



Advanced Manufacturing in Missouri

MISSOURI
Advanced Manufacturing Excellence



Advanced Manufacturing in Missouri



Missouri is a center for advanced manufacturing excellence, supported by a cost competitive, pro-business and innovative environment, exceptional talent, extensive training programs, access to raw materials, and a globally connected infrastructure.

Aerospace Manufacturing

The U.S. is the world's largest aerospace producer, and Missouri has a rich history in aviation, especially military aviation. From Charles Lindbergh, to the Mercury space program, to the latest in aerospace innovation by Boeing, Missouri has led the way in every aspect of aviation for nearly 100 years.

Today, more than 16,000 of Missouri's highly trained workforce builds the F/A-18, EA-18, F-15, and T-7A fighter jets and the MQ-25 unmanned refueler at Boeing's Defense, Space and Security facilities, along with composite parts for the 777X and a huge array of military ordnance. Statewide, Missouri is home to more than 100 aerospace manufacturing companies.

Automotive Manufacturing

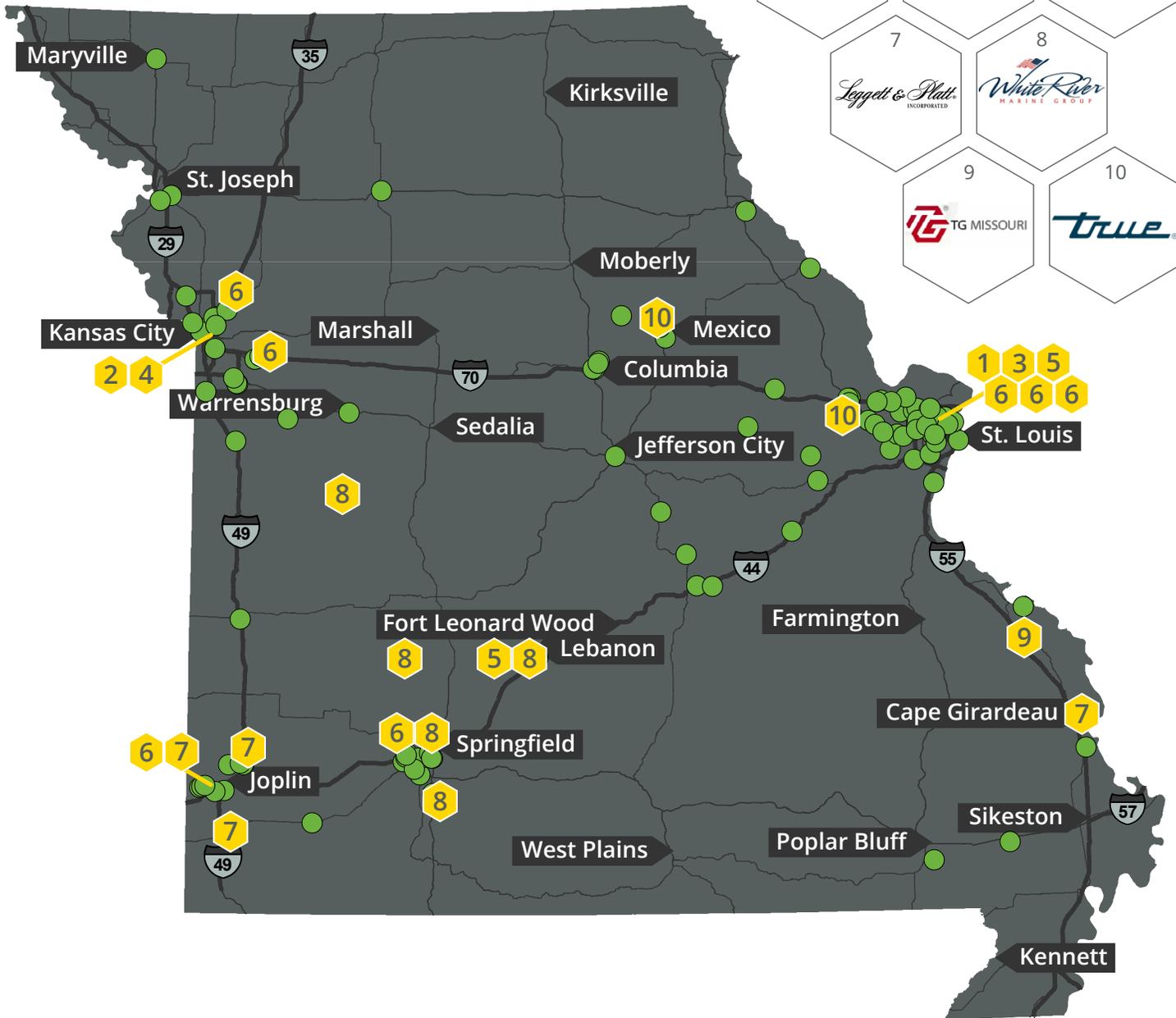
Across the state, Missouri talent drives automotive manufacturing into the future with significant production from Ford and GM. Missouri's automotive manufacturing plants are strategically located on the North American Automotive Alley that stretches from Toronto to Mexico City, and Missouri's Kansas City area is the second largest automotive trade hub behind Detroit, according to Brookings. In 2019, Missouri produced more than 770,000 vehicles at the Ford and GM plants.

