

Chicago's Manufacturing Base:

Chicago's manufacturing base is represented by companies that sell their goods outside of the region. By exporting, these manufacturers bring new dollars into the local economy, resulting in additional benefits for the companies, their workers, and their communities. Economists commonly use a method known as location quotient, or LQ to determine the extent to which manufacturers are selling outside the region. Location quotients are calculated to determine whether or not a local economy has a greater share of an industry than would be expected by national norms. If local employment in any sector is higher than the national average, the sector is assumed to exceed local needs and is therefore producing goods for export. If employment is lower than the national average, it assumes it is receiving goods from someplace else. An LQ that increases over time is an indication that the sector is gaining ground; suggesting that there is an increasing competitive advantage to doing business in the city.

The importance of manufacturers to the city is also evident in secondary sectors that are tied to the health of the economic base. As export-oriented companies draw income from sales outside the region, that income is distributed to their suppliers and workers, who further distribute it within their communities. This generation of additional dollars is known as the multiplier effect. Manufacturing's multiplier is approximately 2.1, meaning that \$1 of demand for manufactured goods yields an additional \$2.10. A multiplier of 2.1 is relatively high compared to other types of Chicago industries.

Based on LQ analyses, CSI identified approximately 15 sub-sectors that have a high or growing location quotient in Chicago. Pages 11 through 18 provide a description of each sub-sector.





Thoughts on Industry

- *The United States is the world's largest manufacturing economy, producing 21 percent of global manufactured products. Japan is second at 13 percent and China is third at 12 percent.*
- *U.S. manufacturing produces \$1.6 trillion of value each year, or 11 percent of U.S. GDP.*
- *Manufacturing supports an estimated 18.6 million jobs in the U.S. – about one in six private sector jobs. Nearly 12 million Americans (or 10 percent of the workforce) are employed directly in manufacturing.*
- *In 2009, the average U.S. manufacturing worker earned \$70,666 annually, including pay and benefits. The average non-manufacturing worker earned \$57,993 annually.*
- *U.S. manufacturers are the most productive workers in the world – twice as productive as workers in the next 10 leading manufacturing economies.*

A group of eight manufacturing industries is expected to increase employment collectively by 364,000 (10 percent) in the 2010-2014 period. These industries include: primary metals, miscellaneous manufacturing (mainly medical equipment), wood products, printing, plastics, non-metallic minerals, paper products and electrical equipment. Together, these industries accounted for 25 percent of manufacturing production in 2008 and employed 32 percent of the manufacturing workforce, a share that will be maintained in 2014.

National Association of Manufacturers. The Turning Tide: Prospects for a Manufacturing Recovery – Labor Day 2009: The Manufacturing Report. Sept. 2009

The four industry clusters that account for 64% of all Illinois manufacturing employment are metal manufacturing, electrical, printing and food manufacturing.

Center for Labor and Community Research. The State of Illinois Manufacturing – A report for the Illinois Manufacturers' Association. December 2003.

Manufacturing Sub-Sectors

CSI's guiding goals and strategies are primarily intended to support existing Chicago manufacturers and specific sub-sectors that have a high or growing location quotient in the City of Chicago. The sub-sectors, as described by the North American Industry Classification System, include:

Apparel

The apparel sub-sector cuts and sews existing fabrics to create products for retail and wholesale distribution. Knitting, when done alone, is classified in the Textile sub-sector. When used for the production of complete garments, knitting is classified here.

Beverage and Tobacco

Beverage and tobacco companies manufacture tobacco and three types of beverage products: nonalcoholic beverages; fermented alcoholic beverages and distilled alcoholic beverages. Ice is included with nonalcoholic beverage manufacturing because it uses a similar production process.

