

SOUTHWEST DISTRICT PROFILE: Freight and the District's Economic Future



Global trade and new technologies continue to transform the economy, redefining the way businesses operate, challenging supply chains and transportation networks, and creating new customer opportunities for Missouri businesses in places where they were once inconceivable. Businesses and their employees are more dependent than ever on integrated, agile, and efficient transportation networks to sustain economic competitiveness and facilitate journeys to work and connections to markets.

To compete in this global marketplace, businesses must optimize every asset—workforce skills, competitively priced products, and reliable transportation systems—to ensure their customers receive quality goods and services when they expect them. As the importance of trade and the demands of customers continue to evolve, Missouri companies often find freight an increasingly important factor in sustaining and enhancing their competitive position in the marketplace. Freight supports the domestic and international trade of Missouri businesses, and supports State and local economic development and job growth.

Southwest Missouri Population Trends

Missouri's population is projected to grow, with the 2012 population of 6,021,988 increasing to 7,159,350 by 2040. The modest population growth experienced by MoDOT's Southwest District from 2000 to 2012 is expected to continue, with the 2012 population of 931,498 projected to grow to 1,261,290 by 2040.¹ Greene County, which includes the City of Springfield, and is the most populous county in the District, saw its population increase by 39,611, an average of 1.28 percent per year, between 2000 and 2012. Between 2012 and 2040 Greene County is projected to add 116,394 residents, an average growth rate of 1.25 percent per year. Barton, Dade, and St. Clair Counties experienced a decline in population between 2000 and 2012, but between 2012 and 2040 all of the counties in the district are projected to gain in population. Christian and Taney Counties experienced the greatest percentage growth in population from 2000 to 2012, and Christian, Newton, and Taney Counties are projected to have the highest percentage of growth between 2012 and 2040. Modest population growth often tempers the expansion of non-traded sector businesses that are generally driven by population growth, such as local professional services (legal, accounting, and medical), local retail trade, real estate and financial services, and food service and restaurants.

Freight is an increasingly important factor in sustaining and enhancing the economic competitiveness of businesses in Missouri and in the Southwest District.

Transportation Dependence: Missouri and the Southwest Missouri Economy

Freight transportation represents a key competitiveness factor for Southwest District businesses. Companies today compete on more than product quality and cost. The transportation networks serving their facilities must provide reliable connections to

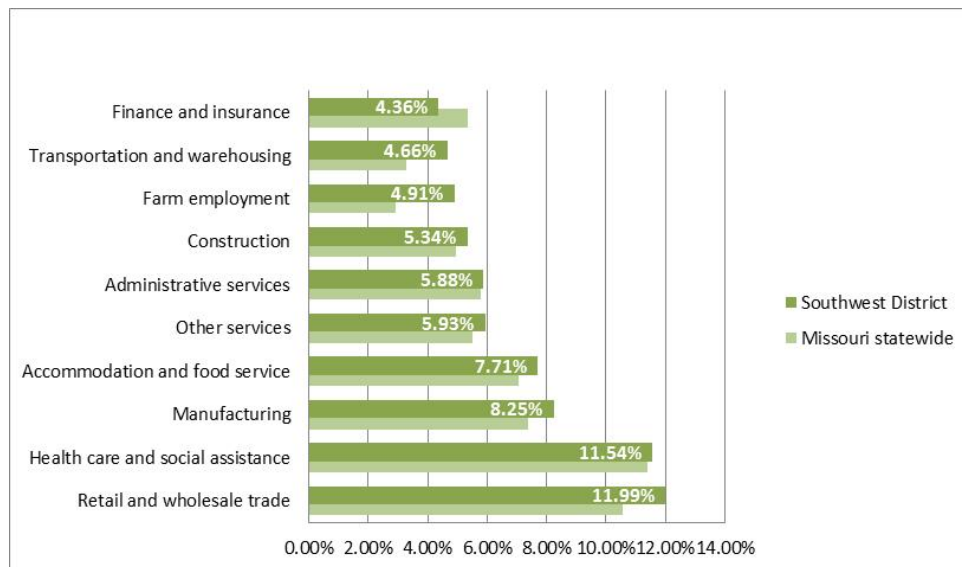
¹ US Census Intercensal Estimates, July 2000; US Census Annual Estimates; 2013 CEDDS by Woods and Poole Economics

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buyers and link to a multitude of markets to ensure timely deliveries of goods and services and provide access for employees and customers. Some business sectors use transportation facilities and services more extensively than others. An industry sector's dependence on transportation can be measured by examining the amount spent on transportation as a share of its total output.² Transportation satellite accounts provide national data regarding the amount spent on transportation per dollar of output for various sectors.

