Pattern Industry Insight
Transportation Equipment
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Pattern Industry Insights: Transportation Equipment Manufacturing

One of the largest and diverse pattern industries in Missouri is transportation equipment manufacturing. Companies in this sector employ over 36,000 and are clustered most heavily in St. Louis and Kansas City metro areas along with the upper south central portion of the state. Transportation equipment manufacturers not only provide a bounty of jobs to Missourians but also pay a high industry average wage of $73,296.

But what is a pattern industry and why is it important? Furthermore, what do transportation equipment producers really make?

Pattern Industries

A pattern industry is a regionally-concentrated industry, defined by location quotients (see methodology), that exports the majority of the good or services it makes. Pattern industries can be clusters if a large number of companies create an employment concentration or a spot strength if only a few, very large firms dominate the pattern. All things being equal, a cluster is preferred as it naturally diversifies economic risks and rewards when many companies have a broad mix of specialized products and markets. Clusters can better weather bad times as opposed to one large company that may leave and take the industry with it.

The export-orientation of pattern industries is crucial for long-term economic prosperity as those businesses sell products to customers outside a region thereby bringing new dollars into an economy. This new income is spent and creates additional area jobs. Seldom can a region’s population maintain a robust economy by only selling things to itself; it has to export to bring in new wealth.

Transportation Equipment Manufacturing

Transportation equipment manufacturers do export! Transportation equipment represents Missouri’s largest foreign export, $2.0 billion in 2009, and a major domestic export to other states.

The industry is also diverse with over 350 establishments developing motor vehicles and parts, civilian and military aircraft, and heavy duty bus and truck frames to name a few.

This pattern industry insight report provides the details to better understand the companies and markets of this vital sector in Missouri’s economy.
Motor Vehicle and Parts Manufacturing

The motor vehicle and parts manufacturing category includes three separate subcategories that together employ over 17,700 workers. The largest of the three is motor vehicle manufacturing making up $1.27 billion in 2009 exports. This category includes the manufacturing of automobiles, light truck and sport utility vehicles, and heavy duty trucks. The second largest subcategory is motor parts manufacturing which exported $232 million worth of product in 2009. This category includes production of gasoline engines, vehicle electric equipment, power train systems, suspension and steering parts, brake systems, seating and interior parts, metal stamping, and other motor vehicle parts. The third group is motor vehicle body and trailer manufacturing with $8.12 million of exports in 2009. This group manufactures motor vehicle bodies, truck trailers, motor homes, and campers.

Total Missouri employment in 2009 for motor vehicle and parts manufacturing was 17,736 with an overall average wage of $65,645. Of the three subcategories, motor vehicle manufacturing carried the highest wage in Missouri with a five year average of $96,736. A five year average is used given the fluctuations in the recent shutdowns and buyouts involving Missouri based auto plants. On a national level employment in this industry was around 666,000 in 2009.

All told, the motor vehicle and parts manufacturing category exported $1.51 billion in 2009. Motor vehicle and parts manufacturing made up 76% of Missouri’s transport equipment manufacturing exports.

Regional Dependence

Motor vehicle and parts manufacturing jobs in Missouri are spread throughout the state with 28 counties having a location quotient above 1.5. Pockets of high employment concentration exist not-only within the state’s major metropolitan areas but also in smaller rural communities in the northwest, southeast, central, and southwest portions of the state.
In comparison to the lower Midwest, Missouri has high density employment regions for motor vehicle and parts manufacturing in the Kansas City Metro, the St. Louis Metro, Joplin, Springfield, and Hannibal. There are also a few small locations of high density employment in the mid-state region along with the far south and far southeast.

Export Trends

Motor vehicles have typically been Missouri’s top overall export. 2009 was no different, as $1.27 billion in motor vehicles were exported. This amount was down 34% from 2008 levels of $1.93 billion. Despite the year over year decline, exports through July 2010 are 33% ahead of the same period a year ago. Motor vehicle parts made up $232 million in 2009 exports, down 21% from 2008 totals. Motor vehicle parts were 48% ahead of the same period of 2009. Motor vehicle bodies and trailers accounted for $10.3 million in 2009 exports which was down 13% from 2008. Year to date totals through July 2010, however, are up 50% from that same period of 2009.

Protecting and Growing Auto Jobs

Auto manufacturing has long been a crucial piece of Missouri’s economy and keeping the jobs in the state has become a priority given current automaker restructuring. In 2010 the Missouri Automotive Manufacturing Jobs Act was signed into law providing manufacturers and parts suppliers’ substantial tax incentives for bringing new, advanced production lines into the state. As automakers innovate with energy-efficient vehicles and flexible platform manufacturing, Missouri’s historic strengths and competitive incentives position the state well for the future of vehicle production.
Aerospace Product and Parts Manufacturing

The aerospace product and parts manufacturing sector covers companies manufacturing aircrafts, aircraft engines, other aircraft parts, guided missile and space vehicles, space vehicle propulsion units, and other guided missile and space vehicle parts. The largest customer of the aerospace industry has traditionally been the Federal Government. This industry is also dominated by a few large firms who contract with government or private business clients to produce aircraft. These companies typically then subcontract with multiple smaller companies to produce different systems and parts all pertinent to the final product.

This sector employed over 15,000 people in Missouri in 2009 throughout nearly 50 locations. The average wage of these employees was nearly $90,000. At the national level, this sector employed 501,180 in 2009.

