

THE STATE OF ARIZONA
INDEPENDENT REDISTRICTING COMMISSION

REPORTER'S TRANSCRIPT OF VIDEOCONFERENCE PUBLIC MEETING

Via GoogleMeets

August 31, 2021

8:00 a.m.

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1 PUBLIC MEETING, BEFORE THE INDEPENDENT
2 REDISTRICTING COMMISSION, convened at 8:00 a.m. on
3 August 31, 2021, via GoogleMeets, Arizona, in the presence
4 of the following Commissioners:

5 Ms. Erika Neuberg, Chairperson
6 Mr. Derrick Watchman, Vice Chairman
7 Mr. David Mehle
8 Ms. Shereen Lerner
9 Mr. Douglas York

10 OTHERS PRESENT:

11 Mr. Brian Schmitt, Executive Director
12 Ms. Loriandra Van Haren, Deputy Director
13 Ms. Valerie Neumann, Executive Assistant
14 Ms. Michele Crank, Public Information Officer
15 Ms. Marie Chapple Camacho, Outreach Coordinator
16 Mr. Alex Pena, Outreach Coordinator
17 Mr. Roy Herrera, Ballard Spahr
18 Ms. Jillian Andrews, Ballard Spahr
19 Mr. Eric Spencer, Snell & Wilmer
20 Mr. Brett Johnson, Snell & Wilmer
21 Mr. Mark Flahan, Timmons Group
22 Mr. Douglas Johnson, National Demographics Corp.
23 Ms. Ivy Beller Sakansky, National Demographics,
24 Corp.
25 Ms. Sarah Porter, Kyle Center for Water Policy
Mr. Robert T. Medler, Western Growers Association
Mr. Philip Bashaw, Arizona Farm Bureau
Dr. Lisa Handley, Voting Polarization Consultant

P R O C E E D I N G

1
2
3 CHAIRPERSON NEUBERG: Commissioner York had to go
4 out of town and so he won't be joining us today. So, the
5 good news is, you know, I don't expect any, you know,
6 substantial votes on anything and all the material he'll be
7 able to, you know, recoup.

8 But if I could just get a check from staff that we
9 have all our key team members in place and ready to go; the
10 transcriptionist I see, Angela, hello.

11 MS. NEUMANN: I believe we're ready to go. We're
12 waiting on Mr. Bradshaw [sic] to join us; he's one of our
13 guest speakers but we can probably get started.

14 CHAIRPERSON NEUBERG: Okay. Great. With that, we
15 will dive in.

16 Welcome, everybody. Agenda Item I, call to order
17 and roll call.

18 I(A), call for quorum. It is -- 8:01 a.m. on
19 Tuesday, August 31st, 2021. I call this meeting of the
20 Independent Redistricting Commission to order.

21 For the record, the Executive Assistant Valerie
22 Neumann will be taking roll. When your name is called,
23 please indicate you are present. If you're unable to
24 respond verbally, we ask that you please type your name.

25 Val.

1 MS. NEUMANN: Vice Chair Watchman.

2 VICE CHAIR WATCHMAN: Present.

3 MS. NEUMANN: Commissioner Lerner.

4 COMMISSIONER LERNER: Present.

5 MS. NEUMANN: Commissioner Mehl.

6 COMMISSIONER MEHL: Present.

7 MS. NEUMANN: Chairperson Neuberg.

8 CHAIRPERSON NEUBERG: Present.

9 And after saying Commissioner York is not going to
10 be joining us, I see a tile that's labeled "Douglas York."

11 MS. NEUMANN: Oh, okay. Commissioner York, are you
12 there?

13 COMMISSIONER YORK: Yes, I am.

14 CHAIRPERSON NEUBERG: Oh. Welcome. So you can
15 say --

16 COMMISSIONER YORK: I can't get the video to work,
17 but I can listen.

18 CHAIRPERSON NEUBERG: Okay. For the record, can
19 you indicate that you are present?

20 COMMISSIONER YORK: Present.

21 MS. NEUMANN: Thank you.

22 And we also have in attendance Executive Director
23 Brian Schmitt, Deputy Director Lori Van Haren, Public
24 Information Officer Michele Crank. Community Outreach
25 Coordinators Marie Chappel and Alex Pena; from our legal

1 team we've got Brett Johnson and Eric Spencer from Snell &
2 Wilmer, Roy Herrera and Jillian Andrews from Ballard Spahr;
3 we have our mapping consultants, Mark Flahan from Timmons,
4 Doug Johnson from NDC Research, Ivy Beller Sakansky from NDC
5 Research. We have special guests Robert Medler from the
6 Western Growers Association, Philip Bashaw from the Arizona
7 Farm Bureau, and Sarah Porter from the Kyle Center for Water
8 Policy; and, finally, our transcriptionist Angela Miller.

9 That is everyone.

10 CHAIRPERSON NEUBERG: Okay. Thank you, Val.

11 And please note for the minutes that a quorum is
12 present.

13 I(B), call for notice. Val, was the notice and
14 agenda for the Commission meeting properly posted 48 hours
15 in advance of today's meeting?

16 MS. NEUMANN: Yes, it was, Madam Chair.

17 CHAIRPERSON NEUBERG: Thank you very much.

18 Agenda Item No. II, approval of minutes from
19 August 24th, 2021.

20 We have II(A), the general session, and we have
21 II(B), the executive session which reflected Agenda Item
22 No. VI, which was an update on public records request.

23 Is there any conversation on the minutes from last
24 week?

25 COMMISSIONER LERNER: This is Commissioner Lerner.

1 Commissioner Watchman joined a little bit late but
2 he's not listed as present, so I don't know -- I don't
3 remember when he joined, but he probably needs to be listed
4 at some point because it does show him making a -- or,
5 seconding a motion or making a motion.

6 MS. NEUMANN: I will make that correction. Thank
7 you.

8 CHAIRPERSON NEUBERG: Yeah, thank you.

9 And let's make sure to note the time stamp that he
10 joined.

11 MS. NEUMANN: Okay.

12 COMMISSIONER MEHL: Commissioner Mehl, with that
13 correction, I move we approve both the regular and executive
14 session minutes from last week.

15 CHAIRPERSON NEUBERG: Do I have a --

16 VICE CHAIR WATCHMAN: Vice Chair Watchman seconds.

17 CHAIRPERSON NEUBERG: Any further discussion?

18 Okay. We'll do a vote.

19 Vice Chair Watchman.

20 VICE CHAIR WATCHMAN: Aye.

21 CHAIRPERSON NEUBERG: Commissioner Mehl.

22 COMMISSIONER MEHL: Aye.

23 CHAIRPERSON NEUBERG: Commissioner Lerner.

24 COMMISSIONER LERNER: Aye.

25 CHAIRPERSON NEUBERG: Commissioner York.

1 Okay. Commissioner York, if you can sign back on
2 and say an "aye," please do --

3 COMMISSIONER YORK: Aye.

4 CHAIRPERSON NEUBERG: Okay.

5 Commissioner Neuberg is an aye.

6 And, with that, the minutes are passed 5-0.

7 Thank you again, Val, and for making that
8 correction.

9 Agenda Item No. III, opportunity for public
10 comments.

11 Public comment will now open for a minimum of
12 30 minutes and remain open until the adjournment of the
13 meeting. Comments will only be accepted electronically in
14 writing on the link provided in the notice and agenda for
15 this public meeting, and will be limited to 3,000
16 characters.

17 Please note members of the Commission may not
18 discuss items that are not specifically identified on the
19 agenda. Therefore, pursuant to A.R.S. 38-431.01(H), action
20 taken as a result of public comment will be limited to
21 directing staff to study the matter, responding to any
22 criticism, or scheduling the matter for further
23 consideration or decision at a later date.

24 With that, we'll move to Agenda Item No. IV,
25 discussion on public comments received prior to today's

1 meeting.

2 I open it up to my colleagues.

3 COMMISSIONER LERNER: This is Commissioner Lerner.

4 I just want to say thank you for some interesting
5 comments; good feedback about taking public comments and
6 hearing from you in different ways.

7 I know a number of you commented -- or a few of you
8 commented on comparing how things went ten years ago with
9 public comments, but we're navigating a different
10 environment now with the virtual environment. And so while
11 some of what you want we would love to do as well, it might
12 be a little more difficult with some of the challenges that
13 we have.

14 So while I appreciate your feedback and would love
15 to see us do some of that, we're doing our best to try to
16 get as much feedback as possible from you.

17 And please keep those comments coming in.

18 Thank you.

19 CHAIRPERSON NEUBERG: Any other thoughts?

20 To add to Commissioner Lerner's comment and to, you
21 know, add a little depth or context, there are challenges to
22 opening up business meetings to the public input and have it
23 be equitable and productive. You know, when there's
24 physical meetings, you know, people have to drive there,
25 come, there's an investment of time and organically, you

1 know, there's a maximum number of people that come.

2 With a virtual system, to open up a business
3 meeting, the amount of public comment would likely be so
4 huge that it would require us to play an active role in
5 being an arbitrator of who gets access and who doesn't,
6 which puts to question, you know, equity. And so, you know,
7 given that we have these wonderful opportunities of public
8 hearings, we had 15 of them to date, we'll hear today of
9 additional plans for substantive time for the public to come
10 to speak to us, it's the same access. You know, the
11 information is coming to us, but it's a more organic way
12 that I think is equitable when we can put ourselves out to
13 the community and -- and you will hear about it.

14 I do firmly believe that, at the end of the day, we
15 will far surpass opportunities to share direct feedback with
16 us face-to-face than previous Commissions. It is our -- our
17 desire to -- to be out there meeting the public.

18 Other comments?

19 I know there was a concern that we do not have
20 videos of the public hearings from Coconino County and Pinal
21 County; again, sometimes technology doesn't work. We will
22 work towards providing transcripts for those hearings so
23 that the content of the information will be available to the
24 public. We do need a little time to go through and just
25 correct any, you know, unwanted mistakes.

1 There was a comment that alluded to something that
2 one of our counsel members Brett Johnson said alluding to
3 contact between stakeholders and our mapping folks, you
4 know, the Timmons Group. I'm not sure I understand, you
5 know, exactly what was said, but -- but let me reassure the
6 public and set the record straight: There's no conversation
7 going on between the mapping team and anyone in the public
8 or any of the Commissioners to my knowledge about anything
9 related to lines or -- or the data we're receiving. The
10 stakeholders are the public; it's the people that have been
11 submitting data and information. And so please know,
12 there's no communication going on.

13 And then finally, yes, the public has expressed
14 some frustration with navigating how to submit the
15 communities of interest surveys, their own mapping tools. I
16 can say the Commissioners commiserate and, you know, we will
17 continue to work with our mapping team and try to make it as
18 user friendly as possible. And worse comes to worse, we
19 will receive information the old-fashioned way through your
20 hand-drawn maps and words. But -- but collectively we'll
21 work through it; we're just getting started. But thank you
22 for letting us know what works and what doesn't work.

23 So with that, any other comments from my colleagues
24 on public comments?

25 Okay. With that, we will move to Agenda Item

1 No. V, Arizona 5C Presentation, Round 1. We're excited to
2 have three speakers with us.

3 I -- I don't know, Director Schmitt, would you like
4 me to introduce them? Do you want to introduce them? How
5 should we proceed?

6 DIRECTOR SCHMITT: If you want to introduce them,
7 that will be great.

8 CHAIRPERSON NEUBERG: Okay. All right. I think I
9 believe first up is Sarah Porter, she is the director of the
10 Kyle Center for Water Policy at ASU. She's a graduate of
11 Harvard and received her law degree from ASU, just third in
12 the class.

13 Welcome, we're excited to hear from you. And,
14 please, take it away.

15 MS. PORTER: Thank you. It's a pleasure to be
16 here.

17 I do have a PowerPoint which I e-mailed very late
18 to Valerie, but can I go ahead, and it looks like I can
19 present.

20 CHAIRPERSON NEUBERG: Please.

21 MS. PORTER: Hold on. It's my first time doing it
22 on this particular app.

23 Is my screen -- let's see, should be sharing.
24 Looks like I succeeded, it's amazing.

25 I want to start by thanking the -- you, Commission

1 members. It's -- it's really quite an honor to be able to
2 speak to you, and I'm very grateful as an Arizonan for your
3 service.

4 It's my understanding that members of the
5 Commission are interested in water and how water may
6 possibly interface with the work -- the important work that
7 you're doing; and water is a huge topic, I could spend --
8 probably no surprise to you, but I could spend hours and
9 hours talking about it. What I'm going to try to do is give
10 you a very, very brief 60,000-foot perspective and then
11 hopefully there will be a few minutes for questions.

12 Let's see here if we're working here.

13 Just a brief explanation of where I work. The Kyle
14 Center for Water Policy is a six-year-old policy center
15 that's part of ASU's 40-year-old Morrison Institute for
16 Public Policy; and our work at the Kyle Center is basically
17 the same as at Morrison Institute, except we focus on
18 critical water issues in Arizona and the West, and we do
19 this in a way that is -- approach that is nonpartisan that
20 is based on research data and analysis and with respect to
21 the historical context in which water issues emerge.

22 Next.

23 So let's start with a fact that's probably not a
24 surprise to any of you, and that is that the State of
25 Arizona is mostly an arid or semiarid region. This is a

1 wonderful precipitation map that was actually using about a
2 30-year-old data set that ended in 1990. If we looked at
3 such a map that was used in the last 30 years, you would see
4 even more red, orange, and yellow which indicate arid to
5 semiarid areas.

6 And so the -- the fact is we don't get all the
7 water we need to do all of the things we want to do in the
8 state from the rain and snow that falls within the
9 boundaries of the state every year; and so the State of
10 Arizona has been importing water for quite some time. And
11 that's really the strategy, import and store, so that we
12 have enough for the future.

13 So very quickly, here's where we get our water
14 from. And this -- this is changing a little, because I'm
15 sure that many of you have read about there's a shortage
16 declaration on the Colorado River. There's been an effort
17 to leave water in one of the big Colorado reservoirs, Lake
18 Mead, which is by Las Vegas.

19 But essentially we use about -- we get about
20 46 percent of our water supply from groundwater, that's
21 water that's pumped from wells; about 36 -- this is going
22 down -- percent from the Colorado River; and then the rest
23 mostly from other surface water systems, and the biggest
24 other surface water system and the biggest system in the
25 state is the Salt Verde System, which is managed by SRP and

1 delivers water to users in the greater Phoenix area.

2 This is a little bit of a misleading slide in
3 showing that effluent is only 4 percent of our water use.
4 This is -- it's through some kind of accounting that they do
5 at the Department of Water Resources, it has to do with
6 direct use of water. Just suffice it to say, that over
7 90 percent of water that is -- that enters the treatment
8 stream is recycled. Arizona is the national leader in water
9 recycling.

10 In Greater Phoenix, because we have the Salt Verde
11 System, the mix is a little different. We use less
12 groundwater, more CAP water, and that's -- let me just take
13 a moment to explain, that of course the Colorado River is
14 along the western border to the state, and so to bring
15 Colorado River water to Central Arizona from Phoenix and
16 Tucson, there is a canal system called the Central Arizona
17 Project, also known as C-A-P or CAP. It's a 330-mile-long
18 canal that made its first delivery in 1985. And in a year
19 where there's no shortage, the CAP has an allocation -- or,
20 CAP users have an allocation amounting to 1.6 million acre
21 feet of water.

22 And then as you see on this slide, the Salt Verde
23 System is another significant faction of the water that is
24 used in the Greater Phoenix area.

25 In Tucson it's a little different, Colorado River

1 water via the CAP is a much bigger share of water, because
2 Tucson doesn't have a big interstate -- intrastate river
3 system like the Salt Verde System.

4 But now to what I think will interest you all, and
5 I must say as a water geek, I spend a lot of time looking at
6 maps, and so I felt kind of delighted to know I would be
7 coming to speak with a group that is focusing a lot on maps.

8 But this is a sort of like a spaghetti plate of
9 lines that shows you, you'll see the counties are 15
10 counties in the -- in the bold Black lines; and then the
11 blue lines show groundwater basins. And these are, in other
12 words, fairly discrete aquifers where -- that hold water;
13 and they're shaped differently, they're -- there's many
14 differences among them; and you can think of these, and I
15 know -- I'm not a hydrologist, hydrologists would probably
16 really object to my saying this, but think of these as 54
17 giant bathtubs in the state that hold groundwater. For now,
18 we can do that.

19 There are also hydrogeological designations in the
20 state of sub basins. There are 80 -- around 85 sub basins.
21 Sub basins are less geological and more designated because
22 of how humans are using the water there.

23 So we don't a need to worry too much about that.
24 But what I wanted to show you here is there isn't much
25 correlation between the groundwater basins and the county

1 lines, is there? In fact, there's -- we could overlay
2 legislative districts and we you will see there's very
3 little correlation between legislative districts and
4 groundwater basins.

5 So that's just something that necessitates, at
6 least, cooperation among people from county to county if
7 we're trying to deal with a whole groundwater basin
8 typically.

9 So one big important fact in Arizona -- now, I'll
10 share with you a couple of really important facts
11 policy-wise.

12 One of the most important aspects of water
13 management in Arizona is that, in 1980 the State passed the
14 Groundwater Management Act. And this meant that the most
15 populace areas as designated by the blobs you see on this
16 map are -- have a cap-and-trade system on groundwater.
17 There is a prohibition on the development of new
18 agriculture; new residential subdivisions have to prove up a
19 hundred-year supply of water before they can be developed,
20 and water can be stored underground in these regions for
21 credits; and that way there's a sort of a bank of
22 groundwater that is used in the -- in the same way that
23 water that's stored in reservoirs can be used because there
24 is this cap-and-trade system on the water.

25 You'll also see in the maps the blue dotted line,

1 which is the CAP, the Central Arizona Project, that long
2 canal that brings Colorado River water to these regions, the
3 Phoenix, Pinal County, and Tucson regions.

4 And that is -- has been a big part of enabling the
5 Groundwater Management Act to happen, it was a big imported
6 supply of water that made it possible for these areas to get
7 off the use of groundwater.

8 And then you might be able to see some red squiggly
9 lines near Phoenix and those are the SRP canals that are the
10 infrastructure that delivers water from the SRP system.

11 Now, I mentioned before the potential shortage on
12 the Colorado River -- in the Colorado River, Colorado
13 watershed. The first shortage was announced on
14 October 16th -- sorry, August 16, first ever shortage of
15 water from the Colorado River was announced on August 16th,
16 this very month.

17 And because Arizona, essentially the CAP region
18 agreed to be the junior user, the CAP users are first in
19 line for a cut when there are cuts according to an agreement
20 that the seven states and Mexico reached in 2019.

21 So these -- this is a chart that shows the level of
22 cuts; It's not too important to delve into, you know, too
23 much into the details here, but I'll simply say that we are
24 in a Tier 1 shortage going into 2021, which is
25 512,000-acre-foot cut. And, remember, I said the CAP could

1 deliver 1.6 million acre feet, so we're looking at close to
2 a third of the delivery capacity of the CAP; and if Lake
3 Mead continues to decline, the CAP users face steeper and
4 steeper cuts, up to as much -- you know, close to half of
5 the water that can be delivered by the system.

6 So this is a very significant challenge for those
7 blobs on the map that we just saw for the areas in the CAP
8 service territory: Phoenix, Pinal County, Tucson. The
9 first cut will primarily be felt by agriculture in Pinal
10 County.

11 That's one big thing, and the other big thing that
12 I want to share with you is the issue of outside of the
13 active management area. Outside of the blobs from Phoenix
14 to Tucson and Prescott and the Santa Cruz blob, there is
15 virtually no regulation of groundwater. Essentially, you --
16 if you want to drill a well and use the water under your
17 land, there isn't really any law that really stops you from
18 doing that.

19 So we have a lot of areas in Arizona that are
20 primarily groundwater dependent. The green areas in this
21 map are places that are primar- -- 75 percent or more of
22 their water supply is groundwater.

23 Now, there are increasing concerns over the
24 long-term water resilience of some of these areas. And
25 there are many reasons for the concerns, a big driver of the

1 concern is the influx of -- of large agriculture, but there
2 are other -- other reasons too.

