

Are They Better Off?

Municipal Annexation and the Socioeconomic Well-Being of a City's Lowest-Income Residents

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Research Objectives

1. Examine and test the the impact of municipal annexation or consolidation on socio-economic outcomes for residents of neighborhoods inside the original city limits.
2. Develop a GIS method for making temporal comparisons that use present-day and historical boundaries as a weak form of natural experiment



Genesis of the Research

- Our research regarding legacy cities highlighted differences between “landlocked” central cities and central cities with the option to annex or consolidate surrounding land.*
- This observation reinforced our decision to re-conceptualize legacy cities as legacy *regions*.
- St. Louis “Better Together” 2019
- We used the example of Cleveland and Columbus in a working paper but realized that the phenomena deserves a closer look.
- We are testing the observations & assertions made by David Rusk among others: *Cities without Suburbs* (1993) and the update (Johns Hopkins 2013)

* https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3672696



Initial observation

- We carried out a simple comparison of two cities—Cleveland and Columbus—across two time periods—1950 and 2000.
- Cleveland is a “landlocked” city, bordered on all sides by other jurisdictions (or a lake).
- Columbus was *not* densely surrounded by incorporated municipalities in 1950. Mayor Sensenbrenner began to use the water and sewer as an incentive to annex in 1954.
- Advantage of comparing Cleveland and Columbus is that state-wide heterogeneity is controlled for

