

IN THE SUPREME COURT OF FLORIDA

Case No.: SC12-460

Original Proceeding
On The Attorney General's Petition for Review
Of The Florida Legislature's
2012 Joint Resolution of Apportionment

IN RE: 2012 JOINT RESOLUTION OF APPORTIONMENT
CS/SJR 2-B

**APPENDIX TO BRIEF OF FLORIDA DEMOCRATIC PARTY
IN OPPOSITION TO THE JOINT RESOLUTION**

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TAB A

EXPERT AFFIDAVIT OF STEPHEN ANSOLABEHERE

I. Background and Qualifications

1. I am a professor of Government in the Department of Government at Harvard University in Cambridge, MA. Formerly, I was an Assistant Professor at the University of California, Los Angeles, and I was Professor of Political Science at the Massachusetts Institute of Technology, where I held the Elting R. Morison Chair and served as Associate Head of the Department of Political Science. At UCLA and MIT, I taught PhD level courses on applied Statistics in the Social Sciences. I directed the Caltech/MIT Voting Technology Project from its inception in 2000 through 2004, am the Principal Investigator of the Cooperative Congressional Election Study, a survey research consortium of over 250 faculty and student researchers at more than 50 universities, and serve on the Board of Overseers of the American National Election Study. I am a consultant to CBS News' Election Night Decision Desk. I am a member of the American Academy of Arts and Sciences (inducted in 2007).

2. I have worked as a consultant to the Brennan Center in the case *McConnell v. FEC*, 540 US 93 (2003). I have testified before the U. S. Senate Committee on Rules, the U. S. Senate Committee on Commerce,

the U. S. House Committee on Science, Space, and Technology, the U. S. House Committee on House Administration, and the Congressional Black Caucus on matters of election administration in the United States. I filed an amicus brief with Professors Nathaniel Persily and Charles Stewart on behalf of neither party to the U. S. Supreme Court in the case of *Northwest Austin Municipal Utility District Number One v. Holder*, 557 US (2009). I am consultant for the Rodriguez plaintiffs in *Perez v. Perry*, currently before the District Court in the Western District of Texas, and in *United States v. State of Texas*, currently before the District Court in the District of Columbia; I consulted for the Guy plaintiffs in *Guy v. Miller* in Nevada state court.

3. My areas of expertise include American electoral politics and public opinion, as well as statistical methods in social sciences. I am author of numerous scholarly works on voting behavior and elections, with particular focus on the application of statistical methods. This scholarship includes articles in such academic journals as the Journal of the Royal Statistical Society, the American Political Science Review, the American Economic Review, the American Journal of Political Science, Legislative Studies Quarterly, the Quarterly Journal of Political Science,

Electoral Studies, and Political Analysis. I have published articles on issues of election law in the Harvard Law Review, Texas Law Review, Columbia Law Review, New York University Annual Survey of Law, and the Election Law Journal, for which I am a member of the editorial board. I have coauthored three scholarly books on electoral politics in the United States, The End of Inequality: Baker v. Carr and the Transformation of American Politics, Going Negative: How Political Advertising Shrinks and Polarizes the Electorate, and The Media Game: American Politics in the Media Age. I am coauthor with Ted Lowi, Ben Ginsberg, and Ken Shepsle of American Government: Power and Purpose, a college textbook on American government. My curriculum vitae with publications list is attached to this report.

4. I have been hired by the Florida Democratic Party to analyze the Florida Senate district plans with respect to partisanship, incumbency, race, compactness, and respect for political subdivision boundaries. I am retained for a rate of \$400 per hour, which is my standard consulting rate.

II. Sources of Information

5. I consulted the following sources in addressing the factual issues discussed below. I used MyDistrictBuilder and relevant Block Assignment, Shape Files, and Data files available through the Florida Senate and Florida House Redistricting Websites, weblinks:

<http://www.flsenate.gov/Session/Redistricting>, and

<http://www.myfloridahouse.gov/Sections/Redistricting/Redistricting2012.aspx>.

The “Redistricting Plan Data Report” for each plan provides information on the number of municipal boundaries and county lines crossed by each district. The file “Census and ACS Summary Statistics” provides information on the total populations and population deviations of each district in each plan and on the racial composition of the districts.

Election results and voter registration data and maps are available at: <http://mydistrictbuilder.wordpress.com/opendata/>.

The firm NCEC provided me with shape and .doj files corresponding to the districts defined in the Florida Democratic Party’s Alternative Map discussed throughout this report. They also provided me with addresses of sitting Florida State Senators and the longitude and latitude of those addresses. The addresses were compiled from

Senators' websites and public records. The longitude and latitude were used to map sitting Senators into the districts proposed in S9030 and in the FDP Map. Statistics on aggregate voter registration in Florida are available at:

<http://election.dos.state.fl.us/voter-registration/statistics/elections.shtml#2000>

Finally, I consulted data from the National Exit polls for 2008 and 2010 for the state of Florida. Available at:

<http://www.cnn.com/ELECTION/2008/results/polls/#FLP00p1>, and <http://www.cnn.com/ELECTION/2010/results/polls/#val=FLG00p1>.