Electrical Equipment and Appliances

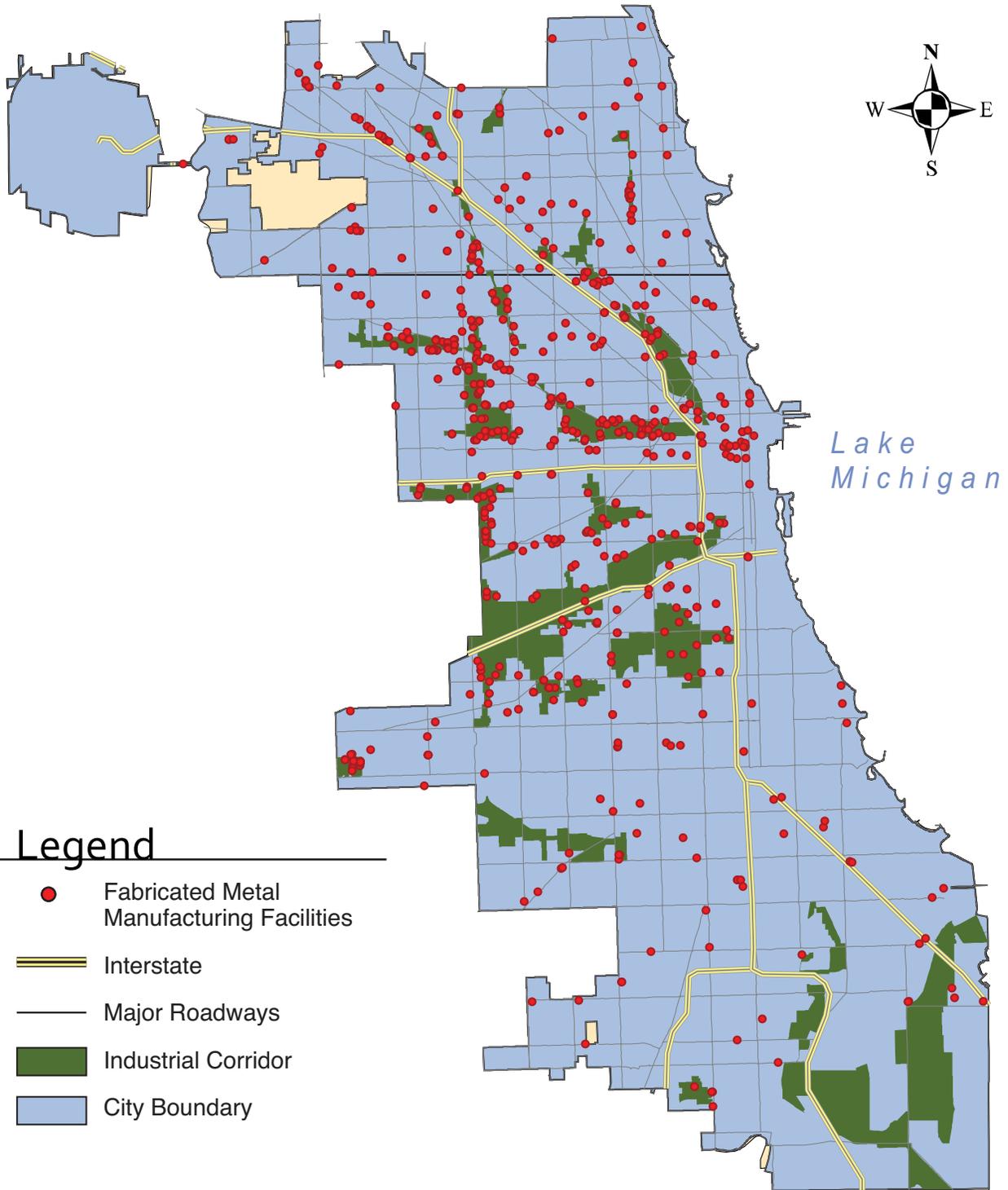
The electrical equipment and appliances sub-sector manufactures products that generate, distribute and use electrical power. Electric lighting equipment companies produce electric lamp bulbs, lighting fixtures and parts. Household appliance companies make both small and major electrical appliances and parts. Electrical equipment companies make goods such as electric motors, generators, transformers and switchgear apparatus. Other electrical equipment and component companies make devices for storing and transmitting electricity, such as batteries, wiring, outlets and fuse boxes.



