



**Department of
Development**

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



**The Ohio Polymers Industry:
Rubber and Plastic Resins and Products, and Related Machinery**

May 2010



Department of
Development

**THE OHIO POLYMERS INDUSTRY:
Rubber and Plastic Resins and Products,
and Related Machinery**

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DESCRIPTION OF OHIO'S POLYMERS INDUSTRY



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Ohio Polymers Industry Notable Establishments*



KEY

- Notable Establishment*
- Interstate Route
- U.S. Route 30
- Ohio County

*Establishment believed to employ 500 or more

Source:
Selectory® Business Database, Harris,
a division of D&B®

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NOTABLE POLYMERS INDUSTRY MANUFACTURERS

Twenty-nine companies on Fortune magazine's U.S.-1,000 or Global-500 lists have polymer industry establishments in Ohio. Seven of them maintain their world headquarters in Ohio: A. Schulman, Cooper Tire & Rubber, Eaton, Goodyear Tire & Rubber, Owens Corning, Parker-Hannifin, and PolyOne. Goodyear is the largest industry employer in Ohio with almost 3,100 people. Other companies employing at least 1,000 include Cooper Tire & Rubber, Eaton, and Yamashita Rubber.¹

The map above shows the locations of the 13 establishments with at least 500 employees. The list below includes the Fortune companies with at least 50 people at a site as well as other companies employing 500 or more people in Ohio and having at least 50 people at a site. It is organized by NAICS code and includes the city where the site is located. Manufacturing rubber and plastic resins and products may not be the principal business of some companies on the list, but the sites of such companies are included because the primary NAICS codes of the specific establishments define them as part of the industry. See Table A1 for the list organized by company.

Industry Group/Company/Subsidiary or Division	Primary NAICS	City	Jobs at Site [^]
32521: Resins & synthetic rubber			
A Schulman, Inc.*	325211	Akron	202
A Schulman, Inc.*	325211	Akron	77
A Schulman, Inc.*	325211	Bellevue	200
A Schulman, Inc.*	325211	Sharon Center	50
Bayer AG/Bayer Materialscience [sic] LLC	325211	Hebron	150
Chevron Corp.*--ConocoPhillips*/Chevron Phillips Chemical Co.	325211	Marietta	172
Delphi Automotive Systems LLC*	325211	Ravenna	74
Dow Chemical Co.*/Rohm & Haas Co.	325211	Cincinnati	180
E I du Pont de Nemours & Co.* ¹	325211	Circleville	444
Eaton Corp.*	325211	Aurora	200
Illinois Tool Works, Inc.*	325211	Cincinnati	130
PolyOne Corp.*	325211	Avon Lake	73
325991: Custom compounding of purchased resins			
Dow Chemical Co.*--Corning Corp.*/Multibase, Inc.	325991	Akron	85

Industry Group/Company/Subsidiary or Division	Primary NAICS	City	Jobs at Site^
32611: Plastic packaging materials & unlaminated film & sheet			
E I du Pont de Nemours & Co.*/Liqui-Box Corp.	326111	Worthington	65
E I du Pont de Nemours & Co.*/Liqui-Box Corp.	326111	Ashland	120
Dow Chemical Co.*	326113	Findlay	150
Dow Chemical Co.*	326113	Hebron	105
32612: Plastic pipe, pipe fitting, & unlaminated profile shapes			
Eaton Corp.*/Eaton Inoac Co.	326121	Fremont	400
Advanced Drainage Systems, Inc.	326122	Hilliard	80
Advanced Drainage Systems, Inc.	326122	Hamilton	100
Advanced Drainage Systems, Inc.	326122	Wooster	52
Advanced Drainage Systems, Inc./Hancor, Inc.	326122	Findlay	330
Advanced Drainage Systems, Inc./Hancor, Inc.	326122	Findlay	100
Parker-Hannifin Corp.*	326122	Kent	90
Sumitomo Corp.*/Cantex, Inc.	326122	Aurora	60
Thomas & Betts Corp.*	326122	Bowling Green	110
32613: Laminated plastic plate, sheets, and shapes			
Parker Hannifin Corp.*	32613	Ravenna	250
32615: Urethane & other foam products			
Dow Chemical Co.*	32615	Ironton	175
32616: Plastic bottles			
Johnson Controls, Inc.*/Johnson Controls Interiors LLC	326160	Greenfield	250
Plastipak Packaging, Inc.	326160	Jackson Center	500
Plastipak Packaging, Inc.	326160	Medina	200
Silgan Holdings, Inc.*/Silgan Plastics Corp. ²	326160	Port Clinton	150
Silgan Holdings, Inc.*/Silgan Plastics LLC	326160	Ottawa	200
32619: Other plastic products			
Cincinnati Machines, Inc. (f.k.a. Milacron, Inc.)	326191	Batavia	900

