MICRC
07/22/21 12:00 pm Meeting
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>> VICE CHAIR SZETELA: As Chair of the Commission, I call this meeting of the Michigan Independent Citizens Redistricting Commission to order at 12:10.
This meeting is being live streamed at YouTube.

For anyone in the public watching who would prefer to watch via a different platform than they are currently using, please visit our social media at Redistricting MI to find the link for viewing on YouTube.

Our live stream today includes closed captioning. Closed captioning, ASL interpretation, and Spanish and Bengali and Arabic translation services will be provided for effective participation in this meeting. E-mail us at Redistricting@Michigan.Gov for additional viewing options or details on accessing language translation services for this meeting.

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This meeting is also being transcribed, and those transcriptions will be made available And posted at Michigan.gov/MICRC along with the written public comment submissions.

There is a comment portal that may be accessed by visiting Michigan.gov/MICRC, this portal can be utilized to post maps and comments which can be viewed by both the Commission and the public.

Members of the media who may have questions before, during or after the meeting should direct those questions to Edward Woods III, our Communications and Outreach Director for the Commission. WoodsE3@Michigan.gov. 517-331-6019.

For the purpose of the public watching and the public record, I will now turn the Michigan Department state Staff to take note of the Commissioners present.

>> MS. SARAH REINHARDT: Good afternoon, Commissioners.

Please say present when I call your name and please state the location you are attending the meeting remotely from by stating county, city, township, or village where you are attending the meeting remotely.
I'll start with Doug Clark.

>> COMMISSIONER CLARK: Present.

>> MS. SARAH REINHARDT: Juanita Curry.

>> COMMISSIONER CURRY: Present.

>> MS. SARAH REINHARDT: Anthony Eid?

>> COMMISSIONER EID: Present.
Brittini Kellom.
>> MS. SARAH REINHARDT: Rhonda Lange?
>> COMMISSIONER LANGE: Present.
Attending remotely from Reed City, Michigan.
>> MS. SARAH REINHARDT: Steve Lett?
>> COMMISSIONER LETT: Present.
>> MS. SARAH REINHARDT: Cynthia Orton?
>> COMMISSIONER ORTON: Present.
>> MS. SARAH REINHARDT: MC Rothhorn?
>> COMMISSIONER ROTHHORN: Present.
>> MS. SARAH REINHARDT: Rebecca Szetela?
>> VICE CHAIR SZETELA: Present.
>> MS. SARAH REINHARDT: Janice Vallette?
>> COMMISSIONER VALLETTE: Present.
>> MS. SARAH REINHARDT: Erin Wagner?
>> COMMISSIONER WAGNER: Present, Attending remotely from Eaton County, Michigan.
>> MS. SARAH REINHARDT: Richard Weiss?
>> COMMISSIONER WEISS: present.
>> MS. SARAH REINHARDT: Dustin Witjes?
>> COMMISSIONER WITJES: present.
>> MS. SARAH REINHARDT: 12 Commissions are present and
there is a quorum.
>> VICE CHAIR SZETELA: Thank you, Ms. Reinhardt. for the public watching you can view agenda at www.Michigan.gov/MICRC I will entertain a motion to approve the meeting agenda.
>> COMMISSIONER WITJES: So moved.
>> VICE CHAIR SZETELA: Motion made by Commissioner Witjes.
>> COMMISSIONER LETT: Seconded.
>> COMMISSIONER LETT: Seconded by Commissioner let's go ahead Commissioner Clark.
COMMISSIONER CLARK: It talks about future meetings from Grand Traverse resort and should be changed from 12-8 p.m.
>> VICE CHAIR SZETELA: I think 5-8 is what we originally scheduled.
Has that been changed?
>> COMMISSIONER CLARK: I believe I read an e-mail that said where it was changed.
>> VICE CHAIR SZETELA: Save the date was changed but did the Commission change it? Okay, so at this point the 5-8 is what we have approved on our schedule.

So the 12 would be a change in that which we would need to take action to change on the schedule, due that make sense to everybody? All right so in light of that further information Commissioner Clark do you still want to see that changed or do we want to table it for now?

>> COMMISSIONER CLARK: We can table it.

>> VICE CHAIR SZETELA: Further discussion or debate on the motion? Hearing none it is moved and seconded that we will adopt the meeting agenda all in favor please raise your hand and say aye.

>> Aye.

>> VICE CHAIR SZETELA: Opposed raise your hand and say nay, the ayes prevail and the motion is adopted.

All right Department of State do we have any live in person public comments or are they remote only?

>> MS. SARAH REINHARDT: Remote only.

>> VICE CHAIR SZETELA: Thank you very much without objection we will now begin the public comment pertaining to agenda topics portion of our meeting, hearing no objection we will proceed with public comment with agenda topics individuals who signed up and indicated they would like to provide live remote commentary to the Commission will now be allowed to do so I will call your name and our staff will unmute you if you are on a computer you will be prompted but I the Zoom app to unmute your microphone and speak if you are on the phone a voice will say we would like you to speak and prompt you to press star six to unmute. I will call on you by your name or the last four digits of the phone number and please note if you experience technical or audio issues or we do not hear from you for 3-5 seconds we will return to the next person in line and return to you after they are speaking and if it does not work e-mail redistricting Michigan.gov and we will help you trouble shoot so you can participate at a later meter or hearing you will have two minutes to address the Commission please conclude your remarks when you hear the timer the first person in line to provide public comment is James Gallant please allow a moment for our staff to unmute you.

>> Hello, can you hear me Madam Chair?

>> VICE CHAIR SZETELA: We can hear you go ahead.

>> This is James Gallant with the Marquette suicide prevention coalition and these are my opinions.

I pledge allegiance to the flag of the United States of America and to the Republic for which is stands, one nation, under God, with liberty and justice for all. Start this meeting out and we can start this meeting out on the right foot because my research is getting into the part about how blatantly this Commission is just not following the rules and just willfully disregarding the Constitution and fundamental principles of parliamentary law in America and what I'm coming to now is the realization that it appears this Commission

is acting out acts of civil disobedience as if you're going to come in and change the rules but just not doing it.
And hopefully nobody will call you out and hope any you might win in Court.
And then you can just start doing this consensus building nonsense and call it the rules.
And I know this because you changed the consensus thing in that flow chart and you change the policy, you changed the public comment, you change the decision making process but you didn't change the rules of procedure.
You did it in a policy down the line, it's all vague and facilitator gets to make the rules and you know, this is my I will be filing a report here soon but it's very clear I will be get another two minutes right so we will pick this up at the in next two minutes about how we are going to move forward and the document, we are going to codify your alternate form of rules that you folks are running.
And there's a foundation it's called the people's foundation and what they said is they are going to change the rules and reboot the system.
And they are going to do it through this redistricting process in the United States of America and I'm here to not to change anything, I'm going to make sure you folks don't change it, okay? And so do I get to more minutes Madam Chair?

>> VICE CHAIR SZETELA: You will after we I have a little bit of commentary first but thank you for addressing the Commission.
So the first opportunity for both in person and remote public comment has concluded without objection we will now hear from individuals seeking to provide a second two minute public comment.
Hearing no objection we will now proceed with individuals seeking to provide a second two minute public comment individuals who have signed up and indicated they would like to provide live remote commentary to the Commission will now be allowed to do so we will use the first process as the first round first in line to provide public comment is James Gallant.
Please wait for the staff to unmute you.

>> Okay can you hear me again Madam Chair?

>> VICE CHAIR SZETELA: Yes, I can Mr. Gallant, go ahead.

>> James Gallant, Marquette suicide prevention coalition, these are my opinions. And yeah so, my research is coming to this idea and I was reading and you know I get stuff thrown at me these days because I've been serving you folks and this process and everything and there is an Article about these about how people are trying to like to change the Constitution.
It's like interpret the Constitution over time instead of this country was built in a Constitution 200 years ago and it still is valid today.
All the laws and rules and guidelines stem from it and like the state, the state Constitution and the fundamental principles of parliamentary law are all about the Constitution.

You folks are even just sitting here under the authority granted the Governor that people of state under the Constitution which is under the Federal Constitution.
And this is not to be interpreted to interpret it on the side and then you just figure you're just going to do something else other than what the process is that has been presented to you.
This is fascinating.
And some of the comments are just contemptuous you have made and do not need to be taken out of comments because they are your comments, they are Contemptuous against said of Constitution you have one half citizen of the United States and a full oath of office right now to act fully under the Constitution and fulfill the standards in the United States of America and not the Netherlands and that is one thing.
That actually is a false statement right there.
It should be corrected on the record because it's not the Netherlands and the United States of America English is the approved language and the language not called Netherlands, is it, it is called Holland.
So we need to get some of these statements.
There was a couple other statements and one statement that they were suggesting that people have asked you.

>> VICE CHAIR SZETELA: Mr. G your allotted two minutes has ended.

>> Following the rules is a status quo in America so we will get back with this and thank you.

>> VICE CHAIR SZETELA: Thank you for addressing the Commission.

That concludes our public comment this afternoon.
There is no unfinished business for today's meeting so we will move on to the next agenda item.
We also have no new business for today's meeting so we will move on to the next item in our agenda which is review and approval of minutes.
We will now review and approve the meeting minutes from the July 8, 2021 Commission meeting I would entertain a motion to approve the minutes from the July 82021 which are posted at redistricting Michigan.org.

>> So moved.

>> VICE CHAIR SZETELA: Motion made by Commissioner Lett.

>> Seconded by Commissioner Eid is there any discussion or debate on the motion?

Hearing none all in favor please raise your hand and say aye.

>> Aye.

>> VICE CHAIR SZETELA: All opposed please raise your hand and say nay.

The ayes prevail and the motion is adopted.
Thank you.
We will now review and approve the minutes for the July 9, 2021 Commission meeting.

I would entertain a motion to approve the minutes from the July 9, 2021 Commission meeting which are posted at redistricting Michigan.org.
>> So moved.
>> Second.
>> VICE CHAIR SZETELA: Motion made by Commissioner Rothhorn and motion seconded by Commissioner Lett is there any discussion or debate on the motion?
Hearing known we will now vote on the motion to adopt the minutes of the July 9, 2021 Commission meeting all in favor please raise your hand and say aye.
>> Aye.
>> VICE CHAIR SZETELA: All opposed please raise your hand and say nay.
The ayes prevail and the motion is adopted without objection I will ask our executive director Hammersmith to provide a staff report.
Hearing no objections please proceed director Hammersmith.
>> MS. SUANN HAMMERSMITH: Good morning Commissioners.
Happy for see everyone today.
A couple things I want to report on.
First, I just got word our meetings next week on July 29th and 30th will be held at Cadillac place in Detroit so I will send further details to you but I wanted you to be aware of that.
And then Commissioner Clark had asked for an update on the software installation on the computers.
This has been an ongoing series of meetings.
We had 8-10 meetings prior to signing the contract in May.
We continue those meetings approximately every two to three business days.
There were four caveats provided on July 7th and we received the response from Mr. Brace on the 12th, so we have been working through those.
We did get the MCXXR review completed.
The form 3544 for the agency business owner data classification declaration is in the final review stage
There's another form 231 that needs to be completed.
We have to review an SSP which is a systems security plan and a complete review takes about six months.
So we have to document that we wish as a Commission to forgo that
And then there will be meetings between DTMB and our mapper, probably Fred from City Gate, Fred Hejazi and the plan is to get it downloaded on one computer and copy it to the other Commissioner computers.
It's been a very extensive process to be able to provide the software for the Commissioners.
We continue to work on it diligently.

There are four to five people from MDOS and four to five people from DTMB who are working on these various aspects.
Just understand that the security of Michigan is tight as well it should be and we are doing everything we can to get all the paperwork completed so we can get the software downloaded on Commission computers.
And in the meantime the Internet version can be used by the Commissioners.
So again it's not as robust.
They don't have the full database built yet any way.
They are waiting on some data from the state for that.
So we will start working, the Commission will start working with the software that is available through the Internet and we will get the software deployed on Commissioner's computers as soon as humanly possible.

>> VICE CHAIR SZETELA: Thank you very much Executive Director Hammersmith are there any questions or comments for our Executive Director? Commissioner Wagner go ahead?

>> COMMISSIONER WAGNER: This is for Suann is it possible to get a copy of the notes you just read to us so that we have that in hard copy, please?

>> MS. SUANN HAMMERSMITH: I would be happy to forward the last update from the action items that were discussed at our last meeting if that would help with the software.

>> COMMISSIONER WAGNER: I was just wondering, no, I would like whatever notes you just read off to us because I can't write that fast and my shorthand is sadly lacking after 25 or 30 years.
Can I get a copy of what you just readout to us from your notes? Please.

>> MS. SUANN HAMMERSMITH: Yes, I will be happy to forward the e-mail and add some notes for the items I added to it and send that off to the Commission.

>> COMMISSIONER WAGNER: Thank you, thank you.

>> MS. SUANN HAMMERSMITH: You're welcome.

>> VICE CHAIR SZETELA: Any additional questions? Commissioner Eid?

