



Regional Strengths and Assets of the MidAmerica Economic Development Council Region

July 2015

The economy of the MidAmerican Economic Development Council region's 10-state area is growing. Manufacturing of durable goods was the largest contributor in eight of the states. The region was responsible for **17.7 % of the US GDP** in 2012. This compares to 21.5% for the southeast region, 18.5% for the Far West region, 18.3% for the Mideast region, 12.3% for the Southwest region, 5.4% for New England, and 3.4% for the Rocky Mountain region (BEA regions). Not one of the MidAmerica EDC states has experienced a negative GDP over the past three years.

The automotive cluster of the MidAmerica EDC region has more than 3,300 establishments, employing over 440,000 people. This is **52%** of the total employed in the cluster the United States.

The MidAmerica EDC region produces **40%** of the nation's food supply (USDA 2013). There are more than 6,800 food processing and manufacturing establishments in the region (2013).

The insurance services cluster of the MidAmerica EDC region has over 8,000 establishments, employing more than 385,000 people, 26% of the total number employed in the cluster in the United States.

Nearly 15 billion gallons of ethanol are produced in the United States per year. **78%** of the US ethanol is produced in the MidAmerica EDC states (2014 data).

Common Strengths

Strengths and rankings are widely used by state, regional and local economic development organizations in their marketing and promotions. We identified common strengths (from the 50-state comparisons available on many state economic development websites) for the MidAmerica EDC region. These are areas where the 10-state region performed well, at or better the US average and are in the categories of business operating costs, workforce and quality of life.

- Power is a factor for business and industry and their overall cost of doing business. The region's average electrical-Industrial cost is \$6.53/kWh compared to the US average of \$6.67 (2012 data)
- The region's average electrical-commercial cost is \$8.79/kWh compared to the US average of \$10.09 (2012 data)
- The region's average natural gas-commercial cost is \$7.04/1,000 cubic feet compared the US average of \$8.09 (2012 data)
- The region's educational attainment for high school graduation is above the national average = 90.3% compared to the national average of 85.4% (2013 data)
- The region's education attainment for college degrees is comparable to the national average – 27.6% for the region compared to 29.1% nationally (2012 data)
- Labor force participation rates are now watched and reported more closely due to the tight labor markets or certain industries. The labor force participation rate is slightly higher in the

region than the US as a whole – 67.6% compared to 63.2% (2012 data) – with a good 30+% of the potential labor not yet participating in the region.

- Five (5) of the top 10 most livable states are found within the MidAmerica EDC region; seven of the states are in the top half
- The average crime rate of the region is far less than the national rate – 2,861.9 crimes/100,000 population in the region vs 3,295.0 national average (2013 data)
- Household incomes are an indication of the health of a community, region and state. The average household income in the 10-state region is comparable to the US average - \$50,939 vs \$52,371 (2012 data)
- Home ownership rates provide another perspective of the health of a community, region and state and its quality of life. The average home ownership rate in the MidAmerica EDC region is above the national average – 70.1% vs 66.1% (2011 data)
- Household incomes and home ownership rates are also affected on the median value of a house; the home ownership rates may be as high as they are because housing is much more affordable the MidAmerica EDC region. The median value of a house is \$141,160 in the region compared to \$171,900 US average (2012 data)