To better understand the role freight and goods movement plays in the Southwest District and the contribution of multimodal transportation to the economic vitality of the District's key industry sectors, the project team evaluated the importance of these key industrial sectors based on the non-government employment concentrations in the District. Over 70 percent of the district's non-government employment is concentrated in 10 sectors: retail and wholesale trade, health care and social assistance, manufacturing, accommodation and food service, other services, administrative services, construction, farm employment, transportation and warehousing, and finance and insurance.³ Figure 1 shows the breakdown of these employment sectors, by percentage, for the Southwest District and for the State.

Figure 1: Top Ten Non-Government Employment Sectors, Southwest District



As noted in Figure 1, the importance of transportation to these key industry sectors can be measured by the amount each sector spent on transportation as a share of its total output.

The project team evaluated several primary industry sectors and identified the corresponding industrial classification codes for each key sector to compare the applicable transportation costs per dollar of product output using the transportation satellite accounts research. Key business sectors for the Southwest District are shown in Table 1.

² U.S. DOT Research and Innovative Technology Administration, "Transportation Satellite Accounts: A Look at Transportation's Role in the Economy"

³ Bureau of Labor Statistics, US Census 2012, County Business Patterns

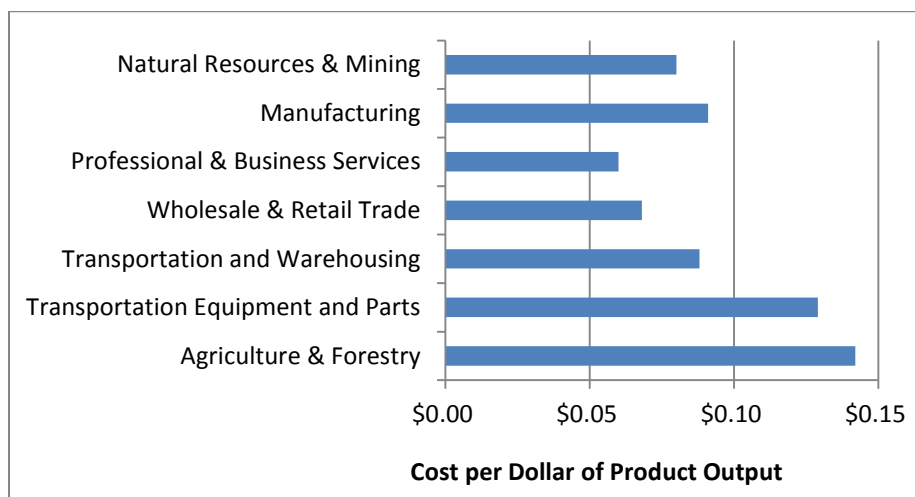
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Table 1: North American Industrial Classifications for Key Industrial Sectors, Southwest District

Industrial Sectors	North American Industrial Classification Sector
Food processing	Manufacturing
Warehousing and distribution	Transportation and Warehousing
Advanced manufacturing	Manufacturing
Precision machining	Manufacturing
Retail and wholesale trade	Retail and Wholesale Trade
Energy	Energy

Figure 2 shows the transportation cost per dollar of product output for several important existing industry sectors in the Southwest District based on their NAICS code. Improvements in transportation costs and services would have a significant effect on the profitability of companies in these industries, as lower transportation costs and more reliable service help reduce the cost of materials, resulting in lower overall production costs. Reliable delivery of materials can enhance productivity, and reducing distribution costs to the consumer may also improve competitiveness.

*Figure 2: Transportation Cost as a Share of Sector Output
(Transportation cost per \$ of product value)*



*Source: Transportation Satellite Accounts database, Bureau of Transportation Statistics
Research and Innovation Technology Administration*

The Southwest District has been successful in retaining and attracting transportation-dependent businesses in several significant economic sectors as described in **Table 2**.

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Table 2: Economic Sectors the Southwest District has retained and attracted transportation-dependent businesses:

Transportation, Logistics, and Freight	Agriculture and Food Processing	Machine Manufacturing
Blue Buffalo	Jasper Products	Cardinal Scale
SRC Logistics	Red Monkey Foods	Loren Cook Company
Kraft	Hiland Dairy	John Deere
Prime, Inc.	JM Smucker Co.	Able Manufacturing
Coca Cola	Butterball	
Con-Way Truckload	International Dehydrated Foods	Jarden Consumer Solutions

Economic Development Trends

The State of Missouri overall had 17,109 new businesses in 2013. Greene County, which includes the City of Springfield, was one of the leading locations for new business starts, and Jasper, Christian, and Taney Counties also had between 400 and 1,000 new business formations each.⁴ Many of the important industry sectors in MoDOT's Southwest District have seen growth in recent years. The industry sectors described below represent historically significant and emerging businesses in the Southwest District.

