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ABSTRACT

We test theories about the effects of public input into redistricting, with evidence taken from remarks made in-person at public hearings. One model, the cynical model, features legislators acting in their own interest and carries an expectation that public input is more or less a sham that line drawers will ignore, holding hearings only to give the appearance of responsiveness. A variant of this cynical model suggests that political parties and candidates will seek to manipulate the public input process by making partisan suggestions disguised as citizen input. An idealist vision, on the other hand, suggests input by the public can provide important information to line drawers about citizen preferences which can and will get integrated into plans. A further complication is who is drawing the lines. We might expect that redistricting commissions would be more responsive to public input than legislators, since the former have less of a partisan motivation. We analyze a sample of 937 suggestions proffered in-person by individuals, public officials, and group representatives at 22 public comment hearings in nine states. We find the public does contribute a large number of "feasibly mappable" suggestions that are incorporated into plans, but it is only suggestions addressing a small geographical area that are likely to be adopted. Finally, we find little difference in the degree to which different types of redistricting authorities incorporate suggestions made at hearings into their plans.

Redistricting—the decennial exercise of adjusting congressional and legislative districts following the Census—is commonly examined in terms of outputs, such as the presence or absence of districts measured along some political or geographic dimension (e.g., competitiveness, compactness, demographic homogeneity, or the ability of racial minorities to elect representatives of their choice) as mediated by state authority (legislatures, commissions, or courts) that draw the lines, or in terms of actual or projected partisan outcomes. This project takes a novel approach to the study of redistricting by focusing on a largely neglected aspect of the districting process: the nature and impact of public input into the process. Looking at the 2010 round of congressional redistricting in the western states, we examine the degree of openness of the redistricting process, the nature of the suggestions given by the public to the redistricting authorities in-person at public hearings as constituency boundaries are in the process of being drawn, and the extent to which suggestions made in public hearings are actually incorporated into district maps.

Redistricting is commonly viewed as a hyper-partisan activity conducted by self-

Unlike other industrialized democracies, redistricting in the United States is most often done by elected officials (Butler and Cain 1985, Courtney 2001, Handley and Grofman 2008). There are, however, a number of states in which redistricting is by commission and others where, due to the failure of the redistricting authority to agree upon a plan or because of legal challenge to the plan that was drawn, a court ends up drawing legislative or congressional lines.

The western states exhibit a marked degree of institutional variation in terms of congressional redistricting authorities (Miller and Grofman 2013, Levitt 2011), featuring commissions in Arizona, California, Idaho, and Washington, legislature-drawn maps in Oregon and Utah, and court-drawn maps in Colorado, Nevada, and New Mexico, Alaska, Montana, and Wyoming elect only one representative, and thus are excluded from this project. Hawai'i is not included in the analysis of public input into the map-generation process because of the complexities of multi-island redistricting.

interested political elites to ensure their personal reelection and consolidation of their party's strength (Monmonier 2001). It is has been called "the most political activity in America" (Bullock 2010). California congressman Phil Burton, the guiding force behind at least two

There has been considerable disagreement in the literature on how important redistricting actually is in shaping partisan outcomes for the country as a whole, though strong effects have been found in particular states. Using data from earlier redistricting periods, there have been findings that gerrymandering in favor of a given party in a state may (a) largely cancel out when viewed nationally (e.g., Glazer, Grofman and Robbins, 1987), and (b) may "wear off" in the course of a decade (e.g., Grofman and Brunell, 2005). However, more recent work, using data from the present redistricting data, has found very strong effects of gerrymandering that can freeze the control of the U.S. House of Representative (or that in chambers in particular state legislatures), for an entire decade essentially regardless of changes in voter preferences (see esp. McGann et al. 2016). There are three key reasons for the difference in findings between the present decade and earlier decades. First, we had a remarkably high partisan imbalance in unified partisan control of the states (one party controlling the governorship and both branches of the legislature) in the 2010 redistricting. When there is unified control the party in power is able to exercise gerrymandering for both the U.S. House and state legislatures completely unchecked. In the 2010 round such partisan gerrymandering has strikingly benefited the Republican party overall. discrepancy in unified control has grown even more extreme over the course of the decade, and thus suggests, absent change in the legal regulatory regime, that gerrymandering effects will be even more extreme and pernicious in the 2020 redistricting round. Second, the computer technology to generate multiple plans at the flick of a finger has grown in sophistication allowing for the ready creation of plans that effectively eliminate political competition, and thus remain largely invulnerable to electoral tides and avoid the "dummymanders" warned about in Grofman and Brunell (2005). Third, while the Supreme Davis v. Bandemer, 478 U.S. 109 (1986) found egregious partisan gerrymandering to be justiciable, the Court has never found any actual redistricting plan to be an unconstitutional gerrymander in the three decades since (though this might be changing, depending upon the outcome of a Wisconsin legislative redistricting case heard by the Court in its Fall 2017 term, Gill v. Whitford). The Court's continued failure to act to control partisan gerrymandering emboldened state legislatures to believe that they could, in practice, do even the most extreme partisan gerrymandering with legal immunity. Indeed, some state officials in the 2001 redistricting round even asserted that partisan gerrymandering was not actually illegal. There has also been dispute about the effect of gerrymandering on outcome features other than partisan control, such as incumbency reelection rates and party polarization. Here we are more in agreement with the naysayers. For example, while Yoshinaka and Murphy (2011) point out that redistricting rearranges constituencies and can disrupt the personal networks incumbents develop, Abramowitz et

decades of redistricting in California, once described redistricting as "[G]et yourself in a position (to) draw the lines for (your own) district. Then you draw them for all your friends before you draw anybody else's" (Kousser 1998, 164). Nathaniel Persily, a leading redistricting specialist, observed that both Republicans and Democrats regularly exhibit such greed and dishonesty in manipulating electoral maps that "I have to replace normal human reactions of disgust and revulsion with fascination and curiosity. It's the only way I can cope" (quoted in McCartney 2013). The complex nature of redrawing political districts—and the strong incentives for incumbent politicians and political parties to completely control the process pose a high barrier to public participation in the process (Altman and McDonald, 2011).

We first look at the degree to which the redistricting process, as it was conducted following the 2010 Census, could be characterized as "inside baseball" by assessing the extent to which the public was involved in the redistricting process. There are two elements: First, was input from the public solicited? Second, did it have an impact on draft and final plans?

To address these questions we look at public hearings concerning post-2010

al. (2006) test the hypothesis that redistricting is responsible for the high rate of reelection among House incumbents, and find little evidence to support the claim. Indeed, Ansolabehere and Snyder (2012) argue that redistricting is actually associated with lower vote shares for incumbents. McCarty et al. (2009) find little evidence that gerrymandering contributes to polarization in the House, and this argument is reinforced by the work, both theoretical and empirical, of many other scholars (see e.g., Adams et al., 2010). Other scholars have looked at the difference in partisan outcomes depending upon what entity does the redistricting, but here too results seem to vary somewhat over different redistricting eras though court plans and plans done by truly bipartisan commissions see to be less biased (see. e.g., Carson and Crespin, 2005; Winburn, 2011, Miller and Grofman, 2013). The U.S. Supreme Court, in the case of *Arizona State Legislature v. Arizona Independent Redistricting Commission* Case No. 12-314, decided June 29, 2015, found redistricting commissions deliver district maps that are on time, less likely to be challenged in courts, and modestly increase competition in Congressional races.

congressional redistricting in nine western states. We report basic data about the number and nature of public hearings and other mechanisms used to solicit public input. Then, we examine the impact on draft and final plans of a sample of 937 comments made in-person at these hearings by private citizens, interest group representatives, and public officials over a set of nine states. In other words, we examine whether publicly made suggestions are reflected in the actual maps that were the outputs of the line drawing process (Easton 1965). In addition we look to see whether there were differences in the importance of public input in legislative- as opposed to court- or commission-drawn plans.

As far as we are aware, this is the first study to empirically evaluate the impact of public input into redistricting in a comparative fashion by looking at whether or not suggestions made at public hearings were actually incorporated into plans proposed by redistricting authorities—an arduous task which requires careful and detailed examination of both suggestions and eventual maps. We seek to answer the rhetorical question posed by a member of the audience to members of the Nevada legislative committee charged with drawing districts in the state: "You are required by law to hold hearings across the state and get public input.

Does it really matter? Will you truly consider our opinions?"

Understanding citizen impact on redistricting outcomes can be a valuable indicator of the potential for meaningful citizen participation in policymaking. Redistricting is an especially

⁴ The questioner continued with an extension of his previous question: "Is it something you do because you have to, or is it more of a show and not something you are going to consider sincerely when making your decision?" See transcript of the joint meeting of the Senate and Assembly Legislative Operations and Elections Committee on March 31, 2011 in Reno, Nevada.

http://www.leg.state.nv.us/Session/76th2011/Minutes/Senate/LOE/Final/434.pdf

difficult area for efficacious citizen impact; to the extent that we find citizen success in contributing to the shape of plans, this can be viewed as an encouraging sign about the potential for the influence of citizens in other decision and policy domains. We also seek to understand whether there are ways to foster greater and more meaningful citizen input into the redistricting process, such as equipping citizens with the computer-based tools to draw plans of their own. What we learn about the uses of computers by citizens in the redistricting arena may also be informative about the potential for using computers as a tool to increase the ability of ordinary citizens to make their views known.

