

MICHIGAN

GOOD GOVERNANCE REDISTRICTING PLAN PROPOSAL

ZAC STOOR

Introduction

Criteria and Priorities of Plan:

This good governance plan for Michigan was drawn with 3 primary criteria in mind. First, the plan aims to comply with all federal and state law, including the Michigan constitution's requirements for the Michigan Independent Citizens Redistricting Commission (MICRC), which were implemented for the first time in the 2020 cycle following the passage of a constitutional amendment by referendum in 2018. In terms of federal law, the plan complies with the one person, one vote requirement by achieving perfect population equality and complies with the Voting Rights Act (VRA) as well. In terms of Michigan state law, districts are required to be drawn according to the following principles, in order of priority:

- (a) Districts shall be of equal population as mandated by the United States constitution, and shall comply with the Voting Rights Act and other federal laws.
- (b) Districts shall be geographically contiguous. Island areas are considered to be contiguous by land to the county of which they are a part.
- (c) Districts shall reflect the state's diverse population and communities of interest. Communities of interest may include, but shall not be limited to, populations that share cultural or historical characteristics or economic interests. Communities of interest do not include relationships with political parties, incumbents, or political candidates.
- (d) Districts shall not provide a disproportionate advantage to any political party. A disproportionate advantage to a political party shall be determined using accepted measures of partisan fairness.
- (e) Districts shall not favor or disfavor an incumbent elected official or a candidate.
- (f) Districts shall reflect consideration of county, city, and township boundaries.
- (g) Districts shall be reasonably compact.

In addition, this plan respects communities of interest. Michigan's constitution provides some guidance for how to define a community of interest ("populations that share cultural or historical characteristics or economic interests"), but still leaves much room for interpretation. Thus, in this plan I primarily focus on keeping metropolitan areas together when possible and basing districts around either urban, suburban, or rural communities. While some mixing of community types was necessary to achieve perfect population balance, most districts have a coherent predominant geographic character.

The final goal for this plan is splitting as few counties and municipalities as possible. However, because the entire state of Michigan is divided into civil townships, the entire state is composed of municipalities, necessitating more splits to achieve perfect population equality than in states with no civil townships. When deciding where to split townships in the interest of perfect population equality, I prioritized keeping incorporated cities, which have significantly more autonomy than civil townships, together when possible. Additionally, within townships I prioritized keeping census-designated places together. Although census designated places are not units of governance, they are coherent communities of interest and as such I prioritized their unity above that of civil townships when drawing this map.

Tensions between Criteria and Priorities:

There are some tensions between the three priorities of this plan, but most were easily resolved due to the Michigan constitution's clarity on what to prioritize in mapping. Avoiding county and municipal splits is the second lowest priority for the MICRC, and thus was my lowest level concern of the three. When necessary, I split counties to preserve communities of interest and to achieve perfect population. Some communities of interest also needed to be split in order to comply with the one person, one vote rule. Other tensions will be discussed more in-depth in the regional breakdown sections.

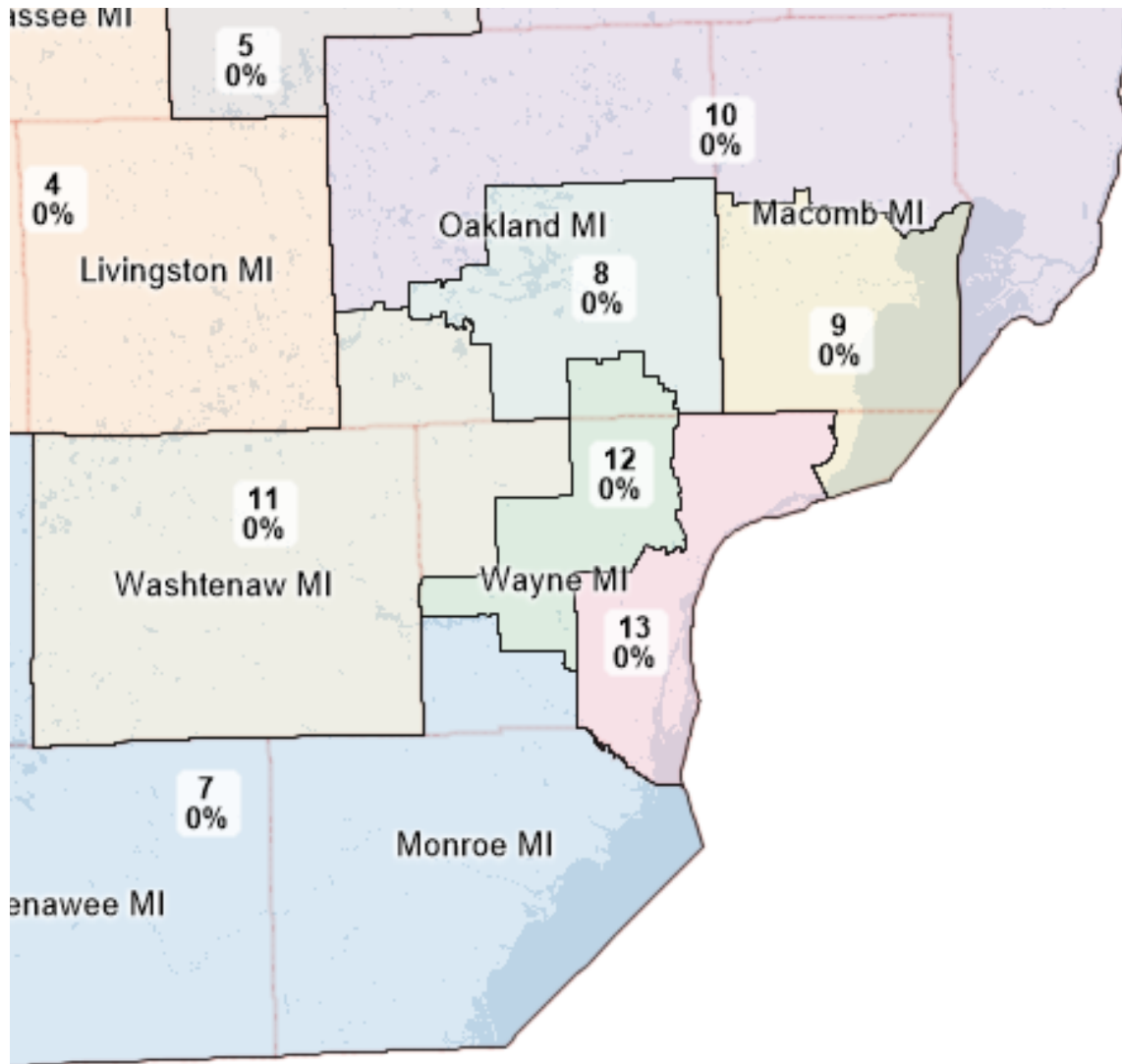
Legal Compliance and Considerations

One Person, One Vote:

All of the districts in the plan area are perfectly population balanced, meaning there is either a deviation of 0 or 1 from the ideal district population of 775,179. Districts with non-ideal population balances open the door to legal challenges to a plan under *Karcher v. Daggett*, which ruled that districts must be of equal population unless the population difference is necessary to achieve a "legitimate state objective." Since equal population is the first stated requirement under Michigan's constitution and one of the main requirements under federal law, I determined that achieving population should be above all other priorities in drawing this map. This also helps avoid any legal challenges to the plan on the basis of population.

Some additional municipality and county splits are required to achieve perfect population balance while maintaining community of interest concerns. Since under Michigan state law political subdivision splits are below both population balance and communities of interest in order of priority, whenever a conflict arose between population balance and political subdivision splits, I opted to make the additional split.

Detroit Metro Area:



Voting Rights Act:

When I refer to the Detroit area in this report, I am not using the census definition of the Detroit Metropolitan Statistical Area, but rather Wayne, Oakland, Macomb, and Washtenaw Counties. This definition covers Wayne County, of which Detroit is the seat, and all of its neighbors save Monroe. This is the most densely populated region of Michigan, with 5 of the state's 13 districts being entirely within these 6 counties, and 2 others taking portions of the region. The main concern for redistricting in this area is the VRA, as Detroit is home to Michigan's only VRA districts. The current Michigan congressional plan contains two majority-Black districts in the Detroit area: District 13 which is 56.7% Black by total population and District 14 which is 56.9% Black by total population. Since Michigan lost a district, there is no longer a way to draw two compact Black majority districts while respecting communities of interests. While it is technically possible to draw two barely (just over 50%) majority-Black

districts in Detroit, it requires far more municipal and county splits than my plan and also leads to cascading effects on the rest of the state, splitting their communities of interest in order to allow for the second district. The lack of compactness could raise questions about whether a second majority-Black district would violate *Shaw v. Reno*, although I think that previous non-compact districts not having been challenged is a good indicator that it would not.

Perhaps the most important argument against having a second majority-Black district, however, is that it is unnecessary to ensure that the Black community can elect its representatives of choice. The Detroit area, and especially the City of Detroit itself, does not have significant amounts of racially polarized voting. The region as a whole is extremely Democratic, with both my Districts 12 and 13 and the current Districts 13 and 14 voting more than 70% Democratic in most elections. Examining the current Michigan-13 as an example, we can see in the map below that in 2020, Representative Rashida Tlaib won by large margins against Detroit Councilwoman Brenda Jones, who is Black, while Tlaib is not. Even in Detroit, Tlaib carried nearly every precinct, and while her margins are weaker in Black portions of Detroit, she maintains similar levels of support in Black areas of Inkster and River Rouge as in non-Black portions of the district. While the first race between the two in 2018, when Tlaib was not an incumbent, was much closer, the race was fundamentally different, as there were 6 major candidates running and Tlaib only won with 31.2% compared to Jones' 30.2%. Detroit's significant population of other minority groups and white voters who vote similarly to Black Detroiters means that Article 2 of the VRA does not necessarily require a majority of the population be Black to comply. As such, my map contains one district, District 12, which is 51.6% Black, and District 13, which is 46.5% Black, 38.1% white, and 10.4% Hispanic.

For the 12th district, western Detroit is combined with the heavily Black Oakland suburbs of Southfield, Lathrup Village, and Oak Park. It also extends southwest to capture the City of Dearborn and the Black-majority cities of Romulus and Inkster. This configuration avoids splitting Washtenaw or Macomb Counties in addition to Oakland and Wayne, as otherwise it is necessary to take in Ypsilanti in Washtenaw or parts of Eastpointe in Macomb to reach over 50% Black. This is not only less compact, but also worse for communities of interest.

The plurality-Black 13th district contains the rest of Detroit, which has to be split or else it would constitute racial packing, as well as the "Downriver" suburbs of Wayne County and some smaller cities surrounding Detroit. The most notable community in this district besides the Black plurality is Southwest Detroit's majority Hispanic population. Under the current map, this community is split between the 13th and 14th districts, but here I reunite it to form another portion of the majority-minority, plurality-Black 13th.

Figure 1: 2020 Democratic Primary in Current Michigan-13:

2020 Democratic Primary in Michigan's 13th Congressional District

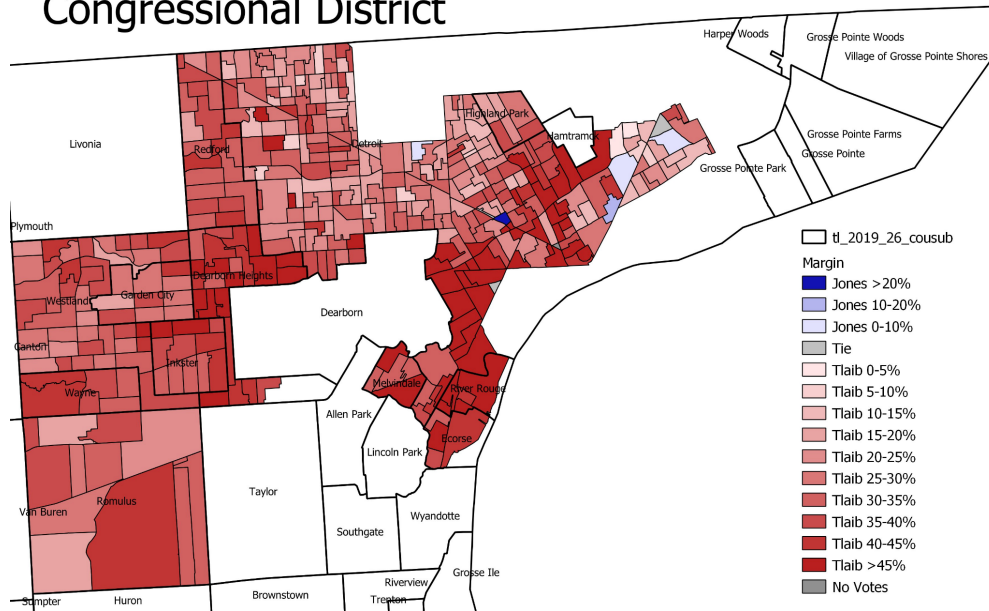
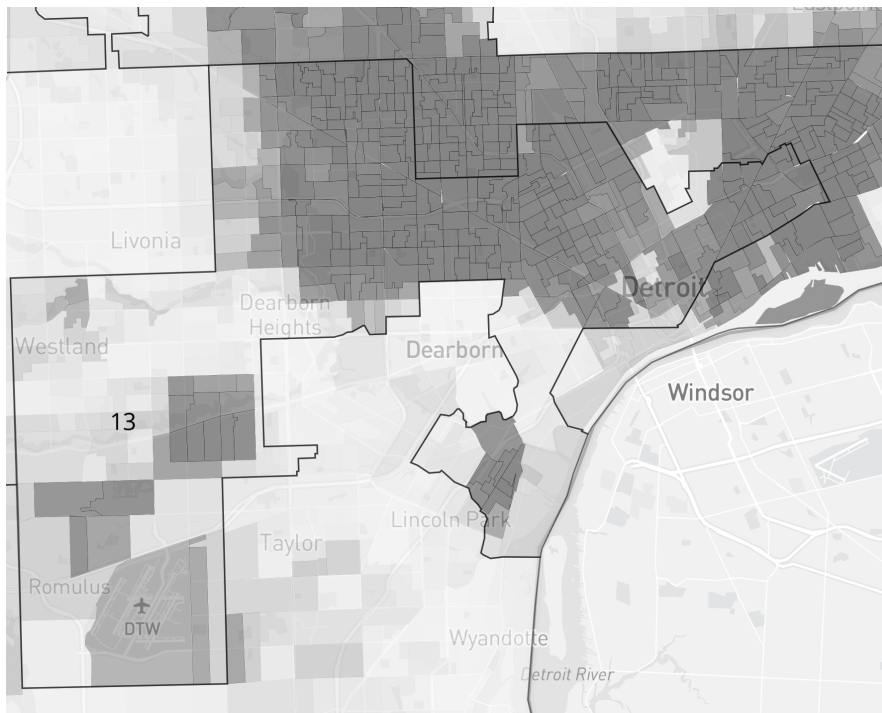


Image Credit: Twitter User @BrandyFromTX

Figure 2: Black Percentage by Precinct of Current Michigan-13:



State Law:

Communities of Interest:

Preserving communities of interest is a key component of Michigan's redistricting law, and the first portion of the state's regulations that is not also a federal requirement. In the Detroit area, there are a variety of communities that I aimed to preserve in my map. The first is the Hispanic community in Southwest Detroit, which I mentioned in the VRA section. The largest and most concentrated Hispanic community in Michigan is split between two districts in the current map, but I unify it into District 13.

The Downriver suburbs of Wayne County are also a coherent community of interest, sharing deep economic ties with Detroit and an industrial economy, especially historically. In the current map, these cities are split between the 12th and 13th districts, but I unify them in the 13th.

I also preserved the Oakland County suburban community of interest in this map, which is currently split between the 8th, 9th, 11th, and 14th districts. Oakland County is the richest county in Michigan, and many of its cities are among the richest municipalities in the state. Both for their interests, and those of the less wealthy communities around them, especially Detroit, I have grouped these communities together into District 8, which in my map is entirely within Oakland County. This allows the Oakland communities to have their own adequate representation without distorting neighboring districts with very different socioeconomic status.

Minimal County and Municipal Splits:

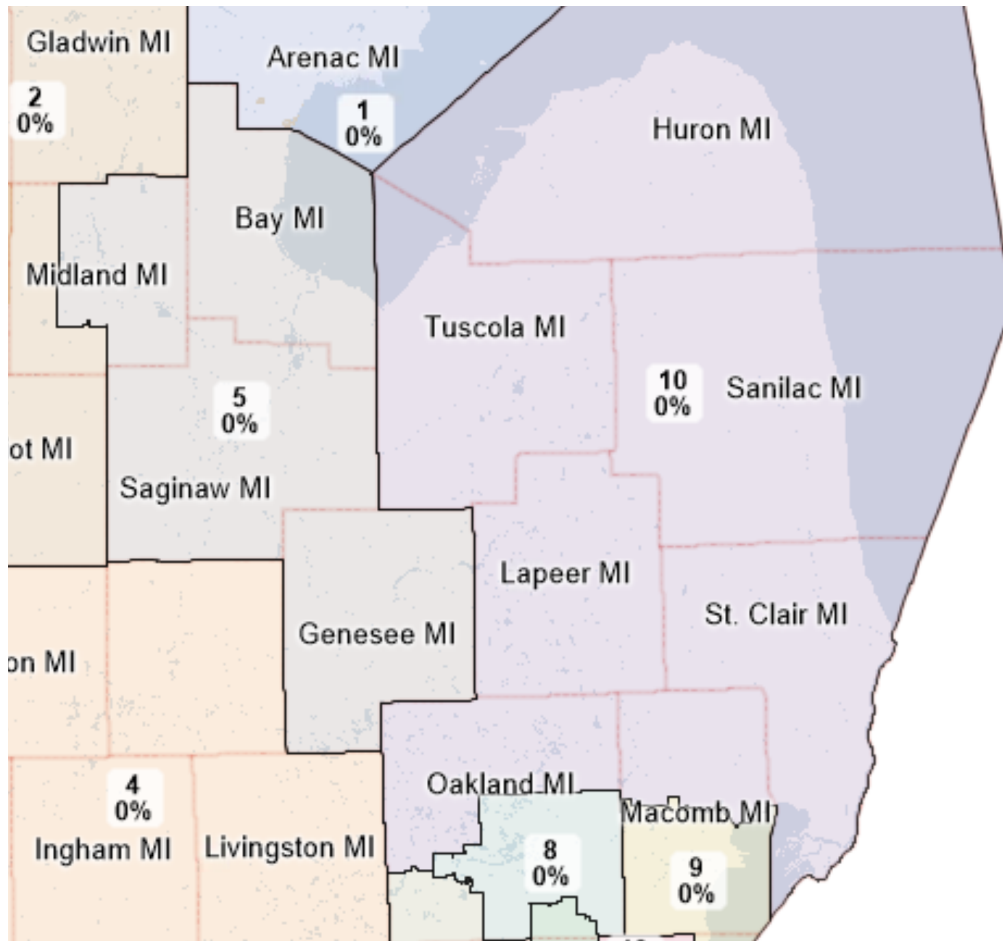
Since avoiding county and municipal splits is only above compactness in Michigan state law, I opted to split both counties and municipalities at times to preserve communities of interests, to achieve perfect population, or to comply with the VRA. Macomb County is split twice in my map, equal to the current number of splits, and the more rural northern parts of the county have been joined with the "Thumb" counties that share a rural character. The southern portion of Macomb county instead anchors the 9th district, which is almost entirely located in Macomb County except for the Grosse Pointe communities of Wayne County. These communities are also among the wealthiest in the state, and are also heavily white. When making the VRA districts in Detroit, keeping the Grosse Pointe municipalities together with the 13th district decreased Black percentage of the population significantly and required splitting the Downriver community of interest. Splitting Wayne an additional time to put the Grosse Pointe communities in the 9th district was thus necessary.