Industry Group/Company/Subsidiary or Division	Primary NAICS	City	Jobs at Site^
32619: Other plastic products (continued)			
3M Co.*	326199	Elyria	170
Advanced Drainage Systems, Inc./Hancor, Inc.	326199	Findlay	70
ALCOA, Inc./ALCOA Home Exteriors, Inc.	326199	Sidney	250
Compagnie de Saint-Gobain*/Saint-Gobain Abrasives	326199	Aurora	200
Compagnie de Saint-Gobain*/Saint-Gobain Performance	326199	Ravenna	99
Crane Plastics Co., LLC/Crane Plastics Manufacturing	326199	Columbus	250
Crane Plastics Co., LLC/Crane Plastics Siding LLC	326199	Columbus	300
Crane Plastics Co., LLC/Timbertech Ltd. LLC	326199	Wilmington	365
Crown Holdings, Inc.*/Crown Cork & Seal Co., Inc.	326199	Lancaster	90
E I du Pont de Nemours & Co.*/Liqui-Box Corp.	326199	Upper Sandusky	120
Eaton Corp.*	326199	Mantua	210
Fortune Brands, Inc.*/Fypon Ltd.	326199	Archbold	200
Illinois Tool Works, Inc.*	326199	Bryan	270
Illinois Tool Works, Inc.*	326199	Toledo	60
International Automotive (f.k.a. a Lear Corp. plant)	326199	Huron	700
JCIM US LLC	326199	Bryan	500
JCIM US LLC	326199	Wauseon	200
Liberty Partners LP/Step2 Co. LLC	326199	Perrysville	270
Liberty Partners LP/Step2 Co. LLC	326199	Streetsboro	500
MeadWestvaco Corp.*/Calmar, Inc.	326199	Washington CH	330
Molded Fiber Glass Cos.	326199	Ashtabula	685
Myers Industries, Inc.	326199	Middlefield	90
Myers Industries, Inc.	326199	Akron	73
Myers Industries, Inc./Buckhorn, Inc.	326199	Milford	73
Myers Industries, Inc./WEK Industries, Inc.	326199	Jefferson	186
Newell Rubbermaid, Inc.*/Rubbermaid	326199	Mogadore	415
Owens Corning*/Fibreboard Corp.	326199	Toledo	200
Ply Gem Industries, Inc./Great Lakes Window, Inc.	326199	Walbridge	600
Toledo Molding & Die, Inc.	326199	Tiffin	310
Toledo Molding & Die, Inc.	326199	Delphos	130

Industry Group/Company/Subsidiary or Division	Primary NAICS	City	Jobs at Site [^]
32619: Other plastic products (continued)			
Toledo Molding & Die, Inc.	326199	Toledo	120
Toledo Molding & Die, Inc.	326199	Toledo	60
32621: Tires			
Cooper Tire & Rubber Co., Inc.*	326211	Findlay	60
Cooper Tire & Rubber Co., Inc.*	326211	Findlay	1,000
Goodyear Tire & Rubber Co.*	326211	Akron	3,000
32622: Rubber & plastic hoses & belts			
Cooper-Standard Automotive, Inc.*	326220	Bowling Green	500
Cooper-Standard Automotive, Inc.*	326220	Bowling Green	350
Eaton Corp.*	326220	Van Wert	900
Eaton Corp.*/Aeroquip-Vickers, Inc.	326220	Cleveland	220
Myers Industries, Inc.	326220	Wadsworth	120
Tokai Rubber Industries Ltd./DTR Industries, Inc.	326220	Bluffton	750
32629: Other rubber products			
Bridgestone Corp.*/Bridgestone APM Co.	326291	Upper Sandusky	100
Bridgestone Corp.*/Firestone Polymers LLC	326299	Akron	73
Compagnie de Saint-Gobain*/Saint-Gobain Performance	326299	Akron	200
Solutia, Inc.*/Flexsys America LP	326299	Akron	65
Yamashita Rubber Co., Ltd./YUSA Corp.	326299	Washington CH	1,046

Notes: * - a Fortune U.S. 1,000 or global 500 company.

[^] - "Jobs..." figures are thought to be the best available at the time of publication, but their accuracy cannot be guaranteed.

1 - jobs figure is from Willis (2010).

2 - jobs figure is from WTVG-TV/DT (2010), and the plant will close in 2010.

