



**Department of  
Development**

Policy Research and Strategic Planning  
A State Affiliate of the U.S. Census Bureau

A large graphic of the state of Ohio, composed of a grid of small, light gray circles. The circles are arranged to form the outline and internal details of the state. A magnifying glass is positioned over the lower right portion of this map, with its lens centered on the word "Ohio".

**THE IRON and STEEL INDUSTRY**

**October 2007**

A magnifying glass with a black handle and a silver rim. The lens is focused on the word "Ohio" in a red, sans-serif font, which is centered within the lens. The background behind the lens is a grid of light gray circles, similar to the one in the background of the page.

**Ohio**

Ted Strickland, Governor of Ohio  
Lee Fisher, Lt. Governor of Ohio  
Director, Ohio Department of Development

# **THE OHIO IRON AND STEEL INDUSTRY**

**OCTOBER 2007**

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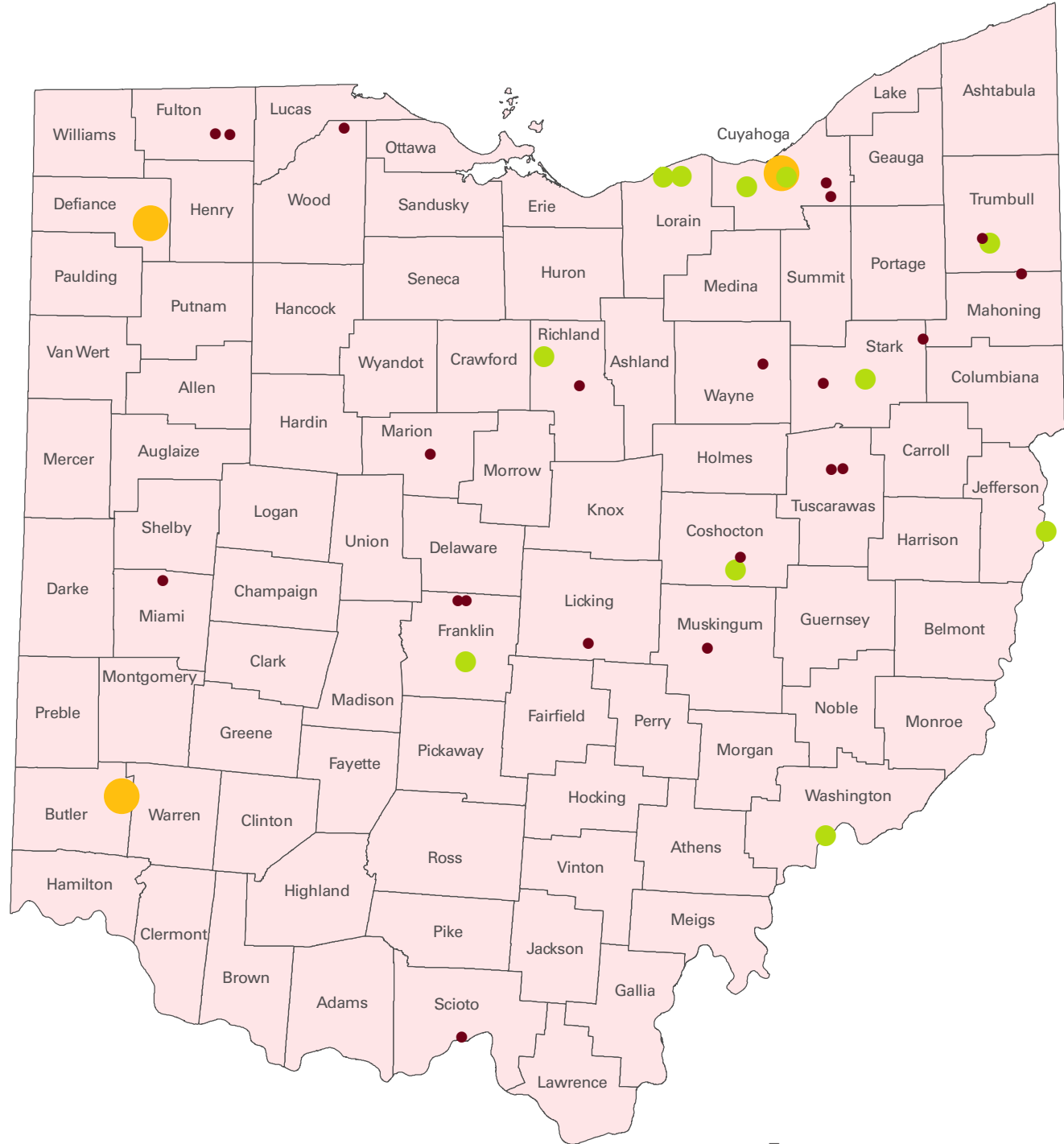
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## DESCRIPTION OF OHIO'S IRON and STEEL INDUSTRY

# Leading and Notable Steel Industry Establishments in Ohio



**Key**

Steel Establishment Employing:

- 200 - 500
- 501 - 1,500
- 1,501 - 2,470

□ Ohio County

Source:  
 Selectory® Business Database  
 Harris InfoSource, Twinsburg, OH

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 Ohio Department of Development  
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## NOTABLE IRON AND STEEL INDUSTRY MANUFACTURERS

Thirteen companies on Fortune magazine's U.S.-1,000 or Global-500 lists have iron and steel industry establishments in Ohio. Three of them maintain their world headquarters in Ohio: AK Steel, Timken, and Worthington Industries. AK Steel is the largest industry employer in Ohio with over 4,000, followed by ArcelorMittal with 2,500-plus, and Industrias' Republic Engineered Products with over 2,000. Other companies with between 1,000 and 2,000 industry workers in the state include Charter Manufacturing, Ford Motor Co., General Motors (GM), Renco's WCI Steel, Timken, Esmark's Wheeling-Pittsburgh Steel, and Worthington Industries. Ford and GM have the state's largest foundry operations.<sup>1</sup>

The map above shows the locations of the 35 establishments with at least 200 employees. The list below includes the Fortune companies with at least 50 people at a site as well as other companies employing 200 or more people in Ohio and having at least 50 people at a site.<sup>2</sup> It is organized by NAICS code and includes the location city of the site. Iron and steel manufacturing is not the principal business of some companies on the list. However, the sites of such companies are included because the primary NAICS codes of the specific establishments define them as part of the industry.