Fabricated Metals

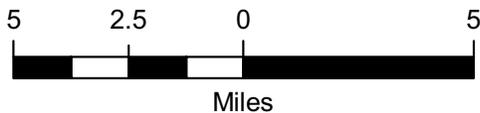
Fabricated metals companies transform metal into metal furniture as well as intermediate or end products other than machinery, computers and electronics. Some companies treat metals and metal formed products fabricated elsewhere. Processes include forging, welding, stamping, bending, forming and machining to shape and join individual pieces of metal.

Chicago Fabricated Metal Manufacturing Facilities



Legend

- Fabricated Metal Manufacturing Facilities
- == Interstate
- Major Roadways
- Industrial Corridor
- City Boundary



Source : Harris Business Directory, Manufacturers' News, Inc, April 2010





Food

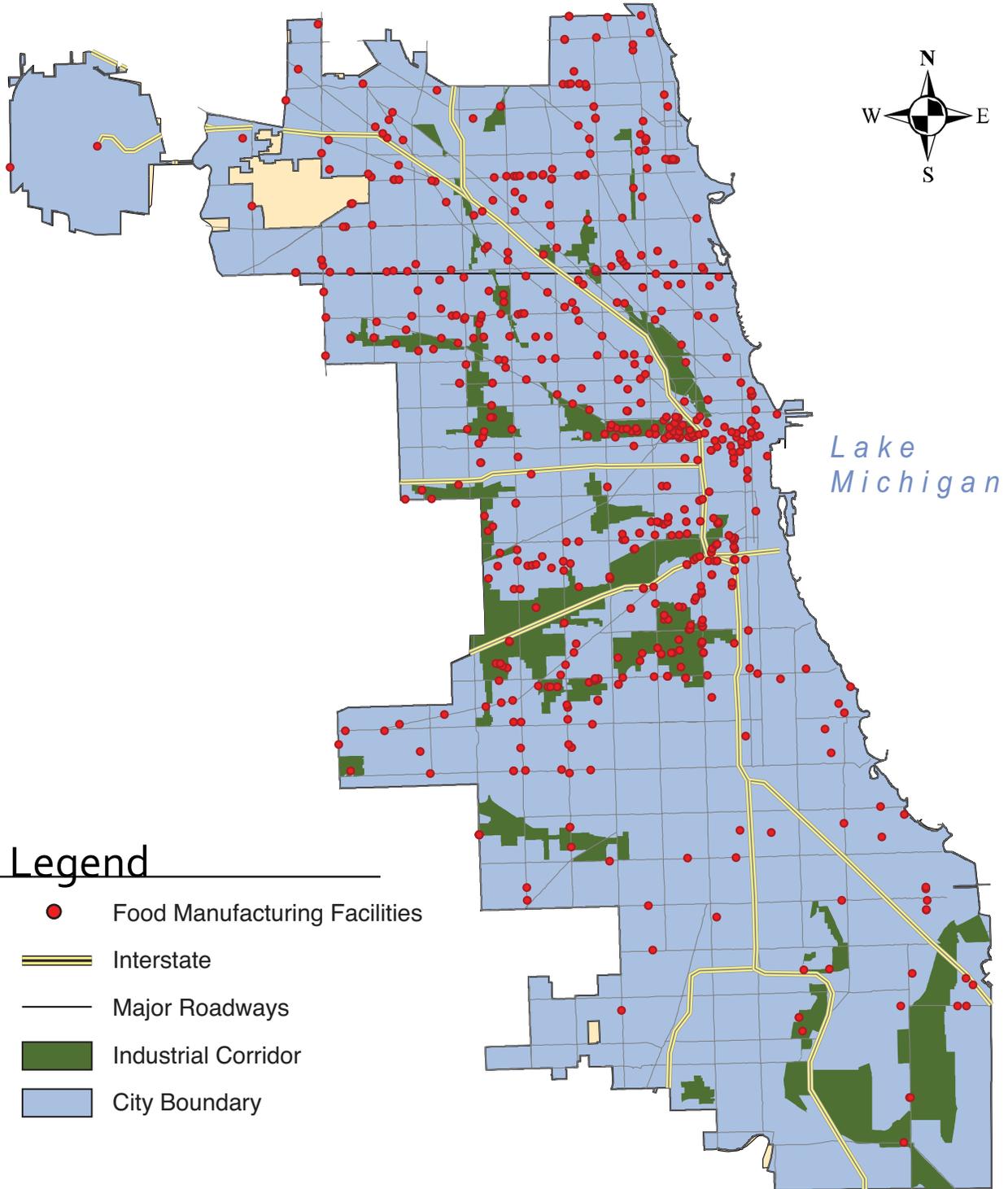
The food sub-sector transforms livestock and agricultural products into products for intermediate or final consumption. The products manufactured by food companies are typically sold to wholesalers or retailers for distribution to consumers. Establishments primarily engaged in bakery and candy products made on the premises are included.