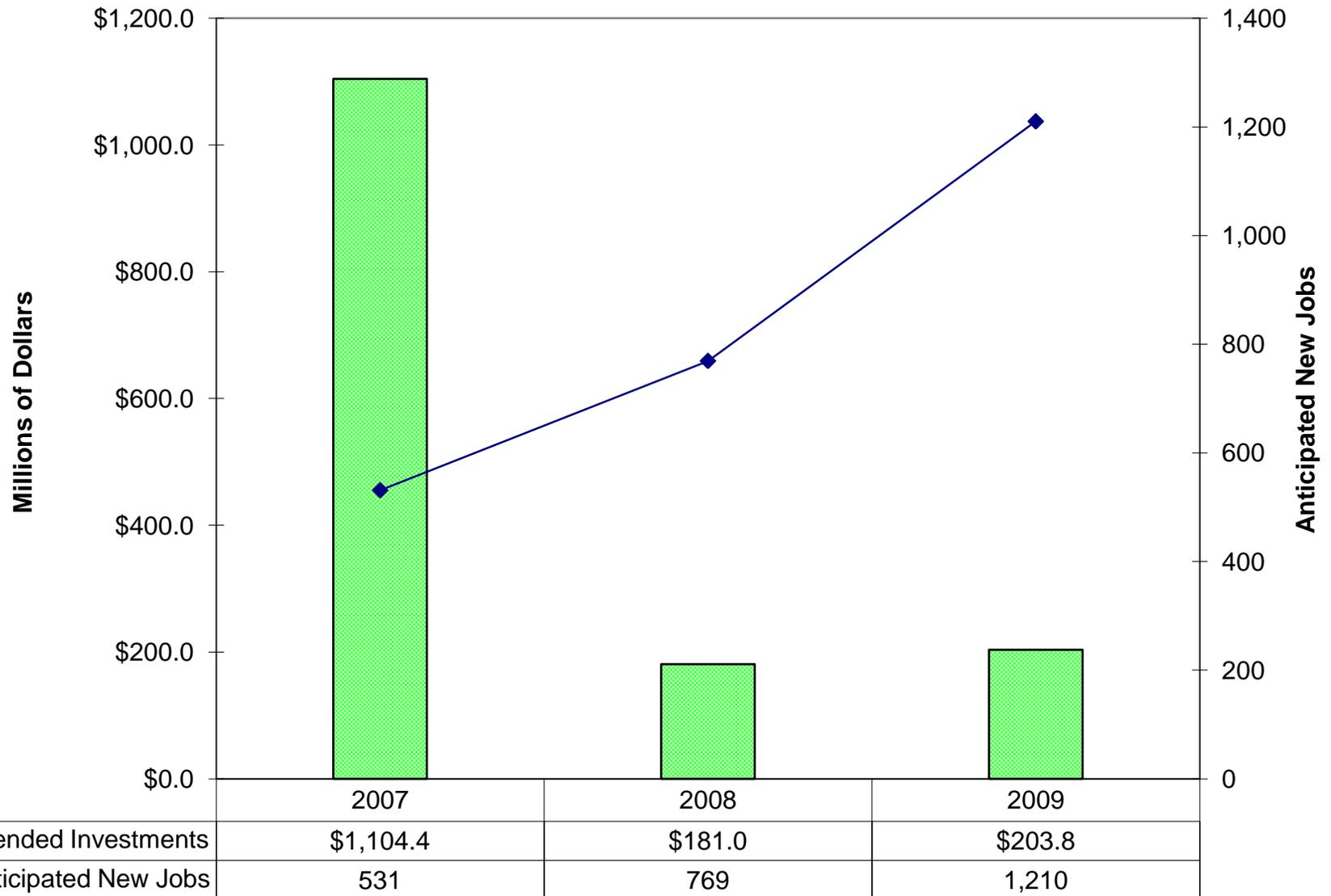
Sources: Fortune (2009), Harris (2009), Lexis-Nexis (2009), Willis (2010), WTVG-TV/DT (2010).



Ohio

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Investment Announcements in Ohio's Polymers Industry, 2007-2009



Source: Policy Research & Strategic Planning

RECENT EXPANSION AND ATTRACTION ANNOUNCEMENTS

Seventy-eight major investments by 73 companies in Ohio's polymers industry were recorded by this office (Policy Research and Strategic Planning) from 2007 through 2009. Planned expenditures approached \$1.5 billion. Currently, 2,510 new jobs are anticipated when the projects are completed. The chart above shows that almost one-half of anticipated new jobs – 1,200-plus – were announced in 2009. The chart also shows that intended investments were greatest in 2007. This is due primarily to Goodyear's intension to invest \$890 million. Without that single announcement, the investment total for 2007 would be \$214.4 million (still the largest of the three years), and the three-year total would be \$599.2 million.

While Goodyear dominated investment activity during the three-year period, other companies planned notably large investments. These include Titan Tire – \$125 million, Bridgestone – \$100 million, and Buckeye Silicon – \$50 million. Other companies investing at least \$10M include A Schulman, CCL Auto-Sleeve, Clopay Plastic Products, Cooper Tire & Rubber, Next Generation Films, Revere Plastics, Sigma USA, and Veyance Technologies. Titan Tire anticipates adding 150 new jobs when its project is completed – the largest number by any company.