Food Processing

National food manufacturers such as Archer Daniels Midland, Bimbo Bakeries, Cargill, Coca-Cola, Pepsi, Tyson Foods, Dr. Pepper/Snapple, General Mills, JM Smucker Co., and Kraft Foods employ many of the District's residents. This is not surprising given the importance of farming and agricultural production in the Southwest District. The State ranked seventh in milk cow operations in 2007 and seventh in ice cream production in 2011, and dairy product manufacturing represents a significant part of the economy in the eastern part of the Southwest District. Employment in the industry dropped more than 30 percent between 2007 and 2009 during the recent recession, but has since increased. Hiland Dairy, with headquarters in Springfield, is a major employer in the District. The firm produces butter, cream, cheeses, dips, egg substitute, ice cream, yogurt, sour cream, and other products.

A large number of poultry hatcheries and turkey production facilities are also located in the region, and poultry processing accounts for a large share of food manufacturing jobs. Butterball has a turkey processing facility in Carthage, and International Dehydrated Foods, a leading producer of fresh, frozen, powdered, and concentrated meat and poultry ingredients, has its headquarters in Springfield. Soybeans are one of the State's most important crops, and Jasper Products is a major manufacturer of soy beverages. Its headquarters are in Joplin. The number of organic farms in the state has increased significantly, and the acreage devoted to organic farming is expected to double.⁵ Red Monkey Foods announced in September 2014 that it is moving to Greene County; the company makes organic spices, dips, and rubs.

Demand for value-added food products is increasing, especially among emerging world economies, and this boosts U.S. exports. Missouri, as a top producer of food products, will share in this growth as foreign countries continue to recover from the global recession.

⁴ MERIC "2013 Business Formations in Missouri"

⁵ MERIC, Missouri Economic Research Brief: Farm and Agribusiness, March 2009

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Warehousing and Distribution

Missouri's central location and robust freight transportation network make it a prime location for warehouses and distribution centers. The Southwest Missouri Foreign Trade Zone at the Springfield-Branson National Airport enables goods to enter the U.S. without paying import taxes, boosting the competitiveness of U.S.-based companies. The FTZ includes 23 counties, 18 of them in MoDOT's Southwest District. In 2012 the FTZ was expanded to include Jarden Consumer Solutions, taking advantage of a new rule allowing companies beyond the airport property to become part of an FTZ. Jarden, located in Neosho, handles brands including Crock-Pot, Oster, Mr. Coffee, and Sunbeam. The Southwest District is already home to major distribution centers for Bass Pro Shops, Blue Buffalo, Coca-Cola, General Mills, John Deere, Kraft Foods, La-Z-Boy, McLane, and O'Reilly Auto Parts, and other firms are expanding or locating new facilities in the region. Covington Retail Partners, which the Springfield Business Journal named as one of the fastest growing firms in southern Missouri, is building a distribution and warehouse center in Republic to supply Ashley Furniture stores in Joplin, Springfield, and elsewhere in the State.⁶ The investment will create 32 new jobs. In 2012 Arrowhead, a distributor and wholesaler of exterior building materials, and Don's Cold Storage, which provides temperature-controlled warehousing and transportation, also announced plans to build new facilities in the region. Two major third-party logistics firms have a strong presence in the region: C.H. Robinson, one of the world's largest third-party logistics providers, has a facility in Springfield and SRC Logistics is headquartered there.

The warehousing and distribution sector should remain strong as population increases and the nation and the world continue to recover from the recession. Nationally, the volume of freight is expected to double by 2024 and the Southwest District is well positioned to benefit from this growth. Laborers and freight, warehouse, and material movers rank among the region's top ten job openings for 2022, according to MERIC.⁷

Advanced Manufacturing

Manufacturing was responsible for the third largest share of Missouri's gross state product in 2012—12.5 percent, up from 11.9 percent in 2011.⁸ Manufacturing accounts for an especially large share of the Southwest District's economy, more than in any of the other MoDOT Districts. Advanced manufacturing accounts for just over 40 percent of the State's manufacturing jobs, and the sector is critical to the Southwest District's economy. The Missouri State University Center for Applied Science and Engineering (CASE) in Springfield supports advanced manufacturing through research in carbon-based electronics and devices, materials research, and systems fabrication. Major employers in advanced manufacturing include those described below.