Missouri is a Global Leader

Missouri exports more than \$7.3 billion in advanced manufacturing products to more than 210 countries every year. The state is a world leader in aerospace and automotive manufacturing, and our expertise extends to producing everything from egg carts to aluminum boats.

Missouri's Major Advanced Manufacturing Companies

-  Largest manufacturing employers in Missouri
-  Advanced manufacturing company



Missouri Advanced Manufacturing Companies





Recent Projects

A4, a manufacturer of premium team uniforms and athletic sportswear, opened a new 175,000-square-foot warehouse in Kansas City, Missouri, in 2018. The expansion created 24 new jobs, and represented \$5 million in capital investment.

Advanced Machining & Automation Inc., a manufacturer of automated machinery, expanded its headquarters in Lancaster, Missouri, in 2018. The expansion created 50 new jobs, and represented \$5.7 million in investment.

Amprod Holdings, LLC, a manufacturer of metal enclosures and equipment, expanded its headquarters in Strafford, Missouri, in 2018. The expansion created 35 new jobs, and represented \$4.25 million in capital investment.

B.A.C. Musical Holdings, doing business as Best American Craftsman, purchased Kanstul Musical Instruments Co., which builds a variety of brass instruments such as trumpets, cornets and tubas, in 2019. B.A.C. relocated Kanstul's manufacturing capabilities to Kansas City, making an investment of \$2.35 million and creating 17 new full-time jobs at the headquarters facility.

Boeing announced a \$70 million expansion of its missile and munitions plant in St. Charles, Missouri. The expansion is expected to be completed in 2021. The company also announced their two newest products, the T-7A trainer jet and the MQ-25 unmanned refueler, will both be built at their facilities in St. Louis, Missouri.

Briggs & Stratton added 130 new jobs at its plant in Poplar Bluff, Missouri, which makes small gasoline engines used in lawnmowers.

Central Service and Supply, Inc., a provider of equipment and supplies to the mining and construction industries, announced in 2019 an investment of \$1 million in a new manufacturing facility in Macon, Missouri, creating seven new jobs.

Central States Manufacturing, a manufacturer of metal building products, announced in 2019 a new manufacturing and retail operation in St. Peters, Missouri, creating 88 new jobs.

Dakota Bodies, a manufacturer of utility and service truck bodies, in 2019 announced plans to launch operations in Kansas City, creating 132 jobs and making a \$4.1 million capital investment.

Empire Comfort Systems, a manufacturer of furnaces and heaters, announced plans to open a new factory in Poplar Bluff in 2019, creating more than 100 jobs.

Evolution St. Louis announced plans in 2019 to open a \$5 million high-tech flat-bed knit manufacturing facility and create 50 to 60 jobs in St. Louis.

Faurecia, a leading automotive technology company developing solutions for sustainable mobility and smart life on board, opened new Interiors production facility in Blue Springs, Missouri, in 2019, creating 300 jobs and over \$60 million investment.