If Goodyear's \$890 million is excluded from the nearly \$1.5 billion total, then \$344.1 million of the remaining \$599.2 million is intended for rubber products (NAICS 3262), notably tires (32621 – \$259.5 million). (Including Goodyear raises the rubber products total to \$1.23 billion.) All other rubber products (3262-9) garnered \$84.6 million in investments. \$217.9 million was planned for plastic products (3261), with \$116.6 million going for all other plastic products (326199) alone. \$37.2 million was planned for resin and synthetic rubber production (32521) and custom compounding (325991). However, over 1,800 of the 2,500 anticipated new jobs are in the plastics group.

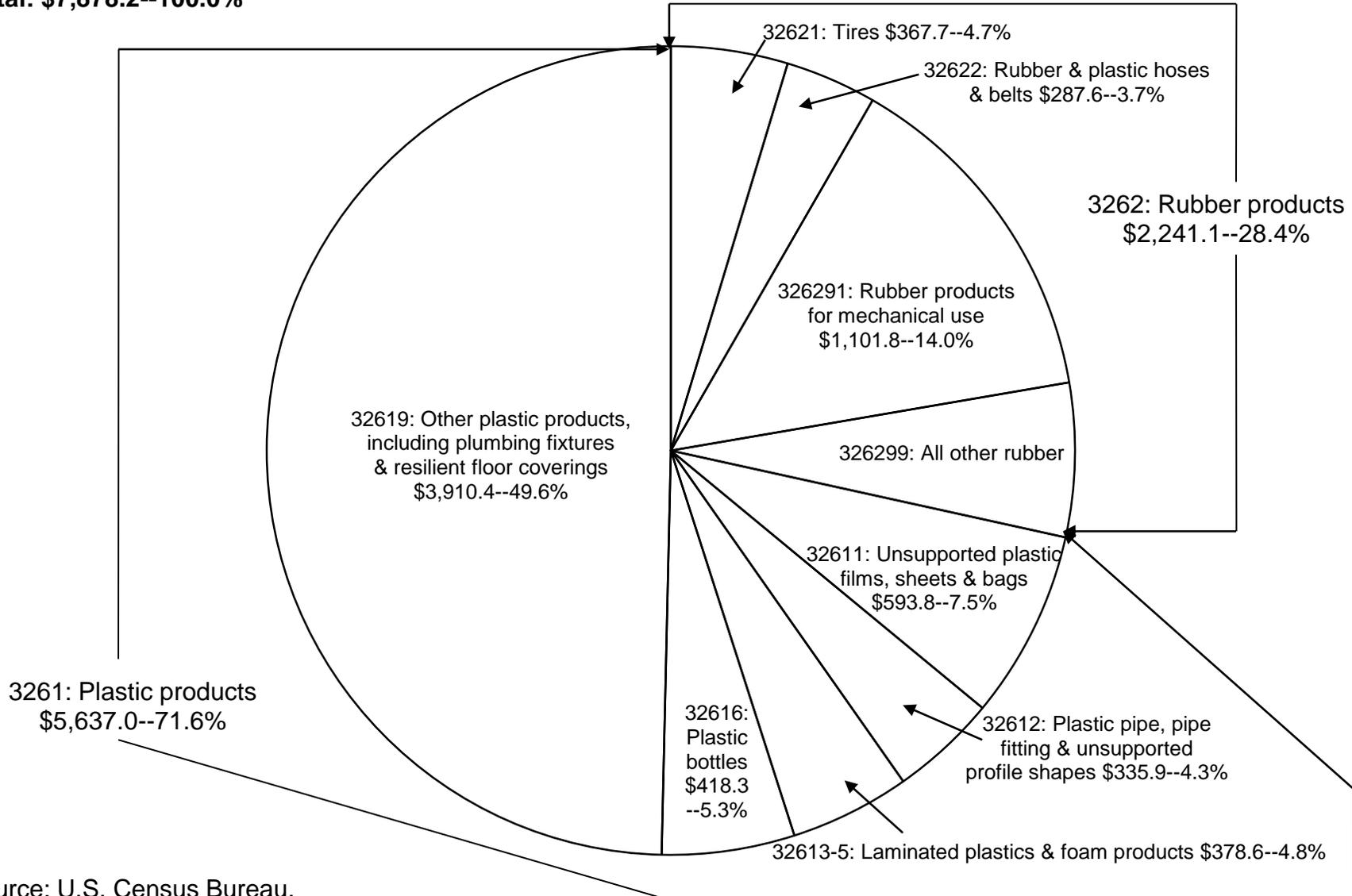
These counts are derived from a list of major investments compiled by Policy Research & Strategic Planning (2010). To be included, a major investment must meet at least one of the following criteria: 20,000 square feet of new space; \$1 million to be spent for land, building(s), or equipment; or 50 new jobs. Many of the major investments are phased-in over two or three years, with production and employee counts following after project completion. The data are not comparable with Census Bureau data on capital expenditures.