>> COMMISSIONER EID: Thank you Executive Director Hammersmith.
You mentioned a six month verification process and what does that process do exactly?

>> MS. SUANN HAMMERSMITH: That particular item is a system security plan.
It normally requires up to six months.
They realize we don't have six months to work through a security plan.
So, again, we are going to have to work through the paperwork to forgo that security process.

>> COMMISSIONER EID: We will have this as a Commission?

>> This is Bethany speaking. Commissioner Eid, can you speak into the microphone. I was unable to interpret that.

>> COMMISSIONER EID: Us as a.

>> Again I still can't really hear you.
>> COMMISSIONER EID: Test one two three can you hear me now.
>> Better thank you.
>> COMMISSIONER EID: You would need we would need a motion to forgo that six month process.
>> MS. SUANN HAMMERSMITH: I assumed you didn't have six months, so in the process so we are working as exponentially as possible to get the paperwork filled out to forgo that process while still having, you know, safeguards in place.
I mean the state understands that we do not have six months to go through a security process before we download software on Commissioner computers.
You should be finished by then.
>> MS. JULIANNE PASTULA: General Counsel.
>> VICE CHAIR SZETELA: Go ahead.
>> MS. JULIANNE PASTULA: That will be taken through a resolution and the Executive Director is compiling that information and completing the forms for presentation to the body is my understanding.
>> VICE CHAIR SZETELA: Thank you, General Counsel.
Commissioner Lange did you have a comment?
>> COMMISSIONER LANGE: I just didn't hear what Anthony's first question was so but interpretation so I'm good.
>> VICE CHAIR SZETELA: Thank you Commissioner Lange any additional comments or questions? Lard seeing none thank you very much Executive Director Hammersmith without objection we will now move on to a staff report from General Counsel Pastula.
Hearing no objections please proceed General Counsel.
>> MS. JULIANNE PASTULA: Thank you very much Madam Chair and good afternoon to the Commission and the public.
My report today I will keep it brief.
I had the opportunity to attend a state legislator conference in regard to redistricting. And bringing the materials back from that conference for the benefit of the Commission, again, it was focused primarily on state legislative Redistricting Commissions.
So it was a strong focus on legislative privilege and other such things unique to legislative bodies that would not apply to Michigan's inaugural and historic citizens Redistricting Commission that is focused on transparency and public engagement so I look forward to be able to provide you those materials and also moving forward to let you know additional extensions that have been garnered in the United States,
Mr. Adelson has indicated and he and I discussed that Maine's Redistricting Commission again a legislative committee their deadline was June 1st so they were given the extension that they requested

One unique thing that I did want to highlight from the conference was that Mr. James white horn, the chief of the redistricting office at the U.S. Census Bureau he indicated during the conference the legacy format data is not considered by his office to be the official data released by the U.S. census, that the September 30th release, that is being pushed out to all of the states is their office is considering the official census release data.
The legacy format is something they are just making available on their website for those that choose to engage with it.
And I know that this Commission has formally expressed its intent to use that legacy data as processed by EDS to begin its primary, so I wanted to express that during the conference that is definitely relevant to the Commission's work in Michigan, thank you.
>> VICE CHAIR SZETELA: Thank you very much General Counsel the next on the counsel is from the communication and Outreach Director but it's my understanding that no update is needed today is we will move to the next item which is MDOS updates without objection I will ask Sarah Reinhardt from the Michigan Department of State to provide a report.
Hearing no objections please proceed Ms. Ryan hard.
>> MS. SARAH REINHARDT: I have two brief updates for you the first being an update on your request for state ID badges.
The requests have been submitted and we've also provided them copies of your professional photos that were also taken so that stuff should be taken care of.
The next step relayed by my colleague Mustafa in an e-mail yesterday you will receive an e-mail from DTMB requesting what address the badge can be mailed to and the badges will be physically mailed to your location so you should receive those soon
My second update for you is that next week's venue has been selected and it will be at Cadillac place in Detroit.
For next week's Thursday and Friday meeting.
A big thanks to my colleague Yvonne young who continues to work diligently to ensure that you all have venues to meet up for your meetings.
So that concludes my update, thank you.
>> VICE CHAIR SZETELA: Thank you very much Ms. Reinhardt.
All right moving on to our next agenda item is number ten correspondence we have no correspondence to discuss today.
So we are a little ahead of schedule but at this point unless there are objections we will go ahead and take our recess until 1:00.
>> COMMISSIONER EID: Madam Chair.
>> VICE CHAIR SZETELA: Yes, Commissioner Eid?
>> COMMISSIONER EID: After recess is a three-hour presentation from Dr. Peering instead of taking a recess now since we a little ahead of schedule how about we do the first hour of that presentation and take a recess after.

>> VICE CHAIR SZETELA: Is Dr. Petering ready.
>> MS. SARAH REINHARDT: He is not currently present.
>> COMMISSIONER EID: Never mind.
>> VICE CHAIR SZETELA: Any other objections to taking a recess at 1:00.
We can take another recess during the three hour meeting and I'm sure people will need a break at some point.
Hearing no objection we will have our recess and we will reconvene back at 1:00 p.m.
[Recess]
>> CHAIR SZETELA: As Chair of the Commission, I call this meeting of the Michigan Independent Citizens Redistricting Commission back to order at 1:03 p.m.
For the purpose of the public watching and the public record, I will now turn the Michigan Department state Staff to take note of the Commissioners present.
>> MS. SARAH REINHARDT: Good afternoon, Commissioners.
Please say present when I call your name and please state the location you are attending the meeting remotely from by stating county, city, township, or village where you are attending the meeting remotely. I'll start with Doug Clark.
>> COMMISSIONER CLARK: Present.
>> MS. SARAH REINHARDT: Juanita Curry.
>> COMMISSIONER CURRY: Present.
>> MS. SARAH REINHARDT: Anthony Eid?
Brittini Kellom.
>> CHAIR KELLOM: Present.
>> MS. SARAH REINHARDT: Rhonda Lange?
>> COMMISSIONER LANGE: Present, attending remotely from Reed City, Michigan.
>> MS. SARAH REINHARDT: Steve Lett?
>> COMMISSIONER LETT: Present.
>> MS. SARAH REINHARDT: Cynthia Orton?
>> COMMISSIONER ORTON: Present.
>> MS. SARAH REINHARDT: MC Rothhorn?
>> COMMISSIONER ROTHHORN: Present.
>> MS. SARAH REINHARDT: Rebecca Szetela?
>> VICE CHAIR SZETELA: Present.
>> MS. SARAH REINHARDT: Janice Vallette?
>> COMMISSIONER VALLETTE: Present.
>> MS. SARAH REINHARDT: Erin Wagner?
>> COMMISSIONER WAGNER: Present. Attending remotely from Eaton County ,Michigan.
>> MS. SARAH REINHARDT: Richard Weiss?
>> COMMISSIONER WEISS: Present.
>> MS. SARAH REINHARDT: Dustin Witjes?

>> COMMISSIONER WITJES: Present.

>> MS. SARAH REINHARDT: 12 Commissions are present and there is a quorum.

>> VICE CHAIR SZETELA: Thank you very much at this point on the agenda is 11 utilization by Dr. Matthew Petering of Wisconsin Madison and I see you are on there, Dr. Petering, welcome to the Commission and thank you for being here today.
If you would like to go ahead and proceed with your presentation, we would appreciate it.

>> Thank you very much I'm delighted to be here today and I would like to share with you my PowerPoint presentation on an algorithm approach to redistricting in Michigan.
So I'm going to start to share my screen.
Can everybody see my screen.

>> VICE CHAIR SZETELA: We can see it.

>> Fantastic I'm delighted to be here today and here is a brief outline of my talk.
I was informed there would be like three hours for my presentation as well as a question-and-answer session.
So I'm here to be here three hours and delighted to talk about the following and the rough duration of each aspect here and can I share a little bit about my personal background.
That will be five minutes and go into Michigan mapping requirements and my interpretation of those requirements, that is going to be fairly detailed because there is quite a bit to cover there.
Then I will show you some Michigan data that I have that I've been working with.
Then go over sample Michigan maps made by my fast map computer algorithm.
Followed by talking additional data that I would need for making maps this fall.
And certainly during the presentation or afterwards I'm ready to answer questions for extended time period.
So really delighted to be here and thank you Commissioners for everything you are doing and it's very excited to know that my neighbors state Michigan a state where I have lived for several years is undertaking the process of independent redistricting

A little bit about my personal history so I was born in Milwaukee, Wisconsin and grew up there born and raised, went to public schools in Milwaukee County and then I did my Bachelors in math at Washington University in St. Louis, finishing that up in 1999.
After that I went to University of Michigan Ann Arbor and finished up my Ph.D. in industrial and operations engineering there in 2007.
While I was at Michigan to do my Ph.D. field work I actually spent 2.5 years in Singapore working at the national University of Singapore on problems related to the optimization and improvement of the productivity at the port of Singapore which at that time was the world's busiest container port of shipping being loaded and unloaded from all over the world there to be traveling the high seas to bring consumer goods all around

the world and I did some research at the national University Singapore the logistics institute a shun Pacific that is while I was a Ph.D. student.
I did that field work.
Then after that I did take a faculty job actually back home here in Milwaukee at UW Milwaukee, so I'm not at UW Madison. I'm at UW Milwaukee, which is the second biggest university in the state.
It's a tier one research University.
And I guess you would say it is a little similar to Wayne state in Detroit so it is a little bit smaller than the UW mad but we still have quite a lot going on here in Milwaukee.
I want to talk just a little bit about my background and my research background and why I got into redistricting.
So what do industrial engineers do? So I'm a faculty and industrial and manufacturing engineer here at Milwaukee and I got my Ph.D. in industrial and operations engineering.
Industrial engineers really work to improve the productivity of complex systems talking about factories, airports, warehouses, healthcare systems maybe educational systems.
And how do we do that? A lot of what we might do is to develop math for computer models to allow us to analyze complex systems and come up with schedules that are going to make best use of scarce resources.
Often times when you develop schedules for things such as machine scheduling in a factory or airline scheduling or public you know transportation scheduling a lot of times there is a lot of tradeoff involved.
You can't quite get everything you want in your schedule.
You might have something that is convenient for the customer but it's very costly so you want to kind of balance things.
You want to keep costs down but you also want to deliver something really good to the customer in the schedule.
You want it to be good for the employees.
You have a lot of things that are kind of tradeoff and you simultaneously have to think about when you develop a schedule for a complex system.
And it's all about improving productivity and efficiency.
And four years ago in late 2017 I was thinking about other systems not typically investigated by people in my field and I was thinking about the political system and realized that there might be a potential to use some of the techniques I've used in computer program and algorithms for optimizing things.
There might be some potential to apply that in the area of in the political realm.
And it got me thinking about redistricting.
And there have been people in my field doing research on redistricting actually going back to the 1990s.
Although certainly more recently I believe that people like me have really brought this to the state of the arts and have really been able to do a lot more just in recent years than

people have been able to do you know with computers for redistricting, you know, ten, 20 years ago.
And so I got into this in late 2017 and was doing a lot of research on my own on this issue.
And then decided I needed to make a computer algorithm that can automatically create districts depending upon what the user input's criteria and the algorithm gives outputs a map in a timely manner that will generally satisfy the criteria input by the user.
So any way that is kind of my journey and so I'm really delighted to talk to you today about my algorithm and some preliminary results I've gotten for the State of Michigan
But before we do that, I think it's important we go back to the Constitution of Michigan.
And take a detailed look at the Michigan mapping requirements.
By the way, please do feel free to interrupt.
I will try to watch the chat if there are questions please don't hesitate to ask and interrupt me during the presentation.
I think it's very important that we are all on the same page here to extent possible in this online Zoom format
Okay so the Michigan mapping requirements are set forth.
>> MS. SARAH REINHARDT: I'm sorry Dr. Petering one second please.
>> I do apologize nor the doctor I wanted for the benefit of the public to just give a very brief background.
The doctor was invited here at the suggestion of one of our Commissioners and so we are here to receive the information that he is presenting and again the Commission has not made any determinations or any decisions on the material they are about to receive and the doctor has not been retained by the Commission, this is just for informative purposes and I just wanted to make that clear before we get into the substance of the information, we are about to hear thank you so much.
>> VICE CHAIR SZETELA: Thank you General Counsel, please proceed Dr. Petering.
>> Okay thank you very much.
And so yes again all of the things in the presentation or my opinions or interpretations of things and so let's take a look at the Michigan mapping requirements as set forth in the Constitution Article Section six as amended in November 2018 to establish the MICRC.
And I went directly to the website which states this Article, this Section of Article four and basically verbatim I have copied down the criteria for making maps.
Well, first of all, we do want to keep in mind there are three types of districts, U.S. Congress State Senate, State House.
The Commissioner shall abide by the following criteria in proposing and adopting each plan in order of priority. We are going to go into detail into each one of these. I will just

briefly go through them now. I mean, the list of the main idea of each but then we will go in detail on the next half hour, 45 minutes.
So part A is certainly we want the Districts to be of equal population and to comply with the Voting Rights Act

B, District should be contiguous.

