



Gang of
00100

Mapping Democracy

The Intersection of District Votes and Electoral College
Allocations for the Presidential Elections

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Concept & Key Question to Answer

Election results are driven by the electoral college every four years, but what if they weren't?

What if they were driven by a national popular vote, or district level votes?

What if election results were driven by district votes instead of the Electoral College?

We aimed to visualize how the outcomes of our elections may have changed, should winning candidates be determined on the district vote instead of the electoral college.



Inspiration

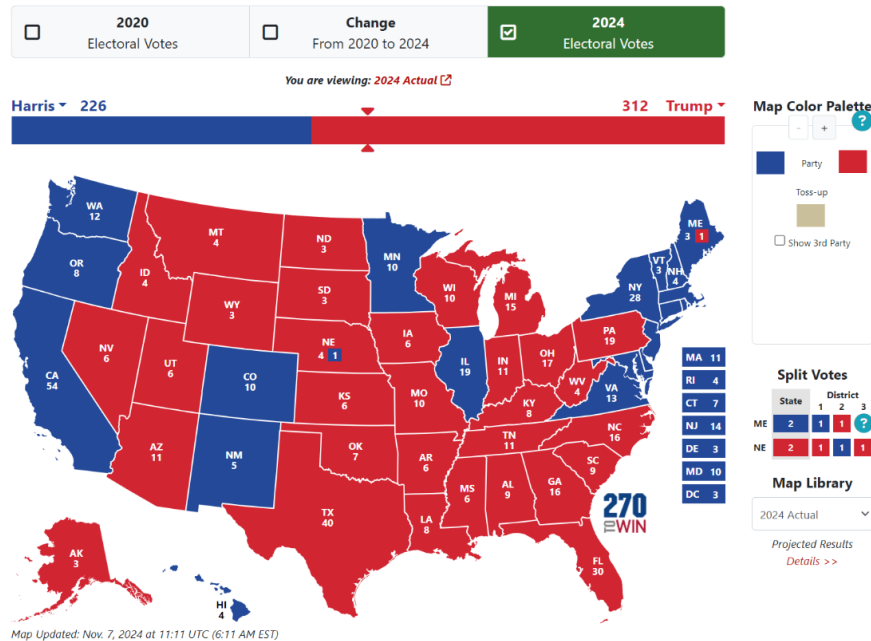
270 To Win

2024 Presidential Election Interactive Map

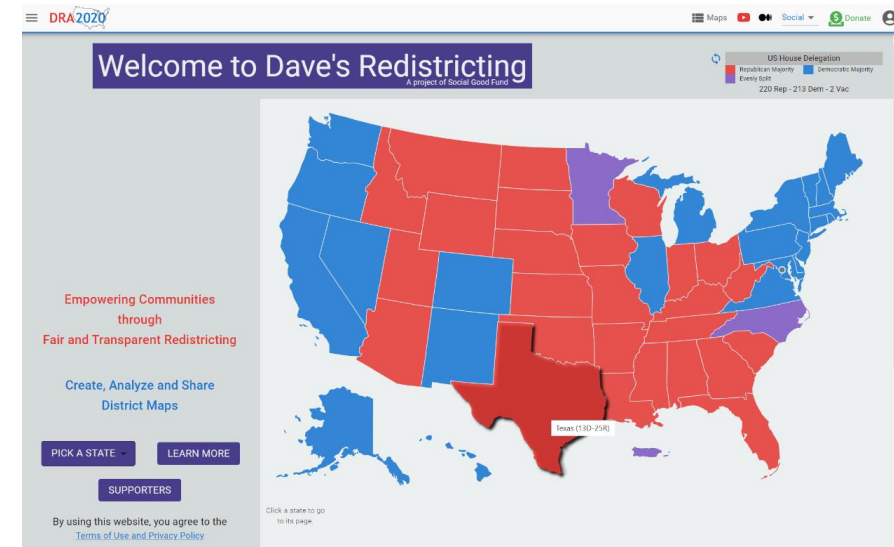
This isn't a popularity contest™



It will take 270 electoral votes to win the 2024 presidential election. Click states on this interactive map to create your own 2024 election forecast. **Create a specific match-up** by clicking the party and/or names near the electoral vote counter. Use the buttons below the map to share your forecast or embed it into a web page.