Common Assets

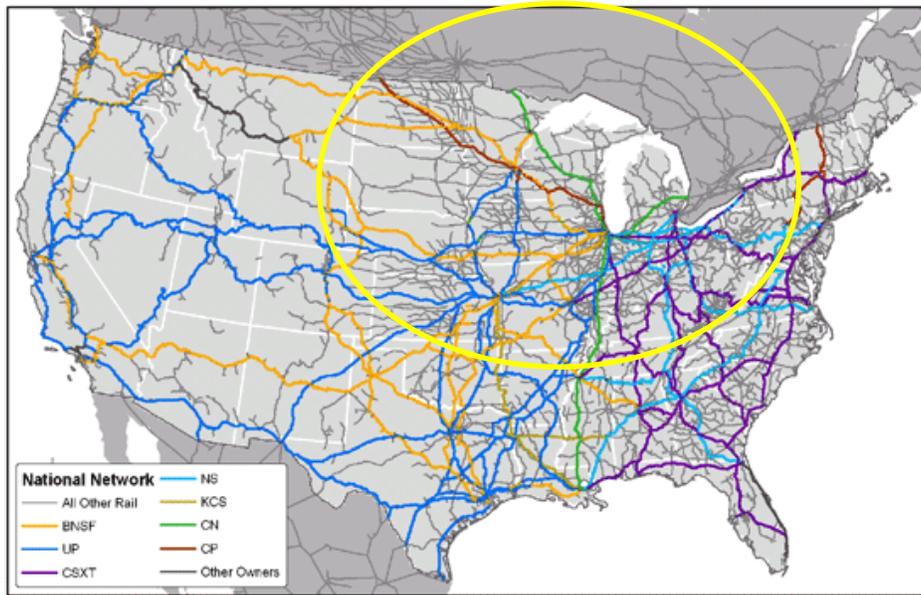
TRANSPORTATION INFRASTRUCTURE

The MidAmerica EDC region is a significant transportation and logistics hub in North America. There are more than 10,000 miles of primary Interstate highways in the region that provide connections to the east and west coast, gulf coast, Mexico and Canada. I-80 is a transcontinental interstate spanning from San Francisco to the New York City metropolitan area and crosses through five (5) of the states. I-35 is a major North-South interstate, running from Duluth, MN to Laredo, TX. Interstate 75 is also a major North- South interstate, running from the Sault Ste. Marie, Michigan (Canadian border) to Miami, FL. It is the seventh longest interstate, second longest North-South behind I-95. The region is home to all of the Class I railroads and several short line railroads.



PRIMARY COMMERCIAL AIRPORTS BY CITY/STATE AND 2013 ENPLANEMENTS

There are a total of 74 commercial airports in the MidAmerica region; over 105 million enplanements were recorded in 2013 at these airports.



The map shows the freight rail network in the United States, including routes operated by both the major carriers and smaller railroads.

SOURCE: ASSOCIATION OF AMERICAN RAILROAD

There are approximately 80 commercial ports in the region and large maritime ports on the Great Lakes, Mississippi, Illinois and Ohio Rivers. Waterways and commercial ports are found on Lake Michigan, Lake Superior, Lake Erie, Lake Huron, Mississippi River, Missouri River, Illinois River, and Ohio River.



HIGHER EDUCATION, RESEARCH INSTITUTIONS, NATIONAL LABS

There are about 750 public and private universities and colleges in the MidAmerica EDC region. The region is home to 21 of the top 101 research universities in the United States (according to the Council of State Governments Midwest. Twelve (12) of the 60 members of the Association of American Universities are located in the MidAmerica EDEC region. American research universities perform more than half of all basic research in the United States. The research universities house several research institutes and initiatives; some of the areas of focus are:

- Transportation solutions
- Plant sciences
- Forensics
- Virtual reality
- Bio-economy
- Metabolic biology
- Environmental health and safety
- Nanoscience and Nanotechnology
- Biocatalysis and Bioprocessing
- Genomics and Bioinformatics
- Archeology
- Advanced Algal and Plant Phenotyping
- Bioenergy
- Autism, Intellectual and Neurodevelopmental Disabilities
- Water sciences
- Nanoscience
- Molecular engineering
- Molecular pediatric services
- Cardiovascular research
- Cancer and other chronic diseases
- Supercomputing – advanced computational research
- Eye research
- Fusion technology
- Engine research
- Dairy research
- Environmental remote sensing
- Wind energy
- Skin diseases

In addition to public universities and the research institutes within them, the region is home to 40 national laboratories. Four worth noting are the Ames Laboratory, Argonne National Laboratory, the Glenn Research Center, and the Sanford Underground Research Facility. These labs are centered on some of the common assets and strengths of the region – energy, aerospace and engineering.