C has to do with communities of interest.
D having to do political parties and giving a disproportionate advantage to a political party, the District should not provide a disproportionate advantage to political party, it has to do with partisan fairness and E has to do with incumbents. And F with the City, county and Township boundaries. And G with compactness of the districts. So I'm going to take these one at a time.
First of all, for the three types of districts, we just need to remind ourselves how many we are making of each, 13 Congressional, 38 State Senate and 110 State House districts.
Let's talk about part A the equal population requirements.
Let's Zoom in on that.
First of all what with are we talking about? We are talking about total population? We are talking about any age that counts here and whether you are a citizen or noncitizen, any human being counts here

Now for Congressional districts the equal population requirement is extremely strict. It really is that these districts must be within one person of each other.
Or if by chance the total state population happens to be an exact multiple of 13 then they should be exactly identical.
Okay but there is probably there is a good chance it's not an exact multiple of 13 so in that case you're not going to be able to get all the Districts with exactly the same population so you are allowed to deviate one person in those Congressional districts. And going back to the last redistricting cycle Michigan and almost every state complied with this requirement

Now typically this will require splitting your small geographical units you will be using as your building blocks to make the map and may be census blocks or precincts.
And we may have to split these up because these units have generally more than one person in them.
So maybe a census block has maybe 30 or 40 people in it, a precinct might have oh, maybe 2000 people in it.
And so if you need to get those districts to exact equality it may actually require you to split the smallest geographical unit being used to perform the map so that requires extreme detailed look, probably to make this type of map you first start with a rough map where the populations are well quite equal let's say within 1% of each other but then you really Zoom in and then you make some really minor changes that probably

are not going to be effecting any of the other criteria down below to make sure then the populations are basically exactly equal.
So I would say it's a two-step process like when you are machining a part you do a roughing cut to kind of get close to where you want to get then you get a final cut to really get the tolerance that you want on that part that you are manufacturing so you kind of start rough and then get really fine down to one person and that is what I recommend for making those Congressional districts

On the other hand we have the State Senate and State House districts that are by Federal law they do not have to be exactly equal.
They are allowed to deviate 10% from each other maximum.
So they could be within 10% of each other that should be legally acceptable in other words within plus or minus 5% of the ideal or average District population and that is typically acceptable and Michigan was right about the ten% range last time when it did the redistricting

So in this particular case we don't need to do kind of two passes at the redistricting. I think one pass is adequate.
Just those small geographical units using census blocks or precincts to make the map they can remain wholly intact and you don't have to split those up.
Okay so that is my take on the equal population requirement

Let's talk about the Voting Rights Act

Now the Voting Rights Act deals with voting age population of at least five minority groups, Blacks Hispanics nations native Asians and native and Pacific islanders.
Roughly speaking here is what I believe is the way to go about complying with the Voting Rights Act.
For each minority group you do the following analysis.
First you want to compute its total VAP percentage in the state.
Then for each type of District we have the Congressional, State Senate and State House so let's just say we are focusing on one of them like State House.
We are going to multiply that VAP percentage by the total number of districts.
And I need to maybe go back here but for Michigan I believe for example the Black VAP percentages is 13.24 according to the last census.
Not -- according to the 2010 census is so take 13.24% multiplied by these numbers to get kind of roughly the number of majority minority districts that you would like to form that involve that minority group.
So then okay so you multiply that by those numbers then you round the result integer up or down and let D be the integer and you will try to form D majority minority districts.
Defined by having more than 50% voting age population within those districts belonging to that minority group.
And an algorithm can try to do this.
Or a human being obviously can.

Importantly though the minority group should be compact to justify forming each District.
There were Supreme Court rulings that said that maybe you don't want to take minority groups from very far away locations and form a majority-minority District with those two populations.
You would like the minority group to have pretty dense and compact distribution to justify forming each one of those districts
And so this is my take on the Voting Rights Act.
And how many majority-minority districts were formed during the last redistricting cycle in Michigan? For each type? Well, for Black majority districts we had two Congressional, five State Senate and 12 State House districts.
And for the other minorities we did not have any.
And that was because they were not as high in population as the Black population.
As well as they were not as concentrated.
And so it was not possible after 2010 to create even one majority minority District and the other four minorities.
Okay so that's my take on the Voting Rights Act.
And so.
>> Doctor Petering.
COMMISSIONER CLARK: This is Commissioner Clark first would you like us to call you Dr. Petering or Matt or Matthew?
>> I guess if you call me Dr. Petering that would be nice.
COMMISSIONER CLARK: Okay great, going back to your comments on the Voting Rights Act when you determined your algorithms for this did you consult with a voting rights attorney if that is consistent with what the Voting Rights Act says?
>> I have not yet consulted with an attorney on that.
I am currently using certainly one of my guide looks that I'm using is the redistricting law book which has quite a bit of nice information in there and it's made by the national conference of state legislatures. Certainly this is definitely, my first start in looking at that voting rights act.
I believe there is like a 40 page chapter on the Voting Rights Act and Supreme Court rulings but, no, I have not talked to an attorney.
COMMISSIONER CLARK: Okay so your algorithm will determine how many majority or minority districts need to be created for each of those three categories, the two the five and then the 12?
>> Dr. Petering: I would say my algorithm can try to make a number of majority minority districts imputed by the user.
And so the results I will be showing you later are actually what are the results if I applied the algorithm back in 2010 using that data for the census and making this number of majority minority districts two, five and 12 which were the number that were made in the maps that Michigan is currently using.

I guess I can try to make more or fewer than these numbers.
And when the new census data comes out definitely there will be new analyses needing to be done about how many one thing, I know is the Hispanics I can come up with a District with 40% VAP for State House and maybe this time around it's possible to make one with 50, I'm not exactly sure we will have to see what happens with the census data.

COMMISSIONER CLARK: So these are the two, five and 12 are recommendations coming out of your algorithm?

>> Dr. Petering: , in fact, no, they are numbers, well, I can use my computer algorithm to make districts from scratch or I can import a map and maybe try to improve it or touch it up or import the map and show what did that map do and it's how many majority minority districts did it create and so I took the map from 2011 or the last redistricting cycle, plugged that in my algorithm and then found out that there were two, five and 12 majority-minority districts created of each of these types last time.
And so that's where I got the two, five, 12, it was from the current Michigan map.

COMMISSIONER CLARK: Okay, I understand, we have had a significant population shift in certain parts of the state since the last census.
Okay thank you Dr. Petering.

>> Dr. Petering: Yes, I want to mention there is a cover with my work with the algorithm we done have the updated census data and so what I'm using currently is 2010 census data and not using anything updated since 2010.
I'm kind of going to show you today if I let's say for whatever reason the 2010 data were exactly identical now and it did not change now what would my algorithm do or how would my algorithm have compared with the map that Michigan currently has? And so to do that I take the two, five and 12 as the inputs in the starting point for the algorithm to go to work to create those districts.
Thank you for your question.

>> MS. JULIANNE PASTULA: Madam Chair.

>> VICE CHAIR SZETELA: Yes, General Counsel.

>> MS. JULIANNE PASTULA: I also had a question if that is okay.

>> VICE CHAIR SZETELA: Certainly go ahead.

>> MS. JULIANNE PASTULA: So actually two questions.
That I would offer is does the algorithm address at all coalition District or is it able to internalize racial bloc voting analysis and make suggestion regarding coalition districts?

>> Dr. Petering: Currently the algorithm does not have that capability.
Thank you, yes.
Certainly I think it might be possible to do that but I would need more...more detailed data to be the basis, you know, the algorithm would need more detailed information about recent elections in order to be able to start to work on that issue.

>> VICE CHAIR SZETELA: Thank you.

Any other questions at this point before I ask him to move on? All right please continue, Dr. Petering.

>> Dr. Petering: Okay, thank you.

Now we get to contiguity districts shall be geographically contiguous.

Island areas are considered to be contiguous by land through the county of which they are a part.

Pardon me, I have a slow system at the moment.

I just have to stop my screen share.

Let's see if I can get back to it with minimal delays.

And.

>> VICE CHAIR SZETELA: We can see your screen.

>> Dr. Petering: Okay, thank you.

Let's take a look at the contiguity requirement.

Sonya, I think it makes sense every District has to be a single connected piece although in Michigan it's more interesting than some other states because you are very blessed with four Great Lakes bordering your state.

So here is a little peek at Michigan.

Just a few things that I noticed based upon this requirement was like Isle-Royale is in this county.

There are a few islands on the east side of upper Michigan, those are part of Chippewa County and Mackinac and Blank are part of Mackinac County. And these islands are part of Charlevoix County. And those islands are part of Leelanau. There is a little bit of a tuft there of an island, and Harsens Strawberry and St. Clair County and also, I'm assuming Grosse Isle and Belle-Isle are in part of Wayne County of over there.

What is interesting about the wording it does not mention what parts of upper and lower Michigan should be considered contiguous.

So regarding upper, lower Michigan I don't think this wording covers how to handle those because upper lower Michigan are not islands and yet they are separated by water and the counties we have a different set of counties than the counties in lower Michigan so there is no county itself that has parts of both according to my knowledge so it appears to me that some part of upper and lower Michigan should be considered contiguous to allow a District to include parts of both.

These are Michigan's 14th Congressional directions right now and you see this tan District at the top includes all of upper Michigan and you know a fair bit of lower Michigan as well so obviously this District according to the wording is, well, you know it appears that it's not contiguous or assumptions need to be made about what parts of upper Michigan are going to be allowed to be considered contiguous with what parts of lower Michigan and I think there is some leeway there.

For example on these two parts of upper and lower Michigan could be considered to be contiguous and could we make it an orange District and have a patch of the orange District way up there as well and say it's kind of close, it's only 150 miles.
My answer to that would be, no.
What about the parts indicated by these orange arrows? These are a little bit closer, okay can those be considered to be contiguous? Can you make a little District that looks like this a non-involving Mackinac or Mackinac Island and my answer to that again would be no but the fact is assumptions do need to be known with exact parts of upper and lower Michigan are considered contiguous so my assumptions regarding this are the following.
Here is a little zoomed in picture of the precincts, the voting precincts of the upper and lower Michigan area near Mackinaw City.
And where I've indicated with a line segment between precincts that my algorithm considers to be contiguous.
And so I had to kind of hard code this into the algorithm in order to be able to make like for example a Congressional District that includes both upper and lower Michigan and so these line segments kind of indicate what I'm considering to be connected which is near the Mackinac Island area and nowhere else is considered connected so I'm being pretty only this little area there I'm considering has connectivity there.

Okay so that would deal with my interpretation of the contiguity requirements.

Now we get to communities of interest.

What I'm going to do is I'm going to discuss this later with the County, City and Township boundaries because I will treat communities of interest and how to treat those is similar with how to treat counties, cities and Townships so I'm going to talk about those together later on.

Okay so D districts shall not provide a disproportionate an advantage to any political party, a disproportionate advantage to a political party shall be determined using accepted measures of partisan fairness and there is leeway how to interpret this.
To my knowledge there are two main parts of partisan fairness proportionality and the efficiency gap.
Let's talk about proportionality.
Well, I think a lot of us kind of have this idea of proportionality like if a party wins 50% of the statewide vote that if we use proportionality as our standard of fairness then the most fair outcome is the party wins 50% of the districts, if a party wins 55% of the total vote statewide the most fair outcome wins 55% of the districts.
60-60, 65-65, you just continue. And it just keeps going. And the essentially the idea here is that if you use proportionality where your goal is to make a district map the proportion of districts expected to be won by a party is cast as close as possible to the total proportion of state vote the party has received in recent elections.

Now what about the efficiency gap? This was the basis of Supreme Court case that did involve my state of Wisconsin.
And it's interesting, I think there is some appeal in the idea of the efficiency gap.
Efficiency gap is to try to equalize the number of wasted votes for the two parties statewide.
However, if you let's maybe back off of that for a moment and let's just take a look at what the efficiency gap is really saying in terms of its values.
Now, it has the same value kind of and judgment if a party wins 50% of the statewide vote and want to use efficiency gap as the measure of fairness acting to that the most fair outcome is the party wins 50% of the districts.
Now what a lot of people may not know is that the efficiency gap really gets in my opinion a little bit skewed as a party wins more than 50% of the statewide vote so according to the efficiency gap if a party wins 55% of the statewide vote the most fair outcome in which the efficiency gap is zero is that that party wins 60% of the districts.
If they win 60% of the statewide vote according to efficiency gap the most fair outcome that party wins seven% of the districts and if it wins 65 it wins 85% of the districts so the numbers on the left will increase by 5% but the numbers on the right will increase by double that.
10%.
So you get to the fact where if a party wins seven 5% of the statewide vote or more acting to the efficiency gap the most fair outcome is that that party wins all of the districts.
And that is quite a bit different than the proportionality idea.
And I'd be glad to go into a little more details as to why this is true and why what I put on the slide is correct.
If you would like I could talk about that a little more.
But let's go back to then my opinions regarding these two measures of fairness.
My opinion is that propositional is fairness and the efficiency gap is not appropriate it's a highly inappropriate measure when you have proportionality as another option.
Why is that again? Because efficiency gap says that whenever a party has more than seven 5% of the statewide vote that the most fair outcome is for that party to win all of the districts.
Like for example Massachusetts is a state where I believe the democrats are at about 75% statewide.
According to the efficiency gap in Massachusetts the democrats deserve to win all of the districts, okay, I don't know about you but I'm not sure that that's fair.