DRA 2020



Scope

Presidential Elections 2016 and 2020

DATABASE

Mongo DB

LIBRARIES

- **'us'** library let us pull info about US states
- **'geopandas'** allowed us to convert from .shp to GeoJSON files
- **'rdata', 'pyreadr'** enabled us to convert R files to python
- **'geojson'** was used to edit geojson

DATA

- Harvard Dataverse
- Census (Data & TIGER Shapefiles)

VIEWS & INTERACTIONS

3 Views,

4 User Interactions:

- Year Drop Down
- Clickable Map
- Data Pop Ups
- Search for Historical View

ETHICS

Considerations

Conversations

Decisions

Views

1

Election results from 1856

2

Total Election Result view

3

District View

Historical Presidential Results

This chart displays the Presidential outcomes for each party during an election year, inclusive of the year 1860 to present day.
Use the filter to election year, state, nominee, and final vote for each instance of the empty field.
The intent of this data is to show county votes each election year, but to also provide the ability to compare those results to the national electoral college totals to understand if county totals would ever swing an election in any nation's history.

| Year | FIPS | County | State | Dem Votes | Dem Nominee | Rep Votes | Rep Nominee |
|------|------|----------|-------|-----------|---------------------------|-----------|----------------------|
| 1860 | 1001 | AUTAUGA | AL | 851 | Horatio Seymour | 1505 | Ulysses S. Grant |
| 1872 | 1001 | AUTAUGA | AL | 669 | Horace Greeley | 1593 | Ulysses S. Grant |
| 1876 | 1001 | AUTAUGA | AL | 804 | Samuel J. Tilden | 1576 | Rutherford B. Hayes |
| 1880 | 1001 | AUTAUGA | AL | 878 | Winfield Scott Hancock | 1574 | James A. Garfield |
| 1884 | 1001 | AUTAUGA | AL | 911 | Grover Cleveland | 877 | James G. Blaine |
| 1888 | 1001 | AUTAUGA | AL | 893 | Grover Cleveland | 819 | Benjamin Harrison |
| 1892 | 1001 | AUTAUGA | AL | 926 | Grover Cleveland | 81 | Benjamin Harrison |
| 1896 | 1001 | AUTAUGA | AL | 1232 | William Jennings Bryan | 259 | William McKinley |
| 1900 | 1001 | AUTAUGA | AL | 980 | William Jennings Bryan | 537 | William McKinley |
| 1904 | 1001 | AUTAUGA | AL | 753 | Alton S. Parker | 73 | Theodore Roosevelt |
| 1908 | 1001 | AUTAUGA | AL | 655 | William Jennings Bryan | 97 | William Howard Taft |
| 1912 | 1001 | AUTAUGA | AL | 622 | Woodrow Wilson | 42 | William Howard Taft |
| 1916 | 1001 | AUTAUGA | AL | 773 | Woodrow Wilson | 99 | Charles E. Hughes |
| 1920 | 1001 | AUTAUGA | AL | 918 | James M. Cox | 210 | Warren G. Harding |
| 1924 | 1001 | AUTAUGA | AL | 781 | John W. Davis | 146 | Calvin Coolidge |
| 1928 | 1001 | AUTAUGA | AL | 883 | Al Smith | 683 | Herbert Hoover |
| 1932 | 1001 | AUTAUGA | AL | 1322 | Franklin Delano Roosevelt | 138 | Herbert Hoover |
| 1936 | 1001 | AUTAUGA | AL | 1525 | Franklin Delano Roosevelt | 84 | Al Landon |
| 1940 | 1001 | AUTAUGA | AL | 1631 | Franklin Delano Roosevelt | 99 | Wendell Willkie |
| 1944 | 1001 | AUTAUGA | AL | 1242 | Franklin Delano Roosevelt | 117 | Thomas E. Dewey |
| 1948 | 1001 | AUTAUGA | AL | 1160 | Harry S. Truman | 110 | Thomas E. Dewey |
| 1952 | 1001 | AUTAUGA | AL | 1505 | Adlai Stevenson II | 787 | Dwight D. Eisenhower |
| 1956 | 1001 | AUTAUGA | AL | 1115 | Adlai Stevenson II | 827 | Dwight D. Eisenhower |
| 1960 | 1001 | AUTAUGA | AL | 1324 | John F. Kennedy | 1153 | Richard M. Nixon |
| 1964 | 1001 | AUTAUGA | AL | 491 | Lyndon B. Johnson | 2969 | Barry Goldwater |
| 1968 | 1001 | AUTAUGA | AL | 5491 | Herbert H. Humphrey | 597 | Richard M. Nixon |
| 1972 | 1001 | AUTAUGA | AL | 1593 | George S. McGovern | 5387 | Richard M. Nixon |
| 1976 | 1001 | AUTAUGA | AL | 4640 | Jimmy Carter | 4512 | Gerald Ford |
| 1980 | 1001 | AUTAUGA | AL | 4295 | Jimmy Carter | 6292 | Ronald Reagan |
| 1984 | 1001 | AUTAUGA | AL | 3366 | Walter Mondale | 8350 | Ronald Reagan |
| 1988 | 1001 | AUTAUGA | AL | 3967 | Mikhail Gorbachev | 7528 | George H. W. Bush |
| 1992 | 1001 | AUTAUGA | AL | 4819 | Bill Clinton | 8715 | George H. W. Bush |
| 1996 | 1001 | AUTAUGA | AL | 5015 | Bill Clinton | 9509 | Bob Dole |
| 2000 | 1001 | AUTAUGA | AL | 4942 | Al Gore | 11993 | George W. Bush |
| 2004 | 1001 | AUTAUGA | AL | 4758 | John F. Kerry | 15198 | George W. Bush |
| 2008 | 1001 | AUTAUGA | AL | 6020 | Barack H. Obama | 17420 | John McCain |
| 2012 | 1001 | AUTAUGA | AL | 6363 | Barack H. Obama | 17379 | Mitt Romney |
| 2016 | 1001 | AUTAUGA | AL | 5558 | Hillary Rodham Clinton | 18172 | Donald Trump |
| 2020 | 1001 | AUTAUGA | AL | 7503 | Joe Biden | 19838 | Donald Trump |
| 1860 | 1003 | BALDWIN | AL | 673 | Horatio Seymour | 506 | Ulysses S. Grant |
| 1872 | 1003 | BALDWIN | AL | 549 | Horace Greeley | 707 | Ulysses S. Grant |
| 1876 | 1003 | BALDWIN | AL | 789 | Samuel J. Tilden | 662 | Rutherford B. Hayes |
| 1880 | 1003 | RAU FWIN | AL | 767 | Winfield Scott Hancock | 601 | James A. Garfield |