In the next section we briefly review the history of public input into redistricting in previous decades. In the following sections we specify in more detail our research design, dataset, and the hypotheses we examine. We then state our conclusions, and discuss their implications for our understanding of redistricting and, more broadly, for the study of citizen impact on policy outcomes.

II. Citizen Participation and Redistricting

Survey data indicates that, in general, the public knows or cares little about redistricting. Fougere and colleagues (2010) report results of a 2006 Pew Research Center poll, which found, in response to the question "[h]ow much, if anything, have you heard or read about the debate over how these [U.S. House] boundaries should be drawn—a lot, a little, or nothing at all?" The largest group, those respondents who had heard nothing at all, amounted to 51% of all respondents and 47% of registered voters. In addition, 47% could not identify who is in charge of drawing districts in their state (2010, 327-328). Similarly, a poll conducted one month before

the 2008 election in California found that 25% of the respondents had no opinion on Proposition 11, which sought to establish an independent redistricting commission, a level of uncertainty six times greater than the same-sex marriage amendment in the same election. In Florida, in 2010, about a third of respondents could not give an opinion on Amendments 5 and 6, which imposes standards for the legislature to follow when drawing district lines, almost triple the rate of uncertainty than the gubernatorial race in the same year (Donovan 2011, 123). One of the consultants to the California redistricting commission observed, "[t]he only thing that the average person seems to know about redistricting is the term 'gerrymander,' a concept that is almost always misunderstood" (MacDonald 2012, 479).

Moreover, even if members of the general public knew or cared about redistricting it is not at all obvious what they would do about it. Most often the redistricting process is conducted by state legislative committees, which may operate in secret, at least in terms of initial line drawing; and once new district lines are used for an election those disadvantaged by them will have little recourse (see, for instance, Cain 1984). The redistricting process also has a complex overlay of legal constraints that make redistricting opaque to non-experts and that may be used as a shield against proposed changes in a plan, such as the requirement of strict population equality across congressional districts, the Voting Rights Act's restriction on drawing districts that may dilute the voting power of minority populations, and a variety of particular state requirements regarding, for example, compactness or the importance of communities of interest. MacDonald (2012, 479) observes that redistricting is a technical policy area, "arcane to most because it has been conducted mostly in secret in the past, it deals with issues that most people would rather forget than be reminded of (like data and statistics), it is heavy on laws,

and always seems to be fraught with controversy."

Citizen Involvement in Redistricting in Past Decades

Despite the half-century that has passed since the landmark Supreme Court case *Baker v. Carr* (1962), public involvement in redistricting is a recent phenomenon. Early studies in redistricting and reapportionment hardly mention the public at all, instead focusing on the legal requirements imposed by the Court and the political role of legislatures (Dixon 1968, Mayhew 1971). And, when they do mention the public, it is usually to note the absence of public input, or to suggest that the request for suggestions or feedback from the public was mostly for show. Butler and Cain (1992, 92) for example, note that the 1980 Burton plan in California "was never given a full public hearing and had no supporting documentation such as maps or basic statistics." Public comment hearings held in Georgia during the 1990s cycle were criticized as self-serving, as five members of the legislative committee in charge of drawing the Congressional lines were planning on running for Congress (Holmes 1998, 199).

Furthermore, as noted above, redistricting is essentially a technical process, and members of the public have in the past not had access to the expertise and data needed to generate maps. While, by the 1990 round of redistricting, the revolution in desktop computing power allowed major advocacy groups, such as the NAACP and MALDEF, to offer plans of their own, and while there were a few instances where the public was given access to such computer mapping software by redistricting authorities (e.g., by the New York City Council Redistricting Commission in 1991), the most important use of these alternative plans was in the

⁵ Butler and Cain elsewhere observe, for the 1980 round, that even in states where redistricting is not done by the legislature, "[n]one ... employs the elaborate schedule of local hearings used in Britain and Australia" (1985, 201).

subsequent use to demonstrate legislative failures to protect minority interests if and when a plan was challenged in court under the Voting Rights Act. Reporting the results of a 2002 survey of those responsible for redistricting in 2000, McDonald and Altman write "most states did not provide any tools, facilities, dedicated assistance, or software to support the public in developing redistricting plans. Many states in previous decades failed to provide even minimal transparency by making data available, providing information about their plans online or accepting publicly submitted plans." Indeed some had no form of public input.

Citizen Involvement in Redistricting in 2010

The 2010 redistricting round, by contrast, exhibits a marked change in public access from previous decades, both in terms of the existence and proliferation of public hearings and in terms of mechanisms to facilitate public input of suggested map. It should be noted, however, that while computers are faster today than in the past, and thus able to produce multiple district maps in a shorter time, the software to actually draw district maps (i.e. Maptitude) is still cost-prohibitive for private citizens to use on a recreational basis.

Table 1 shows the number of public hearings held in each of the nine western states in our study in the 2010 round of redistricting. As we see from the table, commissions tend to have more public comment hearings than state legislatures (See also Miller and Grofman 2013, 655-657).

⁶ Hagens (1998, 320-321) discusses how this was done in Virginia.

⁷ See McDonald, Michael and Micah Altman. 2010. "Pulling Back the Curtain on Redistricting" *Washington Post* (July 9) http://www.washingtonpost.com/wp-dyn/content/article/2010/07/08/AR2010070804270.html. In Michigan in 2001, for example, the House committee held one hearing, ending at 11pm, before voting to pass the maps at 2:35am (Hirsch 2003, 206; see also Chamberlain, 2005).

<<Table 1 about here>>

In addition to holding a number of public hearings, often at locations spread throughout the state, most western states provided either public terminals or web-based software for the public to create maps of their own. Public terminals were made available in California (in Berkeley, Sacramento, Fresno, Los Angeles, San Bernardino, and San Diego), Nevada (Carson City and Las Vegas), and Washington (Olympia). Arizona, Idaho, and Utah provided for a web-based platform for members of the public to create their own maps and submit them to the redistricting authorities. New Mexico authorities provided the necessary ArcGIS files for download so members of the public could create their own maps, provided they already had the necessary software. Colorado and Oregon made no mention of map creation and submission systems accessible to the public.⁸

Moreover, because the cost of computing power—but not of the redistricting software itself—had fallen, members of community and civil rights organizations often had in-house line drawing capacities, and even members of the public had access to on-line computer mapping tools that were available free of charge from sources other than state governments. One group of scholars, funded by the Joyce Foundation, the Sloan Foundation, and others, made free computer-based districting available in several states and jurisdictions via DistrictBuilder. This is an open-source software package developed by the Public Mapping Project that provides a

An important caveat to providing the public with the means to produce their own maps is that the degree of technical assistance provided across the west varied substantially. The task of drawing districts is complicated and time-consuming, even when using "user-friendly" platforms like Google Maps. The California public terminals were staffed, for example, by members of the Redistricting Group at Berkeley Law School and, presumably, were better situated to help members of the public to produce district maps for the commission than in other western states.

user-friendly, web-based interface for the general public to create district plans (Altman and McDonald 2011). Nathaniel Persily also developed a repository of student-drawn maps at http://DrawCongress.org that could be accessed free of charge.⁹

III. Data and Hypotheses

We will offer data that will allow us to triangulate between two polar views of the impact of public input on redistricting outcomes.

In the first, more idealistic view, there is the potential for considerable public impact on redistricting outcomes, especially if there is media attention to one or a handful of alternative "good government" plans. The belief of reformers in 2010 and earlier was that access to computer line drawing capability, combined with a more open process, would aid interested citizens and public interest groups in intervening in the line drawing process in a more efficacious way (Altman and McDonald 2013).

In the second, cynical, view, the public hearings will be shams, designed to pacify the public with the appearance of democracy, but actual line-drawing will go on behind closed doors, with (almost) total disregard for public input. The 2011-2012 redistricting process in

⁹ The Internet is seen by many as a potential locus for active citizenship. Coleman and Blumler, for example, state "[b]y reducing the costs of finding, contacting, and maintaining communication links with others, the Internet has made it much easier for dispersed groups of people to form associations, share knowledge and mobilise for political action" (2009, 117). The Internet facilitates bottom-up organizing, such as the use of *wikis* as a repository of knowledge anyone can edit and improve (Sunstein 2006). An implicit assumption of Internet-based political action is that while any one member of a network may not know everything, it is possible for a group of people to pool common resources to cooperate jointly (Howe 2008, see also Grofman and Feld 1988 for an early explication of the logic of collective information pooling). This could also apply to computer-based redistricting that involved a shared site.

