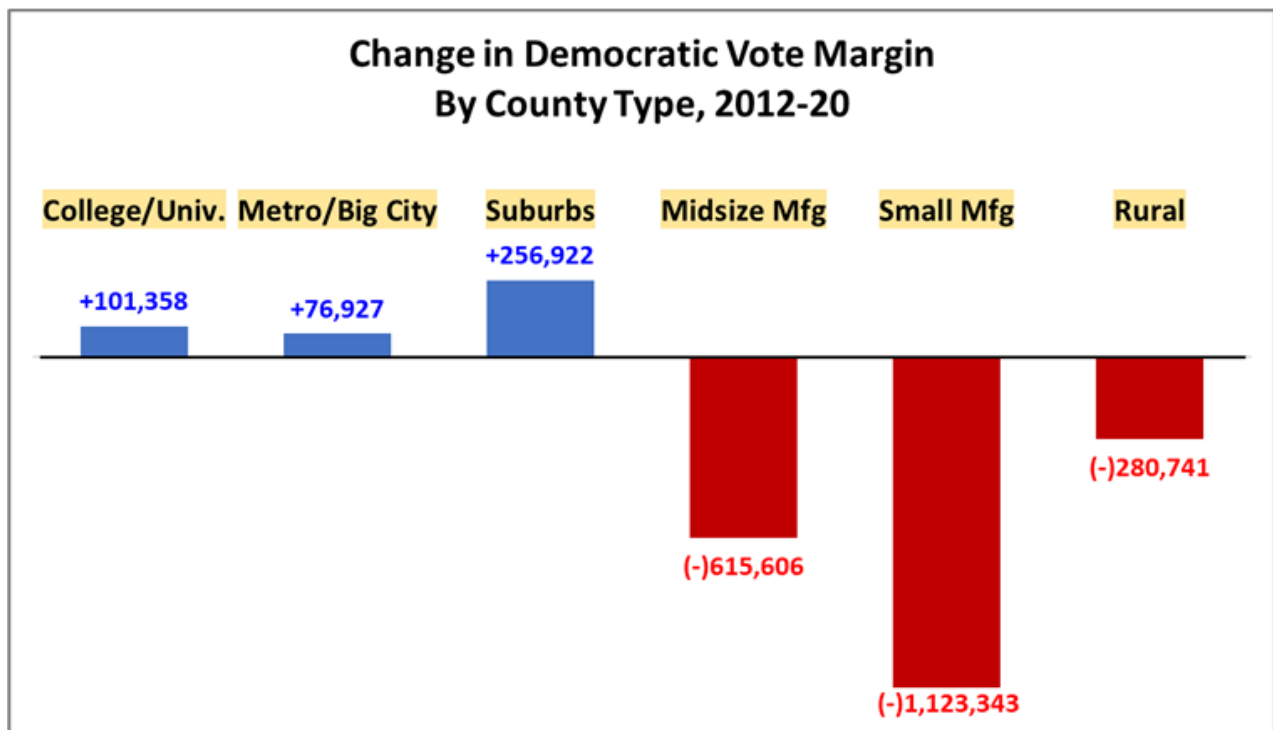


Presidential Election Results in MI, WI, PA, OH, IA: An Economic Geography Analysis



Abstract

In the Upper Midwest states of PA, MI, WI, OH, and IA, Democrats are falling far short in the two largest voting segments -- small and midsize manufacturing counties. In small manufacturing counties, Joe Biden won just 35% of the vote in 2020, and only 46% in midsize manufacturing counties. More urgently, Democratic performance in these two segments, which totals 51.6% of the vote, has declined drastically since 2012.



Martin Technical Research

Richard Martin, President, Martin Technical Research
richard@martintechnicalresearch.com

Introduction

This analysis examines the presidential vote in 2012, 2016, and 2020 in the Upper Midwest Swing States of Pennsylvania, Michigan, Ohio, Wisconsin and Iowa.

This methodology views the electorate through the prism of *economic geography* and counties are sorted into six different types:

- **Large Metropolitan Counties** (10 out of 409 total counties in the five states)
- **College Counties** (8)
- **Suburban Counties** (15)
- **Midsized Manufacturing Counties** (50)
- **Small Manufacturing Counties** (241)
- **Rural Counties** (85)

This analysis examines the presidential vote in 2012, 2016, and 2020 in the Upper Midwest Swing States of Pennsylvania, Michigan, Ohio, Wisconsin and Iowa.

We disregard all third-party votes and look only at the head-to-head vote for Democrats and Republicans. Additionally, to better highlight candidate competitiveness, we focus on *net margins* in each county.