3 This is just a map to show you which groundwater
4 basins, if they're pink or red, they're experiencing a
5 greater than 3-foot-per-year decline over the last 20 years
6 in their groundwater tables. And whenever you see that kind
7 of steady decline over 10 years or 20 years, that should be
8 cause for concern.

9 So inside the AMA's there's -- there's a lot of
10 regulation, and there are essentially legal tools for
11 getting some kind of handle over groundwater use; but
12 outside of the AMAs, there are virtually no legal tools.

13 And one more, I think, important fact if we look
14 outside of the AMAs, in other words outside of the
15 groundwater management blobs, we can see that large wells
16 that are pumping more than 35 gallons per minute -- and 35
17 gallons per minute or less is considered kind of a
18 residential well. Anyway, large wells are responsible for a
19 huge amount of the statewide pumping capacity; but because
20 we don't have any regulation on groundwater, we don't know
21 how much water is actually being pumped out of those wells.

22 So I don't want to leave you with a big-time
23 downer, I will instead leave you with some reason for hope.

24 This is a graphic developed by the Arizona
25 Department of Water Resources, and it tells a super

1 important story. It shows on this graph, the gray bar
2 represents growth of the gross state product. Think of it
3 as a stand-in for the economy, and you can see we've gone
4 from a 15-billion economy in the mid '50s, to almost a
5 \$300 billion economy in 2018.

6 The orange little guys/figures are the growth and
7 population. Of course, everybody knows we've grown from,
8 you know, a million to almost 7 million -- maybe more than
9 7 million now; and the blue line shows our statewide water
10 demand. And what you can see is from 1980, our statewide
11 water demand has been declining.

12 And the takeaway from that is, in Arizona we have
13 figured out a way to make sure there's water for a much
14 larger amount of population and have a much bigger economy
15 on less water than we were using in 1980. In fact, less
16 water than we were using in the mid 1950s.

17 So, to me, this says there's a lot of opportunity
18 through very smart management and cooperation and
19 collaboration to figure out all of the water challenges that
20 our state faces.

21 I want to leave you with a resource. It's the Kyle
22 Center Water data hub, the AZ Water Blueprint. Arizona
23 Water Blueprint. Here's the website:
24 azwaterblueprint.asu.edu.

25 You can go to this website and go to an interactive

1 map that has a wealth of data about water. Or, if you're
2 not ready to explore the interactive app -- I think you guys
3 would be. But, if not, go over to the story maps in apps
4 gallery where we have guided tours of critical water policy
5 issues in this state. You can find a lot of information
6 there.

7 And, finally, I hope that -- you know, I'm thrilled
8 that you are -- you have taken this interest in water, and I
9 hope that we can be a resource for you in the future.

10 Thank you.

11 CHAIRPERSON NEUBERG: Thank you.

12 I know I have some questions.

13 MS. PORTER: Sure.

14 CHAIRPERSON NEUBERG: But, of course, I'm going to
15 open it up to the other Commissioners.

16 Please ask away.

17 I'm happy to get started while my colleagues kind
18 of get their questions, you know, gathered.

19 I'm wondering and please, you know, let us know
20 what you're comfortable answering and what you're not
21 comfortable answering.

22 MS. PORTER: Sure.

23 CHAIRPERSON NEUBERG: 'Cause from our perspective,
24 at least in my mind, I'm going to want to take what you
25 shared and apply it to people and communities, and

1 understand what it means for these communities.

2 And so I'm curious, with what you shared about
3 water -- water sources around you, are -- are there certain
4 areas that you feel the water issue rises to the level where
5 a specific community would -- would value from independent
6 representation there?

7 Either there's a significant deficit of water
8 that's affecting their ability to live their lives fully;
9 or, is there an abundance of water, and they're sitting on
10 resources, and they're best kept together such that they can
11 take advantage of that, the power of that resource?

12 If you're comfortable.

13 MS. PORTER: Yeah. Yeah. I am.

14 I think that's such an interesting question. And
15 there -- in any location -- well, let me let me start by
16 saying, there are some regions in the state where there --
17 where people really are struggling for water, and the most
18 well known, of course, is up in the northeastern part of the
19 state on the Navajo Reservation.

20 The reasons for the problems, the difficulties
21 really are to some degree apart from representation. They
22 have more to do with the struggle that, for example, the
23 Navajo Nation, the Hopi, same, had in courts to have their
24 water right recognized. Maybe representation would help in
25 those instances, but a lot of it has to do with processes

1 that are really beyond representation at -- at, let's say, a
2 local legislative district level.

3 It never hurts to have leaders who are well-versed
4 and willing to push issues, but that isn't what springs to
5 mind as the thing that would be really possible.

6 In other places -- and I kind of smiled when you
7 said "an abundance of water," because there -- you know,
8 I'll tell you the lay of the land, and it's really up to
9 those places to express the need for particular kind of
10 representation or boundaries.

11 But, really, the -- right now what we're seeing is
12 more tension between the Central Arizona growth areas, let's
13 say the Sun Corridor from Phoenix to Tucson, and the western
14 part of the state where there are communities that have
15 supplies of Colorado River water, that in the minds of some
16 people in Central Arizona could be freed up to be moved to
17 Central Arizona so that they can supply more economic
18 activity and population growth.

19 So there are certainly people in the west who
20 are -- who are really vigilantly guarding their water
21 supplies and feel concerned about interest in moving those
22 water supplies.

23 I'm not sure that they need particular legislative
24 boundaries because this is really something that's really
25 defining for the region, for that -- you know, the entire

1 western border.

2 Apart from that, where there really are -- maybe
3 there is potential, is where there are groundwater basins
4 that are in decline and people are looking for solutions for
5 coping with this problem.

6 A big difficulty in those places is that there
7 isn't consensus on what to do. Some people want some kind
8 of management; some people don't want that. They see that
9 as -- as an interference with the use of their property.

10 So, you know, I think it will be very interesting
11 for you as a Commission to keep an ear open for what
12 people -- how people are thinking about water in their
13 representation, but it's hard to -- to right now think of
14 any place where there's clearly a group of people that don't
15 feel heard where, you know, the problem is the way
16 they're -- the way their electoral districts are drawn.

17 CHAIRPERSON NEUBERG: Thank you.

18 And just for clarification, the source of water
19 from groundwater is just natural rain or is it a --

20 MS. PORTER: Yeah.

21 CHAIRPERSON NEUBERG: -- or is it additional run --
22 So with potential climate change, do we suspect
23 that the quantity of groundwater will decline?

24 MS. PORTER: That's another great -- great
25 question. The -- a lot of climate change experts predict

1 that there will be less rain overall, less precipitation,
2 less snow; Some predict there will be much greater
3 variability, more feast than famine, but not necessarily
4 less overall.

5 But, yes, for sure prolonged drought puts several
6 pressures on groundwater supplies both because in
7 groundwater-dependent communities people, tend to, you know,
8 they use up what's there; but also because when the ground
9 itself gets really dry, that reduces the amount of water
10 that flows into rivers, for example, that -- that's
11 available.

12 And just to be clear, in most of the groundwater
13 basins in the state we are not talking -- we really don't
14 have renewable groundwater supplies the way you can imagine
15 in, you know, in another part of the country, let's say,
16 Pennsylvania where they get so much rain that you
17 couldn't -- you know, you could pump as much as you want,
18 you can have as many wells as imaginable and not impact the
19 aquifers. That isn't the case in the Arizona and a lot of
20 the groundwater supplies -- most of the groundwater supplies
21 that are currently being used are -- are fossil supplies,
22 water that went into the ground thousands of years ago or
23 eons ago.

24 And so how much it rains in a few years isn't as
25 significant as the fact that communities are relying on and

1 even growing in reliance on finite supplies of water.
2 That's the big, big challenge.

3 CHAIRPERSON NEUBERG: Okay. Thank you.

4 COMMISSIONER LERNER: This is Commissioner Lerner.

5 Just as a follow-up to the discussion that you just
6 had about water management, when -- when agreements are made
7 between farmers and ranchers and developments and tribes,
8 you know, there are lots of different groups that have that,
9 it's -- water management, and with the declining resources
10 that exists, it would seem that that's where having
11 representation of people who are knowledgeable about the
12 water issues in those regions would be very helpful.

13 And as we continue to develop these agreements, we
14 have a number of agreements, we have agreements that were
15 made with the Gila Indian River community just south of
16 Phoenix and other communities around the state. That's, I
17 guess, from my perspective, that's where some of that
18 understanding of water management would come in handy from a
19 legislative perspective, whether it's at the state or
20 federal level.

21 And that's -- I guess I'd like your perspective on
22 that because I know those agreements are going to have to be
23 revised and adjusted as our water levels change.

24 MS. PORTER: Yeah. Well, I couldn't agree with you
25 more. And I -- I hope that nothing I said in answer to

1 Commissioner Neuberg's question suggested that I don't think
2 people could be help to having elected officials who are
3 really knowledgeable about water. I think that's one of the
4 things most important to our state; and history proves that.

5 You're referring, I think, to settlements with
6 tribes and tribal settlements. When I mentioned the Navajo
7 and Hopi before, that's what I was talking about, that
8 tribes have a choice of winning in court against all the
9 other water users in a watershed or negotiating a settlement
10 with water users in order to have their water right
11 finalized; and we have -- Arizona has done a good job with
12 finalizing certain settlements with tribes and, yet, we
13 still have a -- quite a lot of work to do, a lot of tribes
14 don't have settlements yet and we have court proceedings
15 kind of the same time in parallel.

16 Without question, it is extremely helpful to have
17 officials and particularly at the federal level who are
18 knowledgeable about water. It's -- settlements require a
19 lot of help from the Department of Water Resources, our
20 state technical expert; they require a degree of proactive
21 involvement from the Governor, from our Governor; and they
22 also require federal legislation, and it is extremely
23 difficult to accomplish a tribal settlement without
24 dedicated delegation staff and members who really drive
25 those settlements through.

1 COMMISSIONER LERNER: And just as a follow-up to
2 that, there's also that potential -- I don't mean conflict
3 in a bad way, but conflicting interests between -- I know
4 we're going to be hearing from other of the five Cs, but
5 farming community, the agricultural community; and, you
6 know, we can just look in the Phoenix metropolitan community
7 and see how growth has taken lands that once were used for
8 agricultural purposes, and as things get moved around, there
9 are needs that they have as do other industries.

10 Mining is another one that's coming up. In looking
11 at mining to the east of us, the amount of water that would
12 be used has to be balanced with the impacts that it has on
13 the community economically and the environment that it might
14 have. So that's where I guess I was -- I'm thinking in
15 terms of representation, people that understand those kind.

16 MS. PORTER: Yeah. Well, again, for me this goes
17 to always -- it will be great as voters -- it's a thing I
18 say all the time, I wish we would all ask people running for
19 office water questions to make sure they understand how
20 important it is.

21 The -- the conflict that you mentioned, what you're
22 talking about is competition among users. We're going to
23 have that no matter because we don't have enough water for
24 all the demand that we can imagine.

25 Where -- where it comes to agriculture versus

1 urban, for the most part we're talking about growth in the
2 Sun Corridor looking to transfer water supplies from the
3 west, from the Colorado River. What you mentioned before,
4 the loss of ag land in Phoenix, the Phoenix area, and that
5 was actually the negotiated plan, the strategy that emerged
6 from the Groundwater Management Act, that it was kind of
7 recognized that growth on former ag land is the most water
8 sustainable kind of urban growth; and that's why agriculture
9 committed -- it wasn't easy, but they agreed to a
10 prohibition on the development of new agriculture in the
11 active management areas; and that their lands would
12 eventually probably give way to urban development; but the
13 whole idea at the time was that is a way to sustainably
14 develop cities in an extremely arid region.

15 But, yes, I couldn't agree with you more, I think
16 having representatives who are well-versed in water issues
17 or who have staff who are expert in water issues has always
18 been critically important. It's only going to get more
19 important from our state.

20 VICE CHAIR WATCHMAN: And, Madam Chair, this is
21 Derrick.

22 And I agree, coming and living here on Navajo, the
23 city's water is life. But, you know, a lot of issues were I
24 think tied up in court or require federal action. So, you
25 know, what you're suggesting is that fair representation

1 at -- at the federal levels is obviously needed. And so I
2 think a lot of the things that I hear up north is that a lot
3 of water was used to -- to produce electricity and produce
4 other things that basically were consumed, you know, in
5 Phoenix; and so, you know, it resulted in the growth of --
6 of Central Arizona, and so now you have maybe an economy,
7 especially in the northern part of Arizona, that's behind.

8 So how do you bring all that together is what I
9 look at in many cases? And a lot of the work that I do is
10 primarily economic development, and so, you know, water is
11 life. And so the way I look at it is that they need water
12 to -- to build economies -- in that -- you show demonstrates
13 that to me the growth of economy and the growth of people
14 and water equates to improvements and, so.

15 But from a tribal perspective, I agree and what I
16 see is there's still a lot of action that needs to be
17 resolved in court. But the way I look at it is that, you
18 know, we all need to work together.

19 And in some cases, you know, with all due respect,
20 a lot of folks don't recognize and understand the value and
21 importance and the position of tribes, you know. And so,
22 you know, I always have to think: Well, a lot of tribes and
23 reservations were created in the 1800s and our great state
24 of Arizona was in 1912, so. But -- but there's still that
25 challenge of recognizing, you know, what -- what the federal

1 government did, and that's establish reservations, or many
2 reservations, including my tribe; and I think we got to keep
3 in perspective that we're all neighbors. We all need to
4 work together, and sometimes I don't get that feel.

5 And so but I appreciate your presentation, Sarah,
6 you're right on the mark. So thank you for the information.
7 Very good.

8 MS. PORTER: Thank you.

9 CHAIRPERSON NEUBERG: I have a question to
10 piggyback on Commissioner Lerner's, you know, topic of -- of
11 competing interests.

12 That -- that taps into a bit of our language of
13 "communities of interest." Because that's our job, to
14 understand the communities and to make sure they have
15 representation.

16 You mentioned significant communities where water
17 is critical: Mining, agriculture, farming, we touched very
18 briefly upon urban demands.

19 Are there other communities that we're missing
20 that -- that, you know, for whom water rises to the level of
21 a major issue?

22 MS. PORTER: One community that really doesn't have
23 any voters is the environment. I suppose that that's a bit
24 of a glib comment, but often we forget about the -- the one
25 that's not always at the table in discussions about water

1 allocation.

2 So there are, of course, groups in Arizona that --
3 that are, you know, are really think about water for the
4 environment.

5 There are two flowing rivers remaining in state,
6 sort of perennially flowing rivers, and that would be the
7 Upper San Pedro down in the southeastern part of the state,
8 and the Verde River in the middle of the state, and those
9 receive a lot of attention from environmental groups.

10 I would -- I would say that that is a major -- the
11 other major community.

12 And, of course, within each of those communities
13 the issues, there are a lot of different issues. There are
14 competing needs within those communities, and the water
15 management issues are different. Some ag regions in the
16 state -- and let's just say let's look at Yuma, Yuma has the
17 Colorado River running right next to it and has fantastic
18 infrastructure to delivering the water for fields. Yuma
19 ag's water issues are very different for Pinal County where
20 Pinal County ag has relied on expensive subsidized water
21 imported from the western border that's now being shorted;
22 it's now subject to water shortage.

23 That's a very different issue from how it feels if
24 you are a farmer in Yuma, where what you're doing is
25 trying -- I mean, again, being a little glib, where you are

1 worried about keeping the Sun Corridor from coming and
2 making a play for your water, so.

3 And -- and one more thing is that cities, the water
4 issue for cities is so different. I mentioned the high rate
5 of reuse. Cities in the Sun Corridor are reusing 93 percent
6 of water that goes into the waste stream. Cities are seeing
7 per capita declines of water averaging 2 to 3 percent per
8 year because residential users and commercial users are
9 getting more and more efficient with water.

10 And so part of the reason for that graphic is that
11 the -- the efficiencies have increased so much, there's so
12 much potential for more efficiencies, it isn't necessarily
13 the issue for cities to go -- to some degree I'm
14 contradicting myself. There is a recognized need for
15 greater water supplies for projections for future
16 population, but there's a lot cities can do before they go
17 out and try to get new water supplies for -- you know,
18 because of all of these opportunities for management
19 stretching supplies over larger and larger economies and
20 populations.

21 CHAIRPERSON NEUBERG: Thank you.

22 And you mentioned something that really stuck with
23 me, that -- that not all farming communities are the same;
24 meaning they may have very different sources of water --

25 MS. PORTER: Yes.

1 CHAIRPERSON NEUBERG: -- very different interests.
2 So we need to be careful not to lump rural communities
3 together.

4 MS. PORTER: Thank you.

5 And not even -- even within a rural community, you
6 might have some legacy farmers who are worried about new ag
7 who have moved in and developed big new pumps, new wells,
8 that are going to really have impacts on the groundwater
9 table; but at the same time you might have ranchers in those
10 areas who will fight tooth and nail against groundwater
11 management because of that -- of a perception that that
12 impairs their ability in the future to develop their land in
13 a way they want to.

14 So I'm not -- I'm -- I'm generalizing very much.
15 I'm not saying this is how all farmers think and how all
16 ranchers think, but you can't assume that even within a
17 groundwater basin or within a certain boundary, people feel
18 the same. You're going to find competition for water
19 resources within any bounded area.

20 CHAIRPERSON NEUBERG: Other questions?

21 This -- this has been, you know, truly very
22 informative, helpful in us understanding the water issues
23 and also how it relates to all of the different population
24 centers we have in our state. Very important.

25 And I'm sure we're going to be thinking about this

1 as we move into our next presentations.

2 Before we move on, I want to make sure that there's
3 no other questions.

4 Okay. Sarah, thank you so much for joining us. We
5 appreciate, you know --

6 MS. PORTER: Sure. My pleasure.

7 CHAIRPERSON NEUBERG: -- very helpful.

8 MS. PORTER: Thanks very much.

9 CHAIRPERSON NEUBERG: With that -- thank you.

10 With that, we'll move into our next presentation.
11 It will feature two cospeakers, Robert Medler, the Arizona
12 Government Affairs Manager for the Western Growers
13 Association, and Phil Bashaw -- and I apologize if I'm
14 butchering your last name -- the Chief Executive Officer for
15 the Arizona Farm Bureau.

16 With that, I will turn it over to the two of you.

17 MR. MEDLER: Well, thank you so much, Mrs. Neuberg.
18 We appreciate the opportunity and invite to come before the
19 Commission and talk.

20 And so, real quick, I am Robert Medler with the
21 Western Growers Association; we're a multistate industry
22 association. Our members are folks on vegetables, fruit,
23 and tree nut, growers, packers, and shippers. So that
24 pipeline all the way from farm to -- to the end user there.

25 And with that, Phil.

1 MR. BASHAW: Yes. And, similarly, I want to thank
2 the Commission for allowing us to come and speak today. And
3 it's -- it's an honor for us to come and talk about the
4 agriculture and issue around the state.

5 My name is Philip Bashaw, I'm the Chief Executive
6 Officer of the Arizona Farm Bureau. We are the state's
7 largest general farm organization; we represent 2,400
8 producers of all crops and commodities and livestock across
9 the State of Arizona. We have -- we have growers in all 15
10 counties; and we have 14 active county farm bureaus, and so
11 as you can imagine we are -- we are a large, statewide
12 grassroots organization.

13 MR. MEDLER: Sorry. Just going to share my screen
14 here if it -- let's see. Slide show.

15 Does that look all right to everybody? I only see
16 my slides here.

17 MR. BASHAW: Looks good to me, Robert.

18 MR. MEDLER: All right. Good deal. Thanks. First
19 time using Google Meets, so.

20 Also want to extend a thank you for Mr. Schmitt for
21 inviting us specifically to come talk about the agriculture
22 aspect of Arizona's five Cs. Four of the five are
23 agriculture; we'll take credit for the climate one as well.
24 We'll get to that in a few, but it's a tremendously
25 important aspect of Arizona's economic viability.

1 So, agriculture. I think everyone here would know
2 that it's omnipresent; it's throughout the state. As Phil
3 mentioned, there are farmers and those related to the
4 industry in all 15 counties; a tremendous investment has
5 been made in Arizona in the agricultural community.
6 \$23 billion industry statewide year after year, and that it
7 continues to grow.