See Table A2

Value-Added by Sub-group in Ohio's Plastic & Rubber Products Industry (NAICS 326): 2002

(in millions, except percentages)

Total: \$7,878.2--100.0%



Source: U.S. Census Bureau.

THE COMPOSITION OF OHIO'S POLYMERS INDUSTRY: VALUE-ADDED

Value-added data from the 2002 Census of Manufactures provide both insight into the composition of the polymers industry in Ohio and a basis for comparisons with other states and the country as a whole.²

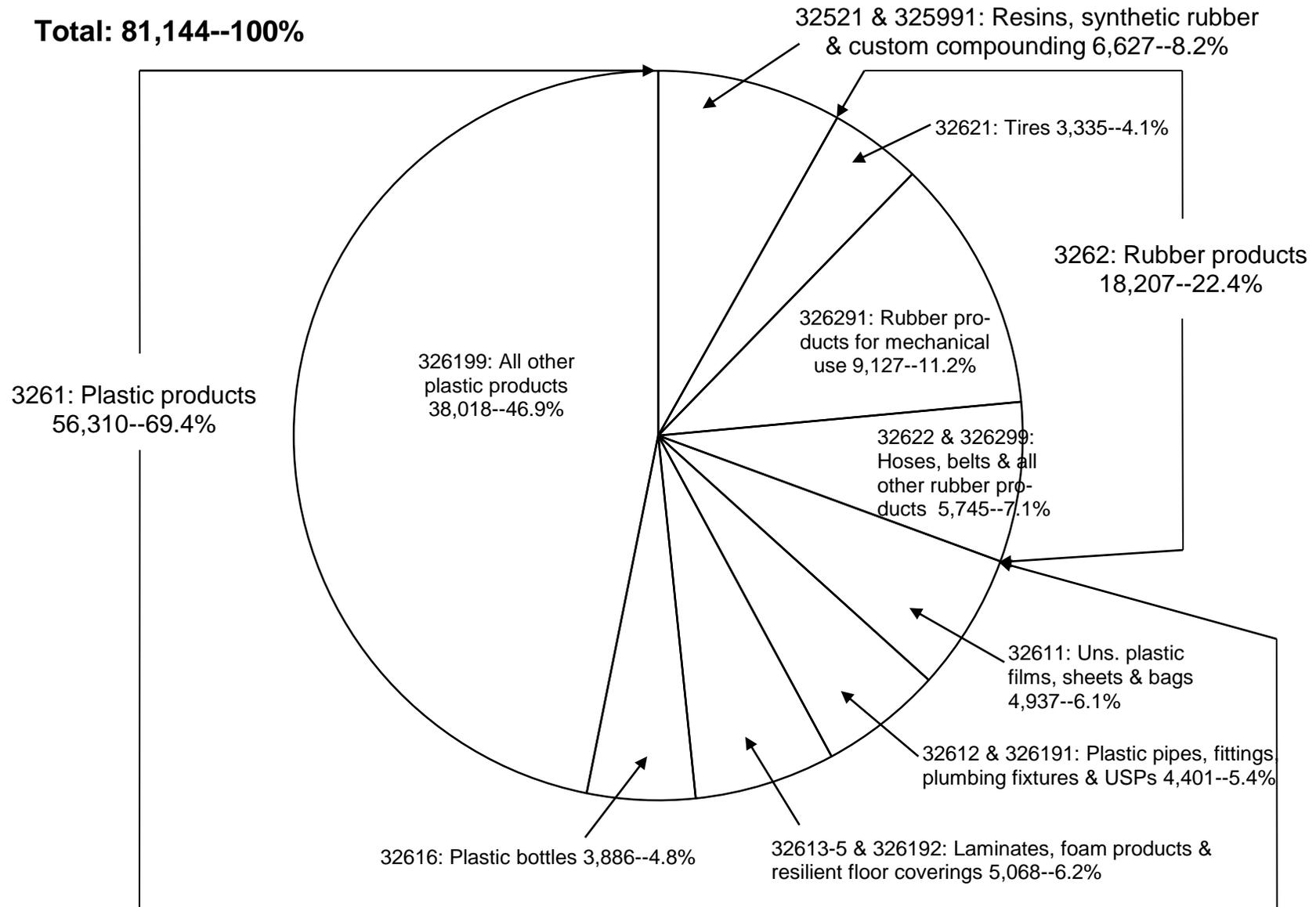
The chart above illustrates the relative distribution of plastic and rubber products output (NAICS 326) by industry subgroup(s) and some of the larger industries. Almost one-half of industry production in the state consists of making the huge variety of other plastic products (32619). (Making plastic plumbing fixtures and resilient floor coverings – 326191-2 – comprise less than 1 percent of industry output.) Other plastic industries or subgroups – unsupported films, sheets and bags (32611), pipes, pipe fittings and unsupported profile shapes (32612), laminated and foam products (32613-5), and bottles (32616) – together comprise 21.9 percent of value-added. Altogether, plastic products (3261) represented 71.6 percent of output in 2002. Rubber products (3262) were the other 28.4 percent of output, with rubber products for mechanical use (326291) about one-half of that. Tires, hoses, belts, and all other rubber products round out major industry production.