These data are also available through the Roper Center

(http://www.ropercenter.uconn.edu/elections/common/state_exitpolls.html#.T2zYxo4ZDXU).

IV. FINDINGS

A. Overview

6. This report assesses the 2002 Florida Senate Map (Current Map), the Map enacted by the Florida State Legislature and struck down by the Court (Rescinded Map), the 2012 Revised Florida Senate Map (Revised Map, or S9030), and the 2012 Florida Democratic Party's proposed Senate Map (FDP Map) along all five dimensions established under the Florida Constitution. These are: (1) representation of minorities, (2) not favoring a party, (3) not favoring any incumbent, (4) geographic compactness, and (5) respect for political boundaries.

7. The Revised Map improves on the Current Map on some dimensions, but there remain significant problems relating to compactness, race, party, and incumbency. The FDP Map makes substantial improvements on all criteria, and demonstrates that improvements along all dimensions are still possible: (i) The FDP Map improves the compactness of the Revised Map statewide and in each of the major metropolitan areas. (ii) The Revised Map reduces the number of seats in which Democrats win pluralities compared with the Current Map. The FDP Map keeps the partisan balance the same as the Current Map.

(iii) The Revised Map and the FDP Map do not decrease the number of Majority Black Senate Districts or the number of Majority Hispanic Senate Districts. There are specific problems in the Revised Map with representation of Blacks who reside in SDs 1 and 39 in the Current Map.

(iv) Both the Revised and FDP Maps make substantial changes in the core districts consistent with population changes. The Revised Map carries over a higher percent of population from core districts than the FDP Map, and the Revised Map pairs fewer incumbents.

8. I analyze voting patterns of racial groups in order to perform a functional analysis of minority representation. I find that Blacks statewide vote cohesively as a group, but Hispanics do not. Whites voters exhibit low cohesion statewide.

9. The FDP Map demonstrates that improvements on every constitutional criterion are possible and available. Comparison of the FDP Map with the Current Map and the Revised Map highlights several areas where further reconfiguration of districts may be required -- Alachua, Putnam and Volusia Counties, Saint Lucie, Martin, and Indian

River Counties, Miami-Dade Area, Hillsborough and Pinellas Counties, and the Orlando Area.

10. SDs under the Revised Map have low compactness with no apparent racial justification. These are Revised SD 8, Revised SD 14, Revised SD 32, Revised SD 34, and Revised SD 40. In addition, Revised SDs 19 and 39 have low Reock scores and might involve questions of racial representation. The FDP Map contains more compact alternatives for each of these districts that do not reduce racial representation from the Current Map.

11. Three SDs under the Revised Map are of concern because they are reconfigured in ways that have racial effects. Revised SDs 7 and 8 incorporate heavily Black Communities that had effective representation in Current SD 1. Revised SD 39 has low compactness and is not Majority Black VAP, but it increases substantially the number of Blacks in the district and the Black percentage of the Democratic Party primary and general election voters (already a majority). The FDP Map demonstrates that it is possible to configure SDs 7 and 8 so as not to reduce representation of Blacks in Putnam and Volusia Counties who

were in Current SD 1. The FDP Map also demonstrates that it is possible to make a more compact version of SD 39 that maintains Black political representation in this and surrounding districts.

B. Geography

12. Table 1 presents a correspondence between the current districts and the enacted districts. Each enacted district is listed next to the current district from which it derives the highest share of its population. Table 1 also presents the percent of each district from the core district and the Reock score for each district in the Revised and Proposed Maps.

13. I present Reock scores because they are widely used and have an immediate geometric interpretation. The Reock score is the ratio of the area of the actual district to the area of the smallest circle that encompasses that district (also known as the smallest bounding circle). The idea behind the score is that a circle is the most compact shape possible, and the most compact possible district would itself be a circle. The score is the percent of the area of the inscribed circle that is accounted for by the area of the district. It is not possible to draw a legal map that consists solely of circles, so this is easily interpreted as a

feature of a district. Highly elongated districts, for instance, would have relatively small areas compared with the smallest circle that inscribes them. The areas of other inscribing shapes, such as convex polygons, might be used, but they do not flag highly elongated districts. The Figures in Table 1 were derived from Maptitude. The Attorney General reports figures using ESRI. The Reock measures calculated this way are not consistent with figures in the report of the Florida House “Redistricting Plan Data Report” for S9030 or with calculations from Maptitude. The difference may arise from differences in area projections between ESRI and ArcGIS, which is the GIS system on which Maptitude is built. I have examined Reock scores generated from all of these sources. Reock numbers for specific districts differ between ESRI and Maptitude, and in some districts, such as Revised and FDP 32, the difference is substantial. The overall qualitative conclusions are the same that the FDP Map is more compact, though the values for specific districts differ.