Florida provides an extreme example of a process that seems to justify skepticism about the importance of public input into redistricting. A Leon County district court found, and the state supreme court affirmed, that a group of political consultants

did in fact conspire to manipulate and influence the redistricting process. They accomplished this by writing scripts for and organizing groups of people to attend the public hearings to advocate for adoption of certain components or characteristics in the maps, and by submitting maps and partial maps through the public process, all with the intention of obtaining enacted maps for ... Congress that would favor the Republican Party. They made a mockery of the Legislature's proclaimed transparent and open process of redistricting by doing all of this in the shadow of that process, utilizing the access it gave them to the decision makers, but going to great lengths to conceal from the public their plan and their participation in it. They were successful in their efforts to influence the redistricting process and the congressional plan under review here (*Romo v. Detzner* No. 2012-CA-000412 (Fla. Cir. Ct., Leon County) at 21).

Virginia is another state which provides evidence in support of the cynics' view. In Virginia academics organized team-based, public competitions for congressional redistricting plans, making available the DistrictBuilder software (Altman and McDonald 2013). Plans in the competition were evaluated in regards to compactness, respect for existing political boundaries, communities of interest, and protections for minority rights. The winning plan was offered as a standard that could be used as a basis to criticize plans that lacked such good government features. 10 In Virginia, reformers succeeded in including the winning plan in this competition introduced into the legislature. The plan was introduced by some legislators unhappy with the politics of the redistricting process in their state. However, consistent with the

¹⁰ Altman and McDonald (2013, 815) find that "the top ranking plan in each single-criterion ranking belonged to a student[-drawn] team" and that "[f]or any convex weighting of criteria, there is a student plan that beats all of the other plans—with the exceptions of pairs including partisan balance in the Senate and pairs involving county integrity or majority-minority districts in the House"

cynical view of the redistricting process, this good government plan was essentially disregarded by the partisan majority (Altman and McDonald, 2013).

We show below that, for the nine western states whose plans we examine, not every state was like Florida or Virginia in providing clear support for the cynical view of the efficacy of public input into redistricting. Rather, citizen input was often directly implementable, and such suggestions were, to a remarkable extent, incorporated into final district plans.

Data

In each of the states we examine the source of public input comes in the form of suggestions made in-person at public hearings. ¹¹ Table 2 lists the date and location of each hearing included in our analyses, whether draft maps were available at the time of the hearing, and the number of witnesses that commented at each hearing. In selecting which hearings to include in our analyses, we sought to include hearings from different regions of each state and to maximize the potential number of people commenting at the hearing in question. While, of practical necessity, only a fraction of the hearings conducted in these states could be personally observed, we believe this sample will allow us to draw broad and generally representative

There are, of course, multiple ways to provide comments to redistricting authorities of which public testimony is only one type. Comments could also be submitted online directly to the authorities, written comments could be submitted as a means to revise and extend the comments delivered orally at a hearing, or feedback could be given to individuals overseeing redistricting outside of a public hearing, to mention three possible alternatives. Our data only includes comments given in-person during the course of a public hearing; we have not tallied submissions given outside of a public hearing in online or written form. We also look only at comments that address U.S. House of Representatives maps in these western states, not comments directed at legislative lines. However, in instances where a comment is vague with regard to the level of government (e.g., "draw our town in a single district") we treat this as a comment about congressional districts, so that we can see if the suggestion was adopted.

conclusions about the nature and impact of public input in these states.

<<Insert Table 2 about here>>

These hearings attracted a varying degree of interest from the public. The number of people who commented at any given hearing ranged from a low of six in Reno, Nevada, to a high of 117 in Culver City, California. On average, about 30 people commented at a typical hearing.

It is important to note that the people who testify at these hearings self-select to attend the hearings (Fishkin 2009, Cain and Hopkins 2002, 521). Thus, we are not working with a set of comments from random members of the public. We classify those who speak at hearings in three broad categories, based on self-identification by the testifying witness herself: 1) individuals testifying in their own capacity, 2) group representatives testifying in the name of an interest group, and 3) public officials. It is possible that some of the testimony provided in the course of these hearings masks the true reasons for making the proposed suggestions, ¹² as has been observed in other public hearings (Mendelberg and Oleske 2000) and, as we saw in the case of Florida, it might be the case that some of those we code as ordinary citizens are in fact supporters of major stakeholders who have been recruited to make the case that the stakeholder view reflects "grassroots" opinion. However, when we raised this issue with individual redistricting authorities in the Western states, the consensus opinion was that such testimony was easy to spot and could be weighted less than other testimony.

¹² One witness in Arizona even 'decoded' the partisan implications of the testimony when he testified that Democrats will value competition in the newly drawn districts, while Republicans will prefer to keep communities together.

We distinguish three stages of citizen input: (a) before plans are drawn, to solicit general impressions from the public; (b) after preliminary plans are available for review, to receive feedback from the public; and (c) when there is litigation about a plan's supposed unconstitutionality or when a court is charged with drawing a plan because the failure of the legislature to draw plans in a timely fashion. Hearings from the first two stages were observed in four states (Arizona, California, Oregon, and Washington). Hearings from the remaining states were limited to the first, pre-draft stage. The Special Masters in Nevada held two public comment hearings related to the litigation in that state, and one of those hearings is also included in the analysis below. 13 Across these twenty-two hearings we attended, 701 witnesses provided 937 comments in the form of in-person testimony to redistricting authorities.

While it may be difficult to summarize the content of these comments, some common themes are apparent. One frequently mentioned topic is the desire to see a particular city or county kept whole in a district. Social science research demonstrates that "carved out" voters tend to recall their incumbent member of Congress and vote at a lower rate (Winburn and

¹³ Instead of collecting input on maps in the context of a lawsuit (with a relatively high barrier to participation that would preclude any party other than major civil rights organizations or political parties from providing input into the process), the Nevada Special Masters held two hearings "in the nature of public comment sessions designed to allow interested individuals and entities the opportunity to share with the Special Masters their perspectives..." Additionally, the Special Masters reviewed the congressional maps as they were drawn after the 2000 census, the maps contained in the two bills vetoed by the governor, maps submitted during the two hearings held before the Special Masters, and "all other maps and concepts submitted to the Masters by parties... who otherwise submitted maps and concepts suggesting alternatives to be considered for congressional redistricting." (See the Report of the Special Masters before the First District Court of Nevada, available at: http://www.nevadanewsbureau.com/wp-content/uploads/Special-Masters-Report-1-9.pdf).

Wagner 2010, Hayes and McKee 2009). Suggestions to keep a single city or county whole are mentioned in about 12% of all comments in our data. By contrast, appeals made on the basis of objective criteria (Grofman 1985, Lowenstein and Steinberg 1985) of compactness are made in about 2% of all comments. Appeals based on drawing competitive districts are also made in about 2% of all the comments. 14

We have also broken down comments in terms of the format in which they were presented. Here we distinguish among purely oral comments, oral testimony that incorporates typed or written comments, and testimony that references hand- or computer-drawn maps.

If public comments are of a platitudinous sort, then evaluating their impact will be close to impossible. We classify public comments by whether or not they offer feasibly mappable suggestions—a term we have coined to indicate public comments that are sufficiently explicit about how particular pieces of geography should be treated that it is possible to determine if the substance of the suggestion was adopted in an official map. Identifying the number and proportion of feasibly mappable comments allows us to evaluate the potential for public input to matter. Eliminating infeasible comments from further consideration also allows us to focus on only those suggestions that were sufficiently well-specified that we can (with considerable effort) judge whether or not they were implemented.

A feasibly mappable comment has two necessary components: a location and an

The three criteria of keeping intact the boundaries of political subdivisions, compactness, and competition may be almost impossible to satisfy simultaneously (Cain 1984). MacDonald and Cain (2013, 633), for example, observe that the borders of "[m]any California cities are anything but compact" and Stephanopoulos (2013) argues homogeneous districts tend to be uncompetitive.

instruction. Members of the public who testify at these hearings can address any point they wish, but only some of these proffered comments can be incorporated into district maps. We adopt a feasibility standard to separate comments that could at least plausibly be incorporated into a map from those comments that cannot be represented in a map, as a means to measure the ability of the testifying witnesses to give suggestions to the redistricting authorities that can later be found in the congressional maps.

Infeasible comments come in multiple varieties. These comments tend to address some feature of the process itself—such as claiming that the process is fundamentally biased toward one group or another, that certain criteria should be adopted, rejected, or altered, or that hearings should be held at different times of the day—or address a topic tangential or orthogonal to the act of drawing maps. Advocating for a commission to be created to draw districts was a common, but infeasible, comment in states where the legislature has primary responsibility for drawing maps. Other infeasible testimony might offer thanks or criticism to the redistricting authorities, and not address any feature of the district maps.

By contrast, *feasible* comments provide specific guidance to the redistricting authorities.

Often individuals will ask for a particular city or county to be kept together, grouped with other specified cities, or separated from a given city. The most common suggestion from the California hearings, for example, called for the cities of Carson, Compton, and Long Beach to be drawn together in a single district. ¹⁵ Other feasible comments make reference to well-known

¹⁵ A notable exception to the general rule that residents tend to advocate for keeping their cities together is Redmond, Washington. At one hearing, the mayor of the city asked that the city continue to be split between two congressional districts. This feasibly mappable comment was not adopted in the final maps.

streets or geographical features to use as boundaries, such as separating the congressional districts in Idaho along Five Mile Road outside Boise, or using the Berkeley Hills to separate the East Bay cities near San Francisco from the inland cities. The key characteristic distinguishing feasible comments is if the comment itself can be seen to be present in either the current or new district maps. The proportion of *feasible* comments is one indicator that the general public can meaningfully participate in the redistricting process. Note, too, that it is possible to have feasibly mappable comments without ever actually presenting a map. We give examples of feasible and infeasible comments in an appendix.