Industry Group/Company/Subsidiary	Primary NAICS	Location City	Jobs# at Site
3311: Iron & Steel Mills & Ferroalloys			
AK Steel Corp.*	331111	Coshocton	584
AK Steel Corp.*	331111	Dover	218
AK Steel Corp.* <sup>1</sup>	331111	Mansfield	389
AK Steel Corp.* <sup>2</sup>	331111	Middletown	2,200
AK Steel Corp.* <sup>3</sup>	331111	West Chester	150
AK Steel Corp.* <sup>1</sup>	331111	Zanesville	218
Allegheny Technologies, Inc.*/Allegheny Ludlum Corp.	331111	Louisville	145
Apollo Advisors, LP/Metals USA, Inc.*/Metals USA Carbon Flat Rolled	331111	Wooster	112
ArcelorMittal Steel Co. NV*/International Steel Group	331111	Warren	135
ArcelorMittal Steel Co. NV*	331111	Cleveland	1,600
Asahi Tec Corp./Metaldyne Corp.	331111	Cleveland	200
BlueScope Steel Ltd.-Cargill, Inc./North Star BlueScope Steel LLC	331111	Delta	330
Charter Manufacturing Co., Inc./Charter Steel – Cleveland, Inc.	331111	Cleveland	992
Industrias CH/Republic Engineered Products <sup>6</sup>	331111	Canton	644
Industrias CH/Republic Engineered Products	331111	Fairlawn	150



Industry Group/Company/Subsidiary	Primary NAICS	Location City	Jobs# at Site
3311: Iron & Steel Mills & Ferroalloys (continued)			
Industrias CH/Republic Engineered Products <sup>7</sup>	331111	Lorain	1,200
Industrias CH/Republic Engineered Products – Central Fabrication <sup>8</sup>	331111	Massillon	215
Nucor Corp.*/Nucor Steel Marion, Inc. <sup>4</sup>	331111	Marion	405
Renco Group, Inc./WCI Steel, Inc.	331111	Warren	1,280
Shiloh Industries, Inc./Liverpool Coil Processing, Inc.	331111	Valley City	101
Timken Co.* - Faircrest and Harrison plants <sup>10</sup>	331111	Canton	n.a.
United States Steel Corp.*/Lorain Pipe Mill	331111	Lorain	550
Wheeling-Pittsburgh Steel Corp.* <sup>1, 11</sup>	331111	Mingo Junction	1,140
Worthington Industries, Inc.*/Dietrich Industries, Inc.	331111	Warren	180
Eramet SA/Marietta Eramet, Inc.	331112	Marietta	550
3312: Steel Products from Purchased Steel			
AK Steel Corp.*/AK Tube LLC	33121	Walbridge	300
ArcelorMittal Steel Co. NV*/Dofasco Tubular Products Corp. <sup>1</sup>	33121	Shelby	666
ArcelorMittal Steel Co. NV*/Marion Dofasco, Inc. <sup>4</sup>	33121	Marion	125
Jackson Tube Service, Inc. <sup>1</sup>	33121	Piqua	313
PTC Alliance Corp./Alliance Tubular Products Co. <sup>14</sup>	33121	Alliance	250
Salzgitter AG/V & M Star LP	33121	Youngstown	430
TI Group plc/TI Group Automotive Systems <sup>13</sup>	33121	Hebron	195
TI Group plc/TI Group Automotive Systems	33121	Washington CH	68
Timken Co.* - Gambrinus plant <sup>10</sup>	33121	Canton	n.a.
Welded Tube of Canada, Inc.	33121	Delta	350
Greer Industries, Inc./Greer Steel Co.	331221	Dover	250
Mitsubishi Corp.*-Sojitz Corp./Coilplus-Ohio, Inc.	331221	Springfield	55
Tata Group/Corus Group*/Thomas Strip Steel Corp. <sup>9</sup>	331221	Warren	500
Wheeling-Pittsburgh Steel Corp.* <sup>1, 11</sup>	331221	Yorkville	n.a.
Worthington Industries, Inc.* <sup>12</sup>	331221	Columbus	400
Worthington Industries, Inc.*	331221	Worthington	250
American Spring Wire Corp. <sup>1</sup>	331222	Cleveland	238