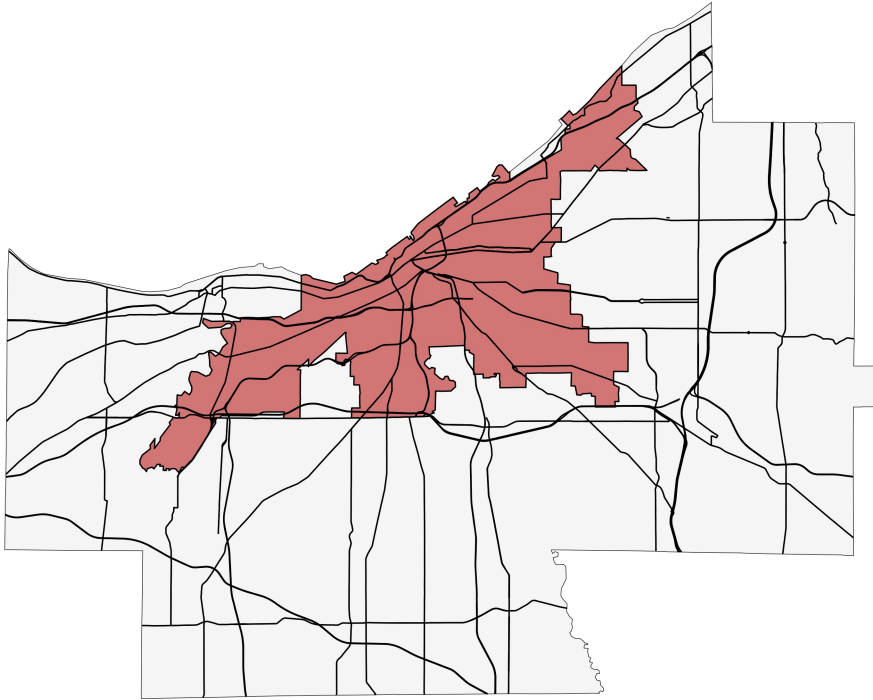


Method

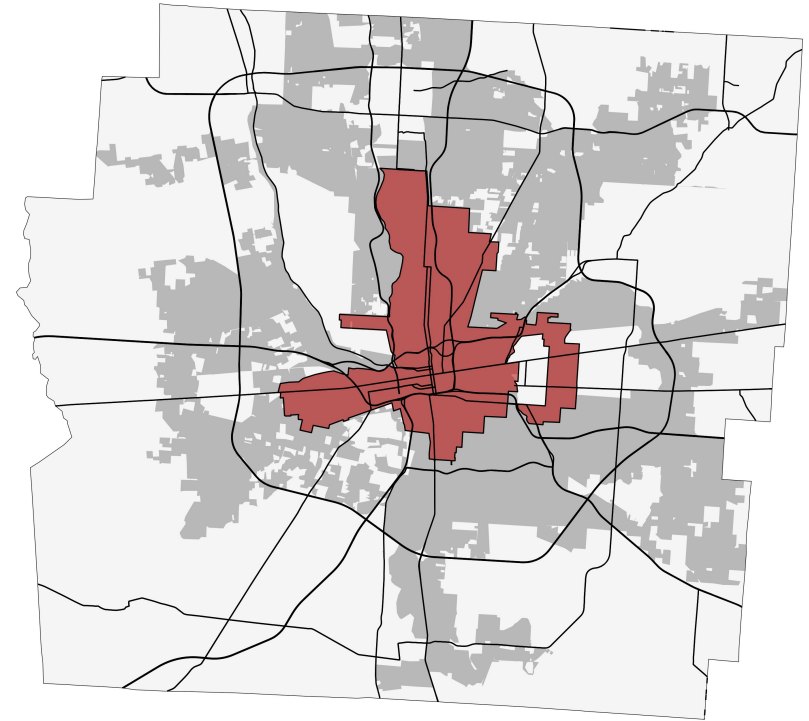
- We calculated the population for Columbus in 2010 as if it had not annexed new land since 1950.
 1. Import USGS historical survey maps into Google earth and manually trace the polygon of historic boundary
 2. Perform GIS intersection between traced “historic boundary” file and smaller present-day administrative geographies (e.g., blocks or block groups)
 3. Aggregated the present-day population counts (or other additional variable) of census blocks within historic boundary
- We also calculated the population for Columbus in 1950 as if its present-day boundaries had *a/ways* been in place.
 1. Start with 1950 population for Franklin County
 2. Subtract population totals pertaining to all townships/cities that were not annexed (an imprecise measure, but roughly captures the desired value)