Hypotheses

The idealist vs. the cynical view of public Involvement in the redistricting process

Hypothesis 1: The substance of public comment on redistricting at the hearings will only rarely be specific enough to be implementable.

Hypothesis 2: When the substance of public comment is specific enough to be implementable, it will largely be limited to small units of geography.

This last hypothesis draws on one of the few references to the nature of public comment in redistricting, a cartographer's account of a 1990 legislative hearing in New York State.

On the raised platform at the front of the room sat a half-dozen men and one woman, all in weekday business dress. In front of the dais, two easels holding large maps faced the spectators. A balding, slightly overweight man with a raspy voice faced the people on the platform and spoke into the microphone. He was upset about both the map and the state legislature, which had appointed the people on the dais—the people who had drawn the map. The young woman who testified after him was no less indignant ... If this event had been a movie, we would have missed the beginning and much of the plot. But although a dozen people had

spoken since 11 A.M., what they said was probably no different from what we heard later: *everyone denounced a small part of the map, some particular boundary*. Anyone who might have been pleased with the map and its boundary lines kept silent or stayed home (Monmonier 1995, 190-191, emphasis added).

Hypothesis 3: The preponderance of public comment at the hearings will come from stakeholders in the process, such as major interest groups and public officials, not private citizens.

However, there is a counter hypothesis, namely that major stakeholders have other means of access to legislative and other decision-makers (Schlozman et al. 2012), suggesting that only those who have relatively idiosyncratic and limited goals will attend public hearings to provide input.

The next hypothesis has to do with the nature of the redistricting authority, and is based on the expectation that legislatures will be less responsive to public input than are redistricting commissions, most of which were set up via citizen initiatives.

Hypothesis 4: Non-legislative redistricting authorities will be more likely than legislative line-drawers to hold public hearings.

The idealist vs. the cynical view of the effects of public involvement

Hypothesis 5: Redistricting authorities will adopt few suggestions given by the public in the course of comment hearings.

However, we might also expect that, when suggestions for change are "minor," i.e., affecting only a limited geographic area, or a small population, it might be the case that redistricting authorities will be more receptive, if these changes can be implemented without

major overall changes in a plan. 16

The next hypothesis has to do with differences across types of redistricting authorities.

Hypothesis 6: Non-legislative redistricting authorities will be more likely than legislative line-drawers to accept public suggestions.

We now look at the evidence bearing on these hypotheses.

IV. The Process of Public Input: Evidence from Our Study

Figure 1 displays the proportion of feasibly mappable comments from each state. Across the nine western states, about 64% of comments meet our feasibility standard. The low rate of feasible comments from Utah is due, in part, to a number of witnesses advocating for a commission to be put in place for future redistricting cycles. These data show that the public—or, rather, the self-selecting segment of the public that attends redistricting hearings—is able and willing to provide feasible comments to redistricting authorities.

<< Insert Figure 1 about here>>

This evidence suggests that the public is able to make suggestions that line drawers could act upon. Thus, the cynical view represented in Hypothesis 1 is not supported with these data. Those who testify can provide feasible alternatives. However, Hypothesis 2, which suggests that citizen comments will largely be parochial ones, confined to areas of immediate

[&]quot;Ripple" effects from changes can be severe. Even a small shift in one district can result in the need for dramatic changes in other districts if there are strict population constraints (as there are in congressional districting) or if other constraints are in place such as preserving municipal and county boundaries, or avoiding vote dilution issues.

interest to those testifying, is also confirmed. We treat this hypothesis as supporting a pragmatic—as opposed to cynical—perspective on public input. Citizens are bringing local knowledge to bear and reflecting local concerns.

We were able to measure the area addressed in 481 of the 596 feasible comments (81%).17 Table 3 shows the adoption rate of feasibly mappable comments across deciles of normalized comment area.

<< Insert Table 3 about here >>

"Normalized comment area" is our term for the area of referenced jurisdiction in a comment relative to the surrounding congressional district. This measure takes account of the differing geographic size of jurisdictions as well as congressional districts by dividing the area of the comment by the area of the surrounding district. For example, the city of Lakewood, Colorado has an area of about 43 square miles. The 7th district in Colorado (which contains Lakewood) is about 343 square miles. A comment that Lakewood should be kept together in the district, then, amounts to a normalized comment area of 0.125. In instances where a comment area is divided between two or more congressional districts—often the case where witnesses asked for non-adjacent areas be included in the same district—we take the comment area divided by the area of the district containing the largest portion of the comment area. We might expect the upper limit of the normalized comment area to be 1—when the area of a comment perfectly matches the area of the district. Our data, however, include a nontrivial

¹⁷ For example, a comment that a district should expand in a southwesterly direction is feasible in that we can check to see if it was implemented, but cannot be pinned down in terms of a measurable area.

number of comments that reference an area larger than the surrounding district and have a normalized comment area greater than 1. The range of normalized comment area in our data is between 0 and 6.2 (or 0 and .997 if we restrict the consideration set to adopted comments).18

These data also support the claim that redistricting authorities are more likely to adopt comments relating to small units of geography rather than larger ones. As the normalized comment area increases, the likelihood that a comment is adopted diminishes precipitously. The mean normalized area of an adopted feasible comment is significantly smaller than the area of a comment that was not adopted (0.19 compared to 0.47, p<0.001). Furthermore, both commissions and legislatures were more likely to adopt changes that affected only small areas.

Table 4 categorizes the witnesses who testified at these hearings. The vast majority of public input into the redistricting process came from private individuals, contrary to Hypothesis 3. Only in Nevada were group representatives more likely to provide comments to the redistricting authorities than private individuals.¹⁹

<< Insert Table 4 about here >>

¹⁸ We have also looked at whether the normalized area of an adopted comment varies redistricting authority. When we divide the data between legislatures, commissions, and courts, we find the area of an adopted comment by a commission is significantly larger than an adopted comment by a legislature (0.20 compared to 0.10; one-tailed p<.042). This finding, however, is based on 17 adopted comments by legislatures. There is no significant difference between either of these institutions and court-drawn maps.

¹⁹ There is a nearly perfect correlation (r=0.99) between the total number of witnesses testifying at a public comment hearing and the number of private individuals testifying. This may be evidence suggesting that one strategy to increase the legitimacy of redistricting is to appeal to mass participation by members of the public. It may be the case, however, that the testimony of group representatives is given greater weight due to the implied support for the group among members of the public and (more likely) the possibility of litigation initiated by the interest group itself.

The cynical view of redistricting might lead to the claim that interest group representatives or public officials are more likely to have their feasibly mappable comments adopted than private citizens. These data show that claim is not supported. Interest group representatives are least likely to have their comments adopted (an average of 0.26 from 38 observations) compared to public officials (0.52 from 48 observations) or private citizens (0.44 from 395 observations). The difference in the adoption rate between interest group representatives and public officials is significantly different than zero (one-tailed p<0.0077), as is the difference in adoption between interest group representatives and private citizens (onetailed p<0.0174). The difference in adoption between public officials and private citizens. however, is nonsignificant.

It may be the case that some actors are able to convince the redistricting authorities to accept larger changes to district maps than other witnesses at these hearings. We find no evidence to suggest this idea is accurate. When we look at the mean normalized area of accepted comments by witness category, we see no significant differences when we divide the data between private citizens, group representatives, or public officials. These results offer limited support for the idealist view that private citizens can have a substantial role in the redistricting process.

Turning now to differences between commission and legislative processes in terms of number of hearings (Hypothesis 4), we find that commissions provide greater opportunity for hearin public input into redistricting. The four commissions in the west held an average of 36 hearings

while the five legislatures held an average of 13 hearings.20

V. The Ability of Public Input to Influence Redistricting Outcomes: Evidence from Our Study

Now we turn to the "success rate" of public comments, meaning the percentage of feasible public comments that were adopted in a district map. Figure 2 presents our analysis of the implementation rates for the set of feasibly mappable recommendations made in the course of these public comment hearings.

<< Insert Figure 2 about here >>

Of the 596 feasible comments proffered to redistricting authorities in these nine states, 264 (44%) were adopted in final congressional maps. Though there is wide variation in adoption rates across the states in the west, these data show—contrary to the purely cynical view of Hypothesis 5—that comments from the public are heard by state redistricting authorities.21

²⁰ These estimates are made using the first Idaho commission's schedule. However, the results do not substantially change if we use the second commission instead (the average drops to 33). Due to sample size limitations, these calculations lump together all redistricting commissions in our sample. The commissions we examine share strong similarities, but the California commission can be considered *sui generis*, given its tri-partite structure and supermajority rule to approve a district map.

