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Introduction to GIS Methods
May 2019

KANSAS VOTER ID LAWS:
DID THEY AFFECT VOTER REGISTRATION AND VOTER TURNOUT?
Final Project Report

One-Sentence Project Summary
This project uses GIS techniques to visualize the effect voter ID laws in Kansas had on general election voter registration and turnout, and correlates these effects with median household income.

Purpose and Background
Voter ID laws trace back to 1950 when South Carolina was the first state to request ID. Today state voter ID laws range from no ID required to laws like that of Kansas – of the strictest voter ID laws in the United States. Under the Trump administration stricter voter ID laws have been promoted, making the consequences of voter ID laws evermore so important. The voter ID laws of Kansas are especially controversial. The Democratic Party has criticized it for targeting the typical democratic supporter, such as the youth and minorities. The American Civil Liberties Union (ACLU) filed a law suit against the State of Kansas in February 2016 stating that the voter ID laws in Kansas are a violation of the National Voter Registration Act, going as far to state that, "these requirements have had one purpose only - to decrease citizen participation in Kansas elections, in ways that weaken our democracy."

Enacted in 2011, Kansas requires a photo ID, most commonly a driver's license, when casting a vote and proof of citizenship, typically a birth certificate, when registering to vote. Kansas makes three exceptions to its photo ID requirement: 1) "Persons with permanent physical disabilities are exempted if it is impractical for them to obtain voting ID, and they have qualified for permanent advance voting states", 2) "Merchant marines and uniformed service members who are on active duty and absent from the county on election day are exempt, as well as their spouses and dependents", and 3) "Voter ID exemptions extend to any voter whose religious beliefs prohibit photo ID". Needless to say, only a small proportion of the population is exempt from the photo ID requirement. The consequences of voter ID laws generally span small effects on turnout, increased discrimination in voting and a reduction in already very low figures of voter fraud. Whilst the Supreme Court hasn't ruled it unconstitutional, there has

been critique that it ought to be considered as such it harm democratic participation, especially since other states are considering adopting voter ID laws similar to that of Kansas. Democratic participation on the state level is important as states are fairly powerful legislative bodies in the U.S.; thus, even the small effects on turnout and discrimination could have dire consequences as, especially in local elections, small effects could make large differences. Furthermore, the Democratic Party has criticized Kansas' voter ID laws for discriminating against one of its key supporting demographic group: low income individuals. If it is indeed so it would be discrimination, which no matter how residual, isn't within the spirit of the First Amendment of the United States.

Literature Review

Kansas requires a photo ID when voting and proof of citizenship when registering to vote, though it makes three exceptions to its photo ID requirement as described above. The consequences of Kansas' voter ID laws span small effects on turnout, increased discrimination in voting and a reduction in already very low figures of voter fraud. Chelsie Bright and Michael S. Lynch argue that in Kansas there is little to no aggregate reduction in turnout after states adopt photo ID laws. Though, the turnout is most heavily reduced in minority subgroups that are less likely to posses IDs: low income, low education and the elderly.

Shelley de Alth presents a counter argument; she argues that voter ID laws work against voter fraud and could in fact improve turnout. Whilst empirical evidence shown above proves that this isn't true for Kansas, it's an argument that could be applied to other states. De Alth asserts that the mere possibility of voter fraud harms voter confidence as they feel disenfranchised – they fear that fraudulent ones will outweigh their legitimate votes; a theory which was furthered by the Supreme Court Case *Purcell v. Gonzalez*. De Alth cites a Rasmussen Poll from 2004 that found that 59% of voters believe that there is some fraud in American elections and that 85% of voters favor a photo ID requirement. It must be noted that this survey was taken before any U.S. State enacted strict voter ID laws, the first being Indiana in 2006. Thus, the voters in this poll were unaware of the true consequences of voter ID laws and perhaps aren't making informed statements – as the idiom says "hind sight is 20/20". Overall, there is some merit to De Alth's argument, not only because it's the one championed by many Republicans, but also because there is logical truth to it.

Data

- All data is digiltialized.
- Kansas County Shape files derived from U.S. County Shape files, 2014, U.S. Census Geography: Tiger. This data is used for the base layer of my maps

(https://www.census.gov/cgi-bin/geo/shapefiles/index.php?year=2018&layergroup=Counties+%28and+equivalent%29).

- Population distribution by county and median household income by county, years 2010 and 2014 from American Fact Finder. Population distribution was used to normalize voter turnout and voter registration to their specific year's population. Median household income was used to provide context as to whether voter ID laws discriminate against the poor (https://factfinder.census.gov/faces/nav/jsf/pages/searchresults.xhtml?refresh=t&keepList=t) .
- General election voter registration and voter turnout, by county, from the State of Kansas website, http://www.kssos.org/elections/elections_registration_voterreg.asp.
  This is my main data set for which from which I calculated all the voting related statistics and normalizations.
  Files pulled:
  - 2010 Voter Registration Numbers OFFICIAL
  - 2014 Voter Registration Numbers OFFICIAL
  - 2010 Voter Turnout Numbers OFFICIAL
  - 2014 Voter Turnout Numbers OFFICIAL.

Methodology

Because the ideal goal in any democracy is maximum voter participation, in this study we try to find out if voter participation has decreased from 2010 to 2014 as a result of voter ID laws. Voter participation can be measured in registration and turnout, thus I wanted to created maps showing voter registration normalized by population (2010 & 2014), voter turnout as a percentage of the population (2010 & 2014), the difference between registration and turnout in reference to median household income (2010 & 2014), and the change in normalized turnout between 2010 and 2014.