Then and Now: Cleveland and Columbus



Cleveland



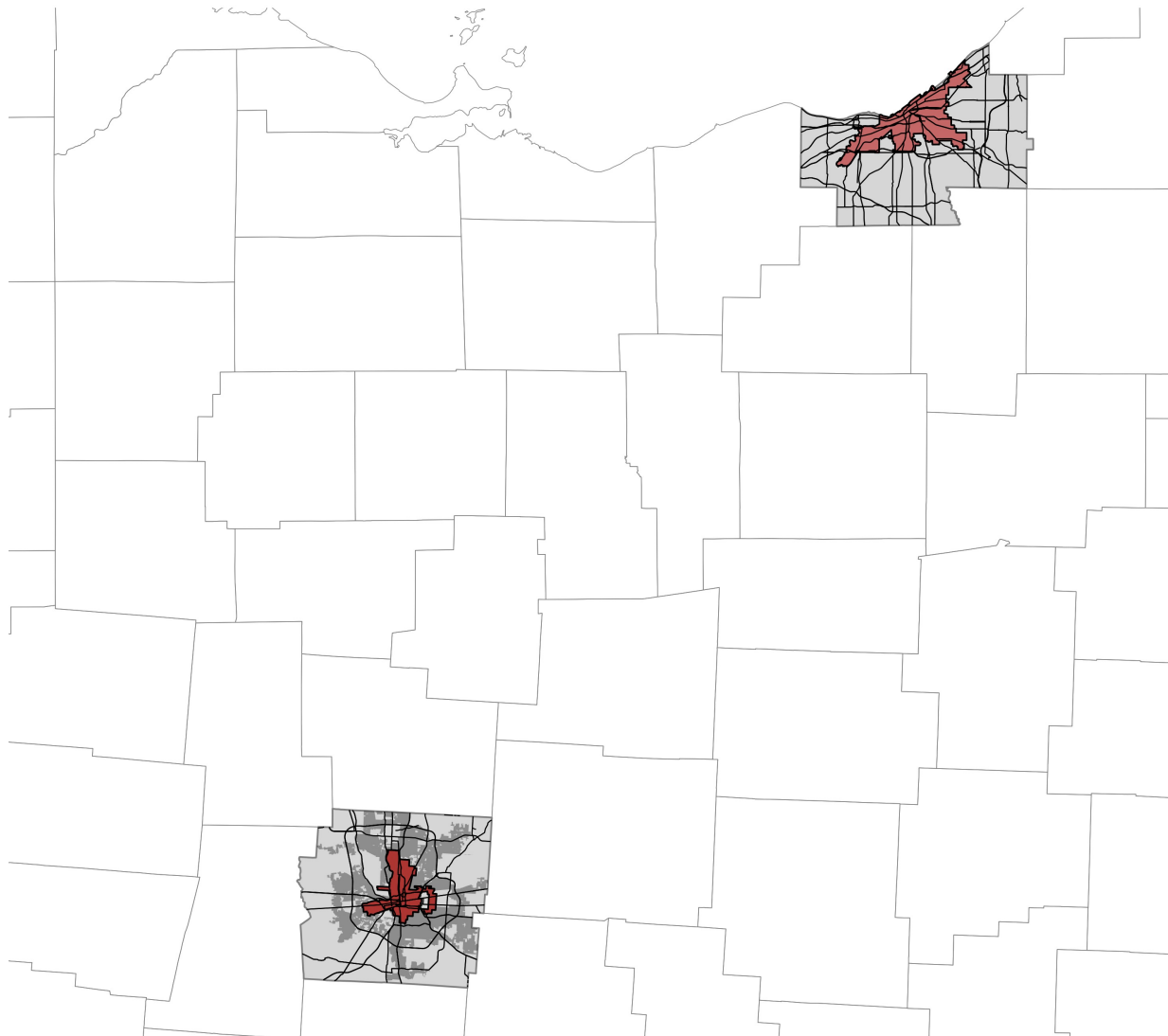
Columbus

- 1950 Municipal Boundary
- Annexed Land Since 1950
- County Boundary



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Then and Now: Cleveland and Columbus



- 1950 Municipal Boundary
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Then and Now: Cleveland and Columbus