²¹ In the best of worlds, as one reviewer correctly noted, to measure whether public input was in fact considered and incorporated into maps we need to do process tracing, i.e., to look at "evidence from the line drawing meeting that [the suggestion] was noted and then (a) integrated OR (b) assessed and found to be in conflict with other criteria or otherwise unimplementable." Unfortunately, this requires access to the private sessions of line drawing authorities. This information is mostly likely entirely unavailable in legislature-drawn processes. The California commission, however, conducted most of its business in open hearings that the public could attend and transcripts and recordings of the business meetings were preserved (see http://wedrawthelines.ca.gov/hearings.html). A summary of the

But do these adopted comments actually change the map? It is possible that these changes suggested by the public are already present in the maps and therefore less likely to be removed when adjusting district lines. To gain some leverage on this question, we estimate the *innovative comment rate* in each state, that is the proportion of accepted comments in the 2012 cycle that were also present in the earlier maps from the 2002 redistricting cycle. Limiting our data to the four states that changed redistricting authorities between 2000 and 2010—

business meetings following the Long Beach hearing we include in our analyses illustrates that the commissioners were 1) well-informed of the substance of the public comment and 2) able to identify comments that could at least potentially be adopted into draft and final maps. With regard to the first point, one of the commissioners observes in the course of a discussion of the Voting Rights Act led by the counsel to the commission at the Los Angeles meeting on April 28, 2011 that, "it seems to me also in the [proposition that created the commission] was that we were supposed to go and listen to the public and capture what they were identifying for us" (see page 28). With regard to the choice to integrate or disregard public comments, the commissioners and their technical support staff demonstrate an awareness that some comments—such as the suggestion to keep the Long Beach area district as it was drawn in 2002—cannot be accommodated in the new maps (see pages 4 and 5 of the Norco business meeting on May 5, 2011). At other points in the discussion the commissioners are well aware of the ranked criteria they must follow and draw guidance from public comment (see, for example, the importance of adhering to the county lines between Orange and Los Angeles Counties when drawing districts at the same meeting) unless there is public comment to justify breaking these lines (see pages 94 and 95). The commissioners, instead find themselves adjudicating among instances where the public comment is contradictory across sources (page 162) or unreciprocated across referenced areas (page 192). In the main, the commissioners deliberate on these and related issues and then direct their technical staffers to produce a variety of plans for the commissioners to decide between (see, for instance, page 138). While the California redistricting commission may be exceptional from an institutional perspective, its use of delegation to produce district maps may be typical. One of the authors of this essay has served both as a staffer—actually drawing lines largely on the instruction of another—and as someone giving orders to the actual line drawers. He can attest that sometimes one is not communicating (or being communicated) precise instructions, but more on the order of "do something like this, but only if it does not get in the way in doing something like that." Moreover, even absent such process tracing, we still find highly informative our finding that more than 40% of changes suggested at public hearings were adopted, even if we lack direct evidence of the transmittal and decision process.

California, Colorado, Oregon, and Nevada—gives one indication that the public can alter preexisting maps in some circumstances. For example, our data show 73% (8 of 11) of the comments adopted by the Nevada special masters and 60% (75 of 125) of the comments adopted by the California commission were not present in the 2002 maps as they were drawn by the legislatures in those states. However, all of the comments (a sample of 10) adopted in the legislature-drawn map in Oregon were present in the 2002 court-drawn map, suggesting legislatures are likely to maintain district lines when possible, while commissions and courts are more likely to depart from established district plans when the public suggests doing so. In Colorado, where the courts drew the congressional maps in 2012 relative to the legislature-drawn map in 2002, the comparable proportion was 60% (26 out of 43).

Turning now to Hypothesis 6, about differences between legislatures and commissions acceptance of suggestions made at public hearings, we find that the four commission states adopted an average of 48% of feasible comments, while the two legislative-drawn states averaged 51%, and the three court-drawn states 37%. A one-tailed difference of means test (p<0.09) reveals that only courts differ from the other two agencies for line drawing in being less accepting of public comment.

While our principal hypotheses about citizen involvement in redistricting and about the nature and adoption rate of proposals offered at public hearings are the six numbered ones given above, there are a number of other factors that have been suggested as potentially relevant to adoption rates that we have also investigated. In the remainder of this section we discuss briefly three of these: (a) how early in the process the change is proposed, with early items presumably more likely to be adopted, before plans "harden"; (b) the degree to which

there was a change in redistricting authority in between the 2002 and the 2012 maps, since such a change might make authorities less likely to consider a plan based largely on a previous map to be sacrosanct; and (c) whether or not a computer drawn map was offered as part of the submission to the redistricting authority.

When we seek to assess the relationship between the timing of a given comment and whether that comment is ultimately adopted, our analysis is complicated by the tendency of comments to be repeated at various points in the process and at different hearings in a state. Our data suggest the final maps in Arizona and California, adopted a slightly higher proportion of public comments than the draft maps in these states.22 However, many comments in these states were repeated at multiple hearings—both before and after the release of the draft maps—which reduces our ability to disentangle timing and comment adoption with our dataset.

We can, however, gain some leverage on the question of timing by looking only at the public comment data from California. We include four hearings from California in our data, three of which (Long Beach, Santa Ana, and Oakland) were held prior to the release of draft district maps; the Culver City hearing was the first hearing after the release of the draft maps. These four hearings account for 50% (299 of 596) of all the feasible comments and 47% (125 of 264) of the adopted comments in our data. Among the 23 pre-draft field hearings, our data come from the 4th, 13th, and 19th rounds of public comments. Our data, however, do not reveal a systematic relationship between timing of the hearing and adoption of the comment. On average, 40% of the feasible comments at the pre-draft hearings were adopted into the final

²² Draft maps were also prepared in Oregon and Washington, but are not analyzed here, as there was no single map we could compare—multiple maps were released by the Democrats and Republicans.

maps.23 By comparison, 42% of the feasible comments at the Culver City were adopted. We find little evidence to suggest feasible comments provided earlier in the process were more likely to be adopted into the final maps, at least in California.

When we try to assess the importance of continuity in redistricting authority from the 2002 redistricting to the 2012 redistricting, we see that the proportion of accepted comments that were not present in the 2012 maps in the five states that retained the same redistricting authority from the 2002 cycle were, with the exception of Washington, lower than in the states that changed authorities. The commissions in Arizona and Idaho included 55% (21 of 38) and 14% (1 of 7) innovative comments. The Utah legislature included 10% innovative comments (1 of 10). The commission in Washington, by contrast, adopted 94% (13 of 14) innovative comments.

When we look at plans submitted as computer-drawn maps versus other types of submissions, what we can say is that only a small number of witnesses, however, included a map with their testimony. Across the 701 individuals in our dataset, 18 (2.6%) included a map with their comments. Half of these individuals were representatives of an interest group, such as MALDEF, the League of Women Voters, or the Asian Public Affairs Association, while the other half were individuals without a declared affiliation. These 18 individuals contributed 28 comments in their testimony, of which six comments were adopted in final maps (21%). This adoption rate is roughly half the rate of the comments provided without reference to computer-drawn maps.

²³ The rates for each of the hearings are: 39% in Long Beach, 28% in Santa Ana, and 53% in Oakland.

VI. Discussion

Citizen participation is often viewed as a hallmark of democratic politics. One model of citizen participation, emphasizing the educative value of citizen involvement in policy making, is identified with the work of John Stuart Mill (see, for example, his 1859 essay *On Liberty*). On the other hand, other scholars have downplayed the desirability of public involvement in policymaking. For example, in its most common form, the *elite model* calls for the public to participate in a "democratic moment," where representatives are selected by the masses in a free, fair, and contested process, but after which the elected hone their specialized expertise and coordinate amongst themselves to govern the masses during the time appointed for their rule (Schumpeter 1950, Michels 1958, Almond 1997).

Instead of ceding the public sphere to elites, however, Mill and his successors argue that public debate is critical for individuals to arrive at their own conclusions on policy questions (see, *inter alia*, Gutmann and Thompson 2004 and Fishkin 2009), and that failure to involve the public leads to "infantilizing" the citizenry and dramatically diminishes their ability to affect policy outcomes. Proponents of citizen involvement argue that consultation with the public can increase the information and range of perspectives available to policymakers (Catt and Murphy 2003). In the redistricting context, MacDonald and Cain (2013) find public testimony can be helpful in terms of identifying the boundaries of communities of interest.

Arnstein claims that "[t]he idea of citizen participation is a little like eating spinach: no one is against it in principle because it is good for you" (1969, 216). At least since the 1960s there have been efforts in the U.S. (and worldwide) to get citizens more directly involved in

decisions that affect their lives. One early form of this participation in the U.S. was the Community Action Program created by the Economic Opportunity Act of 1964, which called for the "maximum feasible participation of the residents" in shaping poverty programs (See Berry et al. 1993, 21-45, and Marris and Rein 1982, and Moynihan 1969 for criticism). As far back as two decades ago, Kathlene and Martin could claim about (local) government decisionmaking:

Today a citizen participation component accompanies most local government planning or policy initiatives. Elected officials solicit citizen testimony at public hearings. Interest groups actively represent a wide range of causes and constituencies. Local government managers join elected officials and interest group representatives in question-and-answer sessions and debates sponsored by this or that forum, caucus, conference, or round table (1991: 46, with internal citations omitted).