8 One of the things to make Arizona fantastic for
9 agriculture is we're fortunate to have the network of
10 rivers -- and I'm happy that we actually ended up following
11 Ms. Porter, she's a tremendous asset to the state in not
12 only her ability but her knowledge and resources there with
13 the Morrison Institute and the Kyle Center.

14 But she mentioned specifically the San Pedro Valley
15 and Verde Valley; but, you know, we have the Colorado, the
16 Salt, the Gila, Santa Cruz, and the Little Colorado Rivers
17 along with the tremendous watersheds that -- the map that
18 she had of the different aquifer basins really shows, I
19 think, how much water there is in Arizona that we're able to
20 use for the economic viability -- or vitality, excuse me, of
21 Arizona, particularly in the agriculture section.

22 Ag is not new to the state. Agriculture has been
23 going on here well before any of us were around, before we
24 were a state, before we were country. For 4,000 years
25 people that have lived in what we now call Arizona have had

1 significant agriculture.

2 You know, one of the most interesting things I
3 think I've been to and visited here in the state is the
4 canal system around the ruins in Casa Grande the Hohokam
5 people built. That's absolutely fascinating to me and
6 how -- if you haven't had a chance to go there and look
7 about the agriculture of the Hohokam people and how they
8 built the canals off the Gila River, I strongly encourage
9 you to do that in an upcoming weekend as weather starts to
10 get nicer.

11 But here's just a quick snapshot overview of
12 Arizona ag.

13 Total farms, there's a little over 19,000 with
14 26 million acres covered in those farms. Of that cropland,
15 there's 7,200 farmers with 1. -- just shy of 1.3 million
16 acres.

17 Interesting note, the tribal legacy continues on.
18 Just under 60 percent of farmers in Arizona are members of
19 tribes, it's 58 percent. So they continue to have a strong
20 role in -- in agriculture here in Arizona.

21 Of that 7,200 farms, 5,400 harvested last year. So
22 a lot of that is range for fallow lands for a cycle, but
23 continue to be significant portion of the overall acreage;
24 and total sales last year in agriculture were 3.8 billion.
25 That's the end product net gain there.

1 MR. BASHAW: Okay. Moving on to one of our -- one
2 of our five Cs.

3 Subset of the agriculture industry is cattle. As
4 you can see on this -- on this slide, cattle and calves are
5 grown are a little over 7,000 farms across the state.
6 Cattle are grown in every county in Arizona. And, you know,
7 in beef cows you're looking at about 5,500 farms and 186 for
8 milk cows and diary industry.

9 Made up about 641 million from cattle and calves,
10 and milk from cows is a little over \$856 million of economic
11 impact to the State.

12 Another important note is that grazing makes up
13 about 73 percent of Arizona's total landmass. And so when
14 we talk about grazing and land management within the State
15 of Arizona, it's important to point out that -- that the
16 gentlemen like you see in the picture here are out there and
17 we consider them stewards of the land. So these folks are
18 out there maintaining water for wildlife, monitoring range
19 conditions, maintaining all the infrastructure that allows
20 for -- for that wildlife, as well as recreation out there on
21 those -- on those -- on the state and federal lands across
22 the state.

23 And so the ranching community is a very important
24 part of -- of land management throughout the ability to --
25 to utilize to -- to utilize those lands for recreation and

1 other uses.

2 Another interesting point is that for every 100
3 jobs in cattle production there's an additional 70 -- 65
4 jobs, excuse me, created within the communities from -- from
5 related industries within the communities that they -- that
6 they reside in.

7 So I'll move on to the next one.

8 Following up on cattle, we have cotton. Another --
9 another of the five Cs. The central part of Arizona is an
10 extremely good climate to grow cotton. Arizona cotton is
11 actually one of the whitest and highest quality cotton grown
12 in the United States. A lot of this is due to the fact that
13 we have -- during the -- during the growing season for
14 cotton we have low rainfall, so the cotton balls are not as
15 risk to weather damage. So this is you'll find cotton grown
16 in the central and southern part of the state; and that will
17 be all irrigated -- irrigated land.

18 Another interesting fact is that cotton grows --
19 or, excuse me, Arizona farmers grow enough cotton to provide
20 every person in the United States with a -- with a pair of
21 jeans, that's just out of Arizona. That results in about
22 \$185 million in total sales with -- from 284 farms, again,
23 in the -- in the central and southern part of the state.

24 MR. MEDLER: Next one is citrus. Citrus has a long
25 history here in Arizona. It originally arrived in the late

1 1700s, courtesy of the Spanish settlers that were coming;
2 but it really wasn't until the 1920s and '30s when you saw
3 it became a cash crop, and the citrus industry really
4 started to grow throughout the state, but mainly in
5 Yuma County and Maricopa County.

6 The sun and the soil are perfect; I'm sure many of
7 you have citrus in your own yards, they grow like weeds as
8 long as you just give them a little water. It's fantastic.
9 We're one of only four states in the U.S. that produces
10 citrus for commercial markets. We're second in the nation
11 on lemon, which is primarily Lisbon lemons; and third in
12 tangerines and tangelos.

13 Oranges and grapefruit over the last few decades
14 have significantly declined in production. And you can see
15 in the number of total farms, just the change from 2012 to
16 2017 there's been a substantial change in both the number of
17 farms that are growing citrus, but also the total number of
18 acres.

19 In 2010, the last packing house closed -- for
20 citrus, the last packing house closed in Mesa; and since
21 then most of the fruit is transported out of state or to
22 Yuma and then shipped to California for the different
23 contracts that the farm has.

24 But most of it is Sunkist buys a lot of the citrus
25 that's still grown here in Arizona.

1 Finally, climate. And I know I mentioned this kind
2 of first and foremost, but we all live here for a reason,
3 but plants love growing here for a reason too. Almost
4 throughout the entire state there's year-round growing
5 conditions. Crops vary depending on where you are in the
6 state, but you can grow almost anything here.

7 Consistently across the state, there's over
8 300 days of sunshine in a year. That is one of the highest
9 in the nation, if not the highest; it ebbs and flows between
10 here and Florida and Southern California.

11 Arizona's climate is arid and semiarid, which
12 really when it comes down to it means there's -- and Sarah
13 had a slide of the precipitation throughout the state but,
14 you know, from as low as 3 inches a year in the southwest
15 part of the state, Yuma -- Yuma Valley in the Mohawk/Wellton
16 Valley, to up around 40 inches in the White Mountains.

17 This year might be a little higher for everybody,
18 which has been a nice break after the last two dry summers.
19 But range provides agriculture great opportunity just like
20 Phil was saying with the cotton of how that partici- --
21 excuse, precipitation comes and how that affects the crops
22 and quality of crops; and then also the wide range of
23 hardiness zones, and that is the U.S. Department of Ag,
24 really the high temperature and the low temperature how you
25 can plan for both extremes for around growing seasons, so.

1 MR. BASHAW: So following on what Robert mentioned,
2 in terms of our -- in terms of our unique climate that
3 allows us to grow several different commodities, we -- we
4 also enjoy a number of different speciality crops in the
5 state of Arizona that have -- are -- are a significant
6 economic draw for us as well.

7 For example, tree nuts and dates are grown over --
8 in a little over 300 farms and 35,00 acres. That's largely
9 dominated by pecans. We have some large pecan operations
10 down in the southern and central part of the state; but,
11 also, we have pistachios down in Cochise County and those
12 areas, which are -- which are very unique and -- and good
13 speciality crop that we're able to grow here.

14 Because of that climate we have -- we have the
15 opportunity to grow all those different crops. We have --
16 we have growers that grow a number of speciality crops in
17 smaller acreages and some in quite large acreages. For
18 example, in Maricopa County, we grow a number of roses
19 for -- for root stock in the state.

20 Viticulture is a relatively new crop for us. Our
21 first formal nursery was licensed in 1983; but since that
22 time, we've -- we've now licensed 108 different farm
23 wineries that are growing wine grapes, largely in the -- in
24 the Verde Valley River and down in the Sonoita/Elgin region
25 in Cochise County.

1 They currently contribute about 56 million in
2 economic output and are contributing to a burgeoning tourism
3 industry for wine -- winery tours in those areas around the
4 state. It's becoming -- becoming an increasingly important
5 segment of our agriculture industry in the state, an
6 economic driver, certainly for these regions. Not only do
7 you have the -- the economic output from the agriculture
8 industry, but you also have the tourism aspect, and you have
9 tourism aspect that they can bring to these rural
10 communities.

11 In addition our nursery industry is -- is
12 significant as well. The nursery industry is really part of
13 a larger green industry recognized by the Department of
14 Agriculture that includes, you know, turf, golf courses, and
15 those types of things. But our nursery industry in terms of
16 wholesale and resale/retail nurseries and garden centers is
17 a -- is a significant driver, particularly in the urban
18 parts of the -- urban parts of the state.

19 MR. MEDLER: And then building on the success of
20 cotton and citrus, vegetables. This shouldn't be a surprise
21 to anyone, Arizona ranks fifth in the nation for fresh
22 market vegetables. Yuma County is the number three county
23 in the country -- Monterey County and Fresno County are
24 one/two in the country, and then Yuma.

25 The important thing to realize about that is just

1 how big Yuma's impact is and how much they grow. Their
2 growing season is four to five -- or their harvesting season
3 is four to five months, those other two counties have eight
4 to nine months harvesting seasons. So Yuma is a huge
5 producer on the vegetables; and, again, shouldn't be a
6 surprise.

7 Almost 1,300 farms with just under 150,000 acres in
8 Arizona focus on growing vegetables. Yuma is the -- is the
9 bulk majority of that at almost 110,000 acres.

10 Total sales in 2017 were just over \$1 billion.

11 And then the Yuma in particular, but across Arizona
12 during the winter growing season, is really known for the
13 specialty crop industry, and that's the leafy greens:
14 cabbage, melons, apples -- or apples aren't so much, but the
15 potatoes and tomatoes to be able to get those grown at a
16 rate of which they can meet the demand during the winter
17 here in the United States and, really, for the worldwide
18 export as well.

19 But, you know, Yuma is the salad bowl of America
20 during the winter, 85 to 90 percent of the leafy greens
21 during -- from November to March come from Yuma, and so that
22 is a substantial investment. You can see that with a total
23 acreage for lettuce.

24 Below I wanted to just show you -- provide a little
25 input -- or idea, forgive me, of the commodities, the top 10

1 here in Arizona of vegetable and fruit -- really,
2 vegetables, of how -- how much we produce and how many
3 cartons. And we can just see the iceberg and romaine are
4 greatly ahead of the rest of them. Cantaloupes are the
5 summertime -- or, the spring and summertime crop, as well as
6 watermelon, so.

7 So, really, the -- the -- or, forgive me, the
8 challenges facing Arizona agriculture come down to a couple
9 few things, and the first is workforce and education.

10 Obviously, the workforce needs are changing. They
11 have not been met for years, if not decades. We've seen a
12 decline in workforce.

13 Agriculture has become significantly more
14 efficient. I was trying to find it, and you have to forgive
15 me I wasn't able to, but the Yuma -- Yuma County grows
16 something like 80 percent more crops on, like, half the
17 water than they did 30 years ago. And that is not exact,
18 so -- so please forgive me, I will try to find -- I'll have
19 to reach out to some of our members in Yuma and get that.

20 Phil, you might remember that statistic, but
21 agriculture has become significantly more efficient. And
22 with that, the workforce needs have increased.

23 Part of that is just a change in overall economy
24 and in what people want to do with their lives; some of that
25 has to do with seasonal worker demands and requirements,

1 both the availability of it but also some of the
2 restrictions or the -- the curtailment of the immediate
3 workforce to be able to come and particularly during harvest
4 season; and then also a change in climate has a strain on
5 that workforce, whether that be more severe temperatures,
6 more severe storms, the impact of it after the way of, you
7 know, you have a heavy rainstorm, and it blocks your access
8 to be able to leave your house to get to work, lots of
9 different things. But that has put a strain across the
10 industry. Not only here in Arizona, but across the nation.

11 So as a result, agriculture is moving more towards
12 technology. Some of the current technologies are absolutely
13 fascinating.

14 I included a picture, that is a robot harvesting a
15 strawberry. That is from one of our member company's tech
16 startup. You can see a little black box on the top of that
17 arm, that is the sensor that checks not only the density of
18 the fruit but also the color of the fruit, and then tells
19 the arm whether to pick it or not. And that's -- that's
20 where you're going.

21 And you can tell in the background of the picture,
22 instead of strawberries being on the rows, that are actually
23 multitiered shelving units that are growing the strawberries
24 in a greenhouse.

25 And everything to even having -- you can see the

1 picture of the gentleman in the field using an iPad or
2 similar computer, handheld computer, the technology is -- is
3 getting smaller, it's getting more technical, for lack of a
4 better phrase, to where it's -- it's in the hand of almost
5 every farmer; regardless of the crop, regardless of where
6 they are, technology is making a difference.

7 And so one of the things that comes with that is
8 more efficiency, but there's also the downside and upside of
9 you have to have more advanced training, which is a
10 financial investment both in time and equipment. You also
11 see investment in more ag-orientated startups. We have an
12 entire program in Salinas, California, that is investing in
13 startups. We have a -- it's a one-story place for startups
14 to get going in Salinas, California, and have access to our
15 member farms to try out some of their technology; and we
16 actually financially invest in some of the companies to help
17 them plus out and make it to market.

18 And then in general across the entire industry, you
19 see an increased investment in equipment, maintenance, and
20 continued training. A combine of today is not a combine of
21 20 years ago, much less 4 years ago. And that will continue
22 on, but those are challenges we face.

23 Finally is the water resources. And in
24 Ms. Porter -- I don't want to spend too much time on this
25 following Ms. Porter, but we're in the midst of a

1 20-plus-year drought. We have an overallocated Colorado
2 River system, there's been -- water demands are changing
3 across the state as municipalities continue to grow and more
4 people realize Arizona is a great place to live, work, and
5 play. That increases the water demands on the municipal
6 side, but we also -- that turns around and increases the
7 demands on the agriculture side to provide enough food for
8 them.

9 Warmer temperatures as the -- as the climate's
10 changed and cycles through, we see the increased need for
11 water irrigation, and the different type of crops and when
12 they can be grown and how long they're grown, that all has
13 impacts on the water.

14 The upsides, not to be a Debbie Downer, is
15 efficiency and production has increased. And that's been a
16 result of farmers -- in the industry at wide, but
17 particularly farmers using technology out in the field. The
18 first would be a legi levelled -- a laser-levelled field is
19 a much more efficient irrigation technique, and then you're
20 looking at new drip systems coming on that not only put the
21 water at the base of the plate, but also can put it
22 subsurface, so like drip tapes that a lot of the melon
23 growers are using now. The wa- -- you know, it's perfectly
24 put at the depth below the surface to where the roots of the
25 watermelon or the cantaloupe will grow down and meet that

1 tape and then you have less evaporation, which increases the
2 substantial efficiency benefit.

3 MR. BASHAW: So one of the challenges that
4 agriculture faces -- and, you know, we're not -- we're
5 not -- we're not unique in this respect, you know, economic
6 volatility has a huge impact on any industry. Where we are
7 unique is that agriculture is -- is a price taker; it's a
8 price-taking nature of our commodity markets.

9 So our markets are highly integrated, and a lot of
10 times our prices are set largely on -- on world markets and
11 global markets, and so when in- -- when costs increase for
12 our producers here in Arizona, they really don't have the
13 opportunity to pass those costs down to the final consumers.
14 So that can create increased economic pressures on our
15 farmers here in the State of Arizona.

16 Things like -- things like trade discussions,
17 supply chain disruptions, national disaster can all have a
18 significant impact on those prices, which ultimately impact
19 our -- our farmers here in Arizona.

20 You'll notice that on this slide we've -- a recent
21 study came out saying that it was about \$3.6 billion
22 unaccounted for losses due to natural disaster just in 2020.

23 There is one thing I will say about supply
24 disruptions because I think everyone here probably
25 experienced a lit bit of some -- some of the supply

1 disruptions that we saw at very beginning of COVID. But one
2 of the things that I would point out there is that while
3 supply chain disruptions continue to persist around the
4 world in different industries, Arizona was able to respond
5 relatively quickly and get the food back on our shelves
6 where consumers were purchasing it; and a lot of that relied
7 on, not only a complex food supply distribution system, but
8 also the availability of -- of domestic product that's being
9 produced here in the state of Arizona and by our adjoining
10 states, gave us the availability to be much more resilient
11 in our food supply system in that day-of or that
12 just-in-time distribution system that we -- that we've
13 developed over the -- over the years.

14 And then -- and, last, one of the things that, you
15 know, I don't want to spend too much time on the water
16 issues and Robert did a great job of covering, you know, the
17 efficiency that we put into those -- into those water
18 systems and those types of things, but as we talked about
19 earlier when -- when Sarah Porter was presenting, the
20 agriculture is all over the state, and each -- each of the
21 growing regions around the state have unique challenges when
22 it comes to things like water availability. But beyond that
23 they have -- they have issues as it relates to
24 transportation, as it relates to regulation within the
25 community they live in, environmental -- environmental

1 concerns within the communities that they live in, you know.

2 So each one of our growing regions is somewhat
3 unique. And while it's very -- and while agriculture is all
4 over the state and it's very difficult to pinpoint exactly
5 where agriculture is or how you can define a community of
6 interest, I'll refer to some maps that we submitted as part
7 of the public input process that included some outlines and
8 some maps of some relatively significant growing regions
9 within the state of Arizona with some facts on each one of
10 those growing regions.

11 And, now, you know, Commissioner Neuberg, you made
12 the point that each one of those growing regions is little
13 bit unique, they have unique challenges, and so it's
14 difficult to sort of lump them all together; but one of the
15 things I will say about each one of those growing regions in
16 the community where agriculture is the basis of the
17 community, you have farmers and ranchers that are very
18 active within their communities, they've established
19 political subdivisions like irrigation districts and -- and
20 other -- and other types of infrastructure within those
21 communities for not only water delivery, but within --
22 within their communities to support those communities.

23 And so what you'll find in the growing regions that
24 we've -- we've identified is that agriculture is really
25 ingrained in those communities, not only is the agricultural

1 industry an economic driver, but it also drives some of the
2 supporting industries around it; and some of the -- some of
3 the infrastructure that's been set up to support the
4 agriculture in these communities also supports the other
5 parts of those communities like municipal systems and those
6 types of things.

7 And so what you'll find in those communities that
8 we've outlined is a significant presence of agriculture and
9 active engagement in working to -- to resolve the issues
10 within those areas and quite knowledgeable people on the
11 various aspects that impact -- impact that region.

12 So just wanted to refer back to those maps that we
13 had submitted on behalf of the Arizona Farm Bureau just to
14 outline the sort of major growing regions within the state.

15 And that -- that's it.

16 Robert, do you have any closing comments?

17 MR. MEDLER: I would say thank you again for the
18 opportunity. Thank you for reaching out to hear about
19 Arizona agriculture; we appreciate the opportunity.

20 And if have any questions, happy to do our best to
21 answer 'em.

22 CHAIRPERSON NEUBERG: Thank you, Philip and Robert.
23 That -- that was great information, great job; and I want to
24 really thank you for leaning in and submitting maps and
25 recommendations because that actually cuts to one of my

1 major questions, which is: What are your recommendations?

2 And so for us to be able to go back and look at
3 that is -- is -- is invaluable.

4 I have maybe a couple follow-up questions, but
5 before that I turn it over to my -- my colleagues first,
6 please.

7 Questions.

8 COMMISSIONER LERNER: This is Commissioner Lerner.

9 Thank you. This was really fascinating, and I love
10 the juxtaposition with the previous presentation on water.
11 That really puts it into perspective.

12 I just have one to start with, and then I'll have
13 Chair Neuberg ask her questions.

14 And that was education, I thought that was an
15 interesting point. You were talking about education and
16 technology and the needs there that exist. And I know in
17 Michigan, Michigan State has very specific opportunities for
18 people to learn about agriculture and farming and those
19 professions, what do we have and how do you see that maybe
20 thinking towards the future when you're talking about a
21 decline in workforce and workforce needs?

22 How can you -- can you connect that with --you
23 know, in rural areas very often they don't have educational
24 institutions that can provide some of that for the people
25 going into those professions. This may be a little outside

1 of our communities of interest topic, but I look at
2 education as one of our key factors, one of the key areas
3 that we have.