Data Analysis

Findings Impacting Scope

- Narrowed scope to elections post 1952 due to the *quality and limitation of data*
- Census county boundaries were publicly provided from 2007-2023. To coincide with elections, we focused on the 2008, 2012, 2016 and 2020 data.
- Our scope of data was reduced after realizing the most complete data across Harvard and Census data would be for the years 2012, 2016, and 2020.
- Our scope of data was narrowed a 4th time, to focus only on the years 2016 and 2020, after Census county/district data for 2012 was missing:

Select Table Vintages to Download

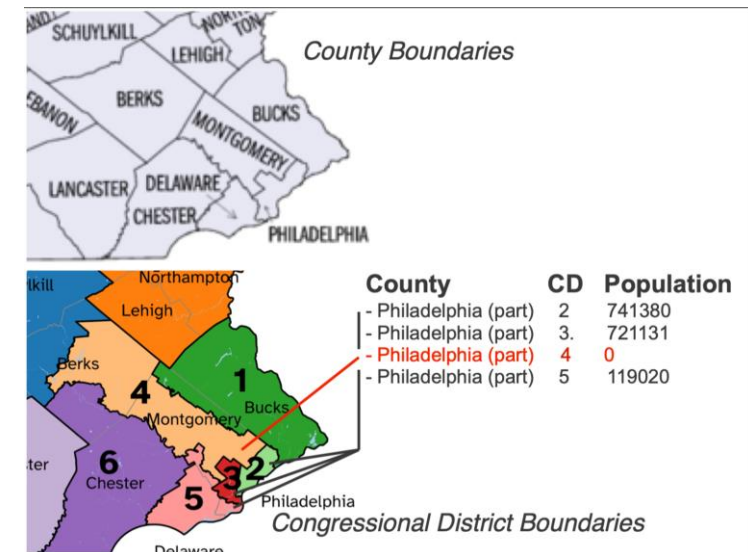
| DP05 | All | 2023 | 2022 | 2021 | 2020 | 2019 | 2018 | 2016 | 2015 | 2014 | 2013 | 2011 | 2010 |
|------------------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|-------------------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| ACS 5-Year Estimates Data Profiles | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