Able Manufacturing & Assembly Co. in Joplin specializes in light metal fabrication and welding, thermoform plastic production, and composite fiberglass fabrication for original equipment manufacturers in the marine, aerospace, passenger rail, specialty vehicle, construction, agriculture, and cooling industries. In 2008 the firm also began making components for wind turbine manufacturers, and by 2012 this business had become one of its top three markets.

The Loren Cook Company in Springfield uses cutting-edge technology, state-of-the-art computer software, and advanced testing labs to produce industrial and commercial fans and blowers, exhaust systems, and energy recovery ventilators. Leggett & Platt, Inc., an S&P 500 firm with headquarters in Carthage, manufactures components used in bedding and other residential furnishings; seat mechanisms and controls, bases, and other office furniture components; steel wire products; and automotive seating. Its 2013 annual report predicts two to three percent revenue growth for the next five years.

Precision Machining

Companies in this industry hire skilled workers such as machinists, welders, and machine tool operators, and pay wages that are about 30 percent higher than the average income for the region.⁹ Furthermore, adding 100 employees in the primary metal manufacturing industry creates an estimated total of 175 direct and indirect jobs and contributes over \$10 million to the gross state product. The value-added per worker in fabricated metal product manufacturing and its supporting industries in 2010 was \$57,143.¹⁰ The Paul Mueller Company in Springfield designs and manufactures stainless steel tanks, processing systems, and equipment for the food, dairy, beverage, chemical, biofuels, pharmaceutical, biotech, and pure water industries. The firm fabricates structural components using metal cutting, forming, and welding equipment with advanced fabrication and

⁶ Missouri Dept. of Economic Development press release dated Aug. 5, 2013; accessed at <http://ded.mo.gov/News/>

⁷ MERIC, Top Job Openings 2012-2022 for West Central Region, Southwest Region, and Greater Springfield Region

⁸ MERIC, Missouri Economic Indicator Brief: Missouri Economic Diversity, January 2014

⁹ MERIC Pattern Analysis, Winter 2010.

¹⁰ Ibid

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machining techniques, and it exports its finished products to over 100 countries. Though sales fell during the recent recession, the company appears to be recovering and is positioned for growth.¹¹

FAG Bearings Corporation, a division of Schaeffler Group USA, manufactures precision bearings for the automotive industry and for John Deere. The firm, which has been in Joplin since 1970, received funding from the state in 2012 to improve workers' technical skills on new machinery to be provided as part of FAG's \$41.1 million capital investment in Joplin. The training is being provided through the Missouri Department of Economic Development by Crowder College to support the manufacture of large ring bearings used in wind-powered generators.

Energy

The energy solutions cluster in Missouri employed more than 53,000 workers in 2011, and growth in energy manufacturing resulted in exports of more than \$4 billion.¹² The U.S. Energy Information Administration (EIA) predicts 53 percent growth in global energy consumption between 2008 and 2035. Fossil fuels will continue to supply most of the world's energy needs for several decades, but because they are a finite resource, increasing demand will drive up prices and renewable energy sources will become more attractive. According to EIA, renewable energy will be the fastest growing form of energy.¹³ Several firms in the Southwest District supply components for the alternative energy market, including those described below.

EaglePicher Technologies LLC, based in Joplin, is an industry leader in energy storage solutions for the defense, aerospace, commercial, medical, and grid energy markets. The firm's batteries have been used in U.S. space missions since 1958 and more than 500 spacecraft currently in orbit rely on the company's products. IHS reported in 2013 that the U.S. energy storage market is "set to explode" as demand for renewable energy grows.

As noted previously, Able Manufacturing and Assembly in Joplin, a major employer in the region, manufactures components for wind turbines and this segment of its business has doubled every year since 2008. Schaeffler Group USA Inc. and its FAG Bearings subsidiary in Joplin also manufacture bearings as well as lubricants, monitoring systems, and mounting and maintenance tools for wind turbines.

Crowder College in Neosho is home to the Missouri Alternative and Renewable Energy Technology Center, which has been a leader in solar technology for more than 30 years. Crowder College also offers multiple alternative energy degree programs and certificates with specialties in biofuels, solar, and wind energy.

Retail and Wholesale Trade

Retail trade is critical to the economy of the urban metro areas of Springfield and Joplin, and it has an especially strong presence in the heavily tourism-oriented area around Branson. Retail sales rank among the top 10 job openings for the region for 2022,¹⁴ and job opportunities in wholesale and retail trade are expected to be above average for the same period. Though internet sales will continue to compete with brick-and-mortar stores, both depend on efficient freight transportation to get their products in the hands of consumers. Overall growth is anticipated in both wholesale and retail trade in the next few years as the country and the world recover from the recent global recession.