Definitions of County Types

1. **Large Metropolitan Counties.** Cities with at least 200,000 population, diversified economies, and are usually Democratic strongholds. *Number by state: Pennsylvania (2), Ohio (4), Michigan (2), Wisconsin (1), Iowa (1).*
2. **Suburban Counties.** Includes not only bedroom communities, but counties that border the Large Metros with a high concentration of service industry economic activity and a relatively low rate of manufacturing jobs. *Number by state: Pennsylvania (6), Ohio (3), Michigan (1), Wisconsin (3), Iowa (2).*
3. **College Counties.** Another Democratic stronghold. Areas where a large university or liberal arts school is a dominant economic force in the county. Certain counties with flagship universities – Penn State, University of Michigan, UW-Madison, etc. are counted as “College Counties” because much of the economic vitality of that region is directly or indirectly tied to the university. *Number by state: Pennsylvania (1), Ohio (1), Michigan (2), Wisconsin (2), Iowa (2).*
4. **Midsized Manufacturing Counties.** Counties in which the percentage of manufacturing jobs in the county is 13% or higher (the U.S. national average is 9.1%). Many of the counties in this analysis are well above 20%. To be classified as “midsized,” a county must also have a city of 35,000 within its county limits. Another way to think about this group: Midsized Blue-Collar Counties. *Number by state: Pennsylvania (9), Ohio (15), Michigan (8), Wisconsin (12), Iowa (6).*
5. **Small Manufacturing Counties.** Counties with a percentage of manufacturing jobs of 13% or higher, with no cities of 35,000+ population. These counties are often poorly understood by the political class, and frequently mischaracterized by the media as “rural.” This Small Manufacturing segment is where Donald Trump won the 2016 election, and nearly won it in 2020 through his large margin. Another way to think about this group: Small Blue-Collar Counties. *Number by state: Pennsylvania (30), Ohio (53), Michigan (45), Wisconsin (42), Iowa (71).*
6. **Rural Counties.** Lightly populated counties with limited manufacturing activity. Economy is based on agriculture, forestry, mining, fishing or tourism. Just as the economic well-being of the suburbs is interdependent on the economic well-being of the Large Metro Counties, there is a similar relationship between the smaller Rural Counties and the Manufacturing Counties. *Number by state: Pennsylvania (19), Ohio (12), Michigan (25), Wisconsin (12), Iowa (17).*

SUMMARY: Presidential Election Results by County Type, 2012-2020

| County Type | # Counties Biden Won | # Counties Biden Lost | # Counties Where Dem Margins Rose | # Counties Where Dem Margins Shrank | Blue means Dems won; Red means GOP won. + or (-) = Dem net vote | | |
|----------------|----------------------|-----------------------|-----------------------------------|-------------------------------------|---|------------------------|------------------------|
| | | | | | Net Vote: Dem/Rep 2012 | Net Vote: Dem/Rep 2016 | Net Vote: Dem/Rep 2020 |
| College | 8 | 0 | 6 | 2 | + 281,246 | + 302,977 | + 382,604 |
| Metro/Big City | 10 | 0 | 7 | 3 | + 1,631,562 | + 1,496,549 | + 1,708,489 |
| Suburbs | 6 | 9 | 11 | 4 | - 18,577 | + 52,731 | + 238,345 |
| Mid-Size Mfg | 16 | 34 | 29 | 21 | + 197,012 | - 470,736 | - 418,594 |
| Small Mfg | 7 | 234 | 27 | 214 | - 676,186 | - 1,613,431 | - 1,799,529 |
| Rural | 4 | 81 | 17 | 68 | - 189,429 | - 439,989 | - 470,170 |

Finding from Summary Table, 2012-2020:

- Strong Dem performance in College Counties and Metro Counties: In 2020 in Metro/Big City Counties, Biden exceeded Obama's net 2012 margin by nearly 5%, and boosted his performance in College Counties by 100,000+ votes, or 36%.
- Are Democrats renting many Suburban County voters? Is 2020 a high-water mark for Democrats with Suburban County voters, due to high enthusiasm (and anxiety) for getting Trump out of the White House? It's uncertain if moderate Republicans will continue to vote for Democratic presidential candidates when Trump is not on the ballot in the future. While many voted for Biden in 2020, they did not vote for down-ballot Democrats.
- Crushingly high growth by the GOP in Small Manufacturing Counties: From 2012 to 2020, Republican net margins in Small Manufacturing Counties grew by a factor of 2.6, or 166%. In 2020, despite his working-class background, Biden grew Democratic net vote margins in only 27 of those 241 counties (11.2%).
- GOP margin still powerful in Midsize Manufacturing Counties despite some Biden gains: From 2012-2020 in Midsize Manufacturing Counties, the GOP presidential candidate gained a net of 615,606 votes(!). Biden began to reverse some of the Democratic vote decline in these counties compared to 2016, increasing Dem net margins in 58% of those counties (29 of 50).
- Rural voters continue exodus to GOP: In 2020, Biden lost Rural County voters by nearly 500,000, a shift of 280,741 more voters to the GOP candidate than Obama's 189,429 loss in Rural Counties in 2012.