The Ames Laboratory is a government-owned, contractor-operated national laboratory of the U.S. Department of Energy (DOE), operated by and located on the campus of Iowa State University in Ames, Iowa. For over 65 years, the Ames Laboratory has successfully partnered with Iowa State University, and is unique among the DOE laboratories in that it is physically located on the campus of a major research university. Many of the scientists and administrators at the Laboratory also hold faculty positions at the University and the Laboratory has access to both undergraduate and graduate student talent.

Approximately 745 people are involved with the Laboratory either as full- or part-time employees or as Laboratory associates. Key areas of expertise are materials design, synthesis and processing; analytical instrumentation design and development; materials characterization; catalysis; computational chemistry; condensed matter theory; and computational materials science and materials theory.

The Ames Laboratory leads the Critical Materials Institute, a DOE Energy Innovation Hub funded at up to \$120 million over five years. The Critical Materials Institute brings together leading researchers from other DOE national laboratories, academia and industry to develop solutions to domestic shortages of rare-earth materials and other materials critical to U.S. energy security.

The Ames Laboratory broke ground in June 2014 for a new, state-of-the-art Sensitive Instrument Facility, which will house next generation electron microscopy equipment for characterization of materials at the atomic scale.

The Ames Laboratory's Materials Preparation Center prepares, purifies, fabricates and characterizes materials in support of R&D programs throughout the world. The Ames Laboratory is the U.S. home to 2011 Nobel Prize in Chemistry winner Dan Shechtman and is intensely engaged with the international scientific community, including hosting a large number of international visitors each year.

Argonne National Laboratory is a multidisciplinary science and engineering research center, where “dream teams” of world-class researchers work alongside experts from industry, academia and other government laboratories to address vital national challenges. Through collaborations with researchers here at Argonne and around the world, we strive to discover new ways to develop energy innovations through science, create novel materials molecule-by-molecule, and gain a deeper understanding of our planet, our climate and the cosmos.

Surrounded by the highest concentration of top-tier research organizations in the world, Argonne leverages its Chicago-area location to lead discovery and to power innovation in a wide range of core scientific capabilities, from high-energy physics and materials science to structural biology and advanced computer science.

The Glenn Research Center investigates space operations, aerospace technology and technologies needed for space exploration such as power, propulsion, communications, fluids and combustion, materials, structures, mechanical components, and instrumentation and controls. Research is conducted that advances both aeronautics and space including power and energy-conversion systems; aircraft, space, and planetary communications; high temperature propulsion materials; propulsion structures; mechanisms and mechanical systems; and tribology and surface science. Research and development work related to space exploration is performed in the areas of in-space propulsion and nuclear systems; fluids combustion and reacting subsystems, including gravity dependence; systems integration and analysis; human research; and microgravity science. Aerospace technology focuses on advanced turbine engine propulsion and power systems; turbine engine noise reduction; propulsion control and engine health management; instrumentation systems; avionics; aircraft icing research; modeling and simulation; and alternative fuel systems.

The Sanford Underground Research Facility in Lead, South Dakota, advances our understanding of the universe by providing laboratory space deep underground, where sensitive physics experiments can be shielded from cosmic radiation. Researchers at the Sanford Lab explore some of the most challenging questions facing 21st century physics, such as the origin of matter, the nature of dark matter and the properties of neutrinos. The facility also hosts experiments in other disciplines—including geology, biology and engineering.

The Sanford Lab is located at the former Homestake gold mine, which was a physics landmark long before being converted into a dedicated science facility. Nuclear chemist Ray Davis earned a share of the Nobel Prize for Physics in 2002 for a solar neutrino experiment he installed 4,850 feet underground in the mine.

Homestake closed in 2003, but the company donated the property to South Dakota in 2006 for use as an underground laboratory. That same year, philanthropist T. Denny Sanford donated \$70 million to the project. The South Dakota Legislature also created the South Dakota Science and Technology Authority to operate the lab. The state Legislature has committed more than \$40 million in state funds to the project, and South Dakota also obtained a \$10 million Community Development Block Grant to help rehabilitate the facility.

In 2007, after the National Science Foundation named Homestake as the preferred site for a proposed national Deep Underground Science and Engineering Laboratory (DUSEL), the South Dakota Science and Technology Authority (SDSTA) began reopening the former gold mine.