Compressed Size Estimate: 9.2 kB

DOWNLOAD .ZIP

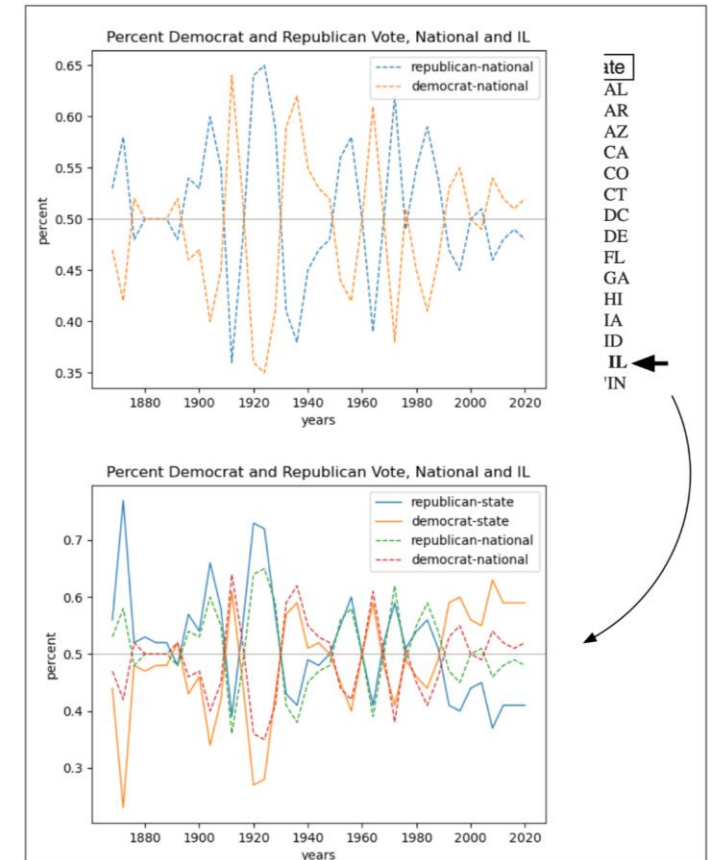
Gap Analysis

- County Data was not clear due to null data – 43 counties didn't have a matching part.
(see example screenshot) →
- All of PA in 2016
- Election data for Alaska was missing in the Harvard Dataverse
- A few congressional districts not defined
- State FIPS and Congressional District will serve as the key identifiers across data sets



With more time and resources...

- Line graph of the election years that show percentage of the popular vote by party, with the ability to filter by state
 - Dynamic matplotlib graph generated from MongoDB →
- Pagination and filtering to county election data, dating back to the 1800s
- Additional years of district data and actual district voting results (at a cost).



DEMO

Alternates/Backup

Historical Presidential Results

This chart displays the Presidential nominees for each party during an election year, inclusive of the year 1868 to present day.

The data shows the election year, state, nominee, and total votes for each nominee at the county level.

The intent of this data is to show county votes each election year, but to also provide the ability to compare these totals to the national electoral college totals to understand if county totals would ever swing an election in our nation's history.