Okay, so we go deeper for each District and just looking at for each district who is expected to win based on recent election results. Because you may make a map let's say for Michigan in which let's say for State House maybe Michigan is pretty close to a 50/50 state. Let's say we make a map for State House which each party is expected to

win 55 districts, okay so kind of a tie there but what if one party has let's say no vulnerable districts like all of their expected victories are by more than 10%, well what if the other party has let's say 30 vulnerable districts? Okay, that would also not be very fair, right, because one party has no risk, the other one has tons of districts at risk even though if you look District by District, they each are expected to win 55.
So I believe that identifying which party is expected to win each District is not enough. We also need to look at the expected victory margins.
And I would I propose putting this into six categories.
We only have two major parties typically so looking at this how many districts are expected to be won by republicans pretty securely? Okay, safely by more than 10%, how many districts are expected to won by republicans by 5-10% that would be a competitive District, how many districts are expected to be won by republicans by 0-5% that is very competitive and then going the same thing kind of a mirror image of that or the democrats how many very narrow victories are expected, how many narrow victories and then how many comfortable victories.
And trying to make in the number of tight victories for the two parties as equal as possible, okay? And so we might have the total number of victories to be maybe not completely equal because one party has a greater over all vote share in the state than another but then when we get to the tight races, we would like probably a pretty much we would like to kind of make this one close to this one and this one close to that one. Okay, although these two may differ because one party may have more total vote in the state than the other.
So this is kind of what I believe is I believe we should use proportionality in terms of total number of victories for each party or expected victories and then the algorithm can then look a little more detailed as to the margins of victory and try to get those lining up a little bit so each party has a similar number of vulnerable districts with a similar degree of vulnerability.

>> Dr. Petering.

>> Yes.

COMMISSIONER CLARK: This is Commissioner Clark.
A couple questions.
I understand exactly what you're saying and it seems logical to me.
Have you discussed this with an expert or somebody that is an expert on partisan fairness? To get their input relative to this approach?

>> Dr. Petering: Yes, who is an expert? You know it's very interesting to think about. I would say that I have not certainly sought legal advice on this.
On the other hand I do think some experts may not have let's just say in the area may not have a very well developed view of what is fairness and I think there are some experts who have decided that they would prefer not to decide what is fair and not make

the call as to what constitutes fairness and what is fair and what is not fair and they would prefer to say I can't do it.
I'm not -- I don't want to talk about fairness and but that's maybe kind of avoiding you know answering some tough questions and so my belief is that rather than I'm just saying some people in the legal realm, some people in courts have said we aren't going to make a decision as to what's fair or we can't.
Members of the U.S. Supreme Court, okay, and you know the question is, is that in the long run going to be okay for our democracy? To just to think about that we are not going to make up our minds as to what constitutes fairness or not have that difficult discussions.
So I have to say I admit I have not talked to a legal expert on this.
I would say legal, I have gotten legal advice although I do believe this is a pretty standard approach for looking at fairness that's definitely well within something that could be considered legally acceptable.
COMMISSIONER CLARK: Second question, doctor.
The -- your algorithm, can you adjust it I guess you could have maybe by perimeters but to say that let's make it a 50/50 split as far as fairness goes within the state?
>> Dr. Petering: Yes, one of the main out puts in the algorithm so you know kind of similar to the voting rights act.
I can input you know a two, a five or a 12 for that.
For a particular minority group.
For making districts of these you know Congressional, State House, State Senate I just put in a number essentially how many victories do I want for the republican party and how many do I want for the democratic party and that is an input to the algorithm.
The algorithm will then try to get that number.
Now of course it's not going to be possible in Michigan I want 110 victories for the republican or I want 105 for the democrats, that's not possible.
However if you are towards the middle part, the realities are I just want to say I can give you any number close to the mid-range for either party.
It's just the reality of there are trillions upon trillions of potential District plans and there's going to be a range of the number of victories for let's say the republicans, you know, and there is going to be a range and within that range in the middle I can give you any map that you want.
And for State House it takes 30 minutes.
For Congress it's ten minutes.
Now, yes, I mean it's kind of I don't know is it scary? Yes, it's kind of scary but the point is the way that I use the algorithm is I look at the recent total vote received by each party.
For example in the very tightly contested 2016 Presidential election, that was razor thin hard gin won by the republican candidate for president in Michigan Donald Trump

defeated Hillary Clinton by I believe .2% and essentially that is 50/50 so then I would -- if I populate my map with that data, then I would ask because that's the data I'm populating it with and that data is 50/50 statewide then I'm asking the algorithm to make a 55-55 map for house, a 19-19 map for Senate and 7-7 map for Congress.
And then my algorithm produces that every time I run it.
COMMISSIONER CLARK: What is interesting is we've had I believe 16 public hearings and one of the things we hear a lot of is the population of the people that speak talk about competitiveness.
And so if we decide as a Commission that we competitiveness is extremely important to us, we can force close to a 50/50 split according to what you've just said, is that true?
>> Dr. Petering: Absolutely.
Now I wondered do you mean it competitive in terms of like for the whole state in the composition of the legislature? That it will be 55-55 or are you meaning the margins of victory within the districts themselves? Because it might be possible to end up with a -- you could have a lot of really close races won by republicans and democrats by less than 10% here.
But it might happen that the republicans might end up winning 80% of those close races and so that in theory could also be considered competitive in that if you had a lot of close races but after the dust settles and you find out how many people are being represented but I the parties it might end up being like 70-40 if by chance one party really got lucky and won a bunch of razor thin races.
So may I ask what do you mean by competitive?
>> COMMISSIONER CLARK: Can I refer to MC on this?
>> COMMISSIONER ROTHHORN: So we have not defined that competition.
This is Commissioner Rothhorn I apologize.
And I don't think we have defined that competition and we understand what you're suggesting is at this point both could be reasonable and I think that is kind of what, yes.
>> Dr. Petering: Yes, I do want to mention I'm delighted later in my presentation I will show you maps that my algorithm has created that are kind of I would say in both ways of looking at competitiveness are outperforming the current map using a particular set of data.
So in that it's a little closer to a 50/50, well it's exact 50/50 split in terms of seats expected to be won but it's also there is more of those victories are narrow victories tan in the current map.
And so, yes, I can do both at the same time with the algorithm.
>> COMMISSIONER CLARK: I have one point I want to make to the Commission.
>> Dr. Petering: I'm sorry I can't hear.
>> VICE CHAIR SZETELA: Commissioner Clark do you mind I have one kind of follow-up on what you were just asking.
COMMISSIONER CLARK: Yes.

>> VICE CHAIR SZETELA: Part of the problem we have in Michigan is we have highly concentrated urban areas that are largely democratic.
So Detroit, Ann Arbor, kind of Southeast Michigan and Saginaw, Lansing, Flint, if you move to the west side of the state Grand Rapids Muskegon and is on a tilt democratic.
But if you look at a map of the remainder of the states in the election results it tends to really skew republican so I'm assuming if we were to decide that we wanted to do a sort of more balanced or competitive map then we would to some degree be sacrificing compactness and keeping the Township municipal boundaries together is that accurate it's sort of a tradeoff because of how compact those democratic areas are we have to have more Meandering districts to make it 50/50?

>> Dr. Petering: It's very interesting.
I would say look at the maps I will show later on that actually it's more of sacrificing the, well, certainly one thing is there are a lot of tradeoff.
This is a hornet's nest of a problem.
I did not realize four years ago when I started looking at this how many different aspects there are to look at and they are all conflicting.
Every one of those criteria are to a certain extent conflicting with each other.
And so, right, if you improve one aspect it is likely that you might deteriorate in terms of your performance with other criteria.
One thing I should mention is definitely it is possible to get a competitive, well, fair and very compact map.
However, I would say the tradeoff would be there might be less adherence to the County and City and Township boundaries.
That is what I'm finding is that there is a tradeoff between political fairness and those boundaries.
That's one thing I can talk about later in the presentation in a little more detail.

COMMISSIONER CLARK: Those boundaries are another item that came out of the public hearings a lot.
So that is something we would have to consider if we took this approach.
I'm sorry Rebecca.

>> VICE CHAIR SZETELA: I was just going to say thank you.

>> COMMISSIONER CLARK: I want to make one comment to the Commissioners.
I believe in our last session with Lisa she mentioned that she doesn't deal with in this item of partisan fairness and then she suggested that we get an expert on that to consult with as we move forward so that's one item we may want to look at in the future.
Thank you very much, doctor.

>> Dr. Petering: Thank you for your questions.
Okay, let's move on to part E.
Districts shall not favor or disfavor an incumbent elected official or candidate.

Now I feel here there are multiple interpretations and one interpretation might be to try to make a redistrict the highly competitive District like with a narrow expected victory, try to make a whole bunch of those districts, in that case you make a District which there is 50% chance that each District is won by each party.
In other words, that means there would be 50% chance that each District is won by an incumbent or by the challenger. And incumbent probably have a little more seasoned political skills and probably still a little more likely to win than a challenger even if it's a 50/50 District.
Actually maybe I should back off that.
Yes, I think that's one interpretation to try to make a 50/50 map with a bunch of 50/50 districts.
Highly competitive.
Another thing that might be a way to interpret this is just ignore information about where incumbents live and do nothing else.
Not put that into let's say the algorithm.
Or maybe use information about where incumbents live and the algorithm can do this, it can find out, I have done this for Wisconsin, you know putting in where the current state legislatures and current Congress people live, finding out in the particular new map okay where do they live now and in what District do they live? And then how many votes were cast for the republican and democratic candidate in that District?
And then find out, well, which party has more votes, which party is expected to win that District and find out what party is that person from and are they expected to kind of win or lose and are an incumbent.
You can kind of predict how many incumbents are predicted to lose.
If the districts are drawn in a particular way.
And the algorithm can do that.
So one thing you could do, another way to maybe interpret this is to make a map in which now I'm not exactly sure, but make a map of which 50% of incumbents are predicted to win and 50% are predicted to lose, or maybe that is being a little too harsh.
And maybe making a map which 70 percent of incumbents are projected to win and 30 are projected to lose.
I believe there may be multiple interpretations here.
I would say this one is a little bit I have less knowledge on how to handle this than maybe some of the other aspects.
My current interpretation that I am using at least in the maps that I'm going to show you today I'm ignoring information about where incumbents live and it saved me time as well.
That is data to collect, to make sure you have those addresses and know where those incumbents live so right now I'm completely ignoring that information.

So that's my interpretation as to how to meet are requirement E currently although I'm definitely open to other ideas on how to do that.
Okay so we are going to move to the item F now.
>> COMMISSIONER CLARK: This is Commissioner Clark.
Can I ask a question relative to that? I would like to ask it of our General Counsel.
Are the legislatures required to live in the District that they represent?
>> MS. JULIANNE PASTULA: Yes.
The only individual, the only representatives that are not required would be your Congressional representatives to the U.S. Congress.
But, again, the data I would respectfully disagree with Dr. Petering that in the absence of incumbent data that it would be very difficult, if not impossible to determine satisfying this criteria.
And again he indicated it was his interpretation that to not have that data and approach it from a politically competitive standpoint which again is his interpretation.
But that data is a necessary component.
Maybe not considered at the very beginning again we are working our way down the ranked criteria in the Constitution.
And how the voters have prioritized it.
So hopefully that's responsive to your question Commissioner Clark.
>> COMMISSIONER CLARK: Thank you very much, thank you doctor.
>> Dr. Petering: I would be delighted maybe during the Q and A what you feel from the legal counsel from the MICRC what you feel is the best way to handle this criteria.
Because certainly I could do number three or number one as listed here with the algorithm.
It's just I think a matter of just switching it up a little bit and rerunning the algorithm to maybe get a little bit better results or more legally acceptable results for this criterion.
That does not take me long to switch between interpretations one, two and three in the algorithm.
F, districts shall reflect consideration of County, City and Township boundaries. Now here I am going to revisit again C communities of interests. Okay. Districts shall reflect the state's diverse population and communities of interest.
Communities of interest may included but not limited to populations that share cultural or historical characteristics or economic interests. Communities of interests do not include relationships with political parties, incumbents or political candidates.
Now, my interpretation is to take a look at this in three different categories here.
For this group of requirements and I think I'm going to start with the county.
My interpretation regarding county boundaries is as follows? After a District plan is made to compute the number of counties that overlap with District one, number of counties overlapping with District two, number of counties overlapping with District three and so on and adding those things, those values up.