General Motors announced plans in 2019 to invest \$1.5 billion and retain nearly 4,000 jobs at its Wentzville, Missouri, facility.

Heat and Control opened their new factory in Union, Missouri, in 2018. The facility fabricates spraying equipment for the food processing and other industries. The facility currently employs 55 workers.

Hubbell-Killark, a global provider of integrated electrical industrial products embarked on an \$18 million expansion to integrate its manufacturing operations, offices, and warehouse under one roof in St. Louis.

Jostens, Inc., a commercial printing operation, expanded its Sedalia, Missouri, facility in 2018, investing 1.8 million and adding 20 new employees.

JRN Designs, Inc., an R&D firm specializing in the design and development of consumer product goods, announced plans to establish a facility in Kansas City and create 50 new jobs.



Leggett & Platt, a diversified manufacturer that designs and produces engineered products found in most homes and automobiles, expanded its headquarters in Carthage, Missouri, in 2018, investing \$10 million and adding 35 jobs.

Mac Rak Inc., the industry leader in engineered warehouse storage rack repair, established a new facility in Moberly, Missouri, in 2018, investing \$2.5 million and employing at least 30 people.

Melton Machine & Control Co., an automation manufacturer, expanded its headquarters in Washington, Missouri, in 2018, doubling the size of its operation and adding 40 employees.

Midwest Industrial Rubber, an independent specialty fabricator and distributor of conveyor belting and accessories, completed a \$1 million expansion of its Kansas City facility in 2018, adding 10 new jobs. The company also has a facility in St. Louis.

PolyAd Services invested \$8.4 million into a Plastic Additives Competence Center for BYK North America Plastics in St. Louis in 2018, creating 28 jobs.

Positronic Industries Inc., an advanced manufacturer of electronic connectors that are utilized in a variety of industries worldwide including military, aerospace, telecommunications, medical, industrial, and test equipment, invested \$2.5 million dollars in its Springfield, Missouri, headquarters in 2018 and added 90 new jobs.

Prock Operations expanded their St. James, Missouri, headquarters in 2018, adding 40 jobs.

Quaker Window Products, a manufacturer of wood, vinyl, and aluminum windows and doors, expanded their operations to Eldon, Missouri, adding 300 new jobs. The company is headquartered in Freeburg, Missouri.

Rack Builders, Inc., a producer of industrial storage rack units, expanded to Palmyra, Missouri, in 2018, creating 35 jobs.

Shick Esteve, a designer and manufacturer of automation systems for food industry, plastic, soap chip, and chemical factors, expanded its research-and-development capabilities in Kansas City in 2019, investing \$3.7 million.

Sonoco Plastics, a manufacturer of thermoformed plastic food containers, expanded in Chillicothe, Missouri, creating 16 new jobs.

TMS International, leading provider of onsite, industrial steel mill services for steelmakers around the country, launched a new facility in Sedalia in 2019, creating 15 new jobs.

Trinity Technology Group, an expanded polytetrafluoroethylene (ePTFE) manufacturer, completed a \$7.25 million expansion of their Higginsville, Missouri, facility in 2019, creating 20 new jobs.

White River Marine Group, the manufacturing arm of Bass Pro Shops, reopened their Bolivar, Missouri, facility in 2018, creating more than 130 jobs. The company is headquartered in Springfield.



Central Service and Supply's ribbon cutting in Macon, Missouri.

Advanced Manufacturing Talent & Education In Missouri

Access to skilled labor means higher productivity, higher quality of product, and higher profits for Missouri companies. With a workforce of more than three million, Missouri has a tremendous resource for growing businesses.

Missouri understands that an educated and trained workforce is essential to success in aerospace manufacturing. As a result, Missouri offers traditional and non-traditional training options for workers and companies in advanced manufacturing with academic institutions statewide granting degrees in engineering related around the state supporting collaboration with industry leaders such as Boeing.