| Year | FIPS | County | State | Dem Votes | Dem Nominee | Rep Votes | Rep Nominee |
|------|------|---------|-------|-----------|---------------------------|-----------|----------------------|
| 1868 | 1001 | AUTAUGA | AL | 851 | Horatio Seymour | 1505 | Ulysses S. Grant |
| 1872 | 1001 | AUTAUGA | AL | 669 | Horace Greeley | 1593 | Ulysses S. Grant |
| 1876 | 1001 | AUTAUGA | AL | 804 | Samuel J. Tilden | 1576 | Rutherford B. Hayes |
| 1880 | 1001 | AUTAUGA | AL | 978 | Winfield Scott Hancock | 974 | James A. Garfield |
| 1884 | 1001 | AUTAUGA | AL | 911 | Grover Cleveland | 877 | James G. Blaine |
| 1888 | 1001 | AUTAUGA | AL | 893 | Grover Cleveland | 519 | Benjamin Harrison |
| 1892 | 1001 | AUTAUGA | AL | 926 | Grover Cleveland | 81 | Benjamin Harrison |
| 1896 | 1001 | AUTAUGA | AL | 1232 | William Jennings Bryan | 289 | William McKinley |
| 1900 | 1001 | AUTAUGA | AL | 980 | William Jennings Bryan | 537 | William McKinley |
| 1904 | 1001 | AUTAUGA | AL | 733 | Alton B. Parker | 73 | Theodore Roosevelt |
| 1908 | 1001 | AUTAUGA | AL | 655 | William Jennings Bryan | 97 | William Howard Taft |
| 1912 | 1001 | AUTAUGA | AL | 622 | Woodrow Wilson | 43 | William Howard Taft |
| 1916 | 1001 | AUTAUGA | AL | 773 | Woodrow Wilson | 99 | Charles Evan Hughes |
| 1920 | 1001 | AUTAUGA | AL | 918 | James M. Cox | 210 | Warren G. Harding |
| 1924 | 1001 | AUTAUGA | AL | 781 | John W. Davis | 146 | Calvin Coolidge |
| 1928 | 1001 | AUTAUGA | AL | 883 | Al Smith | 683 | Herbert Hoover |
| 1932 | 1001 | AUTAUGA | AL | 1322 | Franklin Delano Roosevelt | 138 | Herbert Hoover |
| 1936 | 1001 | AUTAUGA | AL | 1525 | Franklin Delano Roosevelt | 84 | Alf Landon |
| 1940 | 1001 | AUTAUGA | AL | 1631 | Franklin Delano Roosevelt | 99 | Wendell Willkie |
| 1944 | 1001 | AUTAUGA | AL | 1242 | Franklin Delano Roosevelt | 117 | Thomes E. Dewey |
| 1948 | 1001 | AUTAUGA | AL | 1160 | Harry S. Truman | 110 | Thomes E. Dewey |
| 1952 | 1001 | AUTAUGA | AL | 1505 | Adlai Stevenson II | 787 | Dwight D. Eisenhower |
| 1956 | 1001 | AUTAUGA | AL | 1115 | Adlai Stevenson II | 857 | Dwight D. Eisenhower |
| 1960 | 1001 | AUTAUGA | AL | 1324 | John F. Kennedy | 1153 | Richard M. Nixon |
| 1964 | 1001 | AUTAUGA | AL | 491 | Lyndon B. Johnson | 2969 | Barry Goldwater |
| 1968 | 1001 | AUTAUGA | AL | 5491 | Herbert H. Humphrey | 597 | Richard M. Nixon |
| 1972 | 1001 | AUTAUGA | AL | 1593 | George S. McGovern | 5367 | Richard M. Nixon |
| 1976 | 1001 | AUTAUGA | AL | 4640 | Jimmy Carter | 4512 | Gerald Ford |
| 1980 | 1001 | AUTAUGA | AL | 4295 | Jimmy Carter | 6292 | Ronald Reagan |
| 1984 | 1001 | AUTAUGA | AL | 3366 | Walter Mondale | 8350 | Ronald Reagan |
| 1988 | 1001 | AUTAUGA | AL | 3667 | Michael Dukakis | 7828 | George H.W. Bush |
| 1992 | 1001 | AUTAUGA | AL | 4819 | Bill Clinton | 8715 | George H.W. Bush |
| 1996 | 1001 | AUTAUGA | AL | 5015 | Bill Clinton | 9509 | Bob Dole |
| 2000 | 1001 | AUTAUGA | AL | 4942 | Al Gore | 11993 | George W. Bush |
| 2004 | 1001 | AUTAUGA | AL | 4758 | John F. Kerry | 15196 | George W. Bush |
| 2008 | 1001 | AUTAUGA | AL | 6093 | Barack H. Obama | 17403 | John McCain |
| 2012 | 1001 | AUTAUGA | AL | 6363 | Barack H. Obama | 17379 | Mitt Romney |
| 2016 | 1001 | AUTAUGA | AL | 5936 | Hillary Rodham Clinton | 18172 | Donald Trump |
| 2020 | 1001 | AUTAUGA | AL | 7503 | Joe Biden | 19838 | Donald Trump |
| 1868 | 1003 | BALDWIN | AL | 673 | Horatio Seymour | 558 | Ulysses S. Grant |
| 1872 | 1003 | BALDWIN | AL | 549 | Horace Greeley | 707 | Ulysses S. Grant |
| 1876 | 1003 | BALDWIN | AL | 789 | Samuel J. Tilden | 662 | Rutherford B. Hayes |
| 1880 | 1003 | BALDWIN | AL | 767 | Winfield Scott Hancock | 663 | James A. Garfield |



Democrat Votes:241 Republican Votes:294



Democrat Votes:306 Republican Votes:232

2020 Election ▾