VOTE SHARE: Size of Voter Segments in Upper Midwest Swing States

| | 2012 | 2016 | 2020 | Voter Turnout Growth | |
|-----------------------|-------------|---------------|-------------|----------------------|-------|
| | | | | 2016 | 2020 |
| Midsized Mfg Counties | 5,343,264 | 5,173,852 | 5,986,684 | (-) 3.2% | 15.7% |
| <i>Dem vote share</i> | Obama 51.8% | Clinton 45.4% | Biden 46.5% | | |
| Small Mfg Counties | 5,112,608 | 5,037,285 | 5,890,045 | (-) 1.5% | 16.9% |
| | Obama 43.4% | Clinton 34% | Biden 34.7% | | |
| Metro Counties | 4,933,234 | 4,692,283 | 5,228,939 | (-) 4.9% | 11.4% |
| | Obama 66.5% | Clinton 65.9% | Biden 66.3% | | |
| Suburban Counties | 2,806,605 | 2,802,025 | 3,344,695 | (-) 0.2% | 19.3% |
| | Obama 49.7% | Clinton 50.9% | Biden 53.6% | | |
| Rural Counties | 1,363,725 | 1,374,897 | 1,603,666 | 0.8% | 16.6% |
| | Obama 43.1% | Clinton 34% | Biden 35.3% | | |
| College Counties | 857,116 | 843,395 | 967,548 | (-) 1.7% | 14.7% |
| | Obama 66.4% | Clinton 68% | Biden 70% | | |

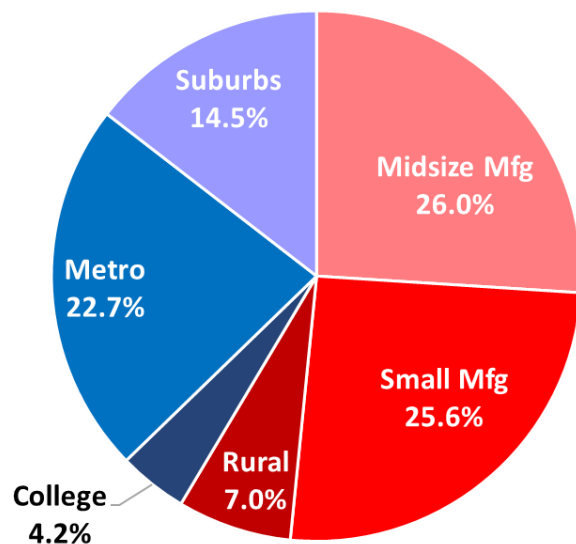
Finding from Vote Share Table:

- Democrats are falling short in two largest voting segments: The two largest segments are manufacturing counties, which accounted for 51.6% of all Upper Midwest Swing State voters in 2020 (pie graph at right).

Small and Midsized Manufacturing Counties combined for 11,876,729 voters; the other four segments add up to 11,144,848. It's challenging for any party to win when it's getting 46.5% of the vote in largest segment, and 35% in second largest.

- Two-party analysis only: With regard to "Voter Turnout Growth," this analysis only looks at head-to-head D vs. R turnout. 3rd party votes are disregarded.

2020 Share of Vote,
By County Type in MI WI PA OH IN



SCORESHEETS: State-Specific Election Results by County Type, 2012-2020

| Pennsylvania Scoresheet | Obama 2012 Raw Vote Margin vs. Romney | Clinton 2016 Raw Vote Margin vs. Trump | 2016 Comments | Biden 2020 Raw Vote Margin vs. Trump | 2020 Comments |
|--------------------------------|---------------------------------------|--|--|--------------------------------------|---|
| Large Metro Counties | +582,987 | +583,414 | Dem margin improved 427 votes compared to 2016. Philly was down a bit; Pittsburgh up slightly. | +617,791 | Dem margin improved 34,377 votes vs 2012. |
| College Counties | +175 | +1,814 | Dem margin improved 1,639 compared to 2012 | +3,683 | Dem margin improved 1,869 in county for Penn State and surrounding towns |
| Suburban Counties | +117,957 | +167,132 | Dem margin improved 49,175 over 2012 | +278,677 | Gains here were critical to Biden's state win. Dem margin improved 111,545 votes compared to 2016. |
| Midsize Manufacturing Counties | (-31,720) | (-172,616) | Dem margin declined 140,896 in counties for Allentown, York, Reading, Bethlehem, Scranton. | (-143,212) | Biden cut into Trump's margin 17% (29,404 votes) , as he made progress winning back blue collar voters in a segment where voter turnout was up 17.9% |
| Small Manufacturing Counties | (-251,790) | (-431,972) | Dem margin declined 180,182 in these 30 counties with sizable manufacturing base. Obama won 38.5% of vote here; HRC had 31.3% | (-468,033) | Voter turnout in this segment increased 17.5%. Trump found nearly 119,000+ new voters in these counties, but Biden was able to turnout 83,000+ more votes than HRC, so he was able to limit the damage. |
| Rural Counties | (-107,769) | (-192,064) | Dem margin declined 84,295 . Obama had 39.3% of rural Penn vote in 2012; HRC had 32% | (-208,351) | Turnout in rural Penn counties increased 17.9%. Dem margin declined 16,287 . However, Biden had 39,000+ more votes than HRC in 2016 in this segment. |
| Won by 309,840 | | Lost by 44,292 | | Won by 80,555 | |