Manufacturing Degrees and Certificates in Missouri

Colleges offering precision production Associate's degree or certificate programs:

Crowder College (Neosho)
 East Central College (Union)
 Jefferson College (Hillsboro)
 Metropolitan Community College (Kansas City)
 Mineral Area College (Park Hills)
 Missouri Southern State University (Joplin)
 Moberly Area Community College
 North Central Missouri College (Trenton)
 Ozarks Technical Community College (Springfield)
 Ranken Technical College (St. Louis, Perryville, Wentzville)
 Saint Louis Community College
 St. Charles Community College
 State Fair Community College (Sedalia)
 State Technical College of Missouri (Linn)
 Three Rivers College (Poplar Bluff)

Colleges offering advanced manufacturing related engineering or engineering technology degrees:

Columbia College
 Crowder College (Neosho)

DeVry University (Kansas City)
 Drury University (Springfield)
 East Central College (Union)
 Evangel University (Springfield)
 Jefferson College (Hillsboro)
 Lincoln University (Jefferson City)
 Maryville University (St. Louis)
 Metropolitan Community College (Kansas City)
 Mineral Area College (Park Hills)
 Missouri Southern State University (Joplin)
 Missouri State University (Springfield and West Plains)
 Missouri University of Science and Technology (Rolla)
 Missouri Western State University (St. Joseph)
 Moberly Area Community College
 North Central Missouri College (Trenton)
 Northwest Missouri State University (Maryville)
 Ozarks Technical Community College (Springfield)
 Park University (Parkville)
 Pinnacle Career Institute (Kansas City)
 Ranken Technical College (St. Louis, Perryville, Wentzville)
 Rockhurst University (Kansas City)
 Saint Louis Community College
 Saint Louis University
 Southeast Missouri State University (Cape Girardeau)
 St. Charles Community College
 State Fair Community College (Sedalia)
 State Technical College of Missouri (Linn)
 Three Rivers College (Poplar Bluff)
 University of Central Missouri
 University of Missouri (Columbia)
 University of Missouri-Kansas City
 University of Missouri-St. Louis (joint program with Washington University in St. Louis)
 Washington University in St. Louis
 William Woods University (Fulton)



Aviation Institute of Maintenance in Kansas City offers an Aviation Maintenance Technician (AMT) program.

The Aerospace Institute at St. Louis Community College works with adults and high school students to grow a ready workforce for entry-level technician jobs in partnership with regional aerospace companies.

MT1 Certification, endorsed by the National Association of Manufacturers and included in its National Skills Certification System, is available through Kansas City area schools including the Kansas City Public School system and Missouri Western State University.

Ranken Technical College has locations in St. Louis, Wentzville, Perryville and recently announced plans to open a new campus in Troy, Mo. All of their locations are formed in partnership with local employers. Under Ranken's model of work-based learning with an apprentice-styled, microenterprise structure students gain experience, industry certifications, and earnings while working with established industry leaders such as Emerson, Enterprise, Nidec Motor Corporation, and Watlow.

The State Technical College of Missouri offers hands-on training in airframes and powerplants.

The University of Central Missouri offers degrees in Aviation Management, Aviation Maintenance Management and Professional Pilot. Training conducted by current and former B-2 and A-10 pilots based at Whiteman AFB.

Knowledge Centers for Advanced Manufacturing

The Alliance for Collaborative Research in Alternative Fuels Technology (All-Craft) is a partnership led by the University of Missouri at Columbia in collaboration with MRIGlobal and others from across the state. The alliance is focused on low-pressure, high-capacity storage technologies for natural gas and hydrogen used in transportation.

The Emerson Center for Engineering Manufacturing at St. Louis Community College is a 31,000 square foot facility featuring state-of-the-art tooling and equipment, including 14,000 square feet of laboratory space and classrooms. The Center has laboratories for manufacturing, materials, quality assurance, civil engineering, electrical/electronic, CAD and design and skilled trades. As part of their work, the Emerson Center joined with St. Louis Community College's Workforce Solutions Group to form a joint venture with Boeing to develop customized pre-employment training program, providing 408 hours of instruction in aircraft assembly techniques, work instructions, teamwork, interview skills and resume writing. There have been more than 372 assembly mechanics recruited and trained through this program to date.

The Industrial Assessment Center at the University of Missouri-Columbia offers energy, productivity and waste assessments to qualified small-to-medium sized manufacturing companies.