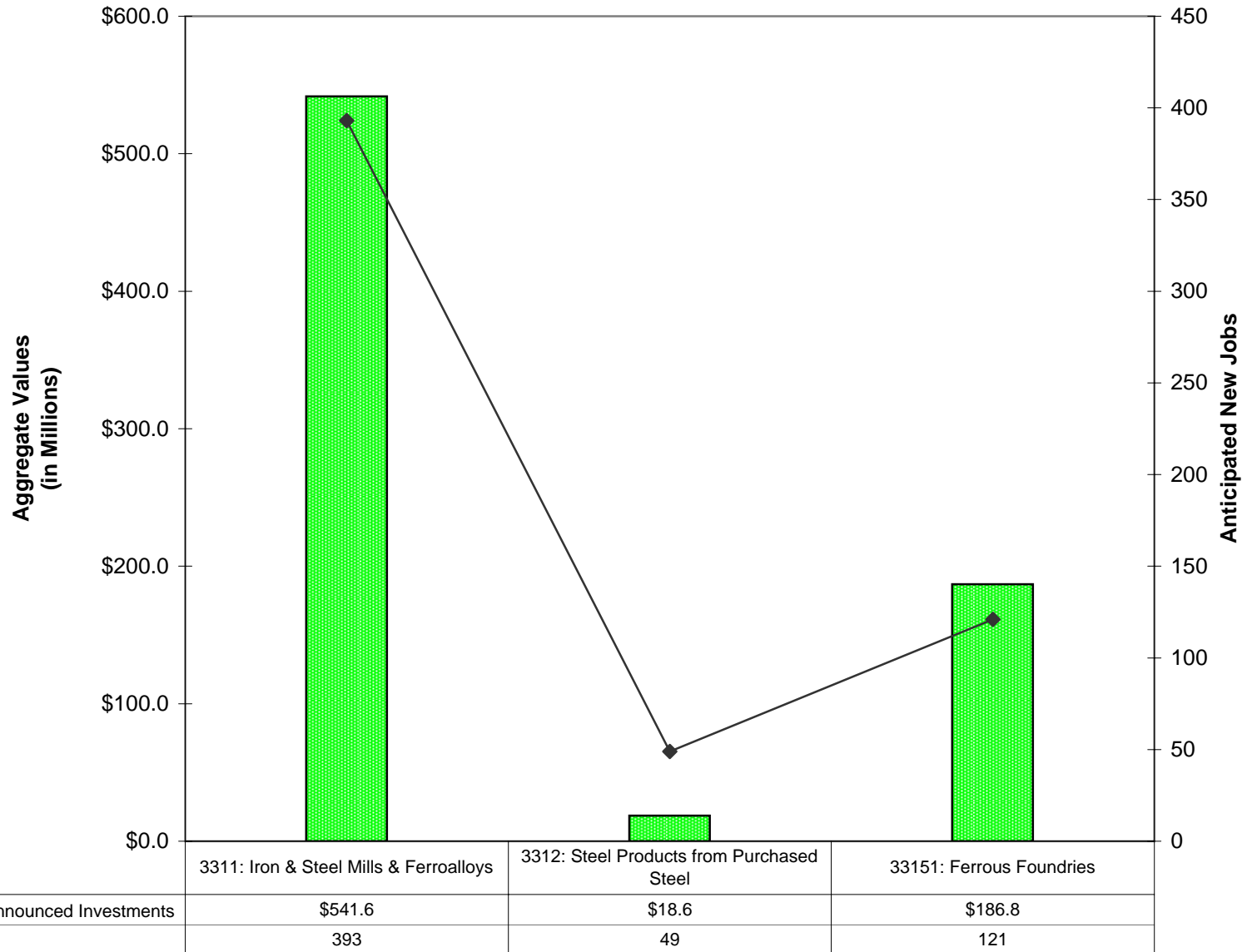
Industry Group/Company/Subsidiary	Primary NAICS	Location City	Jobs# at Site
33151: Ferrous Metal Foundries			
Ford Motor Co.* <sup>5, 13</sup>	331511	Cleveland	1,218
General Motors Corp.* <sup>1</sup>	331511	Defiance	1,454
McWane, Inc.	331511	Coshocton	400
OSCO Industries, Inc.	331511	Jackson	125
OSCO Industries, Inc.	331511	Portsmouth	285
OSCO Industries, Inc.	331511	Portsmouth	67
Quality Castings Co.	331511	Orrville	290
Columbus Steel Castings Co.	331513	Columbus	750
Shiloh Industries, Inc./Medina Blanking, Inc.	331513	Valley City	150
Shiloh Industries, Inc./Medina Blanking, Inc.	331513	Valley City	50
Worthington Industries, Inc.*	331513	Columbus	75
Worthington Industries, Inc.*	331513	Monroe	165

Notes: # - Jobs figures are from Harris (2007) unless otherwise noted; \* - A Fortune U.S. 1000 or global 500 company; 1 - Jobs figure from ODOD (2007), usually the Enterprise Zone reports; 2 - Pittsburgh Business Times (2007); 3 - This figure is expected to grow to 300 (Pittsburgh Business Times, 2007); 4 - Jobs figure is from Marion Chamber of Commerce (2007); 5 - Jobs figure is from Ford Motor Co. (2007); 6 - Jobs figure is from Balint (2007); 7 - Jobs figure is from ODOT (2005); 8 - Union jobs only, according to the Canton Repository (2007); 9 - Tata Steel, a subsidiary of the Tata Group, completed acquiring the Corus Group in March, 2007 (Larkin, 2007); 10 - Jobs figure is from Kelley (2005); the Harris (2007) summary figure for Canton is thought to be too low; n.a. - not available; 11 - In March, 2007, the company announced an agreement to merge with Esmark, a steel service center and manufacturer of fabricated metal products (Larkin, 2007); subsequently Giannamore (2007) reports that the roles of the plants will change; therefore, Harris (2007) figures for Martins Ferry, Steubenville, and Yorkville may be too high; 12 - Jobs figure is from Lexis-Nexis (2007); 13 - Closing soon; 14 - Jobs figure is from PR Newswire (2007) and Times-Reporter (2007) combined.

Sources: Balint (2007), Canton Repository (2007), Ford Motor Co. (2007), Fortune (2007), Giannamore (2007), Harris (2007), Kelley (2005), Larkin (2007), Lexis-Nexis (2007), Marion Chamber of Commerce (2007), ODOD (2007), ODOT (2005), Pittsburgh Business Times (2007), PR Newswire (2007), Times-Reporter (2007).