The Chicago cluster appears to be missing out on a growing national trend in specialty foods, while other locations – particularly California – capitalize on it. In fact, California takes the lead in 'preserving of fruits and vegetables and specialty foods,' with 20% of the market, compared to Illinois ranking of 8th and market share of only 3.5%. Moreover, California's share of market divided by share of population is 1.68, compared to only 0.81 in Illinois. That is, California is producing twice as much value in specialty foods per person as compared to Illinois. Given that Chicago is shrinking in most sub-clusters, and that many of these specialty foods can be shipped over longer distances, it is a missed opportunity for growth. . . Among Chicago's strengths in demand conditions, its rich ethnic diversity translates into a wide range of tastes. The important weakness, however, as specialists interviewed point out, is that while Chicago's taste in foods is nationally representative, it is by no means leading, and thus local firms lose out to discovering and profiting from new trends. The predominant example of this has been Chicago's lag in the adoption of premium 'natural' and organic foods relative to the west coast and California in particular.

Michael Porter. The Chicago Processed Food Cluster – The Microeconomics of Competitiveness. Harvard University. May 5, 2006.

Chicago Food Manufacturing Facilities



Legend

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Source : Harris Business Directory, Manufacturers' News, Inc, April 2010



Furniture and Related Products

The furniture sub-sector makes furniture and related articles such as mattresses, window blinds, cabinets and fixtures. Processes include cutting, bending, molding, laminating and assembly of such materials as wood, metal, glass, plastics and rattan. Design and fashion trends play an important part of the production process. Design services may be performed in-house or may be purchased from industrial designers.

Leather and Allied Products

Leather and allied products companies transform hides into leather by tanning or curing and fabricating the leather into products for final consumption. It also includes the manufacturing of products made from leather substitutes, such as rubber footwear, textile luggage, and plastic purses and wallets. Leather substitute products are included because they are made in similar ways and within the same establishments.