Some of these values for all districts would be considered the total penalty for splitting counties.
And then the goal would be to try to minimize this penalty.
Out of the number of total number of District county overlaps.
My interpretation regarding City and Township boundaries is very similar.
After District plan is made compute number of cities and Townships that overlap with District one, District two, District three and so on and again some of these values up for all districts and then consider that sum to be in a total penalty for splitting cities and Townships.
Again the more -- the higher this number the more you know District one might have overlapped with you know a lot of cities and Townships, District two overlapped with a lot of cities and Townships and then overall all of the districts might have a lot of op laps, then that number those numbers you are adding up are high and then that sum is high. Then you kind of have a higher total kind of penalty or split penalty score for splitting cities and Townships. So you would like to minimize this penalty.
Now, admittedly though, well, according to my calculations there are 1306 cities and Townships total.
So one thing to make sure is that each City and Township has to be at least one District, right, so the sum of this is going to have to be at least 1306.
Okay? But that being said we can try to minimize it.
Now, my interpretation regarding communities of interest is as follows.
Well first of all the boundaries of all communities of interest need to be decided.
Once they are decided I would consider this to be the same way as the others, after a District plan is made compute the number of communities of interest that overlap with District one, number of communities of interest that overlap with District two and so on for all the districts.
To sum these up and the sum of these overall districts is the E total penalty for splitting communities of interest.
And we are going to try to minimize that penalty.
And so my interpretation is that a community of interest is an area geographically contiguous area that you want to keep within one District if possible.
And so then it could be treated similarly to a County or City or Township.
And I want to mention that each community of interest will have to overlap with at least one District, right? And so this sum, okay, is going to have to be at least as high as the number of communities of interest that are decided upon.
Okay so and the green my interpretation is that a certain set of communities of interest will need to be decided upon and be fixed and say those are the final COIs and maybe there might be 200 of them.
Okay, then if that's the case then this sum will be at least 200.
Okay but then okay maybe it would be exactly 200.

If it's exactly 200 it meant that no community of interest were split.
Okay if it's 201 it means that there was one split.
If it's 202 there were two splits.
If it's 400 it means there were 200 splits.
It meant that the average COI was found in two districts.
And so over all I think we want to try to minimize this penalty.
And, again, an algorithm can go to work in trying to do this.
Because it's a quantitative measure.
But in order to be able to do this we do need to decide on the communities of interest so that is the part in green which I think is the hard part here.
And what makes it a little hard is the U.S. Supreme Court has provided scant guidance to define communities of interest according to this re-Districting law book.
And but someone needs to decide those.
To be honest I don't feel qualified to decide what communities of interest are.
But certainly if someone gives me a list of those with their boundaries, I can plug that into the algorithm and go to work on minimizing those splits of the COIs.
So this would kind of summarize my interpretation related to criteria C and F.
Related to G, districts shall be reasonably compact. Just a reminder, a compact district has a dense and solid shape and looks nice to the eye without long and narrow regions.
My interpretation in how to achieve this in the algorithm is after a District plan is made to compute the following, the Polsby Popper of compactness of District one and 0 means it's non-compact. And one meaning it's perfect. It's a perfect circle.
Polsby Popper on District two and three and so on, add them all up to get the sum of the values for all districts and that could be considered the total compactness score of a District plan and the score will then range from 0 to the number of districts formed and we are going to try to maximize this four.
This is another quantitative measure.
Basically all of these things are quantitative here.
From A to G.
And so an algorithm could be used to make compact districts.
Let's just go into brief details what is the Polsby Popper compactness.
It's the area of the District divided by the area of a circle whose border has the same length as the District's border.
And so if you were to take the District's border maybe as a really big border well that meant if you could make a circle with the same border that would be a really big circle so you are looking at what is the area of that District kind of divided by the area of that circle.
And so essentially this measure is larger when a District has more area and it is also that means when the numerator is higher and this is also a larger measure when the denominator is lower.

In which, in other words, the Polsby Popper compactness is larger when an area has more area and a shorter border.
So just a couple examples with Michigan's current map Michigan's six Congressional districts shown there that is one of the nicer looking districts I would say.
Pretty nice shape there probably has a pretty good compactness score let's look at the area and its border length and based upon those we can compute the compactness of .553.
Okay that is higher than .5.
That is a pretty darn good District I would have to say.
On a range from 0-1 typically you're not going to hit a 1 because a 1 is like a perfect circle and a 0 is like you know something with the most horrible shape you could even imagine.
Okay so that's Michigan's six Congressional District.
On the other handed let's look at the one in light green which has a less compact shape we can see it's longer and narrower and has some twists and turns in it.
What is its area? Well it has a lower area and it's got a longer border.
Okay which means that it's going to have a smaller Polsby Popper compactness and if you do the computation, it's four times less than that of District six.
And so my algorithm is going to try to make districts that have high Polsby Popper compactness and for all of the districts summed up.
And I believe that, okay, so again this is because this has a higher compactness score more compact, this one is less compact.
So this is my interpretation of how to get compact districts using my algorithm.
So.
COMMISSIONER CLARK: This is Commissioner Clark again.
>> Yes.
COMMISSIONER CLARK: Can you go back a slide, please? Is the Polsby Popper compactness methodology acceptable? Is it an acceptable standard in redistricting compactness? And is it -- and do you know if it's acceptable in the courts? And according to the VRA?
>> Dr. Petering: Yes, it is acceptable.
Now I do know there are a few other measures of compactness which also are tend to kind of try to get at the same thing.
You want kind of nice shapes.
And I am aware that you know, there will be consultants who will deliver I believe to like for example Arizona Independent Redistricting Commission, I believe the final paperwork delivered by the consultant last during the last redistricting cycle I think showed the districts that were formed I think three different compactness measures, one of which was Polsby Popper to kind of show that the districts were somewhat, you know, compact.

So certainly Polsby Popper is probably the number one measure of compactness that is being used but there are others as well. And it's definitely possible to...for a consultant to deliver multiple measures of compactness.
Often times they don't differ by a whole lot.
Maybe 10%.
Plus or minus 10% in the different ways that they measure compactness.
But certainly any measure of compactness will show that the sixth District is quite a bit more compact than that fifth District.
COMMISSIONER CLARK: Thank you, doctor.
>> Dr. Petering: Thank you for your question.
Now let's take another look at all these requirements altogether.
One thing that is very interesting to look at is this wording in order of priority.
Now, I believe that that wording is now probably good that it is a little bit vague in that there is it appears to be some flexibility here for how to interpret that.
Why is that? It's because all these criteria are conflicting.
In my opinion prioritization is a good start.
Obviously, you want to have some priorities and generally have that laid out.
But I don't believe that gives perfect detailed guidance regarding tradeoff among the criteria.
Now, in terms of tradeoff I don't really see a whole lot with A and B.
A and B to me are really hard constraints that are less subject to interpretation that you better have those satisfied or the map isn't even going to see the light of day.
But related to criteria C-G I think there is some interest questions here to look at.
For these criteria how much of a higher priority criteria can be sacrificed to get better results related to a lower priority criterion? For example, is it okay to let criterion C get worse by 5% that allow criteria B to improve by 30%? Okay, I believe that that might be subject to interpretation there.
Certainly we know that you can't have it the other way around.
I mean because C is higher priority than B, you're not going to allow C to get worse by 30% to improve D by 5.
But the other way around still says that, okay, C is a higher priority but maybe you could sacrifice it a little bit in order to get big benefits for D.
Or EF or G or anything where there is something higher.
Maybe for E we might sacrifice that 1% to get a 30% improvement in G, okay? How do we decide upon those? I don't know.
I feel there may not be a definitive answer other than we certainly can't sacrifice more of a higher priority to get less of a priority.
But it appears to me that there is some wiggle room where sacrificing less of a higher priority to get more benefit of a lower priority.

And I feel in these mathematical optimization problems this is the case just by sacrificing maybe a couple percent in some categories you can get huge gains in other categories.
And so the way my algorithm kind of works is by giving a weight or an importance to these different categories, CDEFG and using those weights to indicate that's the relative importance of those categories.
So my algorithm does not say, okay, let's satisfy A, we are done with that then let's go to B then we are done with that and then let's go to C and we are done with that and let's go to E and we are done then let's go to E.
My algorithm takes a look at essentially all of these together simultaneously and continues to improve the overall score where the overall score is a weight where actually the algorithm continues to reduce overall penalty.
And the penalty is a sum of weighted components where you have a weight, A and B are simply kind of things that the algorithm has to do no matter what.
When it comes to like the others like CDEFG the algorithm the way the algorithm works is I put a weight, how important is C, maybe that is 100, D might be 80.
E might be 60.
F might be 40 and G might be 20.
Okay, so if that's the case the algorithm will then have quite a bit of flexibility to make sacrifices for things at a higher priority to get much bigger benefits at a lower priority.
But certainly it won't do the opposite.
So I just think this is a pretty important thing to think about here and it's in my opinion seems that there is a fair bit of wiggle room for tradeoff among criteria C-G.

>> MS. JULIANNE PASTULA: Madam Chair.

>> VICE CHAIR SZETELA: Yes.

>> MS. JULIANNE PASTULA: I certainly respect the doctor's opinion but I would strongly encourage that the criteria are ranked in that order with that prioritization and I know the Commission we have spoken about that in the past.
So I would just be remiss in my duties as the legal counsel for the Commission if I didn't highlight that.
I disagree strongly with the notion of wiggle room and with bifurcating the criteria and having in the manner that is being offered and you know again I don't want to interrupt any further and I do apologize for the doctor for the interruption but it would -- but I feel very strongly that I need to highlight this at this point.
That the criteria are ranked.
They are individually set forth.
Some of them are mandatory.
Some are considering so I don't think the language is vague at all.
Thank you.

>> VICE CHAIR SZETELA: Thank you very much General Counsel Pastula.

Please proceed Dr. Petering.

>> Dr. Petering: Thank you, yes and thank you I think this is a very interesting thing to think about and I do think the -- thank the legal counsel for those comments.
It's very interesting to think about this issue and in my opinion and in my perspective working with companies and looking at private sector, trying to make optimize things is that the private sector typically will be operating in terms of using weights for categories in order to get over all best outcome considering all categories.
And not a strict prioritization.
And so it's interesting that to what extent the of course but if these are just being considered then, yes, what does it mean to consider a criteria.
Yes, so that is also very interesting because in previous redistricting cycles people have created maps that you know they were supposed to consider compactness but they really didn't.
Or supposed to consider something else and then you look at the final result and you see that maybe it was not quite you know, seemed like maybe they didn't consider something as they legally should have.
So it's a very interesting situation.
So I do certainly believe in the weighted approach and that the weighted approach can really get very good results for generally almost all of these criteria and prioritization if it's very strict is likely to not have as good of results over all across the board.
Of course that's my opinion.

Okay.

COMMISSIONER CLARK: Doctor, this is Commissioner Clark.
Let's say we took that approach, that you are using the weighted averages and then we have done that in certain things here in the Commission in the past six or eight months.
Let's assume you do that.
How do you know that, that approach is more successful to get to your end deliverable than by not using it?

>> Dr. Petering: Well, one way to do that would be to essentially look at a set of maps that are created or submitted by Commissioners and Judge those according to either the order of priority or by a weighted system.
But Judge them in apples compared to apples.
And then find out which one has the best score.
And then now you know that's another potential way to make maps would be to say hey and now because you know more data is online and on the Internet one potential would be saying hey everyone here is all the data you need to start making maps, anyone can make a map you have to submit it but here is how we will Judge it and anyone can submit.
We will collect a thousand, a couple thousand maps and whoever has the best score by law will be the map that is enacted.

So there are ways in which you could use quantitative, you know, measures to kind of set up a framework to use quantitative measures to make the ultimate decision for what map could be or is the map adopted for a particular state.
And so there would be ways.
We can compute all of these things from A-G have quantitative measures.
On the other hand we would go through order of priority.
We could say that okay maybe A and B are kind of you either satisfy it or you don't then you get to C and then essentially you find out if through you take the maps and through a process of elimination you could say, okay, we have a thousand maps that have been submitted, any map that does not tie for the best score regarding C is eliminated.
Then go to D.
Okay among the maps that remain any map that does not tie for to best score for D is eliminated then keep going down, okay, until now okay now but if you have the eliminate, no, no, no, you are never going to eliminate all the maps.
So then you go to EF and G and eventually there is only going to be one map left standing so that is a way to enforce a strict order of priority using quantitative measures as well.
So that is possible to do as well I believe because I provided quantitative measures for C.
D I haven't -- I've talked about it quite a bit.
I have not actually given you the ultimate measure of that.
E I think could be measured.
D and E definitely in my algorithm I have measures for that.
F, G, these can all be measured.
Quantitatively.

COMMISSIONER CLARK: Thank you Dr. Petering.

>> Dr. Petering: Thank you for your question.

Okay, so that would wrap up my interpretation of these mapping requirements.
It's really exciting to see so much at work, so much complexity and a lot of criteria here.
It's I like complexity, something that I enjoy trying to you know make order out of chaos or complexity or to try to get good results with multiple objectives you are looking at simultaneously.
So let's move to the data.