See Table A1
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## Expansion/Attraction Announcements in Ohio's Iron & Steel Industry by Group: 2004-2006



Source: Ohio Dept. of Development

## RECENT EXPANSION AND ATTRACTION ANNOUNCEMENTS

Thirty-four major iron and steel industry investments in Ohio were announced by 28 companies during the 2004-2006 period (Office of Strategic Research, 2007). The value of the projects totaled \$747.0 million (M), and 563 new jobs were anticipated with the completion of all projects. The largest number of projects – 13, as well as possible new jobs – 316, was announced in 2004. 2004 also saw the largest anticipated investment amount – a \$341.1M.<sup>3</sup>

The chart above shows that \$541.6M was intended for iron, steel, and ferroalloy products (NAICS 3311) during the 2004-2006 period. This is followed by \$186.8M for ferrous foundries (33151), with GM's investments in its Defiance plant comprising about almost 90% of that. The remaining funds – \$18.6M – are earmarked for plants making products from purchased steel (3312).

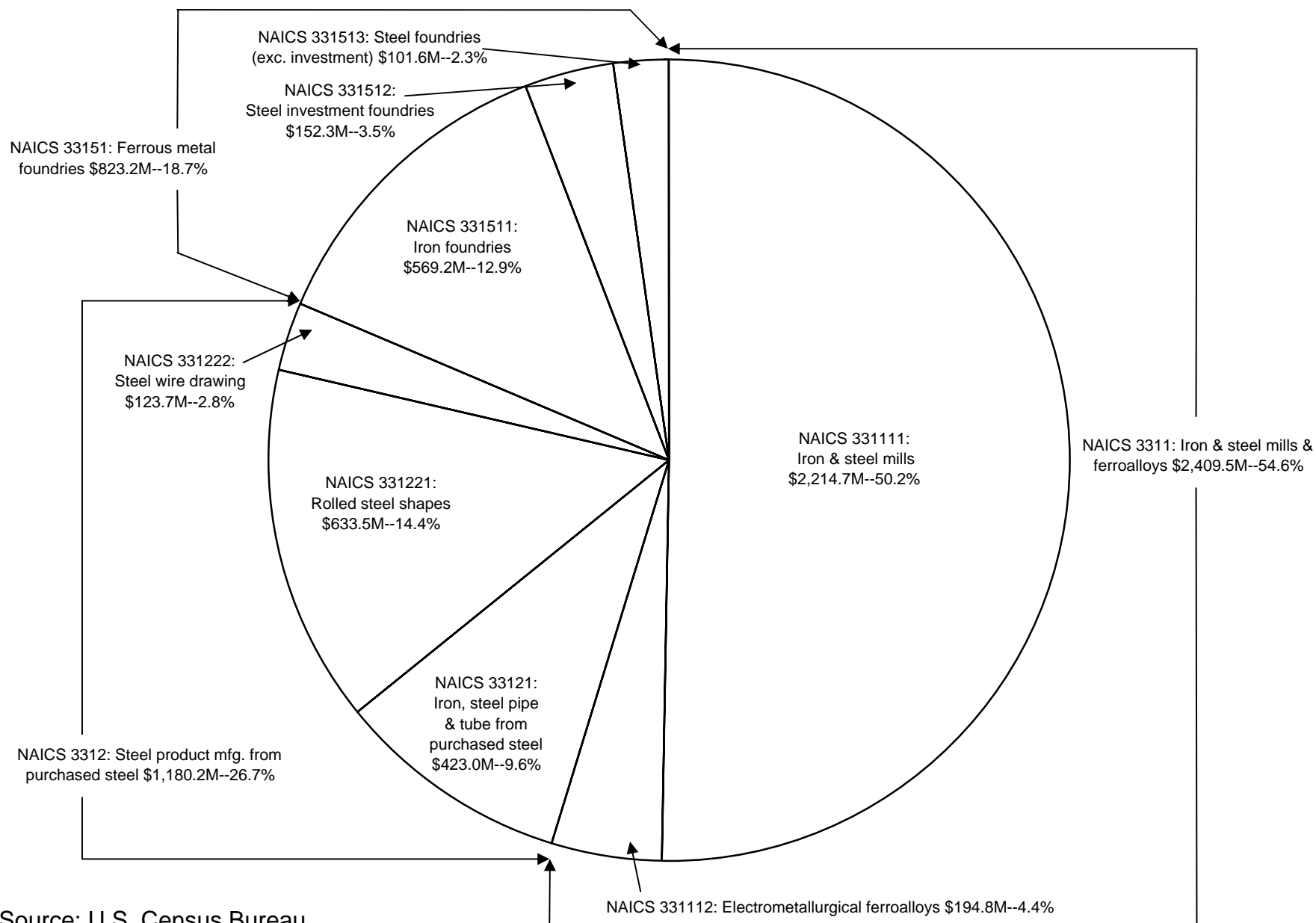
While no one company dominated investment activity, several companies made notably large investments during these years. These include General Motors – \$167.9M, Warren Steel Fabricating – \$130M, Charter Steel – \$102.8M, AK Steel – \$73.5, Renco's WCI Steel – \$66.0M, ArcelorMittal – \$55.2M, and Republic Engineered Products – \$54.0M. Other companies investing at least \$10.0M include Allegheny Ludlum and Wheeling-Pittsburgh Steel. ArcelorMittal also anticipates adding 190 new jobs when their projects are completed – the largest number by any company.

These counts are derived from a list of major investments compiled by OSR (2007). To be included, a major investment must meet at least one of the following criteria: 20,000 square feet of new space; \$1M to be spent for land, building(s), or equipment; or 50 new jobs. Many of the major investments are phased in over a two-to-three year cycle, with production and employee counts phased in after project completion. The data are not comparable with the Census data on capital expenditures.