Importance of Freight to the Economic Development Future of the Southwest District

Manufacturing and Exports

Manufacturing continues to be a vital part of Missouri's economy, and exports of Missouri manufactured goods continue to increase. Missouri businesses exported over \$3 billion in goods by the close of the first quarter of 2014, and nearly \$13 billion in 2013.^{15,16} Four primary industries in the manufacturing sector accounted for over 62 percent of Missouri exports: transportation equipment, chemicals, food and kindred products, and machinery related businesses. These industries exported over \$8 billion

¹¹ Wall Street Journal MarketWatch, "An Underappreciated Turnaround at Paul Mueller," May 1, 2014; accessed at www.marketwatch.com

¹² MERIC, Missouri Targets: Energy Solutions, April 2012

¹³ Ibid.

¹⁴ MERIC, Top Job Openings 2012-2022 for West Central Region, Southwest Region, and Greater Springfield Region

¹⁵ WISER Export Trade data, 2014

¹⁶ U.S. Census Freight Trade State Exports, Missouri

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in products in 2013.¹⁷ Agricultural products, fabricated metal products, electrical equipment, minerals and ores, primary metal manufacturing, and computer and electronic products round out the top ten exports from the state in 2013. Over 6,100 businesses in Missouri exported products and services in 2012, and 89.5 percent of Missouri's exports are manufactured goods produced in communities around the State. Manufacturing exports support nearly 107,000 jobs in Missouri, and 85 percent of the companies engaged in exporting goods and services are small businesses.¹⁸

Manufacturing matters in Missouri because:

- Employees in manufacturing firms earn an average of \$77,060 annually in pay and benefits, while average workers in all industries earn \$60,168. This means manufacturing jobs pay, on average, 19.9 percent more than non-manufacturing jobs.¹⁹
- Manufacturing firms account for nearly two-thirds of all research and development in the U.S. and are a leading user of new technologies and processes.²⁰
- Manufacturing has the highest multiplier effect of any economic sector. For every dollar spent in manufacturing another \$1.48 is added to the economy, helping to stimulate economic growth.
- Missouri's economy is intrinsically linked to its ability to move people, materials, components, and finished goods within the State and to national and international destinations.
- Missouri's principal trading partners are Canada, Mexico, China, Japan, and Korea.²¹ The five industries with the most significant job dependence on exports include grain farming, oilseed farming, wholesale trade, and aircraft manufacturing.
- Export products are intrinsically dependent on multimodal freight transportation.

Conclusion

MoDOT's Southwest District has a diverse economy, and the outlook for the future is promising. Food processing is a significant employment sector, and domestic demand as well as exports of food products to established trade partners including Canada, Mexico, China, Taiwan, and Korea along with emerging markets, are expected to grow. The District's economy is also dependent on advanced manufacturing and precision machining, and a growing cluster of businesses are involved in the production of components for the alternative energy industry. These jobs are vital as they offer above average wages, and forecasts for machinery, transportation equipment, and energy-related manufacturing are encouraging. Increases in the Southwest District's food products and manufacturing output will, in turn, drive growth in the critical freight and warehousing industry, resulting in additional investment and more jobs for freight handlers and logistics firms. The employment growth resulting from all of these industries will result in increases in retail and wholesale trade as well, and more residents means higher demand for consumer products that must be delivered to local stores and homes throughout the District.

All of this depends on a reliable, efficient freight network. Manufacturers rely on the State's freight infrastructure to deliver raw materials and components and to carry their products to assembly plants, distributors, and end users. Farms depend on rail lines, highways, ports, and airports to deliver their output to markets across the country and around the world. The secondary roads that cross the district are critical for time-sensitive deliveries to grocery stores, offices, building sites, and homes of the goods, materials, and products that people and businesses need every day.

Research reveals that investing in physical infrastructure reduces costs and improves efficiencies in conducting business, boosts job creation, and fosters growth cycles within countries.²² Based on this research, maintaining the existing freight system and expanding both its capacity and its connections in ways that increase reliability and reduce costs are critical to the future prosperity and economic vitality of the businesses and residents of the Southwest District.

¹⁷ Missouri Economic Research and Information Center, Missouri Department of Economic Development, March 2013

¹⁸ U.S. Department of Commerce, International Trade Administration, National Association of Manufacturing, 2013

¹⁹ Bureau of Economic Analysis, Industry Economic Accounts, 2011

²⁰ Brookings Institute, Metropolitan Policy Program, "Why Does Manufacturing Matter?" February 2012

²¹ US Census, State Exports, Foreign Trade, 2013

²² Deloitte LLP and the Council on Competitiveness, "2013 Global Manufacturing Competitiveness Index"