14. There is no firm guideline for what is “compact,” but rules of thumb have emerged. First, a perfectly square district would have a Reock score of .6366 (area of square inside area of circle). Second, districts

with Reock below .3 are widely considered to have low compactness.

Third, districts with very low Reock scores, below 0.2 are widely viewed as not compact.

15. Two ways to measure plan compactness are the number of districts with low compactness scores and the average compactness score across districts. The number of districts with low compactness is a more meaningful measure. Reock scores are readily interpreted as a description of characteristics of specific districts. The scores are useful for flagging problem districts and identifying where compactness has increased or decreased. An average Reock score for an entire plan is difficult to interpret because Reock is a ratio of the district's area to an inscribing area, and the inscribing areas of the various districts will overlap. (This issue arises with calculating averages of convex hull and other commonly used compactness measures.) The average merely characterizes the typical district score, and may mask the real differences in compactness. It is possible that two plans have the same average Reock, even though one plan consists of districts all with the same compactness (say .5) and the other plan consists of districts half of which have very low compactness (say .05) and half of which have very

high compactness (say .95). I report the averages for the plans but focus more on the SDs with low Reocks.

16. The FDP Map demonstrates that it is possible to make substantial improvements in district compactness in both the Current and Revised Map. In the Current Map, 16 SDs have Reock below .3, and 7 SDs have Reock below .2. The average district Reock is .31 in the Current Map. In the Revised Map, 8 SDs have Reock below .3, and no SD has Reock below .2. The average district Reock is .41 in the Revised Map. In the FDP Map, by contrast, only 3 SDs have Reock below .3 and none has Reock below .2. The average district Reock is .43 in the FDP Map.

17. The eight districts in the Revised Map with Reock scores below .3 are: SD 8 (.24), SD 14 (.27), SD 19 (.23), SD 32 (.28), SD 34 (.28), SD 35 (.28), SD 39 (.13), and SD 40 (.29). The three Proposed SDs in the FDP Plan with Reock scores below .3 are: SD 19 (.28), SD 35 (.28), and SD 39 (.24). See Table 1.

18. Under the Revised Map, Senate Districts split 24 Counties (of 67), 47 municipalities (of 411), and 287 Voting Tabulation District (of 9,436). A

Voting Tabulation District, or VTD, is roughly the equivalent of a precinct, and splitting of VTDs likely will force local election administrators to redraw precincts and find alternative polling locations.

19. Under the FDP Map, proposed Senate Districts split 23 Counties (of 67); 69 municipalities (of 411), and 145 VTD (of 9,436).

20. In the Revised Map, there is room for significant improvement in the number of county crossings and in compactness in the Tampa/Saint Petersburg area, including Hillsborough, Pinellas, Pasco, and Manatee Counties. The FDP Map improves on the geographic characteristics of districts in the Tampa/Saint Petersburg area. Specifically, SD 17 is completely in Pasco and does not cross the Hillsborough county line, as Current SD 12 and Revised SD 17 do. The FDP Map improves the compactness of the least compact SD in this area. Revised SD 19 has a Reock of .23; Proposed SD 19 in the FDP Map has a Reock of .28. SD 19 is a district in which Blacks have the opportunity to elect their preferred candidates, but a more compact version of this district is possible.

21. The Revised Map also contains a relatively non-compact SD 32 stretching from Indian River County to Palm Beach County. It cuts Indian River County, Saint Lucie County, Martin County, and Palm Beach County. This district has a Reock of .23, and it is tied with SD 19 and SD 39 as the least compact district in the Revised Map. Also, this is not a minority district.

22. The FDP Map's version of SD 32 shows that it is possible to reduce county line crossings in this area and improve the compactness of SD 32 and its neighboring SDs. In the FDP Map, SD 32 crosses only the Saint Lucie and Palm Beach County lines and has a Reock of .39. It also improves on the compactness of the neighboring SDs 16 and 21.

23. The least compact SD in the Revised Map is SD 39 in the Miami-Dade area. This district has a Reock of .23. The largest geographic part of the district covers all of Monroe and Hendry Counties, the eastern two-thirds of Collier County, and the Western two-thirds of Miami-Dade County. These areas have relatively low populations, and to capture enough population to make a legal district, Revised SD 39 extends three separate arms east into the City of Miami and surrounding

municipalities. The northern most arm reaches due west and splits the Cities of Doral and Miami, and in Miami, it curls to the south. The northern arm of Revised SD 39 cuts areas previously covered by Current SDs 34, 33, 36, 39, and 40. The first arm runs along the northern boundary of Revised SDs 37 and 40. A second arm of Revised SD 39 envelops SDs 37 and 40 from the south. This second arm of Revised SD 37 splits boundaries of Current SD 34, 36, 38, and 39. A third arm reaches due west along the southern border of Revised SD 35, and at that point cuts Homestead City in half. Revised SD 39 has a substantial Black population and substantial Black vote within the Democratic primary. The FDP version of SD 39 is more compact because it does not include the second arm, unlike Revised SD 39, and has a more compact configuration inside the City of Miami. The FDP configuration maintains the Black population share of the Current SD 39 and keeps the Black percent of the Democratic Party primary and general election vote approximately the same as in the Current Map. This suggests that the configuration of Revised SD 39 inside Miami and to the southwest of the city (the second arm) was not justified for the purposes of maintaining Black representation through SD 39.