See Table A2

## Value Added in Ohio's Iron & Steel Industry, 2002

Total: \$4,412.9 Million--100.0%



Source: U.S. Census Bureau.

## THE COMPOSITION OF OHIO'S IRON AND STEEL INDUSTRY: VALUE-ADDED

Value-added data from the 2002 Census of Manufactures and the 2005 Annual Survey of Manufactures provide insight into the composition of iron and steel industry in Ohio and a basis for comparisons with other states and the country as a whole.<sup>4</sup>

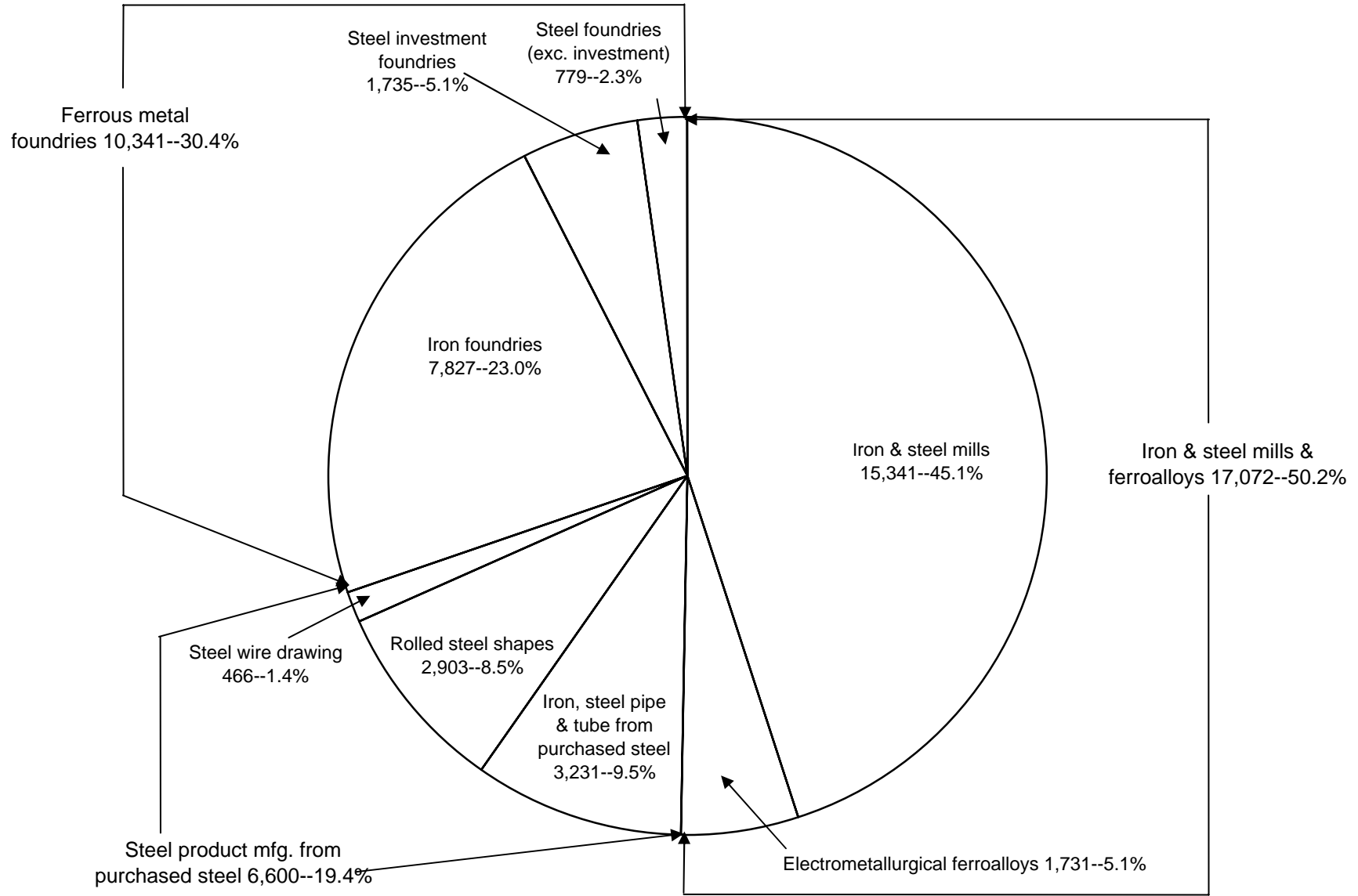
The chart above illustrates the relative distribution of the output by specific industry. One-half of industry production in the state consists of raw steel, as well as semi-finished and finished steel mill products made where the raw steel is produced (NAICS 331111). Steel product manufacturing from purchased steel (3312) comprised 26.7% of output, the largest part of which – 14.4% – was rolled steel shapes (331221 – finished products such as bars, plates, sheets and strips). Foundry operations (33151) comprised the remaining 18.7%, with iron foundries (331511) the largest part of the sub-group. Of all the remaining industries, only iron and steel pipes and tubes manufactured from purchased steel (33121) exceeded 5.0% of total industry output in Ohio (U.S. Bureau of the Census, 2005c).

Value-added data from the Annual Survey of Manufactures show that mills in Ohio contributed almost \$4.9 billion (B) worth of iron, steel, and ferroalloys to the economy in 2005. This was 14.8% of the national total, and the third largest among the states. Furthermore, factories in Ohio making products from purchased steel added another \$1.3B of goods. The latter figure was 18.1% of the corresponding national total, and the second largest in the country. The combined output of iron and steel mill products – a little less than \$6.2B – was 15.4% of the nation, and again was the second largest amount.

See Tables A3a & A3b

## Employment in Ohio's Iron and Steel Industry, 2005

Total: 34,013--100.0%



Source: U.S. Census Bureau.

