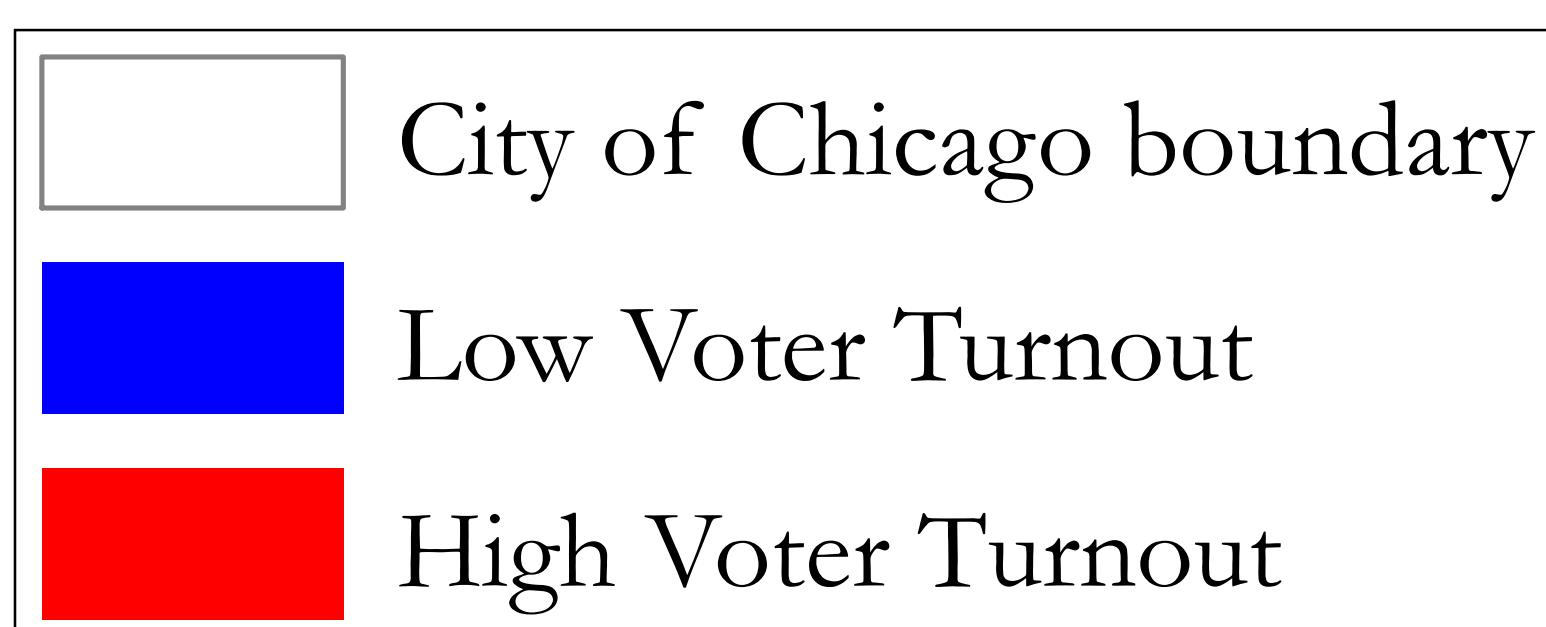
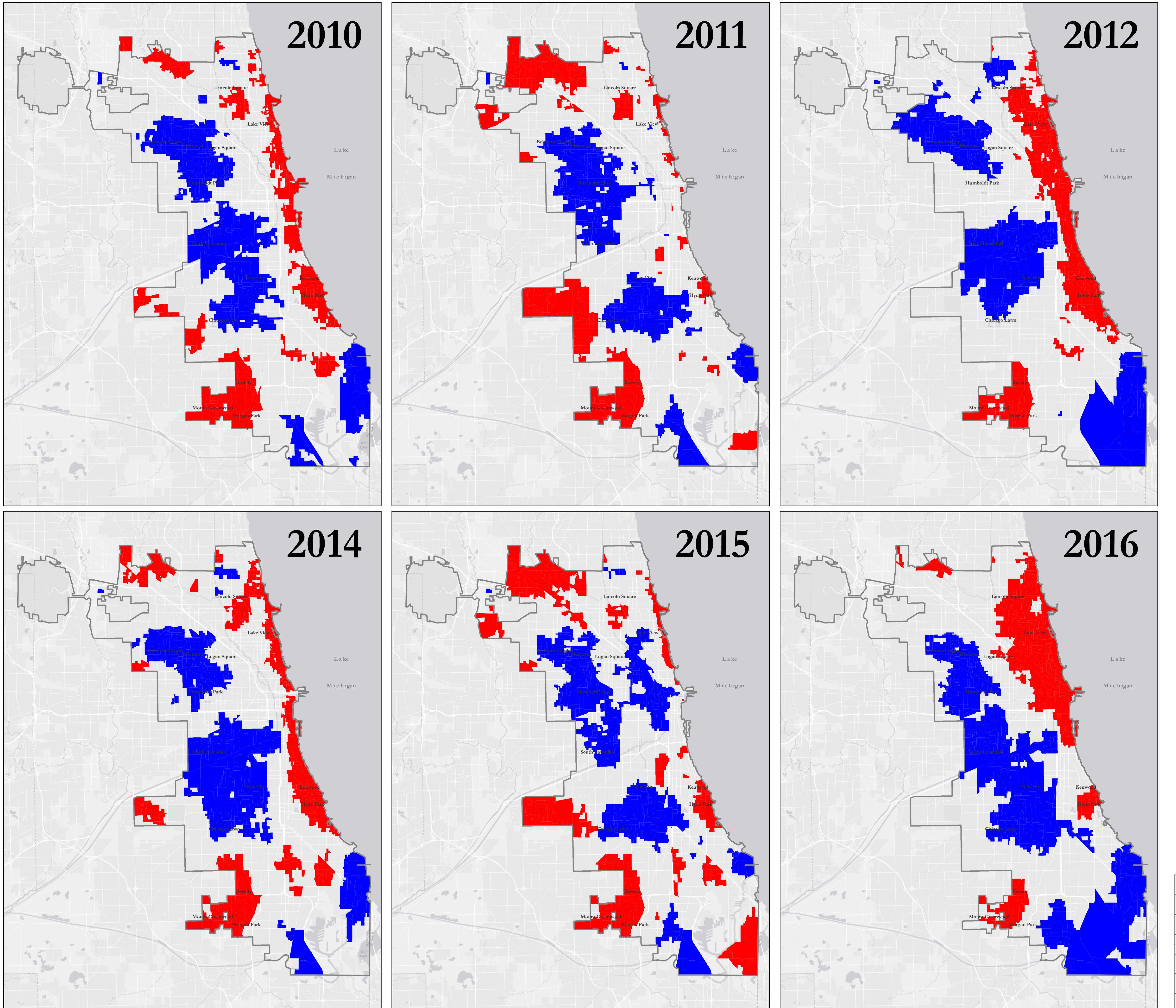