Pennsylvania Raw Vote

2012 -- won by 309,840

| College | | Metro | | Suburbs | | Midsize Mfg | | Small Mfg | | Rural | |
|---------------|--------|------------------|---------|------------------|---------|------------------|---------|------------------|---------|-----------------|---------|
| Obama | Romney | Obama | Romney | Obama | Romney | Obama | Romney | Obama | Romney | Obama | Romney |
| 34,176 | 34,001 | 941,493 | 358,506 | 795,290 | 677,333 | 601,029 | 632,749 | 420,948 | 672,738 | 197,338 | 305,107 |
| 68,177 | | 1,299,999 | | 1,472,623 | | 1,233,778 | | 1,093,686 | | 502,445 | |
| +175 | | +582,987 | | +117,957 | | -31,720 | | -251,790 | | -107,769 | |
| 50.1% | 49.9% | 72.4% | 27.6% | 54.0% | 46.0% | 48.7% | 51.3% | 38.5% | 61.5% | 39.3% | 60.7% |

2016 -- lost by 44,292

| College | | Metro | | Suburbs | | Midsize Mfg | | Small Mfg | | Rural | |
|---------------|--------|------------------|---------|------------------|---------|------------------|---------|------------------|---------|-----------------|---------|
| Clinton | Trump | Clinton | Trump | Clinton | Trump | Clinton | Trump | Clinton | Trump | Clinton | Trump |
| 37,088 | 35,274 | 951,642 | 368,228 | 843,254 | 676,122 | 562,154 | 734,770 | 361,535 | 793,507 | 170,768 | 362,832 |
| 72,362 | | 1,319,870 | | 1,519,376 | | 1,296,924 | | 1,155,042 | | 533,600 | |
| +1,814 | | +583,414 | | +167,132 | | -172,616 | | -431,972 | | -192,064 | |
| 51.3% | 48.7% | 72.1% | 27.9% | 55.5% | 44.5% | 43.4% | 56.6% | 31.3% | 68.7% | 32.0% | 68.0% |

2020 -- won by 80,555

| College | | Metro | | Suburbs | | Midsize Mfg | | Small Mfg | | Rural | |
|---------------|--------|------------------|---------|------------------|---------|------------------|---------|------------------|---------|-----------------|---------|
| Biden | Trump | Biden | Trump | Biden | Trump | Biden | Trump | Biden | Trump | Biden | Trump |
| 40,055 | 36,372 | 1,032,855 | 415,064 | 1,037,089 | 758,412 | 693,017 | 836,229 | 444,767 | 912,800 | 210,446 | 418,797 |
| 76,427 | | 1,447,919 | | 1,795,501 | | 1,529,246 | | 1,357,567 | | 629,243 | |
| +3,683 | | +617,791 | | +278,677 | | -143,212 | | -468,033 | | -208,351 | |
| 52.4% | 47.6% | 71.3% | 28.7% | 57.8% | 42.2% | 45.3% | 54.7% | 32.8% | 67.2% | 33.5% | 66.5% |

| Michigan Scoresheet | Obama 2012 Raw Vote Margin vs. Romney | Clinton 2016 Raw Vote Margin vs. Trump | 2016 Comments | Biden 2020 Raw Vote Margin vs. Trump | 2020 Comments |
|--------------------------------|---------------------------------------|--|--|--------------------------------------|---|
| Large Metro Counties | +358,426 | +280,954 | Dem margin declined 77,472 compared to 2012. Margins were slightly better in Grand Rapids, but way down in Detroit | +354,791 | Dem margin improved 73,837 over 2012. Biden won typical Repub stronghold in Grand Rapids' county by 22,000+ |
| College Counties | +99,928 | +113,094 | Dem margin improved 13,166 compared to 2012 | +147,468 | Dem margin improved 34,374 compared to 2016. |
| Suburban Counties | +52,524 | +53,867 | Dem margin improved slightly by 1,343 compared to 2012 | +108,177 | Dem margin doubled, with 55,967 vote improvement |
| Midsize Manufacturing Counties | +112,388 | (-35,788) | This segment provided Obama his 2nd largest electoral cushion in Michigan 2012, but became net negative for HRC. Dem margin declined 54,305 in counties for Saginaw, Battle Creek, Flint, Warren, Kalamazoo, Sterling Heights, Midland. | (-13,059) | Biden shaved 20,936 off Trump's 2016 margin, but Dems still have a long climb back to dominance for this segment. Biden had 49.3% of vote, compared to Obama's 55.4% in 2012. |
| Small Manufacturing Counties | (-158,393) | (-361,038) | Dem margin declined 202,645 vs 2012. Obama won 43.7% of vote in Michigan Small Mfg counties, while HRC got 35.5% | (-388,174) | Dem margin declined 27,136 . Turnout in here was up 22.3% Trump's campaign turned out a whopping 152,500 new voters. But Biden found his fair share as well: his vote was 125,370 larger than HRC's, which minimized the damage. |
| Rural Counties | (-20,301) | (-61,793) | Dem margin declined 41,492 . Obama only won 3 of Michigan's rural counties, but had 46.9% of the vote. HRC had 40.5% | (-55,015) | Dem margin improved 6,778 votes vs 2016. Biden did better in rural counties based upon tourism, viticulture, and retirement communities. |
| | Won by 444,572 | Lost by 10,704 | | Won by 154,188 | |

