foundation	Kansas City, MO	1,700	64	6
George Gund Foundation	Cleveland, OH	528	2	3

Source: John C. Austin, "As the Venture Capital Game Gets Bigger, the Midwest Keeps Missing Out," Brookings Institution, June 6, 2019

This export of much-needed capital, combined with coastal VC investors' lack of trusted allies in the region, creates a spiraling negative effect. This deficiency crimps the Midwest's economic transformation, particularly given the potential of VC investment to create a new economic narrative in the Midwest. With six of the 25 largest university endowments and some of the largest and most renowned foundations now putting money into VC funds, the Midwest has substantial local resources that could drive regional VC growth.⁴⁶

Ironically, Cleveland and Detroit were once entrepreneurial hothouses—the Silicon Valleys of a century ago. While some communities in the Midwest are reclaiming their entrepreneurial roots and spawning new startups, the states of the Midwest are still among the laggards in new entrepreneurial activity in terms of the share of working adults who become entrepreneurs.⁴⁷

The path forward

The region will benefit from policies and strategies that build on the Midwest's prodigious corporate presence, public–private research and innovation, university systems, educational skill base, and production capabilities to ensure that capital and talent are available to support business and job growth in emerging sectors in which the region has clear advantages.

State and local policies

To drive innovation in the growth sectors of tomorrow, state and local leadership should focus on three priorities.

Set state and local goals for leadership in emerging sectors

Goals should focus on energy, water access and efficiency, mobility system building, connectivity, healthcare coverage, and prevention solutions. For example, Iowa, as detailed in this report, has made progress toward a state goal for renewable energy production capacity. On the local level, Grand Rapids has set goals for clean energy use, water efficiency, and a reduced carbon footprint by increasing mobility options through expansion of public transit.

Create state investment programs to catalyze private-sector and venture capital investment

State investment dollars should be set aside to commercialize local innovation initiatives such as the new Illinois Growth and Innovation Fund, which will invest \$222 million from the state's investment portfolio in state VC firms. Similarly, Indiana has created a new fund of \$250 million from the \$3.8 billion raised from the lease of Indiana's toll roads to multiply investment in local VC funds and promising startup companies.⁴⁸

Develop private-sector-led local and Midwest regional investment funds

These can include funds that bring additional capital to commercialize innovations and spur new startups and the growth of the innovation ecosystem. Examples include the Renaissance Venture Fund, a Michigan-based fund of funds that invests across the Midwest, and Drive Capital, a relatively new Columbus, Ohio-based venture fund. Additional research by the Brookings Institution has called for a greater regional fund.⁴⁹

Federal policies

To drive innovation in the growth sectors of tomorrow, federal leadership should focus on two priorities.

Support emerging-sector innovation hubs

Federal investment in research, development, and innovation is needed in the growing sectors of energy, water, food systems, mobility, healthcare, and IT. The deployment of these investments through university-hubbed public-private centers and networks can be catalyzed by the Midwest's leading network of research universities, as demonstrated by the region's existing energy and manufacturing innovation hubs.⁵⁰

Attract capital to Communities in Transition

As part of a new federal place-focused economic development agenda, the federal government can provide favorable tax treatment of private-sector investments in regions and Communities in Transition. An analogue to the current Opportunity Zone investment incentive could define and target broader community-wide or regional geographies undergoing structural economic change.



3

FORGING INCLUSIVE GROWTH

Along with the widening spread between today's economic winners and losers, the Midwest is faced with a changing, more diverse demographic profile overlaying the historic divides of race and geography in the region. This mix of changes poses both acute challenges and unique opportunities for the future of the Midwest.

The Midwest's economic development geography

One of the distinctive attributes of the Midwest is the sheer number of its local governments—a function of the region's history and a factor in its current economic positioning. The Northwest Ordinance, adopted by Congress in 1787, organized the then-territories of the Midwest into six-by-six-mile townships.⁵¹ As frontier cities and towns grew, they were incorporated into numerous additional municipalities. Today, the states of the Midwest have more local governmental units than most other states. The Midwest is home to seven of the top 10 states for total governmental units, and all but New York are well above the country's per capita average for governmental units (Figure 6).

Figure 6: Total governmental units by Midwest state

Rank among US in # of governmental units	State	Total # of units	Governmental units per 100,000 residents ¹
1	Illinois	6,963	22
3	Pennsylvania	4,897	20.6
5	Ohio	3,842	20.2
7	Missouri	3,768	22.9
8	Minnesota	3,672	50.6
9	New York	3,453	8.2
10	Wisconsin	3,128	33.6
12	Michigan	2,875	18.8
13	Indiana	2,709	25.5
17	Iowa	1,947	34
38	West Virginia	659	15.5
	US average	1,776	12.4

¹ General-purpose local governments (counties, municipalities, towns).
 Source: *Governing* calculation of 2012 Census of Governments data; 2012 Census Population estimates

The high number of local units is not a problem in and of itself; there are obvious benefits to elected officials knowing the residents they represent well. But this landscape of numerous political decision-making bodies doesn't serve an economic and demographic geography that has changed dramatically from the 19th century, when life was often self-contained and self-sustaining. Today, with an urbanizing economy and populations congregating in growing metropolitan regions, interdependent municipalities benefit from—even demand—regional organization of transportation, infrastructure, and planning and economic development, among other services. Metropolitan regional communities in the Midwest, fractured into small local governmental units, are often challenged to organize these functions on a broader level.

Balkanized governments and fractured polity

Another defining characteristic of the region is its demographic and racial geography. The sharpest racial divides and most intense segregation in the country are in the older industrial urban regions of the Midwest. Eighteen of the country's 25 communities with the most severe racial segregation are former industrial cities in the Midwest (Figure 7). This is the result of several forces: the Great Migration and migration from Appalachia to the mills, factories, and machine shops of northern cities; the subsequent flight of white residents from these cities; and the strict housing and educational policies that enforced segregation in northern states.

Figure 7: **Black–white segregation by Midwest metro area**

US rank	Metro area	Index of black–white dissimilarity ¹
1	Milwaukee-Waukesha, WI	0.798
3	Chicago-Naperville-Elgin, IL-IN-WI	0.753
4	Detroit-Warren-Dearborn, MI	0.737
5	Cleveland-Elyria, OH	0.729
6	Peoria, IL	0.724
7	Buffalo-Cheektowaga, NY	0.722
8	Muskegon, MI	0.719
9	Niles, MI	0.718
10	St. Louis, MO-IL	0.717
12	Danville, IL	0.675
13	Cincinnati, OH-KY-IN	0.675
15	Youngstown-Warren-Boardman, OH-PA	0.670
17	Flint, MI	0.666
18	Syracuse, NY	0.664
19	Pittsburgh, PA	0.661
21	Rochester, NY	0.651
24	Saginaw, MI	0.649
25	Indianapolis-Carmel-Anderson, IN	0.644

¹ Index ranges from fully integrated (0) to fully segregated (1.0).

Source: Analysis of 2017 5-year American Community Survey data by “Residential Segregation Data for U.S. Metro Areas,” *Governing*, January 8, 2020

Alongside multiple independent political jurisdictions, racial balkanization affects the region’s political decision-making and its ability to organize around metropolitan-wide policies and solutions. Segregated communities also challenge the ability of Midwestern leaders to tap into talent and draw racially marginalized populations into the economy.⁵² Indeed, CityLab’s rankings of the nation’s communities with the highest levels of concentrated economic distress and inequality in opportunity (based on geography) show Midwestern communities among the worst.⁵³ Addressing these deficiencies must be a key feature of meaningful revitalization plans for the region overall. Likewise, any plan for inclusive growth in the region must be responsive to the experiences and expectations of disadvantaged and minority communities, and how these changes affect their livelihood and opportunities for growth (see sidebar “Forging inclusive growth: The Twin Cities of Minneapolis and Saint Paul, Minnesota”).

THE TWIN CITIES of Minneapolis and Saint Paul Minnesota

Business, governmental, and community leaders in the Twin Cities have a long record of collaborating to effectively nurture growth by organizing and investing in education, transit, arts and culture, and urban revitalization. Since 1971, investments in quality of life and place were enabled by one of the country's few successful efforts to share tax revenue across municipalities.¹ Today, the Twin Cities rank at or near the top of the country's large metro areas on a variety of measures, including per capita income, educational attainment, transportation access, quality of government services, and amenities such as parks and bike

trails.² But with a strong economy, the current challenge is to foster success for all of the area's residents—to ensure inclusive growth that benefits marginalized populations. In Minneapolis-Saint Paul, public-private leaders, aided by leading policy innovators at the Center for Economic Inclusion, have created inclusive growth indicators³ and identified a family of effective strategies to implement their initiatives. With large minority refugee resettlement communities, the Twin Cities continue to be at the forefront of inclusive economic growth through active policies and advocacy.⁴

¹ "Fiscal Disparities," Communities: Planning, Metropolitan Council, accessed November 14, 2019, <https://metro council.org/Communities/Planning/Local-Planning-Assistance/Fiscal-Disparities.aspx>.

² *Regional Collaboration Matters: How Metro Minneapolis has forged one of the wealthiest and most livable metropolitan areas in the United States*, Michigan Future Inc., May 2018, <http://www.michiganfuture.org/assets/uploads/2018/05/Minneapolis-Report-Regional-Collaboration-Matters.pdf>.

³ *Indicators of an Inclusive Regional Economy*, Center for Economic Inclusion, 2019, <https://static1.squarespace.com/static/5ae221af-96d4558ab105ea0b/t/5cca0c63ee1a1861b9b3135/1556745339405/CEI+Indicators+Individual+Pages.pdf>.

⁴ Alexander Hitch and Rob Paral, "Workforce Development and Immigrants: The View from Minneapolis," Chicago Council on Global Affairs, June 11, 2018, <https://www.thechicagocouncil.org/blog/global-insight/workforce-development-and-immigrants-view-minneapolis>.



Fiscal distress

A large problem for many of the region's communities is that state and local tax policies in many Midwestern states have not adapted to a changed economy and population. Many older Midwestern communities have lost residents, lowering property values and tax bases and constraining local municipal revenue-raising opportunities even as state revenue-sharing streams have diminished. These communities still face the costs of a built infrastructure designed for delivering services to larger populations, while still paying generous health and retiree benefits that were promised to municipal workers and retirees during the region's economic heyday. Compounding the problem are additional dynamics: as demonstrated above, the Midwest has the country's most segregated communities, where white flight and a concomitant loss of wealth, population, businesses, and the tax base affect numerous cities and towns.⁵⁴ Moreover, the upper Midwest was hit hard by the housing market collapse in the Great Recession.⁵⁵ Property tax revenues, which are the largest source of revenue for many local governments, are now barely at or in some places still below their pre-recession peak.