The Voter Void in Chicago (2010-2016)

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RESULTS AND DISCUSSION

Findings on which variables had statistically significant positive or negative correlations with voter turnout varied from election to election. While factors such as employment and race do have a statistically significant impact on voting behavior in certain elections, these impacts are not consistent over time. However, there are a few definite consistencies in some of the demographic variables and in the explanatory power of the model. Precincts with higher average household income and higher levels of educational attainment (college or better) showed strong positive correlation with high relative voter turnout in a majority of the elections. Educational attainment, specifically not having a GED, was the only variable that had a significant negative impact on voter turnout in all six elections while being over 65 years old had a significant positive impact. Prior research from Sondheimer & Green (2010) supports these results. They found that there were large voting disparities between individuals that had a GED and those that did not. This could be due to additional years of education imparting more skills that may facilitate an individual's understanding of and interest in political issues and the voting process, making them more civically active. Studies over the past 40 years have shown the definite impact of all levels of educational attainment as well as income on voter turnout. (Leighley and Nagler, pp.58-66, 2014) However, many of those studies consider nationwide elections in the United States. In this particular instance of Chicago, the benchmark of a high school education supersedes other educational attainment benchmarks or any level of personal or household income. Additionally, people are increasingly likely to vote as they get older. (Strate, Parrish, Elder, & Ford (1989) and Turner, Shields, & Sharpe (2001)) These studies suggest that as people age, their interest in political outcomes increases, they have more skills that are considered advantageous to voting, or are more established in their communities,