Nonmetallic Minerals

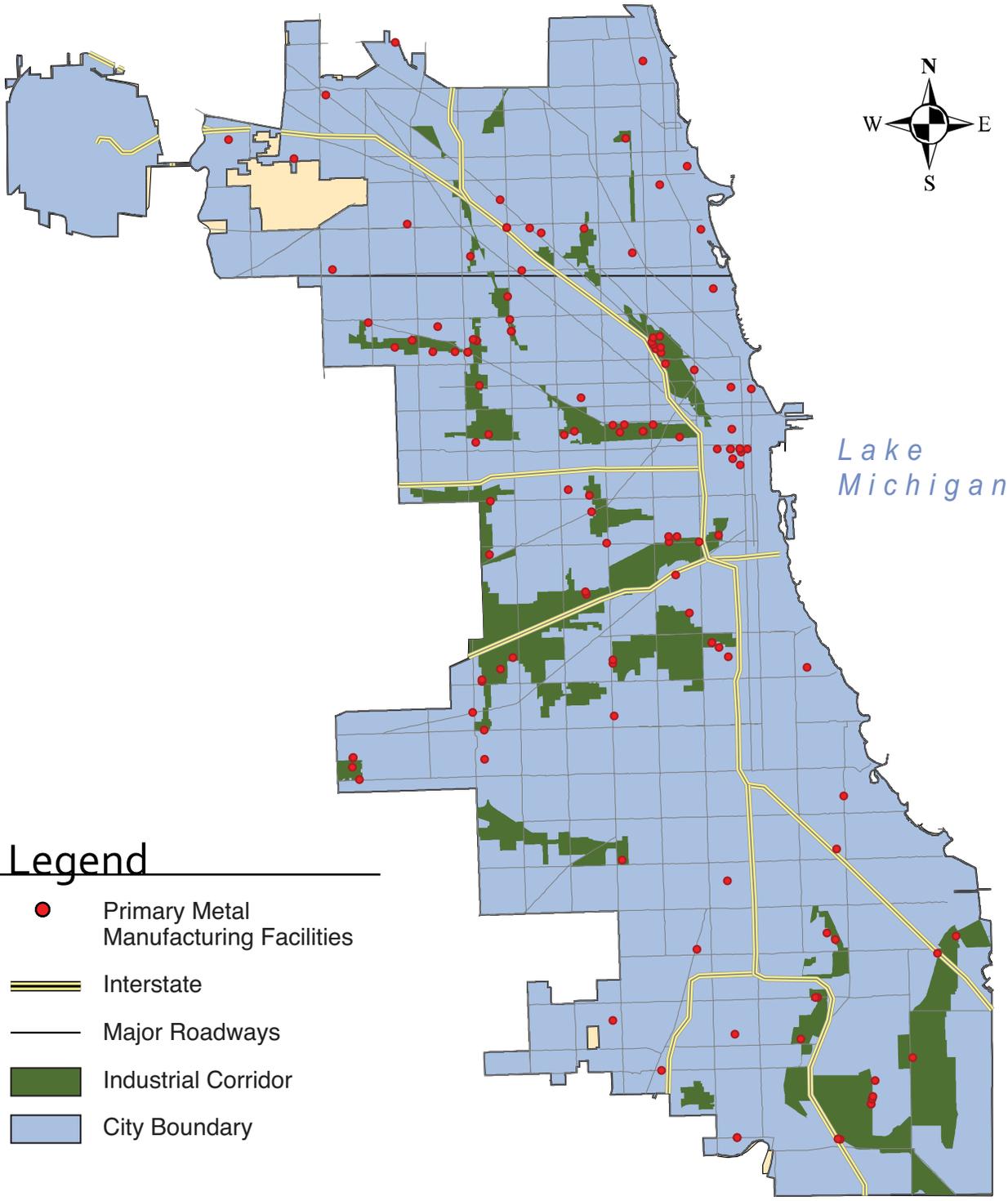
Nonmetallic mineral companies transform mined or quarried nonmetallic minerals like sand, gravel, stone, clay and refractory materials into products for intermediate or final consumption. Processes include grinding, mixing, cutting, shaping and honing. Heat often is used in the process and chemicals are frequently mixed to change the composition, purity and chemical properties for the intended product. For example, glass is produced by heating silica sand to the melting point and then drawn, floated or blow molded to the desired shape or thickness. Refractory materials are heated and then formed into bricks or other shapes for use in industrial applications.