Taken together, these forces decrease the odds that any given local unit of government has the right kind of economy and housing market within its boundaries to provide a sustainable tax base. Across the Midwest, similar community dynamics and multiple political jurisdictions mean that many communities are pinched. According to a 2017 municipal finance study by the Pennsylvania Economy League, overall municipal fiscal stress in Pennsylvania accelerated from 1970 to 2014:

*"The disturbing drift threatens the ability of all types of municipalities to provide even basic services that keep the communities where we live, work, shop, and go to school safe, well-maintained, and free from crime and blight. It means core municipalities, whose fiscal health has a direct influence on the financial well-being of the surrounding region as centers of commerce, health care, courts, education, and more, are increasingly distressed."*⁵⁶

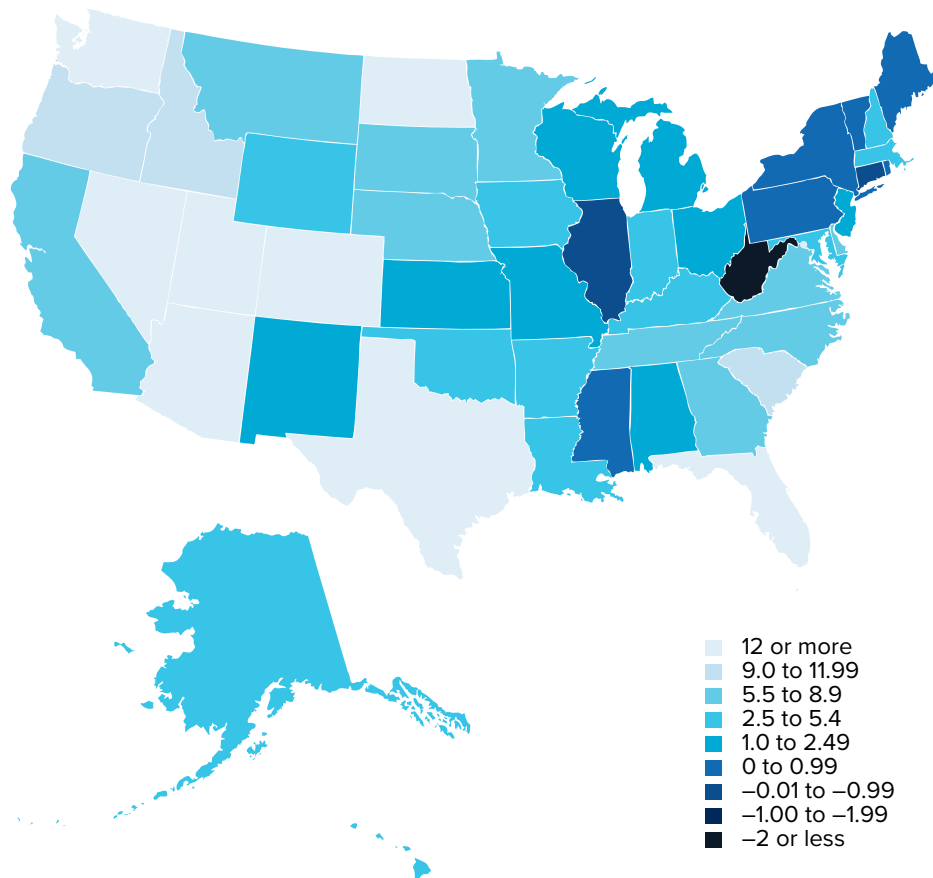
While the Midwest hosts some of the nation's most aged and degraded infrastructure, many communities with dwindling tax bases are left to pay the bill for existing services and commitments to former employees. This complicates considerations of investment in the infrastructure and amenities that would help these communities participate in the 21st-century economy that today's mobile talent expects and demands.

Demographic change

While the Midwest held a dominant position in the economy of the 20th century, in recent decades it has lost population and economic clout to fast-growing Sun Belt and coastal communities. However, these demographic shifts affecting the Midwest are not monolithic. While the region includes two of the states to lose population since 2010 (Illinois and West Virginia), other states, such as Minnesota, Indiana, and Iowa, have experienced relatively strong growth in recent years (Figure 8).

Figure 8: **Population change by state**

2010–18, %



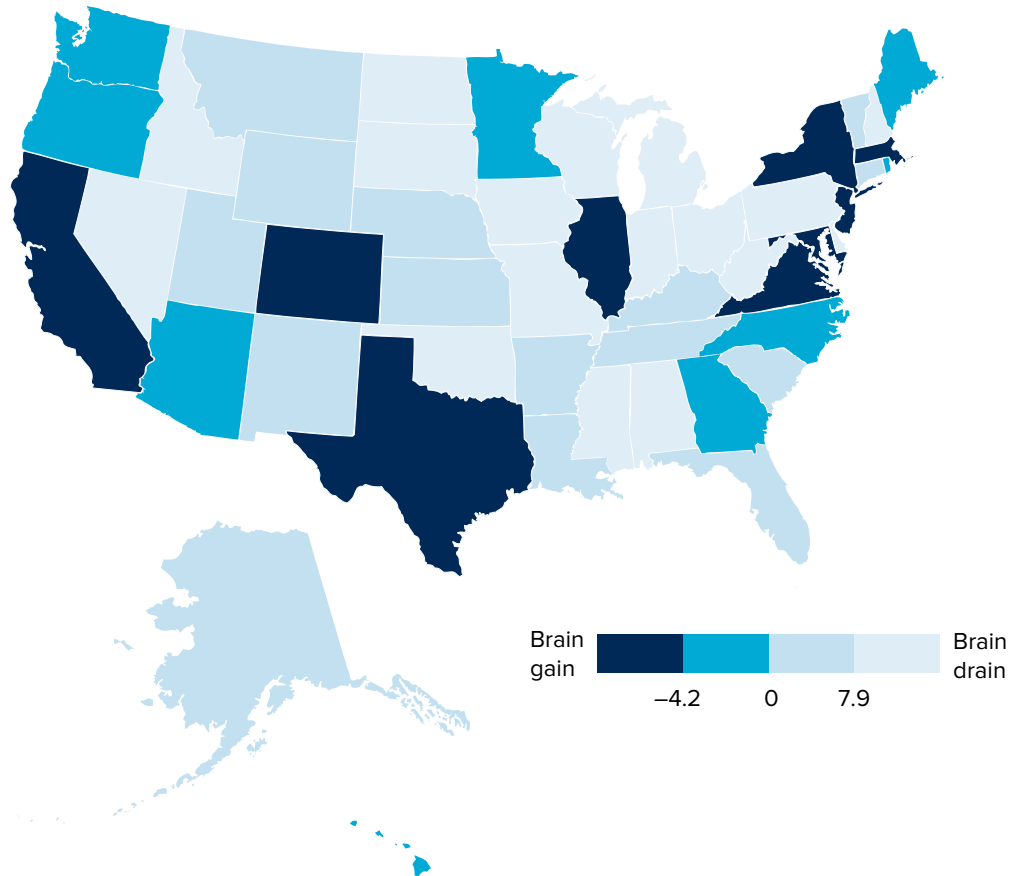
Source: US Census Bureau

On the metro level, while some Midwestern communities continue to lose population, many have reversed their population brain drain and become talent magnets that support a growing, more diverse knowledge economy. The region includes a handful of the country’s fastest growing metropolitan statistical areas: those experiencing growth above 10 percent since 2010 include Des Moines, Iowa City, and Columbus, Ohio, while others, such as Minneapolis, Indianapolis, Madison, and Grand Rapids have grown between 5 and 10 percent.⁵⁷

Despite the fact that the Midwest is a top talent producer, graduates from Midwestern colleges and universities often seek employment elsewhere. Overall, most Midwest states still lose more well-educated residents than they attract (Figure 9). Unlike national population magnets on the coasts and in the Sun Belt, Midwest cities that are gaining population often do so at the expense of smaller communities in their state or the broader region, depriving struggling communities of their homegrown talent base.⁵⁸

Figure 9: **Net brain drain by state**

2017, %



Note: Social Capital Project analyses of IPUMS decennial census and American Community Survey data. See the “Measuring Brain Drain” section for details. Absolute net brain drain is the difference between the share of leavers who are highly educated (top third of the national education distribution) and the share of entrants who are highly educated.

Source: Richard Florida, “The Geography of Brain Drain in America,” CityLab, May 3, 2019

The loss of young talent and the legacy of a relatively undereducated workforce mean that the Midwest, on balance, has relatively low levels of state higher education attainment. Only two states in the region, Minnesota and Illinois, boast higher education attainment levels above the national average of 30 percent of residents holding a BA or higher—though this is likely due to the presence of major metro talent hubs in those states (specifically, Minneapolis-Saint Paul and Chicago).⁵⁹

Changing demographic profile

Midwestern communities and states that have lost domestic population and educated talent have still benefited from flows of immigrants to the Midwest, providing an important counterweight to population decline.⁶⁰

The settlement of the Midwest began more than 150 years ago with immigrants from dozens of (principally) European countries who would eventually power the Midwest's rise and define its culture and communities. But as the industrial economy of the Midwest restructured, losing the descendants of these initial settlers to other regions of the country, new immigrants have continued to arrive, driving economic renewal in many Midwestern communities.

In fact, in much of the Midwest immigrants are a major—in some cases the only—source of population and new-business growth. From 2000 to 2015, non-native-born populations in Midwest metros grew 34 percent (more than 1 million people) and accounted for 37 percent of all population growth in the Midwest.⁶¹ From Racine and Janesville, Wisconsin, in the west to Akron, Ohio, and Erie, Pennsylvania, in the east, growth in immigrant populations has offset slowing growth and decline of the native-born population. Immigrants in the Midwest contribute to local economic growth and job creation, transform neighborhoods, and provide the new workers of all skill levels needed to revitalize local economies—from doctors and STEM professionals to agricultural and meat-packing workers.

While the Midwest has long been a gateway for migration, the immigrants of the past few decades are increasingly people of color from Asia, Africa, and Latin America (see sidebar “Forging inclusive growth: Troy, Michigan”). Some analysts argue that this ethno-racial aspect of immigration has contributed to anxiety and fear about a changing society and culture.⁶² The current US administration perpetuates this narrative with stereotypes, generalizations, and accusations. While many communities in the Midwest have high percentages of immigrants today, fear of changing national demographics is often greatest in Midwest communities that have yet to experience dramatic immigrant inflows and demographic change.⁶³ As a changing population affects local, state, and regional politics, it is more important than ever for citizens and leaders to recognize and reaffirm a commitment to welcome new immigrants. To accelerate economic and population growth in more communities, the Midwest must work to welcome new immigrants who seek the same freedoms and opportunities as prior generations.

More broadly, while growth spots and talent magnets are emerging among the region's communities, the Midwest overall must animate strategies and create conditions that attract the workers of tomorrow. According to the Urban Institute, as the native population ages, regional labor-force growth will slow to about zero as retirements increase and out-migration continues.⁶⁴ Absent changes in these dynamics, retirement of older workers and out-migration of those in their 20s and 30s could further reduce the size of the labor force in coming years.

To accelerate economic and population growth in more communities, the Midwest must work to welcome new immigrants who seek the same freedoms and opportunities as prior generations.



FORGING INCLUSIVE GROWTH

TROY Michigan

A thriving small city in the economically vibrant suburbs north of Detroit, Troy has the highest foreign-born population of any community in Michigan (more than 29 percent of all residents).¹

Most are of Indian or Iraqi descent, and many are highly educated. Troy also has the highest number of refugees in Michigan, with strong representation from South Asia and the Middle East, and residents speak 86 different languages. This diversity serves as a testament to Troy's welcoming and integrative

policies, as well as support organizations such as Samaritas, which assists refugees from Iraq and Syria in resettlement. Other factors make Troy a destination city for immigrant families, such as a top-notch school system and Troy's status as the safest city in Michigan.² The city's young people, whether first-generation immigrants or long-time Michiganders, benefit from growing up and attending classes with students from different backgrounds.³

¹ "Troy, Michigan Demographics Data," USA: Michigan: Troy, TownCharts, November 14, 2019, <http://www.towncharts.com/Michigan/Demographics/Troy-city-MI-Demographics-data.html>.