24. Finally, the Revised and FDP Maps significantly alter the configuration of districts representing the Orlando area. Most importantly, Current SD 19 is split into two districts, numbered SD 12 and SD 14 in both the Revised and FDP Maps. There is a significant Black and Hispanic population in Current SD 19, though neither group is a majority of (i) the Voting Age Population, (ii) the Democratic Party registration in 2010, (iii) votes cast by Registered Democrats in 2010, or (iv) Democratic Primary voters in 2010. Current SD 19 is highly non-compact and crosses county and municipal boundaries.

25. Revised SD 14 has a Reock score of .27, the fifth lowest in the map. The neighboring districts have Reock scores of .41 in Revised SD 12 and of .42 in Revised SD 13. I discuss racial voting and representation below, but it is important to note here that race may be a factor in the configuration of Revised SD 14. Hispanics are 50.01% of the Voting Age Population in Revised SD 14. However, looking at indicators of electoral functionality of the district, it does not appear that Revised SD 14 is one in which Hispanics will be the dominant racial group in elections. Hispanics are not the majority of the vote of either parties' registration, general election vote in 2010, or primary election vote in 2010.

Registered Democratic Hispanics accounted for 28.3% of the voters in the 2010 Democratic Primary in Revised SD 14 and 36.6% of the General Election voters in 2010. Given the low turnout numbers, SD 14 does not have a clear justification based on race.

26. The FDP version of these districts improves on both the Current Map and the Revised Map. Proposed SD 14 in the FDP Map has a Reock of .44, compared with .27 in the Revised Map. Proposed SD 12 has a Reock of .57, compared with .41, and Proposed SD 13 has a Reock of .48, compared with .42 in the Revised map. In reconfiguring SDs 12 and 14, the FDP map also improves compactness most of the neighboring districts and reduces county line crossings in this area.

C. Party

27. To assess partisan shifts and differences across maps, I examine the 2010 Governor Election, the 2008 Presidential Election, and the 2006 Governor Election. All three elections are reasonably close, which allows assessment of how the parties likely fair in terms of legislative seats in competitive elections statewide. I do not examine the 2010 U. S. Senate election, as that involved an unusual situation in which three candidates

won significant shares of the votes. I do not examine state legislative elections, as the vote for state legislator reflects the individual legislator's personal support or incumbency advantage. In addition, those elections include some uncontested races.

28. The Current Map favors neither Democrats nor Republicans. Under the Current Map, Obama and McCain each received pluralities of the 2008 presidential vote in 20 of 40 SDs. Davis received the plurality of votes in 13 SDs, and Crist received the plurality of votes in 26 SDs.¹ Sink received the plurality of votes in 15 SDs, and Scott received the plurality of votes in 25 SDs.

29. The Rescinded Map and the Revised Map favor Republicans and disfavor Democrats, in comparison with the Current Map and in absolute terms. Under the Rescinded Map, Obama receives the plurality of votes in 16 SDs and McCain receives the plurality of votes in 24 SDs. Davis receives the plurality of votes in 13 SDs and Crist receives the

¹ One district is undetermined. MyDistrictBuilder produces an impossible result for the 2006 Governor election in SD 14 under the Current Map. According to the report generated by MyDistrictBuilder, Sink and Scott each received 51% of the vote.

plurality of votes in 27 SDs. Sink receives the plurality of votes in 14 SDs, and Scott receives the plurality of votes in 26 SDs.

30. Under the Revised Map (S9030), Obama receives the plurality of votes in 17 SDs and McCain receives the plurality of votes in 23 SDs. Davis receives the plurality of votes in 12 SDs, and Crist receives the plurality of votes in 28 SDs. Sink receives the plurality of votes in 15 SDs and Scott receives the plurality of votes in 25 SDs. The Revised Map, then, reduces by 3 the number of SDs in which Obama wins a plurality compared to the Current Map, reduces by 1 the number of SDs in which Davis wins a plurality, and reduces by 1 the number of SDs in which Sink wins a plurality.

31. The FDP's revised map restores the party balance that exists in the Current Map. Under the FDP Map, Obama would receive the plurality of votes in 21 SDs and McCain would receive the plurality of the vote in 19 SDs. In three FDP SDs (numbers 20, 22, and 24), neither candidate wins a majority, and the vote for McCain and for Obama separated by a percentage point. Under the FDP Map, Davis receives the plurality of votes for Governor in 2006 in 13 SDs and Crist receives the plurality of

votes in 27 SDs. Sink receives the plurality of votes for Governor in 2010 in 17 SDs and Scott receives the plurality of votes in 23 SDs.