The Institute of Materials Science & Engineering

at Washington University in St. Louis integrates and leverages the full potential of interdisciplinary materials research by bringing together more than 50 faculty and student researchers from engineering, the physical and natural sciences, and the medical school.

The Missouri State University **Center for Applied Science and Engineering (CASE)** at the Jordan Valley Innovation Center in Springfield develops and supports advanced materials research in carbon based electronics and devices, materials research and characterization, various MEMS sensors and systems fabrication.

Centers at Missouri University of Science and Technology (Missouri S&T):

The Center for Intelligent Maintenance Systems provides an opportunity for cooperative research between Missouri S&T researchers and industrial partners bridging the gap in monitoring/diagnostic/prognostic tools for industrial application. The center has collaborated with such industrial partners as Caterpillar, Chevron, Honeywell and Boeing.

The Intelligent Systems Center performs basic and applied research to address technology issues of intelligent systems for manufacturing and energy applications.

The Materials Research Center conducts research in fundamental science and applied engineering, including the development, evaluation, application and understanding of metals, polymers, biomaterials, electronic materials and composites.

Missouri S&T worked with Boeing to create the **Center for Aerospace Manufacturing Technologies**, supporting the aerospace supply chain.

Other Resources

Missouri Enterprise provides manufacturing, engineering and business optimization services for Missouri companies.



Occupation Information for Advanced Manufacturing

Code	Occupation title	Missouri employment	Missouri median hourly wage	U.S. median hourly wage
00-0000	All Occupations	2,820,610	\$17.88	\$19.14
17-2141	Mechanical Engineers	3,010	\$39.09	\$52.30
17-3027	Mechanical Engineering Technicians	200	\$26.91	\$27.40
51-0000	Production Occupations	207,630	\$17.48	\$17.31
51-1011	First-Line Supervisors of Production and Operating Workers	13,410	\$27.85	\$29.48
51-2031	Engine and Other Machine Assemblers	510	\$20.12	\$21.95
51-2041	Structural Metal Fabricators and Fitters	550	\$18.80	\$19.42
51-2090	Miscellaneous Assemblers and Fabricators	27,470	\$18.35	\$15.55
51-4021	Extruding and Drawing Machine Setters, Operators, and Tenders, Metal and Plastic	3,740	\$16.76	\$15.55
51-4032	Drilling and Boring Machine Tool Setters, Operators, and Tenders, Metal and Plastic	160	\$17.27	\$17.46
51-4034	Lathe and Turning Machine Tool Setters, Operators, and Tenders, Metal and Plastic	440	\$14.22	\$18.71
51-4041	Machinists	5,540	\$17.63	\$19.28
51-4071	Foundry Mold and Coremakers	220	\$22.15	\$21.36
51-4081	Multiple Machine Tool Setters, Operators, and Tenders, Metal and Plastic	3,940	\$19.54	\$17.11
51-4121	Welders, Cutters, Solderers, and Brazers	10,490	\$16.49	\$17.47
51-4122	Welding, Soldering, and Brazing Machine Setters, Operators, and Tenders	590	\$19.10	\$20.43
51-4191	Heat Treating Equipment Setters, Operators, and Tenders, Metal and Plastic	300	\$15.99	\$18.42
51-9022	Grinding and Polishing Workers, Hand	740	\$15.66	\$18.39