4 So do you see specific needs, specific things that
5 can be done around the state to help ensure these
6 professions don't decline because of a lack of opportunity
7 for people to learn how to participate and -- and be a part
8 of -- of that -- of those professions?

9 Hoping that question makes some sense.

10 MR. MEDLER: So, first, I'd say we're -- I think
11 we're blessed here in Arizona with an excellent cooperative
12 extension through the University of Arizona, both on the
13 education side but also on the -- the partnership with the
14 business community and the agricultural community. Many of
15 their programs and facilities really blend what you're
16 talking about, Commissioner Lerner, of getting people
17 interested in and bringing them into the careers in
18 agriculture or a livelihood in agriculture, while still
19 having that day-to-day impact on the agriculture being done.

20 And ensuring that those programs have the resources
21 and continue is important, and as I'm sitting at the U of A,
22 that's a big plug of U of A and I'm okay with that as a
23 graduate; but you also look at all of our universities
24 across the state and what type of investment are they making
25 in their programs in the biological sciences, the plant

1 sciences, the animal sciences, the veterinary sciences.
2 Those are all -- even two-year degree programs or four-year
3 degree programs are going to have an impact on the industry.

4 Much like anything, if we're able to grow our own
5 on what we need for future science and technology here in
6 the state and they're from here, they're more likely to stay
7 here and may continue to make a positive impact across
8 Arizona, and that's what we're looking for on behalf of our
9 members. We -- you know, I mentioned our facility in
10 Salinas, that was the idea behind it; it's only a few years
11 old, but we've already had a few companies spin out. So
12 looking at some of the transfer programs at the
13 universities, getting people interested that someone --
14 someone relatively new to the industry, ag is tech. It
15 really is. And getting that message out, I think will
16 attract. So getting kids in a -- you know, getting
17 kindergartners in a tractor and seeing what it's like, that
18 some of those are almost the same amount of computers and
19 screens and everything gone on that a -- that a plane has.
20 It's that level of technology now in some of the -- some of
21 the equipment -- or a lot of the equipment, I should say,
22 sparks the interest in a child and -- and will lead to a
23 career in the industry.

24 Phil.

25 MR. BASHAW: So Robert mentioned our extremely

1 robust cooperative extension program, which is really
2 fantastic. I mean, our University of Arizona and their
3 cooperative extension and the other universities around the
4 state are really doing cutting-edge technology when it comes
5 to the natural sciences here in Arizona; and, then, not only
6 that but the engineering, the computer science, and
7 everything else really goes into the natural resource
8 industries.

9 One of the things that I will say about our member
10 farmer and ranchers is they've -- they've taken a
11 significant investment in education through the Arizona Farm
12 Bureau; we have an entire education department. Robert
13 talked, you know, about getting -- getting young children on
14 tractors to see what that's like, we have entire program
15 where we have staff in the classrooms every day doing that.

16 We also have programs, certification programs,
17 through the Agricultural Teacher Association which are in
18 communities throughout the state, to help those students
19 develop the skills necessary and that agricultural employers
20 are looking for when they -- when they graduate from -- from
21 high school; and then also supporting our -- supporting our
22 natural resource programs within the universities and higher
23 learning.

24 And so it's a little bit of plug for the -- for the
25 Arizona Farm Bureau; however, it does show how we're working

1 with these local communities and agriculture community
2 within those areas to provide those -- to promote those
3 programs and opportunities.

4 COMMISSIONER LERNER: Thank you. Because I was --
5 I know the cooperative extension from just using it for my
6 own gardening, but I didn't realize the extent that it had
7 across the state. So that's great to hear about all of
8 these opportunities; I appreciate learning more about it.

9 MR. BASHAW: Absolutely.

10 COMMISSIONER MEHL: This is Commissioner Mehl.

11 These presentation were really informative and
12 really -- really interesting, and this -- I have more of an
13 observation than a question, 'cause I think it's a challenge
14 for us as a Commission. It helps explain and it helps me
15 understand why the rural areas have not grown in population,
16 because even though they have incredible importance to our
17 state, and you see that actually economically they're
18 increasing in their activity; and, yet, the efficiencies
19 that they're driving are causing them to not really have
20 population growth in these areas, and the population growth
21 is predominantly in the urban areas.

22 So us trying to protect the communities of interest
23 of the rural agricultural areas is going to be a real
24 challenge and a real importance as we do our work.

25 CHAIRPERSON NEUBERG: You know to piggyback on

1 that, it actually taps into a question of mine: Are there
2 particular industries that you've addressed that are at
3 specific risk; and, are they receiving the type of
4 collective representation to empower their industries?

5 And -- and related to that, if you don't mind me
6 just, you know, piggybacking my second question: Where are
7 these hubs of interest?

8 Meaning, you know, you spoke about -- and you did a
9 great job of highlighting the specific areas, thank you,
10 that's so, so helpful. But is there additional information
11 you would like to share about where the hubs of influence
12 are related to cattle, cotton, other industries that we
13 ought to be aware of as it relates to Commissioner Mehl's
14 comment?

15 MR. BASHAW: Robert, you want to take that on first
16 or...

17 MR. MEDLER: I'll let you, Phil.

18 MR. BASHAW: All right.

19 CHAIRPERSON NEUBERG: And please, you know, we're
20 asking very pointed questions, only, you know, respond in
21 the ways that -- that are appropriate and comfortable.

22 So, please.

23 MR. BASHAW: Well, one of the things that -- one of
24 the things that I would say, and I appreciate that I -- I
25 appreciate the complexity of the job that you all have --

1 have agreed to do; this is a very complicated and very
2 complicated issue and a lot of factors at play that you have
3 to take into account as you're drawing these maps.

4 But one of the things I would -- I would mention is
5 that, you know, as you have such an urbanized area in the
6 central part of the state and you -- and, you know, that
7 tends to -- that can tend to dominate things as you have
8 that large population there and, certainly, having a
9 concentration of -- of, you know, districts within that
10 central part of the state.

11 I think one of the things that we're most
12 interested is ensuring that -- is ensuring that the rural
13 communities around the state, because the agriculture is
14 within those -- within all those communities, and
15 agriculture is such a driver for so many of those
16 communities, that you really take that into account as
17 you're developing these districts and ensure that there's --
18 that there's ample rural representation as we're developing
19 those -- those districts.

20 Again, I would -- I would point you to -- I
21 wouldn't -- I don't want to go into all the areas that we've
22 identified, but I would point you to those maps once again
23 that we've -- that we sent in with the facts about each one,
24 the various commodities grown there and those type of
25 things.

1 A lot of those growing regions are in the southern
2 part of the state, because, you know, obviously those are
3 the -- those are the climates and soil conditions that allow
4 for, you know, intensive crop agriculture; but I would also
5 point out that the northern part of the -- northern part of
6 the state is largely cattle production, particularly up in
7 the forest and those areas. And as you look at the forest
8 and the interaction between federal lands and those folks
9 who are -- who are managing those lands through grazing and
10 those type of things, they have a unique set of interest as
11 well and a unique set of challenges as it -- as it relates
12 to, you know, utilization and management of forests, but
13 also wildfire protection, watershed protection, and those
14 types of things.

15 And, so again I would identify those maps but then
16 also point out that the northern part of the state has some
17 unique challenges and there's quite a bit of agriculture up
18 there by way of, you know, cattle grazing and those
19 operations, so.

20 I'm not sure if that answered your question to the
21 specificity that -- that you would have liked, but...

22 CHAIRPERSON NEUBERG: But you submitted maps, so --
23 so you answered the question.

24 Thank you.

25 MR. MEDLER: I -- I would just quickly add,

1 recognize -- building off of Phil's comments, recognizing
2 that not splitting agriculture communities sometimes works
3 and it sometimes really doesn't work, and I know that's kind
4 of a broad statement. But there -- there are times where
5 perhaps a truly ag-centered district would be beneficial
6 in -- especially when that is the significant or majority of
7 the economy, ensuring that the entire region would have that
8 single representation, so: Cochise County, the growing
9 regions; Pinal County, the growing regions; Yuma County, the
10 growing regions.

11 Whereas, on the other side would be looking at the
12 agricultural communities that are adjacent that are urban --
13 really suburban and urban communities. So, you know, first
14 comes to mind is the West Valley, you have urban, suburban,
15 and ag all in -- you know, within a few miles of each other,
16 if not honestly adjacent to each other, with having
17 multifamily housing next to fields that are then next to
18 kind of, you know, six-, seven-acre neighborhood.

19 So taking all of that into account and using your
20 collective best judgment of what is truly the best
21 representation for those communities would be appreciated.

22 I know all of you signed up for a very thankless
23 job, but it is -- it is appreciated very much by all
24 Arizonans.

25 MR. BASHAW: We certainly thank you.

1 CHAIRPERSON NEUBERG: And we thank you for being
2 part of the process; it's a collective effort.

3 Any other questions?

4 Well, Philip, Robert, that -- you know, thank you
5 for helping educate us and make sure we're aware of
6 additional, you know, farming, agricultural interests of the
7 state; it really did help shape, you know, our
8 understanding, so with deep appreciation.

9 With that, I'm actually going to suggest that at
10 this point we take a five-plus-minute break. You know,
11 we're probably more than 50 percent through our agenda, but
12 given that we'll need a break coming up, I think it's --
13 it's a natural point.

14 And so, with that, why don't we take a break, and
15 then we will reconvene and start up with Agenda Item No. VI
16 from our mapping team.

17 Why don't we say 9:35.

18 (Recess taken from 9:29 a.m. to 9:38 a.m.)

19
20 CHAIRPERSON NEUBERG: Do we have our team back?

21 I see the Commissioners. Brian, Val, give me a
22 thumb up and we'll --

23 MS. NEUMANN: There we go. I think we're ready.

24 CHAIRPERSON NEUBERG: Okay. Welcome back,
25 everybody.

1 We'll dive right back in. We are on Agenda
2 Item No. VI, update from the mapping consultants,
3 Timmons/NDC.

4 I turn it over to Mark and Doug.

5 MR. FLAHAN: Good morning, Commissioners.

6 There was a great presentation from the growing
7 people; and they did say they submitted maps, and I would
8 like to say that if somebody goes to our public submission
9 dashboard, you can actually see their maps if you go up to
10 the top right corner under the advanced search and you type
11 in "growing region," and you can see that --

12 CHAIRPERSON NEUBERG: Mark. Mark.

13 MR. FLAHAN: -- that have submitted four different
14 maps.

15 CHAIRPERSON NEUBERG: Mark.

16 MR. FLAHAN: Yep?

17 CHAIRPERSON NEUBERG: Is there a way you can share
18 your screen so that as you're instructing us --

19 MR. FLAHAN: Yeah.

20 CHAIRPERSON NEUBERG: -- we can actually see it
21 because that will make it more likely that we're going to
22 actually do it.

23 MR. FLAHAN: All right. One sec.

24 Trying to split the tabs out so that I can still
25 see you guys on one screen. Hold on.

1 CHAIRPERSON NEUBERG: Because that is something I
2 think we -- we'd like to look at.

3 MR. FLAHAN: Okay. Let's -- let's do this for a
4 second.

5 On the IRC's website, if you go to "Public Meetings
6 Listening Tour Round 1," you go down to the date there is --
7 every date there is a link to the submission dashboard,
8 which is here.

9 If you click it, it's going to open up a new tab.
10 So that means that I need to share that tab with you, so
11 hold on a second.

12 It takes you to this publicly available listening
13 tour submission dashboard; and you can see it's got all 910
14 comments; you've seen this product before.

15 If you go up here to the top right-hand side under
16 "advanced search," that says "none" right this second, you
17 click on it, it gives you a popup box that you can start
18 typing things in. You can type anything from somebody's
19 name to a specific topic.

20 So if you type in "growing region," you can see
21 that they submitted one for Yuma, one for Gila Valley, one
22 for Pinal County, and one for Cochise County.

23 So if you -- if you want to select one, just click
24 on the one that you want. And it takes me to the Yuma one,
25 which is here is the map for Yuma. I click on that polygon;

1 I get exactly what was submitted.

2 So Chelsea McGuire submitted on behalf of the Farm
3 Bureau, and here is the description talking about the winter
4 lettuce capital of the world; and Yuma region is growing and
5 responsible for keeping the entire U.S. supplied with fresh,
6 leafy greens.

7 And then if you want to go back and see the other
8 things that she submitted, you can go back here and click
9 the advanced search and go to "growing region," and select
10 the next one down that you want.

11 So Gila Valley, there's the Gila Valley polygon.
12 You can click on it, same thing, here is the popup box of
13 all the information.

14 If I go back and -- we can see here is Pinal
15 County; again, with all the information.

16 And the last one is Cochise County, and that is the
17 Cochise County polygon that they submitted.

18 So anyone can get there today. Like I said, it's
19 totally public, and that's the exactly how you use the
20 advanced search.

21 And then if you wanted to, on this popup box you
22 have some arrows there, so you can start to see polygons
23 that are sort of in the same area if you wanted to start
24 sorting through them.

25 The only thing that you'll see is that you won't

1 see the polygon change until you clear out the -- the
2 filter.

3 So I hope -- I hope that helps.

4 CHAIRPERSON NEUBERG: That was awesome. And, you
5 know what, I hope we have more and more time with you
6 leading us through these tips to understand how much data
7 you have provided to us; and it's fabulous.

8 So, thank you.

9 Please continue.

10 MR. FLAHAN: Okay. Hold on a second.

11 I think first thing for something I had for you
12 guys that is on the agenda that I am pulling up, because I
13 lost that tab when I shared it with you guys, update on
14 census data integration.

15 So good update for the census data, Esri was able
16 to successfully download it and process it. This week they
17 are loading it into our system, and at the end of this week
18 we'll be loading the specific State of Arizona data into the
19 system. So everything on track and actually trending a
20 little early right now. And so Esri started their
21 application update and data update yesterday, so that's all
22 positive news going forward.

23 For mapping software public training update and
24 additional software training, so we definitely are aware
25 that the public wants training, and we sort of talked about

1 it and we have a two-pronged approach that we would like to
2 take.

3 One, we have always talked about YouTube videos --
4 or, I shouldn't say "YouTube videos." Videos that are very
5 targeted on specific topics that people would like to use,
6 you know, certain functionalities. So instead of trying to
7 watch an entire 90-minute video, you can go to something
8 that's targeted within a couple minutes to learn exactly
9 what you want to do.

10 The second item that we were thinking for the
11 two-pronged approach is that we conduct -- on the Timmons'
12 side, not on the Esri side -- so Timmons would provide a
13 public training opportunity in a live meeting like this
14 where we can walk everybody through from start to finish.

15 And the date that we were thinking about was the
16 13th. I know putting a date out there, but that was the
17 date that we were thinking that we could do that and bring
18 everybody in. I know that hasn't been vetted from you guys,
19 but that was what we were thinking internally.

20 And that was really the two-pronged approach that
21 we would like to take. I know training seems like we've
22 been asking for training for awhile. I hope the Commission
23 and the public realize that in previous years the census
24 data would be out in March, and then the training would come
25 sometimes towards the end of April; but because the data has

1 been so delayed from the Census Bureau due to COVID, we
2 actually did a training session for the Commission before
3 the last final update and before the 2020 data was released
4 into the Arizona system.

5 So preferably we always like to do training after
6 the system is up and live with the current data set, and
7 that's why we -- we are proposing to do the second piece of
8 training on the Arizona system with the data for 2020.

9 COMMISSIONER LERNER: Mark, this
10 Commissioner Lerner.

11 For the videos, would you also be able to have
12 those up by September 13th? Because I think the public
13 would like to have access to those. We've been talking
14 about that for a little bit, as well, on you being able to
15 get the videos done, those short ones, which I think would
16 be a great idea.

17 MR. FLAHAN: Yes. So, I provided to the -- to the
18 IRC staff, to Brian, the YouTube videos that are out there
19 from Esri, the more generic ones. We would like to have all
20 the current data and the last update from Esri on the system
21 installed ready to go before we created those short videos,
22 that way everything looks exactly the same that the public
23 would be seeing.

24 So, yes, our -- our target would be to have them
25 done by the 13th.

1 COMMISSIONER LERNER: Thank you.

2 MR. FLAHAN: That's why they're not done.

3 DIRECTOR SCHMITT: And the Esri videos are in the
4 newsroom on the website.

5 MR. FLAHAN: Oh. Perfect.

6 MR. D. JOHNSON: And just -- just to be sure
7 everyone's expectations are straight, though, you know, we
8 can't -- we can't make the videos until the system is up and
9 running. So I think Mark is hoping we will be a little
10 ahead of schedule so we can get them live, but the system is
11 not scheduled to be up until the 13th. So the videos may
12 not be read 'til then.

13 MR. FLAHAN: Yes, very good point, Doug. The
14 schedule has always said the system would be up on the 13th
15 from the very beginning.

16 MR. D. JOHNSON: Yeah.

17 MR. FLAHAN: So we are trying -- we are moving as
18 fast as possible to get these things delivered to you guys
19 ahead of schedule because I know everybody is waiting for
20 these things, and the anticipation is there.

21 COMMISSIONER LERNER: Thank you. That's great.

22 MR. FLAHAN: Any other questions about training or
23 census data integration?

24 COMMISSIONER LERNER: So just a quick follow-up on
25 the question -- the comment about additional training on the

1 13th. That would be for the public? For the Commission?
2 Can you just clarify what you meant by that?

3 I'm glad to have another chance at this.

4 MR. FLAHAN: Yeah, our plan would be to do it live
5 in a public session like we're in right now where the
6 Commissioners are there, the public is there, and -- and
7 they can see it.

8 Then the public -- then, you know, they can also
9 say they received the same training as the Commission.
10 We're open to other ideas, if you guys have other ideas for
11 training, that is what we were just talking about
12 internally.

13 CHAIRPERSON NEUBERG: I think it's a great idea
14 and -- and it's also, I think, reassuring to the public that
15 whatever training we received, it essentially just click on
16 your YouTube that's on our website and -- and we're in it
17 together.

18 So I think we're going to be learning side by side.
19 And it's clear, it was -- it was a great start to helping
20 the Commissioners understand the language, understanding the
21 basic software technology and what's possible, and how it,
22 you know, can, you know, work out with the, you know,
23 mapping process; but we're all collectively in need of
24 additional training, and -- and we're deeply appreciative
25 for you, Mark, for you being so on top of it and to being

1 able to carve it down into language that -- that I think
2 will be effective for all of us. And, you know, we're
3 looking forward to it.

4 And it will be in advance of when we draw the
5 lines, so we're all good with the time frame.

6 MR. FLAHAN: Good. Good.

7 If there's no other questions on -- on those two
8 topics, then I'll throw it over to Doug to discuss
9 competitiveness, compactness, and contiguity formulas. I
10 believe he has a presentation for you.

11 MR. D. JOHNSON: Yes. Let me share my screen.

12 There we go. Can you all see the criteria list?

13 MR. FLAHAN: Yes.

14 MR. D. JOHNSON: Yes, okay.

15 Okay. So this -- if -- if you don't have this
16 memorized by now, you certainly will by the end of the
17 process. But this is the -- the full list of criteria that
18 the Constitution lays out for how the grid maps will be
19 adjusted and today I'm going to cover these two points;
20 primarily the issues of being compact and contiguous, and
21 then touching a little bit on the -- the other criteria in
22 which we have not talked about in detail yet which is about
23 following different types of lines.

24 Obviously, you've talked extensively about
25 communities of interest; we've had the previous presentation

1 on competitiveness and the Commission's direction on those
2 fronts; and you've also heard about the federal requirements
3 at the top, so this rounds out in-depth discussions of the
4 various criteria.

5 So, first of all, let's start with contiguity since
6 it's kind of the easier one. But, of course, nothing in
7 this is -- is simple.

8 So there are really three different definitions of
9 contiguity: One is, any part of a district touching all
10 other parts, including just a mere point; then there's often
11 talking about more-than-a-point connection; and then
12 sometimes we get able-to-travel connections, where can you
13 actually drive or walk from one part of a district to
14 another.

15 Looking at these, here are four just sample maps.
16 Some of 'em I drew for this presentation, others are -- one
17 of them you probably recognize.