² "Troy Ranked Safest City in Michigan, 23rd in United States," Detroit CBS Local, February 15, 2015, <https://detroit.cbslocal.com/2015/02/15/troy-ranked-safest-city-in-michigan-23rd-in-united-states>.

³ Julia Kassem, "Troy leads settlement, integration of immigrants and refugees," *Arab American News*, April 29, 2017, <https://www.arabamericannews.com/2017/04/29/troy-leads-settlement-integration-of-immigrants-and-refugees>.

The path forward

Policymakers must model and spread effective region-wide strategies that foster more broadly shared and inclusive economic growth in Midwest communities that are the most balkanized by race and income disparities.

State and local policies

For public- and private-sector leaders at the state and local levels, a number of important priorities for action emerge:

Support effective community-driven workforce strategies

Leaders can support and facilitate workforce strategies such as neighborhood employment hubs⁶⁵ and employer resource networks⁶⁶ to enhance employer-worker connections, training, promotion, and retention. They can also propose economic development planning in collaboration with the federal government and infrastructure funding that rewards collaborative, community-driven inclusive growth strategies.

Reward investments in minority business development

State policies can target development in economically struggling geographies and neighborhoods by offering additional incentives for investment in minority business development.

Create indicators and set goals for inclusive growth

Public and private leaders can model and implement effective strategies for inclusive economic development and growth as seen in metro-wide, city- and business-led coalition initiatives such as those in Minneapolis-Saint Paul⁶⁷ and Cleveland.⁶⁸

Implement policies to welcome immigrants

Leaders should help immigrants integrate into local communities by supporting communities committed to formally welcoming immigrants through programs such as the Welcoming America Network.⁶⁹ They should also provide resources for programming such as English Language Learner (ELL) education, immigrant entrepreneur development, and international student support and retention initiatives.

Federal policies

At the federal level, opportunities to support inclusive metropolitan growth strategies include:

Advocate for federal-regional economic development planning and infrastructure funding

Federal economic development planning for the Midwest should center on policies that reward collaborative, community-driven, inclusive growth strategies while working in conjunction with regional development goals set by state and local policymakers.

Support Communities in Transition and Heartland Visas

Leaders should support federal immigration policies that provide greater access to newly designated Communities in Transition for high-skill immigrants, refugees, entrepreneurs, and guest workers, and that provide paths to citizenship for DREAMers. For example, leaders should advance the Heartland Visa as proposed by the Economic Innovation Group.⁷⁰



4

BUILDING AND INVESTING IN TALENT

The Midwest's robust network of higher education institutions has been a cornerstone of the region's talent pool for generations. As automation, the gig economy, and other forces change workforce requirements, the Midwest workforce faces significant disruption. Furthermore, the worker safety-net system—a system built in the region that flourished after World War II—is disintegrating, limiting the chances of success for populations that have struggled to adapt.

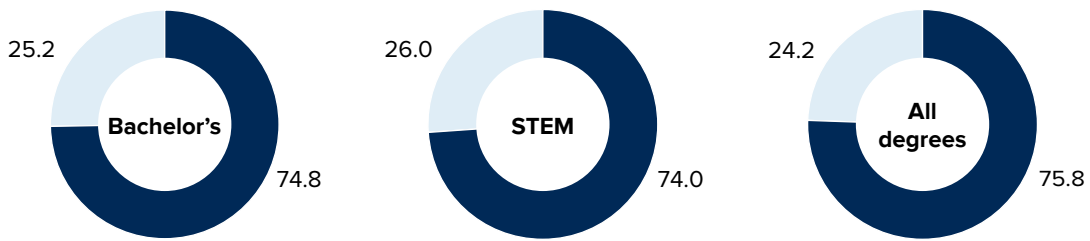
Talent and skill-building base

With today's knowledge economy rewarding the most talented and best educated, the Midwest's expansive network of talent-building institutions, from leading universities to hundreds of private and public colleges and large-scale community colleges, endows the region with unique advantages in this new economy. The Midwest is home to thousands of accredited higher education institutions, helping the region produce talent across a range of disciplines.⁷¹ While the Midwest accounts for only 22.6 percent of the US population, it grants a significant share of US postsecondary degrees across disciplines, including 25.2 percent of US bachelor's degrees, 26 percent of STEM degrees, and 24.2 percent of all higher-education degrees awarded nationally (Figure 10).

Figure 10: **Midwest share of US higher-education degrees**

2016–17 academic year, %

● Midwest ● Non-Midwest

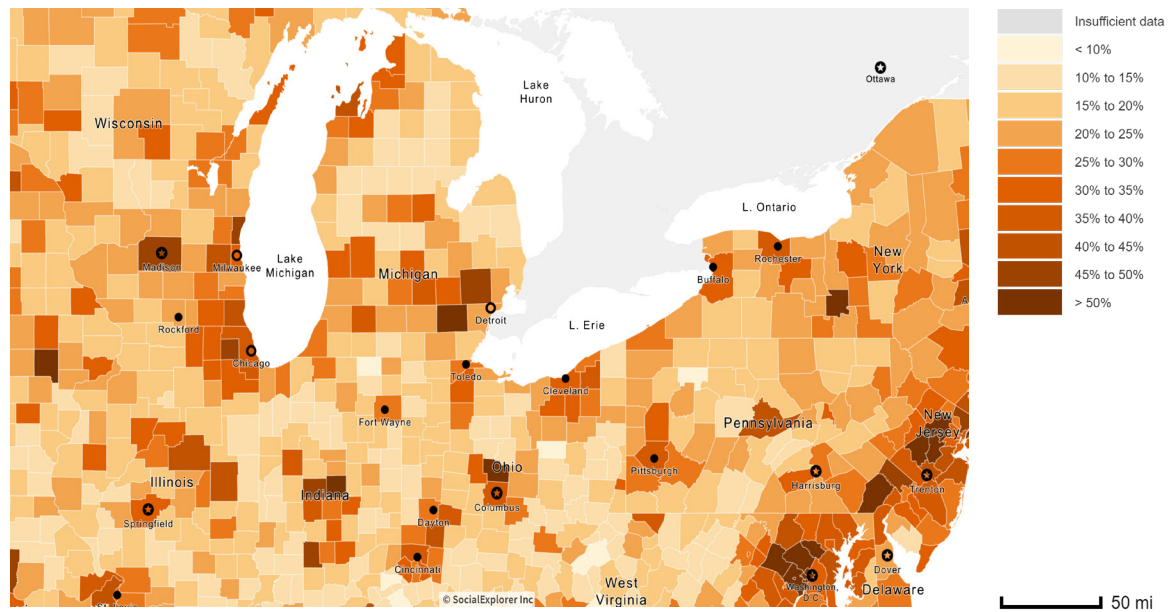


Note: Data include the states of Illinois, Indiana, Iowa, Minnesota, Michigan, Missouri, Ohio, Pennsylvania, and Wisconsin.

Source: National Center for Education Statistics; US Census Bureau

University and college communities benefit directly from the human talent that clusters in and around schools, as cities and towns with high levels of educational attainment often possess high and rising incomes (Figure 11).

Figure 11: **Share of county population over the age of 25 with bachelor's degree or higher**



Source: Brookings Institution



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BUILDING AND INVESTING IN TALENT

STATE COLLEGE Pennsylvania

Nestled in the heart of central Pennsylvania, State College is home to Pennsylvania State University, a public institution serving more than 45,000 students. Known for leading-edge research and a historic athletics program, Penn State is the engine of a thriving local economy. Students and employees drive new commercial and residential development; Centre County has the third-most new building permits of any county in Pennsylvania.¹ State College also ranks in *Entrepreneur's* list of top-10 US cities for launching a business.² Known

as “Happy Valley” and “Lion Country,” the region is home to events such as THON, a 46-hour dance marathon, and athletic events such as Blue-White Football Weekend. Each July, the five-day Central Pennsylvania Festival of the Arts draws more than 125,000 visitors.³ Despite the rapid growth of the university, State College has maintained its urban mobility and quality of life: the metro area has the third highest rate of citizens who walk to work in the country (8.5 percent).⁴

¹ “Investment Calculator: Places with the Most Incoming Investments,” SmartAsset, accessed January 8, 2020, <https://smartasset.com/investing/investment-calculator/#pennsylvania/permits>.

² “Economic Profile: Centre County at a Glance,” Economic Development, Centre County Economic Development Partnership, accessed November 14, 2019, <https://www.cbicc.org/economic-profile.html>.

³ Central Pennsylvania Festival of the Arts (website), accessed November 14, 2019, <https://arts-festival.com>.

⁴ Richard Florida, “The Great Divide in How Americans Commute to Work,” CityLab, January 22, 2019, <https://www.citylab.com/transportation/2019/01/commuting-to-work-data-car-public-transit-bike/580507>.

Research and learning institutions have been major contributors to impressive economic success—and often economic revival—in communities such as Minneapolis-Saint Paul (University of Minnesota), Madison (University of Wisconsin), Cleveland (Cleveland State University and Case Western Reserve University), Columbus (The Ohio State University), and Pittsburgh (University of Pittsburgh and Carnegie Mellon University). Colleges and universities also help drive a more dynamic local economy in many small and midsize communities such as Iowa City (University of Iowa), Champaign-Urbana (University of Illinois), Toledo, Ohio (University of Toledo), South Bend, Indiana (University of Notre Dame), West Lafayette, Indiana (Purdue University), and State College, Pennsylvania (Pennsylvania State University).⁷² (See sidebar “Building and investing in talent: State College, Pennsylvania.”)

Leading state university systems—flagship campuses and beyond—are central to attracting and preparing talent, and they act as anchors for new-business growth and economic development in many of the region’s historic industrial cities. Examples of these schools include the University of Minnesota Duluth, the University of Wisconsin–Eau Claire, Northern Michigan University in Marquette, and the State University of New York at Buffalo. However, this formidable talent-generation capability must be harnessed to benefit more of the region’s residents within and outside of these university communities.