However, it is a large jump from the observation that (many) public hearings were conducted by political authorities—or that polls of public opinion have been conducted—to the claim that public input actually mattered. The analyses we present here on redistricting bear directly on the relationship between public input and eventual legislative outputs.

We sought to answer a number of questions about the nature of public involvement in the redistricting process and, even more importantly, about the impact of this involvement. As noted earlier, redistricting is often thought of as the epitome of a political process conducted by self-interested elites, shielded from public scrutiny or input. The data we have presented—a unique dataset of comments from hearings on redistricting from nine states, featuring a mix of of institutional arrangements—casts doubts on the entirely cynical view of the likely effects of public input on redistricting, while reinforcing it in others.

While we have results about a number of factors that might bear on the acceptability of different kinds (and sources) of redistricting, our key finding is that hearing participants, largely self-identified as private citizens and self-selecting to present themselves at the hearing, were frequently able to offer feasibly mappable suggestions. Moreover, a substantial proportion of these suggestions were adopted by redistricting authorities—with little difference in adoption rates of suggestions made at public hearings between legislatively drawn plans and commission plans, but with courts least attentive to public input. On the other hand, not only did citizens tend to make relatively parochial suggestions, but the citizen-proposed changes that were adopted tended to be minor ones, affecting only a very limited area.

While this kind of data collection has generated new, nuanced, and important insights into our understanding of the role of citizen involvement in the redistricting process and offers a novel and fruitful venue for future research,²⁴ there are three issues that need to be addressed. First, our data collection is entirely from the western states. This means that, in terms of states, our sample size is limited. On the other hand, while these nine states were chosen in part for practical reasons (in terms of geographic proximity that allowed for more convenient access to public hearings given the home university of the authors), they also offer a considerable variety in redistricting institutions. Thus, when we find results that are robust across states with this variety of districting rules, we can be reasonably confident that our key findings, about the remarkably high proportion of comments that are adopted into the final plan, and about the

²⁴ This area of research, however, is contingent upon the requirement that public comment is included in a future redistricting cycle. In states where redistricting is under legislative control, requirements for public hearings could be amended or removed, as may come to pass in Nevada (Roerink 2015).

differential likelihood and differential success of large and small changes, are likely to be robust when we examine other cases.

Second, the focus of this project was congressional redistricting. While there are many parallels between congressional and legislative redistricting, this research suggests one important difference. We find comments related to smaller areas are more likely to be adopted by redistricting authorities. It is generally the case that legislative districts are smaller than congressional districts and therefore it may be that comments related to legislative districts provided in-person during a public hearing are more likely to be adopted.

Last, the conclusions we draw are based on a non-random sample of observations. It may be the case that the content of hearings we did not attend is substantively different from the hearings we observed. It is also likely to be the case that the segment of the public that has the time and interest to attend a hearing on a redistricting plan is markedly different from either the public at large or even the segment of the public that provides comments to the redistricting authorities in writing or on-line. Our data cannot address either of these possibilities. It is our hope, however, to motivate future research into these issues in conjunction with the 2020 redistricting cycle, on the basis of the preliminary and suggestive findings we report here.

²⁵ Because California's written and on-line submissions are archived on-line we did examine in a completely impressionistic basis a few comparisons between in-person and on-line submissions dealing with particular pieces of geography in that one state. This very limited comparison suggested that written and on-line submissions tended to make the same points, but that written comments were usually broader in scope and contained fewer feasibly mappable references. However, a full comparison of in-person and submitted materials is well beyond the scope of this essay.

References

Abramowitz, Alan, Brad Alexander and Matthew Gunning. 2006. "Incumbency, Redistricting, and the Decline of Competition in U.S. House Elections" *Journal of Politics*, Vol. 68, No. 1: 75-88.

Adams, James, Thomas Brunell, Bernard Grofman and Samuel Merrill. 2010. "Why Candidate Divergence Should be Expected to be Just as Great (or even Greater) in Competitive Seats as in Non-Competitive Ones." *Public Choice*, 145 (3-4): 417-433.

Almond, Gabriel. 1997. Plutocracy and Politics in New York City. Boulder: Westview Press.

Altman, Micah and Michael McDonald. 2010. "The Promise and Perils of Computers in Redistricting" *Duke Journal of Constitutional Law and Public Policy*, Vol. 5: 69-111.

Altman, Micah and Michael McDonald. 2011. "Technology for Public Participation in Redistricting." In *Reapportionment and Redistricting in the West*, ed. Gary Moncrief. Lanham: Lexington Books: 247-272.

Altman, Micah and Michael McDonald. 2013. "A Half-Century of Virginia Redistricting Battles: Shifting from Rural Malapportionment to Voting Rights to Public Participation" *University of Richmond Law Review* Vol. 47: 771-831.

Altman, Micah, Karin MacDonald, and Michael McDonald. 2005. "From Crayons to Computers: The Evolution of Computer Use in Redistricting" *Social Science Computer Review*, Vol. 23, No. 3: 334-346.

Ansolabehere, Stephen and James Snyder. 2012. "The Effects of Redistricting on Incumbents" *Election Law Journal*, Vol. 11, No. 4: 490-502.

Arnstein, Sherry. 1969. "A Ladder of Participation" *Journal of American Institute of Planners*, Vol. 35, No. 4: 216-224.

Berry, Jeffrey, Kent Portney, and Ken Thomson. 1993. *The Rebirth of Urban Democracy*. Washington, DC: Brookings Institution Press.

Bowler, Shaun and Amihai Glazer. 2008. *Direct Democracy's Impact on American Political Institutions*. New York: Palgrave Macmillan.

Bowler, Shaun, Todd Donovan, and Caroline Tolbert. 1998. *Citizens as Legislators: Direct Democracy in the United States*. Columbus: Ohio State University Press.

Bullock, Charles III. 2010. *Redistricting: The Most Political Activity in America*. New York: Rowman and Littlefield.

Butler, David and Bruce Cain. 1985. "Reapportionment: A Study in Comparative Government"

Electoral Studies, Vol. 4, No. 3: 197-213.

Cain, Bruce. 1984. *The Reapportionment Puzzle*. Berkeley: University of California Press.

Cain, Bruce and David Hopkins. 2002. "Mapmaking at the Grassroots: The Legal and Political Issues of Local Redistricting" *Election Law Journal*, Vol. 1, No. 4: 515-530.

Carson, Jamie and Michael Crespin. 2004. "The Effect of State Redistricting Methods on Electoral Competition in United States House of Representatives Races" *State Politics and Policy Quarterly*, Vol. 4, No. 4: 455-469.

Catt, Helena and Michael Murphy. 2003. "What Voice for the People? Categorising Methods of Public Consultation" *Australian Journal of Political Science*, Vol. 38, No. 3: 407-421.

Chamberlain, John. 2005. "The Republicans Take Control: The 2001 Redistricting in Michigan" in *Redistricting in the New Millennium*, Peter Galderisi (ed.). New York: Lexington Books. 201-216.

Coleman, Stephen and Jay Blumler. 2009. *The Internet and Democratic Citizenship: Theory, Practice and Policy*. New York: Cambridge University Press.

Courtney, John. 2001. Commissioned Ridings: Designing Canada's Electoral Districts. Montreal: McGill-Queen's University Press.

Dixon, Robert. 1968. Democratic Representation: Reapportionment in Law and Politics. Oxford: Oxford University Press.

Donovan, Todd. 2011. "Direct Democracy and Redistricting." In *Reapportionment and Redistricting in the West*, ed. Gary Moncrief. Lanham: Lexington Books: 111-136.

Easton, David. 1965. A Systems Analysis of Political Life. New York: Wiley.

Fishkin, James. 2009. When the People Speak: Deliberative Democracy and Public Consultation. Oxford: Oxford University Press.

Fougere, Joshua, Stephen Ansolabehere and Nathaniel Persily. 2010. "Partisanship, Public Opinion and Redistricting" *Election Law Journal*, Vol. 9, No. 4: 325-347.

Gerber, Elizabeth. 1999. The Populist Paradox: Interest Group Influence and Promise of Direct Legislation. Princeton: Princeton University Press.

Glazer, Amihai, Bernard Grofman and Marc Robbins. 1987. "Partisan and incumbency effects of 1970s congressional redistricting." *American Journal of Political Science*, 30(3):680-701

Grofman, Bernard. 1985. "Criteria for Districting: A Social Science Perspective." UCLA Law

Review, 33(1): 77-184.

Grofman, Bernard and Thomas Brunell. 2005. "The Art of the Dummymander: The Impact of Recent Redistrictings on the Partisan Makeup of Southern House Seats." In Galderisi, Peter (Ed.) *Redistricting in the New Millennium*, New York: Lexington Books, pp. 183-199.

Grofman, Bernard and Scott Feld. 1988. "Rousseau's General Will: A Condorcetian Perspective" *American Political Science Review*, Vol. 82, No. 2: 567-576.

Gutmann, Amy and Dennis Thompson. 2004. Why Deliberative Democracy? Princeton: Princeton University Press.