32. Geographic dispersion and concentration of population cannot account for the reduction in party between the Current Map and the Rescinded Map or Revised Map. The FDP's Map is more compact than the Current Map, the Rescinded Map or the Revised Map and has at least as many SDs in which the Democratic candidate won a plurality of votes in each of the elections examined. This suggests that the reduction in the number of seats in which Democrats won a majority of seats was not a result of geographic dispersion of the population across areas compactness or the distribution of population across places.

33. The reconfiguration of Current SD 14, in Alachua County and Gainesville area, eliminates one Senate District in which Democrats won a majority of votes for President in 2008 and Governor in 2010. In Current SD 14, Obama won 50.4% and McCain 48.1% of votes for President in 2008; Sink won 50.5% and Scott won 45.9% of votes for

Governor in 2010.² In Revised SD 7, Obama would win 45.5% and McCain 53.3% of votes for President in 2008; Sink would win 43.9% and Scott 53.0% of votes for Governor in 2010.

34. The change in boundaries does not increase racial representation and, as discussed below, contributes to the reduction in racial representation of Blacks in Putnam and Volusia Counties who were in Current SD 1. Nor does the reconfiguration substantially alter the compactness of the districts. Rather these revised boundaries disfavor Democrats. The new lines decrease the ability of the substantial Black community in this area to elect its preferred candidates, and the new lines have a further adverse effect on Black voters in nearby Volusia County.

35. The alternative district under the FDP Map keeps an existing Democratic district intact in this area without creating a highly non-compact district. It guarantees that the representation of Blacks in Gainesville and surrounding cities (especially Palatka) and counties is

² There appears to be an error in the .doj file in MyDistrictBuilder for the 2006 Governor election in Current SD 14, as both candidates are listed as receiving over 50 percent of the vote.

not reduced. It further allows construction of a version of CD 8 in which Blacks from Volusia County in Current SD 1 will have an improved ability to elect their preferred candidates.

D. Race

D.1. Majority Black Senate Districts

36. I focus on Majority Black Senate Districts because, as discussed in the next section, Hispanics statewide split their votes. Hence, it is hard to say what racial configuration of districts increases or decreases their representation on a statewide basis.

37. Each map has the same number of SDs in which Blacks are a majority of the Voting Age Population (VAP), which is a measure of the eligible electorate.

38. In current SDs 29 and 33, a majority of the VAP is Black. SD 29 is 60.7% BVAP; SD 33 is 59.2% BVAP. Both districts are in the Miami-Dade area.

39. In the Revised Map (S9030), SDs 31 and 36 are majority BVAP. SD 31 is 50.1% BVAP, and SD 36 is 58.3% BVAP. Both districts are in the Miami-Dade area.

40. In the FDP Map, SDs 31 and 36 are majority BVAP. SD 31 is 52.5% BVAP, and SD 36 is 63.4% BVAP. Both districts are in the Miami-Dade area.

41. Hispanics are not a focus of this analysis because, as discussed in the next section, Hispanics do not vote cohesively statewide. For completeness, I present the number of SDs in which Hispanics are a majority of Voting Age Persons (or HVAP). There are 3 majority HVAP SDs under the Current Map, 5 under the Revised Map, and 4 under the FDP Map. Neither the Revised Map nor the FDP Map reduces the number of majority HVAP SDs.

D.2. Functional Analysis, I

42. The starting point for any assessment of the implications of a map for minority representation and voting rights is an analysis of the voting behavior of the various racial groups in a state. Such analysis is used in

conjunction with examination of district composition and electoral outcomes to determine (1) whether it is appropriate to draw minority districts, (2) whether it is feasible to draw minority districts, (3) what form those districts might take, (4) in which districts minority-preferred candidates win and lose, and (5) whether a given configuration of districts strengthens or weakens minority representation in a given area or statewide.

43. If there is low or no voting cohesion among Whites, it may be possible to create more districts in which Blacks can elect their preferred candidates than is possible if the only Black-opportunity districts are majority Black districts. In a circumstance of relatively high cohesion among Blacks and low cohesion among Whites, it may even be detrimental to Black representation and voting rights to pack Blacks into a small number of majority Black SDs.

44. I undertake a functional analysis here following the approach outlined by the Supreme Court of the United States indicated in *Thornburg v. Gingles* and followed in subsequent voting rights cases. The first step of the analysis is to answer three factual questions laid out

by the Supreme Court of the United States. (1) Is the population of a given minority group sufficiently numerous in a given area that a district can be created? (2) Do minority groups vote cohesively as a group? (3) Do Whites vote cohesively as a group and against the preferences of the minority voters (so called White Bloc Voting)? These questions are called the three *Gingles* Preconditions. I focus on the second and third in the analysis in this section.