Michigan Raw Vote

2012 -- won by 444,572

| College | | Metro | | Suburbs | | Midsize Mfg | | Small Mfg | | Rural | |
|----------------|---------|------------------|---------|----------------|---------|------------------|---------|------------------|---------|----------------|---------|
| Obama | Romney | Obama | Romney | Obama | Romney | Obama | Romney | Obama | Romney | Obama | Romney |
| 201,694 | 101,766 | 729,813 | 371,387 | 349,055 | 296,531 | 578,364 | 465,976 | 546,921 | 705,314 | 153,731 | 174,032 |
| 303,460 | | 1,101,200 | | 645,586 | | 1,044,340 | | 1,252,235 | | 327,763 | |
| +99,928 | | +358,426 | | +52,524 | | +112,388 | | -158,393 | | -20,301 | |
| 66.5% | 33.5% | 66.3% | 33.7% | 54.1% | 45.9% | 55.4% | 44.6% | 43.7% | 56.3% | 46.9% | 53.1% |

2016 -- lost by 10,704

| College | | Metro | | Suburbs | | Midsize Mfg | | Small Mfg | | Rural | |
|-----------------|--------|------------------|---------|----------------|---------|------------------|---------|------------------|---------|----------------|---------|
| Clinton | Trump | Clinton | Trump | Clinton | Trump | Clinton | Trump | Clinton | Trump | Clinton | Trump |
| 207,593 | 94,499 | 658,127 | 377,173 | 343,070 | 289,203 | 489,350 | 525,138 | 439,788 | 800,826 | 130,911 | 192,704 |
| 302,092 | | 1,035,300 | | 632,273 | | 1,014,488 | | 1,240,614 | | 323,615 | |
| +113,094 | | +280,954 | | +53,867 | | -35,788 | | -361,038 | | -61,793 | |
| 68.7% | 31.3% | 63.6% | 36.4% | 54.3% | 45.7% | 48.3% | 51.7% | 35.5% | 64.5% | 40.5% | 59.5% |

2020 -- won by 154,188

| College | | Metro | | Suburbs | | Midsize Mfg | | Small Mfg | | Rural | |
|-----------------|---------|------------------|---------|-----------------|---------|------------------|---------|------------------|---------|----------------|---------|
| Biden | Trump | Biden | Trump | Biden | Trump | Biden | Trump | Biden | Trump | Biden | Trump |
| 251,348 | 103,880 | 785,085 | 430,294 | 434,148 | 325,971 | 599,280 | 612,339 | 565,158 | 953,332 | 169,021 | 224,036 |
| 355,228 | | 1,215,379 | | 760,119 | | 1,211,619 | | 1,518,490 | | 393,057 | |
| +147,468 | | +354,791 | | +108,177 | | -13,059 | | -388,174 | | -55,015 | |
| 70.7% | 29.3% | 64.6% | 35.4% | 57.1% | 42.9% | 49.5% | 50.5% | 37.2% | 62.8% | 43.0% | 57.0% |

| Wisconsin Scoresheet | Obama 2012 Raw Vote Margin vs. Romney | Clinton 2016 Raw Vote Margin vs. Trump | 2016 Comments | Biden 2020 Raw Vote Margin vs. Trump | 2020 Comments |
|---------------------------------|---------------------------------------|--|--|--------------------------------------|--|
| Large Metro Counties | +177,514 | +162,753 | Dem margin declined 14,761 compared to 2012. Milwaukee turnout fell. | +183,045 | Dem margin improved 20,292 compared to 2016 |
| College Counties | +137,887 | +147,646 | Dem margin improved 9,759 compared to 2012. UW Madison turned out strong, UW Stevens Point did not. | +182,456 | Dem margin improved 34,810 compared to 2016. Strong turnout in Dane County (UW Madison). |
| Suburban Counties | (-132,536) | (-104,501) | Dem margin improved 28,035 compared to 2012, as Trump lost some support in the suburbs. | (-96,725) | Dem margin improved 7,776 compared to 2016, as Republican margins declined in their traditional stronghold. |
| Midsized Manufacturing Counties | +30,324 | (-62,820) | Dem margin declined 83,144 in Green Bay, Eau Claire, Fond du Lac, Kenosha, Appleton, Janesville, Sheboygan. Obama won 51.7% of vote here; HRC 46.3%. | (-56,842) | Dem margin improved 5,978 compared to 2016, as Biden slightly narrowed Trump's edge. Voter turnout in this segment was 16.8% higher than 2012. |
| Small Manufacturing Counties | (-6,008) | (-148,921) | Dem margin declined 142,913. Obama won 18 of 42 Small Mfg counties and 49.6% of vote; HRC won 4 counties and 40.2% of vote. | (-172,780) | Dem margin declined 23,859. Just as in other Upper Midwest states, Biden improved the Dem raw vote; it was 56,591 better than HRC's, but Trump turned out an additional 80,450 voters in the small mfg counties. |
| Rural Counties | +5,838 | (-16,905) | Dem margin declined 22,743. Obama won 8 of 12 Rural counties; HRC won 2. Obama 52.6% of rural vote; HRC 42% | (-18,472) | Dem margin declined 1,567. Biden had 42.6% of rural vote. |
| | Won by 213,019 | Lost by 22,748 | | Won by 20,682 | |