Hagens, Winnett. 1998. "The Politics of Race: The Virginia Redistricting Experience: 1991-1997" in *Race and Redistricting in the 1990s*, Bernard Grofman (ed.). New York: Agathon Press. 315-342.

Handley, Lisa and Bernard Grofman (eds.). 2008. *Redistricting in Comparative Perspective*. Oxford: Oxford University Press.

Hayes, Danny and Seth McKee. 2009. "The Participatory Effects of Redistricting" *American Journal of Political Science*, Vol. 53, No. 4: 1006-1023.

Hirsch, Sam. 2003. "The United States of Unrepresentatives: What Went Wrong in the Latest Round of Congressional Redistricting" *Election Law Journal*, Vol. 2, No. 2: 179-216.

Holmes, Robert. 1998. "Reapportionment Strategies in the 1990s: The Case of Georgia" in *Race and Redistricting in the 1990s*, Bernard Grofman (ed.). New York: Agathon Press. 191-228.

Howe, Jeff. 2008. Crowdsourcing: Why the Power of the Crowd is Driving the Future of Business. New York: Crown Business.

Kathlene, Lyn and John Martin. 1991. "Enhancing Citizen Participation - Panel Designs, Perspectives, and Policy Formation" *Journal of Policy Analysis and Management*, Vol. 10, No. 1: 46-63.

Levitt, Justin. 2011. "Redistricting and the West: The Legal Context" in *Reapportionment and Redistricting in the West* Gary Moncrief (ed.). New York: Lexington Books. 15-38.

Lowenstein, Daniel and Jonathan Steinberg. 1985. "The Quest for Legislative Districting in the Public Interest: Elusive or Illusory?" *UCLA Law Review* Vol. 33: 1-75.

MacDonald, Karin. 2012. "Adventures in Redistricting: A Look at the California Redistricting Commission" *Election Law Journal*, Vol. 11, No. 4: 472-489.

MacDonald, Karin and Bruce Cain. 2013. "Community of Interest Methodology and Public Testimony" *UC Irvine Law Review*, Vol. 3, No. 3: 609-636.

Marris, Peter and Martin Rein. 1982. *Dilemmas of Social Reform: Poverty and Community Action in the United States*. Chicago: University of Chicago Press.

Matsusaka, John. 2005. "Direct Democracy Works" *The Journal of Economic Perspectives* Vol. 19, No. 2: 185-206.

Matsusaka, John. 2004. For the Many or the Few: The Initiative, Public Policy and American Democracy. Chicago: University of Chicago Press.

May, Matthew and Gary Moncrief. 2011. "Reapportionment and Redistricting in the West." In *Reapportionment and Redistricting in the West*, ed. Gary Moncrief. New York: Lexington Books: 39-66.

Mayhew, David. 1971. "Congressional Representation: Theory and Practice in Drawing the Districts" in *Reapportionment in the 1970s* Nelson Polsby (ed.). Berkeley: University of California Press. 249-284.

McCarty, Nolan, Keith Poole and Howard Rosenthal. 2009. "Does Gerrymandering Cause Polarization?" *American Journal of Political Science*, Vol. 53, No. 3: 666-680.

McCartney, Robert. 2013. "Virginia case highlights need to stop gerrymandering by GOP, Democrats alike." Washington Post, January 26.

http://www.washingtonpost.com/local/virginia-case-highlights-need-to-stop-gerrymandering-by-gop-democrats-alike/2013/01/26/2f7cf0ac-6748-11e2-93e1-475791032daf_story.html

McGann Anthony J., Charles Anthony Smith, Michael Latner, and Alex Keena. 2016. *Gerrymandering in America*, New York: Cambridge University Press.

Mendelberg, Tali and John Oleske. 2000. "Race and Public Deliberation" *Political Communication*, Vol. 17, No. 2: 169-191.

Michels, Robert. 1958. *Political Parties: A Sociological Study of the Oligarchical Tendencies of Modern Democracy*. Eden and Cedar Paul (trans.). Glencoe: Free Press.

Miller, Peter and Bernard Grofman. 2013. "Redistricting Commissions in the Western United States" *UC Irvine Law Review*, Vol. 3, No. 3: 637-668.

Monmonier, Mark. 1995. *Drawing the Line: Tales of Maps and Cartocontroversy*. New York: Henry Holt and Company.

Monmonier, Mark. 2001. Bushmanders and Bullwinkles: How Politicians Manipulate Electronic Maps and Census Data to Win Elections. Chicago: University of Chicago Press.

Moynihan, Daniel. 1969. Maximum Feasible Misunderstanding: Community Action in the War on Poverty. New York: The Free Press.

Roerink, Kyle. 2015. "Gloves come off: Nevada GOP's move on redistricting draws howls from Dems" Las Vegas Sun, February 4.

http://www.lasvegassun.com/news/2015/feb/04/gloves-come-nevada-gops-move-redistrictingdraws-h/

Schlozman, Kay, Sidney Verba, and Henry Brady. 2012. The Unheavenly Chorus: Unequal Political Voice and the Broken Promise of American Democracy. Princeton: Princeton University Press.

Schumpeter, Joseph. 1950. Capitalism, Socialism, and Democracy. New York: Harper.

Stephanopoulos, Nicholas. 2013. "Our Electoral Exceptionalism" University of Chicago Law Review Vol. 80, No. 2: 769-858.

Sunstein, Cass. 2006. Infotopia: How Many Minds Produce Knowledge. New York: Oxford University Press.

Winburn, Jonathan. 2011. "Does it Matter if Legislatures or Commissions Draw the Lines?" In Reapportionment and Redistricting in the West, ed. Gary Moncrief. Lanham: Books: 137-160.

Winburn, Jonathan and Michael Wagner. 2010. "Carving Voters Out: Redistricting's Influence on Political Information, Turnout, and Voting Behavior." Political Research Quarterly Vol. 63, No. 2: 373-386.

Yoshinaka, Antoine and Chad Murphy. 2011. "The Paradox of Redistricting: How Partisan ical. Mapmakers Foster Competition but Disrupt Representation" *Political Research Quarterly*, Vol. 64, No.

Та	ble 1: Number o	f Hearings	by Location	in the Stat	es
State	Redistricting Authority	Pre-Draft Hearings in the Capital	Field Pre- Draft Hearings	Draft Hearings in the Capital	Field Draft Hearings
Arizona	Commission	1	14	3	26
California	Commission	2	23	1	10
Colorado	Legislature	1	9	0	0
Idaho	Commission	1/1	13 / 2	0	0
Nevada	Legislature	4	2	0	0
New Mexico	Legislature	2	9	0	0
Oregon	Legislature	5	11	4	0
Utah	Legislature	1	16	0	0
Washington	Commission	1	18	27	3

s with time allocates.
i without time dedicated;
ield an abbreviated set of pu,
Colorado, Nevada, and New Mex.
iable to pass a district plan. Notes: Counts include only hearings with time allocated for public comment. Administrative meetings related to redistricting, but without time dedicated to public comment, are excluded. The second commission in Idaho held an abbreviated set of public hearings, indicated by the slash. The task of redistricting in Colorado, Nevada, and New Mexico was completed by the courts after the legislature was unable to pass a district plan.