Cleveland

1950

82 square miles and & water

Population: 915,000

School Districts: 2

2010 82 square miles

2017 Population: 385,000

School Districts: 2

Columbus

1950

40 square miles

Population: 376,000

School Districts: 1

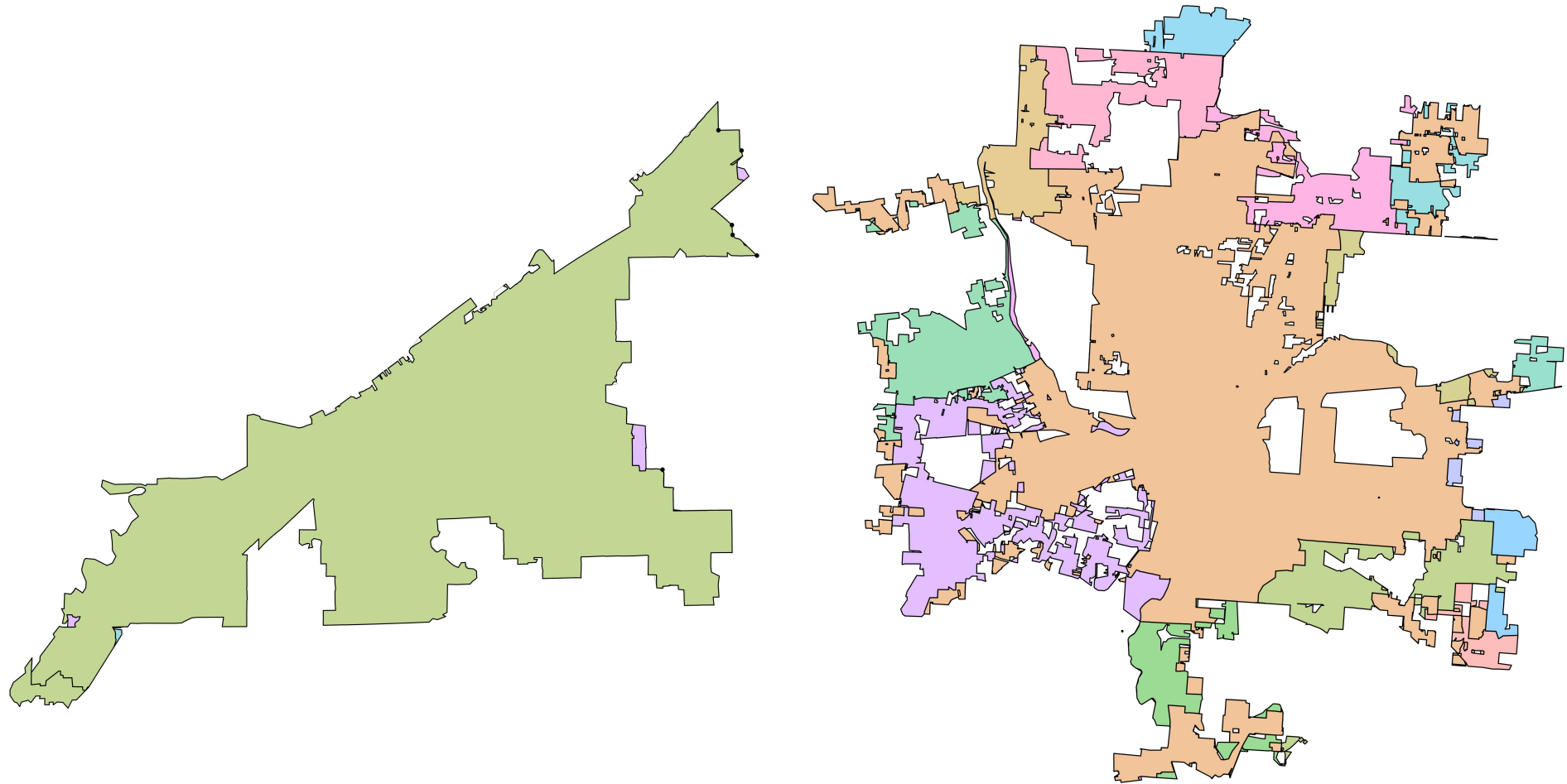
2010 233 square miles

2017 Population 880,000

School Districts: 10



School Districts Comparison



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The Comparison

| Municipality | 1950 Population | 2000 Population | 2010 Population | 1950 - 2000 % Change |
|------------------------------------|--------------------|--------------------|--------------------|-------------------------|
| Cleveland | 914,808 | 478,403 | 396,815 | -47.7% |
| Columbus (1950 Boundary) | 375,901 | 263,210* | 297,131* | -30%* |
| Columbus (Present-Day Boundary) | 456,884* | 711,033 | 787,033 | 55.6% |

* Indicates a value estimated in the analysis



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Data Sources

- U.S. Decennial Census (population)
- TIGER/Line Shapefiles (current municipal boundaries)
- U.S. Geological Survey (historic municipal boundaries)



Impact on residents and the municipal corporation

People

- Poverty
- Income growth
- Integration
- Health outcomes

David Rusk's fiscal variables

- Bond rating
- Tax rateables



Going forward, we are asking for your thoughts & observations

Do we need matched pairs?

Comparable cities? Suggestions please

Indianapolis

Louisville (match with Cincinnati?)

Nashville

Jacksonville

Is this a valid method of comparing the impact of annexation on the quality of life of residents of neighborhoods inner-city neighborhoods ?



Ohio 1950 Census

35-16

OHIO

Table 6.—POPULATION OF COUNTIES BY MINOR CIVIL DIVISIONS: 1930 TO 1950—Con.