45. In addition to these questions, decreases or increases in the ability of minorities to elect their preferred candidates also depend on the rate at which others not in that group vote in line with that group and, ultimately, on the frequency with which candidates preferred by that group can win. I consider these factors with respect to specific areas and districts in the next section.

46. The Supreme Court in *Gingles* pointed to two types of data analyses that may be performed to address these questions. In particular, the Court instructed that exit poll data or ecological regression analysis of the correlations between racial composition of Voting Tabulation Districts and election returns may be used to measure the vote

preferences of different racial groups in a state or area. I perform such analyses for the two elections examined in the previous section, the 2008 Presidential Election and the 2010 Governor election.

47. Statewide exit poll results indicate distinct voting patterns for Blacks, Hispanics, and Whites. Exit Polls were conducted in the State of Florida by Edison Mitofsky Research as part of the national exit polls in 2008 and 2010. The national exit polls conducted in Florida in 2008 and 2010, have a margin of error of plus or minus 1.7 percentage points.³

48. Blacks in Florida vote cohesively. In the 2008 Presidential election, 96% of Blacks in Florida voted for Obama and 4% voted for McCain. In the 2010 Florida Governor election, 93% of Blacks voted for Sink and 6% voted for Scott.

³ Summaries of the exit polls by state may be accessed online through any number of outlets, such as CNN (<http://www.cnn.com/ELECTION/2008/results/polls.main/>) Data files for the exit polls are available through the Roper Center (http://www.ropercenter.uconn.edu/elections/common/state_exitpolls.html#.T2zYxo4ZDXU).

49 Hispanics statewide show little or no cohesion. In 2008, 57% of Hispanics voted for Obama and 42% voted for McCain. In 2010, 48% of Hispanics voted for Sink and 50% voted for Scott.

50. Whites show low levels of cohesion statewide. In 2008, 42% of Whites voted for Obama and 56% voted for McCain. In 2010, 41% of Whites voted for Sink and 56% voted for Scott.

51. I performed ecological regression analyses and arrived at nearly identical estimates as are shown by the exit polls. Approximately 90 to 95% of Blacks voted for Sink or Obama. Approximately 55% of Hispanics voted for Obama and approximately 49% voted for Sink. Approximately 55 to 60% of Whites voted for McCain or Scott.

52. One may perform a further analysis using voter registration. Using data from MyDistrictBuilder, I calculated the percentage of a given group's registered voters (Blacks or Hispanics) who registered as Democrats or who registered as Republicans.

53. Statewide, 95% of Blacks who registered as either a Democrat or a Republican are registered as Democrats. Statewide, 55% of Hispanics who registered as either a Democrat or a Republican are registered as Democrats.

54. In sum, Blacks vote cohesively in the State, but Hispanics do not. Whites show low levels of voting cohesion. Although a majority of Whites vote for different candidates than those preferred by Black voters, a significant share of White voters do vote for the same candidates as Blacks. Given the low levels of cohesion among Hispanics and Whites, it may be possible to create districts in which Blacks can elect their preferred candidates without having to create majority Black VAP SDs. Whether the maps do so depends on a second aspect of the functional analysis.

D.3. Functional Analysis, II

D.3.i. Current SDs 29 and 33, Revised SD 31 and 36, FDP SD 31 and 36

55. In the Current, Revised, and FDP Maps, the two majority BVAP districts in Miami-Dade are SDs in which Blacks can elect their preferred

candidates. Obama, Sink, and Davis all won sizable majorities in these SDs.

D.3.ii. Jacksonville Area

56. Current SD 1 is 46.9% BVAP, and not a majority Black VAP SD.

Nonetheless, it represents the significant Black populations in the City of Jacksonville and several other areas of the northeastern part of the State with significant Black populations. The district extends south out of Duval County along the Saint Johns River. Two arms reach out of the district, one into Putnam County and a second into Saint Johns County. The district continues to head south until it crosses into Volusia County, where it incorporates population from Daytona Beach and surrounding areas. Current SD 1 is not majority Black, but, as discussed below, it affords representation for the Black population in Jacksonville and several communities in northeastern Florida. The resulting district, however, is highly non-compact.

57. The Revised and FDP Maps offer alternative configurations to SD 1 that are compact and lie entirely in Duval County. These are SD 9 in the Revised Map and SD 9 in the FDP Map.

58. Under the Current Map, SD 1 is a district in which Blacks can elect their preferred candidates. In Current SD 1, Obama received 65.2% and McCain 34.0% of the 2008 presidential vote. Sink received 60.5% and Scott 36.9% of the 2010 governor vote. Blacks are 68% of the Primary Vote of Democrats in 2010 and 69.3% of the Registered Democrats in Current SD 1.