Oakland County is split 4 times. District 12 takes the Black suburbs in southern Oakland County to achieve VRA compliance. District 8 takes most of the rest of the county, but Oakland is too large to fit in one district, so the remainder of the suburbs are grouped with the suburban Wayne and Ann Arbor based 11th district while the rural northern communities join the Thumb-based 10th district.

Wayne County is split a total of 5 times, mostly for VRA and community of interest reasons as explained earlier. In order to achieve perfect population, however, Belleville and other southern Wayne communities were given to the southern Michigan based 7th district. The alternative to a 5th Wayne split was splitting Washtenaw County, but I opted to split the already split Wayne once more instead of splitting the currently-whole county of Washtenaw.

In total, in the Detroit area only 8 municipalities are split. Of those, 2 are split because city boundaries cross county lines, one is split because of water, and one is Detroit, which must be split to comply with the VRA. When municipal boundaries cross county lines, I gave priority to preserving counties over cities, hence the 2 splits. The final two municipal splits, Walled Lake between Districts 8 and 11 and Huntington Woods between Districts 8 and 12, both in Oakland County, are necessary to achieve equal population for all districts.

The Thumb and Tri-Cities:



State Law:

Communities of Interest:

There are two primary communities of interest in this region. The first is the rural “Thumb” in District 10. The Thumb is a distinct region of the state, composed of mostly rural counties heavily tied to Lake Huron. While some of the Thumb Counties, notably Lapeer, St. Clair, and northern Oakland and Macomb, have economic links to the Detroit region; these links are much weaker than the ties other areas like southern Macomb and Oakland Counties have. Additionally, the nature of the aforementioned 4 counties is much more rural than any of the other regions included in the Detroit metropolitan area districts, making it more logical to pair these counties with their rural northern neighbors. The Thumb is also a heavily agricultural region, differentiating it further from the industrial Tri-Cities and Detroit. Between the weaker economic links to metro Detroit and the rural and agricultural nature of the Thumb, making a district focused almost exclusively in that region makes sense in almost any map, hence the current map’s District 10 also being based in the Thumb.

The second community of interest in this region is the Tri-Cities of Saginaw, Bay City, and Midland. These three mid-sized cities share a few different interests. First, they are all smaller urban communities separate from the larger Detroit and Lansing metropolitan areas. While there are of course some connections, each is designated as a unique metro area by the Census Bureau. Second, these communities share similar economic profiles. All three are quintessential Rust Belt cities, facing declining populations due to manufacturing's decline. The cities are also quite poor in terms of median household income, comparable to Detroit more than to suburbs like those in Oakland County. Included in this community of interest are the suburbs of each of these cities, which have deep economic links to the city center and with each other. All 3 cities and their suburbs lie on the I-75 corridor, and Saginaw and Bay City have significant minority populations, and combined with Flint make District 5's Black population 17.1%. Grouping these mid-sized cities that have demographic and economic similarities to one another is a common choice in many redistricting plans, including in the current map. That being said, the current District 5 does not include all of Saginaw County, unlike mine, and instead extends north into rural Arenac and Iosco Counties. I opted to reunite Saginaw County as the Saginaw suburbs are more closely linked and similar to the rest of the district than the rural northern counties, who share more in common with the other counties of the northern Lower Peninsula. I made the decision to include the City of Midland and its surrounding communities in District 5. While this decision will not be without criticism, I stand by it. In the current map, Midland County is a part of District 4, a mostly rural district in central Michigan. Midland, as a mid-sized city, is better represented by my proposed urban District 5 than by a predominantly rural central Michigan district.

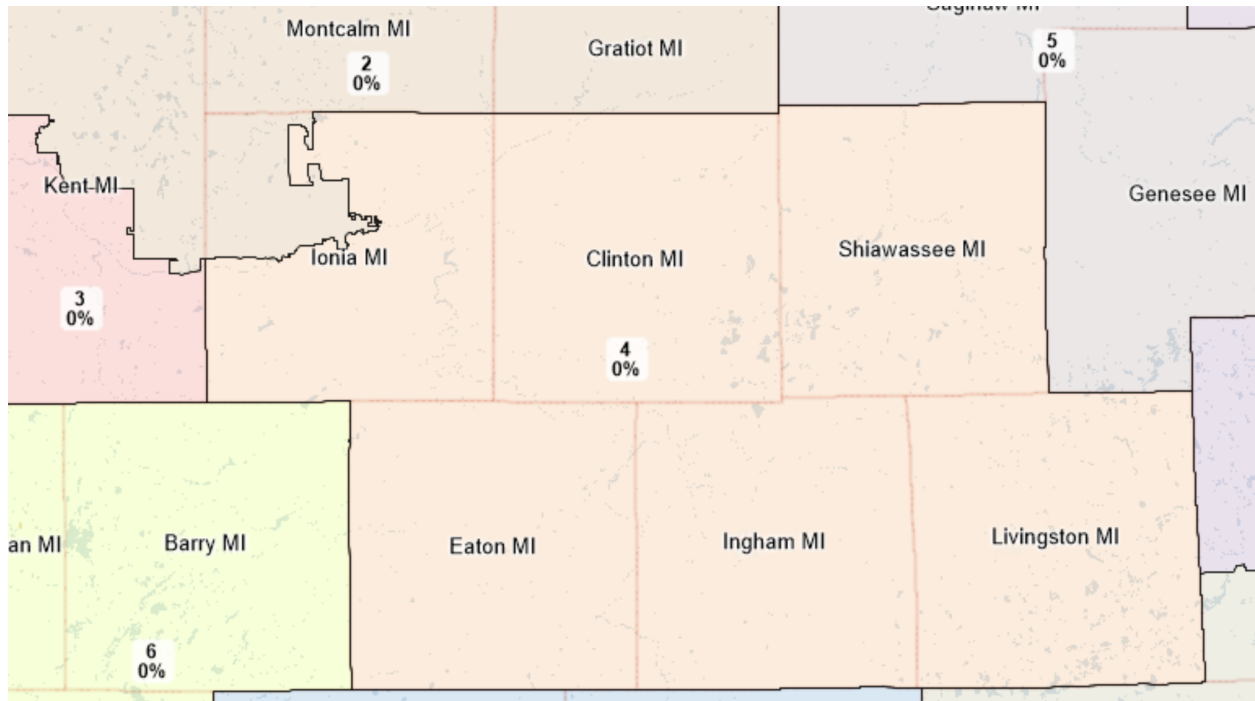
Also included in District 5 is the City of Flint and the rest of Genesee County. Flint, although technically part of the Detroit metro area, is a sizable city in its own right. In addition, its location on the outskirts of the Detroit metro make it very difficult to connect to the rest without splitting other communities of interest like the Oakland County suburbs or the Thumb. Flint share many similarities with the Tri-Cities, namely its industrial past, socio-economic makeup, and urban character. As such, it makes more sense to pair Flint with the Tri-Cities than to attempt to include it with other Detroit metro regions.

Minimal County and Municipal Splits:

This region has very few county splits. The Oakland and Macomb splits in District 10 have already been discussed at length. The only other split county in the region is Midland County, which needs to be split to avoid overpopulating District 5. At least one county in District 5 needs to be split, and Genesee, Saginaw, and Bay Counties are all much more integrated and similar to each other than Midland. Midland, as the odd-one-out demographically, is the easiest to split. Plus, Midland County's eastern edge is quite rural and fits well into the rural central Michigan based District 2.

5 municipalities are split in this region. All are cross-county cities that are split in order to preserve counties.

Lansing Metro/Mid-Michigan:



State Law:

Communities of Interest:

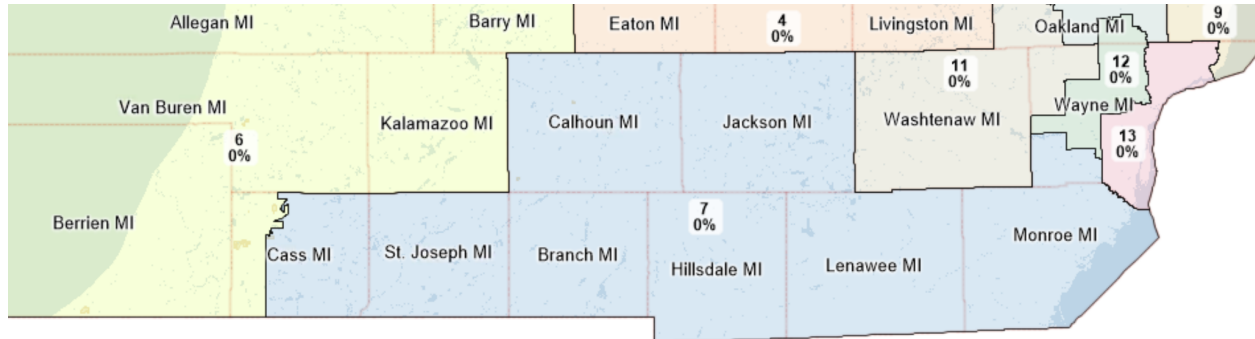
The largest community of interest in this region is, unsurprisingly, the Lansing metropolitan area. Ingham, Clinton, and Eaton Counties make up the core of the Lansing metro, but in the current Michigan map, these three counties are each in a different district: Ingham in the 8th, Eaton in the 7th, and Clinton in the 4th. As such, the Lansing community is not adequately represented under the current configuration. My map changes this, uniting the metro area and making it the anchor of the new District 4. However, the Lansing metro alone is not large enough to constitute a district. Thus, to achieve perfectly equal population as required by one person, one vote, I added Shiawassee, Livingston, and portions of Ionia Counties to the district. These more outlying counties are more rural than the Lansing metro, but are geographically the most logical places to include. Trying to integrate other more urban areas into the district would require more county splits and would split up other communities of interest. For instance, trying to connect to Flint would require splitting Genesee County, and would require including more rural areas in the urban focused District 5 to make up for the loss of Flint. Grand Rapids is too large to fit compactly with Lansing in a district, and adding Jackson or Battle Creek to District 4 would force District 7 to take in either more of Wayne County, likely splitting the Downriver cities from each other, or to take Kalamazoo, which is large enough to anchor its own district and would distort the more rural/small metropolitan nature of District 7. As such, these counties fit best both geographically and community-wise with Lansing and District 4.

Minimal County and Municipal Splits:

Only one county is split in District 4: Ionia. This was necessary to preserve one person, one vote, as the six counties of District 4 are slightly above the ideal population of a single district.

4 municipalities are split in District 4, 3 of which are split to keep counties whole. The other split city, Ionia in its namesake county, is split due to discontinuous city limits. This is a common problem in Michigan, as many cities have irregular municipal boundaries.

Southern Michigan:



Voting Rights Act:

While southern Michigan's District 7 is not a VRA district, it was impacted by Detroit's two VRA districts. District 7 took in portions of unincorporated southwest Wayne County that could not be included in Districts 12 or 13 without significantly diminishing the Black populations of either. Either District 11 or 7 could have taken in those areas, but 11 would have been overpopulated with those areas included, which would necessitate District 7 taking portions of eastern Washtenaw County to compensate. To avoid splitting an additional county, I opted to absorb southwestern Wayne into District 7 instead.

State Law:

Communities of Interest:

District 7 is a combination of a few communities of interest. The first is the rural border counties on Michigan's southern border, which are primarily agricultural areas. The second important community of interest in District 7 are the small metros of Battle Creek, Jackson, and Monroe. These three small cities are linked to the agricultural areas that surround them, often being dependent on them economically. For example, Battle Creek's Kellogg's uses wheat from the surrounding areas in its factories. Since the small metros are not large enough for their own districts, it makes sense to pair them with the agricultural areas along the Ohio and Indiana borders that they are deeply connected with.

The current Michigan map has a similar District 7, but I reunite Washtenaw County and the Lansing metro in exchange for adding Calhoun, St. Joseph, and portions of Cass Counties

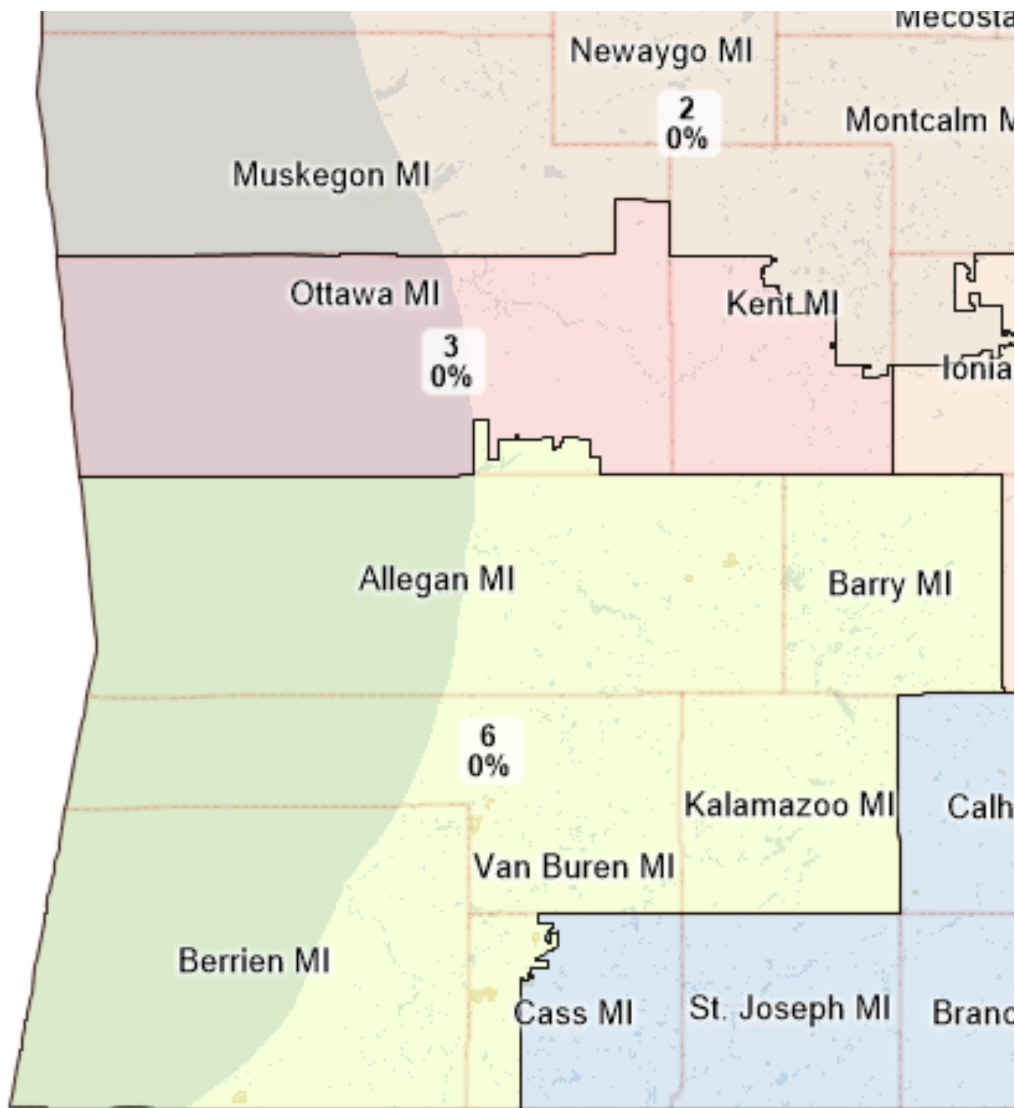
to the district. This refocuses the district more around the aforementioned communities while providing better representation to both Lansing and Washtenaw at the same time.

Minimal County and Municipal Splits:

District 7 splits two counties: Wayne, as previously mentioned, and Cass. Cass's split is necessary to balance population between Districts 6 and 7.

3 municipalities are split in District 7. Two of these splits are made to preserve county lines, while the final split in Dowagiac in Cass County in Cass County. This split is due to Dowagiac's municipal borders being discontinuous, and only 6 people are placed in District 7 because of a small exclave.

Grand Rapids and Kalamazoo Metros/West Michigan:



State Law:

Communities of Interest:

There are three main communities of interest I considered in this region. The first is the Grand Rapids metropolitan area. The Grand Rapids metropolitan area as defined by the census includes Kent, Ottawa, Montcalm, and Ionia Counties. However, this is too populous an area for one single district. Thus, the question is where and how to split the metro. I kept the urban core of Grand Rapids and its most immediate suburbs together and decided that the most logical pairing was southern Kent County and Ottawa County. Ottawa County is the most populous of the non-Kent metro area counties and is more heavily suburbanized. Montcalm and Ionia Counties are much more rural in character, making it an unnatural pairing for urban Grand Rapids and its suburbs when there are more similar options available. For similar reasons I opted to split Kent County's more urban southern portion from its rural, more agricultural north. Currently, the Grand Rapids metro is much more divided than in my map. Most of Montcalm County belongs to District 4, Grand Rapids proper is paired with the most rural portions of Kent County and then extends an arm through rural Ionia and Barry to grab Battle Creek, a city with which it shares little. Grand Rapids' largest and innermost suburbs of Wyoming and Kentwood are split from the city itself and joined with Ottawa and Muskegon Counties that then extends upwards into rural central and northern Michigan. In short, the current map pairs urban, suburban, and rural with little regard for each community type. My map resolves this and, even though it still splits the metro between three districts, these districts are much more focused on representing the nuances of each portion of the metro area.

The second community of interest in this region is the small metro area of Kalamazoo. This is Michigan's third largest, and is the anchor for my District 6. The current map also has a very similar District 6 anchored in Kalamazoo.

The final community of interest I considered in this region is Lake Michigan coastal communities. These extend from Berrien County up through Muskegon County and are generally more dependent on tourism than other areas of West Michigan, and also have an important fishing industry. There is somewhat of a conflict between this community and other communities, however, notably my priority of preserving metropolitan areas where possible. Since Ottawa County is deeply connected to Grand Rapids, and Muskegon is its own metropolitan area, I had to decide whether to prioritize metro cohesion or lakeshore cohesion. Ultimately, I decided to preserve metropolitan areas. I stand by this decision, as I believe that the economic, infrastructural, and political ties between the Grand Rapids metro area are greater than the need for Ottawa to be grouped with the rest of the lakeshore.