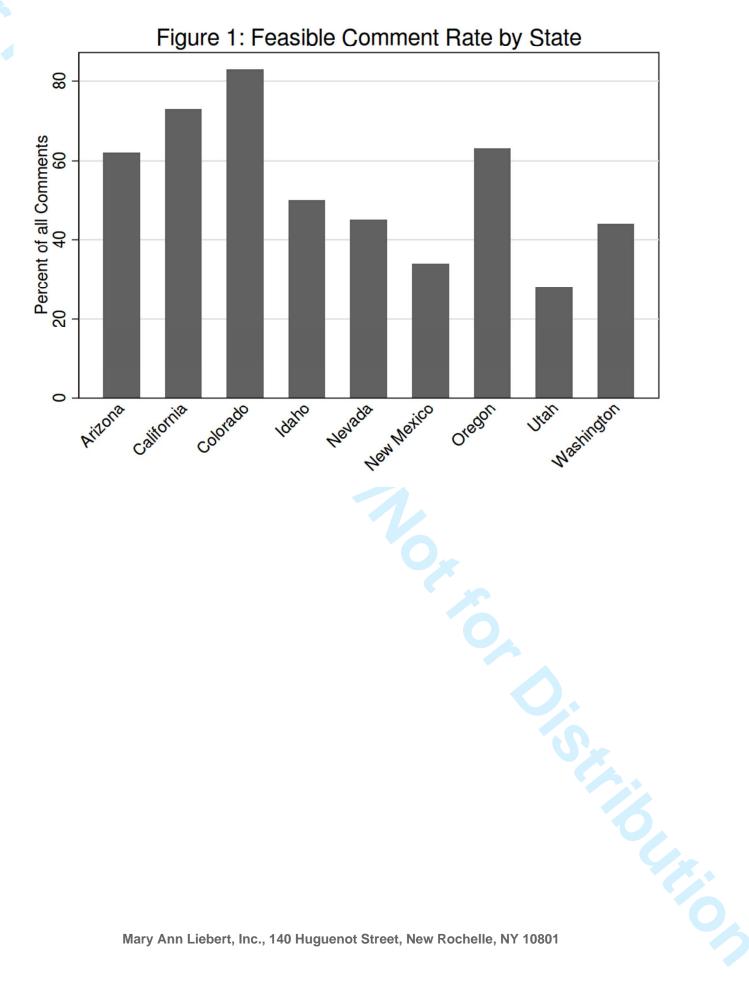
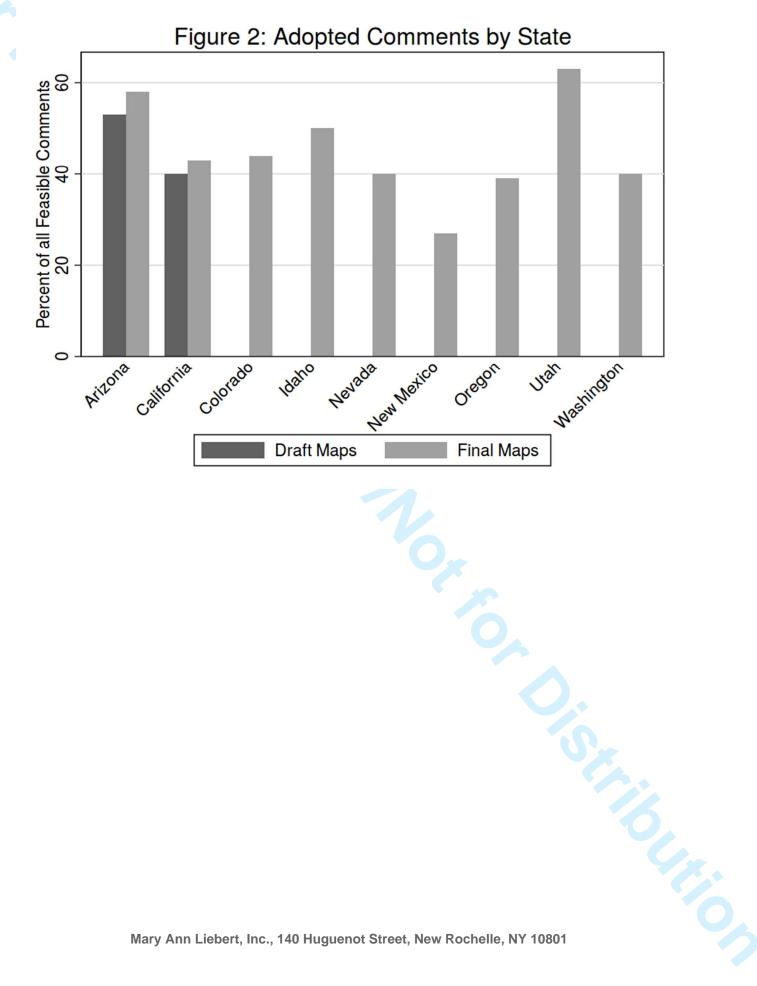


Table 2	2: Date and I Hearings	Location of s in These <i>I</i>		ig Field
Date	City	State	Draft map stage?	Number of witnesses
03/03/11	Golden	Colorado	No	32
03/15/11	Boulder	Colorado	No	33
04/02/11	Las Vegas	Nevada	No	21
04/19/11	Salem	Oregon	No	8
04/27/11	Long Beach	California	No	72
05/05/11	Carson City	Nevada	No	8
05/06/11	Santa Ana	California	No	53
05/21/11	Oakland	California	No	78
05/24/11	Salem	Oregon	Yes	22
06/07/11	Boise	Idaho	No	8
06/13/11	Seattle	Washington	No	37
06/15/11	Salt Lake City	Utah	No	31
06/16/11	Culver City	California	Yes	115
07/12/11	Spokane	Washington	No	8
07/13/11	Meridian	Idaho	No	15
07/20/11	Salt Lake City	Utah	No	24
08/06/11	Phoenix	Arizona	No	42
08/15/11	Albuquerque	New Mexico	No*	14
08/31/11	Santa Fe	New Mexico	No	17
09/13/11	Olympia	Washington	Yes*	12
10/11/11	Carson City	Nevada	Yes*	7
10/13/11	Flagstaff	Arizona	Yes	43

Notes: The count of witnesses testifying at each hearing reflects excludes people who only comment on legislative districts. Each of the their own uncertainty. partisan commissioners in Washington created their own draft maps. The October 2011 Carson City hearing was held before the Special Masters appointed to draw the maps in Nevada.

Table 3	3: Adoption F	Rate by
	lized Comme	_
	Normalized	
Decile	Area Range	Rate
Smallest	0003	0.714
2	0.004 - 0.026	0.48
3	0.027 - 0.054	0.326
4	0.056 - 0.099	0.66
5	0.1 - 0.132	0.412
6	0.134 - 0.194	0.311
7	0.197 - 0.243	0.5
8	0.245 - 0.388	0.333
9	0.397 - 0.936	0.436
Largest	0.959 - 6.166	0.146
	e are between (feasibly mappab	
	(reasibly mappab alized area decile	
iii eacii noima	anzeu area uecile	
	Mary Ann	Liebert, Inc.,

	C01	mments	Crave
State	Individuals	Public Officials	Group Representatives
Arizona	75	9	15
	76%	9%	15%
California	267	24	32
	83%	7%	10%
Colorado	52	8	5
	80%	12%	8%
Idaho	16	5	2
	70%	22%	9%
Nevada	17 4 7 0/	1	18
	47%	3%	50%
New Mexico	15	8	7
	50%	27%	23%
Oregon	25	2	3
	83%	7%	10%
Utah	38	9	8
	69%	16%	15%
Washington	41 71%	3%	15 26%
ıry Ann Liebe	rt, Inc., 140 Hug	uenot Street,	New Rochelle, NY 108



Appendix to "Public Input and Congressional Redistricting: Evidence from the Western United States 2011-2012"

Examples of infeasible comments:

- "...I think for those of us who aren't as familiar with this process, we need to know what's going on. And the reason that you're being investigated is you shredded the papers of the documents used to determine which mapping company you're going to use, and the various other things that are going on. I don't think it's right to ask us to just move past illegal actions by this Commission... I'm asking you here tonight to please cooperate with the attorney general so that we know what is is that you have to say, because operating in the dark is shameful for our state" (Phoenix, Arizona hearing August 6, 2011).
- "...The community of interest that is most important to serve is the taxpayer. Ideally we would have the seven seats at-large throughout the entire state of Colorado... I know that there may be a constitutional prohibition in the Colorado Constitution, but I guess that would be my preference... I think the most important principle is to have every district be competitive..." (Golden, Colorado hearing March 3, 2011).
- "...From a public policy perspective, the underrepresentation of women has a definite impact on policy making, and as the lines are redrawn, I implore you to consider the impact of the new lines on incumbent women in Nevada in both parties and in both houses. Please do not make it more difficult, or impossible, for incumbent women to win reelection... Please keep in mind that women already do not hold office in numbers proportionate to their population numbers..." (Las Vegas, Nevada hearing April 2, 2011).
- "...My concern is if you would consider carefully the notion of one person, one vote in making your decisions when you draw the lines to where the percentage of voters who make the decisions is more equitable and also considering communities of interest..." (Boise, Idaho hearing June 7, 2011).

Examples of feasibly mappable comments:

- A resident of Valencia County reported that all the congressional concepts split the county and suggested that a concept be developed whereby the county is considered a single entity and be put in a district that stretches toward Albuquerque (Albuquerque, New Mexico hearing August 15, 2011. Note that the New Mexico legislature releases only summaries of public testimony). The normalized comment area here is 0.015. The comment was not adopted in the final maps in New Mexico.
- "...I do believe that Eagle, Summit, and Grand [counties] are, again, more uniquely aligned with rural communities and their issues...I think the three counties together are fairly closely aligned..."

(Boulder, Colorado hearing March 15, 2011). The normalized comment area here is 0.547. The comment was not adopted in the final maps in Colorado.

- "...I'd like to speak the issue of communities of common interest. And I think that's one of the major problems in congressional districting. One, the residents of northwest Portland and the Pearl District have very little in common with McMinnville, Yamhill County, and Astoria to the north... The only reason I think district 1 has been drawn in the way it is is purely partisan even though that was banned by state law. The general population of Portland is large enough for one congressional district yet they basically have three representatives in Congress... I urge the committee to put an end to that partisanship and the practice of allowing three representatives for one city when that city is entitled to more than one..." (Salem, Oregon hearing April 19, 2011). Here are three feasible comments in one bit of testimony: that Portland should not be in the same district as McMinnville in Yamhill County (normalized comment area 0.14); that Portland should not be in the same district as Astoria (normalized comment area 0.14); and that Portland should be kept whole in a single district (normalized comment area 0.13). The first two comments were adopted in the final Oregon map while the third comment was not adopted.
- A private citizen in Utah wants Salt Lake City to be kept as much as possible in one district (Salt Lake City, Utah hearing June 15, 2011. Note that the Utah legislature releases only summaries of public testimony). The normalized comment area here is 0.003. The comment was not adopted in the final Utah maps.