New education and skills needed for adaptation

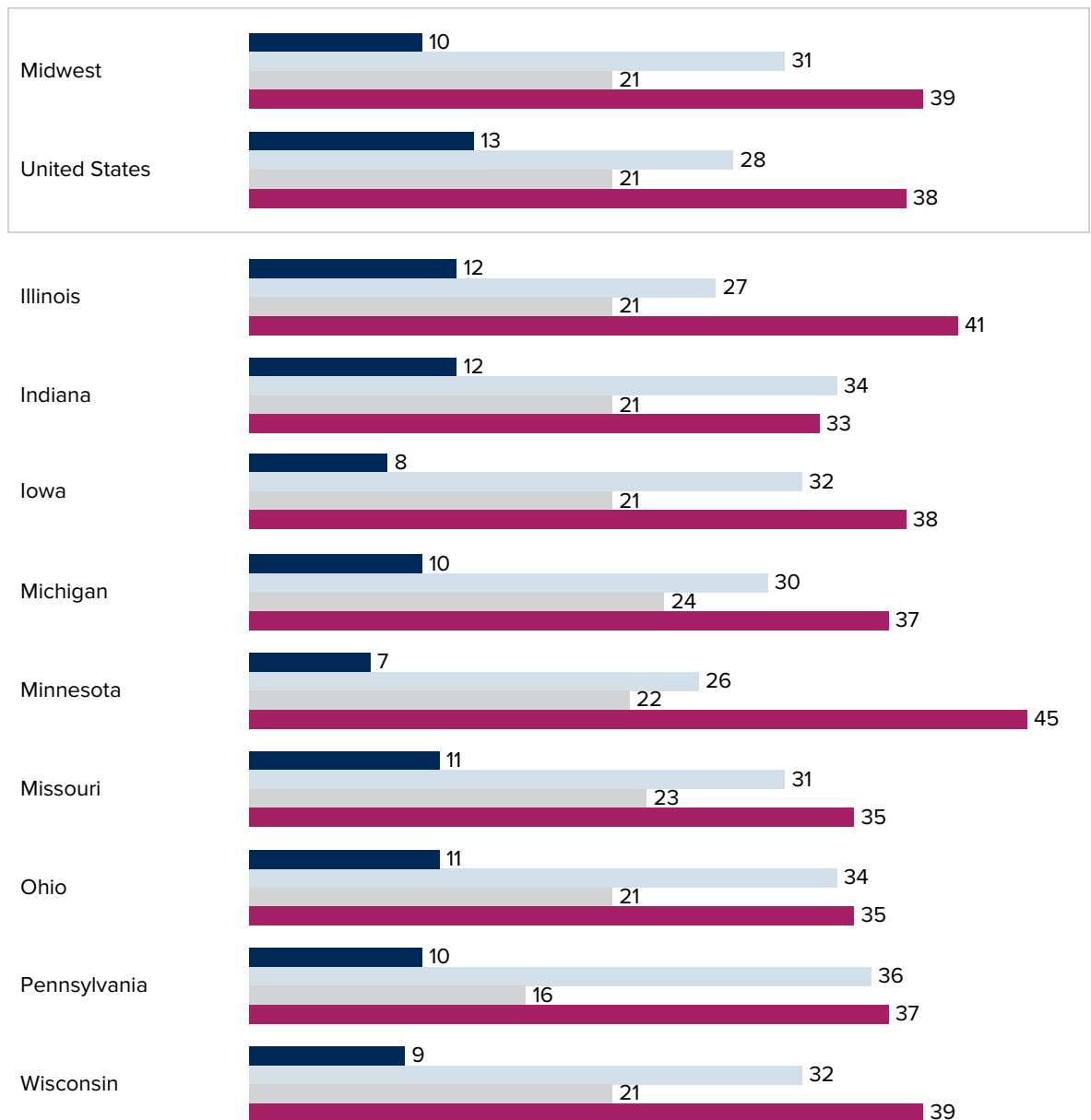
The Midwest’s strong university network sits alongside a changed economic reality: for several generations, many of the Midwest’s workers and newcomers were able to find jobs that did not require education beyond a high school diploma. During good times, high school graduates went right to work; during the inevitable downturns in highly cyclical industries, many began coursework at a community college but returned to work before finishing a degree or credential. Indeed, one of the many legacies of the Midwest’s leadership in the industrial economy—sadly ironic for a region that educates so many to higher levels—is the region’s higher share of workers with a high school diploma or less who do not possess the economic benefits and security of a postsecondary education certificate or degree. Thirty-one percent of workers across nine Midwest states—as high as 36 percent in Pennsylvania and 34 percent in Indiana and Ohio—have only a high school diploma, compared with a national average of 28 percent (Figure 12). Since 2011, the US economy has added 11.5 million jobs that require education beyond high school, but only 80,000 jobs that require a high school diploma or less (see sidebar “Building and investing in talent: Kalamazoo, Michigan”).⁷³

Leading state university systems are central to attracting and preparing talent, acting as anchors for new-business growth and economic development.

Figure 12: Below-average rates of postsecondary attainment

Share of adults over the age of 25 by educational attainment, 2016, %

■ No high school diploma ■ High school diploma or GED ■ Some college, no degree ■ Associate's degree or higher



Note: Figures may not sum to 100 due to rounding.

Source: US Census Bureau



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BUILDING AND INVESTING IN TALENT

KALAMAZOO

Michigan

Once powered by paper mills that turned the Kalamazoo River into a Superfund site, Kalamazoo has become a strong example of a once-struggling, midsize Midwestern industrial city that successfully reversed industrial decline and outmigration. Fifteen years ago, a multifaceted economic development strategy changed the city's prospects after the shuttering of anchor employers Pfizer Inc and the Upjohn Company. This new strategy centered on educational investment and talent retention. Most famously and effectively, anonymous benefactors initiated the Kalamazoo Promise, which guarantees free public higher

education anywhere in Michigan to full (K–12) graduates of the Kalamazoo Public Schools. The Promise marked the community as one that values education and reversed a decades-long trend of exodus. Since its inception, the Kalamazoo Promise has awarded scholarships to more than 4,000 students and has boosted both enrollment and educational outcomes in the city's public schools.¹ Public and private leaders have enticed locally developed talent to stay in Kalamazoo by fueling the creation of upstart biotech firms. A revamped, more walkable downtown district features entertainment, arts, and craft breweries, appealing to a local population with a median age of 26.² Even former employers such as Pfizer plan to return to take advantage of the local talent surplus; a new Pfizer facility expansion will create 450 jobs by 2024.

¹ "Enrollment," Kalamazoo Public Schools, accessed November 14, 2019, <https://kalamazoopublicschools.com/Enrollment.aspx>.

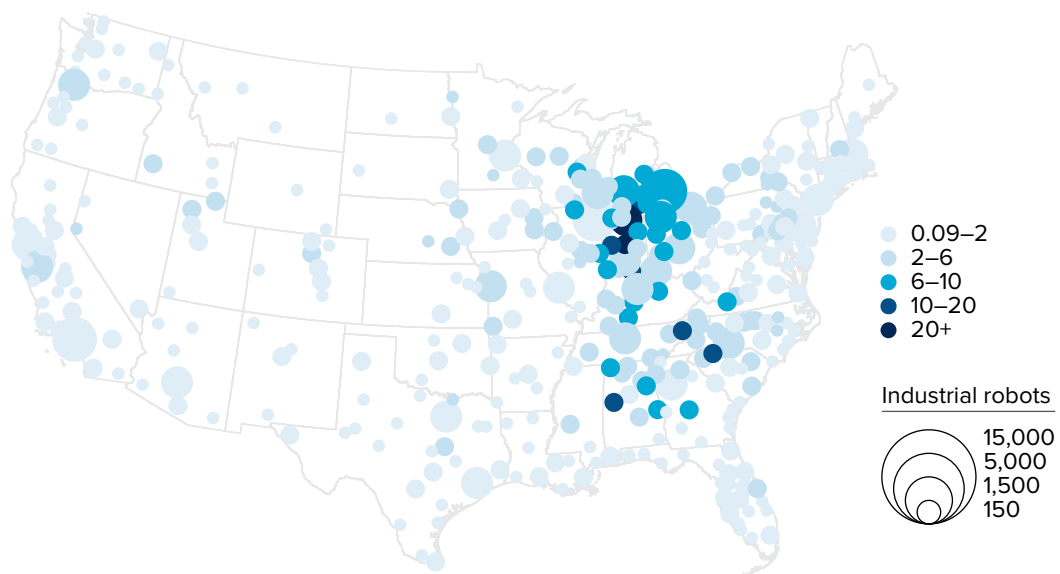
² "Kalamazoo, Michigan Population 2019," World Population Review, accessed November 14, 2019, <http://worldpopulationreview.com/us-cities/kalamazoo-mi-population/>.

Former workers in blue-collar industries now face an economy that demands greater skills and technical training beyond high school. Beginning 40 years ago, under competitive pressures to cut costs and improve quality, companies in many sectors began to dramatically restructure their business models and rely on greater automation of production, leading to the loss of many high-paying, low-skill jobs in Midwest communities. In the auto industry, for example, an engine plant might be staffed by only 400 people today versus 4,000 a generation ago. Where once five workers bolted fenders on the auto-assembly line, now one worker may program and monitor robots to do that same work. Over the past decade, the threat posed to these less-skilled laborer

positions, such as food preparation and assembly line work, has accelerated as the need for digital skills in work increases; hosts of occupations are now being done by computers and robots. In fact, the greatest concentration of robots doing jobs formerly occupied by humans is in the manufacturing industries of the region, with the Midwest already using half of all industrial robots in this country (Figure 13).

Figure 13: Number of robots by metropolitan statistical area

Number and incidence of industrial robots (per thousand workers) by metropolitan statistical area, 2015



Note: Robot incidence reflects private employment only.

Source: Brookings Institution analysis of International Federation of Robotics data

Positions working with and alongside these robots and computers often require different skills and a higher level of education and training. A recent analysis by the consulting firm McKinsey & Company suggests that innovation and economic growth will create many new jobs, and that 8 to 9 percent of global labor demand in 2030 will be in occupations requiring combinations of skills that have not existed before:

“Seventy-five million to 375 million workers may need to switch occupational categories and learn new skills . . . For advanced economies, the share of the workforce that may need to learn new skills and find work in new occupations is much higher: up to one-third of the 2030 workforce in the United States and Germany, and nearly half in Japan.”⁷⁴

Figure 14 illustrates the share of Midwestern states with employment in occupations with a high risk of automation and occupational dislocation. This concentration of specific employment patterns means that Midwestern communities and states will continue to face these challenges in the coming decades.

The challenges posed by automation will only be exacerbated as the Midwest continues to age in the absence of significant inflows of young, technically trained talent. Compounding these issues is the accelerating national trend away from long-term, stable, full-time positions and toward contingent, alternative work arrangements—codified as contract work, or the gig economy. Increasingly, individuals (not employers) must identify the skills and credentials they need to navigate a changing employment environment. Absent aggressive upskilling policies for the current adult worker population, economic divides colored by age, race, and education attainment levels are likely to worsen.

Figure 14: Workers in automation-exposed occupations

United States vs. Midwest, %

● High risk ● Medium risk ● Low risk

United States



Midwest



Source: John Austin analysis of US Bureau of Labor Statistics occupational codes and employment projections

Dated employment compact

The decline of the labor-intensive, manufacturing-based economy in the Midwest did more than depress incomes and constrain opportunity for low-skilled workers. It also frayed much of the employment-based, worker safety net that was developed after the World War II.

In the mid-20th century, Midwestern companies and their unions negotiated economic policies that became the foundation for US postwar prosperity, opportunity, and economic security. The 1950 General Motors–United Auto Workers contract, dubbed the “Treaty of Detroit,” led to a new social compact that guaranteed labor peace for companies and cost-of-living wage increases for workers.⁷⁵ Under this system, companies provided employees with key benefits such as pensions and health insurance. Supplementing this, unemployment insurance policies worked well in a cyclical economy in which skills were similar across manufacturing industries and layoffs were periodic but temporary.