>> VICE CHAIR SZETELA: Dr. Petering before we move on, I think everybody could use a ten-minute break just to get up and walk around if that is all right with you so without objection, we will recess for ten minutes and hearing no objections we will stand in recess until let's say 2:35.
Thank you very much everybody.

>> Dr. Petering: Thank you.

[Recess]

>> CHAIR SZETELA: As Chair of the Commission, I call this meeting of the Michigan Independent Citizens Redistricting Commission back to order at 2:38 p.m.

For the purpose of the public watching and the public record, I will now turn the Michigan Department state Staff to take note of the Commissioners present.

>> MS. SARAH REINHARDT: Good FTERNOON, Commissioners.

Please say present when I call your name and please state the location you are attending the meeting remotely from by stating county, city, township, or village where you are attending the meeting remotely.

I'll start with Doug Clark.

>> COMMISSIONER CLARK: Present.

>> MS. SARAH REINHARDT: Juanita Curry.

>> COMMISSIONER CURRY: Present.

>> MS. SARAH REINHARDT: Anthony Eid?

Brittini Kellom.

>> COMMISSIONER EID: Present.

>> MS. SARAH REINHARDT: Rhonda Lange?

>> COMMISSIONER LANGE: Present, attending remotely from Reed City, Michigan.

>> MS. SARAH REINHARDT: Steve Lett?

>> COMMISSIONER LETT: Present.

>> MS. SARAH REINHARDT: Cynthia Orton?

>> COMMISSIONER ORTON: Present.

>> MS. SARAH REINHARDT: MC Rothhorn?

>> COMMISSIONER ROTHHORN: Present.

>> MS. SARAH REINHARDT: Rebecca Szetela?

>> VICE CHAIR SZETELA: Present.

>> MS. SARAH REINHARDT: Janice Vallette?

>> COMMISSIONER VALLETTE: Present.

>> MS. SARAH REINHARDT: Erin Wagner?

>> COMMISSIONER WAGNER: Present. Attending remotely from Eaton County, Michigan.

>> MS. SARAH REINHARDT: Richard Weiss?

>> COMMISSIONER WEISS: Present.

>> MS. SARAH REINHARDT: Dustin Witjes?

>> COMMISSIONER WITJES: Present.

>> MS. SARAH REINHARDT: 12 Commissions are present and there is a quorum.

>> VICE CHAIR SZETELA: Without objection we will go ahead with the Dr. Petering with us. I see Commissioner Wagner has her hand raised with a question.

>> COMMISSIONER WAGNER: It was not a question but I wanted to propose my fellow colleague Commissioners and staff maybe keep questions until the end of professor Petering's presentation so we can all stay on task.
Thank you.
>> VICE CHAIR SZETELA: All right thank you very much Commissioner Wagner please proceed, doctor.
>> Dr. Petering: Okay, thank you, so let me get back to sharing my screen.
>> VICE CHAIR SZETELA: We can see your screen.
>> Dr. Petering: We took a break and had a breather and stretch out a bit and just a brief couple maps of Wisconsin just briefly to show you related to compactness.
These are four options for Wisconsin's eight Congressional districts.
I want to just talk about District shapes and how they relate to fairness.
A is the current eight Congressional districts which is 5-3 in favor of republicans the other three maps are three different maps I made to kind of explore the different possibilities for number of victories for the different parties this is a 4-4-4 map made by the algorithm and this is 6-2 in favor of republicans option D is 5-3 in favor of the democrats.
And so here we have four different options for the districts for Wisconsin all made by the algorithm I'm sorry A was not made by the algorithm.
A is the current map BC and D were made by my algorithm and one thing to note is that in all of these maps the districts looked pretty nice to the eye.
A pretty compact districts.
However, we have vastly different outcomes related to you know number of seats respectively won by each party. And so it's really interesting to see these maps kind of come with I believe a lesson that we all should be reminded about. And that insight is that the District shapes do not tell us much about fairness.
I know a lot of us may think we have a map with really bad shapes therefore it's really unfair. And maybe then we also think because a map has really nice shapes therefore it is fair. Okay, however we can see here we have a bunch of maps with pretty nice shapes and C though is you know rigged in favor of the republicans, D is rigged in favor of the democrats.
And so this comes with a cautionary lesson that we have to look beyond just the shapes that even a map with really nice District shapes can be heavily rigged and for better or for use my algorithm is typically able to make nice looking districts but is able to do that either in a fairway or in a rigged way.
Okay, and I'll be showing you the fairway later on.
So let's get back to looking at the Michigan data that I collected.
Now I didn't really do a whole lot of collection.
I'm really lucky all the Michigan mapping data shown in this presentation I downloaded from the open collection of precinct shaped files for U.S. states collected and

maintained by MGGG the gerrymandering group at Tufts University so I just want to thank them for an extraordinary efforts that they have done to put together shape files of the precincts of about 30 different states they posted on this website here.
GIT hub.com/MGGG states.
Without that it really makes it a lot more difficult for me to work on other states.
Wisconsin has a very…quite a bit of information for Wisconsin I don't know line through this legislature technology services Bureau and for other states typically there is not as much online and really thank the MGGG group at Tufts which has a large group of academics working on things that similar to what I'm working on with redistricting and that is headed up by Moon Duchin a professor of math at Tufts University.

Now in the data that MGGG posts and the data I'm using to make maps the data is at the precinct level.
Why? Because precincts are the smallest geographical level at which election results are recorded.
So if smaller units for example census blocks are the building blocks that we use to make the districts, the previous election results for each of those small units is only estimated, it is not actual.
A because we don't know when you go to vote they only know you know how many total votes were cast for you know we only know for you know each party within that precinct.
Okay you don't know how many of those votes came from which census block.
Okay, and so if smaller units such as census blocks are the building blocks used to make the districts predictions for which party will win a District and by how much will be less accurate than if precincts are used to make those districts.
Okay so I do believe, you know, with my colleagues at MGGG that using the data at the precinct level if we are interested in you know things such as partisan fairness, the competitiveness of our elections as well as incumbent victories, how many incumbents are going to win or by how much, that is all related to election data and that data is precise at the precinct level but not at the census block level.

Foul, caveats on the data that I'm showing in this presentation obviously I don't have all the updated data.
We don't yet have the 2020 census data.
And the data I'm using for this presentation is actually the population and VAP data for minority groups.
It's based on the 2010 census.
I'm not using community of interest and ignoring criteria in C when more information is available of what are the communities of interest in Michigan.
I'm only using one set of election results currently from the 2016 U.S. Presidential election.
Trump versus Clinton.

Votes for minor parties libertarian in green are being ignored currently so if we do ignore those, we only consider votes for the two major parties then we look at the victory margin for Trump in that election it was 50.1% Trump, 49.9% Clinton if you ignore the votes for the minor parties.
In other words, that's basically a 50/50 down the middle which would mean that my algorithm will try to make a 55-55 map for the State House, a 19-1 map for State Senate and a 7-7 map for U.S. Congress based on those election results.
Now later in my presentation I will say, I will mention what data I really need.
I would need if I were to make a map this redistricting cycle.
And so I would need more updated data obviously from more recent elections although this is still an election that I think should be used to make a map.
But I think we need the 2018 gubernatorial election and the 2020 Presidential election data as well.
I'm currently ignoring incumbent home addresses.
Let's take a brief look at the visualization of data.
This is just a look at population density in the state and obviously we see you know Detroit, Ann Arbor, Flint, agree thank you, Bay City, Midland, Lansing, Battle Creek, Kalamazoo, Grand Rapids, Muskegon, and St. Joseph.
So anyway we can obviously see the populations concentrating in the state and Traverse City up there as well.
Here is a map of the black VAP percentage and really in order to make a majority-minority District that District needs to be at least 50% voting age population which means we are looking at this dark green color here.
And you want to see where is there dark green.
Up here, okay, there is just not enough concentration to form a majority-minority block District here or wherever there is no dark green it's literally impossible to do.
Where there is dark green then the algorithm is going to try to make the number of districts that I mentioned earlier.
And so almost it looks like it's going to be happening in the Detroit area, possibly Flint and Saginaw.
Hispanic VAP percentage in the state looks like this.
Again now we can see there is almost no area where there is a dark green.
Just a small part of Detroit there.
My algorithm was able to make a District of 40% Hispanic VAP, one House District, but still that is not the 50% that I think is legally needed to make that majority minority District.
The Asian VAP percentage we see there is no area in the state at all that is dark green.
And I apologize I did not put the Native American or the Hawaiian or Pacific islanders but again they do not have enough concentration to be able to form a District.

This is a visualization of party preference going from you know blue favoring the democrats heavily to favoring the republicans heavily.
Again this is based upon the 2016 Presidential election.
As one of the Commissioners mentioned we can definitely see that in the Metropolitan areas it's blue.
And everywhere else generally it's red, okay, so it's a very, you know, interesting and complex state for redistricting.
Just to Zoom in on party preference.
There is the Grand Rapids area with Muskegon.
I'm sorry, in Holland. It was not St. Joseph. My apologies there.
We can see that area.
Up in the right side we see the Kalamazoo here.
This is Kalamazoo, Battle Creek.
I believe maybe that is St. Joseph.
>> VICE CHAIR SZETELA: I think that is Benton Harbor, St. Joe and Benton Harbor are above it.
>> Dr. Petering: I apologize trying to improve my Michigan geography.
The dark red is 4-1 red and means 80-20 republican or more and the darkest blue is 80-20 democratic or more.
And then you is a bunch of shades of blue and red in between.
On the right side we see Saginaw here.
The Bay City and Midland.
And then we see the Detroit Dearborn Flint and Ann Arbor Metropolitan statistical area.
And we can see there is quite a bit of blue in those areas as was previously mentioned.
Okay so, again, taking a look at the state as a whole this again I have highlighted each of the 4800 precincts according to how that precinct voted in the 2016 Presidential election and if there is a light shade of blue that means a slight edge for the democrats, slight shade of red, slight edge for republicans up until hugely favoring the democrats, hugely favoring the republicans.
Okay, reminder how many counties are there, there is 83 counties.
And the borders of those are put into the algorithm.
And then according to my count 1306 cities and Townships that every part of Michigan is part of either a City or a Township I believe.
And I looked at that and have imported that into the algorithm.
Okay so let's take a look at some sample Michigan maps created by the fast map computer algorithm.
Just a brief summary of the algorithm. It does generate for a U.S. state that satisfies criteria inputted by the user.
Again as I mentioned earlier, I put weights for the criteria and that would be the way that the algorithm can prioritize one criterion over another is by giving it a higher weight.

First you do need to normalize those to make sure that they are measured on the same scale.
So for example, number of victories for a party might be only measured on a scale from 0-110.
But you might have you know population deviation might only be you know from 0-10 in terms of percent.
And so 0-10 versus 0-110 those are comparable so then you need to first normalize it to make sure they are kind of on the same over all scale and once they are normalized then you can put weights for each one and then those weights do reflect how important they are in kind of impacting the overall penalty score in the algorithm.
The algorithm basically continues to search for District plans with lower and lower penalty.
And basically after I give it a time limit like 30 minutes for a State House, 30 minutes for State Senate, ten minutes for U.S. Congress and then it gives me the best thing it found within the timeline.

It could be run multiple times to produce varying maps for U.S. house of representatives and State Senate and State House so each time I run the algorithm it does give me a different final result.
So it is randomized.
So it does search kind of randomly for improvements that can be made.
And so then you can get a whole variety of maps.
It doesn't give cookie cutter maps that are the same every time you run it.
So even when the settings stay the same in the algorithm the algorithm produces a different final map every time.

Although typically that -- those final maps typically end up having similar performance for the different criteria if the set up and the settings and the weights for those criteria are not changed typically the maps that are created are somewhat, you know, comparable in terms of how well they achieve those criteria.
But they may look quite different.

The algorithm does handle the immense complexity of the redistricting decision in a timely manner.
We are looking at you know a computer operates at about maybe two gigahertz. A gigahertz is a billion operations a second.
So we are talking about you know a machine that is kind of trying to do like what a human being would do, kind of like if you were going to make districts yourself manually, how would you try to achieve these criteria? And I've tried to program the algorithm to mimic things that a human being would do to try to make good districts.
And the but the nice thing about the algorithm is that it is extremely fast.
So it can do a billion little computations in a second which can really shorten the amount of time that is taken to create a map.

So the algorithm is essentially the final output of the algorithm it's assigning 4809 individual Michigan precincts to districts.
The final output of the algorithm is essentially a two column spreadsheet with two columns.
One column has the precinct number from 1-4809.
The next column says, okay, what number District is it assigned to? Let's say from 1-110.
For State House and so you get just two columns.
And you get that as an output of the algorithm and then that can then be taken in to like a GIS software for visualization purposes to color things according to you know the precinct according to what District it belongs to and then you get these colorful maps.