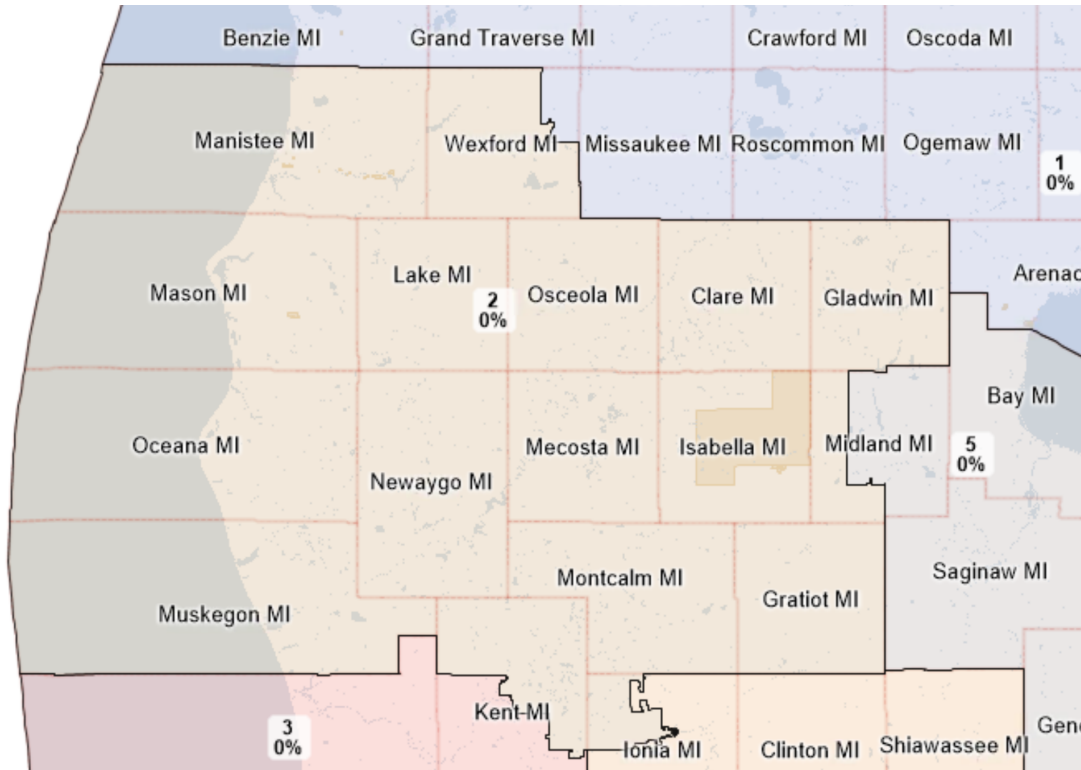
Minimal County and Municipal Splits:

Ottawa, Cass, and Kent Counties are both split in this map. The Kent and Cass splits have already been discussed. In Ottawa, the split is due to the need to add population to District 6 to comply with one person, one vote. I split the cities of Holland, Zeeland, and Beechwood from the rest of Ottawa County and added them to District 6. This configuration is the most effective way to split Ottawa while considering communities of interest. Holland's city limits cross into both Ottawa and Allegan Counties, and the rest of Allegan County is linked to Holland economically, to the point where Allegan is considered part of a Holland micropolitan area by the

Census Bureau. Since Allegan was already in District 6, splitting Holland from Ottawa was a good way to preserve both the Grand Rapids metro and the Holland micropolitan communities, while also helping add more influence for the lakeshore communities within District 6 as well.

Only 1 municipality is split in this region: Forest Hills in Kent County. This split was necessary in order to balance Districts 2 and 3 population wise to comply with one person, one vote. In various reshuffles of the Kent County split, this was the version that split the fewest municipalities while achieving balanced populations.

Central Michigan:



State Law:

Communities of Interest:

District 2 is primarily based around rural central Michigan. Even though the county includes portions of Kent and Ionia Counties from the Grand Rapids metro area, it includes only the most rural regions of the metro. The current District 2 currently spans the Grand Rapids suburbs, urban Muskegon, and rural central Michigan. My version, which cuts out the suburban portion of the district and refocuses on rural, more effectively represents the region's population.

The other major portion of the district is Muskegon County. This small urban county is much more diverse and much less rural than the rest of the district. Nevertheless, I believe the best fit for Muskegon is in District 2. The alternative arrangements require splitting other communities of interest. Pairing Muskegon with Grand Rapids, aside from being questionable due to the lack of ties between the two cities, would also force District 2 to extend much further

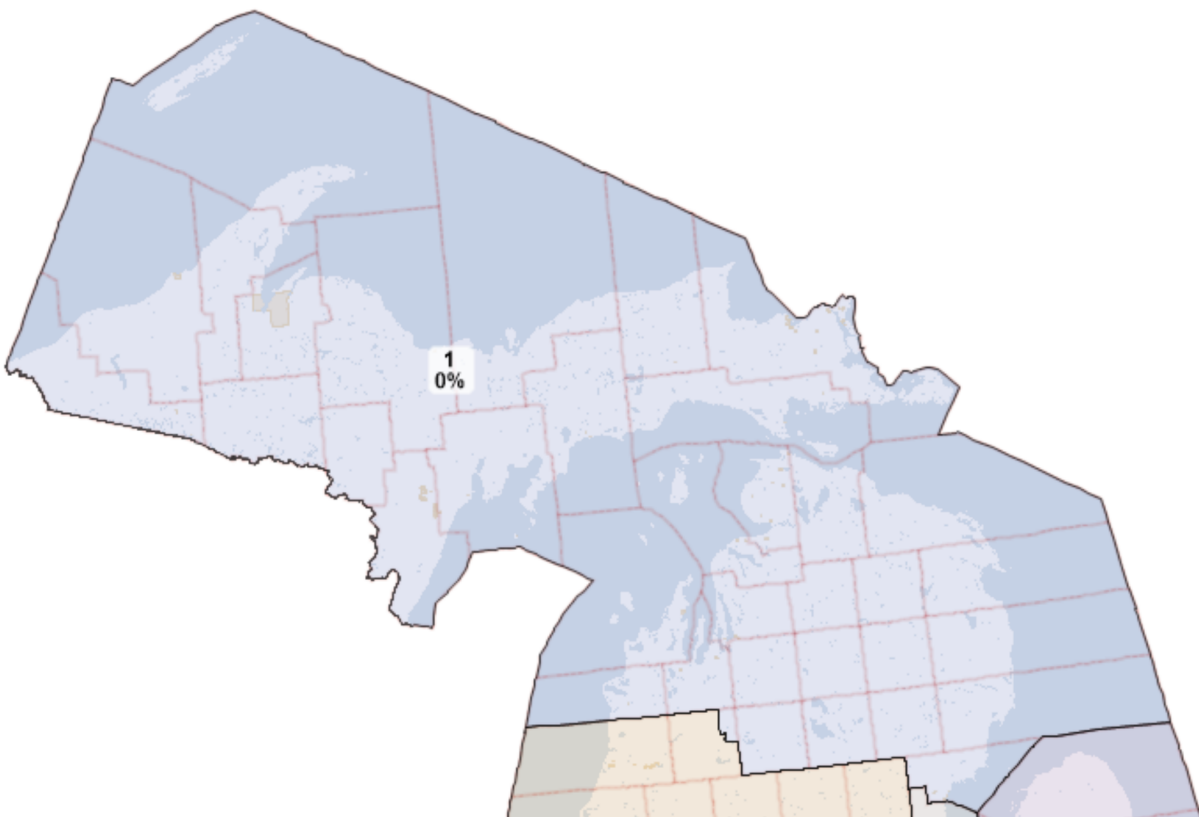
south to reach ideal population. This would likely mean splitting either Clinton or Eaton County in the Lansing metro area, a split that I explicitly aimed to avoid in drawing District 4. The other options would be to extend east and take portions of Midland and Bay Cities, splitting the Tri-Cities and forcing District 5 to extend into more rural territory to make up the loss. In short, Muskegon is unfortunately situated in a way that makes it difficult to pair with similar communities, and thus I decided to preserve the variety of other communities of interest across the state rather than try to integrate Muskegon into a more urban district.

Minimal County and Municipal Splits:

There are 4 counties split in District 2: Midland, Kent, Ionia, and Wexford. The former 3 have all been discussed earlier. The Wexford split is necessary to balance the population between the 1st and 2nd districts.

The only municipalities split in District 2 are Ionia and Forest Hills, both of which have already been covered.

Northern Michigan/Upper Peninsula:



State Law:

Communities of Interest:

There are multiple communities of interest in this region. The first is the Upper

Peninsula, which is kept whole. The second is the northern Lower Peninsula as a whole, which shares a forested, rural, less agricultural character with the Upper Peninsula that sets these two regions apart from other areas of Michigan. There are other communities of interest in this region as well, including the cherry and other fruit growing regions along the northern Lake Michigan coast and the Traverse City area, but since the area is quite rural in general, all of these communities fit quite easily together and there is very little tension between them when drawing districts.

Minimal County and Municipal Splits:

Only one county is split in District 1, Wexford, and it has already been discussed. There are no municipal splits.

Statewide Compliance with Legal Requirements

Certain portions of the requirements laid out in Michigan's constitution can only be evaluated on a statewide level. Besides the incumbent blind mapping requirement, which I complied with, the other main requirement under Michigan law is partisan fairness. The exact provision states that "districts shall not provide a disproportionate advantage to any political party. A disproportionate advantage to a political party shall be determined using accepted measures of partisan fairness." However, this still leaves room for interpretation. Lisa Handley, the MICRC's chief partisan fairness advisor, used both mean-median gap and partisan efficiency gap to measure partisan fairness for the Commission's maps. A mean-median gap measures the difference between a party's median vote share and its mean vote share. More divergence between the two indicates a bias towards one party in the map. Partisan efficiency gap measures the amount of inefficient or "wasted" votes (votes for a losing candidate or votes over 50% for a winning candidate) for one party. It is calculated by adding up one party's total inefficient votes, subtracting the other party's inefficient votes, and dividing by the total number of votes. Higher percentages of wasted votes can indicate unfair packing or cracking of districts.

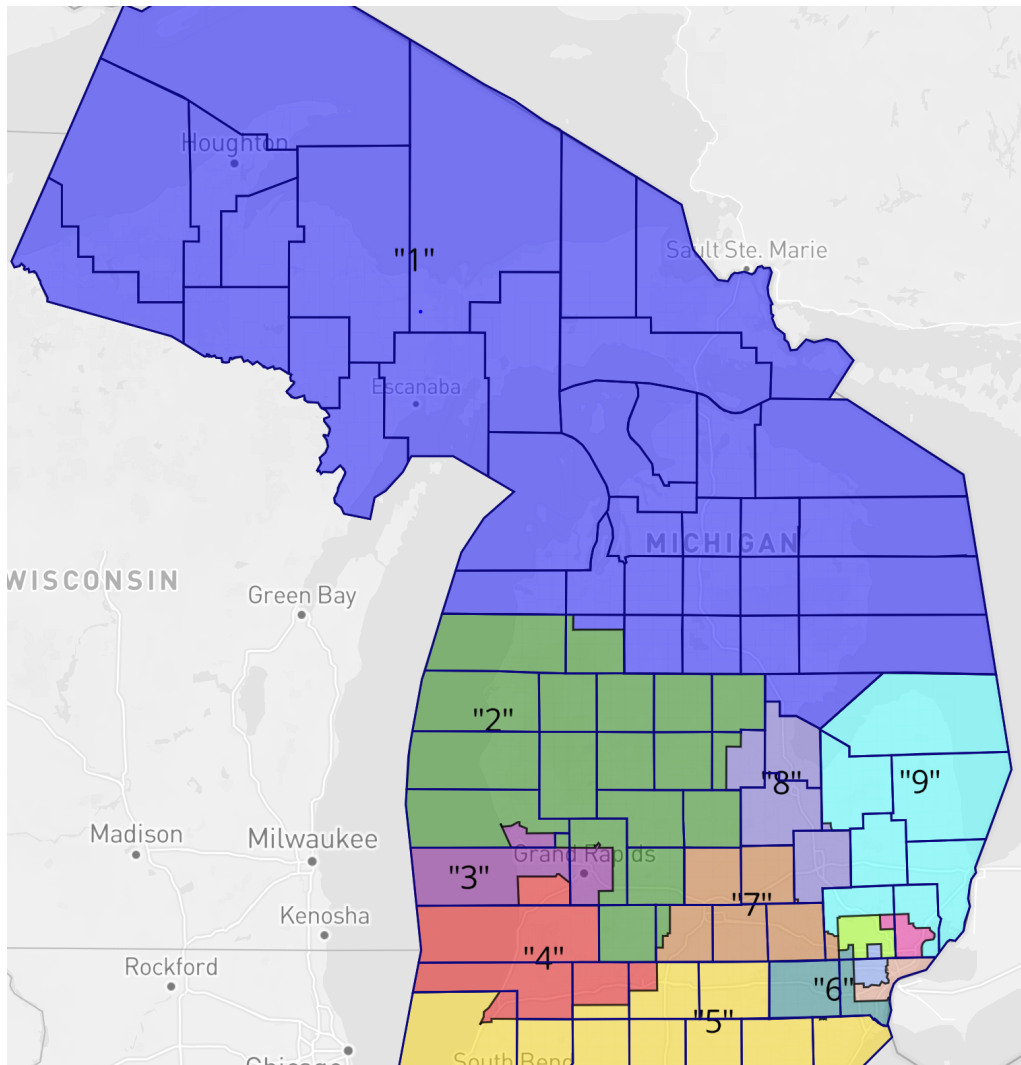
With this in mind, my plan stacks up much better than the current plan. The current Michigan map has a mean-median gap of 6.1% in favor of Republicans, whereas my map's is 2.1% in favor of Republicans. The old efficiency gap is 11.5% in favor of Republicans, and mine is 4.5%, also in favor of Republicans. My map is a huge improvement over the very clearly gerrymandered current map, but still is biased in favor of Republicans.

Since partisan proportionality was not one of the main criteria I focused on while drawing this map, I did not prioritize partisan fairness over other factors. Despite my map's improvements in terms of fairness, it was originally drawn without partisan data, focusing exclusively on communities of interest, the VRA, and keeping counties and cities whole. While the Commission has not specified exact numbers that it thinks would satisfy the requirement, and there is no litigation yet to serve as guidance, the best information I have on acceptable deviation is what the Commission is allowing in its proposals.

Comparison with MICRC Proposals

The MICRC narrowed their pool of maps down to three proposals, before voting to adopt the Chestnut plan on December 30, 2021. Still, comparing with their three proposals is useful due to the significant differences between the three plans themselves and between the MICRC proposals and my own plan. The three proposals are pictured below and are named Chestnut, Birch V2, and Apple V2.

Chestnut (Plan Adopted by MICRC):



There are a few key differences between my map and the Chestnut plan. First, our Detroit configurations differ significantly. Chestnut's Detroit districts stay almost entirely within Wayne County, with District 12 only taking in Southfield. Chestnut's Districts 12 and 13 are both only plurality-Black as well (46.4% and 47.5% Black by total population, respectively). This shows that the Commission was either even more confident that the lack of significant racially polarized voting in Detroit means that it would not violate *Thornburg v. Gingles* and Section 2 of

the VRA to have districts with less than 50% Black population, or it violated the VRA. I opted to preserve one minority-Black district and one plurality-Black district instead, so as to prevent possible challenges for diminishing Black representation from the two previous majority-Black districts under the current plan.

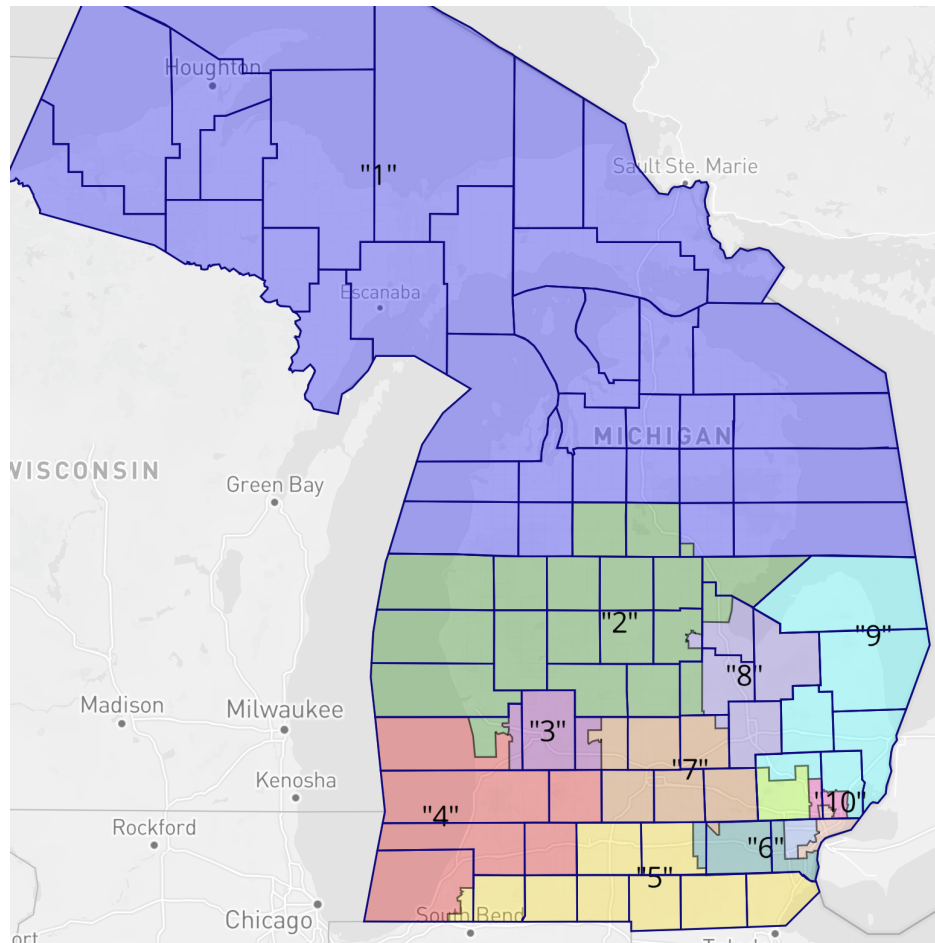
The other major difference between my map and the Chestnut plan is the Grand Rapids area. The Chestnut plan splits Muskegon and northern Ottawa County off and pairs them with Grand Rapids, creating a more reliable Democratic district. They also shift the Kalamazoo based 4th district upwards, taking in Battle Creek and southern Ottawa while ceding Cass and part of Berrien County to District 5, making District 4 slightly bluer. District 7 in Lansing and District 2 in central Michigan shift slightly to accommodate these differences.

Beyond the actual map, it is important to note that Chestnut and all other MICRC plans are not balanced for ideal district population. While the deviations are small, I still opted to split more counties and precincts to reach ideal population in all my districts. This also makes my districts less vulnerable to challenges under *Karcher v. Daggett*. Although the Commission could argue that not splitting counties and precincts is a “legitimate state objective,” I find the argument unconvincing as population equality is the first priority of the Commission under Michigan and federal law whereas respecting political boundaries is the second to last consideration.

In terms of partisan fairness, the Chestnut plan scores better than my plan, mostly because it was drawn using partisan data and explicitly with partisan fairness as one of its metrics, unlike my map. The Chestnut plan’s mean-median difference is 1.2% pro-Republican and its efficiency gap is 2.8% pro-Republican. Each is about half of the measures for my map. Despite my map’s worse partisan fairness scores, the lack of clarity on what is acceptable under Michigan law means that my map is not necessarily illegal.

The Chestnut plan splits 15 counties compared to my plan’s 9.