The percentage of Americans covered by private pensions increased five-fold from 1940 to 1960 to cover 30 percent of the labor force.⁷⁶ As part of World War II wage controls, the federal government made health benefits fully deductible for companies and tax-exempt for individuals; as a result, employer-provided health insurance coverage became the standard, growing from covering 10 percent of workers in 1940 to 80 percent in 1964.⁷⁷ This development was not confined to the private sector, either. Public-sector employers replicated the private sector’s negotiated agreements. Leading the charge was Wisconsin, which by the early 1950s had created a statewide pension system for public employees.⁷⁸

Yet by the 1970s, the rebuilt economies of Western European countries, Japan, and other global competitors began to challenge US manufacturing dominance and its employment-based safety net. Employers not only shuttered inefficient factories and moved production to cheaper geographies, both domestic and abroad, but also pushed costs and risks onto employees and suppliers. Between 2000 and 2010, employment in manufacturing dropped 35 percent across six Midwestern states, eliminating 1.6 million jobs.⁷⁹

This shift devastated employer-provided benefits and shredded the safety net for workers and their families. Since this development, pension plans provided through private companies have all but disappeared: in just 19 years, the number of Fortune 500 firms offering pension plans dropped from nearly 60 percent in 1998 to 16 percent in 2017.⁸⁰ In many cases, pensions were replaced by 401(k) retirement plans that place the onus for saving on the worker, not the company. Exacerbating the problem, it became harder to qualify for unemployment insurance; by 2015, only 27 percent of all unemployed workers qualified and received benefits, the lowest in 40 years.⁸¹

Today, employer-based systems of healthcare benefits, pensions, and unemployment insurance serve fewer workers than in previous decades. Moreover, what remains of the safety net has become ineffective protection for workers in today’s dynamic economy, leaving too many out and crimping personal mobility and innovation. For many communities in the Midwest to recover and compete, public and private leaders must rethink the worker-retraining and safety-net system for an economy of contingent work, automation, and demands for higher skills (see sidebar “Building and investing in talent: Georgetown, Kentucky”).



BUILDING AND INVESTING IN TALENT

GEORGETOWN Kentucky

A small city of around 35,000 people located in northern Kentucky, Georgetown was transformed in 1985 when Toyota selected it for the company's first manufacturing center in the United States.

Since then, the Toyota plant has produced more than 11 million cars and has become the company's largest vehicle plant.¹ The city has nearly doubled in size since 2000, with a median household income 32 percent higher than that of the rest of the state.² Toyota and other advanced manufacturers chose Georgetown in part because of an organized commitment to train the technical workforce needed for the industry. Bluegrass Community & Technical College has educated more than 10,000 students across seven campuses, including at its Advanced Manufacturing Center, which offers

programs in advanced manufacturing technology, electrical technology, and industrial maintenance technology. The program is supported by the Kentucky Federation for Advanced Manufacturing Education, a partnership of regional manufacturers (including Toyota and many of its suppliers) that provides students with a five-semester paid work and school experience that results in a full-time job, an associate's degree in applied science, and little to no college debt.³ Students can also continue their degrees at four-year institutions such as the University of Kentucky College of Engineering, where 74 percent of students participate in educational co-ops with an average hourly wage of \$20.⁴

¹ "Visit Toyota Kentucky," Toyota, accessed November 14, 2019, <https://www.tourtoyota.com/kentucky>.

² "Georgetown, KY," Cities & Places, Data USA, accessed November 14, 2019, <https://datausa.io/profile/geo/georgetown-ky>.

³ *Kentucky Federation for Advanced Manufacturing Education*, Kentucky Federation for Advanced Manufacturing Education, March 2017, <http://kyfame.com/wp-content/uploads/2017/03/KY-FAME-bifold-v3.pdf>.

⁴ University of Kentucky College of Engineering (website), accessed November 14, 2019, <https://www.engr.uky.edu/>.

The path forward

Policymakers must further develop and implement strategies, policies, and programs that raise the bar for skill building and educational attainment among emerging and current workers. They must also support policies that harness the talents of a more diverse workforce, including policies that

rework the personal and family economic safety-net and worker-adjustment system built for the industrial era into one that supports adaptation and transition in a changing economy.

State and local policies

State and local leadership should pursue three objectives to build and invest in Midwest talent.

Set state- and community-based goals for talent attainment

Leaders should prioritize postsecondary credentialing and organize policy priorities and strategies to meet goals. Examples include Tennessee’s governor-led Drive to 55, Minnesota’s legislatively mandated goal of 70 percent of adults aged 25 to 44 with a higher education credential by 2025,⁸² Strive Together Cincinnati, Quad Cities Goal 2025, and similar foundation-supported community partnerships.⁸³

Make college more affordable across the region

State policies should enable tuition reciprocity for public colleges and universities in the Midwest. This can be supplemented with the creation of a common market for higher education that takes advantage of the rich backbone of Midwestern learning institutions and works to keep high-skilled Midwestern talent local.

Expand eligibility for and access to unemployment insurance

States should ensure that more nontraditional workers are covered by unemployment insurance by expanding allowable uses of unemployment resources to support retraining, credentialing, and labor mobility.

Federal policies

To encourage building and investing in talent, federal policymakers should focus on three priorities:

Pass a “GI Bill for Workers”

To enable states to provide a financial guarantee for postsecondary credentialing for the existing workforce, federal policymakers should break down funding stream silos and expand the allowable use of resources such as federal workforce and trade adjustment funds and aid to families. Federal policymakers should also facilitate worker access to lifetime career-loan accounts, tied to future income potential, to pay for retraining.⁸⁴

Implement portable pensions and healthcare

Federal leaders can create incentives for states to develop public–private, portable pension, savings, and healthcare programs to help workers adjust to new employment realities and lessen the inequities between full-time and part-time or intermittent workers.

Offer community-based free college

The federal government can catalyze community-based education-funding programs similar to the Kalamazoo Promise by creating a federal investment-matching program to help communities develop their own initiatives that guarantee resources for students to achieve postsecondary credentialing.



ENHANCING GLOBAL ENGAGEMENT

5

The Midwest has long been characterized by a globalized population and identity. While Sun Belt and coastal communities have experienced strong economic growth, the Midwest is still a sizable global economic player, with many internationally engaged and competitive companies, universities, and communities—whose engagement with the world and economic footprint can be enhanced.

As the region's economy grew, it became a mecca for workers and families seeking a better life, in turn creating a multiethnic and multiracial polity. Where once most immigrants were white and European, today Latinos, Asians, Africans, and multiracial Americans continue to transform the region's demographic landscape.⁸⁵ Collectively, immigrants are responsible for 37 percent of Midwest metro population growth over the past 15 years, and in many Midwestern communities immigrants are the only source of population and new-business growth.⁸⁶

The Midwest is also a top destination for international students; students from abroad account for nearly 20 percent of enrollment at some colleges and universities.⁸⁷ Yet in recent years anti-immigrant federal policy has chilled this trend. A recent survey by the Institute of International Education found that 57 percent of higher education institutions report that feeling unwelcome in the United States and the overall social and political environment are contributing to declines in the number of international students at US colleges.⁸⁸

The region's broader social and cultural infrastructure for global engagement also includes significant research activity, networks, and talent developed through the region's university base. Much of this work includes partnerships with researchers and companies working on international challenges.



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ENHANCING GLOBAL ENGAGEMENT

GRAND RAPIDS Michigan

Long known for furniture making and manufacturing, Grand Rapids was one of the communities hit hardest by the Great Recession, losing 12.1 percent of its jobs and almost 5 percent of its population.¹ However, Grand Rapids has staged an impressive comeback, growing jobs faster than any other metro area in the Midwest.² The foundation for the resurgence was laid before the recession, when a highly functional and organized civic, business, and political leadership coalition set out to create conditions to revitalize

the community. In addition to strategies to expand medical complexes, along with arts, cultural, and higher education institutes and a redeveloped riverfront, Grand Rapids leaders committed to make the city an environmentally sustainable community leader.³ With business leaders out front, the city set goals for reducing energy use, water use, and carbon emissions; increasing the use of public transportation; and providing new transportation options—earning Grand Rapids the title of greenest city in the country by *Fast Company* magazine in 2008.⁴

¹ Aaron M. Renn, “Manufacturing a Comeback,” *City Journal*, Spring 2018, <https://www.city-journal.org/html/manufacturing-comeback-15833.html>.

² Renn, “Manufacturing a Comeback.”

³ “Green Grand Rapids,” About Grand Rapids, Experience Grand Rapids, accessed November 14, 2019, <https://www.experiencegr.com/about-grand-rapids/green-grand-rapids>.

⁴ Evan West, “America’s Greenest City,” *Fast Company*, October 1, 2008, <https://www.fastcompany.com/1007062/americas-greenest-city>.

This globally connected population and mind-set are of vital importance to not only the Midwest cultural fabric but also its leadership on global issues and economic prosperity. There is also evidence that participating in global networks and production at the community level correlates with local economic prosperity. For example, relatively economically prosperous Midwest communities are far more likely to be committed to tackling climate change (see sidebar “Enhancing global engagement: Grand Rapids, Michigan”).⁸⁹ In nine of the 12 states that constitute the Midwest, 63 percent of high-income counties are home to communities that have pledged to uphold the standards laid out in the Paris Agreement to reduce greenhouse gas emissions.⁹⁰ Moreover, of the Midwestern counties that are committed to the Paris Agreement, approximately 47 percent are high income—a much higher rate than all Midwest counties, suggesting that those communities dedicated to global cooperation and standards for climate change reduction strategies tend to also have the most robust local economies.

Strong economic engagement

The Midwest still has a sizable economic footprint: eight Midwestern states are among the top 25 US states by GDP, and nine collectively deliver just over 21 percent of US economic output.⁹¹ If the region were a country, it would be the world's fourth largest by GDP, trailing only China, the United States, and Japan—and ahead of large global players such as Germany and Brazil.⁹² The Midwest also boasts a critical mass of the country's leading and iconic corporations. These include companies such as Ford Motor Company, Caterpillar Inc, United Airlines Inc, Archer Daniels Midland Company, Dow Chemical Company, Eli Lilly and Company, the Boeing Company, the Procter & Gamble Company, and the 3M Company.

Beyond its sheer size, the Midwest economy supports many jobs and significant business growth through trade and participation in global markets. The Midwest accounts for nearly 21 percent of total US goods exports.⁹³ Trade is critical to manufacturing producers in the region, benefiting consumers and workers alike: recent data highlight a wage premium in export-intensive industries in both goods (16.3 percent) and services (15.8 percent), with larger margins for blue-collar work.⁹⁴ Although much of the export traffic through major hubs such as Chicago O'Hare International Airport and to Canada via the Detroit Metropolitan Wayne County Airport can distort top-line figures, it is a boon for the Midwest that Pennsylvania, Ohio, Michigan, and Illinois are in the top 10 states for exports, with Indiana at number 12 (see sidebar “Enhancing global engagement: Columbus, Indiana”).⁹⁵

Furthermore, many local economies already rely on global markets and trade. Key exports include everything from autos and auto parts, petroleum, aircraft engines, farm equipment, pharmaceuticals, and medical equipment to corn, soybeans, cherries, beef, and pork.⁹⁶ And Midwest communities are particularly sensitive to disruptions in trade.⁹⁷ Of the 17 percent of Midwest counties that generate a high level of exports compared to the regional average, more than half possess higher-than-average incomes compared with their peers.⁹⁸

However, the region's trade is not globally distributed. North American neighbors Mexico and Canada are tightly connected to Midwest supply chains: of the total US exports to Canada and Mexico, the nine primary Midwestern states account for 36.3 percent and 18.7 percent of all exports to these countries, respectively.⁹⁹ Indeed, it is important to understand that the common model of trade—Country A exports a good to Country B, which imports the good—does not fit with today's supply-chain linkages. In the Midwest, as elsewhere, companies and factory floors are only components of highly specialized supply and value chains in many sectors. Half of all North American trade consists of intermediate inputs, or goods, materials, and components of an end product.¹⁰⁰ Companies import and then modify or partially assemble these products, often re-exporting them for further modification or final assembly.