Data from the 2008 Annual Survey of Manufactures (the most recent) show Ohio ranked second in the nation in plastic products (3261), first in rubber products (3262), and second in the combination of the two groups (U.S. Bureau of the Census, 2010).

See Tables A3 & A4

Employment in Ohio's Polymers Industry

Total: 81,144--100%



Source: U.S. Census Bureau

THE COMPOSITION OF OHIO'S POLYMERS INDUSTRY: EMPLOYMENT

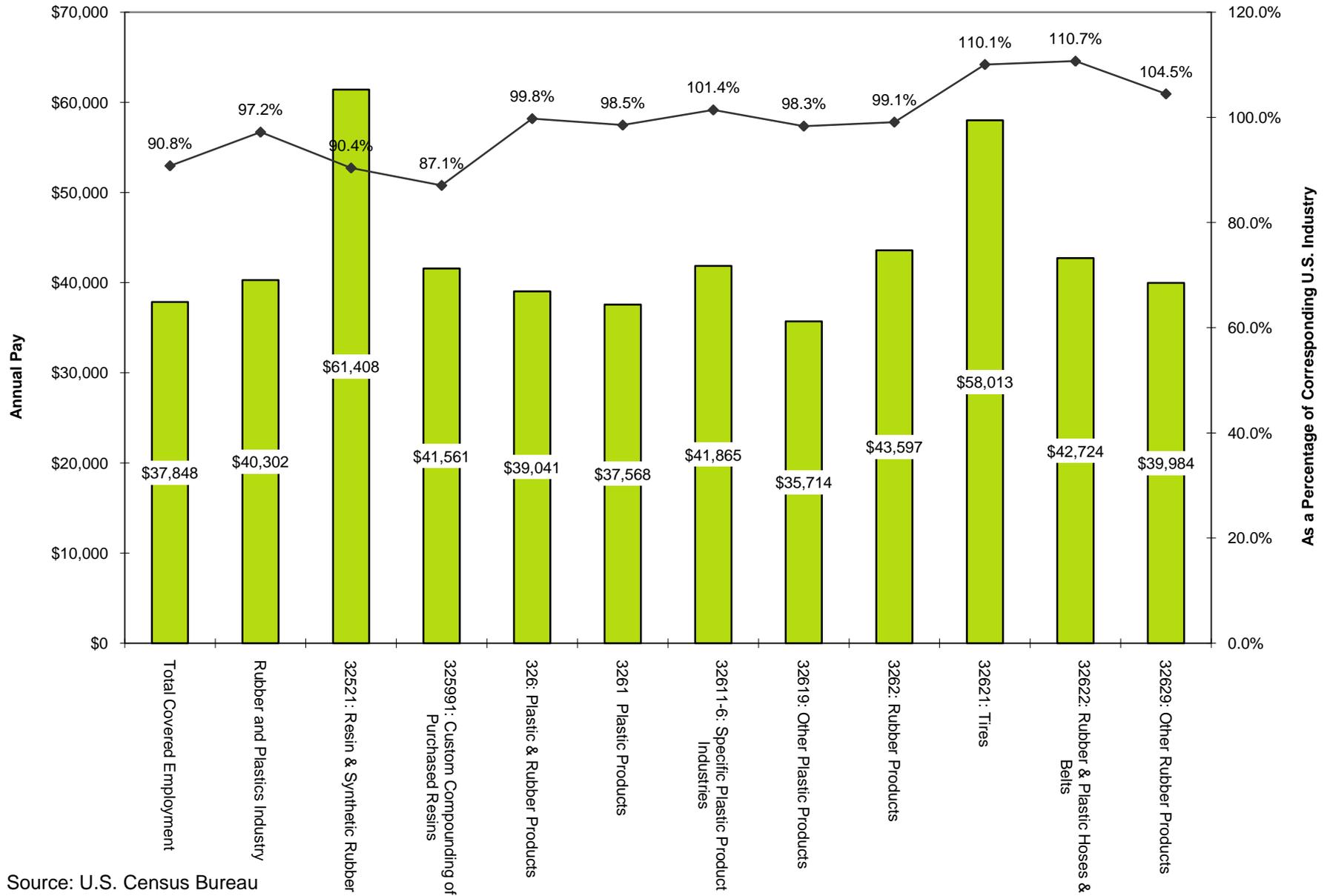
1,150 establishments employed more than 81,100 people in Ohio's polymers industry according to the latest comprehensive data. Nearly seven-tenths of the industry employees – 56,300 – worked in the plastic products group (NAICS 3261). The plastic products group is, in turn, largely comprised of the all other plastic products industry (326199) with 39,300 people at 524 establishments. The size of this one industry dwarfs all other constituent industries. Like value-added data cited in the preceding section, the numbers are indicative of the diversity of plastic products made here.