Source: BLS, May 2019 estimates

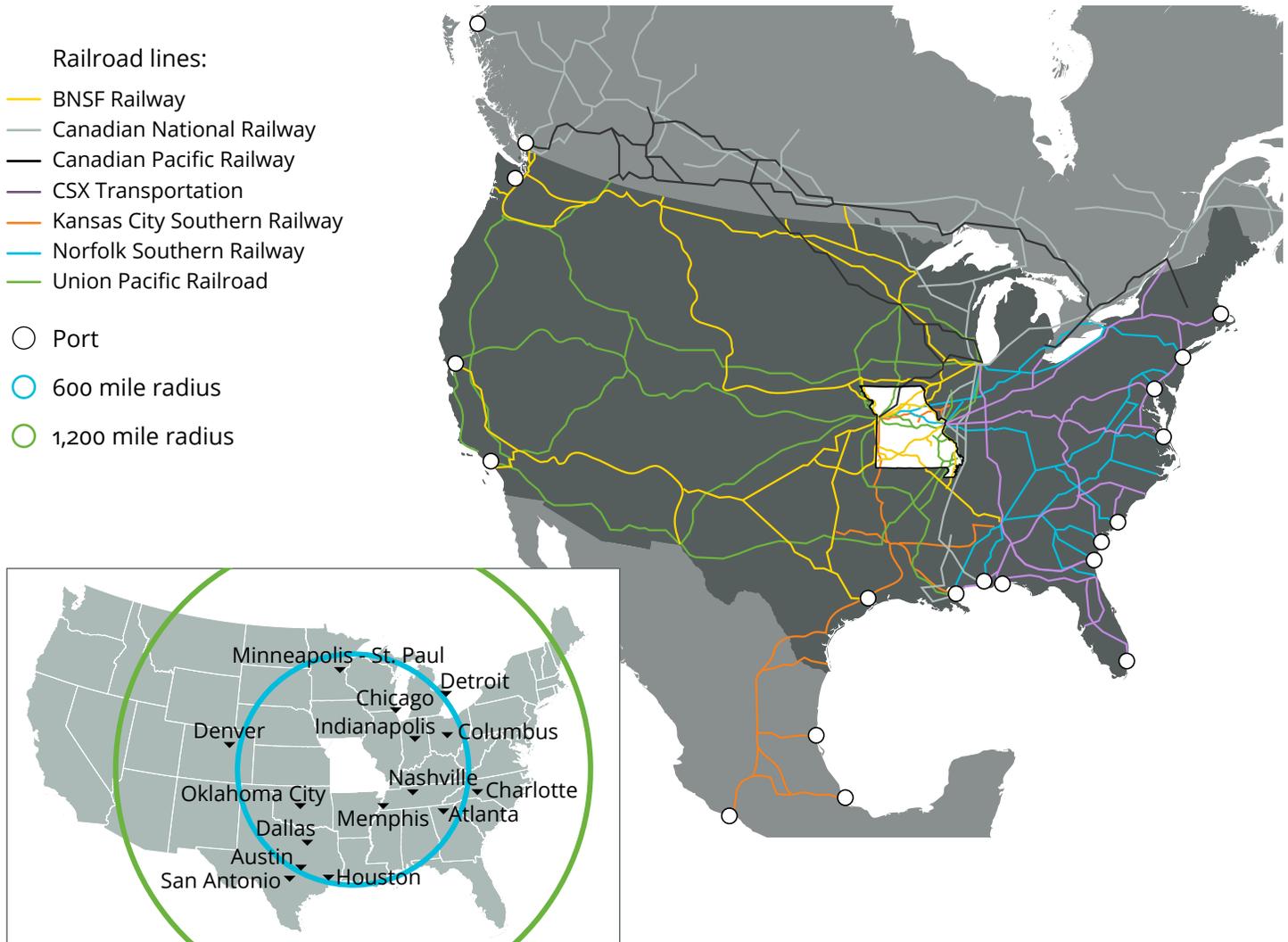
North America's Logistics Center

Missouri knows logistics, and can get your product to the global market quickly and efficiently. We are the nations rail, river and road crossroads, and a booming epicenter of commerce. We can get your goods anywhere in the world via our international airports, extensive river barge infrastructure, or any of the U.S. Class 1 railroads. Missouri is home to the confluence of the two largest rivers in North America, the Missouri and Mississippi, and is home to the most northern ice free port on the Mississippi with unrestricted access to the Gulf of Mexico.

Missouri's central location allows companies to reach more than 50% of the continental U.S. within one-day's drive, and most of the rest within two. 96% of Missouri's population lives within 15 miles of a 4-lane divided highway.