Foreign direct investment (FDI) also plays an important role in creating jobs in the region. Several Midwest states are reliant on international companies for a significant percentage of local employment.¹⁰¹ In Ohio, for example, 54 percent of all FDI-supported jobs are in manufacturing, and wages due to FDI are 26 percent higher than the US average.¹⁰²



ENHANCING GLOBAL ENGAGEMENT

COLUMBUS Indiana

Forty miles south of Indianapolis, this small city has maintained a healthy economy, in part, because of a longstanding commitment to innovation by local employer Cummins Inc. The Fortune 500 company designs and produces engines and related equipment, and it is a continuous leader in clean technology—helping Columbus reach a median income 13.6 percent

higher than that of the rest of the state.¹ In 2015, Columbus was ranked first nationally among metro areas for its share of GDP from exports, which accounted for more than 50 percent of the city's GDP.² Columbus is also home to buildings and public sculptures by world-renowned architects such as I. M. Pei, Eero Saarinen, and Robert Venturi. The city's world-class architecture—the origin of the city's nickname, Athens on the Prairie—has bolstered tourism and supplemented the economy beyond its globally engaged companies.

¹ "Columbus Indiana Household Income," Department of Numbers, accessed November 14, 2019, <https://www.deptofnumbers.com/income/indiana/columbus>.

² Ilene Grossman, "'Export-Intense' Communities in Midwest Have Much at Stake with Talk of More Tariffs," CSG Midwest, April 2018, <https://www.csamidwest.org/policyresearch/0418-tariffs.aspx>.

Midwestern views of trade

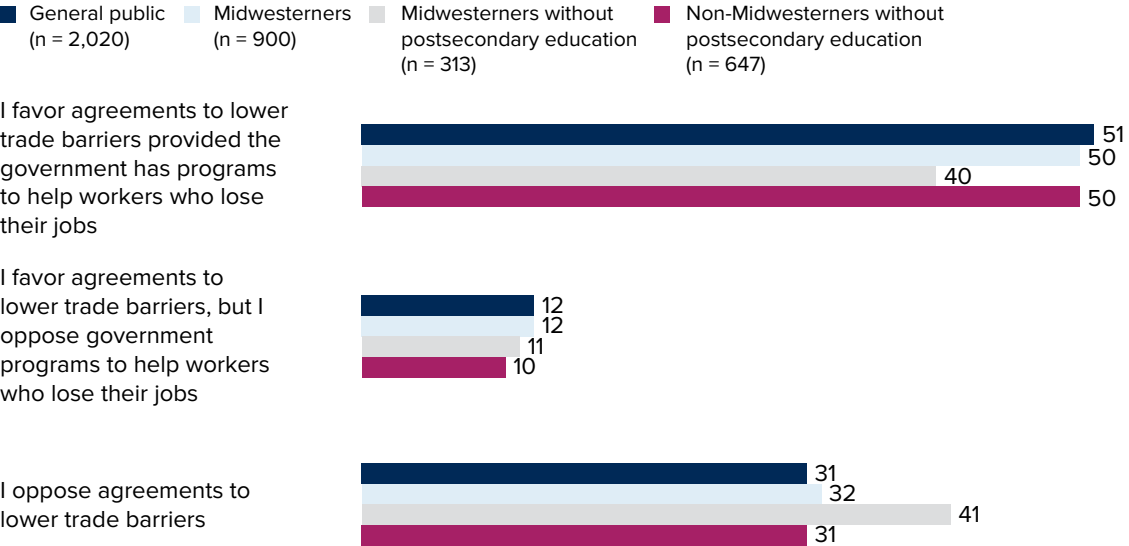
Midwesterners, often portrayed in the national discourse as opposed to global trade and sensitive to its impact,¹⁰³ recognize that trade brings economic strength. According to recent surveys, a plurality of Midwesterners believe trade is a benefit to their communities and that trade conflict damages economic well-being.¹⁰⁴ Recently, the nonpartisan group Listening for America conducted focus groups in the Midwest and found that Midwesterners support policies that grow exports to foreign markets and appreciate the value of affordable imports.¹⁰⁵

The Chicago Council Survey has recorded similar sentiment, with some variance by education level. A majority of Americans (56 percent) believe international trade is a greater threat to jobs

than automation, though antitrade sentiment resonates among workers in jobs requiring only a postsecondary education—the jobs most at risk of dislocation due to technological change.¹⁰⁶ Midwesterners are in line with national respondents, with 57 percent pointing to trade as the primary threat, not automation. Nevertheless, 50 percent of Midwesterners still favor agreements to lower trade barriers, provided they are tied to assistance that helps transition workers who lose their jobs as a result of this trade liberalization (Figure 15).

Figure 15: Attitudes toward lowering trade barriers

Which of the following three positions comes closest to your point of view about lowering trade barriers, such as tariffs, %



Source: 2017 Chicago Council Survey

The path forward

To enhance the Midwest’s economic footprint and engagement in global problems and supply chains, a number of important priorities emerge for public- and private-sector leaders at the state, local, and federal levels.

State and local policies

To develop policies and practices that accelerate economic, social, and cultural engagement and interconnections with the world, state and local leadership should focus on two priorities.

Set the bar higher for green initiatives

Governors in the Midwest should commit their states to leadership in sustainability by setting ambitious but attainable goals for producing 90 percent of energy from renewable sources, ending subsidies to coal and nuclear power companies, and continuing to reduce energy demand through efficiency regulations and goals. This can be completed through active policies to promote the Paris Agreement agenda and other global sustainability goals.

Advocate for responsible global and local trade policies

State and local leadership represents an important voice in supporting federal trade policies to develop a predictable, level playing field and ensure opportunity for exports and fairly traded imports. Likewise, advocacy for local and state trade policy should not be left exclusively to affected business sectors. Leaders can also organize community networks to enhance exports, such as the CenterState New York Export Plan.¹⁰⁷

Federal policies

To develop policies and practices that accelerate economic, social, and cultural engagement and interconnections with the world, federal leadership should focus on two priorities.

Open doors and create a level playing field

Federal trade policy should create a stable, predictable environment; open markets; and secure opportunities for exports, while ensuring a steady supply of fairly traded imports. This includes more aggressive and complementary policies to help workers adjust to trade dislocations.

Set the bar for green leadership

Set a nationwide goal of 90 percent clean energy by 2050 and recommit the federal government to global agreements to reduce carbon emissions and greenhouse gases. Such a federal commitment will drive Midwest-based clean energy innovation, new technology development, and business and job growth.

REMAKING INFRASTRUCTURE

6

The Midwest’s unique economic development geography places it at the crossroads of trade and commerce in North America. No other region has as much rail traffic as the Midwest. The intermodal capabilities in Buffalo, Chicago, the Twin Cities, and many other city and regional hubs provide unique opportunities for the Midwest to harness its location in supply chains for a globalized world. Harnessing the potential of this advantageous siting is key for the future growth and success of the Midwest.

Modernizing infrastructures and differential access to important new infrastructures

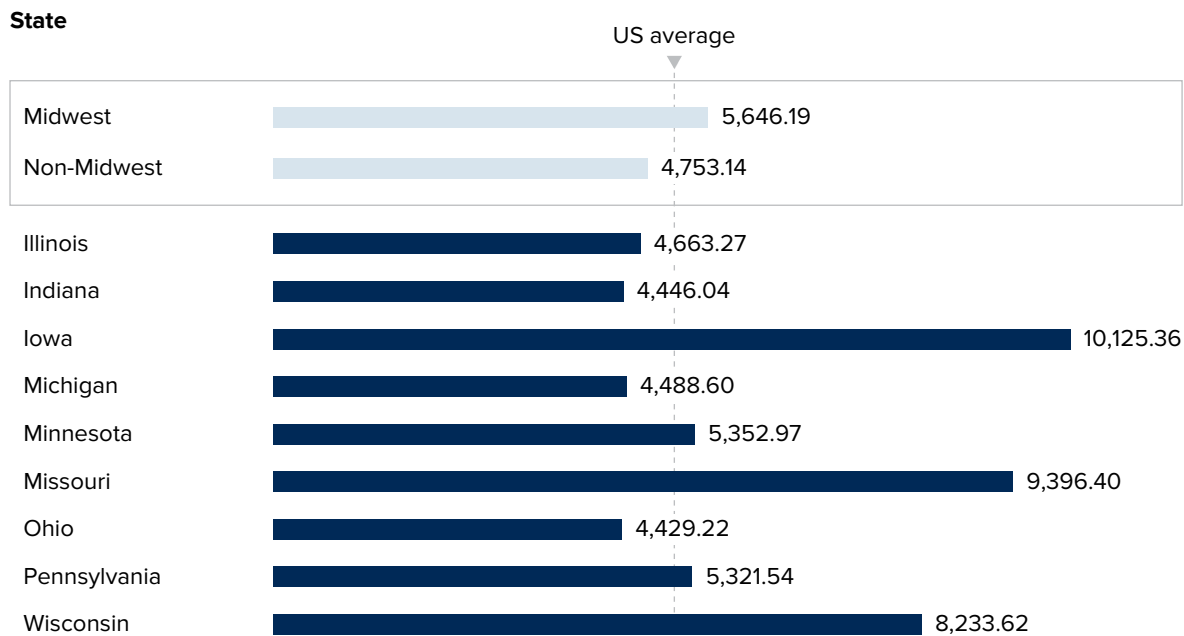
In an interdependent global marketplace, “winning” communities have global reach, with infrastructure that supports global connectivity. While the Midwest is home to many globally engaged producers, businesses, and universities, it lags behind in infrastructure to support global commerce, such as highly connected air hubs. Only four of the nation’s 25 most connected airports are in the region (one each in Detroit and Minneapolis and two in Chicago).¹⁰⁸

The Midwest laid impressive networks of rail, roads, bridges, and sewers during the 20th century, but today that network is in bad shape. Although some cities are turning a corner (see sidebar “Remaking infrastructure: Cleveland, Ohio”), an analysis by the American Society of Civil Engineers on state-level costs to repair infrastructure (inclusive of structurally deficient bridges, high-hazard dams, drinking-water systems, public parks, roads, schools, and wastewater systems) found that the United States overall must spend about \$1.62 trillion to update dangerous and aging infrastructure. Approximately \$421 billion (26 percent) of those costs are faced by only nine Midwest states. This

equates to approximately \$5,646 per person in repair costs in those states, nearly 14 percent higher than the national average of \$4,753 (Figure 16). In Iowa, repair costs are as high as \$10,125 per person.

Figure 16: Expensive Midwest infrastructure needs

Infrastructure costs per capita, \$



Source: 2017 Infrastructure Report Card, American Society of Civil Engineers, 2017

Furthermore, in today’s data-driven, wired global economy, access to high-speed Internet is a fundamental precondition for businesses to grow and individuals to participate in the economy. To this end, extending high-speed internet infrastructure is a particularly critical component of stitching smaller communities into the global economy (see sidebar “Remaking infrastructure: Valparaiso, Indiana”). Across all 12 states in the greater Midwest, only 305 of 1,041 counties (29 percent) meet or exceed the national average share of the population with access to fixed broadband or mobile LTE internet.¹⁰⁹ Moreover, in 162 counties (15.5 percent), less than half of the population has access to broadband internet or LTE.