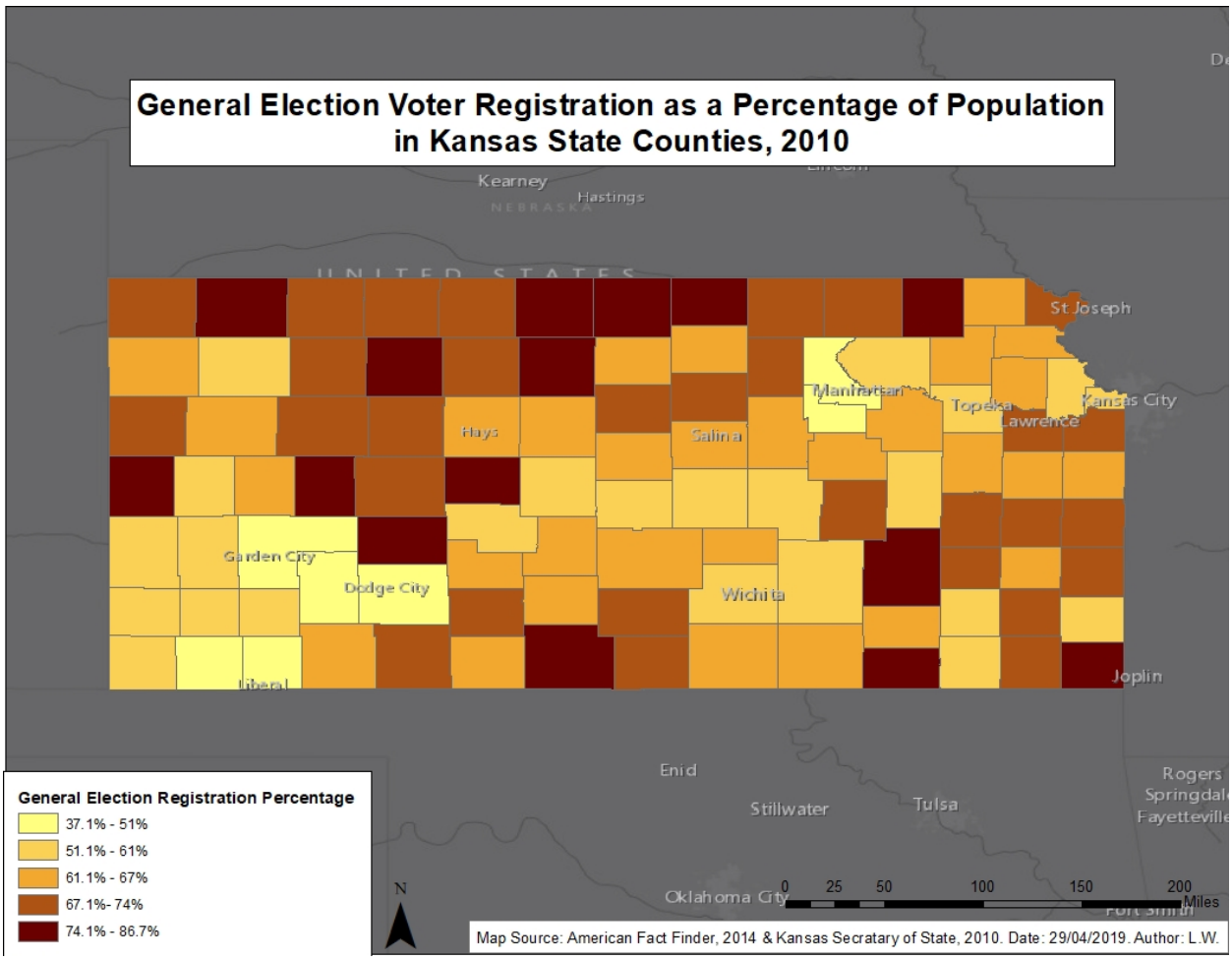
Firstly, after I pulled my data I needed to clean it and make sure all the necessary fields were matching in order to prepare it for joining. Essentially, I needed clear columns for 2010 voter registration, 2010 voter turnout, 2010 population, 2010, median household income, 2014 voter registration, 2014 voter turnout, 2014 population and 2014 median household income all listed by county in two excel spreadsheets, one for 2010 and another for 2014. I performed the following calculations: (2010 voter registration/2010 population), (2010 voter turnout/2010 population), (2014 voter registration/2014 population), (2014 voter turnout/2014 population). I also created a field where I