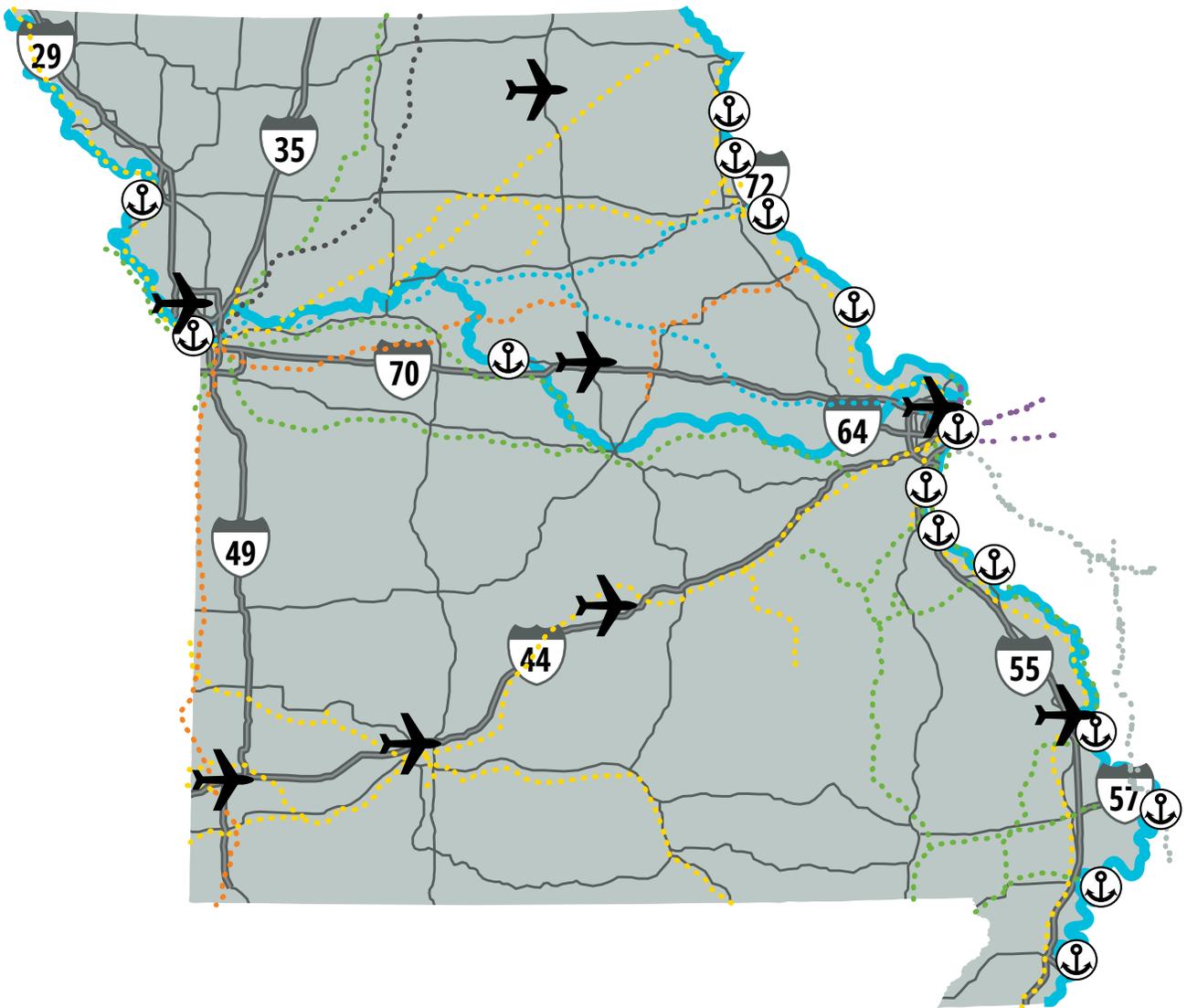
CNBC ranked Missouri's infrastructure 7th best in the U.S. in 2019.

Missouri's central and connected location



Missouri's Transportation Network

- Railroad lines:
- BNSF
 - CN
 - CP
 - CSX
 - KCS
 - NS
 - UP
- Ports
- Airports



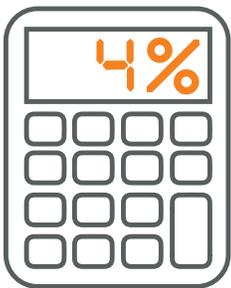
Missouri Reduces Your Risk and Your Costs

Missouri provides you with a solid business foundation, financial and otherwise. In Missouri, taxes and business costs don't eat up all of your company's profits.