In December 2010, the National Science Board decided not to fund further design of DUSEL. However, in 2011 the Department of Energy, through the Lawrence Berkeley National Laboratory, agreed to support ongoing science operations at Sanford Lab, while investigating how to use the underground research facility for other longer-term experiments. The SDSTA, which owns Sanford Lab, continues to operate the facility under that agreement with Berkeley Lab.

The first two major physics experiments at the Sanford Lab are 4,850 feet underground in an area called the Davis Campus, named for the late Ray Davis. The Large Underground Xenon (LUX) experiment is housed in the same cavern excavated for Ray Davis's experiment in the 1960s. In October 2013, after an initial run of 80 days, LUX was determined to be the most sensitive detector yet to search for dark matter—a mysterious, yet-to-be-detected substance thought to be the most prevalent matter in the universe. The Majorana Demonstrator experiment, also on the 4850 Level, is searching for a rare phenomenon called “neutrinoless double-beta decay” that could reveal whether subatomic particles called neutrinos can be their own antiparticle. Detection of neutrinoless double-beta decay could help determine why matter prevailed over antimatter. The Majorana Demonstrator experiment is adjacent to the original Davis cavern.

Another major experiment, the Long Baseline Neutrino Experiment (LBNE)—a collaboration with Fermi National Accelerator Laboratory (FermiLab) and Sanford Lab, is in the preliminary design stages. The project got a major boost last year when Congress approved and the president signed an Omnibus Appropriations bill that will fund LBNE operations through FY 2014. Called the “next frontier of particle physics,” LBNE will follow neutrinos as they travel 800 miles through the earth, from FermiLab in Batavia, Ill., to Sanford Lab.

Common Key Industries, Economic Drivers, Employers

The common key industries and economic drivers in the MidAmerica EDC region include agriculture and value-added ag, biosciences, machinery & equipment; advanced manufacturing; automotive, oil and gas, renewable and clean energy, medical devices and pharmaceuticals, health care, finance and insurance, data centers, aerospace and retail.

The area is well-known and respected for its agriculture, value-added agriculture, machinery, equipment and automotive manufacturing, and renewable energy industries.

Aerospace may not be that widely known or thought of across the region and may be a specific area of focus for marketing the region.

Another area is water technology or the “blue” economy. This along with all of the “green” and “clean” energy industries and initiatives in the area are important considerations for companies, both prospective and existing; the MidAmerica EDC region can help them meet their “green” goals and guiding principles.

The BLS website includes an interactive map that shows the changes, by states and year over year from 1990 to 2013, of the major industries with highest employment. For the MidAmerica EDC region, it was predominantly manufacturing in 1990; today (2013 most recent), it is predominantly health care and social assistance, followed by manufacturing. This is true nationally as you will see from the US map.

Today the largest employers in the region consist of Wal-Mart, state university systems or healthcare system.

STATE	LARGEST EMPLOYER
ILLINOIS	WAL-MART – over 51,000 employees at 197 locations
INDIANA	INDIANA UNIVERSITY – and its associated medical center – over 60,000 employees
IOWA	UNIVERISTY OF IOWA – campuses, hospitals, and clinics – over 22,500 employees
MICHIGAN	THE UNIVERSITY OF MICHIGAN SYSTEM – including health system – over 45,000 employees
MINNESOTA	MAYO CLINIC - over 33,000 employees
NEBRASKA	UNIVERSITY OF NEBRASKA – more than 13,000 employees
NORTH DAKOTA	SANFORD HEALTH, nearly 12,000 employees
OHIO	WAL-MART – over 47,000 employees at 175 locations
SOUTH DAKOTA	AVERA HEALTH, more than 13,000 employees
WISCONSIN	UNIVERSITY OF WISCONSIN – more than 39,000 employees

FORTUNE 1000 COMPANIES IN THE MIDAMERICA EDC REGION

There are 225 Fortune 1000 company headquarters in the MidAmerica EDC 10-state region. The only state without one is South Dakota; there are seven states nationally that do not have a Fortune 1000 company headquarters. In addition to South Dakota, they are Alaska, Maine, Wyoming, West Virginia, Montana and New Mexico.