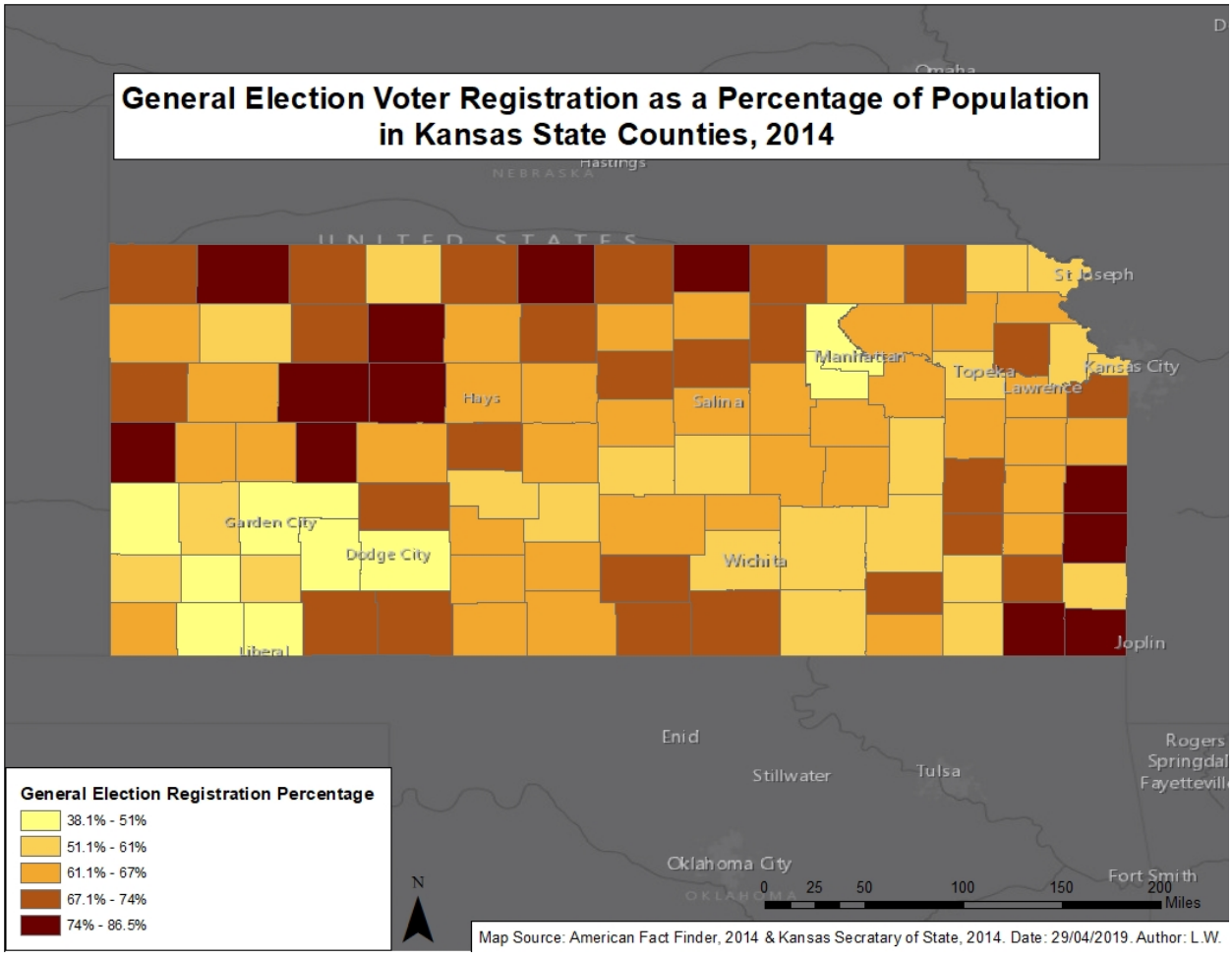
performed the calculation: 2014 voter turnout – 2010 voter turnout. Then I joined them by GEO ID to my shape file for Kansas counties in arc map.

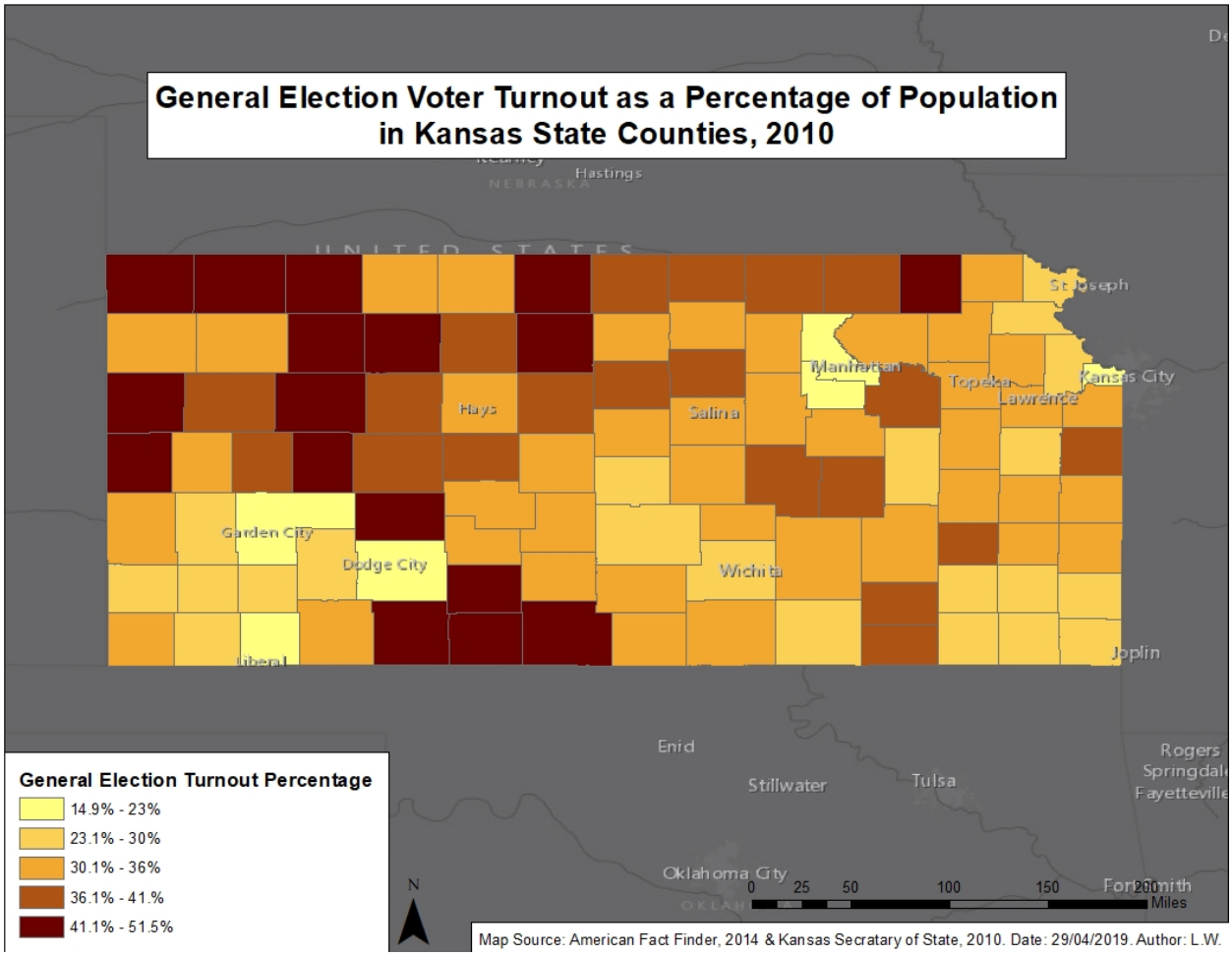
I had to create my initial Kansas County shape file from a U.S. County shape file because there weren't any accurate Kansas specific files available. I selected all the counties within Kansas because they were labeled by state in the attribute table and deleted the rest. Then I chose to export this file in order to save me the trouble from doing this process multiple times.