59. The alternatives to SD 1 in the Jacksonville area in both the Senate's Revised Map and the FDP Map are SDs in which Blacks can elect their preferred candidates. In Revised SD 9, Obama would receive 59.3% and McCain 39.9% of votes for President in 2008. Sink would receive 55.5% and Scott 41.9% of votes for Governor in 2010. Blacks are 66.3% of the Democratic Primary Voters and 67.6% of Registered Democrats in Revised SD 9. In FDP SD 9, Obama would receive 61.0% and McCain 38.2% of votes for President in 2008. Sink would receive 57.3% and Scott 40.0% of votes for Governor in 2010. Blacks are 66.4% of the Democratic Primary Voters and 66.4% of Registered Democrats in Proposed SD 9.

D.3.iii. Saint Johns to Volusia Counties

60. Current SD 1 extends south of Duval County along the eastern side of St. John's River. It extends an arm west across the river into Putnam County to capture most of the City of Palatka, and another arm reaches east to grab population in St. Augustine. On the southern boundary of the district it crosses the Volusia line to incorporate much of Daytona Beach and surrounding communities. From the District by County Population Spreadsheet on the Florida Senate Redistricting website, the part of Putnam County in Current SD 1 is 47.7% Black, and the part of Volusia in Current SD 1 is 58.1% Black. The substantial Black populations in these communities had effective representation in SD 1 under the Current Map. The new versions of Current SD 1 (Revised and Proposed SD 9) necessarily alter the configuration of the Senate Districts representing these Black communities. The reconfigured Jacksonville SD will also alter Current SD 5, which includes parts of Nassau, Duval, and Clay Counties.

61. The Revised Map and the FDP Map reconfigure this area in very different ways. I consider, first, the Volusia and Putnam County problems, that is, the Revised and FDP Maps' versions of the SDs

representing Saint Johns, Flagler, Putnam and Volusia portions of Current SD 1. In the next subsection, I will examine how the treatment of Clay and Putnam Counties affects districts to the west of this area and reduces the representation of the Putnam County Blacks, as well as those in Alachua County.

62. Under the Revised Map, Revised SD 6 contains all of Saint Johns, Flagler, Putnam, and part of Volusia. That is, it attaches the southern part of Current SD 1, including two Black Communities of concern, to a portion of Current SD 8. Revised SD 6 also crosses the Volusia County boundary in order to place Daytona Beach in this SD.

63. Revised SD 6 is not a district in which Blacks can elect their preferred candidates. Under this configuration of the southern part of current SD 1, Obama receives 42.9% and McCain 56.0% of votes for President in 2008. Sink receives 39.5% and Scott receives 56.9% of votes for Governor in 2010.

64. Revised SD 8, which includes Volusia, except for the communities that were in SD 1, is a competitive SD or one that favors Republicans.

Under the Senate's Revised configuration of this district, Obama receives 49.7% and McCain 49.0% of votes for President; Sink receives 44.9% and Scott 50.2% of votes for Governor in 2010. The performance of this district is below the state average vote for Obama and Sink, though Obama wins a plurality by seven-tenths of one percent. This is not a SD in which the candidates preferred by Blacks will win. As such this represents a reduction in the representation of Blacks in Volusia who were previously in Current SD 1.

65. The FDP Map combines Saint Johns, Flagler, and Clay, including the part that was in Current SD 1, in a single district, Proposed SD 6, and places the portion of Volusia County from current SD 1, including Daytona Beach, in proposed SD 8.

66. FDP's Proposed SD 6 is not a district in which Blacks have the ability to elect their preferred candidates under the FDP Map. Obama receives 34.9% and McCain 64.1% of votes for President in 2008 under the FDP Map, and Sink receives 32.9% and Scott 63.7% of votes for Governor in 2010.

67. Proposed SD 8 under the FDP Map is a competitive district. Under proposed SD 8, Obama receives 52.8% and McCain 45.9% of the 2008 Presidential vote. Sink receives 47.2% and Scott 48.3% of the 2010 Governor vote. Although not clearly a district in which Black-preferred candidates reliably win, Proposed SD 8 shows that it is possible to construct a compact version of SD 8 in which Black preferred candidates have a higher chance of winning than under Revised SD 8.

D.3.iii. Putnam, Clay, and Neighboring Counties

68. The configuration of Revised SD 9 and Revised SD 6 also has consequences in Putnam, Alachua, and Marion Counties. Let us begin with Clay County. Revised SD 4 is created to accommodate the changes in the Jacksonville area. Revised SD 4 lies entirely in Nassau and Duval Counties. The analogous district under the 2002 map (current SD 5) also includes Clay County. Revision of Current SD 1 and Current SD 5 makes Clay County unassigned. The Revised and FDP maps deal with this issue differently. The Senate's Revised Map places Clay with Bradford and Alachua in Revised SD 7. The FDP's Map places Clay in Proposed SD 6, along with Saint Johns and Flagler, as discussed above. This creates an opportunity to preserve representation of the Putnam

County Blacks. The FDP Map creates Proposed SD 7 using Putnam, Alachua, and most of Marion Counties. This is a highly compact SD. It does split Marion County, but in doing so it avoids reducing the representation of Blacks in Putnam County who were in Current SD 1 and also those in Alachua and Marion Counties.