18 But all these meet the "any part of the district
19 touching." So if the -- if the Black shaded area is a
20 district and the top maps, you know, it's connected only at
21 a point in the middle of an intersection, but the Black
22 district would be considered as -- as connecting and
23 touching and contiguous if point contiguity is okay.

24 Similarly to the right, this -- the Black-shaded
25 area is actually connected by the width of a freeway, so it

1 is connected at a point and then some.

2 The bottom left district, this is an important
3 point to make, which is this is actually an old California
4 district with the south part of this district is a series of
5 cities connected by a mountain range and natural forest.
6 And so, yes, it is, it looks literally contiguous, but the
7 trick is it's only connected by hiking trails, but it would
8 meet the "any part of the district touching."

9 And then the bottom right, you'll likely recognize
10 congressional district from 2001 to 2010 in Arizona that was
11 connecting using the Colorado River, so it was connecting
12 any part.

13 So the basic definition of contiguity, all four of
14 these maps will pass. That's why little green stars instead
15 of -- but that's just the bare minimalist definition of
16 contiguity.

17 Often the rules are connecting at more than a
18 point. So using the same four maps, three of them: The top
19 right and bottom two all connected more than a point,
20 there's a substantive territory connection of all parts of
21 the district.

22 The top left, however, since it connects just at a
23 point, would fail that.

24 And I am going to get how the software checks all
25 this, so you'll see a real life -- how you would do this for

1 any map.

2 But so when you get that "more than a point," some
3 districts now violate that definition of contiguity that
4 otherwise would pass if it was simply any part of touching.

5 Then we get into what some folks talk about when
6 they talk about contiguity, and that is: Can you travel
7 from one part of the district to another without leaving the
8 district?

9 So, obviously, the point of contiguity map in the
10 top left would fail that.

11 The bottom left it -- actually in that district
12 would depend on if foot travel counts. You actually
13 probably need rappelling gear to travel it, so it likely
14 fails it. You certainly cannot drive from one part of the
15 district to another.

16 But the top right map where it's connected just by
17 the one or two lanes of the freeway, that actually would
18 pass the contiguity argument.

19 And then in Arizona there was big debate because
20 this congressional district actually could be traveled one
21 way if -- on the river. You could not drive it, but you
22 could take a boat down the district. So would that meet
23 that definition? That's a debatable question.

24 So depending on which definition you use, you can
25 get different answers.

1 Within the redistricting system there's -- you can
2 see here there's these tabs will become very familiar as
3 people go through it. But when you have a map in front of
4 you, you just go to "review" and "check integrity," and this
5 runs a whole bunch of checks, it also runs before a map is
6 submitted; and the plan has to pass all these before you can
7 submit a map.

8 So when folks get into the training session in more
9 detail, they'll learn more about all these checks, but the
10 last one it runs is a connectivity check.

11 I do want to note that the Esri system doesn't --
12 rejects point contiguity. So if you only have point
13 contiguity, that map in the top left, Esri is going to say:
14 No, that's not contiguous. There needs to be a territory
15 connection between the two.

16 But Esri does not require travel of contiguity; it
17 does not require the ability to drive from one point of the
18 district to another without leaving the district.

19 So -- so if you just have touching at a point, it
20 would fail the test; if you have more than a point, it would
21 pass; and if you could travel, obviously it would pass.

22 So contiguity -- I'll go back to that for a second.
23 So, contiguity is basically pretty straightforward.
24 Depending on which definition you use, generally speaking --
25 and this isn't a hard, fast rule -- generally speaking

1 travel contiguity is ideal, but territory contiguity where
2 it's connected by territory is -- is sufficient to pass
3 rejection in most definitions of contiguity.

4 COMMISSIONER LERNER: Doug?

5 Doug, this is Commissioner Lerner. Just a quick
6 question.

7 MR. D. JOHNSON: Yes?

8 COMMISSIONER LERNER: If you can go back to that
9 other slide, please.

10 So the one where you had the question mark. In
11 2001, I don't know what happened, but what -- was that
12 accepted or not?

13 MR. D. JOHNSON: Yes. There was -- there was
14 litigation.

15 This was the big debate about should the
16 Hopi Nation be with the Navajo Nation in one district, and
17 so there was litigation and the plan was approved as -- as
18 drawn.

19 And there -- just for folks that didn't follow all
20 that closely, the reason for using that, was that was the
21 path to connect the Hopi from a separate district that
22 picked up the fewest residents of the Navajo Nation. So it
23 wasn't drawn just to be cute or anything like that, any
24 other census territory that would be picked up would pick up
25 residents of the Navajo Nation into this district that was

1 intended to put the Hopi with somebody else.

2 COMMISSIONER LERNER: Thank you.

3 MR. D. JOHNSON: Yep.

4 And I'll actually come back to that district in the
5 discussion of compactness in a minute as well.

6 So contiguity is pretty straightforward. You've
7 got a couple of ways to define it, but they're pretty
8 straightforward and pretty easily understood.

9 Compactness is more challenging. So, again, the
10 law -- the statute in Prop 106 says "Districts should be
11 geographically compact and contiguous to the extent
12 practical."

13 What does it mean to be compact? Standard idea,
14 kind of speaking generally, try to not to bypass -- a
15 compact district would not bypass one group of people to get
16 to a more distant group of people. Just as an idea.

17 Mathematically, there are lots and lots of
18 compactness measures. The Esri tool contains seven of them,
19 but that's nowhere near the full sweep of -- of compactness
20 measures. There are -- you can go to American Mathematics
21 Association conferences and there will be panels of
22 measuring compactness of districts with all kinds of
23 options.

24 It is pretty straightforward to run. You just go
25 to the "review" tab again, and to the left of the "check

1 integrity" is the "compactness test report."

2 And what you see below is what it generates. In
3 this case, I just did one example of this one district, but
4 it would have the full list of districts here.

5 And, obviously, if you had a full plan, there would
6 be no "unassigned" in that column.

7 So you can see the list here. I'll go through them
8 in just a second of what these different names mean.

9 So here's a bigger example of, you get lists of --
10 from, in this case, all nine congressional districts, I just
11 dropped out a draft map in order to show this report.

12 One thing you'll notice right off the bat in the --
13 in the numbers is that some of them, like the area test and
14 the perimeter test on the left generate values; others, like
15 the Reock Test and the Area/Convex Hull Test generate
16 ratios, so numbers from 0 to 1. So different measures work
17 in different ways.

18 There are also varying opinions on whether the
19 average compactness is the key number to look at; the
20 median. In the cases of, like, area tests or perimeter
21 tests, does the total value matter the most; or, are we
22 really just using compactness to identify extreme cases?

23 There's no consensus on -- on what is the best
24 approach in these -- in these situations. And you'll --
25 you'll see as we go through this why there's debate about

1 the different ideas.

2 As I note here, used properly, the measures are
3 helpful, but always keep in mind these measures are all
4 imperfect.

5 And you'll hear a lot about Polsby-Popper and the
6 Perimeter Test, they're a probably the most often quoted
7 measure, that has evolved primarily because they're the
8 fastest to calculate and relatively easy to understand; just
9 because they're mentioned the most, does not mean they're
10 better than the other measures.

11 There are other measures that take half an hour to
12 run, so those are used much more rarely than these
13 Polsby-Popper and Perimeter, which only take a couple of
14 seconds to get a full report on a map.

15 So keep that in mind, the measures that are most
16 often quoted are -- are usually the fastest to run, they're
17 not necessarily the best.

18 So looking at definitions.

19 First of all, the -- the polygon area test. You
20 can ignore the "polygon" part of that title. It's just
21 telling you the total area in square miles of each district.

22 So on the theory that a smaller district is more
23 compact.

24 Now, of course, in places like Arizona where you
25 have mixes of rural and urban areas, that rural/urban mix

1 may drive the result of that number more than whether the
2 districts are theoretically compact, whether they're
3 bypassing people to get to other people.

4 So the area test is a simple measure; it's really
5 easy to understand, it's simply: How big are the districts?
6 But, obviously, the sum is the going to be the sum of the
7 state every time.

8 The Perimeter Test, the second one listed here,
9 similarly, really straightforward. Just: How long is the
10 outer boundary?

11 If you're dealing in an urban area, that tends to
12 indicate, you know, are you stretching districts out and
13 making them longer and having longer borders in order to
14 bypass one group of people to get to another? So it's
15 useful in that context.

16 The challenge, again, is when you have a mix of
17 rural and urban districts. The Perimeter Test will actually
18 come out better if you group all the rural areas into one
19 district than if you have two districts covering the rural
20 area, because those two districts will have really long
21 boundaries since they're both rural.

22 So it's useful, especially if you're looking at an
23 urban area to compare two maps, the urban part of the two
24 maps; but it can be skewed by if one person takes a
25 different approach to the rural area than another, you get

1 two very different results even though the districts may in
2 reality just be similar in compactness, just one person has
3 two seats in rural area, the other only has one.

4 So those simple measures are really easy to
5 understand and simple to calculate, but they do have
6 drawbacks.

7 The Grofman Test is the -- is the first of the
8 ratios; it measures the perimeter and then compares that to
9 the square root of the area. Each of these formulas you'll
10 see get into kind of more and more obscure mathematical
11 calculations to try to come up with the best measure of
12 compactness.

13 So that is simply comparing the perimeter to the
14 area trying to get it kind of how close to a circle argument
15 in general is the idea there.

16 The horribly named Area/Convex Hull Test. This one
17 I actually went online and found a -- a illustration.

18 As you can see the picture below -- and I did not
19 ask them for permission, but I do cite with a link there, so
20 I appreciate them, it's kind of a Wickipedia for map and
21 science type of page that had this illustration.

22 So if the gray area is a district, the gray shaded
23 area in this image, and each of these kind of nails from
24 their illustration is a corner or a point where the boundary
25 of the district turns, the area of the district is the area

1 shaded in gray.

2 The convex hull is if you take all -- essentially
3 the best description is take a rubber band and snap it
4 around the district. The rubber band is going to catch on
5 the points highlighted by the green nails. And so the
6 convex hull is that outer edge.

7 And so this gets you a ratio of how close to
8 perfect efficiency in being perfect, in matching up are
9 those two lines; and how many weird jigs and jags are there
10 in the border of the districts?

11 And so that ratio, you know, is going to be a
12 measure of compactness.

13 So another couple of ratios, the Reock Test
14 calculates the ratio of that area. So instead of a rubber
15 band snapped around it, it actually draw a circle. A full
16 perfect, perfectly round circle around it.

17 Same idea of the ratio of the area to the
18 surrounding circle but, obviously, you get a bigger area not
19 in the district if you're using a circle than if you're
20 using the Convex Hull Test.

21 The Schwartzberg Test is another circle-to-district
22 ratio. It's how long is the perimeter compared to a circle
23 that has an equal area.

24 So if your district is a perfect circle, it's 1 to
25 1; but each point that your district moves away from being a

1 circle, you're going to get a lower ratio.

2 And then Polsby Popper is similar to Schwartzberg,
3 but with a slight difference. Again, it's the ratio of the
4 area of the district to the area of a circle; but instead of
5 the circle having the same area, this circle has the same
6 perimeter. So the same idea how -- if your district was a
7 perfect circle, you get a perfect 1 to 1 ratio for both
8 Schwartzberg and Polsby Popper, but as you move away from
9 being a circle in your district, you'll get slightly
10 different scores even though you're getting the same idea.

11 I did want to note, those of you with sharp eyes,
12 may have noticed that there's a Holes Report listed in the
13 Esri compactness report. That actually isn't a compactness
14 measure on its own, what it's doing is flagging for you that
15 there is a hole, either an unassigned area or a district
16 completely contained within the district you're looking at.

17 So the reason they flag that is that if --
18 especially for the Perimeter and some of these other tests,
19 if there's an unassigned area or completely enclosed
20 district within your district, it's going to skew your
21 measures way off because that internal boundary of the
22 district is also going to get added in.

23 So the holes -- just so folks are aware, the Holes
24 Report is simply a "Hey, you might want to fix the hole
25 before you run this report and actually evaluate the plan

1 based on those numbers."

2 But back to the compactness measures again. Here's
3 a summary table, 'cause I'm not expecting people to -- to
4 memorize all this information, obviously. We'll be coming
5 back to this information again and again, and this
6 information is all online in the Esri help system as well.

7 But you do have kind of ratios; you have measures,
8 and -- and things like that.

9 And then over on the right, this is an important
10 reference that you'll want to pull up again and again.
11 Which is, okay, if we have these ratios, is 0 good or is 1
12 good, or in the case of Schwartzberg you get higher ratios.
13 So this is a -- you always have to come back and
14 double-check: Oh, that's right; 1 is generally the best
15 score, and as you get closer to 0, it's a worse score.

16 So this is a key point. I borrowed this table
17 from -- from Gary King, a Harvard professor who I talked
18 about previously on the competitiveness issue.

19 He came up with his own paper on a much more
20 complicated approach to compactness, but in -- at the end of
21 it he had this handy table, where over on the right-hand
22 side you can see this whole bunch of examples of districts.

23 And, mainly, if you look at the third and fourth
24 columns here, depending on the measure, which of these two
25 districts in the third and fourth columns is more compact

1 will differ. So the Reock Test, that third district, kind
2 of the left-facing dragon district, will be more compact
3 because it's circul- -- it's closer to a circle than the
4 district to the right which clearly looks more compact.

5 So depending on which measure you use, in certain
6 circumstances you can get different measures. And this is
7 true of all the measures, not just the ones he's listed
8 here.

9 Polsby Popper and Convex Hull, again, the third and
10 the fourth ones differ between whether Convex Hull thinks
11 it's more compact -- the one on the left of the third and
12 fourth column -- or whether the -- the King proposed measure
13 thinks it's more compact.

14 So keep in mind that this is why adopting just one
15 measure can lead to -- to issues down the road, is that the
16 measures can differ on which districts are more compact.

17 And a key point when you're looking at this --
18 these different maps is to remember to compare maps in the
19 same area. If you're looking at a district, you know, in an
20 area where there's a coast or -- or weird city borders and
21 you're following city borders, you might get -- that
22 district might look very noncompact than a, frankly,
23 gerrymandered district somewhere else that's just drawn
24 funny for -- for alternative reasons.

25 So it's always important to compare just districts

1 that are in the same area or statewide map than to look at a
2 district, say, in North Arizona and compare its compactness
3 score in to a district in Tucson, that's not a fair
4 comparison because all the other factors in geography can
5 distort the compactness scores.

6 And keep in mind not all shapes are bad. So,
7 again, coming back to the Arizona map back from 2001 to
8 2010, you know, there had been a long debate about the
9 Hopi Nation and should it be in the same congressional
10 district as the Navajo Nation. The decision -- I'm not
11 praising it or -- or criticizing it, simply saying that the
12 decision was made that, in the congressional map, it should
13 be separate. And so for a very clear community of interest
14 policy decision, the result was a very noncompact district
15 to -- to reach that goal.

16 As I mentioned, the reason it's so noncompact is
17 that any other approach would have picked up Navajo Nation
18 residents and put them into that district, and the whole
19 goal was to give separate representation for the Hopi versus
20 the Navajo.

21 It's a great illustration of not all shapes are
22 bad. I don't mean to bring that issue back up because that
23 issue was largely resolved in 2011, and I don't think -- at
24 least so far we haven't heard much of it this year, but it
25 is a good illustration of a policy-driven reason for

1 noncompact district.

2 Similarly, here is an example I use a lot. The
3 District 3 in the middle, the boundaries look really
4 strange. Why are all of these jigs and jags and hooks? Why
5 not going with following major roads?

6 Well, in the case of this district, this district
7 was actually in the San Francisco Bay area, those jigs and
8 jags are following the city borders. So the green is the
9 city, as are each of the colors is either a city or a census
10 designated place. And so the lines are very carefully
11 following those official community boundaries. So they look
12 funny, they look like noncompact zigs and zags, but there's
13 a clear policy reason driven by the underlying community for
14 those reasons.

15 The last one. Phoenix, many of you may be aware of
16 the Phoenix City Council districts. District 6, you know,
17 from the day that Phoenix went to district elections,
18 through multiple redistricting sessions, District 6 has kept
19 this unusual mix where Arcadia in the north part of the
20 district and Ahwatukee in the south part of the district are
21 connected by a very narrow, essentially a street connector,
22 like the one I was showing in my sample maps early on.

23 Is it compact? No, definitely not. Is it
24 contiguous? Yes. You can actually travel, I believe that
25 is a street, so I believe now you can travel. When it was

1 first drawn in the first map, it was actually an easement
2 for a gas pipe. So it was not something that you could
3 travel, except very awkwardly.

4 But what it's doing is -- is putting together two
5 areas that were considered to be similar communities of
6 interest and avoiding putting those with a very different
7 population of communities in District 8. So, again, not all
8 shapes are bad.

9 Famously, the line is that the shape or a
10 funny-looking district is a flag, that should trigger people
11 looking at it why does this look so weird, it's not
12 necessarily condemnation just because it looks funny.

13 And, again, coming back to the standard idea of
14 compactness is: Where possible, within all your own
15 considerations that you have to take into account, try not
16 to bypass nearby areas of population to take in more distant
17 populations.

18 The mathematical formulas are handy and helpful,
19 especially they tend to get cited when you get what is the
20 significant detriment to compactness when look into
21 competitive districts, then you might want to use some of
22 those numbers to determine whether or not you think it's
23 really significant; but, ultimately, the idea is to keep
24 people together and not bypassing folks.

25 So that's a lot on compactness.

1 I did want to cover briefly the other factor, but
2 let me pause here and see if there are questions before I go
3 on.

4 So --

5 CHAIRPERSON NEUBERG: I -- I have a fundamental
6 question. Are we -- do we need to decide upfront which
7 specific measures we're going to adopt? Or, are these
8 merely tools that while we're mapping we rely on these
9 mathematical formulas?

10 MR. D. JOHNSON: You -- you don't have to, there's
11 no requirement that you adopt them as your upfront,
12 certainly. As you, you know, begin this process, you can
13 adopt -- the different Commissions and even the 2001
14 Commission took a different approach at different points in
15 the process.

16 Can talk about do you want to say significant
17 detriment to compactness would be below this measure on this
18 score, or you can simply exercise your judgment as you go
19 through.

20 So I think that -- from a practical side, that's
21 what I'll say but probably this is also a legal question as
22 well, so I'll leave some of that for them.

23 CHAIRPERSON NEUBERG: Thank you.

24 COMMISSIONER LERNER: That was -- that was my
25 question as well was how we actually move forward with this

1 to be sure we're all sort of looking at things in the same
2 general way.

3 But if part of it might be that we revisit this in
4 a few weeks once we start looking at maps and then have a
5 discussion about -- about some of that. I know when we did
6 our training, I was looking at those numbers trying to
7 understand them, so this is very helpful.

8 MR. D. JOHNSON: Right.

9 COMMISSIONER LERNER: Gave me some knowledge now
10 that I didn't have.

11 But I guess that can be part of our discussion as
12 we get more comfortable in evaluating maps, and then perhaps
13 you give us some idea on which maybe two or three measures
14 we might want to focus on versus eight or nine. If
15 that's -- if that's where we want to go.

16 MR. D. JOHNSON: Sure. Happy to.

17 And, again, there's one fun paper that gets quoted
18 a lot where one gentleman who actually wrote a paper with
19 his own measure being proposed. His conclusion was:
20 Despite all these mathematical measures, the best measure is
21 still what you call "the Interocular Test," which is big
22 complicated academic joke of saying "How does it look?"

23 And, you know, you can kind of see: Does this map
24 look compact or not? And, if not, then you can get into the
25 underlying features of why does it not look compact and is

1 it justified or not justified based on that.

2 So, yes, you can certainly hold off and maybe the
3 Commission can find it's having fairly solid consensus and
4 it doesn't need to get into the specifics of the measures.
5 A .2 versus a .4; or, if you do kind of get hung up and
6 there's debate, well, then, one way of resolving a dispute
7 might be to look at sort of more seriously considering a
8 formal look at a specific dividing line.