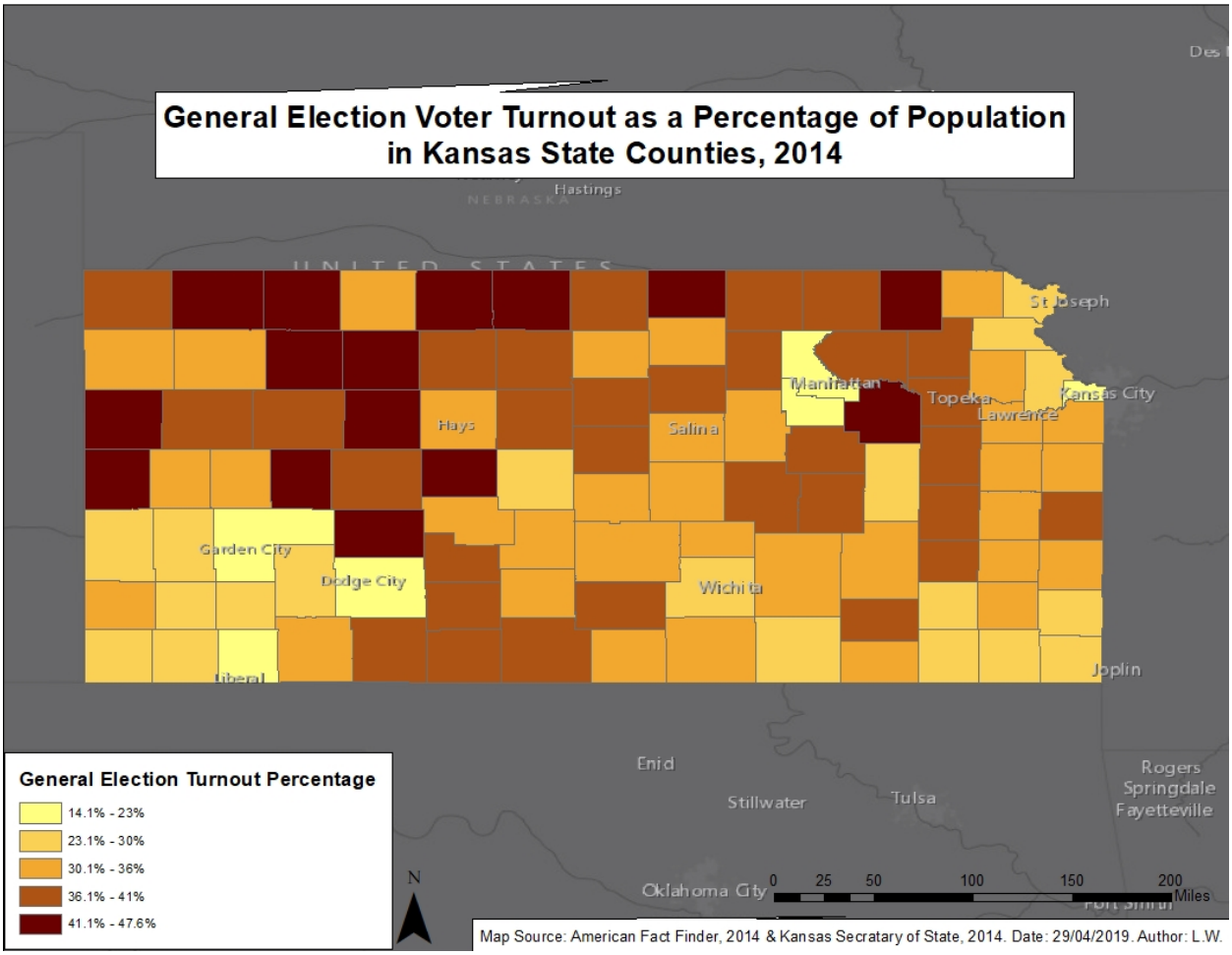
Once I had joined my spreadsheets to my shape file the process was relatively straightforward. I created composite maps for: (2010 voter registration/2010 population), (2010 voter turnout/2010 population), (2014 voter registration/2014 population), (2014 voter turnout/2014 population), and (2014 voter turnout – 2010 voter turnout). Here I used gradual colors to show the difference between classes and natural breaks, which I rounded off for clarity, as my system of classification. Then I normalized (2010 voter turnout/2010 population) with (2010 voter registration/2010 population) and (2014 voter turnout/2014 population) with (2014 voter registration/2014 population). I displayed these results as gradual colors with rounded off natural breaks. However I also added the layer of median household income in graduated symbols, which were also rounded off natural breaks, to these maps in order to shower whether the difference between turnout and registration had any correlation with income.