Income Tax Allocation

Starting January 1, 2020, Missouri's corporate income tax rate dropped to 4 percent, making us one of the most tax-friendly states in the U.S. Missouri also moved to a single factor, market-based corporate income tax apportionment model based only on sales.

In addition, it is important to note that Missouri has not adopted worldwide or nationwide unitary tax assessment in computing multinational corporate income tax liability.



CORPORATE INCOME TAX RATE OF **4 PERCENT**, THE **2ND** LOWEST IN THE U.S.

Tax Exemptions for Manufacturers

Manufacturers locating in Missouri enjoy numerous tax advantages, including:

- Sales/use tax exemption on machinery and equipment used to establish a new or expand an existing facility
- Property tax exemption for inventories
- State sales tax and local use tax exemption on energy purchases

Certified Sites

Missouri's Certified Sites Program also reduces your risk by ensuring there has already been a comprehensive review of the availability of utilities, site access, environmental concerns, land use conformance, and potential site development costs. Having a site

"certified" reduces the risk associated with development of particular sites by providing up front and consistent information. Additionally, Missouri's 50+ years of a AAA bond rating is representative of our solid financial acumen and stable financial foundations.

Missouri has more than 40 rail served sites of 50 acres or more and 168 industrial facilities with more than 50,000 square feet (*LocationOne as of 5/13/2020*).

Workforce Development

Missouri One Start provides businesses with comprehensive pre-employment and customized training solutions to help them ramp up faster during an expansion. Missouri One Start's network of colleges and training facilities have the resources to meet each business's unique needs by delivering tailored pre-employment screening, employment marketing, and job specific training to make businesses more competitive. In addition, Missouri offers free community college through the A+ and Fast Track programs.

Our Services

Missouri is also committed to your growth. Our goal is to reduce your risk and provide first-class support from your initial site search to the day you open for business. Our team is ready to work with you and provide a "concierge service" as you consider where your next expansion will be.

Benefits like our low business and labor costs, reliable and inexpensive energy, aggressive and performance-based incentives, and a statewide commitment to attracting companies and investment, make Missouri a place where your company can come to grow and thrive. Whether it's in six weeks, six months, or six years, we are an expert resource to support you when the time is right to look at Missouri.



Subash Alias, CEO

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Working primarily out of the St. Louis office, Subash is the CEO and focuses on bringing jobs and investment to Missouri.



Cathleen Flourney, VP, Business Recruitment

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Based in the Kansas City office, and focusing on multiple industry sectors, Cathleen generates, cultivates and closes business attraction opportunities to bring jobs and capital investment to Missouri.



Kylee Garretson, Director, Business Recruitment & Capacity Building

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Kylee actively manages business attraction projects for Missouri, provides support to the full business recruitment team, and manages Missouri's capacity building initiatives in communities across the state. She is based in the Kansas City office.



Deborah Price, VP, Business Recruitment & General Counsel

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Focusing mostly in domestic markets as well as South America and Israel, Deborah is generating, cultivating and closing opportunities with companies across multiple industry sectors. As General Counsel, Deborah serves as the Partnership's senior attorney. She is based in the St. Louis office.



Dennis Pruitt, CEcD, VP, Business Development

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Dennis, who is based in the St. Louis office, works across multiple industry sectors, primarily targeting companies in Europe, Asia, and Canada to bring new jobs and investment into Missouri.



Mark Sutherland, CMO

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Mark joined the Missouri Partnership in 2015, having led marketing and communication outreach across a variety of sectors for 20+ years. Mark leads the Partnership's marketing team and works business attraction projects in Missouri's aerospace industry.



Created June 2020

Missouri Partnership is a public-private economic development organization focused on attracting new jobs and investment to the state and promoting Missouri's business strengths. We work in partnership with the Hawthorn Foundation, the Missouri Department of Economic Development, the State of Missouri, and economic development agencies across the state. • www.missouripartnership.com