So let's take a look at Michigan State House Districts.
First of all let's take a look at the current map.
That is currently being used.
According to my analysis, population deviation of these districts from the most deviated most populated to least populated is 9.96%.
Within that 10% you know requirement.
There are 12 block majority districts.
There are no other majority-minority districts for other minority groups.

When this map is populated with the results from the 2016 Presidential election, 67 of these districts have more votes cast for the republican candidate for the democratic candidate.
43 of these districts have more votes cast for the democratic candidate than the republican candidate.
There are 166 District county overlaps.
Now, this number has to be at least 110 because there is 110 districts formed.
So then above the 110 there is an extra you can say 56 splits.
This is the number of districts and City Township overlaps.
Again, there are 1306 cities and Townships according to my calculation so then this has to be at least 1306.
Because each City or Township has to be in at least one District.
But above the 1306 how many extra, there is about 207 splits.
Now the compactness score according to my computations for Polsby Popper is 40.56 and there are 21 competitive districts out of 110 are a won by less than 10% where either you know Donald Trump carried it by less -- if that, you know, sorry where Donald Trump carried it by less than 10% or Hillary Clinton carried it by less than 10% in the 2016 U.S. Presidential election.
Okay let's take a look at a map created by my algorithm.
It looks like this on the right.
Again, we are coloring the precincts according to what District they belong to.

So here there is the algorithm has decided there is a whole bunch of precincts up there and they all have I don't know the number one and they are all assigned to District one so when I take this into GIS software, I say anything that has a one for the District is colored red and then this might be two, three, four and so that is how I get the rendering here.
And let's take a look at how this map performs.
Okay and as the population deviation of 9.5%.
It has 12 majority districts.
No other majority-minority districts.
It is a 55-55 map.
When basically if these had been the districts at the time of the 2016 Presidential election and everyone you know cast their votes the same way in the 2016 election 55 of the districts would have more votes cast for Donald Trump than Hillary Clinton 55 would have more votes cast for Hillary Clinton than Donald Trump for that election.
There are quite a few more District County overlaps and quite a few more District City Township overlaps.
Compactness is quite a bit better than the current map.
I think you can see there aren't really any strange shapes in the map or maybe one whereas the current map has a number of districts that have maybe non-compact shapes and we have 34 competitive districts here that were won by Donald Trump by less than 10% or won by Hillary Clinton by less than 10%.

And so if we are looking at you know these different categories and criteria for comparing these maps, I'm eye using a smiley face to indicate which map does better for which criteria.
Population deviation if you are looking at it the fast map is doing a little bit better.
In terms of partisan fairness, it is hitting the 50/50 goal right on the head.
Hitting the nail on the head there but in terms of the overlap currently the current map is doing better.
Compactness, the algorithm is doing better as well as competitiveness.
And although I see I'm not sure the competitiveness down here is the criterion that is listed in the Michigan Constitution.
So that we need to keep that in mind but I certainly there are a number of people who talk about competitiveness so I put that in here.

So over all I guess it's you know up to you to take a look but I'm pretty happy with the results of the algorithm.
Certainly as was mentioned I do believe there is a little bit of a tradeoff here.
I think there is more overlaps, okay, here with more Counties and cities and Townships being split but I do believe that that allows you to gain quite a bit in other categories.
Like political fairness, compactness and competitiveness.

Now, I actually should mention I didn't have a whole lot of time to prepare for this presentation.
So I believe I didn't really know for sure that I was presenting today until Sunday night.
I was pretty sure I was presenting today but I wasn't for sure.
So let's just say I had a little bit of a short timeline to prepare.
I do believe I can improve the get similar results for these other categories while improving District county and District City Township overlaps.
And get these same results here for the smiley faces here.
Could I get results as good as that? I don't think so to be honest.
Yes, so but I do think I could certainly close the gap and maybe get this down to maybe 200, maybe get that down to like 1600.
You know to show kite a bit of improvement because I was basically on a really short timeline to just run a few some experiments here but certainly not I believe I didn't even attach a weight to try to in my algorithm I don't even think I put a weight on this one.
The District City and Township I think I put a weight on the County one but didn't put a weight there so the results are a map that was pretty good in some aspects but certainly I think I could do a little bit better with minimizing overlaps.

Now let's just do a quick a little bit of a deeper dive in terms of the victory margins here so in the current map here is what I have you know my analysis shows that we have 67 republican wins, 55 of which are comfortable, five of which are narrow, 7 of which are very narrow.
For the democratic wins we have 34 comfortable, 4 narrow and 5 very narrow.
Okay, and so that's how the 67 breaks down into these three categories for the wins and 43 breaks down into these three categories for the democratic wins and again if we add up these are the narrow ones the five plus the 7 plus the 5 plus the 4 that is where I get the 21 competitive districts.
Okay, let's take a look at the little bit of a deeper dive at the fast map but we have a 55-55 map here.
We have the 55 republican wins now it is not, now, globally it's perfectly symmetrical.
But if you look a bit of a deeper dive, it's not...this is symmetrical; but, in fact, it's not perfectly symmetrical.
Okay? If you look at how many comfortable wins each party has. The republicans have 41, the democrats only have 35.
Okay, if you look at somewhat narrow areas, republicans have 8 and democrats have 12. If you look at very narrow victories, republicans have 6, democrats have 8.
So if you do a deeper dive into this fast map, you will see it is still a little bit in favor of the republicans.
They have a little bit fewer districts kind of at risk than the democrats.
Fewer vulnerable districts.

However, you know, over all I think we can see that it's quite a bit more fair than the current map, which has, you know, about 21 more safe republican wins than democratic wins whereas this one has six more safe republican wins than democratic wins.
Here we have 34 competitive districts.
Won by less than 10% adding up the 8 plus the 6 plus the 8 plus the 12 here to find out how many districts are won by less than 10% so I kind of like the certainly I mean you think about the amount of political activity and responsiveness of you know representatives and Senators to their I'm sorry representatives in the house to their constituents typically I think some people feel that these representatives are more responsive if they are in a competitive District and so you know this might be a good map for fostering competition and responsiveness to the voters as well as fairness to the political parties.

Now, I can go into a little bit of a deeper look just to see what do these maps look like in Detroit.
This is what the current map looks like in the Detroit area and this is what the proposed map looks like in the Detroit area.
And so you can see these in Detroit is fairly compact for the fast map.
Here you can see there is a lot of straight lines here.
Also one thing to look at is I believe this is the Wayne County border right here so look at the adherence to the County border is exact and precise in the current map.
To be honest the fast map doesn't really adhere to the County border a whole lot but certainly makes very nice looking compact districts with the overall goal of fairness as priority D being kind of maybe the highest priority and so this would be kind of the look at a map created by the algorithm for State House.
I'm okay with answering a few questions if there is a question or two as well as waiting until the end.
I have basically two more maps to show for State Senate and U.S. Congress and a few closing remarks.

>> VICE CHAIR SZETELA: Any questions anyone right now? I am not seeing any questions so please proceed.

>> Dr. Petering: Okay thank you.

Let's go to State Senate.
Here is the current map, population deviation.
There are five Black majority districts, no other majority minority districts.
When populated with the data from the 2016 Presidential election we find that in 23 of the districts there is 38 districts and 23 of them Donald Trump received more votes than Hillary Clinton and 15 Hillary Clinton received more votes.
There are 102 district County overlaps.
Now that number has to be at least 83 because there are 83 counties so each County will overlap with one District at least and maybe more.

So we want to think how much does this seed 83 by that is the amount that kind of splits there are of counties.
Okay and then this is the 1473 is the number of overlaps between the districts and cities.
And again, that number has to be at least 1306 because there is at least 1306 cities and Townships.
Compactness score is 11.24 and we have five competitive districts out of 38.
And not a very competitive map.
What do the algorithm create? Hey, we have a population deviation a little bit better.
Same number of majority minority districts.
It is a 1919 map.
And populated with the data from the 2016 Presidential election.
Donald Trump wins 19 districts Hillary Clinton wins 19 districts.
There is quite a few more District County overlaps.
And District, City and Township overlaps.
The compactness score is better.
The districts are a little less oblong a little more dense and solid.
We have 12 competitive districts instead of only five so if we look at lining these up, and it's pretty similar to the last map we have better population deviation here.
We have better result for partisan fairness, not as good the current map is better for the minimizing the overlaps and minimizing the splits of the counties and splits of the cities and Townships but the algorithms map is better compactness and better with competitiveness.
And we could do a little bit of a deeper dive politically in terms of those victories for the parties and by how much.
So here are the breakdown of the margins of victory.
There are 20 republican wins by at least 10%, one republican win 5-10%, two republican wins very narrow.
One very narrow democratic win.
One narrow democratic win and 13 comfortable democratic wins.
So again if we add up those five numbers in the middle or those numbers here in the middle that is giving the number of competitive districts here which is only five out of 38.
Now going to the fast map, here is the break down.
We have I mean not only globally a more fair map but certainly as you drill down it's more fair than the other map.
The number of comfortable wins for the republicans and the democrats are very close.
There is 14 comfortable republican wins, 12 comfortable democratic wins.
Four narrow republican wins.
Five narrow democratic wins.
And one very narrow republican win and two very narrow democratic wins.

So this is a pretty symmetrical map although not perfect symmetry.

And we have 12 competitive districts adding up these numbers in the middle here, okay, four plus one plus two plus five gives us 12 Districts so we have about a third are competitive here whereas in the current map it's you know maybe about 15%.

We could do a little bit of a Zoom in on the Detroit area just to see what those District shapes look like.

Here is the current map.

Okay again we can see Wayne County line right there is really whoever made the map was really strict about County boundaries.

That was a guiding I can definitely see that was a guiding principle in creating the map.

Okay, now in the algorithm I guess there is a weight attached to minimizing the County District County overlaps but it's not as high as other weights for things like political fairness and so then really this is what the fast map has come up with.

Now I think it could do a little better for minimizing the overlaps.

I probably need to juice up the weight on that category a little bit more but then if we do that probably we wouldn't be quite as good with the political fairness but maybe we could get a -- now here is again with the issue of the priority.

I mean maybe we could sacrifice the political fairness by 5% to get 30% improvement in the County boundaries for the algorithm.

Okay that might be possible.

Whether or not we want to do that, that is another question.

Or whether that is even legally allowed based on the prioritization listing up the priorities of the criteria.

I don't know it may or may not be legally allowed.

Okay so then this wraps up to look at the State Senate District.

Let's take a look at the Congressional districts.

Now here I've talking about 14 districts, the reason is I want to compare apples with apples so we have a current map that has 14 districts and then I want to make kind of a proposed map created by the algorithm that can be compared to it so I need to make 14 districts, of course if I were to make a map for Michigan later this year, after the census data comes out, I would be making one with 13 Congressional districts.

So here is the current map.

The population deviation in this map is 1 person.

There are two Black majority districts.

No other majority minority districts for any other minority group.

According to the when it populated with the 2016 Presidential election results, we have 9 republican and five democratic wins.

There are 97 District County overlaps.

1446 District City Township overlaps.

Again, because there is 83 counties this has to be at least 83.

Because there is 1306 cities and Townships this has to be at least 1306.
Compactness score 3.17.
There are five competitive districts.
Out of the 14.
Okay so that is pretty good.
Okay more than a third.
Way better than the State Senate map has five competitive districts out of 38.
So this one is definitely more competitive map.
Than the State Senate map.
Let's take a look at the algorithm.
Map created by the algorithm.
Here now because we are using larger pieces as our building block, we are using the precincts and they have about an average of 2000 people per precinct we are definitely not able to get to the legally required one person deviation.
Okay, so I set the algorithm for a 1% deviation.
If we wanted to make a map for Michigan using this, we have to go with the two-step process we need to first make a rough map kind of like what I'm showing you here and then go in and use maybe auto bound edge or some other software to really Zoom in and you know to the level of the census blocks.
And maybe even split a couple of census blocks to get to the population deviation of one person, which is legally required.
Okay, so this map is not yet legally acceptable.
Still has a pretty good population deviation but not close to being legally acceptable.
We have majority minority districts, same as the current map.
This is a 7-7 map.
We have 121 District County overlaps.
1501 District City Township overlaps.
Compactness score is better than the current map.
And we do have one more competitive District, six competitive districts.
So if we are looking at you know stacking these up again, we find that the current map is better for population deviation than this rough map which has been created based upon using precincts as the building blocks.
The fast map is better for fairness.
But the current map is better for minimizing overlaps.
But again the fast map is more compact and more competitive.
And let's take a little bit of a deeper dive again in terms of the victory margins for the parties.
Now republican victories six are safe, two are narrow, one is extremely narrow.
For the democratic wins we have three comfortable or safe victories.
One narrow.