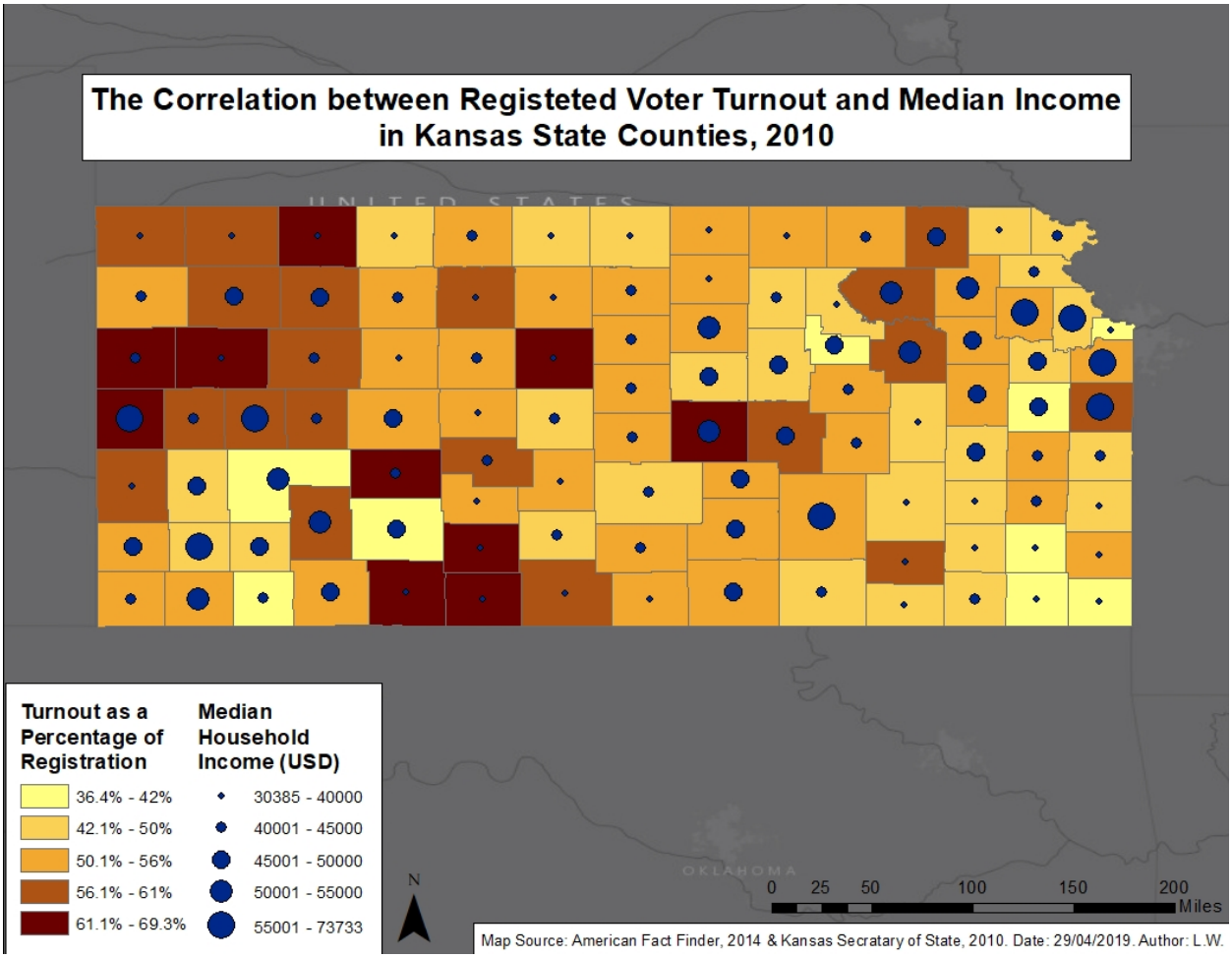
Finally, I added all the necessary map elements to my maps: legend, title, scale bar, north arrow and citation. I also added a base map of the U.S. with some cities labeled as reference to my composite maps in order to provide context.