Aerospace manufacturing companies in Missouri exported $427 million worth of goods in 2009. It also made up approximately 21% of 2009 Missouri transportation equipment manufacturing exports.

Regional Dependence

The map shows the statewide distribution of the aerospace manufacturing industry. Four areas of the state have a location quotient above 1.5: Neosho, Sainte Genevieve, the St. Louis metro area, and the Crawford County areas all have higher than normal concentrations of aerospace manufacturing jobs.
Regional Employment Density

In comparison to a nine state region, Missouri’s has one major area of aerospace parts and product manufacturing jobs: the St. Louis metro area. There are other minor concentrations throughout the state near Kansas City and throughout much of the southern and central portions of the state.

Export Trends

Aerospace product and part manufacturing has typically been Missouri’s second largest export over the past decade until 2009 when it fell to third place. Aerospace product and parts manufacturing exports went from $1.15 billion in 2008 to $426.6 million in 2008, a 63% decline. Through July 2010, however, exports were back up 63% over the total of the previous year through July 2009.

Uplifting Future for Missouri Aeronautics

The Boeing military wing based in St. Louis recently was organized into four segments. Two of those segments are located in Missouri: Global Strike in Hazelwood and Unmanned Aircraft and Missiles in St. Charles. The St. Louis area site in Hazelwood produces the E/A-18G Growler, C-17 military transport, F-15 E Strike Eagle, and the Super Hornet while the St. Charles site produces unmanned aircraft and munitions. Boeing recently announced a deal calling for 66 new Growlers and 58 Super Hornets for the US Navy and 84 F-15’s for Saudi Arabia. These deals alone are expected to keep the full production lines and employment at current levels through 2017.
Other Transportation Equipment Manufacturing

This group includes ship and boat building, railroad rolling stock, and other vehicles. The top 2009 exporter of this group is ship and boat building with $26.4 million. This sub-category involves the building and repairing of ships and boats. The next largest at $14.0 million in 2009 exports is railroad rolling stock manufacturing which includes all vehicles that move on railway. These may include both powered vehicles such as locomotives or non-powered vehicles such as tank cars and boxcars. The third largest subcategory is other transportation equipment manufacturing which includes motorcycle, bicycle, and parts manufacturing as well as military armored vehicle and tank manufacturing. Any other transportation equipment manufacturing products would fit into this category as well. There were $13.2 million in 2009 Missouri exports from this category.

The other transportation equipment manufacturing sector employed an average of 3,398 people in Missouri with an average annual wage of $39,489.

As a whole, the total exports from the transportation equipment manufacturing category in 2009 was $53.7 million. This sector made up 2.3% of Missouri’s total transportation equipment manufacturing exports in 2009.

Regional Dependence

This map shows the statewide distribution of other transportation equipment manufacturing jobs. Areas with a location quotient above 1.5 include Platte County, Cape Girardeau, Camden County, Audrain County, Henry County, Lebanon, and Caruthersville. Vernon and Clark Counties both carry a location quotient between 1.1 and 1.5 with the rest of the state scoring below 1.0.
In comparison to its nine-state region Missouri has high density employment regions for other transportation equipment manufacturing jobs in five major areas that include the St. Louis metro area, the Kansas City metro area, the Springfield area, the Lebanon vicinity, and Henry County.

![Map of Missouri showing high density employment regions for other transportation equipment manufacturing jobs.]

**Export Trends**

Ship and boat building makes up 49% of 2009 Missouri other transport manufacturing equipment exports. Ship and boat building declined 18% overall in 2009. However, its total through July 2010 was up 18% over the same period of 2009. Railroad rolling stock, which make up approximately 26% of other transport manufacturing equipment exports, declined by 62% in 2009 and is up only slightly through July 2010 as compared to the prior year.

**Lebanon “The Aluminum Fishing Boat Capital of the World”**

Lebanon, MO, located in the south central section of the state was once referred to as “the aluminum fishing boat capital of the world” by Missouri Senator Kit Bond. Other articles refer to it as a major “hub of boat manufacturing.” No matter how you put it, Lebanon is home to several boat and trailer manufacturing companies where thousands of employees produce boats, trailers, and boat parts that are shipped worldwide. These brands include the Tracker boat family (Tracker, SunTracker, Nitro, Tahoe, Mako), G3, Skeeter, Lowe, Osagian Canoes, OMC Aluminum Boat Group, Marine Electrical Products, and Bear Trailer Manufacturing.
Methodology

Top Transportation Manufacturing Companies
Certain transportation equipment manufacturing companies were chosen based on their status as “top employers” in Missouri and are listed in order of approximate employment. Information on individual companies was obtained from Reference USA and individual company websites.

Export Data
Export values are based on four digit NAICS codes. Motor vehicles and parts manufacturing includes NAICS codes 3361, 3362, and 3363. Aerospace product and parts manufacturing falls within NAICS code 3364. Other transportation equipment manufacturing covers NAICS codes 3365, 3366, and 3369.

Location quotient (LQ) is a statistical measure of an industry concentration. The quotient indicates the geographical concentration of an industry in a region as a function of the expected concentration based on national average. The LQ formula is:

\[
\frac{\text{Region Industry Emp.} / \text{Region Total Emp.}}{\text{U.S. Industry Emp.} / \text{U.S. Total Emp.}}
\]

LQ>1 indicates an industry concentration.
LQ=1 indicates expected concentration based on U.S. average.
LQ<1 indicates no industry concentration.

Sources
Reference USA


Wisertrade

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