Birch V2:



Once again, the largest differences between my plan and the Birch V2 plan lie in the Detroit metro area. Birch's District 12 is in fact plurality-white at 48.8% white, 44.1% Black. District 13 is plurality-Black, but only at 43.5% Black and 41.9% white. While the low percentages of Black voters in these two districts does not for sure violate the VRA, it is likely that it will be challenged in court if passed. Given the fact that Michigan currently has two majority Black districts, this plan's inclusion of only one even plurality-Black district leaves the plan open to being struck down. For this reason, my plan is much less likely to be challenged under the VRA.

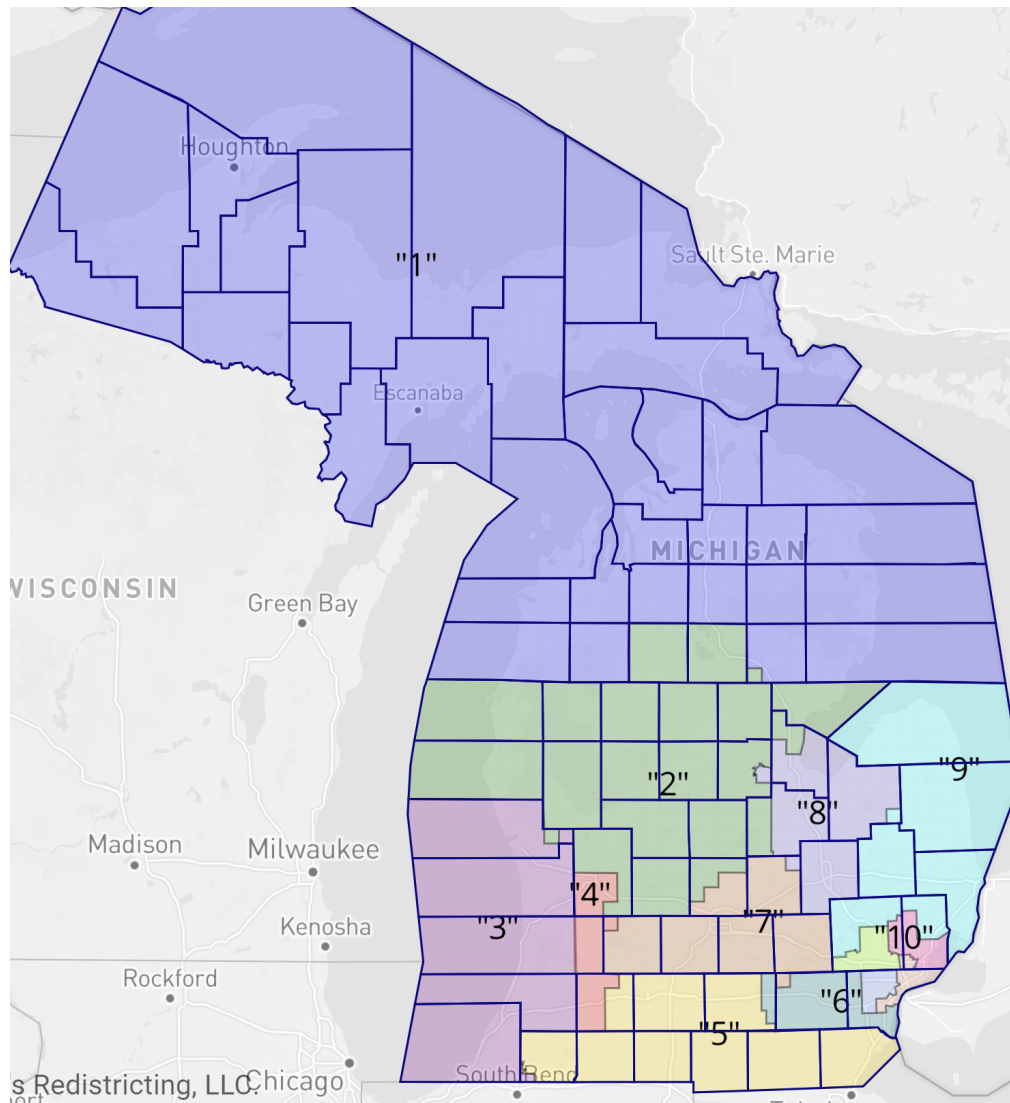
Other key differences between this plan and mine are Tri-Cities/Flint and Grand Rapids areas. The Grand Rapids-based District 3 in the Birch plan includes a mix of urban, suburban, and rural communities rather than my version which aims to keep the District mostly urban and suburban. In the Tri-Cities and Flint area, District 8 in the Birch plan and District 5 in mine, the Commission opts to split northern Bay County, western Saginaw County, and non-urban Midland County from the rest of the district, instead including rural Tuscola County. This does a disservice to the small cities that form the majority of District 8 by removing communities more connected to them in favor of a less connected rural county. It also disserves Tuscola County by separating it from the rest of the rural, agricultural Thumb community of interest. Overall, this

plan more poorly represents communities of interest than mine, while also inviting VRA challenges.

As stated before, this map is not perfectly population balanced either, unlike my plan. In terms of partisan fairness, the Birch V2 plan has a mean-median difference of 1.2% in favor of Republicans and an efficiency gap of 2.8% in favor of Republicans. This is the same as the Chestnut plan's and about half of my plan's scores (2.1% R mean-median gap and 4.5% R efficiency gap). While this map is more partisanly fair, the vagueness of Michigan law as to what constitutes partisan fairness does not disqualify my map, especially given that it respects the other requirements more than the Birch V2 plan.

The Birch V2 plan splits 13 counties compared to my plan's 9.

Apple V2:



The Apple V2 plan is the proposal that differs most from my plan. The Apple and Birch plans share the same configuration of Detroit districts, with all the potential VRA compliance

issues that come along with them. The shape of both Tri-Cities/Flint districts is also extremely similar. The largest difference between the Birch and Apple plans, as well as between my plan and the Apple plan, is in Grand Rapids and Kalamazoo. Whereas my plan makes each city and its suburbs the core of a single district (Districts 3 and 6 in my plan, respectively), the Apple plan instead groups both urban cores into a single district, District 4, with the goal of creating a solidly Democratic district to help achieve partisan fairness. While the Commission is successful in creating a strongly Democratic district, the changes necessitated by splitting off the suburbs of each city in fact make the proportionality statistics worse compared to the other two proposals. The Apple V2 plan's mean-median gap is 1.6% in favor of Republicans and its efficiency gap is 3.4% in favor of Republicans.

The Apple V2 plan chose to forego focusing on communities of interest in the Kalamazoo and Grand Rapids areas in order to prioritize partisan fairness, but failed to do so effectively. As such, despite my plan's worse partisan fairness metrics, it better preserves communities of interest, which is a higher priority for the MICRC according to Michigan's constitution.

The Apple V2 plan splits 18 counties while my plan splits 9.

Conclusions

My good governance and communities of interest focused plan for Michigan prioritized keeping communities of interest together above all other concerns besides compliance with federal law. Since I did not draw my districts using the exact same criteria as the MICRC, I did not have to balance partisan fairness with community of interest concerns as often as they did. However, I believe my plan's partisan fairness scores are still within an acceptable range, especially given the fact that many of my plan's Trump-won competitive districts have been trending Democratic over the past few elections, indicating that my plan may become more partisanly fair over time.

My plan would be less vulnerable to challenges under the VRA because it preserves a majority-Black district and would also be less likely to be challenged under one person, one vote because each district achieves ideal population. None of the Commission's proposed maps contain a majority-Black district nor are they perfectly equal population. Partisan fairness is the only large concern I have with this plan, as I believe that in terms of VRA representation, compliance with one person, one vote, and communities of interest concerns my proposal scores better than the Commission's three proposals while minimally splitting political divisions.