9 COMMISSIONER MEHL: This is a Commissioner Mehl.

10 I think we're obviously going to get all of these
11 measures automatically out of the mapping system that we're
12 using; and I suspect on most districts, we're not going to
13 care about these, and then there's a few districts where we
14 may care about these a lot. So I'm very comfortable holding
15 off and then at the time it really comes into play, we can
16 all make whatever arguments or observations we're seeing in
17 regard to the use of the measures. I think that would be a
18 good way to go.

19 MR. D. JOHNSON: Sure. And one --

20 CHAIRPERSON NEUBERG: I think -- I think that's
21 important to clarify, though, because when we're not
22 deciding upfront what explicit measure we're using, that
23 leaves open the room for us using it as an ark. Meaning,
24 you know, a little bit more broadly.

25 And I'm comfortable with that. I mean, as you say,

1 Commissioner Mehl, you know, maybe at the end of the day
2 this specific measure is not going to be the huge deterrent
3 of the lines, so.

4 But I just wanted to understand what was, you know,
5 necessary of us in terms of making decisions right now.

6 MR. D. JOHNSON: Yeah, and it's worth noting that
7 there -- obviously Arizona, you know, had the first state --
8 truly independent statewide redistricting commission, and
9 all it said is this rule that you have on compact, there was
10 a great deal of debate on that.

11 When California could have followed in Arizona's
12 footsteps in 2010 and wrestled with, should we be more? You
13 know, should we learn from their -- the first experience
14 that we should define it, they did decide to define
15 compactness, but they did also bypass all the mathematical
16 measures, and simply said the map should be compact and
17 compactness means not bypassing one group of people to get
18 to another group of people.

19 So that -- that has become a fairly commonly used
20 phrase and when there are statutes enacted regarding
21 compactness, it's almost always that approach, not a
22 mathematical drawing drawn in the sand.

23 Okay. So that was the big, complicated part of
24 this presentation.

25 Any other questions before I move on to wrap up

1 with this last simpler part?

2 If not, I'll go ahead.

3 And then the last criteria we haven't talked about
4 in depth, is this kind of a catchall section about: To the
5 extent practicable district lines shall use visible
6 geographic features, cities, towns and county boundaries,
7 and undivided census tracts.

8 As with all these criteria, they do -- it does
9 raise a couple of questions, but it's relatively
10 straightforward.

11 First of all, district lines shall use visible
12 geographic features. This comes up all the time; it's a
13 traditional redistricting principle, things like that. The
14 visible features can be rivers, canals, hills, mountains,
15 roads, railroads. Anything that really makes it easy for
16 the voters to understand where -- which district they're in.

17 The idea is if a voter wants to go knock on doors
18 for a candidate, let's make it easy for the voters to know
19 which doors to knock on, and that's a lot easier to know if
20 it's freeway and the river, than if it's: Let me go up this
21 street, jog over that street, go up this street; or -- or,
22 even worse, follow invisible census block borders.

23 It also makes it much easier for residents to ask
24 their neighbors: "Hey, I'm having this problem, you know, I
25 need to call my legislator; I need to call my congressman.

1 Do you know who it is?"

2 Well, it's really -- it's much easier if everyone
3 in the area knows the freeway and the river are the
4 borders -- you don't have to figure out, Oh are you the
5 fifth house on the block or the seventh house on the block
6 kind of thing. Just straightforward just using visible
7 features for people to look around and say which district am
8 I.

9 There's also a line in there saying district lines
10 should use undivided census tracts. I don't know the
11 history of including this and why it was in there, but it is
12 worth noting that this is the definition from the Census
13 Bureau of what a tract is; and it's aimed to be a stable and
14 geographic unit over time so that it makes it easier for
15 people to look at, say, 2020 census data and compare it to
16 1990 or 2000 or 2010 data.

17 They generally have a population size between 1,200
18 and 8,000, with a goal of having about 4,000 people in each
19 one.

20 So very roughly speaking, tracts can be considered
21 roughly large neighborhoods; but that is very roughly
22 speaking, not a hard and fast rule, and tracts don't stop at
23 city borders and those kinds of things.

24 So it is in, I don't know the whole history of why
25 it's in the Prop 106, but thankfully tracts are a really

1 easy feature to see in the mapping system and to understand
2 to a degree that a decision to draw a line comes down to
3 that point.

4 The one that raises a little bit of question is the
5 part of this criteria that is district lines shall use city,
6 town, and county boundaries. So the question that this
7 doesn't answer is: Does this mean city, town, and counties
8 should be kept undivided? So we should be trying to keep a
9 whole city in the district or trying to keep a whole county
10 in the district? Does this criterion meet that or does it
11 mean more than just if a district line is ending up close to
12 a city, town, or county boundary then a district line should
13 follow that city, town, or county boundary rather than be
14 one street over -- one block off of it.

15 To be honest, it's not clear which way that goes.
16 This has not been hotly debated, as far as I know. In part,
17 because even if this criteria -- criterion doesn't encourage
18 keeping city, towns, and counties together; well, then, a
19 city, town, or county could certainly be considered a
20 community of interest. These are all reasonable definitions
21 of community of interest if they -- if a resident is
22 proposing a map and ultimately the Commission wished to make
23 a decision that led to keeping that together.

24 But this is something that has come up kind of
25 when -- when -- more when people are studying the Arizona

1 criteria and trying to decide whether or not to use them in
2 their own redistricting proposal in other states, much more
3 than it has come up in the Arizona redistricting process.
4 But it is in there and there is clearly a recognition of
5 city, town, and county boundaries in the criteria through
6 this phrase, but it's unclear whether they should be used
7 as, like, streets and railroads as they follow the lines
8 where they can, or more like tracts, geographic units, and
9 communities of interest geographic units that should be kept
10 undivided. It's just an open question to your judgment on
11 that.

12 But, again, it's not a -- it hasn't been hotly
13 debated because even if it is determined this language
14 doesn't -- doesn't say "keep them undivided," well, then
15 they can certainly be considered, and you can try to keep
16 them undivided under the community of interest goal.

17 So, again, here's the criteria that we will be
18 seeing again and again and talking about again and again
19 throughout this process, but that wraps up my presentation.

20 So any questions about that last piece?

21 Or about any of it.

22 COMMISSIONER LERNER: I just want to say thank you,
23 because this helps us get now the full picture of the
24 different criteria and the things we need to look at and the
25 things we need to consider, so I appreciate the

1 clarification on some of these.

2 MR. D. JOHNSON: Great.

3 COMMISSIONER MEHL: Commissioner Mehl, a question.

4 Is it even possible for us to divide up the census
5 tract, isn't that the smallest thing we have to work with,
6 and we can't divide them up?

7 MR. D. JOHNSON: Actually, the terminology
8 definitely gets mixed up a lot. So there are actually
9 census bloc groups and blocs within tracts.

10 COMMISSIONER MEHL: Oh, okay.

11 MR. D. JOHNSON: So, it -- you're right, the census
12 bloc is the smallest unit of geography we can't really
13 divide up, but the tracts we can.

14 COMMISSIONER MEHL: Thank you.

15 MR. D. JOHNSON: Mm-hm.

16 We'll be sure to put the various discussions of the
17 various criteria somewhere easily available, 'cause these
18 are intended to be referred to again and again. So it's not
19 something -- especially the compactness measures test of
20 what's good and bad by each score, that's something you
21 almost have to look up every time you run it.

22 CHAIRPERSON NEUBERG: Thank you. That gives us,
23 you know, just a very important context to be thinking
24 about, you know, all of just the decisions we're making.

25 Very helpful.

1 MR. D. JOHNSON: Mm-hm.

2 MR. FLAHAN: Doug, were you going to talk about the
3 competitiveness?

4 MR. D. JOHNSON: Just it was passed along that
5 there was a request to have a clear summary of the
6 Commission's decision on that, and so we put together a
7 slide -- appreciation to Legal catching a typo on the slide
8 before it went live, so we'll pull that on the website so
9 that folks can -- it's just a single slide summarizing the
10 Commission's decision on that front.

11 CHAIRPERSON NEUBERG: And an important note for the
12 public when we're viewing that competitiveness measure, it
13 is an initial competitiveness measure that the Commission
14 has adopted; we have not ruled out the possibility of
15 further adapting that over time if there is sufficient
16 reason to do so.

17 MR. D. JOHNSON: Yes, thank you, Chair. That's
18 exactly right, that was the Commission's direction.

19 I would add too this Commission is in a new era.
20 As we talked about with the competitiveness, people can --
21 one of the beauties of the system is it is really easy to
22 export the file, send it off to another site, and people can
23 run their own competitiveness test if they think they want
24 to show you a better measure.

25 Similarly, with today's presentation of

1 compactness, if people like other measures of compactness,
2 they can easily export the file and run their own
3 measurements on this files. So you are unlike previous
4 Commissions where there wasn't -- weren't these resources
5 online, you are a likely to get lots of input using measures
6 just beyond the ones that you formally adopt.

7 CHAIRPERSON NEUBERG: And in the areas where it is
8 appropriate, we have the flexibility to make, you know,
9 decisions down the road, and so that's helpful for us to
10 know what's locked in and what is open to renegotiation, you
11 know, and reconsideration. So, very helpful.

12 If there's no further conversations on that issue,
13 I believe that we're moving into polarization data.

14 MR. FLAHAN: Doug, do you know if Lisa is online?

15 MR. D. JOHNSON: She just texted me to say she
16 doesn't have the link.

17 So let me see how I -- here we go.

18 We've been juggling schedules today to try to -- to
19 try to make this work out because she actually had a
20 9:00 a.m. committee that she was already committed to, so we
21 weren't sure if we could squeeze her in before this or -- or
22 after -- after that meeting, but she is available.

23 Let me -- we'll get her online here.

24 CHAIRPERSON NEUBERG: And, you know, if for your,
25 you know, expediency or whatever, if you want to move to (E)

1 or (F) and come back, you know, please, you know, manage the
2 time per, you know, your convenience.

3 MR. FLAHAN: You want me to jump to (F), Doug?

4 MR. D. JOHNSON: Sure, yeah.

5 MR. FLAHAN: Okay. We can jump to (F), and (F) is
6 the topic about discussion regarding ethnicity demographics
7 and concentration of communities.

8 And I will point out that, you know, in the
9 socioeconomic web app or the StoryMap, because we provided
10 two different population, it allows -- or, sorry, product,
11 not population, it allows the public or anybody for that
12 matter to start to look at demographics for a bunch of
13 different ethnicity points and other data points for the
14 entire state of Arizona so they can start to draw
15 similarities out of the data there, and it's a big
16 choropleth map in easy-to-read and colorized.

17 And you got-- everybody can get there in case no
18 one has seen it on -- I will share my screen again with you,
19 if you don't mind.

20 If you go to IRC's website, click on the "maps"
21 button, it takes you to this. Click on socioeconomic web
22 report and now we have two of them.

23 The first was the web app that we came up with; the
24 second one was the StoryMap.

25 And I know we've shown this before, so I'll be

1 brief. But since the topic has come up, you can come over
2 here and start to look at voting age population variable for
3 the entire state, the first one is Latino; and we can start
4 to look at areas that have some red in it and zoom in on the
5 map --

6 COMMISSIONER LERNER: Mark, it's not showing up.
7 It might be another tab.

8 MR. FLAHAN: Huh. Yes, hold on. Let's see.

9 There we go.

10 Same product we've shown before so, I won't touch
11 on it too much. But how you can use it to get the
12 demographic points is over here "voting age population
13 variables."

14 We have different ethnicity demographics broken
15 out. You can easily click on one, we'll start with Latino
16 because it's listed there first, and we can start to look at
17 those different areas of concentration of Latin voting age
18 population.

19 So you can either use the zoom-in buttons or you
20 can draw a box in an area that we'd like to see and we can
21 click on the data.

22 Maybe not. Hold on.

23 There we go. It was just slow.

24 So you can start to see all the census bloc, the
25 demographic variables, and you can start to see the

1 percentages here. So here it has the Latino citizen voting
2 age variable of 45.47 percent.

3 And even though we didn't turn on the other layers,
4 you can see actually see in the popup of what that looks
5 like and all the other different demographic variables.

6 So this is a way, you know, easily to be able to
7 see different concentrations or different patterns around
8 the state.

9 And same with African Americans; we can zoom in and
10 start to see different colors. And, again, you can click on
11 the variable and get all the numbers that -- that you would
12 want.

13 You can see here the African American citizen
14 voting age population is 92.82 percent for that census bloc,
15 along with the other demographics.

16 So we've definitely provided that to you guys in a
17 publicly available setting, so anybody can go in there and
18 see that.

19 All the buttons are -- are there. You can even
20 jump down to language at home.

21 So I -- I think for more information, if you're
22 looking for, you know, why demographics are this way in
23 Arizona, we would like to refer you to using the state
24 demographer on that; and we think they could be able to
25 easily provide you guys a history of demographics for the

1 state of Arizona, why they've changed; why they are today
2 moving forward.

3 COMMISSIONER LERNER: Thank you, Mark. This is
4 Commissioner Lerner.

5 I was particularly interested in that historical
6 perspective because I think there are patterns that have
7 occurred that people are unaware of why populations are
8 located in certain areas. Just as we're learning about the
9 five Cs on how things have evolved, which has been very
10 interesting, it might help to have some context over why our
11 populations in particular areas around the state as we're --
12 as they are communities of interest and as we are moving
13 forward.

14 I'm fine if you -- if you think the state
15 demographer can provide that information. I also know of --
16 but we might be able to get some of it from some ASU
17 researchers as well. I was at a conference in the spring
18 where we were actually hearing some of that same information
19 from some researchers about where people are located, and
20 the history of why they located in those areas.

21 But just to me, it just puts a little bit of
22 context in. But we don't need to belabor it but I think
23 it's helpful for us to understand it.

24 MR. FLAHAN: And Ivy on our team reached out to
25 some geographic professors at ASU and U of A asking if they

1 would like to, you know, come present that type of
2 information data to the Commission here, but we did not get
3 any takers on that.

4 COMMISSIONER LERNER: And that's fine. If the
5 state demographer can do it, that's fine with me. I have
6 some other contacts I could always assist with if that
7 doesn't work out, of some people who were part of that
8 conference; basically that's what the conference was about
9 was understanding that context.

10 So I'm happy if we can -- we can start with the
11 state demographer. But, for me, just like we learned sort
12 of a little bit of context about the five Cs, that's all I'm
13 looking for is just a little bit about that.

14 MR. FLAHAN: Gotcha.

15 CHAIRPERSON NEUBERG: And it seems that we will
16 have a nice intersection of information, meaning the mapping
17 folks can provide the kind of visual objective information
18 about where the populations are and have been, and what I'm
19 hearing Commissioner Lerner is wanting is -- I say a
20 narrative, a verbal, you know, trace of data of how we've
21 gotten where we are.

22 And -- and that's absolutely doable and I know
23 staff is -- is on top of this to be, you know, thinking
24 through how we can best synthesize that information and --
25 and share it with -- with the Commission and the public.

1 But it's a partnership with our mapping folks, so
2 thank you for getting it started.

3 MR. FLAHAN: You're welcome.

4 And I believe the state demographer does track all
5 of this too, so they would be the ones that would have some
6 good knowledge there.

7 COMMISSIONER LERNER: And then I can -- I'll share
8 a couple of contacts as well that maybe might be helpful,
9 you know, in terms of context if -- of the state demographer
10 doesn't work out or doesn't have that context that I would
11 at least hope that we could gain.

12 CHAIRPERSON NEUBERG: Great.

13 MR. D. JOHNSON: So -- so Dr. Handley is here,
14 she's obviously appearing under her husband's name is
15 Richard Carver in the list of participants; but if the
16 Commission is ready, we can jump into her presentation.

17 Just very briefly, I've talked about her and her
18 background before, she's the head of consulting firm that
19 does polarized voting and election -- general election
20 consultings across the country and actually around the
21 world. She's an election observer and election system
22 consultant all over the world, and it's pretty amazing to
23 sit down and talk with her about her work.

24 Primarily, though, today she is, if not the
25 pre-eminent, she's certainly among the top pre-eminent

1 voting rights experts in the top tier in the country.

2 And she has worked with Arizona before. In 2001,
3 her reports were used as gospel by both the Commission and
4 by the plaintiffs' side, so it was noncontroversial. And
5 she's familiar with the complexities and challenges of
6 Arizona and its geography and demographics.

7 And, as you have requested, she's here to talk a
8 little bit more about what a voting rights report is, how
9 it's put together, and what kind of information you'll get
10 when -- when it's complete.

11 So, with that, I'll hand off to Lisa.

12 DR. HANDLEY: Thank you, Doug.

13 I would like to share my screen; I have a
14 PowerPoint. I want to show you a bunch of data plans.
15 Hopefully you're not too tired after this.

16 I'm going to make this brief, I've got about a --
17 oh, I hope it's not more than a 20-minute introduction to
18 how I'll be doing my analysis on voting patterns.

19 So how do I do this?

20 I'm so used to Zoom and this is -- so I don't know
21 why I can't do this.

22 MR. D. JOHNSON: Your -- where your mute and camera
23 buttons are, there should be a little square with up arrow
24 that says "present now." That's your share screen button.

25 MR. FLAHAN: So once you click the square with the

1 "up" button, you get three different options, either present
2 your entire screen, a window if you just wanted to present a
3 PowerPoint, or tab if you're doing this in the browser.

4 Once you select one of them, if you select to share
5 your entire screen, a popup box that's going to come up that
6 says you're going to share your screen, and I believe you
7 have to hit "accept" or "okay."

8 DR. HANDLEY: It is not allowing me to accept.
9 "Window or screen, select window or screen," and it doesn't
10 allow it.

11 I'm going to hit -- it's only letting me hit
12 "block."

13 MR. D. JOHNSON: Let me see. I think...

14 DR. HANDLEY: Do I have to be a cohost or something
15 like that?

16 MR. D. JOHNSON: I think I have your slides.

17 I do. Do you want me just to share them?

18 DR. HANDLEY: So I changed them a little bit, Doug.

19 MR. D. JOHNSON: Okay. Okay.

20 DR. HANDLEY: So I -- it doesn't match so much,
21 but...

22 MR. FLAHAN: So if you go present and you see a
23 window that's selectable.

24 DR. HANDLEY: All right. So where -- I'm stuck now
25 where I am. Let me see if I can go back. It just says

1 "always block."

2 What is it doing?

3 All right. Doug, let's go with you sharing the
4 screen, if that's all right.

5 MR. D. JOHNSON: Sure. Sure.

6 DR. HANDLEY: But I'm going to put what I'm going
7 to be saying up here.

8 I don't have it on my screen.

9 MR. D. JOHNSON: There we go.

10 DR. HANDLEY: Okay. So what I want to talk about
11 is figuring out if your redistricting plans comply with
12 Section 2 of the Voting Rights Act.

13 I -- Arizona is one of the states covered by
14 Section 5; and as you know that has disappeared, but
15 Section 2 is still very much with us, and it applies to the
16 entire country, including Arizona. So you will still be
17 doing or having someone like me be doing a racial bloc
18 voting analysis. And the reason is this --

19 Doug, do you want to bring up the next?

20 A redistricting plan that violates the Voting
21 Rights Act cracks or packs a geographically concentrated
22 community across districts or within a district that dilutes
23 the minority -- that dilutes their voting strength.

24 So you need to -- but it only does so if voting is
25 polarized, if minorities are a cohesive group such that they

1 have candidates that they prefer as a group; and if whites
2 block up to usually defeat these candidates. If those two
3 conditions are present, then you do not crack or pack
4 minority votes.

5 The next slide.

6 The first case that considered the newly amended
7 Voting Rights Act, it was amended in 1982, to make it clear
8 that you don't have to prove discriminatory intent, you only
9 have to prove that the change has the effect of diluting
10 minority votes. So even if you draw a districting plan that
11 you didn't intend to discriminate against minority voters,
12 it could still be found to be diluted.

13 And there are three a conditions according to this
14 court case. Three preconditions: The minority group must
15 be sufficiently large and geographically compact to form a
16 majority in a single-member district; two, the minority
17 group must be politically cohesive; and, three, whites must
18 vote as a block to usually defeat the minority-preferred
19 candidate.

20 So how do we know if the minority is politically
21 cohesive? And how do we know if whites are block voting to
22 defeat the candidate?

23 First, the ballots in our country is secret, we
24 don't know who cast what ballot, so we need to do what's
25 called a "racial bloc voting analysis," that uses

1 aggregate-level data to make estimations about our voting.