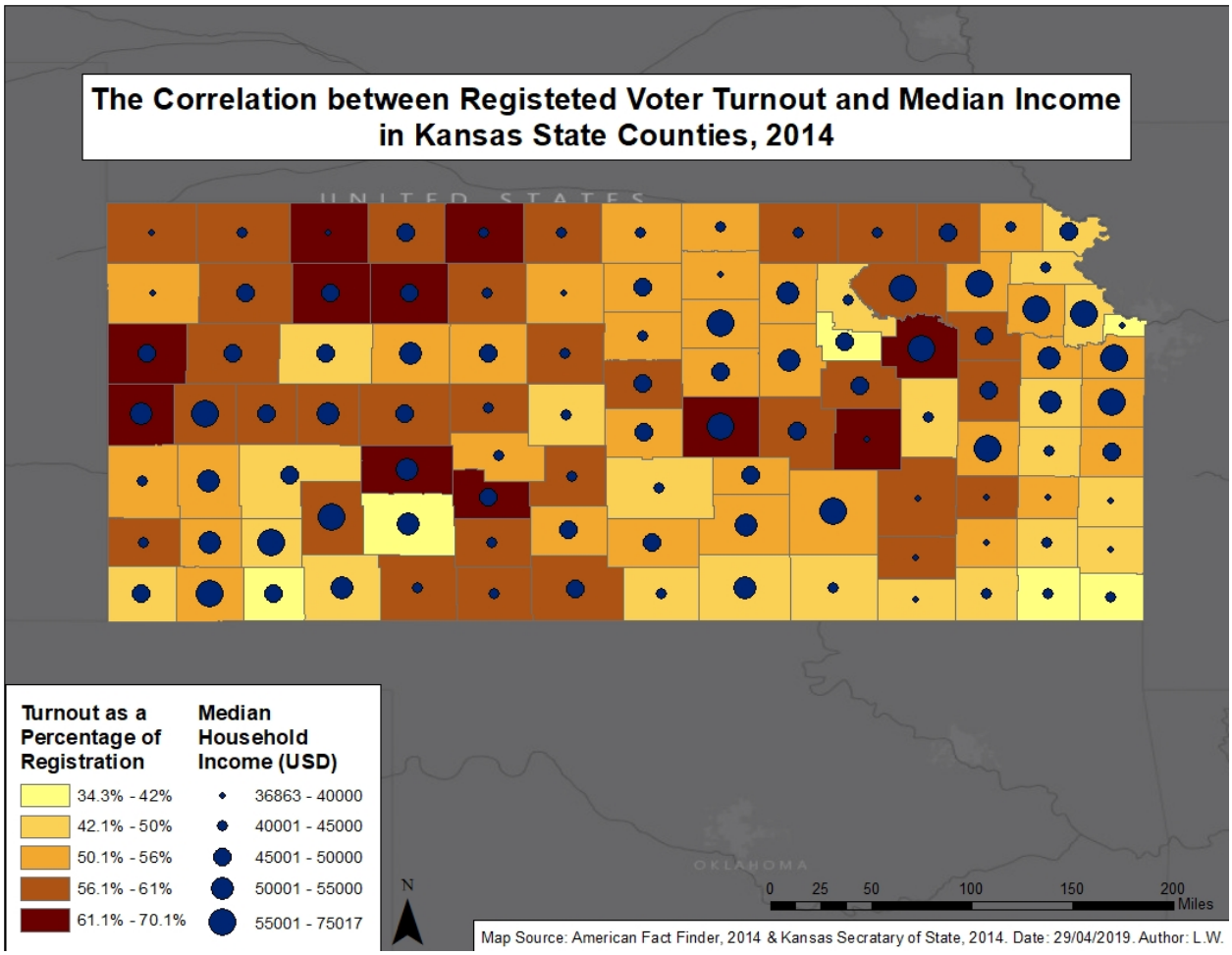

General Election Voter Registration as a Percentage of Population in Kansas State Counties, 2010
Kearney
Hastings
NEBRASKA
UNITED STATES
St Joseph
Manhattan
Topeka
Lawrence
Kansas City
Hays
Salina
Garden City
Dodge City
Wichita
Liberal
Joplin
Enid
Stillwater
Tulsa
Rogers
Springdale
Fayetteville
Oklahoma City
Fort Smith
General Election Registration Percentage
37.1% - 51%
51.1% - 61%
61.1% - 67%
67.1%- 74%
74.1% - 86.7%
N
0 25 50 100 150 200
Miles
Map Source: American Fact Finder, 2014 & Kansas Secratary of State, 2010. Date: 29/04/2019. Author: L.W.