While most Midwest communities without high-speed internet access are rural, even some of the region’s bigger metro communities—where economic growth is more likely to accelerate—are crimped by weak cyberinfrastructure. In those same nine states, 193 counties (18.5 percent) with below-average internet access are part of larger urban metros.¹¹⁰

However, communities with special quality-of-life assets can become attractive to year-round residents and businesses if cyberconnectivity allows businesses to operate globally. A good example of this is Marquette, Michigan, where Northern Michigan University and partners have extended broadband access to Marquette and other rural Upper Peninsula communities, making work, learning, and new business development possible in this relatively remote location.¹¹¹



REMAKING INFRASTRUCTURE

CLEVELAND

Ohio

A symbol of blue-collar prosperity from a bygone era, Cleveland has seen the beginnings of an economic renewal, in part, because of its significant investment in public transit. Cleveland's HealthLine bus rapid transit system was completed in 2008, replacing a traditional bus system and connecting the city's two largest employment centers—downtown and University Circle, five miles apart—along Euclid Avenue.¹ Running 24 hours a day via 36 stations, HealthLine was designed to closely resemble a fixed-rail system and reduces end-to-end travel time from 40 minutes to 28.² It currently serves more than 4 million customers per year.³ Development along the 7.1-mile transit corridor has been robust. The number of jobs along Euclid Avenue has doubled, fueling a demand for consumption that has been answered with hip restaurants, retail outlets, and cultural venues.⁴ The

initial \$200 million investment has yielded over \$9.5 billion in development to date.⁵ With a return of \$190 for each transit dollar invested, the return on investment for Cleveland's bus rapid transit project is the highest for any public transit project in the nation.⁶

¹ Nancy Derringer, "In Cleveland, They Built It, and Riders Came, along with a Whole Lot More," *Bridge Magazine*, February 23, 2016, <https://www.bridgemi.com/michigan-government/cleveland-they-built-it-and-riders-came-along-whole-lot-more>.

² "Euclid Avenue BRT, Cleveland, OH," Case Study, National Association of City Transportation Officials, accessed November 14, 2019, <https://nacto.org/case-study/euclid-avenue-brt-cleveland-oh>.

³ "RTA's Healthline -- The World-Class Standard For BRT Service," Greater Cleveland Regional Transit Authority, accessed November 14, 2019, <http://www.riderta.com/healthline/about>.

⁴ Steven Litt, "Jobs Doubled along Euclid Avenue After Completion of Healthline: CSU Study," Cleveland.com, modified January 11, 2019, https://www.cleveland.com/architecture/2017/01/jobs_doubled_along_euclid_aven.html.

⁵ ASCE Staff, "Bus Rapid Transit Brings Investment," ASCE's 2017 Infrastructure Report Card, February 16, 2017, <https://www.infrastructurereportcard.org/gamechanger-item/bus-rapid-transit-brings-investment>.

⁶ Walter Hook, Stephanie Lotshaw, and Annie Weinstock, *More Development for Your Transit Dollar: An Analysis of 21 North American Transit Corridors*, Institute for Transportation and Development Policy, November 2013, https://itdpdotorg.wpengine.com/wp-content/uploads/2013/11/More-Development-For-Your-Transit-Dollar_ITDP.pdf.

The cost of improving physical infrastructure and expanding connectivity access is daunting. Both public and private financing mechanisms are needed to power growth in a region with a disproportionate share of the nation's infrastructure challenges. As communities struggle to respond—many of them facing the additional burdens of diminished local municipal revenues and cuts in state support—a meaningful federal solution is essential.

REMAKING INFRASTRUCTURE

VALPARAISO

Indiana

Located on the outskirts of the Chicago metropolitan region, the community of Valparaiso has proactively developed its infrastructure capabilities over the past decade. In 2014, after a local business's efforts to expand were thwarted by a lack of high-speed internet infrastructure, city leadership began laying the foundation that would eventually become a dark-fiber network known as ValpoNet.¹ Launched in May 2018, ValpoNet provides a foundation for new-business growth through a backup network and greater connectivity.

This in turn has attracted significant private-sector investment, as the dark-fiber network allows multiple internet service providers to operate on the same infrastructure, enhancing competition among providers and offering additional subscription services for businesses.² Valparaiso has also been actively upgrading its traditional infrastructure, providing quality public transportation and an intracity bus line to connect the city with Chicago and South Bend.³

¹ Amy Lavalley, "Valparaiso Embraces Dark Fiber Network as It Eyes Business Growth," *Chicago Tribune*, May 18, 2018, <https://www.chicagotribune.com/suburbs/post-tribune/ct-ptb-valparaiso-dark-fiber-st-0520-story.html>.

² Hannah Rank, "Young ValpoNet Already Luring in Business," *Community Networks*, August 27, 2018, <https://muninetworks.org/content/young-valponet-already-luring-business>.

³ Bob Moulesong, "Valparaiso Keeps Its Focus on Driving Sustainable, Vibrant Growth," *Northwest Indiana Times*, June 18, 2019, https://www.nwitimes.com/news/local/porter/valparaiso-keeps-its-focus-on-driving-sustainable-vibrant-growth/article_465531a5-5296-5660-8f78-93d60ec81aaf.html.



The path forward

Federal, state, and local leadership should prioritize policies and public–private financing strategies that modernize the Midwest’s infrastructure, including water, transportation and logistics, and high-speed internet access to provide a platform for enhanced and broadly shared economic growth. The state/local and federal levels both have one clear policy priority.

State and local policy: Support multiple infrastructure development modalities

Leaders should develop multimodal transportation infrastructure development plans—including plans for roads, rail, bike paths, mass transit, and high-speed internet—as well as enhancing water infrastructure and efficiency and facilitating multimodal transportation usage. Goals can focus on more efficient, sustainable, and innovative community infrastructure, such as Grand Rapids 2030.¹¹²

Federal policy: Revise infrastructure policy and increase federal funding

Infrastructure modernization requires additional federal resources, with financing flexibility to support multimodal and multidimensional infrastructure priorities at the state and local levels.

7

HARNESSING PLACE-BASED ASSETS

The Midwest possesses place-based assets that can underpin new economic growth. Cradled by the Great Lakes and the Mississippi and Ohio River Valleys, the region boasts an abundance of woods and waters and is dotted with historic communities rich in history and culture that are valuable foundations for economic growth.

But there is much work to do to polish the Midwest's assets and clean up the pollution, brownfields, and fouled waters left behind by years of industrialization. The long-standing legacy of multiple local governments, developed to ensure direct access to government, now inhibits communities from organizing around the collective solutions that are needed to compete globally.

Natural assets

For the Midwest to attract highly mobile talent with options to live elsewhere, connecting communities to nearby natural assets is key. Fortunately, the region is endowed with lush natural resources. Its landscape is replete with thousands of acres of verdant farmland, orchards, and forests. It also has a well-developed park system, complete with water trails and green belts, and a history of conservation that now offers access to the region's forests, streams, lakes, and woodlands. Indeed, seven of the country's 25 top state parks are in the Midwest.¹³ These natural assets can be a key fulcrum for economic growth and development built on quality of life and place if access to the outdoors is guaranteed (see sidebar "Harnessing place-based assets: Eau Claire, Wisconsin").

As other regions deal with climate change–induced droughts, intense weather events, and unsustainable costs of providing water and energy to fast-growing populations, many organizations are recalculating their economic risks, affecting development patterns and location decisions.¹⁴ One of the Midwest’s greatest natural assets is the Great Lakes, an increasingly important resource for economic renewal in America’s interior. The Great Lakes include one-fifth of the world’s fresh water and 10,000 miles of freshwater coastline, along with scenic and recreation areas that rival any of America’s other coasts. And the Great Lakes are a gateway to the region’s many other lakes, waterways, resort communities, and outdoor recreation areas. Especially as other regions face serious water-scarcity issues, the Great Lakes are a tremendous asset for the Midwest to bolster and showcase.

HARNESSING PLACE-BASED ASSETS

EAU CLAIRE

Wisconsin

Situated just over an hour’s commute from the Twin Cities, Eau Claire is a former forestry industry town nestled at the confluence of two rivers with beautiful topographic features. In addition to a large University of Wisconsin campus, the Eau Claire region is home to an outpost of the

Mayo Clinic, which employs 3,600 people; Jamf, which employs hundreds and produces software for Apple; and Cray Inc in nearby Chippewa Falls. The city also hosts large music festivals, including Eaux Claires, and boasts a vibrant downtown that recently opened a new concert, arts, and classroom center. In fact, the Pablo Center at the Confluence, the result of a public–private partnership, has already spurred \$120 million in nearby investment.¹ Even the old Uniroyal tire plant, which employed thousands before it closed in the early 1990s, is now a business incubator that supports 500 jobs.

¹ David Lepeska, “How Bon Iver Saved Eau Claire,” CityLab, August 2017, <https://www.citylab.com/solutions/2017/08/how-bon-iver-saved-eau-claire/537813>.



Cleanup challenges

Heavy industry along the Great Lakes' shores and the region's rivers tarnished much of the Midwest's natural landscape for generations. Shuttered waterside factories, plants, and port facilities left a legacy of brownfields, abandoned industrial sites, and toxic waterways. Fixing these problems is crucial to the region's economic growth. Nine Midwestern states (Illinois, Indiana, Iowa, Michigan, Minnesota, Missouri, Ohio, Pennsylvania, and Wisconsin) contain more than 36 percent of all federal brownfield sites, or approximately 6.32 brownfield sites per 100,000 residents (and as high as 13 per 100,000 in Michigan), compared with a national average of only 3.99 brownfields per 100,000 people.¹¹⁵

Beyond brownfields, pollution of the Midwest's natural waters is also a challenge. Water powered and lubricated the region's steel, auto, chemical, and paper industries. But this usage brought serious environmental catastrophes. The Buffalo, Chicago, Cuyahoga, and Rouge Rivers, each a tributary to the Great Lakes, caught fire in the mid-20th century.¹¹⁶ Love Canal outside Niagara Falls became synonymous with environmental catastrophe. And with northern Ohio's industrial base sitting on its shores, Lake Erie was extremely polluted by the 1960s.¹¹⁷ The resulting Clean Water Act was in many ways a reaction to this oversight.

Today, rivers and tributaries are being cleaned and developed into assets as a foundation for new water-based economic development. In 2009, the US Congress approved funding for the Great Lakes Restoration Initiative (GLRI), spurring federal investment of over \$2.3 billion on thousands of projects along the freshwater coast.¹¹⁸ These projects have cleaned toxic hot spots, restored harbors and waterfronts (see sidebar "Harnessing place-based assets: Ashtabula, Ohio"), protected and reconstituted vital wetlands and fish habitats, curbed nutrient runoffs, and improved overall water quality. Recent studies on the economic impact of GLRI found that it spurred tens of billions of dollars of economic development in communities around the most toxic hot spots. By 2036, every dollar spent will produce \$3.35 of additional economic activity in the region.¹¹⁹

Numerous cities and towns have set up public-private partnerships to remediate the pollutants of legacy industries, reopening riverfronts and lakefronts. More than a decade ago, Milwaukee began to promote its cultural institutions, entertainment, and recreation venues along the Milwaukee River and the shore of Lake Michigan. In Traverse City, Michigan, Grand Traverse Bay attracts year-round professionals-in-residence, and the Detroit Riverfront Conservancy has repurposed its waterfront for recreation and festivals. This story of reconnecting to the Great Lakes and the Midwest's waterways for economic and community development is being repeated throughout the region.