Wisconsin Raw Vote

2012 -- won by 213,019

| College | | Metro | | Suburbs | | Large Mfg | | Small Mfg | | Rural | |
|----------------|--------|----------------|---------|----------------|---------|----------------|---------|----------------|---------|----------------|--------|
| Obama | Romney | Obama | Romney | Obama | Romney | Obama | Romney | Obama | Romney | Obama | Romney |
| 238,146 | 10,259 | 332,438 | 154,924 | 121,104 | 253,640 | 425,701 | 398,704 | 433,263 | 439,323 | 70,333 | 61,116 |
| 338,405 | | 487,362 | | 374,744 | | 824,405 | | 872,586 | | 131,449 | |
| +137,887 | | +177,514 | | -132,536 | | +26,997 | | -6,060 | | +9,217 | |
| 70.4% | 29.6% | 68.2% | 31.8% | 32.3% | 67.7% | 51.6% | 48.4% | 49.7% | 50.3% | 53.5% | 46.5% |

2016 -- lost by 22,748

| College | | Metro | | Suburbs | | Large Mfg | | Small Mfg | | Rural | |
|----------------|--------|----------------|---------|----------------|---------|----------------|---------|----------------|---------|----------------|--------|
| Clinton | Trump | Clinton | Trump | Clinton | Trump | Clinton | Trump | Clinton | Trump | Clinton | Trump |
| 236,226 | 88,580 | 288,822 | 126,069 | 120,246 | 224,747 | 350,381 | 406,803 | 333,498 | 488,236 | 53,363 | 70,849 |
| 324,806 | | 414,891 | | 344,993 | | 757,184 | | 821,734 | | 124,212 | |
| +147,646 | | +162,753 | | -104,501 | | -56,422 | | -154,738 | | -17,486 | |
| 72.7% | 27.3% | 69.6% | 30.4% | 34.9% | 65.1% | 46.3% | 53.7% | 40.6% | 59.4% | 43.0% | 57.0% |

2020 -- won by 20,539

| College | | Metro | | Suburbs | | Large Mfg | | Small Mfg | | Rural | |
|----------------|--------|----------------|---------|----------------|---------|----------------|---------|----------------|---------|----------------|--------|
| Biden | Trump | Biden | Trump | Biden | Trump | Biden | Trump | Biden | Trump | Biden | Trump |
| 280,549 | 98,093 | 317,527 | 134,482 | 157,073 | 253,798 | 416,969 | 470,075 | 395,685 | 571,204 | 63,063 | 82,532 |
| 378,642 | | 452,009 | | 410,871 | | 887,044 | | 966,889 | | 145,595 | |
| +182,456 | | +183,045 | | -96,725 | | -53,106 | | -175,519 | | -19,469 | |
| 74.1% | 25.9% | 70.2% | 29.8% | 38.2% | 61.8% | 47.0% | 53.0% | 40.9% | 59.1% | 43.3% | 56.7% |

| Ohio Scoresheet | Obama 2012 Raw Vote Margin vs. Romney | Clinton 2016 Raw Vote Margin vs. Trump | 2016 Comments | Biden 2020 Raw Vote Margin vs. Trump | 2020 Comments |
|--------------------------------|---------------------------------------|--|--|--------------------------------------|---|
| Large Metro Counties | +480,266 | +443,116 | Dem margin declined 37,150 compared to 2012. Turnout was down in Cleveland | +513,412 | Dem margin improved 70,296 compared to 2016. Strong turnout in Columbus. |
| College Counties | +9,764 | +5,016 | Dem margin declined 4,748 in Athens county, home to Ohio University in an otherwise rural county. | +3,910 | Dem margin declined 1,106 vs 2016, as rural voters continued to gain ground on the college vote. |
| Suburban Counties | (-)51,609 | (-)55,726 | Dem margin declined by 4,117 compared to 2012 | (-)45,468 | Dem margin improved 10,258 compared to 2016, similar to suburban vote trends in other Upper Midwest states. |
| Midsize Manufacturing Counties | +33,341 | (-)197,886 | This had been a moderate net positive for Obama, but saw huge vote loss in 2016. Dem margin declined 231,227 in counties for Warren, Canton, Akron, Elyria, Mentor, Lorain, Youngstown, Findlay | (-)215,980 | Dem margin declined 18,094 . Obama had won 50.9% of this segment; HRC won 44%, and Biden won 44.2% |
| Small Manufacturing Counties | (-)249,091 | (-)507,367 | Dem margin declined 258,276 . Obama had won 40.6% of this vote; HRC won 30.4% | (-)582,142 | Dem margin declined 74,775 . Biden's raw vote was 49,361 better than HRC's in this segment, but Trump swamped him with by turning out 124,136 more voters here compared to 2016. |
| Rural Counties | (-)56,401 | (-)133,994 | Dem margin declined 77,593 . Obama had won 41.1% of this vote; HRC won 28.5% | (-)149,401 | Dem margin declined 15,407 . Biden won 28.5% of this segment. |
| | Won by 166,270 | Lost by 446,841 | | Lost by 475,669 | |