making them more civically engaged than younger generations. Further, as people age, the costs of participating in elections decreases over time as people become more knowledgeable about the political process and parties involved. (Strate et al. 1989) Measuring voter turnout itself can be misconstrued. Mass media often uses the number of registered voters to report total voter turnout. The same is posted by the specification of the total eligible population. Total number of eligible voters was used for calculating turnout rates in this study. In the city of Chicago, only registered voters are allowed to cast a ballot. The number of eligible voters (any resident of Chicago who is a US citizen and 18 years of age or older) provides better accuracy on turnout rates. Factors affecting registration can be a considerable handicap for many demographics if all eligible voters are not used in calculations. (McDonald and Popkin, 2001) For example, if a person is registered but does not vote, that should not count any differently than a person who is qualified to register but does not vote. If a precinct has 99 non-registered, eligible voters and one registered voter and that one registered voter casts a ballot, the registered voter turnout is calculated as 100%. But if all eligible voters are considered for turnout calculations in the same scenario, the eligible voter turnout would be calculated as 1%. In Chicago, the largest groups of ineligible voters are foreign born non-US citizens, non-resident college students or military service personnel that may be counted as having voting potential when in truth, true potential is misplaced. Findings in this study showed that large portions of residents who were eligible to vote and chose not to register were located in various parts of the city. After testing the statistical significance in the clustering of these areas using the same Hot Spot analysis described previously, the results were inconclusive. However, it is still evident on the map below where precincts are located that have large numbers of unregistered eligible voters.

General elections in Chicago have various voter turnouts depending on what offices are up for re-election and who the candidates are. Registered voters in Chicago come out in greater numbers in elections that coincide with higher offices like President of the United States or Governor of Illinois.

Municipal general elections can still draw respectable numbers of voters to the polls depending on the candidates and the office. Candidates try to secure votes from various racial, socio-economic, or labor groups in Chicago who they think will agree or disagree with their platform. Some of these groups will vote in total alignment with their peer groups, neighbors, or within their social network and some will not. Figuring out who (or what) these various groups agree or disagree with usually wins the office for a candidate.

However, there is an underlying issue that often goes overlooked when analyzing the political landscape in Chicago. Who is going to vote (or not vote) in a general election in Chicago regardless of the issues or candidates? There are parts of the city of Chicago that consistently have high and low voter turnout. By analyzing the six previous general elections, there is a definitive pattern as to where any candidate running for any office has a high or low likelihood of securing a large number of votes.

METHODS AND MAPS

The data in this report comes from the Chicago Board of Elections (<http://www.chicagoelections.com>), which tracks and maintains voting records for all elections within the City of Chicago. Using precinct level data on the number of registered voters and ballots cast from six previous general elections, we conducted a Hot Spot analysis (Mitchell, 2005) of voter turnout by precinct. This spatial analysis method, also known as Gi*, was conducted using geographic information systems (GIS) software. (ESRI, 2017). The mapping software isolated areas that had either relative high or relative low voter turnout rates when compared with the rest of the city. The precincts in red highlight clusters of high voter turnout, "a hot spot", while precincts in blue highlight clusters of low voter turnout, "a cold spot".

From year to year, there are undeniable patterns in the spatial data. High turnout occurs in every election in neighborhoods like Mt. Greenwood, Beverly, Morgan Park, Kenwood, Hyde Park, Lincoln Square, Ravenswood, eastern parts of Lakeview, and northern portions of Streeterville. While there is consistent low voter turnout in Belmont Cragin, Hermosa, South Lawndale, the northern portion of Humboldt Park, eastern portion of Logan Square, along with areas in Chicago Lawn and New City neighborhoods.

In order to explain these patterns, exploratory regressions were conducted with demographic data to search for spatial correlations between high and low voter turnout. The demographic data was collected from the U.S. Census' American Community Survey 5-year estimates (2010-2016) at the block group level. (<http://www.census.gov/acs>) Block group data was resampled to Chicago precinct level in order to produce equivalent demographics at the different scale.

The analysis model tested was fairly simple:
 $\text{Voter Turnout (year)} = B_0 + \text{Race} + \text{Age} + \text{Education} + \text{Average Household Income} + \text{Unemployment} + e_i$

where race, age, and education represent multiple variables. In the above model, race denotes the density of residents self-identified as Hispanic, Asian, Pacific Islander, White, Black, Native American, Other, or 2 or More Races; age refers to the density of residents under 18 and 65 and older; and education represents the density of residents that have a GED, bachelor's degree, graduate degree, or no GED. Average household income and unemployment rate in a specific precinct were added as well.

General Election Year	Registered Voters	Eligible Voters	Ballots Cast	Registered Voter Turnout	Eligible Voter Turnout
2010	1,334,807	2,072,435	705,869	52.90%	34.10%
2011	1,406,037	2,079,707	594,734	42.30%	28.60%
2012	1,364,371	2,020,060	1,028,870	75.40%	50.90%
2014	1,368,708	2,077,702	668,033	48.80%	32.20%
2015	1,421,430	2,085,280	483,700	34.01%	23.20%
2016	1,570,529	2,119,284	1,115,664	71.04%	52.64%