Culture, values, and cost of living

In an era in which talented, well-educated people can often choose where to live and work (and by so doing drive a virtuous cycle of economic activity), the tangible and intangible assets of Midwestern communities such as history, culture, charm, and a “know-your-neighbors” sense of community can be economic advantages (see sidebar “Harnessing place-based assets: Brown County, Indiana”). The Midwest is dotted with sites and communities that played key roles in America’s economic, social, and cultural development. From the newly renovated Erie Canal in western New York, which first opened America’s West to development, to the world’s first skyscrapers in Chicago and the St. Anthony Falls heritage trail in Minneapolis, the Midwest has a rich tapestry of place-defining recreation, education, and heritage tourism opportunities.

The relatively low cost of living is another Midwestern asset. Communities in the region have a weighted average cost-of-living index of 94.5 compared with the rest of the country’s 110.35.¹²⁰

HARNESSING PLACE-BASED ASSETS

ASHTABULA Ohio

For decades, the Ashtabula River and harbor on Lake Erie provided the town of Ashtabula with a stable manufacturing and shipping economy. Following the decline of both industries, water reconnection and restoration—including a \$22 million investment under the Great Lakes Restoration Initiative¹—have begun to revive the economy. Redeveloping the waterfronts, reestablishing fish habitats, cleaning out 120,000

cubic yards of toxic sediment in Ashtabula Harbor, and restoring coastal wetlands have led to a surge in water-based recreation, new businesses, and real estate development in downtown Ashtabula. Boat registrations rose 42 percent between 2008 and 2017, with a new steelhead fishery on the river adding a strong new economic driver. The newly developed harbor business district has added 27 businesses since 2010, including bars, restaurants, boutiques, and retail stores—increasing Ashtabula County’s tourism sales by 14 percent between 2011 and 2016.²

¹ *A Case Study of Ashtabula, Ohio, Assessing the Investment: The Economic Impact of the Great Lakes Restoration Initiative*, Great Lakes Commission, September 2018, <https://www.glc.org/wp-content/uploads/Ashtabula-092218.pdf>.

² *A Case Study of Ashtabula, Ohio*.





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HARNESSING PLACE-BASED ASSETS

BROWN COUNTY

Indiana

A small, scenic town an hour south of Indianapolis and 30 minutes east of Indiana University, Brown County has a population of roughly 15,200. This county's economy originally hinged on a thriving arts scene: Theodore Clement Steele, one of Indiana's premier painters, purchased a home in Nashville (the seat of Brown County) and established the Brown County Art

Colony in 1907. The legacy continues to this day, with hundreds of artists residing in the county and working in art galleries, shops, and studios.¹ The county has more than 20 art galleries and 100 lodging options, and it is a popular wedding destination.² Today, Steele's home and garden are a historic site. Nashville's arts background has translated into a robust economy, with median household income 9.4 percent higher than the state average and an exceptionally low unemployment rate of 2.7 percent.³

¹ "Brown County Art Colony Centennial," Brown County, accessed November 14, 2019, <http://www.ourbrowncounty.com/0307s4.htm>.

² *Brown County, Indiana: Escape Comes Naturally: Places to Stay*, Nashville, Indiana, accessed November 14, 2019, <http://www.nashville-indiana.com/2018/stay18.pdf>.

³ "Brown County, Indiana," STATS Indiana, accessed January 24, 2020, https://www.stats.indiana.edu/profiles/profiles.asp?scope_choice=a&county_changer=18013.

Weighting all states with ocean coastline (excluding Alaska and Hawaii), the average cost-of-living index is 113.56, demonstrating that the Midwest's freshwater coast is uniquely affordable when compared to its ocean peers.ⁱⁱⁱ According to *U.S. News & World Report's* 2019 Best States rankings, which factor in natural and social attributes, Minnesota ranked third, while Wisconsin ranked 11th, and Iowa placed 14th.¹²¹

Less tangible but no less real are attributes such as the appeal of iconic and symbolic centers of America's social, agricultural, and industrial history. The region is associated with the family farm, the birthplace of labor unions and the middle class, and the mighty industries of the Arsenal of Democracy. The attitudes and values of the people of the Midwest have their own magnetic power. The Midwest is known for a sense of authenticity and civility, coupled with an ethos of hard work. These values can exert a strong tug to those looking for alternatives to the cultures and economies of other regions if appreciated and marketed appropriately.

ⁱⁱⁱ State-level data from C2ER and the US Census population were used to create weighted cost-of-living indices. To determine cost of living by "coastline," the weighted average of the cost-of-living measurements for Illinois, Indiana, Iowa, Michigan, Minnesota, Missouri, Ohio, Pennsylvania, and Wisconsin was compared against the weighted average of every state with ocean coastline (excluding Alaska and Hawaii). The cost-of-living index totals reflect C2ER's 2019 Q3 data.

The path forward

Policymakers can employ a range of policies and strategies that harness and build on Midwest communities' natural assets, as well as their history, quality of life, lifestyle advantages, and cultural assets.

State and local policies

Four priorities can guide these efforts at the state and local levels.

Enhance water and land conservation and protection programs

The public sector can steward the Midwest's natural assets (woods, waterways, greenways, rivers, lakes, and Great Lakes) as a fulcrum for ongoing economic growth and community revitalization.

Expand state and local historic and heritage designation

Officials should develop additional avenues for the protection of the Midwest's cultural and historic heritage, such as development tax credits and related policies.

Nurture local attributes that attract and retain talent

Community leaders should pay special attention to amenities and quality-of-life and lifestyle assets, such as walkable, mixed-use development; multimodal transit and transportation options; sustainability practices (such as green infrastructure); and policies and practices that communicate values of tolerance, social equity, and innovation.

Share local economic success paths for Midwest communities

Leaders of small and midsize communities across the region can identify and disseminate examples and a tool kit of community-driven approaches for place-based economic development by developing a variety of these success paths.

Policymakers can employ a range of policies and strategies that harness and build on Midwest communities' natural assets, as well as their history, quality of life, lifestyle advantages, and cultural assets.

Federal policy

A new Communities in Transition program at the federal level could package a variety of programs and resources to harness place-based assets.

Support Communities in Transition

Many communities would benefit from a package of federal policies that acknowledge and define transitioning economies and support place-specific economic development priorities.

These include:

- Place-focused economic development tools: Focus federal economic development assistance programs (Economic Development Administration, Department of Agriculture, and small-business support) on communities and regions in transition, while expanding their focus to support worker adjustments to dislocations brought on by technological change, artificial intelligence, and automation.
- Rust Belt to Blue Belt: Increase Great Lakes Restoration Initiative funding for water-based rehabilitation and local economic development.
- Community-based free college and capital for Communities in Transition: Provide support for local college funding programs as modeled by the Kalamazoo Promise. Create a broader analogue to federal Opportunity Zone programs targeting communities and regional economies undergoing economic transition.

AGENDA FOR ACTION: ACCELERATING MIDWEST ECONOMIC TRANSFORMATION

The forces responsible for the unraveling of the Midwest's manufacturing-based economy in the late 20th century are well documented. Chiefly, a global economy flattened by revolutions in communications and transportation empowered new international competitors. Accelerating technological change and automation dramatically restructured the region's industries, obliterating a huge number of well-paying assembly line jobs and shuttering many Midwestern factories.

An urgent national and Midwestern priority is to foster more inclusive and broadly shared economic growth so that fewer people and communities feel abandoned, isolated, and unable to control their economic destiny. Leaders within the region, as well as those seeking the presidency, need an effective, positive, forward-looking vision to counter isolationism, protectionism, and nostalgia as fixes for residents' economic woes.

It is no overstatement to say that the eyes of the country, and much of the world, are focused on the economic position, attitudes, and disposition of Midwest voters heading into the 2020 election.

As detailed in this report, the blueprint to meaningfully spreading economic opportunity, security, and a newfound optimism about the future to more people in the Midwest and their communities entails modeling existing Midwestern paths to success and putting to work a set of programs, policies, and public-private partnerships to achieve these ends.

Most importantly, this blueprint should include the following state and local partnerships, as well as supportive federal policies.

Emerging-sector innovation hubs: Organize state and local public-private partnerships and increase federal investment in research, development, and innovation in emerging sectors of energy, water, food systems, mobility, healthcare, and IT focused through innovation institutes, likely located at Midwestern research universities.

Capital for Communities in Transition: Create additional state, local, and public-private innovation funds. As part of a new federal place-focused economic development agenda, create new investment funds and/or provide favorable tax treatment of private-sector investments in regions and communities with transitioning economies.

Open doors and fair trade: Advocate at the state and local level for organizations that support domestic exporters and explore foreign markets; and for a federal trade policy that creates a stable, predictable environment, opens markets, and secures opportunities for exports, while ensuring a steady supply of fairly traded imports.

Green leadership: Set goals for local and state sustainability leadership. Mayors, governors, and the next president can set a goal of 90 percent clean energy by 2050 and the federal government can recommit to global agreements to reduce carbon emissions and greenhouse gases. Such commitment will drive Midwest-based clean energy innovation, new technology development, and business and job growth.

“GI Bill for Workers”: Push for state policy leadership and federal flexibility to allow states to deliver a financial guarantee for postsecondary credentialing for today’s workforce, which is at risk of dislocation and concentrated in the Midwest.

Portable pensions and healthcare: Support federal policies that create incentives for states to develop public–private portable pension, savings, and healthcare programs to maintain worker security and support mobility in a changing labor market.

Community-based free college: Catalyze community-based higher education funding programs similar to the Kalamazoo Promise through a new federal-state-local investment matching program.

Infrastructure policy and funding to significantly increase federal subsidies: Provide additional federal resources for infrastructure modernization, with financing flexibility to support multimodal infrastructure priorities at the state and local level.

Economic development focused on Communities in Transition: Package existing federal economic and business development and support services, and focus them on newly defined transitioning economies. Incorporate criteria to support policies that reward collaborative, community-driven, inclusive growth strategies.

Heartland Visas for Communities in Transition: Support immigration policies that increase the flow of high-skill immigrants, refugees, entrepreneurs, and guest workers to newly designated Communities in Transition (including in the Midwest) and support paths to citizenship for DREAMers—young, undocumented immigrants who came to the United States as children.



CONCLUSION

8

There was a time when Midwestern leaders worked together to develop the agricultural prowess, the higher-education institutions, the employer-worker social compact, and the infrastructure that built an economic colossus, putting the region, and the country, at the forefront of the world stage.

Yet in the early part of the 20th century, the forward economic march of the Midwest faced a wave of isolationism and nativism driven by the First World War and the seismic economic dislocations of the Great Depression. But rather than succumb to these trends, the region's business, labor, civic, and political leaders crafted an affirmative and engaged economic and social response to a changing world. The time has come to reprise that role for a new economic era.

As the stories of Midwest communities woven through this report illustrate, there is much the Midwest's state and local leadership is doing right: harnessing communities' particular economic assets while attending to real economic deficits, recasting success in this young century.

By following the blueprint in this report, Midwest regional and national leaders can restore broadly shared economic prosperity and accelerate an economic transition well underway in the region to lift up more people and places. In so doing, new economic prosperity will feed a newfound optimism and confidence in America's Heartland. ■

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