| County and minor civil division | 1950 | 1940 | 1930 | County and minor civil division | 1950 | 1940 | 1930 | County and minor civil division | 1950 | 1940 | 1930 |
|---|----------------|----------------|----------------|-------------------------------------|---------------|---------------|---------------|--|----------------|----------------|----------------|
| Franklin County | 503,410 | 388,712 | 361,055 | Gallia County—Con. | | | | Guernsey County—Con. | | | |
| Berley township..... | 12,378 | 8,705 | ..... | Gallipolis township..... | 8,805 | 8,595 | 7,809 | Millwood township..... | 1,400 | 1,400 | 1,472 |
| Bezeley city..... | 12,378 | 8,705 | 7,596 | Gallipolis city..... | 7,871 | 7,832 | 7,106 | Quaker City village..... | 655 | 634 | 613 |
| Blendon township ²¹ | 7,173 | 5,010 | 4,309 | Green township..... | 1,346 | 1,070 | 1,109 | Salesville village..... | 187 | 213 | 193 |
| Minerva Park village ²¹ | 238 | ..... | ..... | Greenfield township..... | 805 | 767 | 603 | Monroe township..... | 457 | 393 | 500 |
| Westerville village..... | 4,112 | 3,148 | 2,879 | Guyan township..... | 1,313 | 1,500 | 1,276 | Oxford township..... | 764 | 913 | 966 |
| Brown township..... | 617 | 600 | 651 | Crown City village..... | 301 | 364 | 222 | Fairview village (part)..... | 182 | 201 | 210 |
| Clinton township ²¹ | 9,471 | 4,599 | 2,786 | Harrison township..... | 772 | 880 | 857 | Richland township..... | 1,248 | 1,758 | 2,056 |
| Franklin township ²¹ | 10,127 | 13,808 | 11,770 | Huntington township..... | 1,331 | 1,327 | 1,286 | Lore City village (part)..... | 140 | 187 | 172 |
| Marble Cliff village..... | 437 | 331 | 318 | Vinton village..... | 378 | 387 | 344 | Senecaville village..... | 686 | 802 | 993 |
| Valley View village ²¹ | 611 | ..... | ..... | Morgan township..... | 912 | 899 | 791 | | | | |
| | | | | Ohio township..... | 877 | 1,207 | 1,153 | Spencer township..... | 980 | 1,091 | 1,059 |
| | | | | Perry township..... | 881 | 807 | 815 | Cumberland village..... | 637 | 631 | 658 |
| Grandview Heights township ²¹ | 7,559 | ..... | ..... |  |  |  |  | Valley township..... | 2,381 | 3,084 | 3,402 |
| Grandview Heights city ²¹ | 7,559 | 6,960 | 6,353 | Raccoon township..... | 1,299 | 1,045 | 1,042 | Pleasant City village..... | 511 | 663 | 687 |
| Hamilton township..... | 4,556 | 3,123 | 2,898 | Centerville village..... | 142 | 119 | 127 | Washington township..... | 291 | 300 | 336 |
| Lockbourne village..... | 376 | 372 | 299 | Rio Grande village..... | 388 | 204 | ..... | Westland township..... | 613 | 647 | 680 |
| Obetz village..... | 1,049 | 771 | ..... | Springfield township..... | 1,551 | 1,637 | 1,429 | Wheeling township..... | 493 | 500 | 625 |
| Jackson township..... | 6,023 | 4,424 | 3,663 | Walnut township..... | 1,030 | 1,105 | 983 | Wills township..... | 1,145 | 1,222 | 1,152 |
| Grove City village..... | 2,539 | 1,737 | 1,646 | | | | | Lore City village (part)..... | 219 | 262 | 266 |
| Urbancrest village ²¹ | 223 | ..... | ..... | Geauga County | 26,646 | 19,430 | 15,414 | Washington village..... | 322 | 297 | 336 |
| Jefferson township..... | 2,273 | 1,635 | 1,481 | Auburn township..... | 1,075 | 833 | 608 | | | | |
| Madison township ²¹ | 5,331 | 4,400 | 4,152 | Bainbridge township..... | 2,926 | 1,593 | 920 | Hamilton County | 723,952 | 621,987 | 589,356 |
| Canal Winchester village (part) ²¹ | 1,187 | 1,046 | 906 | Burton township..... | 1,880 | 1,543 | 1,253 | Anderson township ²¹ | 10,330 | 6,602 | 4,834 |
| Groveport village..... | 1,165 | 1,052 | 946 | Burton village..... | 832 | 761 | 597 | Newtown village..... | 1,462 | 1,146 | 639 |
| | | | | Chardon township..... | 3,374 | 2,682 | 2,456 | Cincinnati city ²¹ | 503,908 | 455,610 | 451,160 |