Appendices

Figure 3: Detailed Map of District 1

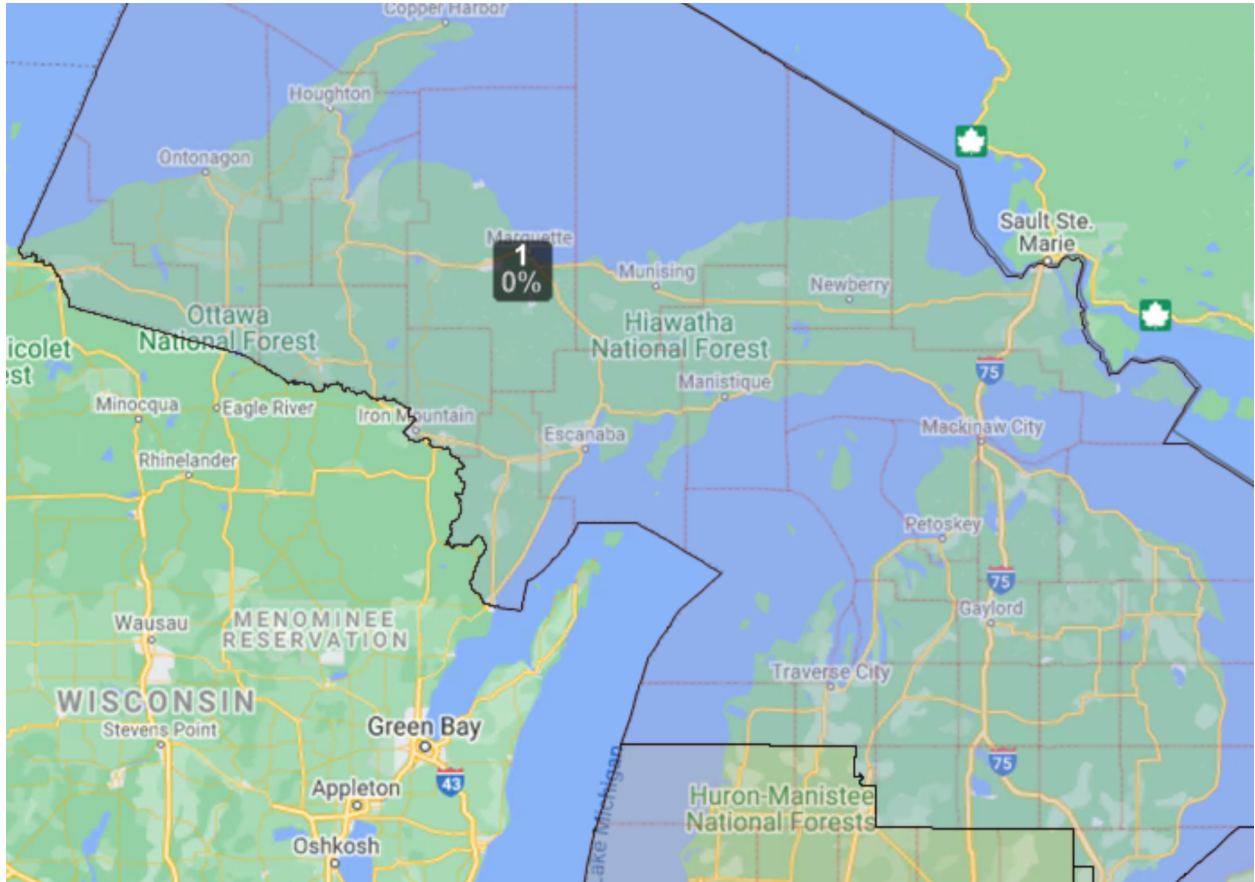


Figure 4: Detailed Map of District 2

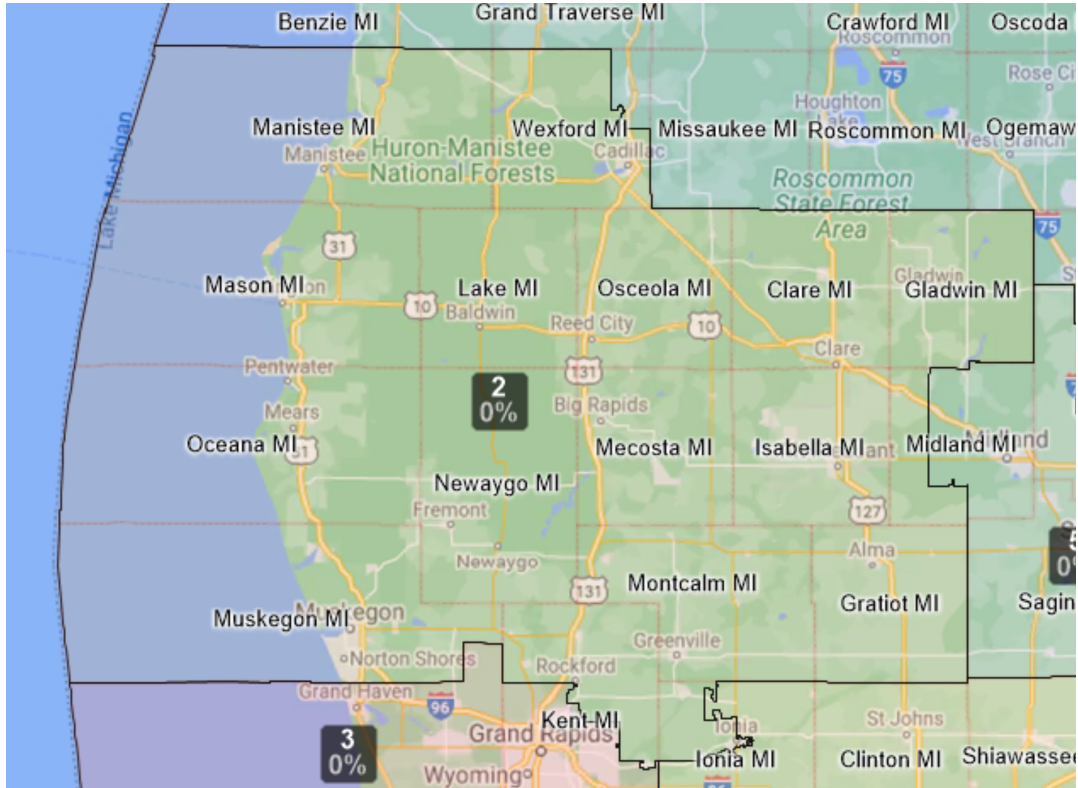


Figure 5: Detailed Map of District 3

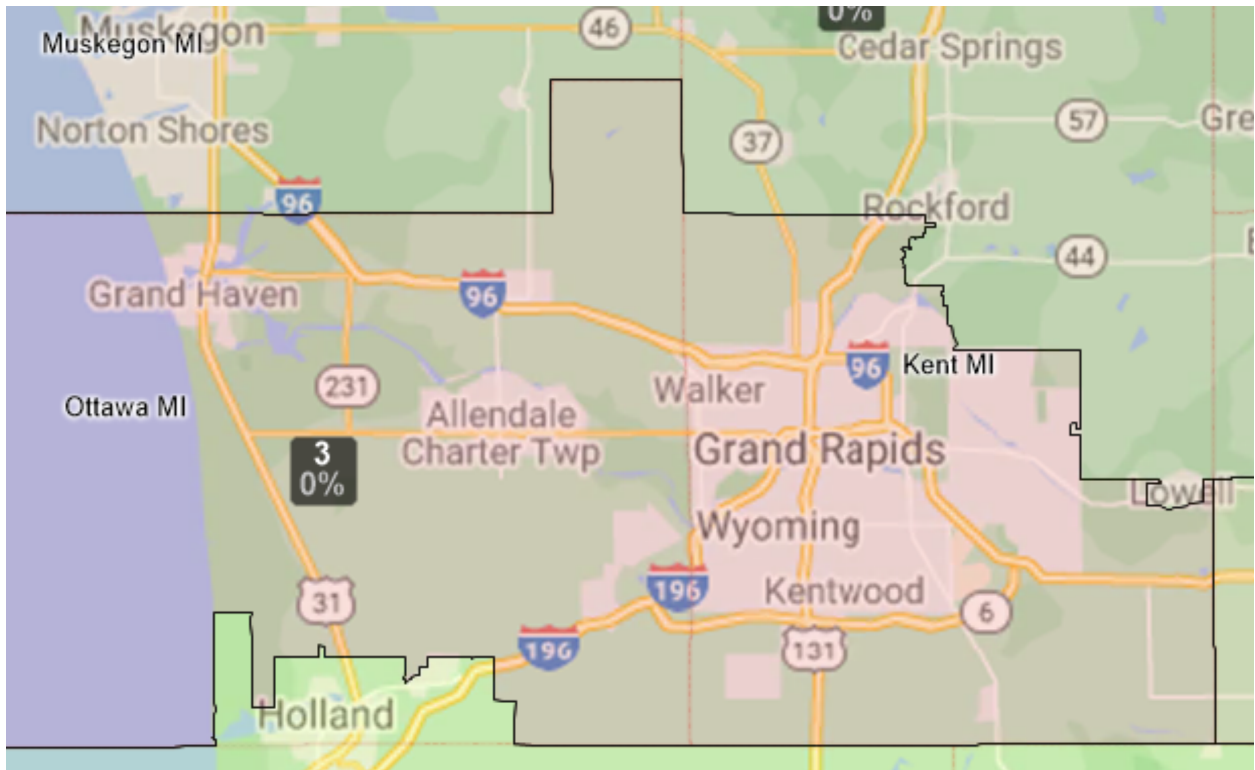


Figure 6: Detailed Map of District 4

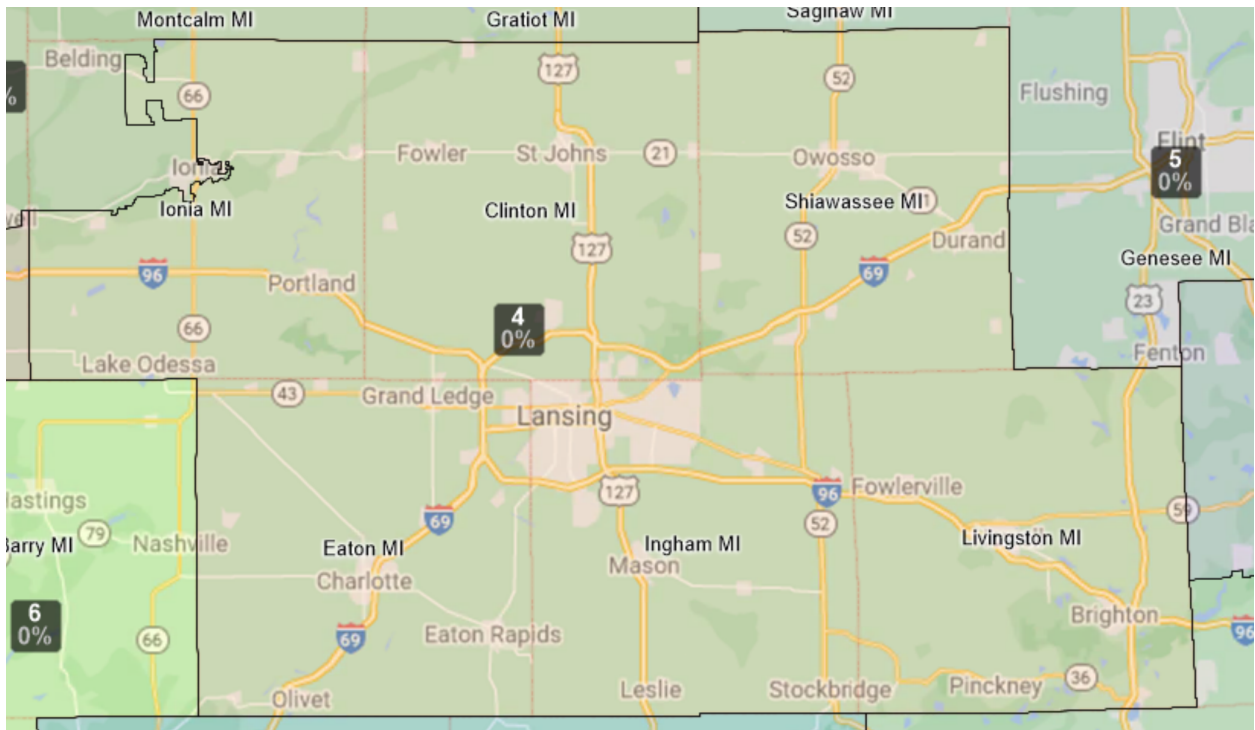


Figure 7: Detailed Map of District 5

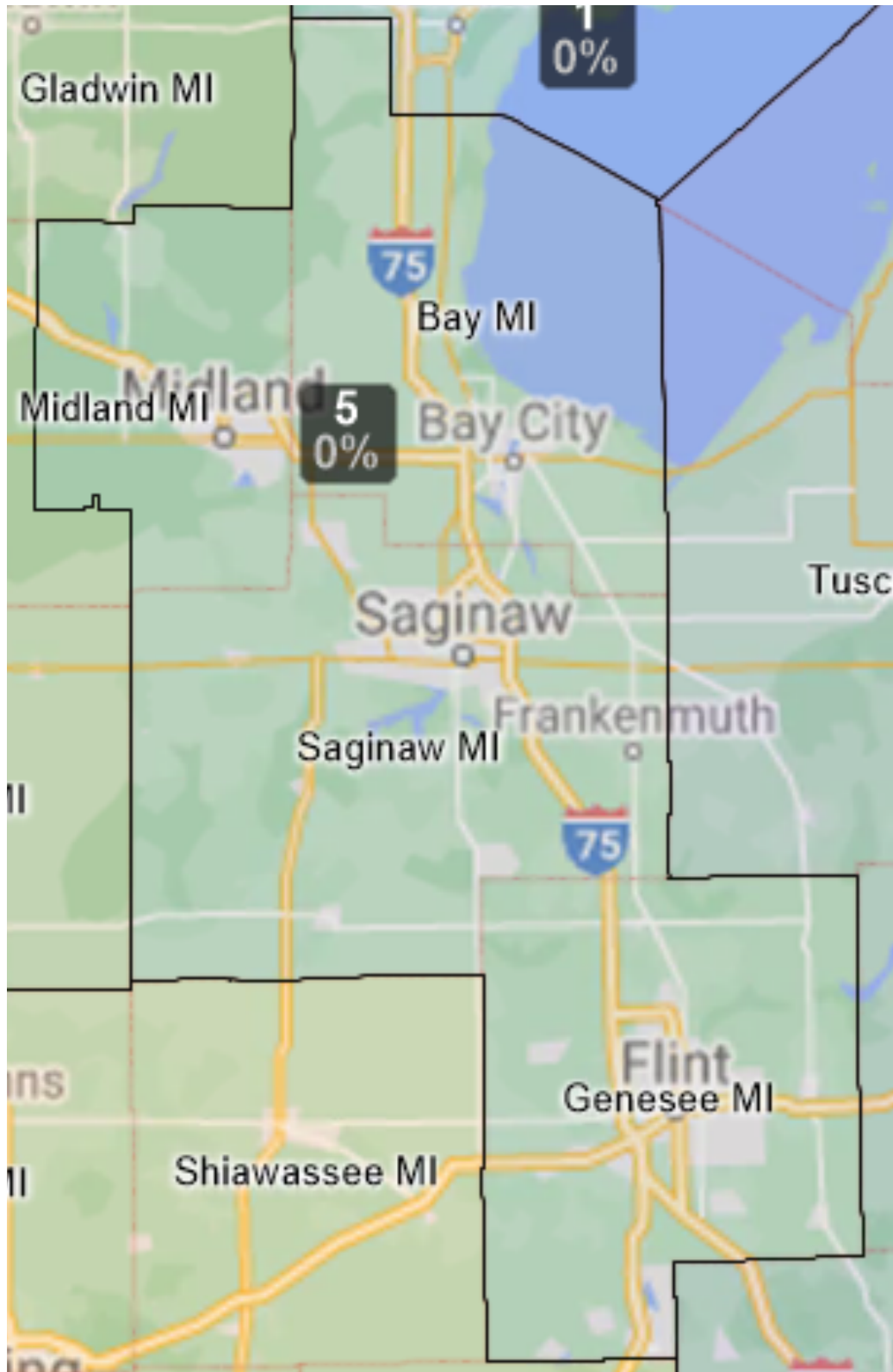


Figure 8: Detailed Map of District 6

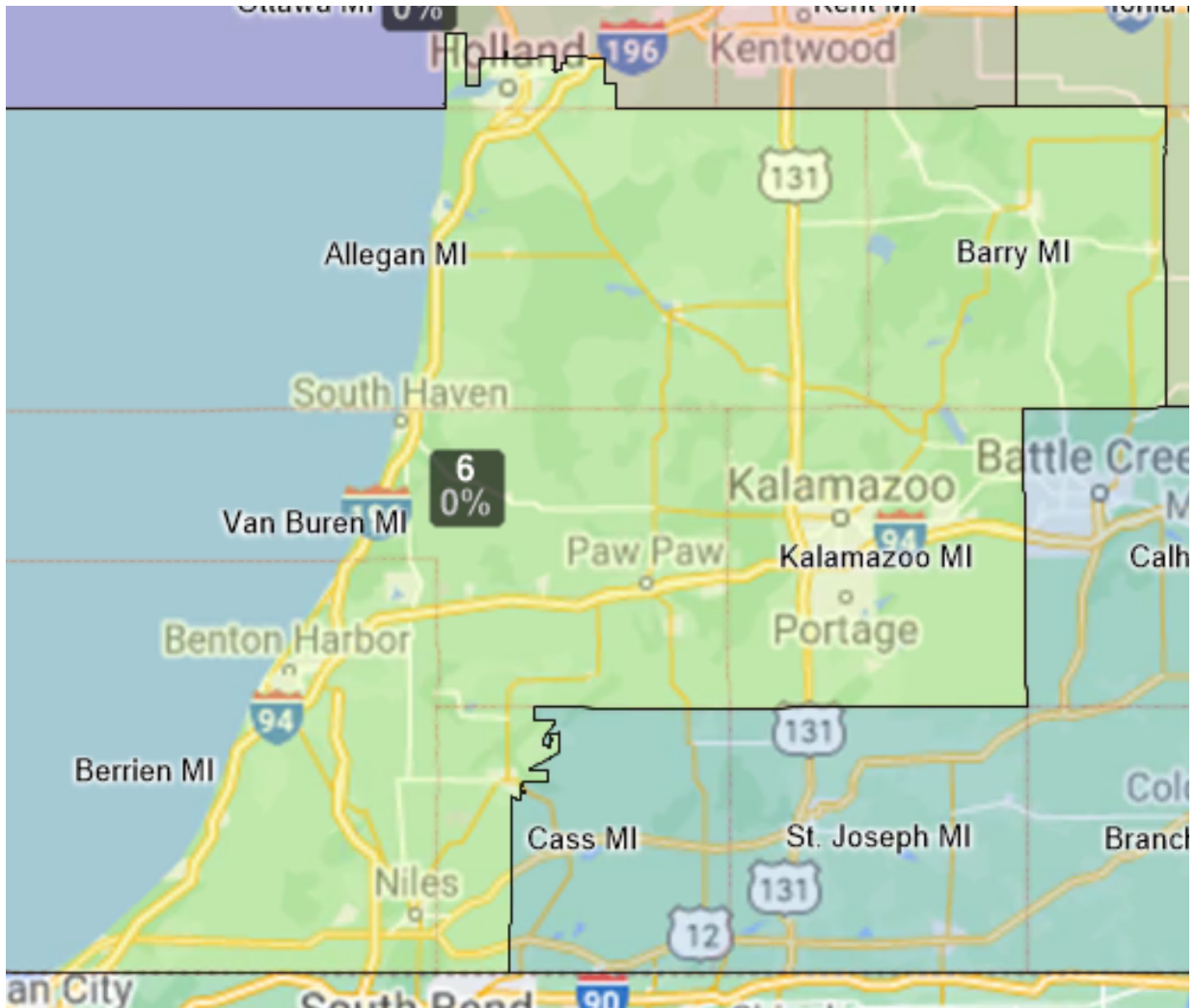


Figure 9: Detailed Map of District 7



Figure 10: Detailed Map of District 8

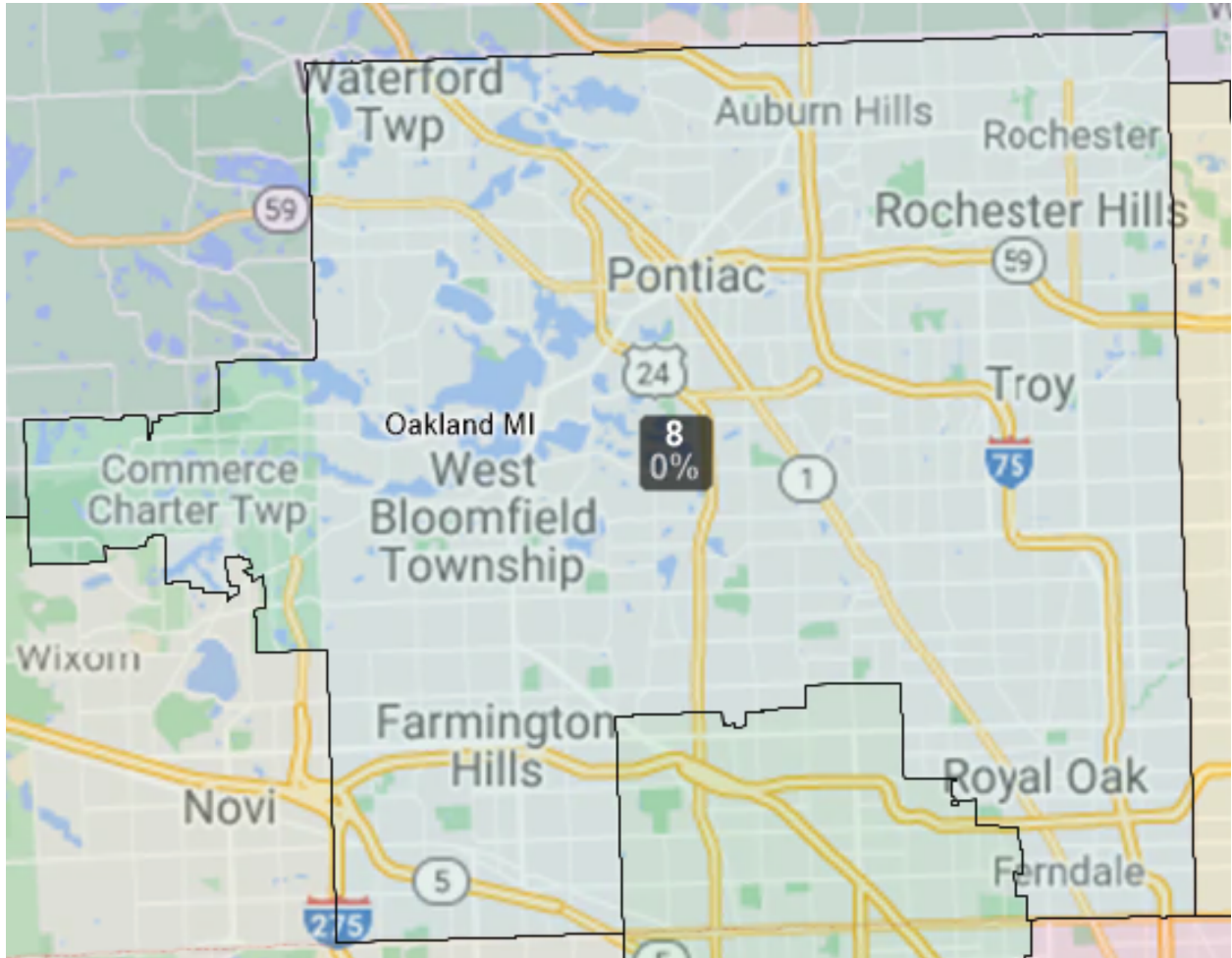


Figure 11: Detailed Map of District 9

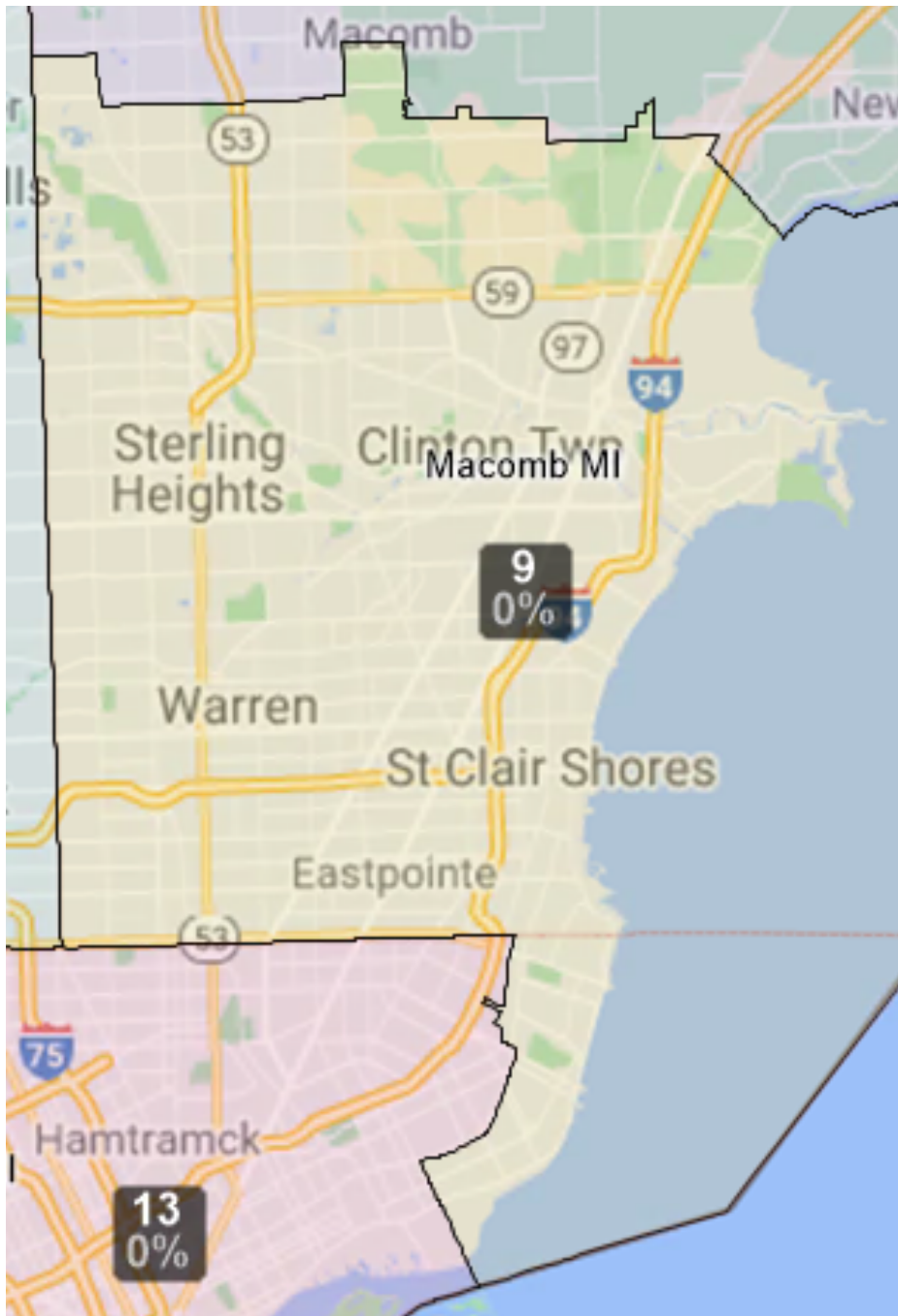


Figure 12: Detailed Map of District 10

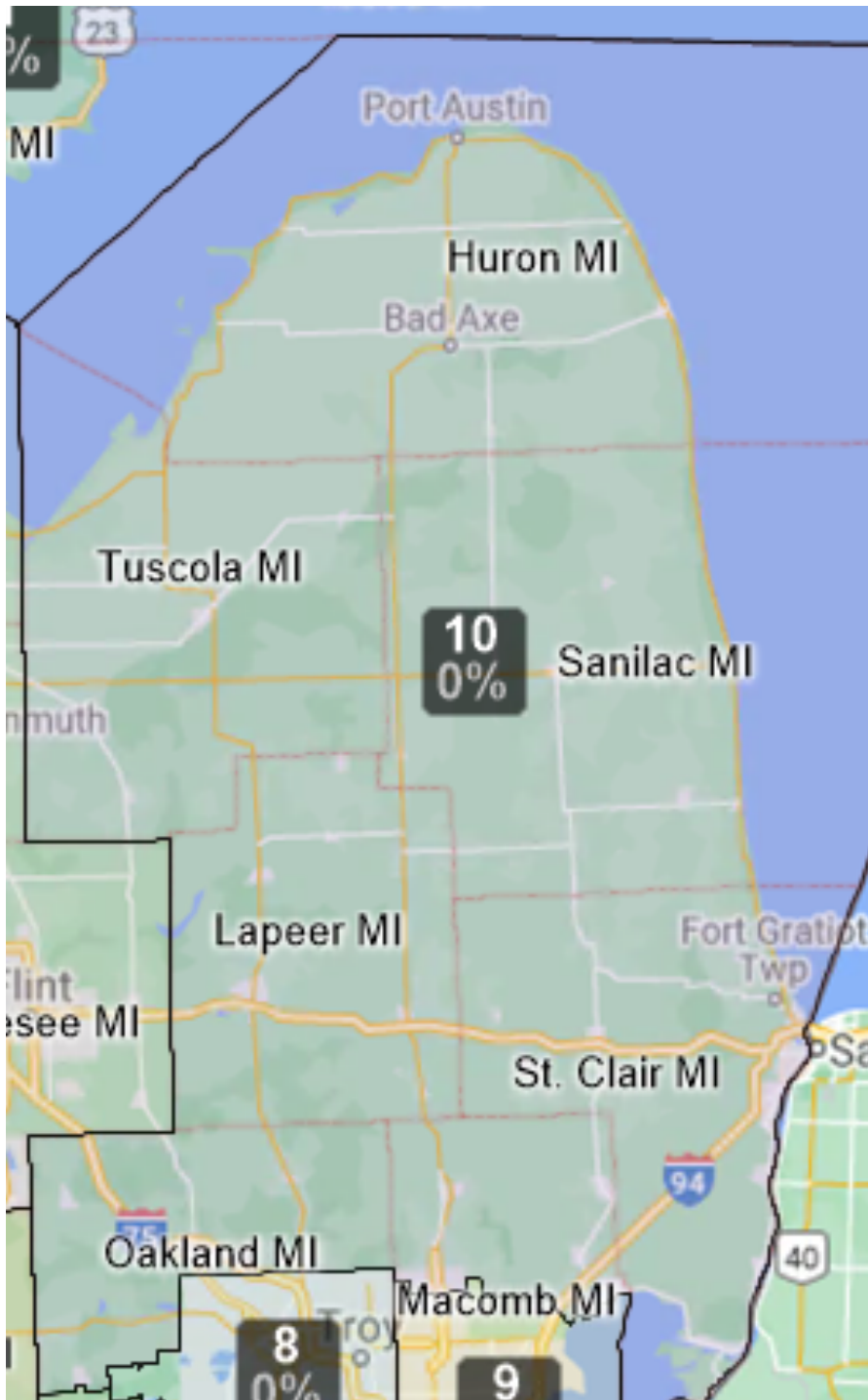


Figure 13: Detailed Map of District 11

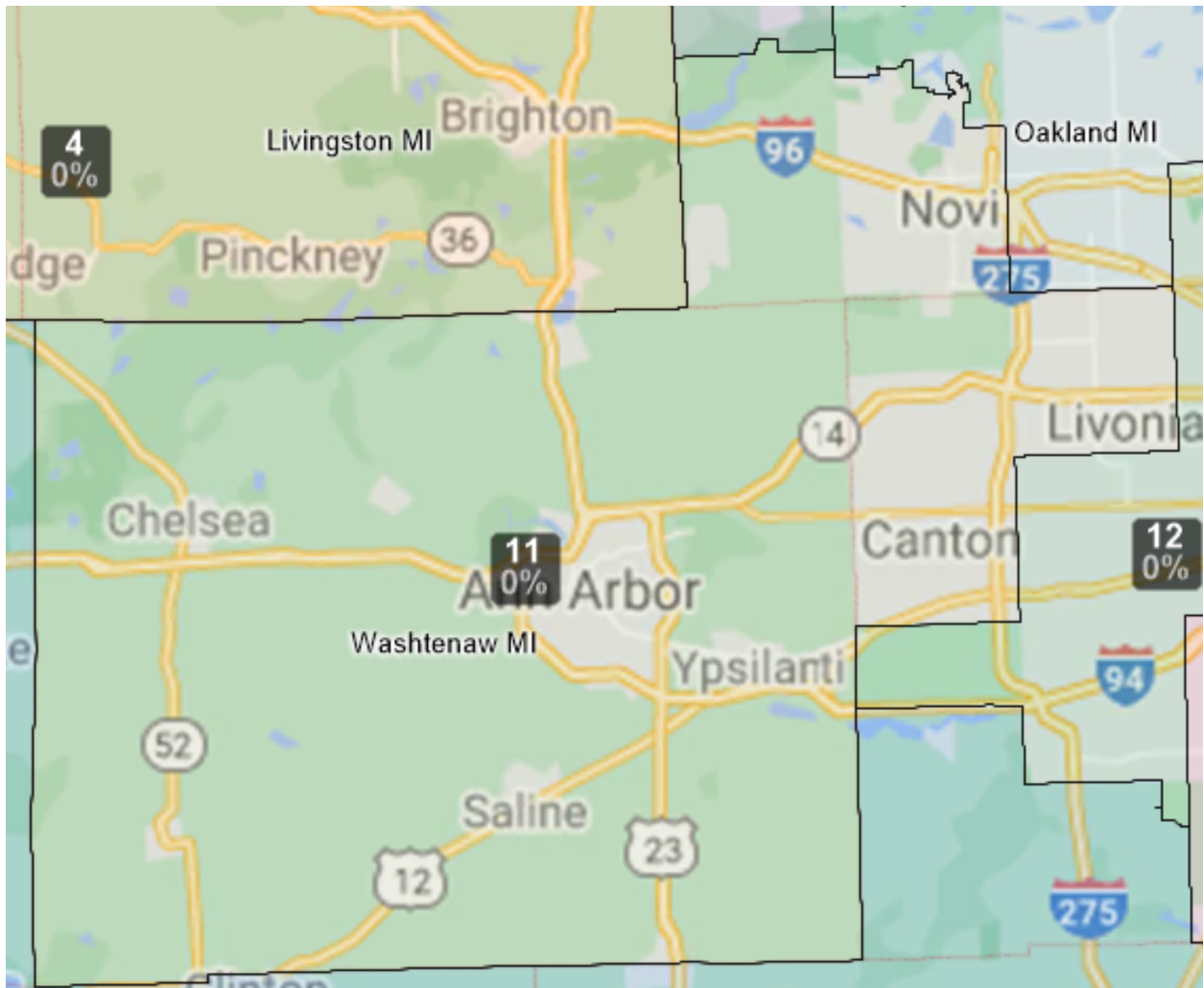


Figure 14: Detailed Map of District 12

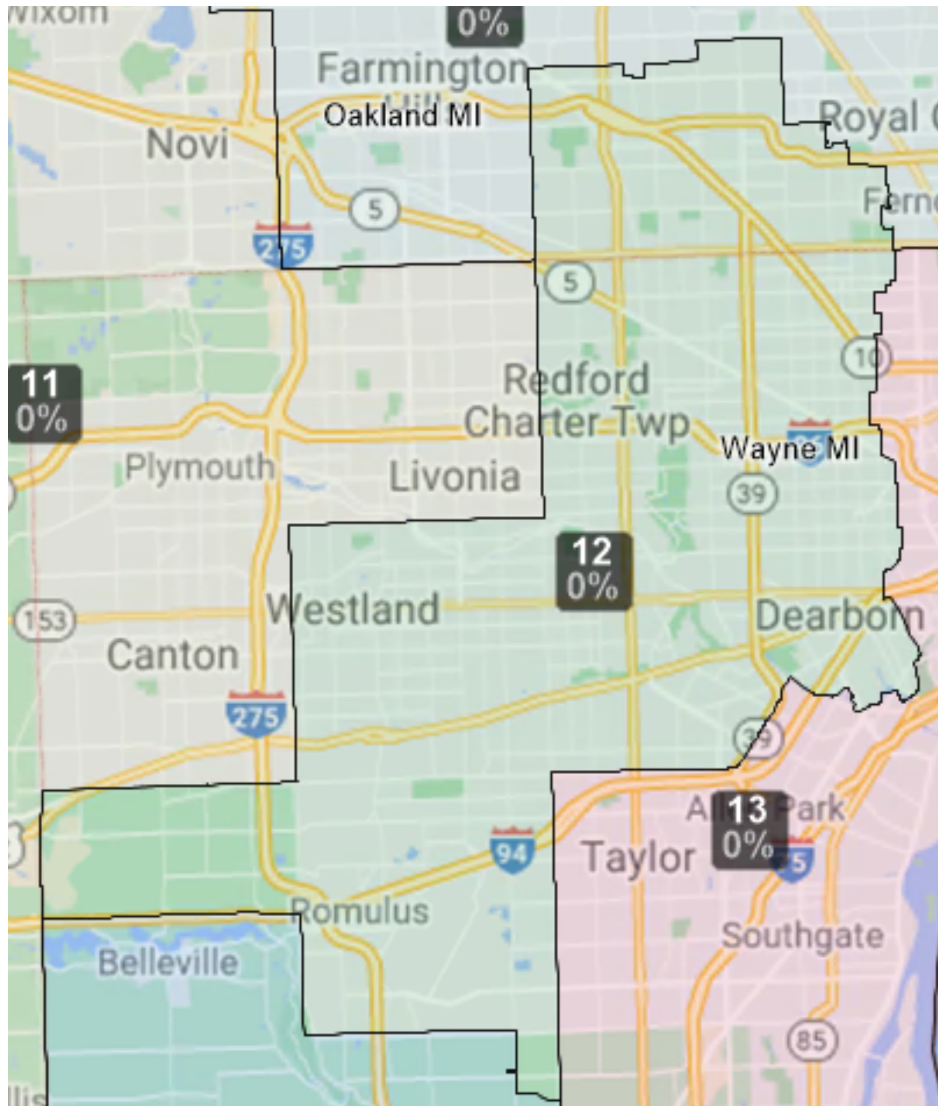


Figure 15: Detailed Map of District 13

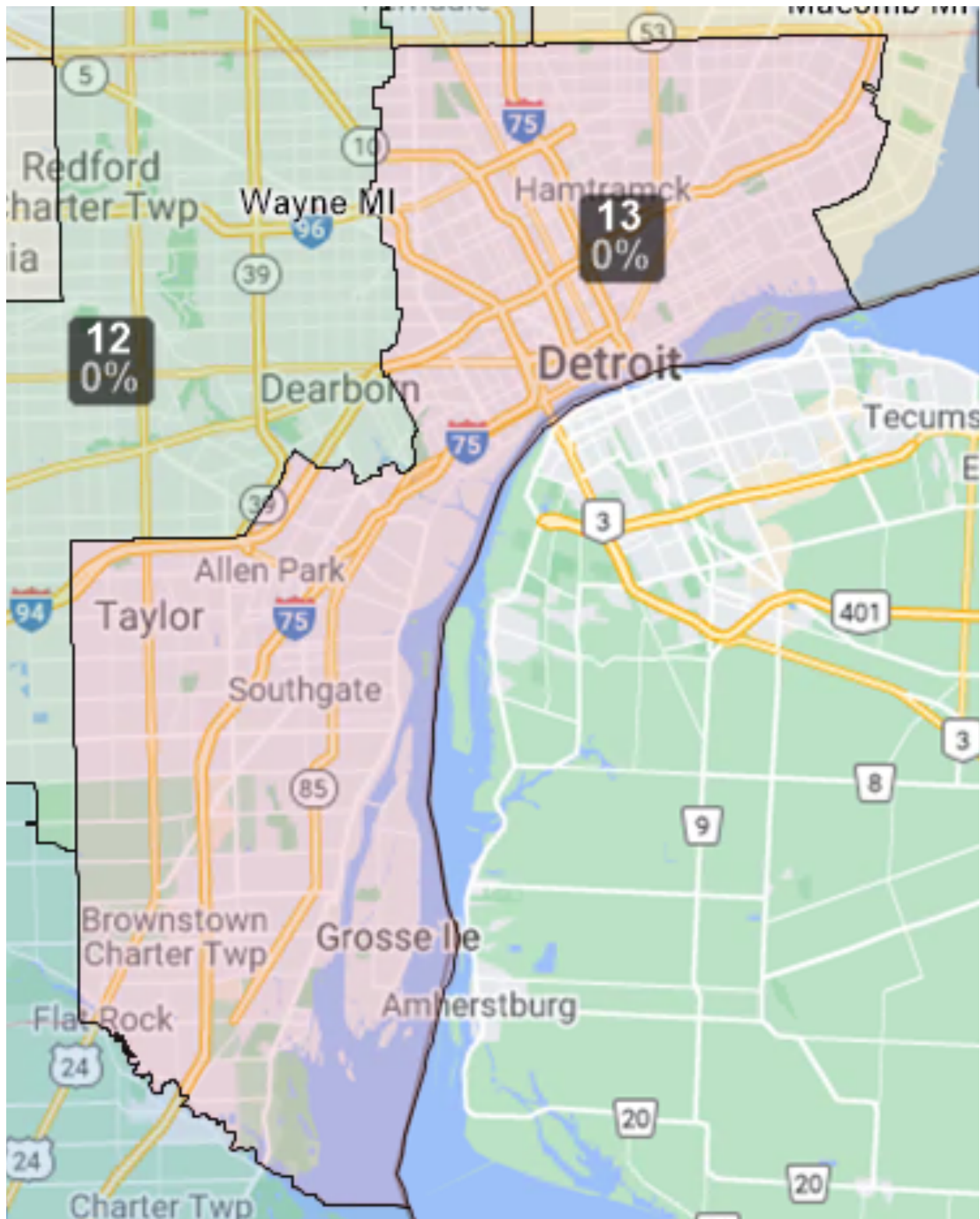


Figure 16: Statewide Partisan Map (2020 Election)

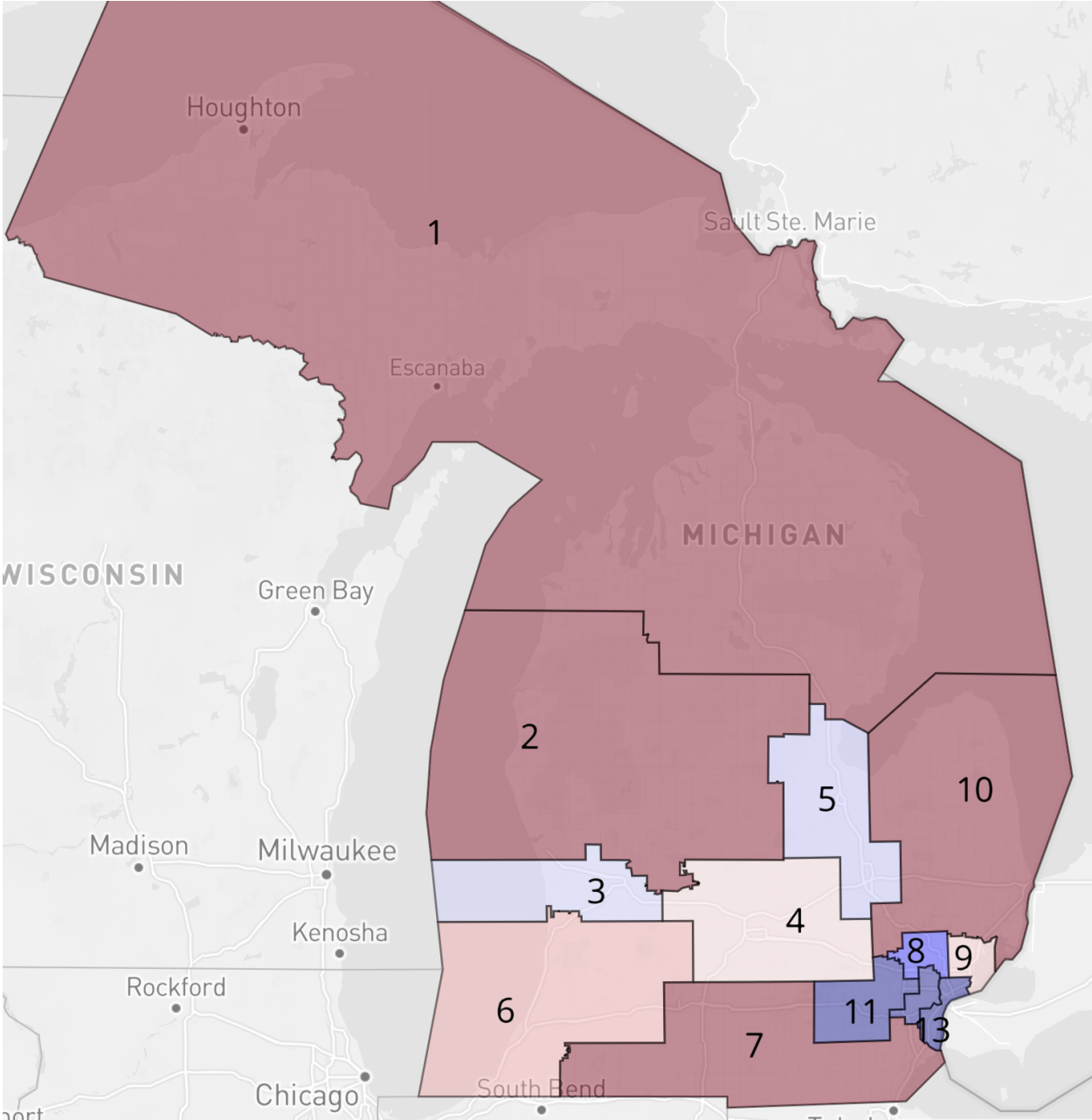


Figure 17: Detroit Area Partisan Map (2020 Election)