2 In order to do this, we are going to need to put
3 together precinct election results. We need two pieces of
4 information: We need election results, this is where we're
5 going to get the voting behavior; and we need to know the
6 demographic composition of precincts, and we're going to see
7 if there is a pattern across precincts based on the
8 demographic composition and how the precincts are voting.

9 The most relevant contests for these purposes are
10 recent contests with the opposite issues, so we'll be
11 looking at state legislative and congressional elections;
12 we'll also be looking at statewide elections. And the
13 courts have found that the most probative elections are
14 those that include minority candidates, and looking over
15 recent elections in Arizona we have lots of contests,
16 especially at the state legislative level, primary and
17 generals, that include minority candidates.

18 In terms of the demographic composition of the
19 precinct, you have several choices: There are a number of
20 states where you have registration databases. These are
21 mostly I think in the South; Arizona is not one of them.
22 You have voting age population by race now that the PL data
23 has been released, but in -- in Arizona where you have a
24 large non-citizen voting age population, what we're actually
25 most interested in is the citizen voting age population; and

1 the reason is that you want to get as close as you can to
2 the electorate who is actually casting the vote; and if you
3 have a precinct with a lot of noncitizens you cannot, you
4 want to take that into account when you figure out the
5 possible demographic composition votes.

6 So here in Arizona we're going to be looking at
7 citizen voting age population by race. Now, citizenship
8 question was not included on the census form, but it is
9 included in another product that the Census releases, and
10 that's called the American Community Survey, and we'll use
11 the information from that set of data and apply it to the PL
12 data so we have an estimation of citizen voting age
13 population for each precinct when we do the census.

14 Okay. So that's the database that we're hoping to
15 use. And as I said, we're going to look -- we're going to
16 be looking for patterns across these precincts.

17 Now, if you had a precinct that was, say,
18 100 percent Hispanic or 100 percent white, a lot of the
19 precincts were hundred percent, we would know how election
20 votes, but we only have whites voting in those precincts;
21 the same if you had heavily Hispanic precincts, and we do
22 look at that information, that's called precinct analysis.
23 It looks at precincts that are overwhelming one race; it
24 looks and compares overwhelmingly white precincts, for
25 example, with overwhelmingly Hispanic or, say, Native

1 American precincts.

2 But that only takes into account precincts that are
3 not very integrated, and it's quite possible that voting is
4 different in precincts that are more integrated. It also is
5 only looking at a small number of precincts.

6 So these are the two standard techniques that have
7 been developed over time to consider all of the precincts in
8 and out.

9 The first is called ecological regression analysis.
10 That's been around since early 1980s, maybe even prior to
11 that. This is the technique that was used -- one of the
12 techniques used by the plaintiffs' expert in *Thornburg v.*
13 *Gingles*, the case I mentioned earlier. That and homogeneous
14 precinct analysis were the only two techniques that existed
15 then. So the Supreme Court has eventually approved those
16 two techniques.

17 I will be using homogeneous precinct; I will be
18 using ecological regression.

19 The other statistical technique is called
20 ecological inference, and this was developed Dr. King in the
21 1990s, and it was developed in part because ecological
22 regression has a -- has problem associated with it. The big
23 disadvantage is, especially voting is very (technical/audio
24 disruption). You can get estimates out of (technical/audio
25 disruption), something like 101 percent that can vote in

1 certain data points.

2 All right. I'm going to spend just a couple of
3 minutes talking about how you we're to proceed.

4 Next slide.

5 First, ecological regression. Every precinct in
6 the jurisdiction that we're interested in is represented on
7 this scatter blot by a point. So we know -- and this is a
8 real election that I analyzed. This is the U.S. State
9 Senate contest in the state of Georgia, the runoff in
10 January of 2021. This is a county, which I will -- which
11 will remain secret. But this is a county.

12 And each precinct in that county has been placed on
13 the scatter blot on the basis of two things: The percentage
14 of Black turnout -- and you'll recall that I said some
15 states actually have registration by race and we can use the
16 voter lists and actually find the percentage of Black
17 turnout or white turnout in any precinct, so very close to
18 the electorate; and the percentage of vote cast in that
19 precinct.

20 And you can see a very distinct pattern here. The
21 higher the Black turnout, the more vote for Warnock.

22 Ecological regression actually notes the linear
23 pattern, and it's -- the computer will fit for you a line
24 that best fits these points, and the point is -- the point
25 at which the line crosses the zero axis, where I'm talking

1 about on the horizontal axis, the point at zero is the point
2 that we use to be our estimate of the percentage of white
3 voting for Warnock; and the point in which the Black turnout
4 is a hundred percent or the proportion is 1 -- that is on
5 the right of the scatter plot -- that's our estimate of the
6 percentage of Blacks who voted for Warnock.

7 So this is one technique. As I mentioned, it
8 had -- it has a disadvantage, and that disadvantage is
9 apparent in this. If you draw out a line, you would see
10 that line probably hits the one portion a little bit above
11 the -- the 100 percent vote for Warnock.

12 Okay. So the other method that we have is called
13 ecological inference. And here, instead of every precinct
14 being represented by a point, in this technique, every
15 precinct is represented by a line, and a line represents
16 every conceivable combination of white and Black votes that
17 could have produced the election result that we see for that
18 precinct based on a percentage of votes for Warnock and the
19 demographic composition.

20 So, for example, if every Black voted for Warnock,
21 how many whites were left that could conceivably vote for
22 Warnock? If only half the Black voters voted for Warnock,
23 how many whites voted for him?

24 You get a probability line. So each precinct is a
25 line.

1 Then the computer calculates for you the point
2 of -- the point which the lines are densest, and that's
3 going to be our estimate of the percentage of Black voters.

4 So this gives you the best estimate for any given
5 precinct, the red dots, and then the computer will also
6 produce the best single estimate given these points.

7 Okay. So where [sic] does all of this mean? Let's
8 look at the next slide.

9 This gives you an idea of what a report would look
10 like. For every election that I analyze, you will see the
11 names of the candidates, their race, their party, the actual
12 percentage of votes they got, and then the estimates of
13 minority votes and white votes that went for the candidate.
14 You will actually have homogeneous precinct estimates; we'll
15 have ecological regression estimates, and we'll have two
16 types of ecological inference estimates. And the reason for
17 that is that we -- there is an even more newly developed
18 technique that takes into account differential turnout. So
19 we'll have EI 2-by-2, which means two-by-two table, two
20 candidates, two races; and an EIR times C, which expands the
21 numbers of voters to include those that did not vote so that
22 we can not look at differential turnout.

23 So in this example we see the estimate of the
24 percentage of Black voters who supported Warnock, was -- if
25 it's ER 94.1 percent and it's EI 94.1 percent; and the

1 percentage of white voters who supported Warnock is
2 23.5 percent if you're looking at ER and 25.5 -- 23.5 and
3 25.5.

4 Now, the estimates will very rarely be identical,
5 but if they're -- they are very likely to be close; and you
6 don't need to them to be identical. They were derived
7 through different methods, and the chances are they will
8 vary. But they won't vary by very much. And even let's say
9 your estimates were, say, 94.9 and 89.4 percent, we still
10 know the vast majority of Black voters supported Warnock,
11 and it doesn't really matter what the percentage -- the
12 actual percentage is.

13 So this contest was polarized and it's polarized
14 because the majority of whites supported Warnock's opponent,
15 the white Republican, and the vast majority of Black voters
16 supported Warnock. So Black voters in this example are
17 cohesive, white voters are bloc voting to defeat Loeffler;
18 and if this election had occurred among Black voters alone,
19 Warnock would have won, if white voters, in fact, Loeffner
20 would have won.

21 So that's an example of a single election. You're
22 going to look a whole host of elections because, of course,
23 what you are interested in is seeing if this is a pattern
24 that holds across many elections. If only one election's
25 polarized and the other nine elections are not, you don't

1 have the same kind of problem that you do if nine are
2 polarized and one is not.

3 If you have a consistent pattern of polarized
4 voting and a minority preferred candidate usually loses, you
5 have to draw minority districts. If minority districts
6 already exist and the only reason the minority-preferred
7 candidate is winning because they exist, then you have to
8 maintain those districts; and you have to maintain them so
9 that minority voters have an opportunity to elect their
10 candidates of choice.

11 I think this is the next slide. I think I just --
12 I wonder if we've lost...

13 Okay. Let's skip to that.

14 Okay. Good.

15 How do we know if we've drawn districts that will
16 comply with the Voting Rights Act?

17 The Court -- the Supreme Court told us very clearly
18 in a case decided just this last decade, that we do not just
19 choose an arbitrary target like 50 percent or 55 percent
20 minority and apply it to the entire state, we have to do
21 what's called a "district specific functional analysis." By
22 "district specific" we mean -- although we might look at
23 patterns across the state, when we go to draw districts in a
24 particular area, say, in a particular county, we need to
25 take into account the voting patterns in that county.

1 I can tell you from the work that I've done so far,
2 it makes a big difference where in the state you are. I
3 showed you an example of a rural county in Georgia for this
4 particular election. If you were in Fulton County, it would
5 look very different. And, in fact, in some state
6 legislative districts and congressional districts in Fulton
7 County voting, wasn't polarized at all in that particular
8 election. So it very much matters where you are.

9 So there are two approaches to this district
10 specific functional analysis. By "functional analysis," I
11 mean based on voting patterns. So you have to be area
12 specific, and you have to base your assessment on actual
13 voting patterns in that area.

14 Doug, if you could move to the next one.

15 This describes the two approaches. The first
16 approach is that you can take the estimates that you've
17 derived from your racial bloc voting analysis, and you can
18 use those estimates to produce what's called a "percent
19 minority voting age population" -- or probably in Arizona
20 possibly the citizen voting age population -- needed to
21 elect the minority-preferred candidate; and you do that by
22 looking at participation rates of minorities and whites, the
23 degree of minority crossover voting, and the degree of
24 minority cohesion. And that will allow you to ascertain
25 what percentage minority voting age population would be

1 needed.

2 This is an analysis you can do prior to drawing
3 your districts.

4 The second approach can only be drawn -- can only
5 be drawn upon if you actually produced some proposed
6 districts. This takes the result of the racial bloc voting
7 analysis and identifies specific bellwether elections. Now,
8 these bellwether elections will most likely have to be
9 statewide elections because your district configurations are
10 going to change.

11 And what you need to do is you take preselection
12 results, and you reconfigure them to look like the current,
13 the proposed districts, to see if your minority-preferred
14 candidate would actually carry these new district.

15 And the next slide gives you an example of the --
16 shoot. I think -- did you miss one, I hope.

17 MR. D. JOHNSON: Oh.

18 DR. HANDLEY: Or did I -- yes. This is -- this is
19 the one I want. Thank you.

20 This is the analysis that you can do prior to
21 drawing districts.

22 This is actually just the results of racial bloc
23 voting analysis, and in the first column we have -- this is
24 the percent minority in the district. We have the race of
25 the Black-preferred candidate, the vote for that candidate,

1 and then the next few columns are based on the racial bloc
2 voting analysis.

3 So we know what the participation rates are, the
4 first three columns look at -- looks at Black voters, the
5 participation rates, the percentage votes that the Black
6 voters cast for the Black-preferred candidate, and then the
7 percentage of voting by subtracting that from a hundred that
8 went to the other candidates.

9 The next three rows look at white voters. Again,
10 the estimate of turning out and voting for that particular
11 office, the percentage of votes that the white voters cast
12 for the Black-preferred candidate, and then the votes that
13 they cast for all other candidates.

14 You can see that the amount of crossover vote that
15 you're getting into these examples is between about 23 and
16 27 -- 28 percent.

17 This isn't a whole lot of crossover voting there.
18 But it's enough so that it turns out you don't need a
19 majority Black district in this particular area.

20 The 35 percent district would not produce winnings
21 for these candidates. I'm looking in the second-to-last
22 row. By the time I get to the 50 percent, the
23 minority-preferred candidate is getting over 50 percent of
24 the vote and winning solidly. And the actual percentage
25 based on these calculations is in the final column.

1 But what you're really interested in is looking at
2 a whole bunch of elections and looking at how the candidates
3 do if the district is 35, 40, 45, 50 percent by looking down
4 those rows and seeing how much elections -- or down those
5 columns, and seeing how many elections a minority-preferred
6 candidate would win on that concentration.

7 And then the next slide shows the second method.
8 After you've drawn districts, you can recompile the results.
9 And these are proposed districts, Districts 1 through 10,
10 and this tells you how those candidates would have performed
11 in those districts had those district lines been placed at
12 the time of the election.

13 And, in conclusion, what you need to take away from
14 this is that you need a racial bloc voting analysis to
15 determine if voting is polarized. There's also the first
16 prong of *Gingles*, you have to actually have a successful
17 Section 2 phase, you have to be able to draw a
18 majority-minority district. To keep an effective district,
19 however, you don't necessarily want to draw 50 percent,
20 especially if the numbers show you that, say, 48 percent
21 would be sufficient. While plaintiffs would have to show
22 you could have drawn 50, you need to show that what you've
23 drawn is an effective minority district, not one that just
24 meets some arbitrary target.

25 Okay. I am done with my presentation, and I would

1 be happy to answer any questions you might have.

2 Any questions at all?

3 COMMISSIONER LERNER: This is Commissioner Lerner.
4 I have a question. It's a lot of information to take in, I
5 will say that, but very interesting.

6 So how -- I guess I'm a little confused still. You
7 said that there are two ways to do it, one after -- one
8 with data that was done before, and then with some looking
9 at it after you have some data.

10 As part of that just trying to look at -- well, I
11 guess, will those -- we saw that the numbers aren't vastly
12 different between the two measures. Right? So, I guess,
13 walk -- can you just walk me through a little bit about what
14 data will you be using for Arizona? What -- what would you
15 be looking at to try to help me understand how -- what
16 you'll be doing for us.

17 DR. HANDLEY: Okay. So we're going to construct a
18 database that will include a -- the demographic composition
19 of the precincts and the votes cast for each of the
20 candidates in a series of elections. We are focused on
21 those elections that include minority candidates because of
22 course made it clear those are the most probative. So I'll
23 be analyzing voting patterns based on those -- that election
24 precinct database.

25 And then I will tell you if voting is polarized in

1 particular areas or not; and then I will use those estimates
2 to produce that first -- use that first approach and tell
3 you what an effective minority district would look like in a
4 given area; and then as you're drawing districts, you will
5 have a database that -- that disaggregates the election
6 results down to the bloc level, so that as you're drawing
7 you can tell how well the minority-preferred candidate based
8 on the racial bloc voting analysis are doing in the draft
9 districts that you're drawing.

10 This will be incorporated in your software.
11 Voting bloc analysis will tell you what elections are the
12 most probative to look at when you're -- when you're
13 recompiling those results, but you'll have an idea as you're
14 drawing which election -- which recompiled election results
15 you want to focus on to determine if you're drawing an
16 effective minority district or not.

17 COMMISSIONER LERNER: So this will be statewide,
18 you'll be looking at all of the precincts. Right?

19 Because as you mentioned, you will have
20 differences -- depending on where you are based on southern
21 or northern or urban or rural.

22 DR. HANDLEY: So we'll have a statewide database;
23 I'll actually run the whole state once, and then we'll --
24 we'll segment it out into areas that we're interested.
25 Probably we're going to run data analysis by counties so you

1 get an idea of what's happening in each county, and we might
2 have to segment it even more depending on what you and the
3 lawyers think that we want to look at.

4 But, my first cut at this is always at the county
5 level because that's easy to derive from the election
6 precinct database, I will know the county, I can select out
7 those counties, and I can say: Statewide it looks like
8 this, but here in this county voting is less polarized while
9 here in this county it's more polarized.

10 COMMISSIONER LERNER: Thank you.

11 CHAIRPERSON NEUBERG: I appreciate you mentioning
12 just bringing in legal counsel. That -- that just to remind
13 us, that this is such an essential piece of data to be
14 interpreted through, you know, a legal lens, the
15 Commissioner's lens. So for us to understand how all of
16 these pieces of information fit together, so.

17 That was very helpful.

18 DR. HANDLEY: Thank you. I'm glad it was helpful.

19 And if you're all like me getting tired, but
20 probably not the best time to do a little statistics lesson,
21 but.

22 I'm available to answer any questions after you've
23 had some time to think about it as well.

24 CHAIRPERSON NEUBERG: Well, and I imagine as the
25 weeks move forward when the practical data is going to be

1 central to decision-making, I think we may well have more
2 specific questions and -- and things like that.

3 Any other questions?

4 COMMISSIONER LERNER: That was a good question;
5 just to follow-up. Where -- when do you think in the
6 process of this we start to get that kind of data as -- as
7 we're working on our development of maps?

8 DR. HANDLEY: So my preference would be, although
9 I'm doing it in segments, to wait until the entire analysis
10 is done that's statewide. And though it will turn out that
11 it will be some counties that will be difficult to do,
12 because you actually need enough minority voters to actually
13 produce estimates. But it -- certainly at least half of the
14 counties.

15 So we're going to wait until the analysis is
16 completed. And I'm not really sure about the time frame on
17 this. Once I get the database -- actually, this isn't even
18 true.

19 I'm directing the analysis, but it would certainly
20 take at least a couple of weeks to do once the database is
21 complete.

22 MR. D. JOHNSON: And just quick update. We're --
23 we're very close on the database. Once again, the Timmons
24 team has done a phenomenal job of building contest by
25 contest precinct databases and -- and tagging the voter bio

1 and getting all of that. We're now pairing with -- getting
2 ready to pair the American Community Survey data on the
3 citizen voting age population with that database. We're
4 very close to having the data ready to start the runs.

5 COMMISSIONER MEHL: So, Doug, once -- you know,
6 once we have the grid map done and we're getting all sorts
7 of other stuff and input in, is that when this analysis is
8 being done?

9 So that by the time we start with the first --
10 even -- even the very beginning phase of trying to draw our
11 first draft map, we would have all this data?

12 MR. D. JOHNSON: Probably have the grid before we
13 have this report done.

14 COMMISSIONER MEHL: But not with the grid, but by
15 the time we get to where we start the draft, working on a
16 draft map after the grid?

17 MR. D. JOHNSON: Oh, yeah. When you start making
18 your decisions about the draft map, yes, definitely. We're
19 obviously trying to get these numbers out ahead of time so
20 that the public as they're giving you input on changes to
21 the grid, that the public can have as quick as they can.

22 COMMISSIONER MEHL: And given that this is the
23 first criteria in the constitution, from a practical
24 standpoint, do we really concentrate on these minority areas
25 as a -- as a first step in the draft maps?

1 Or maybe that's too ambiguous of a question, but...

2 MR. D. JOHNSON: Well, I'll just briefly say the
3 criterion aren't prioritized. So they're not -- the list is
4 not a priority order, and beyond that I will defer to Legal
5 if they want to weigh in on that.

6 CHAIRPERSON NEUBERG: While we're waiting for Legal
7 if they'd like to chime in, Commissioner Mehl, I'd like to
8 just say, I'm sharing, I think, a little bit of where your
9 mind is going, which is I'm curious how this specific job
10 maps out. Like, how we literally do the job of mapping
11 and -- and considering the different criteria.

12 And -- and I'm foreshadowing, but for a future
13 agenda item, I'm going to suggest that. Because for a lot
14 of us Commissioners, I'd like to speak for myself, it feels
15 still a little abstract because we haven't done it, and so
16 we're trying to understand how specifically we lock into
17 these measurements and where it fits in to how we're making
18 decisions.

19 And I know it's such a practical, specific
20 question, but I -- I think the more we learn about how that
21 process is going to play out, I -- I think we'll understand
22 everything even a little more.

23 And I don't know if legal counsel is here to chime
24 in at all if they want to.

25 MR. HERRERA: Yes, Madam Chair. Sorry. Technical

1 issue.

2 So I would just follow up with what Doug said in
3 that there is no sort of set priority. I mean, the Arizona
4 Constitution says that adjustments should be made to the
5 grid map to accommodate the six goals. So, ultimately, you
6 know, there's a -- there's an amount of discretion there by
7 the Commission on, you know, for example, what factors to
8 consider first or second or third; but there is no sort of
9 set priority in the law.