Common SIC's in the region from the Fortune 1000 list (3 or more with same, primary SIC) are below. The largest concentration by SIC are in the food products & manufactures (#209903), automobile parts & suppliers – mfrs (#371401) and insurance (#64112).

SIC	SIC DESCRIPTION
209903	Food Products & Manufacturers
287301	Fertilizers-Manufacturers
356907	Automation Systems & Equipment-Mfrs
371401	Automobile Parts & Supplies-Mfrs
372801	Aircraft Components-Manufacturers
384104	Physicians & Surgeons Equip & Supls-Mfrs
473101	Transportation Consultants
491101	Electric Companies
508522	Industrial Equipment & Supplies (Whls)
531102	Department Stores
541105	Grocers-Retail
628203	Financial Advisory Services
633101	Insurance – Property & Casualty
641112	Insurance
641133	Insurance-Holding Companies
671201	Holding Companies (Bank)
671904	Utilities-Holding Companies
679801	Real Estate Investment Trusts

Some of the well-known, household names, of Fortune 1000 companies with headquarters in the region include:

- AAR Corp.
- Abbott Laboratories
- Allstate Insurance
- Archer Daniels Midland Co.
- Berkshire Hathaway
- Best Buy
- Boeing
- Caterpillar
- Con Agra Foods
- Cummins
- Deere & Company
- Discover Financial Services
- Dow Chemical
- Eli Lilly & Co.
- Ford Motor Company
- General Mills Co.
- General Motors Co.
- Goodyear Tire & Rubber
- Harley Davidson
- Johnson Controls, Inc.

- J M Smucker Co.
- Kellogg Co.
- Kohl's
- Kraft Foods
- Land O'Lakes
- Macy's
- McDonald's Corp.
- Motorola Solutions Inc.
- Nationwide Mutual Insurance
- Owens Corning
- Polaris Industries
- Proctor & Gamble Co.
- Rockwell Automation
- Sears
- Snap-On Tools
- Target Corp.
- Toro Co.
- Union Pacific Railroad
- United Continental Holdings
- US Bancorp
- USG Corp.
- Walgreens
- Wendy's
- Whirlpool Corp.

Unique and Distinguishable Assets

In our reading, we found a good number of **unique** and what we feel are **distinguishable assets** worth "calling out" and may be useful in developing marketing materials and messaging of the region.

1. Sanford Underground Research Facility, Homestake Mine, Lead, SD
2. The Water Council and The Global Water Center - Wisconsin
3. North Dakota is one of six Federal Aviation Administration (FAA) UAS test sites conducting research to determine how to best integrate UAS into the national airspace. The FAA certified the Northern Plains UAS Test Site as the first site ready for operations in April 2014.
4. United States Strategic Command (USSTRATCOM) - Nebraska
5. Ohio is home to three National Network for Manufacturing Innovation (NNMI) institutes: America Makes, which is headquartered in Youngstown, is focused on 3D printing/additive manufacturing. American Lightweight Metals and Advanced Composites Manufacturing are two consortium partnerships leading the development of new materials and advanced manufacturing.
6. The Mayo Clinic in Minnesota
7. The Ames Lab in Ames, Iowa
8. Illinois has the 3rd largest intermodal port in the world, largest inland port in the North America
9. The Indiana Biosciences Research Institute
10. Michigan is home to the busiest border crossing in North America, is a center link of the NAFTA corridor and is one of the largest U.S. air hubs to Asia.

Feedback from Site Location Consultants

We attempted to contact four consultants to gain their perspective on the MidAmerica EDC region; one response was received from Jeff Rossate at Deloitte.