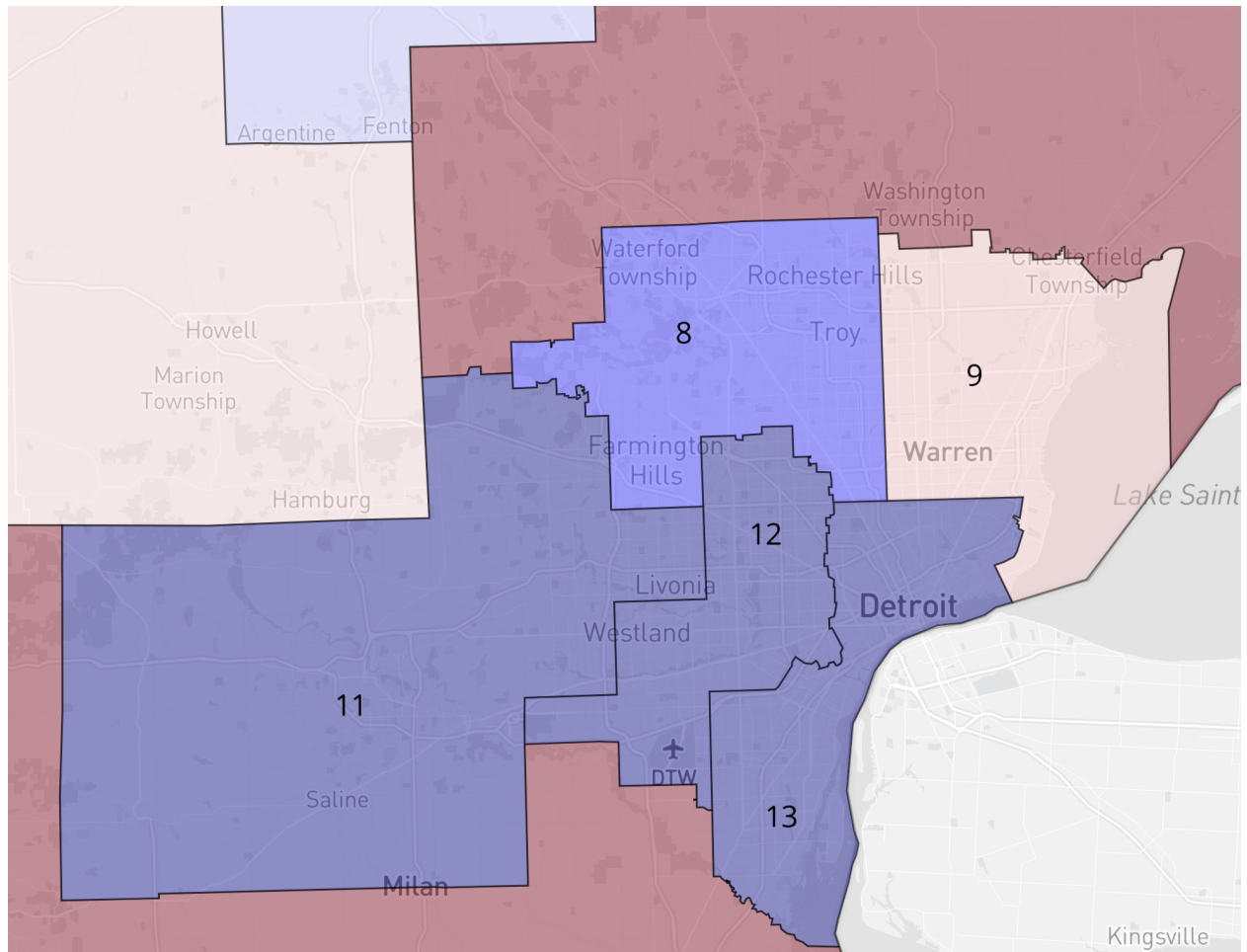


Figure 18: District Total Population Demographic and Voting Statistics

District	Population	D 20_Pres	R 20_Pres	NH_Wht	AP_Bl	Hispanic Origin	AP_Asn	AP_Ind	AP_Hwn	AP_Oth
1	775180	182860.5719	274688.7904	693376	12074	15861	7685	40325	1097	18023
2	775179	156908.1853	244359.4425	653763	46604	39062	8293	23134	839	31837
3	775179	210397.5347	206812.0824	562329	82937	84980	32416	16665	1072	69721
4	775179	218421.6562	219339.5028	622285	60596	44060	28829	18203	1039	35940
5	775180	215728.1936	207063.1979	569041	132417	41474	12567	18965	798	32299
6	775179	198192.0897	216088.7601	596879	73951	61030	21244	20828	964	52817
7	775180	153291.5745	239933.8541	640558	58293	40491	12024	20851	674	34107
8	775179	272555.8758	186691.4903	539199	93828	42354	85368	12388	694	40050
9	775180	210855.8355	218231.9564	572780	119042	21923	44424	13919	756	23221
10	775179	161908.7086	299133.6278	685259	22564	29997	14167	17211	569	28866
11	775179	289026.5288	166163.5065	544564	81202	36094	97233	13374	980	35158
12	775179	286647.0707	80373.15982	320238	400160	26503	18570	13455	797	25580
13	775179	247242.1716	90979.62758	295380	360454	80593	29108	17140	976	65649