About 18,200 people – two of every nine in the industry – worked in the rubber products group (3262). The largest single industry in the group (and exceeded only by all other plastic products) is rubber products for mechanical use (e.g., in machinery or transportation equipment, 326291). It had 9,100 workers – one-half the group and one-ninth of the industry total. The production and custom compounding of plastic resins and synthetic rubber (32521 and 325991) occupied an estimated 6,600 workers, or one-twelfth of industry employment here.

More than seven and eight percent of the industry's establishments and jobs in America are located in Ohio. The overall concentration of industry here is obvious when compared with Ohio's portions of all private non-farm establishments and employment – 3.5 percent and 4.0 percent. The most concentrated portion of the industry is the rubber group, particularly rubber products for mechanical use (18.8 percent of establishments, 24.4 percent of employment), rubber and plastic hoses and belts (32622: 8.2 percent and 10.4 percent), and all other rubber products (326299: 10.2 percent and 11.4 percent). Although many other constituent industries are concentrated here, the production of plastic bottles (32616), resilient floor coverings (326192), and custom compounding of resins are the only plastics industries with at least 10 percent of the corresponding national employment totals located in the state.

See Table A5

Pay in Ohio's Polymers Industries



Source: U.S. Census Bureau

INDUSTRY PAY

The chart above shows that annual pay in Ohio for all non-agricultural private sector employees averaged more than \$37,800 (U.S. Bureau of the Census, 2009a). People employed in the state's polymers industry averaged \$40,300, but there is much variation within. Pay was greatest in resin and synthetic rubber production (NAICS 32521, \$61,400). Pay was higher in the rubber products group (3262, almost \$43,600) than the plastic products group (3261, \$37,500-plus). The higher average of the former reflects the pay in tires (32611, \$58,000) in particular, but pay in the other subgroups – rubber and plastic hoses and belts (32622) and other rubber products (32629) – also was greater than the industry mean. Those in the custom-compounding of purchased resins (325991) about \$41,500.

Generally, pay in the specified plastic product subgroups and industries (32611-6, \$41,800-plus) was greater than pay in the residual-but-huge all other plastic products (32619, \$35,700). Appendix table A6 shows more detail as well as exceptions to this generalization.

Mean industry pay in Ohio was 97.2 percent of the national average. This largely reflects comparable pay in the plastic products group and its constituent industries; many were within a few points of the corresponding national averages. Where pay in Ohio notably departed from the national averages was in the rubber products group and in resin and synthetic rubber production and custom compounding. Earnings in the rubber products group – particularly tires – were greater than the corresponding national average. On the other hand, resin and synthetic rubber production and custom compounding earnings were less than the corresponding national averages. Again, appendix table A6 shows more detail and exceptions to these generalizations.

See Table A6

THE DISTRIBUTION OF INDUSTRY ESTABLISHMENTS IN OHIO

The map above illustrates the distribution of the 1,150 polymers industry establishments across Ohio according to the latest County Business Patterns data. Seventy-six counties had at least one industry establishment. However, the majority could be found in 12 counties: Summit – 117, Cuyahoga – 88, Portage – 56, Franklin – 53, Hamilton – 43, Stark – 42, Montgomery and Lake – 39 each, Lorain – 31, Ashtabula – 30, and Butler and Geauga – 29 each. Seven more counties had at least 20 establishments, 11 had 10 to 19 establishments, 22 counties had five to nine, and 24 counties had from one to four establishments.

Counties with an establishment making plastic or rubber products did not necessarily have a resin or rubber producing or compounding plant, but counties with at least one resin or rubber producing or compounding establishment (NAICS 32521 or 325991) almost always had at least one establishment making plastic or rubber products (326). The exceptions to the latter were Defiance and Van Wert.

Another way to look at the map is to focus on Summit and the surrounding counties: Cuyahoga, Geauga, Medina, Portage, Stark and Wayne. These seven combine to form an area with 376 establishments, nearly one-third of the polymers industry in Ohio. While polymers establishments are widely diffused across the state, this fact is consistent with the view that the Akron region is the Polymer Valley.