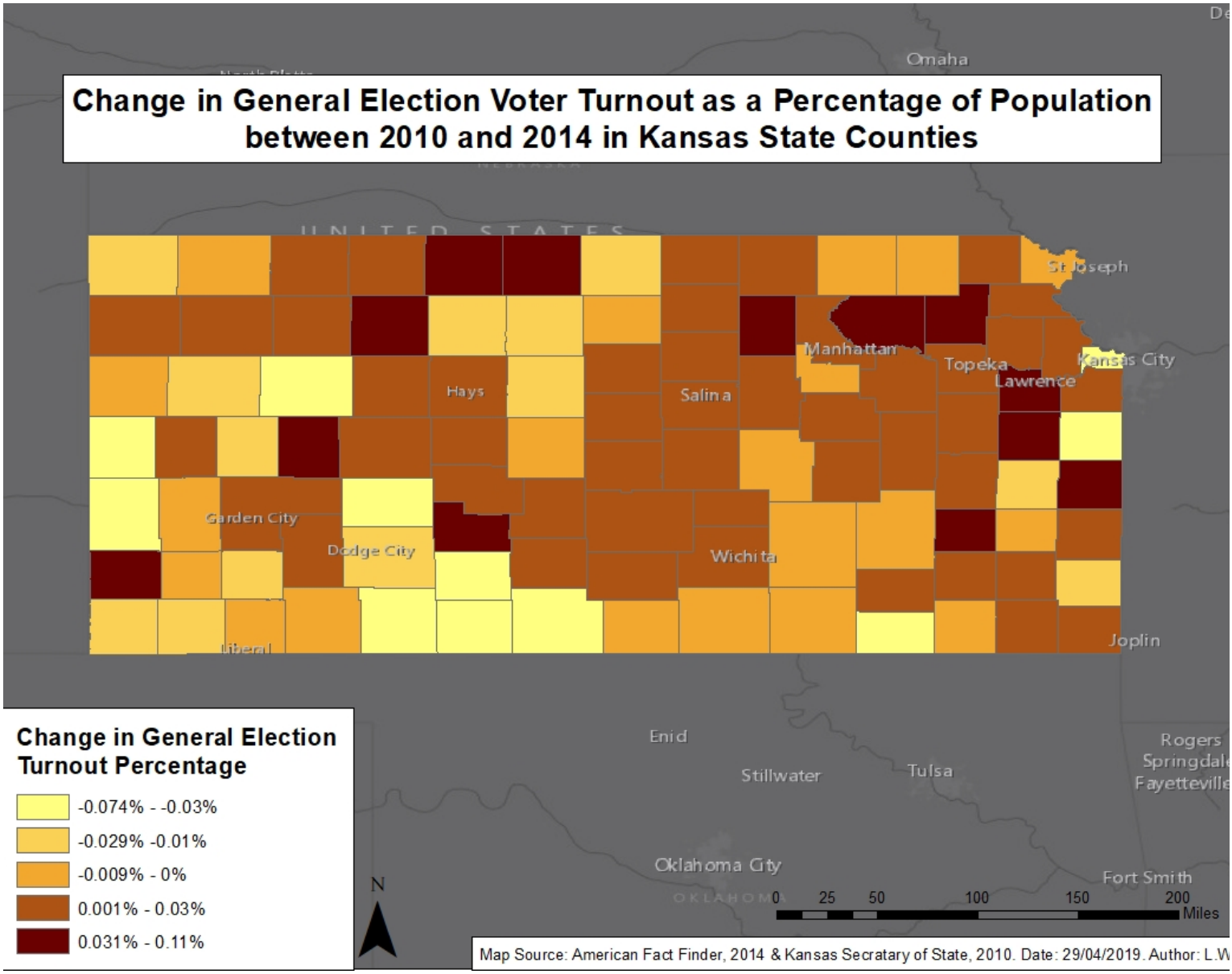

General Election Voter Registration as a Percentage of Population in Kansas State Counties, 2014
Omaha
Hastings
NEBRASKA
UNITED STATES
St Joseph
Manhattan
Topeka
Lawrence
Kansas City
Hays
Salina
Garden City
Dodge City
Wichita
Liberal
Joplin
Enid
Stillwater
Tulsa
Rogers
Springdale
Fayetteville
Oklahoma City
Fort Smith
General Election Registration Percentage
38.1% - 51%
51.1% - 61%
61.1% - 67%
67.1% - 74%
74% - 86.5%
N
0 25 50 100 150 200
Miles
Map Source: American Fact Finder, 2014 & Kansas Secratary of State, 2014. Date: 29/04/2019. Author: L.W.


General Election Voter Turnout as a Percentage of Population in Kansas State Counties, 2010
Hastings
NEBRASKA
UNITED STATES
St Joseph
Manhattan
Topeka
Lawrence
Kansas City
Hays
Salina
Garden City
Dodge City
Wichita
Joplin
Liberal
Enid
Stillwater
Tulsa
Rogers
Springdale
Fayetteville
Oklahoma City
Fort Smith
General Election Turnout Percentage
14.9% - 23%
23.1% - 30%
30.1% - 36%
36.1% - 41.%
41.1% - 51.5%
N
0 25 50 100 150 200
Miles
Map Source: American Fact Finder, 2014 & Kansas Secratary of State, 2010. Date: 29/04/2019. Author: L.W.


General Election Voter Turnout as a Percentage of Population in Kansas State Counties, 2014
Hastings
NEBRASKA
UNITED STATES
St Joseph
Manhattan
Topeka
Lawrence
Kansas City
Hays
Salina
Garden City
Dodge City
Wichita
Joplin
Liberal
Enid
Stillwater
Tulsa
Rogers
Springdale
Fayetteville
Oklahoma City
General Election Turnout Percentage
14.1% - 23%
23.1% - 30%
30.1% - 36%
36.1% - 41%
41.1% - 47.6%
N
0 25 50 100 150 200
Miles
Map Source: American Fact Finder, 2014 & Kansas Secratary of State, 2014. Date: 29/04/2019. Author: L.W.


The Correlation between Registeted Voter Turnout and Median Income in Kansas State Counties, 2010
UNITED STATES
OKLAHOMA
Turnout as a Percentage of Registration
36.4% - 42%
42.1% - 50%
50.1% - 56%
56.1% - 61%
61.1% - 69.3%
Median Household Income (USD)
30385 - 40000
40001 - 45000
45001 - 50000
50001 - 55000
55001 - 73733
N
0 25 50 100 150 200
Miles
Map Source: American Fact Finder, 2014 & Kansas Secratary of State, 2010. Date: 29/04/2019. Author: L.W.