Figure 19: District Voting Age Population Demographic Statistics

District	18+_Pop	NH18+_Wht	18+_AP_Bl	H18+_Pop	18+_AP_Asn	18+_AP_Ind	18+_AP_Hwn	18+_AP_Oth
1	632902	575072	8517	10262	5389	28288	676	13126
2	607711	522915	33477	25075	5530	16486	490	21913
3	592570	451298	54062	53898	22576	11584	709	46167
4	611858	504006	41137	29242	21472	13357	721	25771
5	606445	462350	91889	26898	9001	14005	494	23050
6	601303	481710	48419	38670	15090	14682	635	35712
7	605132	513846	39111	25379	8094	15258	444	23346
8	622440	449089	69624	28437	63413	9180	506	27953
9	618875	475054	83043	14707	32584	10319	522	16428
10	608459	547735	14561	19151	9406	12443	367	20009
11	620898	450417	59808	25269	72589	9991	720	25032
12	592145	252610	299163	17883	14166	10154	549	18210
13	593864	242694	268695	52774	21130	12724	670	44330

Figure 20: District Total Population Demographic Percentages

District	% NH_Wht	% AP_Bl	% AP_Ind	% AP_Asn	% AP_Hwn	% AP_Oth	% Hispanic Origin
1	0.894471	0.015576	0.05202	0.009914	0.001415	0.02325	0.020461
2	0.84337	0.06012	0.029843	0.010698	0.001082	0.041071	0.050391
3	0.725418	0.106991	0.021498	0.041817	0.001383	0.089942	0.109626
4	0.802763	0.07817	0.023482	0.03719	0.00134	0.046363	0.056838
5	0.734076	0.170821	0.024465	0.016212	0.001029	0.041666	0.053502
6	0.769989	0.095399	0.026869	0.027405	0.001244	0.068135	0.07873
7	0.826335	0.075199	0.026898	0.015511	0.000869	0.043999	0.052234
8	0.69558	0.12104	0.015981	0.110127	0.000895	0.051665	0.054638
9	0.738899	0.153567	0.017956	0.057308	0.000975	0.029956	0.028281
10	0.884001	0.029108	0.022203	0.018276	0.000734	0.037238	0.038697
11	0.702501	0.104753	0.017253	0.125433	0.001264	0.045355	0.046562
12	0.413115	0.516216	0.017357	0.023956	0.001028	0.032999	0.03419
13	0.381047	0.464995	0.022111	0.03755	0.001259	0.084689	0.103967

Figure 21: District Voting Age Population Demographic Percentages

District	% NH18+_Wht	% 18+_AP_Bl	% 18+_AP_Ind	% 18+_AP_Asn	% 18+_AP_Hwn	% 18+_AP_Oth	% H18+_Pop
1	0.908627	0.013457	0.044696	0.008515	0.001068	0.020739	0.016214
2	0.860467	0.055087	0.027128	0.0091	0.000806	0.036058	0.041261
3	0.761594	0.091233	0.019549	0.038098	0.001196	0.07791	0.090956
4	0.82373	0.067233	0.02183	0.035093	0.001178	0.042119	0.047792
5	0.762394	0.151521	0.023094	0.014842	0.000815	0.038008	0.044354
6	0.80111	0.080523	0.024417	0.025096	0.001056	0.059391	0.06431
7	0.849147	0.064632	0.025214	0.013376	0.000734	0.03858	0.04194
8	0.721498	0.111857	0.014748	0.101878	0.000813	0.044909	0.045686
9	0.767609	0.134184	0.016674	0.05265	0.000843	0.026545	0.023764
10	0.9002	0.023931	0.02045	0.015459	0.000603	0.032885	0.031475
11	0.725428	0.096325	0.016091	0.11691	0.00116	0.040316	0.040698
12	0.426602	0.505219	0.017148	0.023923	0.000927	0.030753	0.0302
13	0.408669	0.452452	0.021426	0.035581	0.001128	0.074647	0.088865

Figure 22: Detroit Area Black Voting Age Population Map

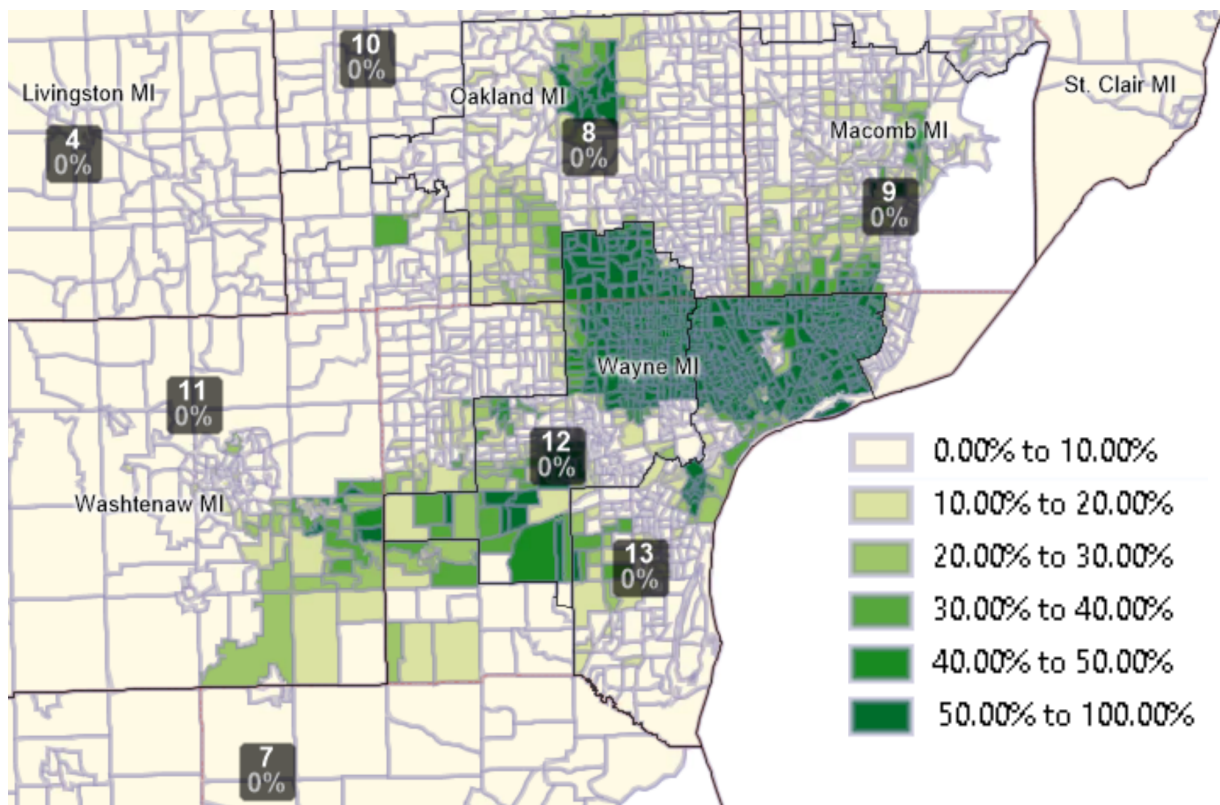


Figure 23: Detroit Area Hispanic Voting Age Population Map

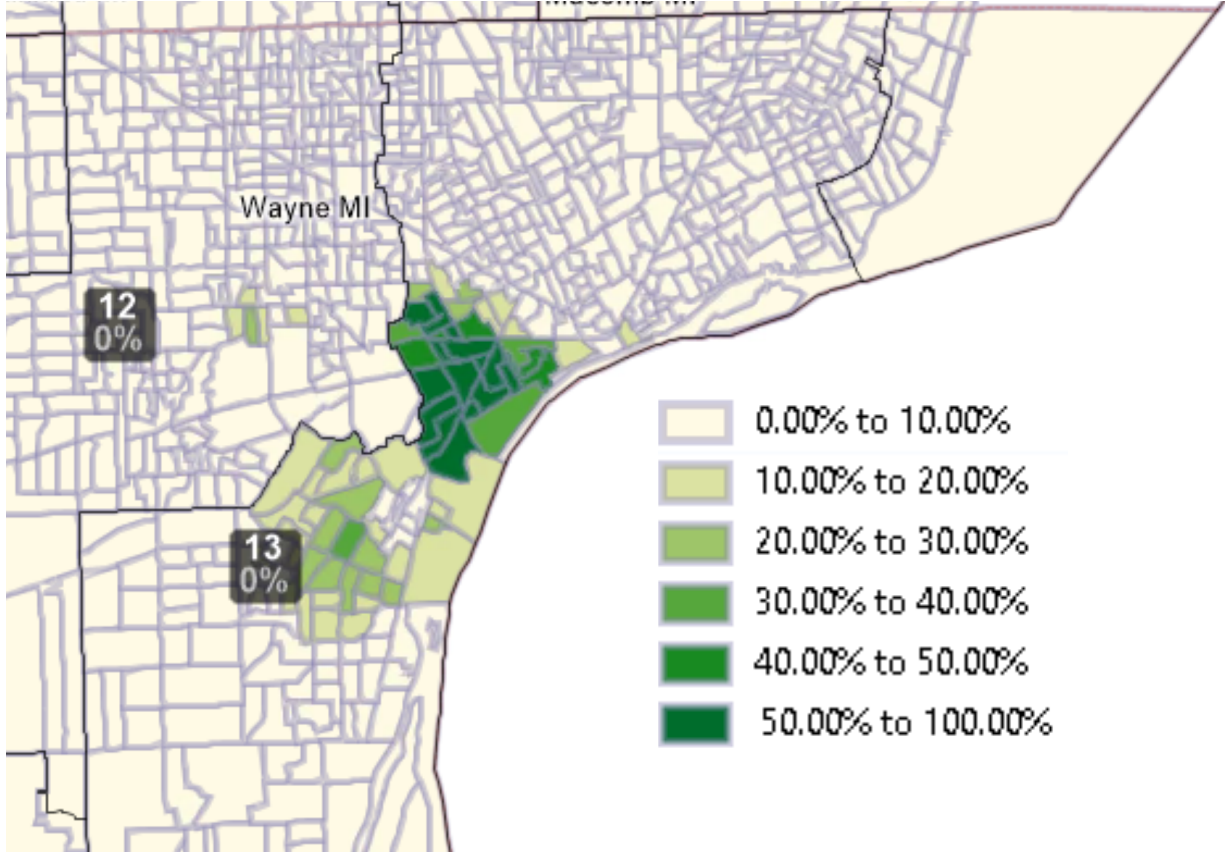


Figure 24: Compactness Measures

	Reock	Schwartzberg	Alternate Schwartzberg	Polsby-Popper	Population Polygon	Area/Convex Hull	Population Circle	Ehrenburg	Perimeter	Length-Width
Sum	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4,527.61	N/A
Min	0.26	1.34	1.38	0.30	0.38	0.65	0.23	0.23	N/A	4.18
Max	0.57	1.81	1.83	0.52	0.93	0.90	0.73	0.66	N/A	103.79
Mean	0.43	1.53	1.57	0.42	0.76	0.81	0.46	0.43	N/A	34.94
Std. Dev.	0.11	0.15	0.15	0.07	0.15	0.08	0.15	0.15	N/A	31.63
District	Reock	Schwartzberg	Alternate Schwartzberg	Polsby-Popper	Population Polygon	Area/Convex Hull	Population Circle	Ehrenburg	Perimeter	Length-Width
1	0.37	1.48	1.60	0.39	0.93	0.87	0.29	0.30	1,353.46	83.63
2	0.57	1.44	1.47	0.46	0.68	0.87	0.35	0.51	572.78	39.07
3	0.29	1.67	1.68	0.35	0.85	0.87	0.57	0.23	269.25	60.69
4	0.51	1.43	1.46	0.47	0.91	0.90	0.54	0.59	296.97	34.65
5	0.41	1.53	1.54	0.42	0.91	0.76	0.73	0.37	269.41	31.84
6	0.44	1.34	1.41	0.50	0.83	0.86	0.41	0.45	382.77	33.78
7	0.26	1.69	1.72	0.34	0.60	0.80	0.23	0.39	428.84	103.79
8	0.53	1.59	1.61	0.39	0.80	0.81	0.52	0.46	101.43	5.49
9	0.56	1.41	1.44	0.48	0.81	0.85	0.59	0.62	93.24	4.23
10	0.50	1.37	1.38	0.52	0.38	0.88	0.23	0.66	406.53	36.73
11	0.49	1.44	1.45	0.48	0.75	0.81	0.54	0.52	156.39	7.45
12	0.38	1.81	1.83	0.30	0.70	0.65	0.46	0.24	95.90	4.18
13	0.30	1.72	1.80	0.31	0.77	0.65	0.53	0.27	100.64	8.74

Figure 25: County Splits

Split Counts

County

Cases where an area is split among 2 Districts: 7

Cases where an area is split among 4 Districts: 1

Cases where an area is split among 5 Districts: 1

Voting District

Cases where an area is split among 2 Districts: 23

County	District	Population
<i>Split Counties:</i>		
Cass MI	6	21,563
Cass MI	7	30,026
Ionia MI	2	26,788
Ionia MI	4	40,016
Kent MI	2	99,877
Kent MI	3	558,097
Macomb MI	9	728,702
Macomb MI	10	152,515
Midland MI	2	8,505
Midland MI	5	74,989
Oakland MI	8	775,179
Oakland MI	10	248,321
Oakland MI	11	136,868
Oakland MI	12	114,027
Ottawa MI	3	217,082
Ottawa MI	6	79,118
Wayne MI	7	44,699
Wayne MI	9	46,478
Wayne MI	11	266,053
Wayne MI	12	661,152
Wayne MI	13	775,179
Wexford MI	1	3,921
Wexford MI	2	29,752

Figure 26: City/Census Designated Place Splits

City/Town	District	Population	%
Detroit MI	12	240,313	37.6
Detroit MI	13	398,798	62.4
Dowagiac MI	6	5,715	99.9
Dowagiac MI	7	6	0.1
Fenton MI	10	36	0.3
Fenton MI	4	0	0.0
Fenton MI	5	12,014	99.7
Flat Rock MI	13	10,541	100.0
Flat Rock MI	7	0	0.0
Forest Hills MI	2	37	0.1
Forest Hills MI	3	28,536	99.9
Huntington Woods MI	12	1,387	21.7
Huntington Woods MI	8	5,001	78.3
Ionia MI	2	13,018	97.3
Ionia MI	4	360	2.7
Lennon MI	4	393	77.2
Lennon MI	5	116	22.8
Milan MI	11	3,865	63.6
Milan MI	7	2,214	36.4
New Baltimore MI	10	12,117	100.0
New Baltimore MI	9	0	0.0

Otter Lake MI	10	359	84.3
Otter Lake MI	5	67	15.7
Reese MI	10	1,237	98.1
Reese MI	5	24	1.9
Walled Lake MI	11	6,724	92.7
Walled Lake MI	8	526	7.3
Whitmore Lake MI	11	4,919	64.9
Whitmore Lake MI	4	2,665	35.1

Summary Statistics

Number of City/Town not split	727
Number of City/Town split	16
Number of City/Town split in 2	15
Number of City/Town split in 3	1
Total number of splits	33

Figure 27: Precinct Splits

County	District	Population
<i>Split VTDs:</i>		
Cass MI	6	1,905
Cass MI	7	6
Cass MI	6	13
Cass MI	7	3,774
Cass MI	6	1,262
Cass MI	7	1,314
Ionia MI	2	0
Ionia MI	4	2,138
Ionia MI	2	8,219
Ionia MI	4	0
Ionia MI	2	1,234
Ionia MI	4	344
Ionia MI	2	25
Ionia MI	4	3,946
Ionia MI	2	745
Ionia MI	4	1,919
Kent MI	2	0
Kent MI	3	3,133
Kent MI	2	3,638
Kent MI	3	449
Macomb MI	9	2,201
Macomb MI	10	154
Macomb MI	9	1,698
Macomb MI	10	196
Macomb MI	9	1,879
Macomb MI	10	7
Midland MI	2	77
Midland MI	5	1,729
Oakland MI	8	2,055
Oakland MI	10	229
Oakland MI	8	1,086
Oakland MI	12	63
Oakland MI	8	34
Oakland MI	12	1,324
Oakland MI	8	526
Oakland MI	11	1,483
Ottawa MI	3	2,422
Ottawa MI	6	482
Wayne MI	12	1,563
Wayne MI	13	400
Wayne MI	7	908
Wayne MI	12	477
Wayne MI	9	0
Wayne MI	13	8
Wexford MI	1	1,727
Wexford MI	2	128