See Table A7

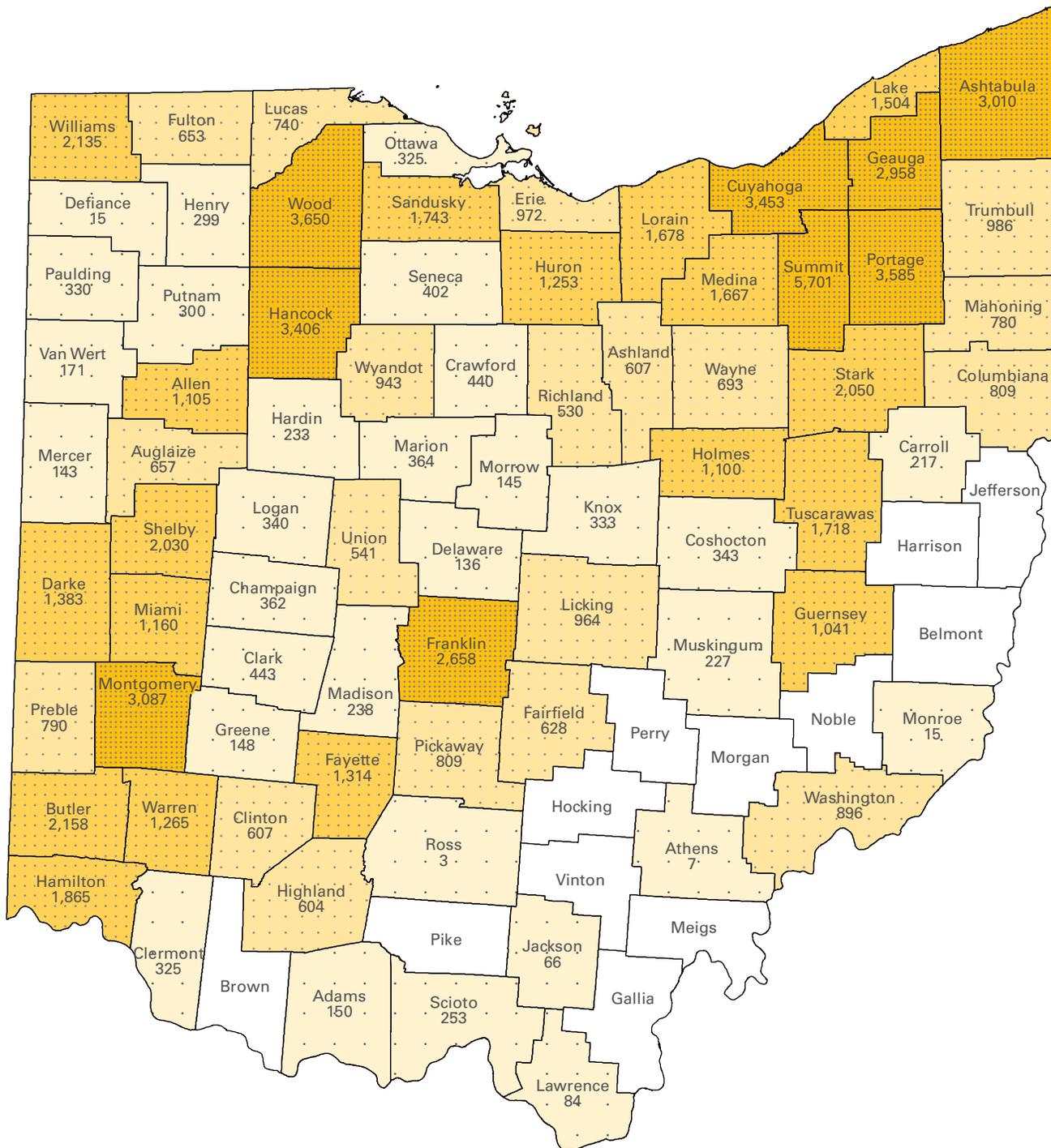


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Ohio Polymers Industry Employment by County*



THE DISTRIBUTION OF INDUSTRY EMPLOYMENT IN OHIO

Employment seems less concentrated than the distribution of establishments with 14 counties accounting for the majority of the industry jobs in Ohio. Summit topped the list with 5,700. Ashtabula, Cuyahoga, Hancock, Montgomery, Portage and Wood followed – each with jobs numbering between 3,000 and 3,700. Six counties are thought to have had from 2,000 to nearly 3,000 jobs: Butler, Franklin, Geauga, Shelby, Stark and Williams. Fourteen counties each had between 1,000 and 2,000 jobs, 19 had between 500 and 1,000, and 30 had less than 500.³

Similar to the preceding section, Summit and the surrounding counties are estimated to have had about 20,100 industry jobs – perhaps 25 percent of industry employment in the state. Excluding these counties, no other combination of seven counties forming one continuous area in Ohio had such a high percentage of industry employment.

See Table A7