- 1. What 2 or 3 words would you use to describe the Mid-America EDC region? Stable, but facing big challenges in core industries (ag, auto, med device, ag-bioscience), Competitive (skills, wages, infrastructure costs). Solid (Infrastructure).*
- 2. During the course of your work, have you recognized any unique or distinguishable assets or strengths, which are fairly common to this 10-state area? If yes, would you please share. This is a diverse set of states, but the common strength is the skilled nature of the labor. It may not always be in the quantity desired, but the skill base is good.*
- 3. How recently has a client located a new operation in the Mid-America EDC region? 2014. What were key reasons for their decision to choose this region? Skill sets and corresponding cost of talent. The location offered a lower cost profile than the west coast (client origin) and the reliability of the talent/labor was great.*

Considerations for MidAmerica EDC

1. Transportation and logistics is a common, significant strength and asset of the region. The infrastructure is in place and the rankings various parts of the region tout are impressive. Business Facilities magazine noted that **"Illinois has the 3rd largest intermodal port in the world."** Michigan is home to the busiest border crossings in North America and is a center link of the NAFTA corridor, Indiana home to 2nd largest FedEx air hub worldwide.

Marketing MidAmerica EDC as "the" transportation and logistics" region is defensible. Developing an infrastructure platform or agenda as a region to support investments in infrastructure at all levels may be of value to the region and the MidAmerica EDC members.

2. The "Blue" Economy - The region may be a leader, or position itself, as a leader in water technology in the US and North America. Water continues to be a hot topic today. The severe drought in California has and will continue to keep it top of mind for policy makers and economic developers. Water rights fights have been talked about in some parts of the country for decades. The lakes and rivers of the MidAmerica region are important from a transportation and logistics standpoint. There are thousands of lakes and hundreds of rivers, big and small, in the region that contribute significantly to the area's tourism and outdoor recreation industries and the quality of life. The Water Council in Wisconsin is a unique asset and other states, including Michigan, have indicated water technology as a key industry.

There are six cities (Milwaukee, WI is one), along with Colorado, Michigan, Massachusetts, Nevada, Northeast Ohio, and Central/Southern California, that have been identified by the EPA as water technology innovation clusters—regional groupings of businesses, government, research institutions, and other organizations focused on the future of water.

"The Water Technology Innovation Cluster program is a way to solve water problems and create economic opportunities at the same time," said Sally Gutierrez, EPA Environmental Technology Innovation Cluster Development and Support Program Director. "The idea is to try and leverage the significant and robust assets in each region—like very innovative water utilities, a strong investment network, and significant research organizations."

3. The "Green" Economy – renewable energy and clean tech initiatives are widespread across the MidAmerica region. The Clean Energy and Economic Development initiative that Minnesota is a part of with 3 other states and the National Governors Association is a good example. The Wisconsin Energy Institute, Midwest Energy Research Consortium based at the University of Wisconsin and the planned Energy Innovation Center opening in 2016 is another example, and is reaching out side of the state to encompass companies and institutions across the Midwest.
4. Consider packaging or conducting additional research on the aerospace/aeronautics/aviation industry cluster in the region; there are a total of 313 establishments in the aerospace and defense industry cluster according to www.clustermapping.com. Ohio is the birthplace of aviation, the number one supplier to Airbus and Boeing and home to the Glenn Research Center. North Dakota is a leader in unmanned aircraft systems (UAS) and home to a growing cluster of UAS research, business and military interests. MidAmerica EDC states are home to several aviation company headquarters: Illinois is home to Boeing and American Airlines and has an Emery Riddle Aeronautics University campus, Iowa to Rockwell Collins and Quatro Composites manufacturing components for drones, Indiana to Republic Airways, an Emery Riddle Aeronautics University Campus and the Aviation Tech Center at Indianapolis Airport. The UAS market is currently a buzz and the industry will only become for technologically advanced. There's a great story to tell about the industry when packaged from the MidAmerica EDC region perspective
5. The MidAmerica EDC region appears to be well positioned in the five areas outlined in:
Game changers: Five opportunities for US growth and renewal
By McKinsey Global Institute July 2013

The 5 Game Changers are:

- Energy
- Big Data
- Infrastructure Investment
- Trade
- Talent

The state of Ohio has captured this and is using it in their marketing efforts; it may be something to consider for the entire MidAmerica EDC region.

For questions or more information about the information in this report, contact:

Kathy J. Evert, owner
KJE Solutions, LLC
kjesolutions@gmail.com
712.260.8746