10 CHAIRPERSON NEUBERG: Thank you.

11 MR. D. JOHNSON: Just -- just to acknowledge what I
12 think everyone on this call is aware of, is agreement with
13 Roy just said and what I said earlier, it's not one
14 through six prioritize, there is the language in the
15 competitive criteria saying they should be favored where the
16 drawing does no significant detriment. So just to
17 acknowledge that language in there without saying there's no
18 one, two, three, four, five, six.

19 COMMISSIONER MEHL: They may not be in order, but
20 if we don't satisfy the Voting Rights Act, we don't have a
21 map that's approved. So I put it as a pretty high priority.

22 MR. D. JOHNSON: Exactly.

23 MR. HERRERA: And this is Roy. I would agree with
24 that, Commissioner Mehl.

25 MR. D. JOHNSON: Any other questions for -- I keep

1 wanting to say Dr. Carver.

2 DR. HANDLEY: Definitely not that.

3 MR. D. JOHNSON: I do want to pass along thanks,
4 Dr. Handley, for joining us. She did kind of jump on
5 another meeting first and came back to another meeting and
6 came back to us, so we're glad all the timing all worked
7 out.

8 DR. HANDLEY: Thank you for listening to me, and
9 I'm sure we'll talk again. And I shall leave now and let
10 you move on to the next agenda item.

11 Good-bye.

12 CHAIRPERSON NEUBERG: Thank you.

13 Okay. Doug and Mark, I don't know if you have
14 additional items regarding scheduling, grid map, whatever.

15 MR. FLAHAN: For -- for the grid map we are -- we
16 are on schedule to complete that and present it to the
17 Commission on the 14th of September, which is actually the
18 next meeting. So, don't -- we don't see any issues there.

19 On meeting deadlines, I'm -- for the grid map
20 decision, you know, public hearings, the schedule that we
21 sent -- sent in is we're suggesting five grid map hearings,
22 public hearings. With that being said is that we're
23 thinking Tuesday the 21st of September; Thursday,
24 September 24th; Wednesday, September 29th -- let me
25 double-check that 24th date, that actually might be --

1 CHAIRPERSON NEUBERG: Yeah, the 24th is a Friday,
2 Mark.

3 MR. FLAHAN: Sorry. That's 23rd. So that is not
4 the 24th, that is the September 23rd. That is the Thursday.

5 So I'll start over again so that way no one -- no
6 one is confused.

7 So first one we're suggesting is Tuesday the 21st;
8 of September, the second one is Thursday, September 23rd;
9 the third one would be Wednesday, September 29th; the fourth
10 one would be on a Saturday on October 2nd; and the last one
11 which would be the fifth would be Thursday, October 7th.

12 The point here is that we're going to get a lot of
13 data from the public, and we're going to have to categorize
14 that and -- and take in all that data for you guys. So we
15 cannot do meetings that are back to back for the listening
16 tour. There's going to be a lot more data that comes out
17 that we're going to have to present to you as the
18 Commission, so we definitely need some days in between.

19 We can probably add one more day in there if -- if
20 we need to, to make a total of six. But right now, that is
21 our suggestion for the grid map public hearings, with the
22 goal of the decision meetings after the grid map public
23 hearings to basically select your draft maps. The decision
24 meetings would be the week of October 18th through the 22nd,
25 and then that could bleed into the 25th, 26th, 27th

1 depending on how long deliberations are.

2 And those are our suggestions that, you know, you
3 as a Commission, you guys could have other needs.

4 And that's what I have for you for dates. And I
5 think we did previously talk about this, maybe not last
6 week, but the week before.

7 COMMISSIONER LERNER: So I will say that
8 October 2nd won't work for me. Every other date works fine.

9 MR. FLAHAN: Okay.

10 CHAIRPERSON NEUBERG: Just to give context to the
11 public and also connect it to the public comment response
12 that I gave earlier, these are going to be robust public
13 hearings once again with really no time constraints.
14 Meaning, we are going to make our teams available to the
15 public locations to be determined per our staff
16 recommendations, to be listening to the public feedback.

17 I mean, that is, in essence, what we're talking
18 about.

19 And so thank you to our mapping team for, you know,
20 making yourselves available for that amount of time; and we
21 look forward to -- to collecting the data.

22 MR. FLAHAN: And I will say with the schedule we
23 talked about going to 23-day period for -- for the grid,
24 which was approved. So that period, just so everybody is
25 aware of it, would start on the 15th after we deliver the

1 grid map, and it would officially end on October 8th.

2 So that way everybody has that context too.

3 COMMISSIONER LERNER: So, I guess, I'm just asking,
4 what do we do about the dates, do we need to do some
5 approval of those?

6 I had some different dates. I know that they
7 changed from when we talked about it previously, which is
8 fine.

9 But, Chair Neuberg, what do you -- what do you
10 suggest?

11 CHAIRPERSON NEUBERG: Well, I think there are five
12 dates, I certainly don't think all Commissioners need to be
13 available at each and every one. You know, I know that the
14 staff disseminated these proposed dates; there were two
15 options.

16 Rather than having a full conversation online about
17 what works for whom, what I might suggest is after the
18 meeting, us going back to the two options we received with
19 the dates, responding to staff about which meetings or
20 dates -- 'cause we didn't specify times yet. You know, we
21 want to make ourselves as available as possible, we're
22 thinking about maybe, you know, different times on different
23 days to, you know, appeal to all different types of -- of
24 demographics out there.

25 But the first step, let staff know if there are

1 general dates that you're not available for, and they can
2 follow up and -- and maybe lock in the time. Because
3 it's -- with these number of -- of lengthy public hearings,
4 I think it's going to be impossible for all five of us to be
5 at all of them.

6 It would be great for as many of us to be available
7 at, you know, at as many. All of them will be taped, we'll
8 be, you know, collecting the data, so even when somebody
9 doesn't physically participate, all of that information will
10 be available to the public and ourselves.

11 Does that sound reasonable to my colleagues and to
12 the mapping team?

13 MR. FLAHAN: It sounds reasonable.

14 Do you want me to talk about the other option that
15 Commissioner Lerner mentioned?

16 CHAIRPERSON NEUBERG: Sure.

17 MR. FLAHAN: The -- 'cause the first option that we
18 proposed during the public -- or, during the meeting that we
19 had previously, it is the exact same dates for the first
20 three: So Tuesday the 21st, Thursday the 24th, Wednesday
21 the -- sorry, Thursday the 23rd, I will get that fixed --
22 Wednesday the 29th.

23 The difference in the change there is the first set
24 of schedule we recommended Tuesday, October 5th, and in the
25 second schedule we replaced that Tuesday, October 5th

1 meeting, and putting it on a Saturday on the weekend, being
2 October the 2nd.

3 And then the last meeting is always the same for
4 both schedules: Thursday, October 7th. That way we have it
5 laid out for everybody.

6 So the real difference is that one meeting, whether
7 a Tuesday or a Saturday the 2nd or the --

8 COMMISSIONER MEHL: I would prefer the Tuesday to
9 the Saturday, but maybe -- maybe the public would be the
10 opposite.

11 CHAIRPERSON NEUBERG: Right.

12 I actually had a thought that having at least one
13 opportunity on a weekend for working folks; I know it's a
14 Saturday. In the past we've talked about different
15 religious observances, but -- but if it's going to be on a
16 Saturday, we could have it in an area that's not going to be
17 highly observant Jews, so I think we can feel good about
18 that.

19 But I think it's important to have a variety of
20 options; and that's our one weekend. So I vote for a
21 weekend day.

22 COMMISSIONER LERNER: I am not opposed to a
23 weekend, I'm just saying that particular weekend won't work.
24 I could make it the 25th instead, that's a different
25 Saturday.

1 And I would like to try to be there for all of the
2 meetings, if possible. I'm fine with a Saturday in general.
3 I agree that it's nice to have the flexibility for the
4 public as well.

5 So we can go back and do this on e-mail, I know,
6 but I guess that's the comment I will make.

7 CHAIRPERSON NEUBERG: Right. With -- the one
8 sensitivity I want to have is spacing the meetings such that
9 our mapping team has the time to code the data and absorb it
10 in the ways they need to.

11 So I think we need to go back to the drawing board
12 with the two options, maybe not think about it as two
13 options but maybe just come out with the best five dates
14 that collectively work for us. Understanding, again, that
15 as much as we all would like to come to all of them, you
16 know, with that number of meetings, it just may not be
17 possible.

18 And -- and I think accommodating the public needs
19 to be a top priority.

20 So -- so maybe we can reconvene through e-mail, the
21 staff will reach out.

22 As soon as we lock down these dates and times, you
23 know, we can get that information out to the public if it's
24 ready. I don't know how long it's going to take for us to
25 be solidifying the plans.

1 I don't know, Director Schmitt, if you have
2 anything you want to add for the conversation.

3 DIRECTOR SCHMITT: Once we have the dates nailed
4 down, we'll get the venues lined up and then hopefully we
5 can release that in the next week or so, so people have time
6 to plan and get there.

7 CHAIRPERSON NEUBERG: And so, in other words, if
8 there's specific information prior to when we reconvene in
9 two weeks, check our website, we'll post any definitive
10 meetings on the site.

11 COMMISSIONER LERNER: I know that it was probably
12 an error on my part, but I had noted that we might be
13 meeting on the 9th of September. Are we not doing that?

14 Just for clarification, because we are not meeting
15 on the 7th. And, again, might be my error.

16 CHAIRPERSON NEUBERG: Correct, we'll talk about
17 that at the end of the meeting. After today our next
18 meeting be in two weeks from today, we're taking next week
19 off for the Jewish holidays.

20 Okay. Anything else from our mapping team?

21 MR. FLAHAN: No. I think that -- that wraps up our
22 section there.

23 CHAIRPERSON NEUBERG: You've been very busy; we
24 appreciate your hard work, and I know things are only going
25 to get crazier for you as you're getting the data ready and

1 we'll look forward to those grid maps.

2 So thank you so much, Doug, Mark. We appreciate
3 you.

4 MR. FLAHAN: Welcome.

5 CHAIRPERSON NEUBERG: Okay. With that, we will
6 move to Agenda Item No. VII, Executive Director's report and
7 discussion thereof.

8 So Director Schmitt.

9 DIRECTOR SCHMITT: Thank you, Madam Chair.

10 First, I have an update on outreach. Our team has
11 been working hard getting out there trying to make as many
12 as contacts as possible with different groups and
13 organizations, cities, counties, towns over the last week.
14 They've made contact with about 75 in just this last week.

15 They've also attended different meetings with
16 community stakeholders to discuss how to disseminate --
17 disseminate information best to the community.

18 And then also we started a weekly newsletter. The
19 first one went out on Friday, and we will be continuing that
20 as we move forward.

21 We're also working on developing a social media
22 toolkit that we can get out to the public and different
23 groups that they will be able to use. So that is my update
24 on outreach.

25 If there are any questions, I'd be happy to answer

1 them or Marie or Alex.

2 All right. If there's nothing --

3 CHAIRPERSON NEUBERG: Thank you. And -- and I just
4 want to say how excited I am that our outreach team is up in
5 place so that when we do the next public hearings, you know,
6 we have all these tentacles into the community already; and,
7 you know, with all of the public comments, if anybody feels
8 that, you know, there are groups or anybody you want to
9 recommend to add to our distribution list, please send them
10 our way.

11 DIRECTOR SCHMITT: Absolutely. We'd love to have
12 them.

13 The other item on the agenda was a discussion about
14 scheduling. We just want to make sure if we didn't touch on
15 it in mapping, that we made sure to talk about the dates.

16 So we'll reach out to you all with dates, finalize
17 that and then get it on the website, send out an e-mail and
18 things like that.

19 So make sure to members of the public should be
20 checking the website to see those.

21 And that's all I have for you all today.

22 CHAIRPERSON NEUBERG: Great.

23 Any -- any questions of Director Schmitt?

24 Okay. With that, we'll move to Agenda Item
25 No. VIII, discussion of future agenda item requests.

1 I made one of our mapping team, and there's no rush
2 on this, I'm still really kind of grappling with what the
3 specific drafting of the maps is going to look like. And
4 why I'm asking that is, as I'm learning the Esri software
5 and I'm learning the vernacular and all of the data points
6 that we need to consider, having a schema through which I'm
7 going to apply that information helps my learning process.
8 And I've never watched a redistricting process before; I can
9 go back into the records, but I'm curious, you know, from
10 our mapping team who's -- who's done this. That would be
11 helpful to me.

12 MR. D. JOHNSON: Sure. We're definitely happy to
13 put something together. And the advantage to having the two
14 weeks before the next meeting is we will have time to put
15 something together in the next few days and run it past
16 Legal and Commission staff and make sure everyone is on the
17 same page as it. So, we'll get that for you for the next
18 meeting.

19 CHAIRPERSON NEUBERG: Thank you.

20 COMMISSIONER MEHL: To add to that, Doug, we know
21 legally that we can probably do this any way we want to do
22 it, so what we're really asking you, I think, is for your
23 experience, give us some guidelines on things you've seen
24 before. That doesn't mean we're obligated to do it that
25 way, but just learning from your experience of how others

1 have gone about it will be very helpful.

2 MR. D. JOHNSON: Makes sense. Definitely will do
3 that.

4 CHAIRPERSON NEUBERG: Best practices. What's
5 worked, what hasn't worked, what are pitfalls?

6 MR. D. JOHNSON: And we'll share some worst
7 practices with you too.

8 CHAIRPERSON NEUBERG: That will make us feel good.
9 Any other -- please.

10 COMMISSIONER LERNER: Oh. Oh. This is
11 Commissioner Lerner.

12 Just as a follow-up, hopefully we can have some
13 discussion on ethnicity demographics in a couple of weeks,
14 short overview, put that back. I'll work with staff too to
15 just give some ideas if the demographer doesn't work, some
16 other folks we'll know of from the conference.

17 And then we will be getting the community of
18 interest report, then, on -- at that meeting? Will that be
19 something we'll be seeing at some point in the next couple
20 weeks or will that be on the next agenda?

21 MR. FLAHAN: Yes, you can -- you can put on the
22 next agenda. It should be a hundred percent complete
23 tomorrow, and we can share it with you at the next meeting.
24 And once it's complete, we will share it with Brian and --
25 and staff.

1 VICE CHAIR WATCHMAN: Madam Chair, in terms of the
2 agenda for the next time, are we going to have an Arizona
3 Five C Presentation Round 2? What's the scoop? Because I
4 didn't hear anything about copper and mining, tourism, and I
5 specifically asked for gaming 'cause I think -- that's a new
6 and upcoming area, especially with sports betting. So I'm
7 curious, you know, what the -- how the professionals look at
8 that. So the Five Cs Plus, is that -- is that Round 2,
9 Director Schmitt?

10 DIRECTOR SCHMITT: Yes. We are still working on
11 scheduling all the different presentations.

12 VICE CHAIR WATCHMAN: Okay. Thank you.

13 CHAIRPERSON NEUBERG: Okay. Any other future
14 agenda items?

15 And just to remind my fellow Commissioners, if
16 something comes up, you know, reach out to staff, just
17 respecting the deadline with getting our agenda out to the
18 public with a minimum of 48 hours notice business-wise.

19 If there are no other suggestions, we'll move to
20 Agenda Item No. IX, announcements.

21 The only announcement I have is a reminder to the
22 public that we will not be meeting next Tuesday, which is
23 the September 7th, in observance of the Jewish holiday Rosh
24 Hashanah. It's also, you know, just I think a great pausing
25 point as, you know, we're moving into, you know, collecting

1 the data, our grid map, and things are going to heat up
2 very, very fast.

3 So I'm glad that we could take this moment. You
4 know, I hope the staff can get a brief, you know, downtime;
5 they've been working nonstop, tirelessly for months.

6 And I'd also like to personally say, you know, the
7 Jewish holiday is one of reflection, and I just want to take
8 this moment to really thank my colleagues, I want to thank
9 my fellow Commissioners, I want to thank the staff, I want
10 to thank the public who are tuning in each and every week.
11 Democracy, we're working for it, and this is an example of
12 what's beautiful and what's right about our country. I have
13 the deepest appreciation for your participation. You know,
14 thank you.

15 And I'm incredibly excited about the work that
16 we're going to do moving forward and -- and thank you for
17 your partnership.

18 So we will take a break next week, reconvene on the
19 14th. Check out our website, like we said, for specific
20 updates on potential public hearing dates.

21 And if there are no further announcements --

22 VICE CHAIR WATCHMAN: Madam Chair?

23 CHAIRPERSON NEUBERG: Yes, please.

24 VICE CHAIR WATCHMAN: I have something.

25 CHAIRPERSON NEUBERG: Please.

1 VICE CHAIR WATCHMAN: And -- first of all, thank
2 you, great meeting today.

3 Two weeks ago our Governor, Doug Ducey, signed into
4 law an Navajo Nation Code Talker Day. So I think that's
5 very, very important significant, and it lends itself to,
6 you know, we talk about democracy and we talk about, again,
7 all the people in the state, so I'm happy that the State now
8 recognizes every year August 14th as Navajo Nation Code
9 Talker Day.

10 So, you know, during the World War II, the Navajo
11 language was used in the battles, and so we have a lot of
12 elder Navajos and, obviously, our tribe is very happy that
13 the Navajo language was used in the war. Obviously, we
14 prevailed, so I'm very happy that the State now recognizes
15 this in our language. So it goes to democracy, to me it
16 goes to recognizing, you know, the many facets of this state
17 and the country, and I just want to acknowledge and let the
18 people know, in case you missed it, you know, the State now
19 has an August Navajo Code Talker Day.

20 So I just want, you know, to make sure the public
21 is aware of this. It 's very important, especially to me
22 and a lot of the leaders I know here on Navajo. So I think
23 that's a great announcement that I think everyone should
24 know about.

25 So thank you for allowing me this time.

1 CHAIRPERSON NEUBERG: Thank you.

2 Any other announcements?

3 Okay. With that, we will move to Agenda Item
4 No. X, next meeting date will be September 14th, 2021,
5 8:00 a.m.

6 With that, we'll move to Agenda Item No. XI,
7 closing of public comments.

8 We now close public comment. Please note, members
9 of the Commission may not discuss items that are not
10 specifically identified on the agenda. Therefore, pursuant
11 to A.R.S. 38-431.01(H), action taken as a result of public
12 comment will be limited to directing staff to study the
13 matter, responding to any criticism, or scheduling the
14 matter for further consideration and decision at a later
15 date.

16 With that, we'll move to Agenda Item No. XII,
17 adjournment.

18 I will take a vote to adjourn.

19 Commissioner Mehl -- I'm sorry. Vice Chair
20 Watchman.

21 VICE CHAIR WATCHMAN: Aye.

22 CHAIRPERSON NEUBERG: Commissioner Mehl.

23 COMMISSIONER MEHL: Aye.

24 CHAIRPERSON NEUBERG: Commissioner Lerner.

25 COMMISSIONER LERNER: Aye.

1 And is Commissioner York -- I think we've lost
2 Commissioner York. It was great to have him for when he was
3 here.

4 Commissioner Neuberg is an aye.

5 With that, with a 4-0 vote, we'll adjourn.

6 Have a wonderful couple of weeks, and I look
7 forward to seeing everybody a couple of weeks from now.

8 Take care. Bye-bye.

9 (Whereupon the proceeding concludes at 11:45 a.m.)

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C E R T I F I C A T E

STATE OF ARIZONA)
) ss.
COUNTY OF MARICOPA)

BE IT KNOWN that the foregoing proceedings were taken before me, Angela Furniss Miller, Certified Reporter No. 50127, all done to the best of my skill and ability; that the proceedings were taken down by me in shorthand and thereafter reduced to print under my direction.

I CERTIFY that I am in no way related to any of the parties hereto nor am I in any way interested in the outcome thereof.

I FURTHER CERTIFY that I have complied with the requirements set forth in ACJA 7-206. Dated at Litchfield Park, Arizona, this 16th of September, 2021.



Angela Furniss Miller, RPR, CR
CERTIFIED REPORTER (AZ50127)

* * *

I CERTIFY that Miller Certified Reporting, LLC, has complied with the requirements set forth in ACJA 7-201 and 7-206. Dated at LITCHFIELD PARK, Arizona, this 16th of September, 2021.



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