## THE COMPOSITION OF OHIO'S IRON AND STEEL INDUSTRY: EMPLOYMENT

234 establishments employed 34,000 people in Ohio's iron and steel industry in 2005. The chart above shows that the industry was dominated by the iron and steel mills and ferroalloys group (NAICS 3311), which had 50.2% of the industry's employment in the state. The 15,300-plus iron and steel workers (331111) at 67 plants were the largest portion of industry employment: 45.1%. The production of metals used in making alloy steel (331112) occupied 1,700-plus people – 5.1% of industry employment at six plants.

Ferrous metal foundry work (33151) was the second largest segment of the industry with 10,300-plus employees, or 30.4% of the industry total; 7,800-plus – 23.0% – worked in iron foundries (331511). Although there were 62 iron foundries, most of the jobs probably were located at just two: the motor vehicle engine block casting plants of Ford in Cleveland and General Motors in Defiance. Employment in steel foundries (331512 and 331513) amounted to just over 2,500 jobs – 7.4% of industry employment – at 28 plants.

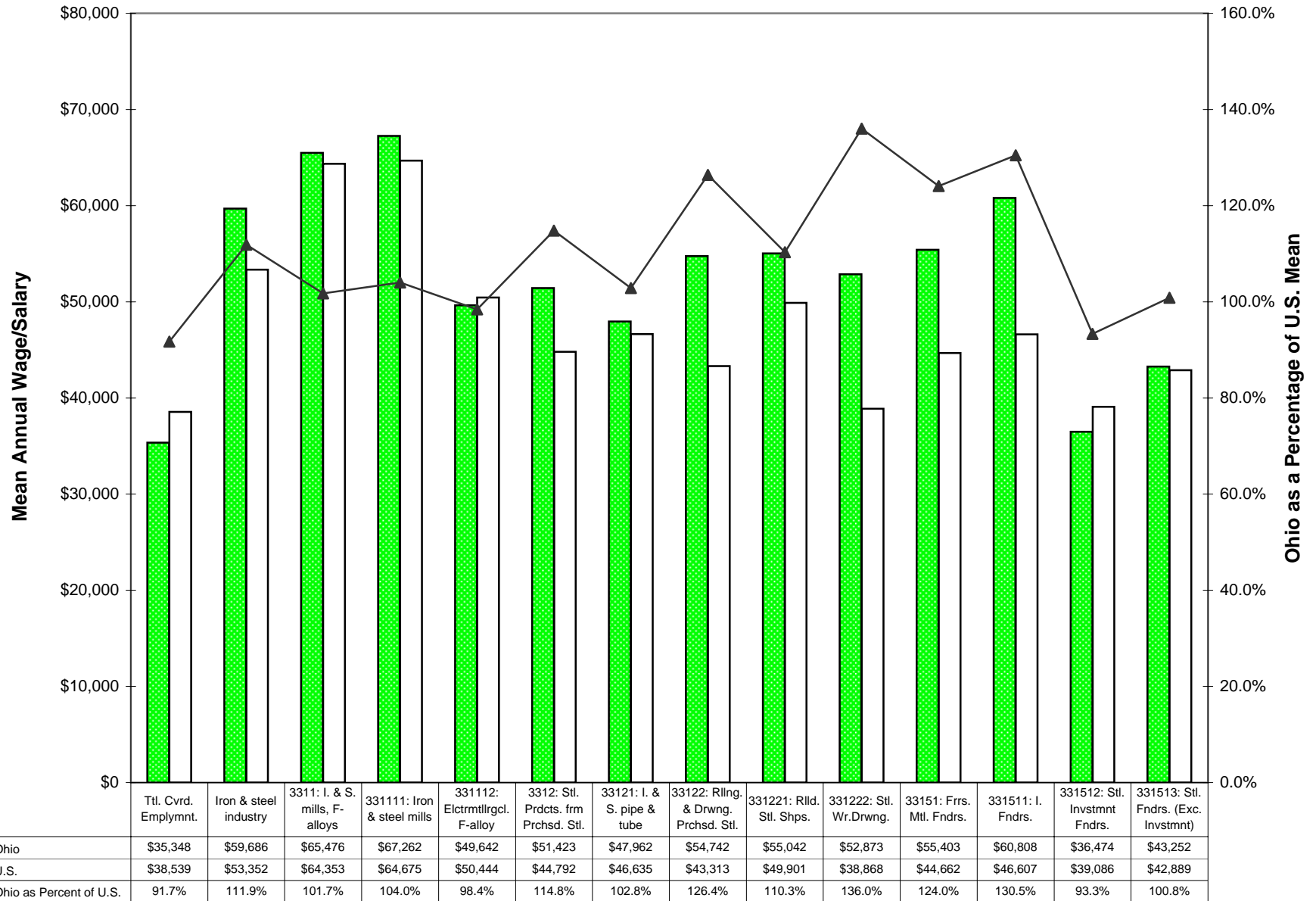
The vast majority of workers making products from purchased steel (3312) were producing either pipes-and-tubes (33121 – 3,200-plus jobs at 28 plants) or rolling steel shapes (331221 – 2,900 jobs at 30 plants). Steel wire drawing (331222) employed less than 500 people at 13 plants. All told, the 6,600 employees in this group held 19.4% of all iron and steel industry jobs.

Comparisons with national figures are also instructive. Appendix table A4 shows that Ohio's portion of all U.S. private non-farm establishments with employees amounted to 3.6%. Similarly, Ohio's portion of all employees at such establishments was 4.1%. The table also shows that 9.5% of the nation's iron and steel industry establishments and 13.6% of its jobs are located in Ohio, indicating the concentration of the industry here. Some specific industries are particularly concentrated in the state. These include making iron and steel pipes and tubes from purchased steel – 12.2% and 15.7% of such plants and jobs in the country; rolled steel shapes – 15.9% and 28.1% of corresponding plants and jobs; and electro-metallurgical ferroalloy products – an astounding 24.0% and 69.7% of plants and jobs.