Ohio Raw Vote

2012 -- won by 166,270

| College | | Metro | | Suburbs | | Midsize Mfg | | Small Mfg | | Rural | |
|---------------|--------|------------------|---------|----------------|---------|------------------|---------|------------------|---------|----------------|---------|
| Obama | Romney | Obama | Romney | Obama | Romney | Obama | Romney | Obama | Romney | Obama | Romney |
| 18,307 | 8,543 | 1,150,189 | 669,923 | 99,438 | 151,047 | 889,827 | 856,486 | 540,585 | 789,676 | 129,363 | 185,764 |
| 26,850 | | 1,820,112 | | 250,485 | | 1,746,313 | | 1,330,261 | | 315,127 | |
| +9,764 | | +480,266 | | -51,609 | | +33,341 | | -249,091 | | -56,401 | |
| 68.2% | 31.8% | 63.2% | 36.8% | 39.7% | 60.3% | 50.9% | 49.1% | 40.6% | 59.4% | 41.1% | 58.9% |

2016 -- lost by 446,841

| College | | Metro | | Suburbs | | Midsize Mfg | | Small Mfg | | Rural | |
|---------------|--------|------------------|---------|----------------|---------|------------------|---------|------------------|---------|-----------------|---------|
| Clinton | Trump | Clinton | Trump | Clinton | Trump | Clinton | Trump | Clinton | Trump | Clinton | Trump |
| 16,320 | 11,354 | 1,076,021 | 632,905 | 94,696 | 150,422 | 726,603 | 924,489 | 392,407 | 899,774 | 88,067 | 222,061 |
| 27,724 | | 1,708,926 | | 245,118 | | 1,651,092 | | 1,292,181 | | 310,668 | |
| +5,016 | | +443,116 | | -55,726 | | -197,886 | | -507,367 | | -133,994 | |
| 59.0% | 41.0% | 63.0% | 37.0% | 38.6% | 61.4% | 44.0% | 56.0% | 30.4% | 69.6% | 28.5% | 71.5% |

2020 -- lost by 475,669

| College | | Metro | | Suburbs | | Midsize Mfg | | Small Mfg | | Rural | |
|---------------|--------|------------------|---------|----------------|---------|------------------|-----------|------------------|-----------|-----------------|---------|
| Biden | Trump | Biden | Trump | Biden | Trump | Biden | Trump | Biden | Trump | Biden | Trump |
| 14,772 | 10,862 | 1,186,997 | 673,585 | 123,757 | 169,225 | 814,336 | 1,030,316 | 441,768 | 1,023,910 | 97,535 | 246,936 |
| 25,634 | | 1,860,582 | | 292,982 | | 1,844,652 | | 1,465,678 | | 344,471 | |
| +3,910 | | +513,412 | | -45,468 | | -215,980 | | -582,142 | | -149,401 | |
| 57.6% | 42.4% | 63.8% | 36.2% | 42.3% | 57.7% | 44.2% | 55.8% | 30.2% | 69.8% | 28.3% | 71.7% |

| Iowa Scoresheet | Obama 2012 Raw Vote Margin vs. Romney | Clinton 2016 Raw Vote Margin vs. Trump | 2016 Comments | Biden 2020 Raw Vote Margin vs. Trump | 2020 Comments |
|---------------------------------|---------------------------------------|--|---|--------------------------------------|--|
| Large Metro Counties | +32,369 | +26,312 | Dem margin declined 6,057 compared to 2012 | +39,450 | Dem margin improved ~13,100 compared to 2016 |
| College Counties | +33,492 | +35,407 | Dem margin improved 1,915 compared to 2012 | +45,087 | Dem margin improved ~9,700 compared to 2016 |
| Suburban Counties | (-),4,913 | (-),8,041 | Dem margin declined by 3,128 compared to 2012 | (-),6,316 | Dem margin improved ~1,700 compared to 2016 |
| Mid-Size Manufacturing Counties | +52,679 | (-),1,626 | This segment provided Obama his largest electoral cushion in 2012, but became net negative for HRC. Dem margin declined 54,305 in counties for Cedar Rapids, Dubuque, Sioux City, Council Bluffs, Davenport, Waterloo. | +10,499 | Dem margin improved ~12,100 compared to 2016 |
| Small Manufacturing Counties | (-),10,904 | (-),164,133 | Dem margin declined 153,229 in Mason City, Clinton, Marshalltown, Burlington, Fort Dodge, Ottumwa, Muscatine. Obama won 29 of 71 Small Mfg counties and 49.1% of vote; Hillary won no counties and 36.1% of vote | (-),188,400 | Dem margin declined 24,267. Biden's raw vote was ~18,700 better than Hillary's, but Trump found another 43,000 voters in the small mfg counties. |
| Rural Counties | (-),10,796 | (-),35,233 | Dem margin declined 24,437. Obama had 44.9% of rural Iowa vote; Hillary had 32.6% | (-),38,931 | Dem margin declined ~3,700. Biden did not win any rural counties, and had 32.8% of rural vote |
| | Won by 91,927 | Lost by 147,314 | | Lost by 138,611 | |