Primary Metals

The primary metals sub-sector smelts and refines ferrous and nonferrous metals from ore, pig or scrap using electrometallurgical and other process metallurgical techniques. Primary metal companies also manufacture metal alloys and super alloys by introducing other chemical elements to pure metals. The output of smelting and refining, usually in ingot form, is used in rolling, drawing and extruding operations to make sheet, strip, bar, rod or wire to make castings and other basic metal products.

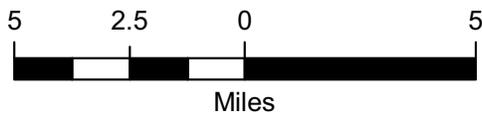


Chicago Primary Metal Manufacturing Facilities



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Source : Harris Business Directory, Manufacturers' News, Inc, April 2010





Paper

The paper sub-sector makes pulp, paper or converted paper products. Though distinct, the three activities often occur within a single establishment. The manufacturing of pulp involves separating the cellulose fibers from other impurities in wood or used paper. The manufacturing of paper involves matting these fibers into a sheet. Converted paper products are made from paper and other materials by various cutting and shaping techniques that include coating and laminating activities.

Printing

The printing sub-sector prints products like newspapers, books, labels, business cards, stationery, business forms and other materials. It also performs support activities that are integral to the printing process, such as data imaging, plate making services and bookbinding.



Textiles

Textile companies transform natural and synthetic fibers into products such as yarn or fabric that is further manufactured into usable items, such as apparel, sheets, towels and textile bags for individual or industrial consumption. The additional manufacturing may be performed in the same establishment and classified in this sub-sector or at a separate establishment and be classified elsewhere in manufacturing.

Textile Products

Textile product companies make textile products exclusive of apparel. With a few exceptions, processes used in these industries generally use existing fabric, then cut and sew to make non-apparel textile products such as sheets and towels.



Transportation Equipment

The transportation equipment sub-sector produces equipment for transporting people and goods. Production processes are similar to other machinery manufacturing establishments and involve bending, forming, welding, machining and assembling metal or plastic parts into components and, more typically, finished products.

Wood

Wood companies manufacture wood products such as lumber, plywood, veneers, wood containers, wood flooring, wood trusses, manufactured homes and prefabricated wood buildings. The production processes include sawing, planing, shaping, laminating and assembling starting from logs or lumber. The sub-sector includes establishments that purchase sawed lumber to make finished products.



Miscellaneous goods

Miscellaneous goods companies make a wide range of products that cannot readily be classified in specific NAICS manufacturing categories. Processes vary significantly, both among and within industries. For example, a variety of manufacturing processes are used in manufacturing sporting and athletic goods that include products such as tennis racquets and golf balls. The processes for these products differ from each other, and the processes differ significantly from the fabrication processes used in making dolls or toys, the melting and shaping of precious metals to make jewelry and the bending, forming and assembly used in making medical products.



Thoughts on Industry

The environmental goods and services industry consists of activities which produce goods and services to measure, prevent, limit, minimize or correct environmental damage to water, air and soil, as well as problems related to waste, noise and eco-systems. This includes cleaner technologies, products and services that reduce environmental risk and minimize pollution and resource use."

*Organization for Economic Co-Operation and Development, Statistical Office of the European Communities
The Environmental Goods and Services Industry – Manual for Data Collection and Analysis. 1999*

What is the environmental goods and services sector? Green industries have been a fuzzy concept at best . . . Environmental goods and services, after all, are not a traditional category of industry and not widely recognized.

*Laurie Kaye. Attracting "Green Industry": An Economic Development Approach for the City of Los Angeles.
UCLA School of Public Affairs. 2006*

The rising tide of green—and with it, misrepresentation (greenwashing)—demands third-party standards for defining and certifying industry best practices.

*The Delta Redevelopment Institute. Green Economic Development Strategies for the Chicago Region.
June 2009.*