See Table A4



## Comparing Ohio and U.S. Industry Wages in 2005



Source: U.S. Census Bureau.

Industry

## INDUSTRY WAGES

The average annual wage for an Ohio iron and steel industry worker was \$59,686 in 2005. This is far greater than the overall average for non-farm employees here – \$35,348. Annual averages vary among the specific industries. The highest paying industries were iron and steel mills (331111 – \$67,262) and iron foundries (331511 – \$60,808). This contrasts with the pay in steel foundries (NAICS 331512-3), which averaged between \$36,400 and \$43,300. Other industries ranged in pay from a little less than \$48,000 to a little over \$55,000.

The graph above also shows that average pay in Ohio's iron and steel industry was greater than the national average: \$59,686 vs. \$53,352. It was much higher in some industries – over 130% of the national averages in steel wire drawing and iron foundries. However, pay was not uniformly higher in every specific industry. The exceptions were steel investment foundries (33152) and electrometallurgical ferroalloys (331112), where pay in Ohio was 93.3% and 98.4% of the corresponding national averages.

See Table A5



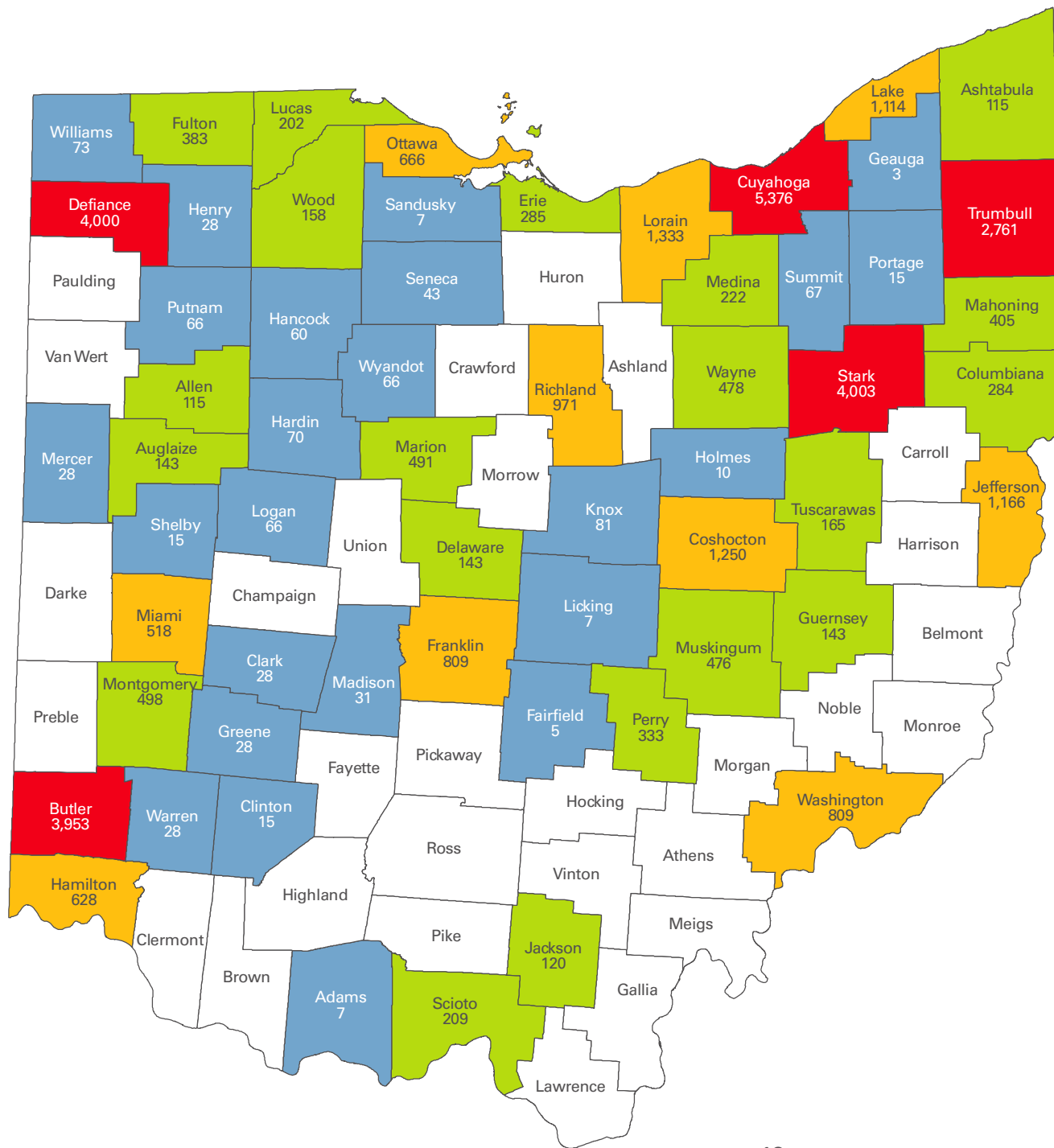
## THE DISTRIBUTION OF INDUSTRY ESTABLISHMENTS IN OHIO

The map above illustrates the distribution of 234 iron and steel industry establishments across Ohio in 2005. Fifty-nine counties have at least one industry establishment. However, the majority were located in 10 counties: Cuyahoga – 34, Stark – 15, Columbiana, Montgomery and Trumbull –11 each, Summit – 10, Franklin – nine, Mahoning – eight, and Lake and Washington – seven each. Eight counties had five or six establishments, and 41 counties had from one to four establishments.