| Marion township ²¹ | 9,933 | 5,791 | 12,406 | Chardon village..... | 2,478 | 2,001 | 1,813 | Colerain township..... | 7,473 | 4,627 | 3,664 |
| Hanford village..... | 223 | 223 | 220 | Chester township..... | 2,097 | 1,351 | 890 | Columbia township ²¹ | 23,545 | 14,825 | 36,338 |
| Mifflin township ²¹ | 8,251 | 4,926 | 6,013 | Claridon township..... | 1,508 | 1,089 | 761 | Amberley village (part) ²¹ | 231 | ..... | ..... |
| Gahanna village..... | 596 | 425 | 417 | Aquilla village ²¹ | 386 | ..... | ..... | Golf Manor village ²¹ | 3,603 | ..... | ..... |
| Montgomery township ²¹ | 375,901 | 306,087 | 290,564 | Hamden township..... | 980 | 726 | 604 | Indian Hill village (part) ²¹ | 1,685 | ..... | ..... |
| Columbus city ²¹ | 375,901 | 306,087 | 290,564 | Hunting Valley village (part)..... | 47 | 38 | ..... | Madeira village (part)..... | 1,635 | 1,143 | 856 |
| Norwich township..... | 2,561 | 2,002 | 1,746 | | | | | Mariemont village ²¹ | 5,614 | ..... | ..... |
| Hilliard village..... | 610 | 583 | 486 | Huntsburg township..... | 1,137 | 920 | 885 | Milford village (part)..... | 60 | 60 | 66 |
| | | | | Middlefield township..... | 2,508 | 2,081 | 1,690 | Silverton village (part)..... | 2,891 | 1,791 | 1,191 |
| Perry township ²¹ | 3,425 | 8,023 | 5,255 | Middlefield village..... | 1,141 | 932 | 726 | Terrace Park village..... | 1,866 | 863 | 719 |
| Plain township..... | 1,615 | 1,277 | 1,148 | Montville township..... | 862 | 734 | 634 | | | | |
| New Albany village..... | 263 | 221 | 216 | Munson township..... | 1,221 | 864 | 691 | Crosby township..... | 1,021 | 942 | 543 |
| Pleasant township..... | 2,627 | 1,826 | 1,641 | Newbury township..... | 1,941 | 1,071 | 679 | Delhi township ²¹ | 6,347 | 4,175 | 2,821 |
| Harrisburg village (part)..... | 528 | 288 | 276 | Parkman township..... | 1,310 | 1,055 | 857 | Elmwood Place township ²¹ | 4,113 | ..... | ..... |
| Prairie township..... | 4,047 | 2,492 | 2,178 | Russell township..... | 1,595 | 1,029 | 763 | Elmwood Place village ²¹ | 4,113 | 4,248 | 4,652 |
| New Rome village ²¹ | 76 | ..... | ..... | South Russell village..... | 349 | 251 | 141 | Green township ²¹ | 27,106 | 18,463 | 13,172 |
| Sharon township ²¹ | 10,704 | 4,068 | 3,459 | Thompson township..... | 1,060 | 920 | 869 | Cheviot city..... | 9,844 | 9,043 | 8,046 |
| Riverlea village..... | 524 | 62 | ..... | Troy township..... | 1,119 | 931 | 818 | Harrison township..... | 2,623 | 2,435 | 1,930 |
| Worthington village ²¹ | 2,141 | 1,569 | 1,239 | | | | | Harrison village ²¹ | 1,945 | 1,666 | 1,449 |
| | | | | Greene County | 58,892 | 35,863 | 33,259 | Lockland township..... | 6,736 | 5,601 | ..... |
| Truro township ²¹ | 8,556 | 4,710 | 3,718 | Bath township..... | 20,039 | 5,987 | 4,101 | Lockland city..... | 6,736 | 6,601 | 6,703 |
| Reynoldsburg village ²¹ | 724 | 652 | 592 | Fairborn city ²¹ | 7,847 | ..... | ..... |  |  |  |  |
| Whitehall village ²¹ | 4,877 | ..... | ..... | Beaver Creek township..... | 5,327 | 3,014 | 2,657 | Miami township..... | 6,070 | 5,787 | 5,294 |
| Upper Arlington township ²¹ | 9,624 | ..... | ..... | Caesar Creek township..... | 914 | 850 | 838 | Addyston village..... | 1,661 | 1,610 | 1,768 |
| Upper Arlington city ²¹ | 9,624 | 5,870 | 3,069 | Cedarville township..... | 2,323 | 2,223 | 2,161 | Cleves village..... | 1,981 | 1,871 | 1,711 |
| Washington township..... | 1,268 | 1,128 | 1,107 | Cedarville village..... | 1,292 | 1,034 | 840 | North Bend village..... | 711 | 679 | 697 |
| Dublin village (part) ²¹ | 289 | 337 | 224 | Jefferson township..... | 1,153 | 1,068 | 1,062 | Norwood township..... | 35,001 | 34,010 | |



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