And one extremely narrow.
So you know, of course anyone of these that is kind of in the middle range could go the other way.
So here essentially the republican is going to get at least six victories but they might pick up to at least eight, nine ten or go up to 11 victories.
The democrats will have at least three and they may get up to eight kind of maxing out if they have a really good year where they get 10% more people just turn out for the democrats than other years.
So we again have five competitive districts.
Here the fast map let's take a deeper dive there.
Here is the break down.
We have for the seven republican victories five comfortable.
0 narrow.
Two very narrow.
The democratic ones we have three comfortable.
One narrow.
Three very narrow.
And six competitive districts here.
And you know I want to mention here why I'm not sure we are going to be able to get to perfect symmetry here.
And it's just the idea that the democrats are a little bit more packed in urban areas.
And the Voting Rights Act requires the creation of districts which tend to be heavily democratic.
And so typically we are not going to get to perfect symmetry here.
I don't believe even if I reran my algorithm, you know, many, many times I don't think you would find a map with a perfectly symmetrical result although this one is getting in the ballpark of being a lot more fair than the current map.
So that would be the summary of these maps.
Again, just taking a little look in the Detroit area.
Now this is a little bit interest in that here the Wayne County border in the current map is not quite adhered to like in the other maps.
And we have some very non-compact shapes in the Detroit area.
The fast map had it just tries to make things that are nice looking and fair essentially.
And I think it does that pretty well.
So just a quick idea of the tradeoff.
So this would wrap up kind of my look at the maps.
And I have a couple more slides to go but this would be the main portion of my presentation is finished.
Why don't I talk briefly about the tradeoff in Michigan redistricting one I do believe is political fairness versus keeping counties intact.

To think about this we can think about let's do a thought experiment.
What if we perfectly keep the counties intact and somehow magically are able to wave a magic wand and keep counties perfectly intact and find out for each county how many districts worth of people are in that county and let's assume all of those districts made from that county are politically identical to the county as a whole.
So they all go the way that the County as a whole goes politically what would be the result for Michigan? So in other words no counties are split and if all districts within a County are politically identical to the County as a whole, we would have this for our splits in terms of how many districts would favor or be won by each of the parties and why is this it's kind of population in the county's favor is higher than the total population in counties that favor democrats.
If you don't split up the counties at all what you will be doing is you are essentially saying that job 53% of the state, we are going to kind of isolate the state in two groups into 83 different counties some of the counties are either in this group favoring democrats or this group favoring republicans.
The counties in this group have more people so more districts worth of population in those counties.
And populations favoring the democrats.
So essentially my best estimate if you keep counties intact just based upon this kind of thought experiment and looking at results County by County results for the returns election returns from the 2016 Presidential election in the counties as well as the population in the county doing this analysis tells me that if you go about keeping counties intact you are probably going to end up with about this in terms of your portion of districts won by each party roughly.
Okay and what about if you keep cities and Townships intact that becomes even a little more skewed.
So no cities or Townships are split, okay? And we do the same analysis, we find that the map is going to be more skewed in favor of the republicans and that is because we find the total population in cities and Townships favoring republicans is that and the total population cities and Townships favoring democrats is that, and it's about 58-42. So we would expect the final map to be 58-42 map if this were the only consideration in making the keeping cities and Townships intact, we are the only consideration.
And so but then that seems to be in opposition to the criteria D political fairness which appears based on the 2016 Presidential election says we should be making a 50/50 map and so there is some definitely tension there.
And you can see that in the current map of Michigan's current map versus the maps made by the algorithm.
The current maps tend to be a little more in these percentages whereas the algorithm is 50/50 the current map does a great job of keeping cities and Townships and counties intact whereas the algorithm does a great job of the political fairness.

But not vice versa.
Okay so there are other tradeoff in Michigan redistricting, certainly my algorithm can provide valuable analysis concerning the trait off with the criteria if such analysis is desired.
And the algorithm could identify how much improvement is possible for a lower ranking criteria by sacrificing higher ranking criteria if that is desired to be known I can find that information out using my algorithm.
What data do I need to makeup dated maps? Well, okay so again the maps I showed you are not updated.
They are obviously not legally acceptable this time around.
We don't even have the 2020 census data yet.
Plus the maps did not consider more recent elections like the 2018 Governor's election or 2020 Presidential election.
Only looked at 2016 Presidential election.
So what data do I need to makeup dated maps and to make fair maps and maps that can look at these criteria? I would need the data at the precinct's level.
Why again? Because precincts are the smallest geographical unit which election results are recorded.
So I would need, I do need the 2020 census data.
That needs to be obtained.
Particularly you know total population of each precinct, total VAP of each precinct for the total voting age population of each precinct and then the five minority groups I need their VAP of voting age population in each precinct to be able to adhere to criteria A.
I do need the 2018 gubernatorial election data organized by precinct.
Okay, and that election, the democrats had 54.9 and republicans 45.1% if you ignore the third parties.
But I need the number of votes received by the republican and the democratic candidate in each precinct.
And then the 2020 Presidential election data which Joe Biden received 51.4%.
Donald Trump 48.6%.
Of the votes cast for the two major parties ignoring the third parties.
Okay so I would need that data.
And also the home addresses of all incumbents legislatures Congress men and Congress women.
To look at the incumbents and to be able to predict how many will are expected to win and by how much.
I would need the boundaries of all communities of interest.
So that I could treat that just like the County, City and Township boundaries and treated at a higher priority.

So then we could have a measure of how many COIs are split and have that as a criteria C.
And so one thing that is interesting is in Wisconsin this data is generally available.
The Government, the legislative technology services Bureau in Wisconsin I call them up on the phone I mean they regularly post GIS shaped files containing basically all of the updated data I mentioned on the previous slide except communities of interest addresses of legislatures.
But they post-election data, geographic data and demographic data from the census and that they told me by September 15th they are going to be able to give me that shape file which I need the GIS shape file which I need of the election precincts in Wisconsin containing the updated census data as well as the three elections worth of data for political fairness. And they will get that by September 15th. So I can definitely use my algorithm and make a map for Wisconsin but will Michigan's CSS be able to post similar information on its website? I'm not sure, I have not been able to really get that information yet.
I was you know they are supposed to get back to me related to information requests I've been making.
I have not really heard back from them and I don't believe that they have posted the data at the level of what Wisconsin provides unfortunately.
So if not, if I can't get the data from there where can such information be obtained? City aid GIS.
I have talked to them.
It appears that they do provide quite a bit of this in their Autobound edge program but that's for a fee.
And that is definitely possible.
I think to obtain that and then maybe not all of the election data might be in there.
But they do have it at the precinct level or census data and it's possible to upload this election data from let's say spreadsheets and connect that to the GIS shaped file that is part of the City Gate software.
So then in that case I would be able to use my algorithm to make updated maps.
Just a couple other questions.
Just about who will double check the maps made by Commissioners and consultants for Michigan? I think that is an interesting question.
And what are the plans for the redundancy in the MICRC's work? Because it is extremely obviously tedious, time consuming and one decimal point off can make a huge difference in the overall analysis of any map or one digit wrong or and so I just hope that there is enough redundancy and MICRC to really be able to get some great maps made this year.
And have them all vetted and verified with all the data, you know, confirmed and just want to mention that I'm certainly glad to assist the MICRC going forward.

If there is any needs, please don't hesitate to contact me my e-mail is maps.PeteringT@District solutions.net and my company website is www.District solutions.net and with that I will close and see if there are any questions from the MICRC.
Thank you so much for inviting me to present today.
And I really enjoyed the questions and the discussion.
>> VICE CHAIR SZETELA: Thank you very much, Dr. Petering.
This was very interesting.
Let me look around the room and see if anybody has any questions for you.
Commissioner Clark?
>> COMMISSIONER CLARK: This is Commissioner Clark.
Could you tell us how many states you have contracted with your company has contracted with relative to the 2020 census and the redistricting that is going on?
>> Dr. Petering: I am not at liberty to share that.
I am talking to multiple states.
>> COMMISSIONER CLARK: When you said you are talking to that means you have not contracted them yet or in the process or what?
>> Dr. Petering: That is correct I have not yet contracted.
>> COMMISSIONER CLARK: Thank you.
>> VICE CHAIR SZETELA: I believe Commissioner Wagner has her hand up Commissioner Wagner go ahead.
>> COMMISSIONER WAGNER:
>> Dr. Petering: I'm not sure we can hear you can you unmute?
>> COMMISSIONER WAGNER: Thank you thank you, I just wanted to say thank you first to Dr. Petering for coming and presenting to us and I had a question.
Because you had pulled out the VA Ps and how we have two flat voting age population districts already but we don't have any others and Michigan is such a diverse population, what can we do now to assure that there would be -- they would actually have eventually a District that is not all relate to they all have to move into the same area, that's kind of my question.
>> Dr. Petering: Yes, well, from my understanding of Supreme Court rulings is that the Voting Rights Act really is there to avoid minority vote dilution more than diluting them more than their kind of share of the statewide population and so currently I do see that according to the 2010 census that Hispanics were 3.5% of the VA P in Michigan.
Asians 2.3%.
And Native Americans at half a percent.
And so the question is, is now according to my computations now those percentages do equate to a certain number of districts for the house and Senate.
If those populations are compact enough.
So according to my computations the Hispanics, there are three House Districts worth of Hispanics of voting age population in the State of Michigan.

However, when you look at where they are located, they are living in a little more dispersed fashion throughout Michigan.
And so I did put my algorithm to work to try to make one 50% VAP District and was not able to do that although I was able to make one 40% VAP District.
Now, that is something and I have to be honest that legally I am not sure at this moment of whether it is appropriate to instruct the algorithm to go ahead and make that one Hispanic 40% VAP District or not.
But certainly in order to definitely kind of have to do that then you really need the 50% I believe threshold to really then say that, okay, now if you don't make the District, you are illegally diluting the strength of the Hispanic voters so I feel that maybe in the 2020 census maybe there will be the ability to make that one House District.
But for the Senate districts there would be one Senate District worth of Hispanic voting age population.
But in that case the Senate District is just too big and there is no way to make something even close to 50% or 40%.
For Asians, there are two House Districts worth of Asian population in the State of Michigan.
But according to my map I was looking at my map there was the maps I made showing the VA P there was no even one precinct in the state that had a 50% Asian VAP.
So I think it's interesting to think about can this be considered as part of the communities of interest? I'm not sure.
Maybe not though because I believe that was explicitly worded that it wasn't.
So I feel that is a very interesting situation that.

>> MS. JULIANNE PASTULA: Madam Chair.

>> VICE CHAIR SZETELA: Yes, go ahead General Counsel.

>> MS. JULIANNE PASTULA: I will jump in here as a lawyer the issue is if you look at it just on race alone and the percentage it's very, very dangerous.
The other part of the analysis that is so critical when you're talking about the VRA is the ability to elect candidates of choice and looking at your racial bloc voting analysis.
And all of that data is critical to feed into that analysis.
It's not just percent of population and not just percent of voting age population in the way your equal protection considerations are not just the number of people or that 10 percent population deviation for state legislative is definitely not considered a safe harbor by the courts.
So, again, the algorithm or I'll just stop there.
Thank you, Madam Chair.

>> VICE CHAIR SZETELA: Thank you General Counsel.

>> Dr. Petering: Yes, there is a lot to think about and a lot of the redistricting issues. It's a lot of legal aspects here and so I do believe my algorithm is probably the closest that we are coming to being able to do automated redistricting.

>> MS. JULIANNE PASTULA: Madam Chair.

>> VICE CHAIR SZETELA: Yes, General Counsel.

>> MS. JULIANNE PASTULA: Actually I was just going to acknowledge that the algorithm completely disregards the third criteria, so at least for in Michigan I would disagree with that statement.

>> VICE CHAIR SZETELA: Thank you very much General Counsel.
Do we have any additional questions?

>> Dr. Petering: I would like to say once the communities of interest are decided and the boundaries are decided, the algorithm can consider that just like a City or Township or county.

>> VICE CHAIR SZETELA: Thank you Dr. Petering.
All right I'm not seeing any additional questions thank you very much for your presentation Dr. Petering I'm assuming that will be available for us to look at a later date and I'm sure our executive director will make sure we have that thank you for speaking with us and informative and appreciate the time you took to meet with us thank you very much.

>> Thank you very much.

>> VICE CHAIR SZETELA: At this point without objection we are going to move on to our next agenda items which is future agenda items and ask Executive Director Hammersmith to share about future agenda items.
Hearing no objections please proceed director Hammersmith.

>> MS. SUANN HAMMERSMITH: I have none for today thank you.

>> VICE CHAIR SZETELA: Thank you very much at this point we will move on to announcements are there any announcements that anyone has today? All right seeing no announcements we will move on to the next item on our agenda.
Executive Director Hammersmith I'm sorry did you have any announcements as well?

>> MS. SUANN HAMMERSMITH: Not at this time thank you.

>> VICE CHAIR SZETELA: As the items on the agenda have been completed and the Commission has no further business, I will consider a motion to adjourn.
May I have a motion to adjourned.
So moved by Commissioner Witjes.
Seconded by Commissioner Curry all in favor I'm sorry is there any discussion on the motion? All in favor please raise your hand and say aye.

>> Aye.

>> VICE CHAIR SZETELA: All opposed please raise your hand and say nay.
All right the ayes prevail.
The meeting is adjourned at 3:42.
Thank you very much everybody and have a great day.

[Meeting concludes]