The map above also illustrates the concentration of industry establishments in Northeastern Ohio. In particular, nine counties – Columbiana, Cuyahoga, Lake, Lorain, Mahoning, Stark, Summit, Trumbull, and Wayne – form a contiguous area with 105 establishments, or 44.9% of the industry in Ohio. The other counties with relatively large numbers of establishments – Butler, Franklin, Montgomery, and Washington – are scattered across the state.

See Table A6

# Steel Industry Employment in Ohio by County 2005



Employment  
in County

- 2,000 - 5,376
- 500 - 1,999
- 100 - 499
- 1 - 99
- None

Source:  
2005 County Business Patterns  
U.S. Census Bureau

Prepared by:  
Ohio Department of Development  
Office of Strategic Research  
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## THE DISTRIBUTION OF INDUSTRY EMPLOYMENT IN OHIO

The map above illustrates the distribution of 34,000 iron and steel industry jobs across Ohio in 2005. Industry employment was more concentrated than the distribution of establishments. Just five counties accounted for 56.4% of the industry jobs: Cuyahoga – well over 5,300, Stark and Defiance – 4,000 each, Butler – between 3,900 and 4,000, and Trumbull – well over 2,700.<sup>5</sup> Four more counties appear to have had between 1,100 and 1,400 jobs each: Coshocton, Jefferson, Lake and Lorain. Six counties had between 500 and 999 jobs, 20 had at least 100 but less than 500, and 24 had less than 100.

The 15,800-plus industry jobs in the same nine contiguous Northeastern Ohio counties – Columbiana, Cuyahoga, Lake, Lorain, Mahoning, Stark, Summit, Trumbull, and Wayne – also comprised about 46.5% of the state total, but there are notable exceptions to the generalization that the concentration of jobs follows the concentration of establishments. Counties with smaller numbers of establishments but larger numbers of jobs include Butler, Coshocton, Defiance, and Jefferson. These counties have large steel making and/or foundry operations. Butler is home to AK Steel. AK and McWane have steel making operations in Coshocton. General Motors has an engine block foundry in Defiance, and Wheeling-Pittsburgh Steel has a primary production facility in Jefferson.

See Table A6

## FOREIGN INVESTMENT IN OHIO

Seventeen foreign-based companies have subsidiaries and/or joint ventures in Ohio’s iron and steel industry; three are on Fortune’s Global 500 list. All of the companies are listed below, along with the countries where the ultimate parent(s) is (are) located, their Ohio subsidiaries, and the total number of employees here.

Foreign Parent(s) / Country & Partner(s)	Ohio Subsidiary(ies)	Jobs
Altana AG / Germany	Eckart America LP	100
ArcelorMittal Steel Co. NV* / Luxembourg-Netherlands	Dofasco, International Steel Group, Mittal, Skyline	2,546
Asahi Tec Corp. / Japan	Metaldyne Corp.	200
BlueScope Steel Ltd.-Cargill, Inc. / Australia-U.S.	North Star BlueScope Steel LLC	330
Eramet SA / France	Marietta Eramet, Inc.	550
Industrias CH, S.A. de C.V. / Mexico	Republic Engineered Products	2,225
Marubeni Corp.-Itochu Corp. / Japan	SOS Leveling Co.	14
Metalurgica Gerdau SA / Brazil	Ameristeel Bright Bar, Inc.	37
Mitsubishi Corp.*-Sojitz Corp. / Japan	Coilplus-Ohio, Inc.	55
N.V. Bekaert SA / Belgium	Bekaert Corp. (f.k.a. Contours)	170
Salzgitter AG / Germany	V & M Star LP	430
Shinagawa Refractories Co., Ltd. / Japan	Shinagawa Advanced Materials	28
Tata Group/Tata Steel/Corus Group* / India	Thomas Strip Steel Corp.	500
Techint Compagnia Tecnica Internazionale SpA / Italy	Tenaris (f.k.a. Maverick Tube Corp.)	100
TI Group PLC / United Kingdom	TI Group Automotive Systems Corp.^	263
Welded Tube of Canada, Inc. / Canada	Welded Tube of Canada, Inc.	350

Notes: \*– A Fortune Global 500 company; f.k.a. – formerly known as; ^ - one of the plants is closing soon. Sources: See table A1, Harris (2007), and PRSP (2006).

The foreign parent companies or joint venture partners have headquarters in 13 nations. Six are located in Japan and two in Germany. Australia, Belgium, Brazil, Canada, France, India, Italy, Mexico and the United Kingdom are home to one each. The newly formed ArcelorMittal lists Luxembourg and the Netherlands as its home countries. Altogether, the 17 companies employ approximately 7,900 people – perhaps one-fifth to one-fourth of industry jobs. ArcelorMittal and Industrias CH are the largest employers with over 4,700. Most of the companies are either making steel or making steel products from purchased steel. Eramet is the only ferroalloy producer. None of the subsidiaries appears to run a foundry.

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Eramet SA / France	Marietta Eramet, Inc.	550
Industrias CH, S.A. de C.V. / Mexico	Republic Engineered Products	2,225
Marubeni Corp.-Itochu Corp. / Japan	SOS Leveling Co.	14
Metalurgica Gerdau SA / Brazil	Ameristeel Bright Bar, Inc.	37
Mitsubishi Corp.*-Sojitz Corp. / Japan	Coilplus-Ohio, Inc.	55
N.V. Bekaert SA / Belgium	Bekaert Corp. (f.k.a. Contours)	170
Salzgitter AG / Germany	V & M Star LP	430
Shinagawa Refractories Co., Ltd. / Japan	Shinagawa Advanced Materials	28
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Techint Compagnia Tecnica Internazionale SpA / Italy	Tenaris (f.k.a. Maverick Tube Corp.)	100
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