Figure 28: Dave's Redistricting App Evaluation

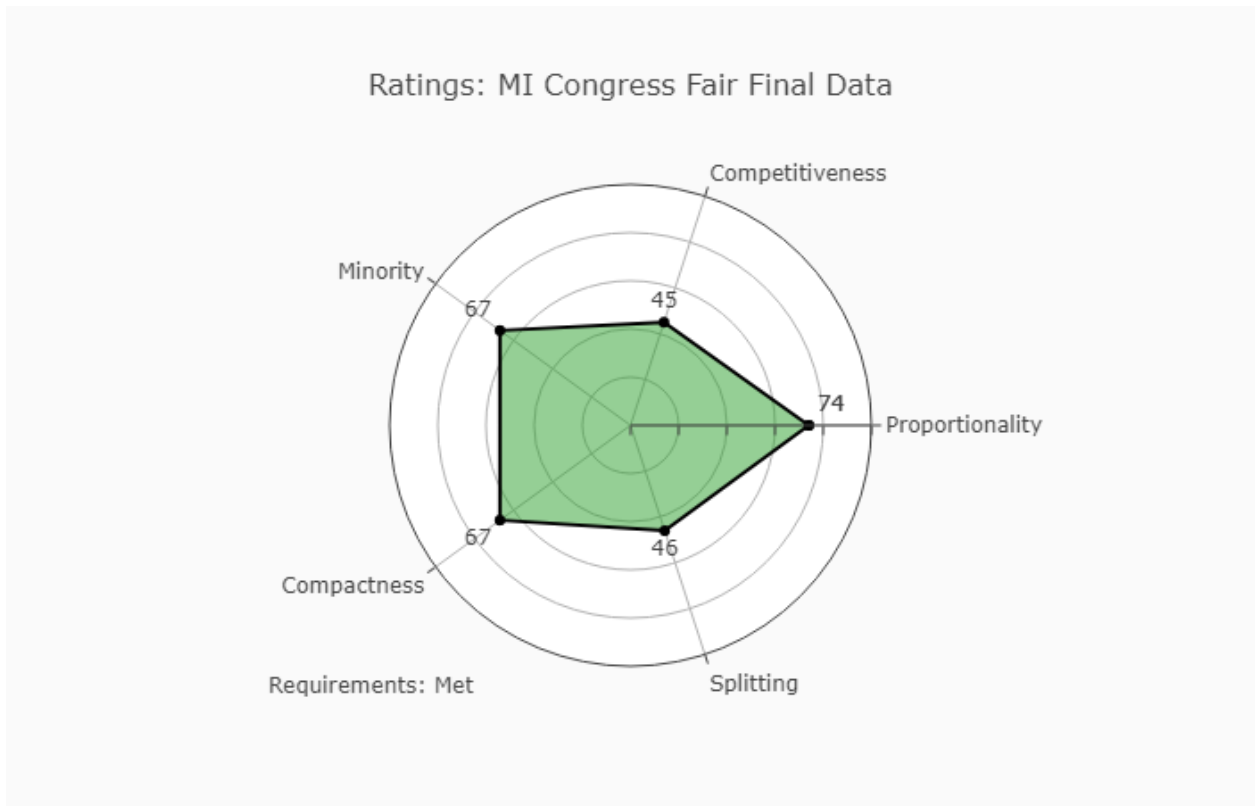


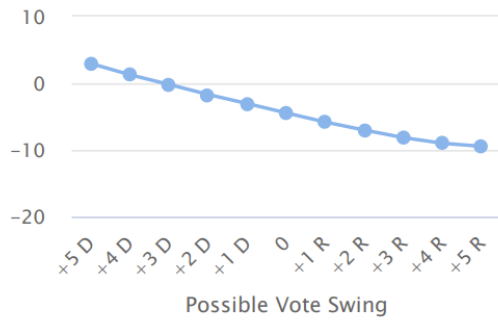
Figure 29: PlanScore Statistics

Efficiency Gap: 4.5%



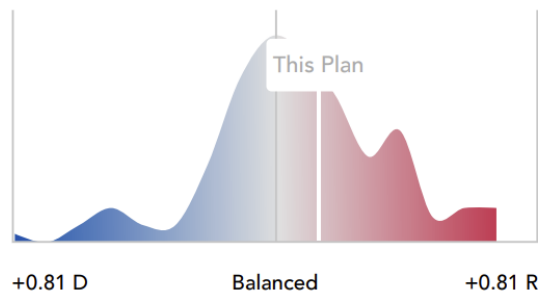
Votes for Republican candidates are expected to be inefficient at a rate 4.5% lower than votes for Democratic candidates, favoring Republicans in 72% of predicted scenarios.* [Learn more](#) >

Sensitivity Testing



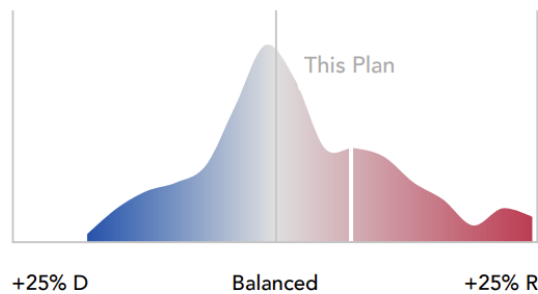
Sensitivity testing shows us a plan's expected efficiency gap given a range of possible vote swings. It lets us evaluate the durability of a plan's skew.

Declination: 0.13



The mean Democratic vote share in Democratic districts is expected to be 6.5% higher than the mean Republican vote share in Republican districts. Along with the relative fraction of seats won by each party, this leads to a declination that favors Republicans in 77% of predicted scenarios.* [Learn more](#) >

Partisan Bias: 7.1%



Republicans would be expected to win 7.1% extra seats in a hypothetical, perfectly tied election, favoring Republicans in 85% of predicted scenarios.* [Learn more](#) >

Mean-Median Difference: 2.1%



The median Republican vote share is expected to be 2.1% higher than the mean Republican vote share, favoring Republicans in 85% of predicted scenarios.* [Learn more](#) >

Figure 30: Chestnut Plan District Statistics

ID	Total Pop	Devation	Dem	Rep	Oth	Total VAP	White	Minority	Hispanic	Black	Asian	Native	Pacific
Un	0	0	0	0	0	0	0	0	0	0	0	0	0
1	775375	0.0003	0.3967	0.5721	0.0313	633080	0.9086	0.0914	0.0162	0.0135	0.0085	0.0447	0.0011
2	774997	-0.0002	0.3598	0.6037	0.0366	606868	0.8917	0.1083	0.0382	0.0275	0.0085	0.0263	0.0008
3	775414	0.0003	0.5008	0.465	0.0342	597448	0.74	0.26	0.0881	0.1172	0.0351	0.0211	0.0011
4	774600	-0.0007	0.4497	0.5159	0.0344	593972	0.7842	0.2158	0.0705	0.0898	0.0295	0.0234	0.0011
5	774544	-0.0008	0.3759	0.5897	0.0344	606306	0.8661	0.1339	0.0413	0.0488	0.0121	0.0249	0.0008
6	775273	0.0001	0.6116	0.3635	0.0249	619426	0.7151	0.2849	0.0434	0.1084	0.1111	0.018	0.0012
7	775238	0.0001	0.4918	0.4775	0.0307	611160	0.8203	0.1797	0.0477	0.068	0.0376	0.0219	0.0012
8	775229	0.0001	0.5084	0.4605	0.0311	606390	0.7623	0.2377	0.0444	0.1515	0.0149	0.0231	0.0008
9	774962	-0.0003	0.3557	0.616	0.0283	606770	0.8959	0.1041	0.0314	0.0273	0.0166	0.0203	0.0006
10	775218	0.0001	0.4944	0.4782	0.0274	620272	0.7573	0.2427	0.0256	0.1309	0.0646	0.0166	0.0009
11	775568	0.0005	0.5783	0.3956	0.0261	624065	0.7086	0.2914	0.0447	0.1361	0.0913	0.0153	0.0008
12	775247	0.0001	0.7339	0.2408	0.0253	596111	0.4746	0.5254	0.0285	0.457	0.0261	0.0159	0.0008
13	775666	0.0006	0.7424	0.2299	0.0277	592734	0.3955	0.6045	0.0877	0.4685	0.0347	0.021	0.0012
Summary	775178	0.0014	0.5032	0.4667	0.0301	608816	0.7491	0.2509	0.0465	0.1404	0.038	0.0225	0.0009

Figure 31: Chestnut Plan Partisan Map

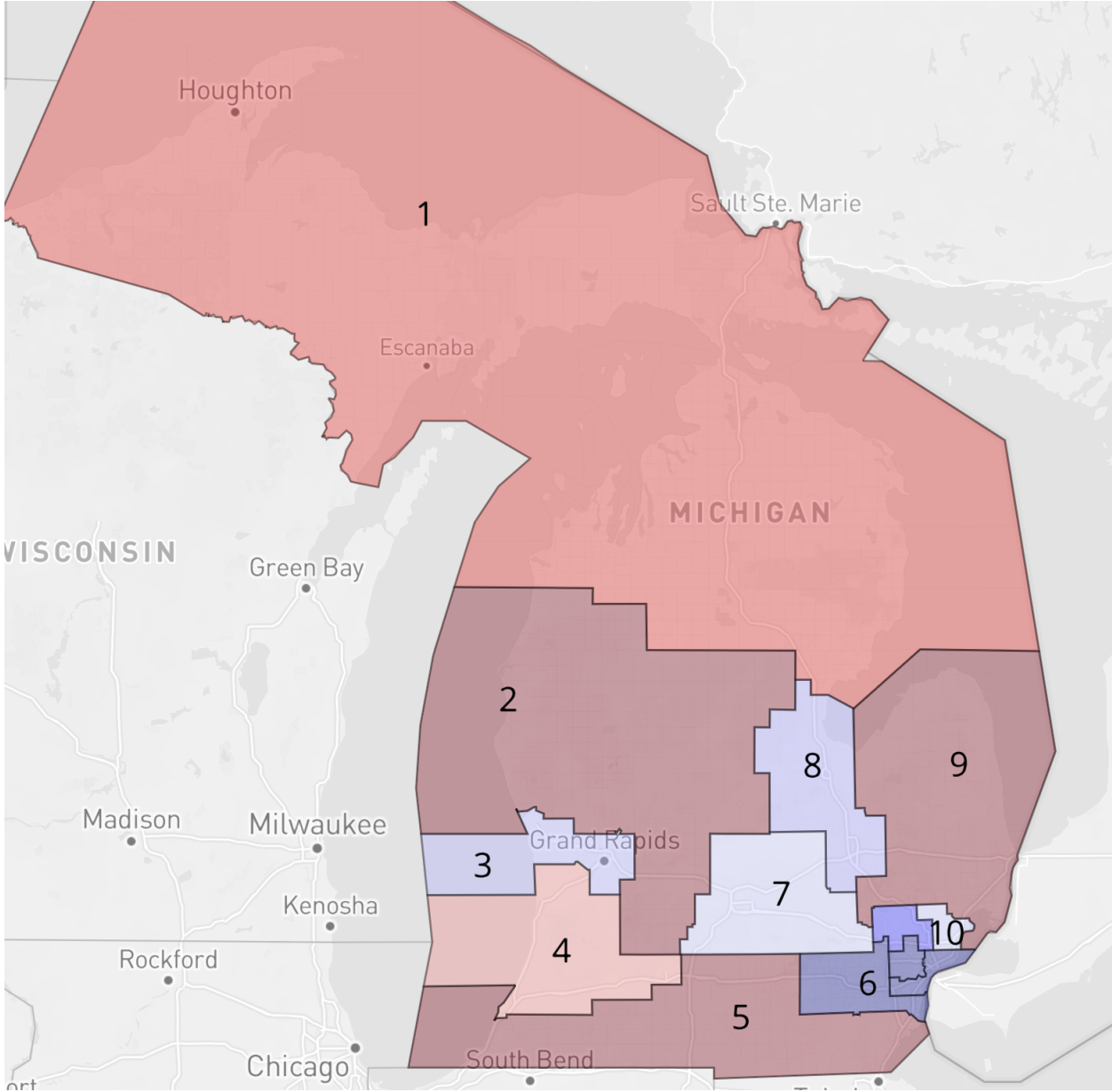


Figure 32: Birch V2 Plan District Statistics

ID	Total Pop	Devation	Dem	Rep	Oth	Total VAP	White	Minority	Hispanic	Black	Asian	Native	Pacific
Un	0	0	0	0	0	0	0	0	0	0	0	0	0
1	775090	-0.0001	0.4345	0.5344	0.031	631504	0.9064	0.0936	0.0165	0.0145	0.0087	0.0453	0.001
2	774743	-0.0006	0.4297	0.5364	0.0339	611533	0.8685	0.1315	0.0394	0.0488	0.0093	0.0269	0.0008
3	775316	0.0002	0.4741	0.4956	0.0303	589785	0.771	0.229	0.086	0.0893	0.035	0.0195	0.0011
4	775553	0.0005	0.475	0.4923	0.0327	601198	0.7984	0.2016	0.0683	0.0782	0.0275	0.0233	0.0011
5	775638	0.0006	0.4239	0.5423	0.0338	604751	0.8523	0.1477	0.0429	0.0603	0.0133	0.0255	0.0007
6	774413	-0.001	0.6338	0.3435	0.0227	621993	0.731	0.269	0.0457	0.1067	0.0932	0.0194	0.0012
7	774284	-0.0012	0.5309	0.4401	0.029	612608	0.8185	0.1815	0.0484	0.072	0.0351	0.0219	0.0012
8	775413	0.0003	0.5469	0.4244	0.0286	606194	0.7617	0.2383	0.0448	0.1518	0.0147	0.0231	0.0008
9	774723	-0.0006	0.4019	0.5697	0.0285	609488	0.8896	0.1104	0.0305	0.033	0.0199	0.0192	0.0006
10	776324	0.0015	0.5803	0.3941	0.0256	624021	0.7462	0.2538	0.0268	0.1295	0.0771	0.0157	0.0008
11	775010	-0.0002	0.5845	0.394	0.0215	615679	0.6692	0.3308	0.0447	0.1852	0.0822	0.0153	0.0009
12	775694	0.0007	0.7395	0.2353	0.0251	591273	0.4881	0.5119	0.0316	0.4406	0.024	0.0173	0.0009
13	775130	-0.0001	0.7479	0.226	0.0261	594575	0.4185	0.5815	0.0819	0.4347	0.0516	0.0199	0.0011
Summary	775178	0.0026	0.5337	0.438	0.0283	608816	0.7491	0.2509	0.0465	0.1404	0.038	0.0225	0.0009

Figure 33: Birch V2 Plan Partisan Map

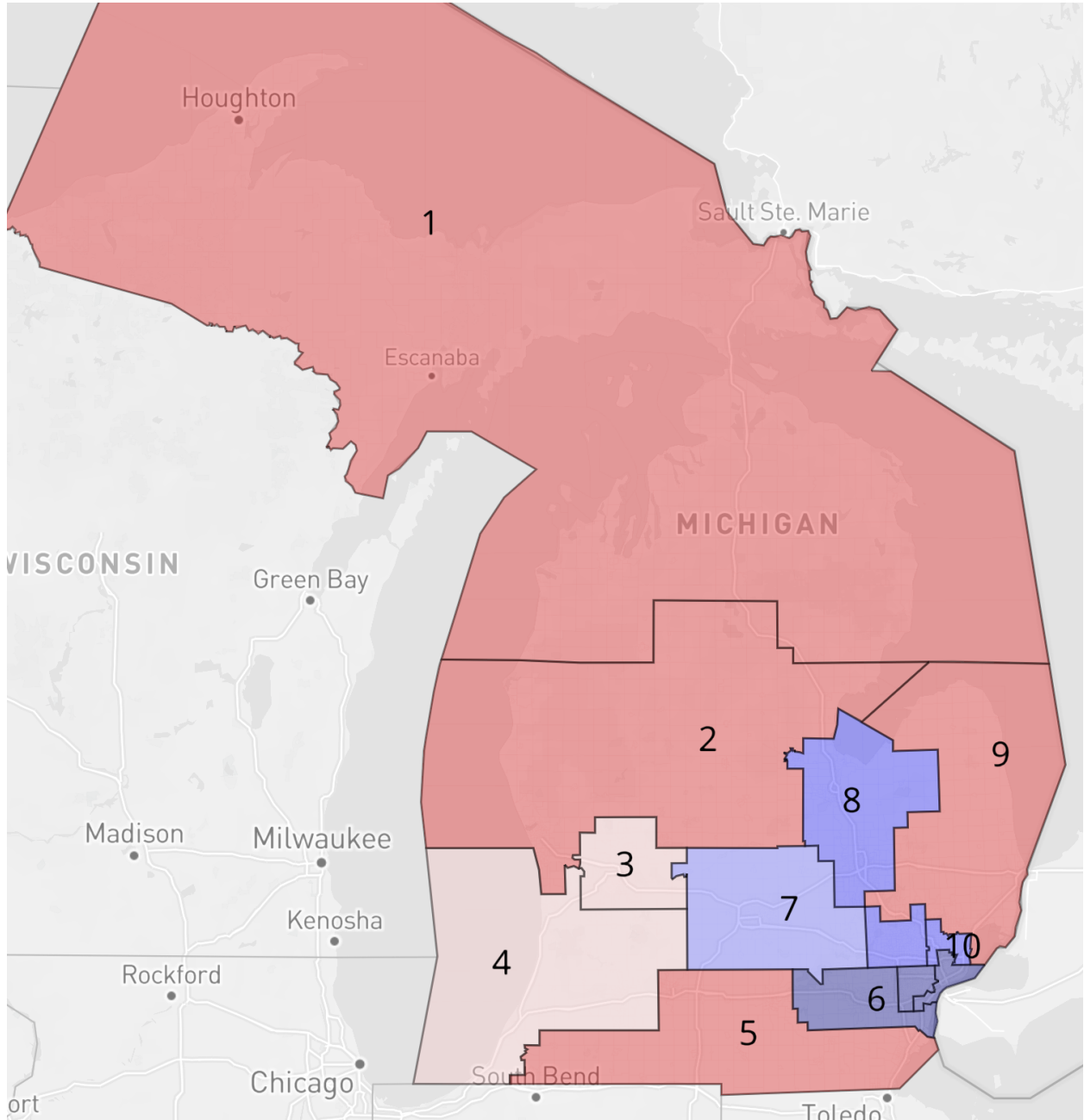


Figure 34: Apple V2 Plan District Statistics

ID	Total Pop	Devation	Dem	Rep	Oth	Total VAP	White	Minority	Hispanic	Black	Asian	Native	Pacific
Un	0	0	0	0	0	0	0	0	0	0	0	0	0
1	775090	-0.0001	0.4345	0.5344	0.031	631504	0.9064	0.0936	0.0165	0.0145	0.0087	0.0453	0.001
2	774492	-0.0009	0.3951	0.5708	0.0341	608082	0.8941	0.1059	0.0382	0.027	0.009	0.0245	0.0008
3	775318	0.0002	0.4309	0.5379	0.0312	598200	0.8078	0.1922	0.0686	0.0739	0.0213	0.0232	0.0011
4	773985	-0.0015	0.5533	0.4155	0.0312	594807	0.7285	0.2715	0.0887	0.1221	0.0412	0.0218	0.0011
5	775261	0.0001	0.4264	0.5398	0.0338	604618	0.8544	0.1456	0.042	0.0589	0.0134	0.0254	0.0007
6	773186	-0.0026	0.634	0.3433	0.0227	620995	0.7307	0.2693	0.0457	0.1068	0.0934	0.0194	0.0012
7	776012	0.0011	0.5282	0.4425	0.0293	613823	0.8235	0.1765	0.0473	0.0673	0.0351	0.0222	0.0012
8	775621	0.0006	0.547	0.4244	0.0287	606371	0.7617	0.2383	0.0448	0.1517	0.0147	0.0231	0.0008
9	776935	0.0023	0.4074	0.5631	0.0295	608781	0.894	0.106	0.0309	0.029	0.0172	0.0204	0.0006
10	775046	-0.0002	0.5112	0.4638	0.025	618854	0.7654	0.2346	0.027	0.108	0.0788	0.0155	0.0008
11	775561	0.0005	0.6434	0.3354	0.0211	622719	0.6472	0.3528	0.0439	0.2095	0.0828	0.0144	0.0009
12	775694	0.0007	0.7395	0.2353	0.0251	591273	0.4881	0.5119	0.0316	0.4406	0.024	0.0173	0.0009
13	775130	-0.0001	0.7479	0.226	0.0261	594575	0.4185	0.5815	0.0819	0.4347	0.0516	0.0199	0.0011
Summary	775178	0.0048	0.5337	0.438	0.0283	608816	0.7491	0.2509	0.0465	0.1404	0.038	0.0225	0.0009

Figure 35: Apple V2 Plan Partisan Map