The Correlation between Registeted Voter Turnout and Median Income in Kansas State Counties, 2014
UNITED STATES
OKLAHOMA
Turnout as a Percentage of Registration
34.3% - 42%
42.1% - 50%
50.1% - 56%
56.1% - 61%
61.1% - 70.1%
Median Household Income (USD)
36863 - 40000
40001 - 45000
45001 - 50000
50001 - 55000
55001 - 75017
N
0 25 50 100 150 200
Miles
Map Source: American Fact Finder, 2014 & Kansas Secratary of State, 2014. Date: 29/04/2019. Author: L.W.


Change in General Election Voter Turnout as a Percentage of Population between 2010 and 2014 in Kansas State Counties
Omaha
St Joseph
Manhattan
Topeka
Lawrence
Kansas City
Hays
Salina
Garden City
Dodge City
Wichita
Liberal
Joplin
Enid
Stillwater
Tulsa
Rogers
Springdale
Fayetteville
Oklahoma City
Fort Smith
Change in General Election Turnout Percentage
-0.074% - -0.03%
-0.029% -0.01%
-0.009% - 0%
0.001% - 0.03%
0.031% - 0.11%
N
0 25 50 100 150 200
Miles
Map Source: American Fact Finder, 2014 & Kansas Secratary of State, 2010. Date: 29/04/2019. Author: L.W

Findings

A comparison of voter registration between 2010 and 2014 shows that majority of counties that had high voter registration and the majority of the counties that had low voter registration continue to do so in 2014, after the voter ID laws were enacted. Though in general, voter registration decreased marginally, though not enough to be of empirical significance.

A comparison between voter turnout between 2010 and 2014 shows that there is a minimal aggregate reduction in turnout after voter ID laws have been adopted; in fact, the states with the lowest voter turnout remain the same. There has been a reduction in the highest rate of turnout, which was previously 51.5% of the population, is now 3.9% lower at 47.6%, both of these rates being held by Greeley County. In general, this map also shows a geographic trend: there large areas of relatively high turn out or medium turn out, with pockets of detrimentally low turn out. This insinuated that turnout is in fact controlled by some demographic element, be it income, age or race. Furthermore, the north west side of Kansas clearly has an overall higher turnout rate than southeast.

Overall, turnout as a percentage of registration is indeed higher in 2014 after voter ID laws were adapted in 2011. Though it appears that after voter ID laws were introduced, counties with a higher median income tend to have slightly higher rates of turnout as well, suggesting the income played a key role in determining whether voters went to the polls after registering; this also suggests that income plays a key role in voters' possession and ability to posses photo ID.

Finally, the change in voter turnout as a percentage of the population shows that around half the states experienced a minute reduction in turnout. However, another half of the states experienced an increase. Neither figure is especially dramatic, however this gives rise to the possibility that Kansas is split between Chelsie Bright and Shelley de Alth's arguments. In the poorer counties there is a small reduction in turnout due to voter ID laws restricting voters, however in wealthier countries voter confidence is improved and thus turnout improves - Shelley de Alth's argument.

Limitations

Firstly, there are other factors that affect turnout: state ballot, campaign competition, institutional structures, socio economic factors, and motivational factors. These factors could vary from election to election and thus are hard to manage. For consistency I've done my best by choosing the elections in the same place in the election cycle (2010 and 2014), thus to minimize the effects of state ballot, campaign competition, institutional structures. However, socio economic factors aren't controllable as they

truly vary from election to election, especially as 2011 was the height of the financial crisis. Additionally, motivational factors are also outside of my scope of control as the political climate in the United States has changed drastically from 2010 to 2014, becoming more bipartisan that it was ever before.

Secondly, because census' are only taken every ten years, I wasn't able to access census population information for the year 2014. I used the parallel information for 2014 that had a small and insignificant margin of error.

Recommendations and Conclusions

In general, I have similar empirical findings to Bright – overall there is a marginal decrease in democratic participation. However, Bright believes that these marginal decreases ought to be discounted, especially as, all things considered, there are other factors, which effect registration and turn out in an election: state ballot, campaign competition, institutional structures, socio economic factors, and motivational factors. To counter her view, marginal decreases on one or two figures can, and should be, discounted. However, my figures show that there not only marginal decrease in both turnout and registration after the voter ID laws were enacted but there is also a geographical pattern to these decreases – in general the north fairs far better than the south. Furthermore, my figures show that income is directly aligned with the ability to turn up to the voting booth in 2014, after voter ID laws have been enacted. This insinuates that there is a demographic element preventing democratic participation, which is in line with the Democratic Party's complaint that voter ID laws: that they are party allegiance discriminatory.

Discrimination, no matter how residual, isn't within the spirit of democracy, which is a value that ought to be respected. But more importantly, slight discrimination can make large differences in local elections thus evoking large consequences. Voter ID laws are often defended because they reduce voter fraud, however, especially as they don't eliminate voter fraud completely, it would perhaps be better to not implement voter ID laws at all - for the more people vote, the less the ever present voter fraud will matter.

However, it is unlikely that states will go back on their voter ID laws. Research has shown that the effects of voter ID laws can be mitigated through advertising and increased government support to those who face discrimination. Future research in this topic could try to access data on whether advertising and increased government support affect voter participation in Kansas. It could also look into the other two key demographics which are often discriminated against in voter ID laws: the minority races and old age.

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