Iowa Raw Vote

2012 -- won by 91,927

| College | | Metro | | Suburbs | | Midsize Mfg | | Small Mfg | | Rural | |
|----------------|--------|----------------|--------|---------------|--------|----------------|---------|----------------|---------|----------------|--------|
| Obama | Romney | Obama | Romney | Obama | Romney | Obama | Romney | Obama | Romney | Obama | Romney |
| 76,858 | 43,366 | 128,465 | 96,096 | 29,127 | 34,040 | 229,768 | 177,089 | 310,460 | 321,364 | 47,866 | 58,662 |
| 120,224 | | 224,561 | | 63,167 | | 406,857 | | 631,824 | | 106,528 | |
| +33,492 | | +32,369 | | -4,913 | | +52,679 | | -10,904 | | -10,796 | |
| 63.9% | 36.1% | 57.2% | 42.8% | 46.1% | 53.9% | 56.5% | 43.5% | 49.1% | 50.9% | 44.9% | 55.1% |

2016 -- lost by 147,314

| College | | Metro | | Suburbs | | Midsize Mfg | | Small Mfg | | Rural | |
|----------------|--------|----------------|--------|---------------|--------|----------------|---------|-----------------|---------|----------------|--------|
| Clinton | Trump | Clinton | Trump | Clinton | Trump | Clinton | Trump | Clinton | Trump | Clinton | Trump |
| 75,909 | 40,502 | 119,804 | 93,492 | 26,112 | 34,153 | 186,023 | 187,649 | 212,833 | 376,966 | 32,988 | 68,221 |
| 116,411 | | 213,296 | | 60,265 | | 373,672 | | 589,799 | | 101,209 | |
| +35,407 | | +26,312 | | -8,041 | | -1,626 | | -164,133 | | -35,233 | |
| 65.2% | 34.8% | 56.2% | 43.8% | 43.3% | 56.7% | 49.8% | 50.2% | 36.1% | 63.9% | 32.6% | 67.4% |

2020 -- lost by 138,611

| College | | Metro | | Suburbs | | Midsize Mfg | | Small Mfg | | Rural | |
|----------------|--------|----------------|---------|---------------|--------|----------------|---------|-----------------|---------|----------------|--------|
| Biden | Trump | Biden | Trump | Biden | Trump | Biden | Trump | Biden | Trump | Biden | Trump |
| 88,352 | 43,265 | 146,250 | 106,800 | 39,453 | 45,769 | 216,383 | 205,884 | 231,610 | 420,010 | 37,013 | 75,944 |
| 131,617 | | 253,050 | | 85,222 | | 422,267 | | 651,620 | | 112,957 | |
| +45,087 | | +39,450 | | -6,316 | | +10,499 | | -188,400 | | -38,931 | |
| 67.1% | 32.9% | 57.8% | 42.2% | 46.3% | 53.7% | 51.2% | 48.8% | 35.6% | 64.4% | 32.8% | 67.2% |

ABOUT THE AUTHOR: Richard John Martin

Richard Martin lives in Des Moines, Iowa, where he owns a market research firm – Martin Technical Research – which specializes in business-to-business scientific, industrial and technical markets. He started the company in Seattle in 1991 and continued upon relocation to Des Moines in 1996.

In 2008, he joined a private biotech company based in Iowa State University's research park, Advanced Analytical Technologies (AATI). The company developed an award-winning instrument for analyzing DNA and RNA with capillary electrophoresis, The Fragment Analyzer. Revenues for this product line grew from \$200,000 in 2008 to \$35 million by 2018, at which point the company was sold to a major competitor, Agilent Technologies, for \$250 million. Richard has since returned to his market research consulting business.

Richard worked on his first political campaign in 1970, at the age of 8, dropping campaign literature for his uncle's successful city council campaign in Taunton, Massachusetts. After serving as a newspaper reporter, Richard joined Joe Biden's first presidential campaign in Iowa as deputy press secretary in 1987 where he met his future wife, Teresa.

He is an honors graduate of the University of Massachusetts-Amherst, with a bachelor's degree in Journalism and Politics. He has three adult children: John, 31, a rockabilly musician in Austin, Texas; Amelia, 28, a civil engineer in Washington, D.C.; and Paul, 25, a professional ballet dancer in Austin, Texas.