69. The core district from the Current Map for Revised SD 7 and Proposed SD 7 is Current SD 14. All three contain Alachua in its entirety and some of the remaining areas. Alachua comprises 54% of the population of Current SD 1, and is the core county of the Revised and Proposed versions of this district.

70. Under the Current Map, SD 14 is 18.2% Black VAP. This is the district with the 9th highest Black VAP in the State.

71. Current SD 14 is a district in which Blacks have the ability to elect their preferred candidates. In Current SD 14, Obama received 50.4% and McCain 48.1% of votes for President in 2008; Sink receives 50.5% and Scott 45.9% of votes for Governor in 2010.

72. Under the Revised Map, Revised SD 7 has 15.3% Black VAP. This is the district with the 10th highest Black VAP in the State.

73. Revised SD 7 is not a SD in which Blacks have the ability to elect their preferred candidates. In Revised SD 7, Obama receives 45.5% and McCain 53.3% of votes for President in 2008; Sink receives 43.9% and Scott 53.0% of votes for Governor in 2010.

74. Under the FDP Map, Proposed SD 7 is 16.8% BVAP. It is the district with the 9th highest percent BVAP in this map.

75. FDP's Proposed SD 7 is a district in which Blacks can elect their preferred candidates. In Proposed SD 7, Obama receives 52.3% and McCain 46.3% of votes for President in 2008; Sink receives 50.4% and Scott 45.8% of votes for Governor in 2010.

76. In sum, the Revised Map's reconfiguration Current SD 14 to include Clay County in Revised SD 7 decreases the ability of the sizable Black population in Alachua and surrounding areas to elect their preferred candidates.

D. 3.iv. Orlando area

77. Current SDs 9, 19, 22, and 24 cover the Orlando area, including Orange and Seminole County. Current SD 19 was highly non-compact.

78. The Revised Map creates Revised SD 14, whose core is SD 19. Revised SD 14 is one of the least compact districts in the Revised Map, with a Reock of .27.

79. In the FDP Map, Proposed SD 14, whose core is SD 19, is a compact district. It has a Reock score of .44. This district is constructed in a way that does not compromise the compactness of surrounding districts, SDs 10, 11, 12, and 13.

D.3.v. Hillsborough and Pinellas Counties

80. The current map in this area contains several highly non-compact districts that repeatedly cut county boundaries. Current SD 12 cuts Pasco and Hillsborough Counties. Current SD 13 cuts Pinellas and Pasco Counties. Current SD 16 cuts Pinellas and Hillsborough. It also bisects the City of Saint Petersburg. Current SD 18 cuts Hillsborough, Pinellas,

and Manatee Counties; it captures the other half of Saint Petersburg. Current SD 10 cuts Hillsborough, Pasco, and Polk Counties.

81. In these counties, there are no majority Black SDs in the Current Map. Current SD 18 is 39.5% Black VAP. Current SD 10 is 11.8% Black VAP; SD 12 is 9.6%; SD 16 is 6.1%; and SD 13 is 5.1%.

82. Current SD 18 is a district in which Black preferred candidates win. Obama receives 77.8% of votes in this district; Sink wins 73.3% of votes. Current SD 10, the district with the next highest percent Black, is not a district in which Black preferred candidates win. In Current SD 10, Obama won 45.7% and McCain 53.2% of votes in the 2008 presidential election. Sink won 42.7% and Scott 53.0% of votes. Current SD 12 is a competitive seat. Obama won a plurality of votes with 49.6% to McCain's 49.2%. Sink won 47.0%, and Scott won 49.2% of votes for Governor in 2010. In Current SD 13, Obama won a plurality of votes with 50.1% to McCain's 48.3%. Sink won 49.0%, and Scott won 46.8% of votes for Governor in 2010.

83. The Revised Map cuts fewer county lines than the Current Map, but it still divides Saint Petersburg across 2 districts. Revised SD 20 lies entirely inside Pinellas County, and revised SD 24 lies inside Hillsborough. Revised SD 17 cuts Pasco and Hillsborough Counties; Revised SD 26 cuts Hillsborough and Manatee Counties. Revised SD 22 cuts Pinellas and Hillsborough Counties; it halves Saint Petersburg. Revised SD 19 contains the other half of Saint Petersburg and also cuts the Pinellas and Hillsborough boundaries.

84. There are no majority Black VAP SDs in the Revised Senate Map in Hillsborough and Saint Petersburg. There is one SD, number 19, that is 37.2% Black VAP. Revised SD 24 is 12.4%; SD 17 is 6.9%; SD 20 is 5.6%; SD 22 is 4.9%; and SD 26 is 6.1% Black VAP.

85. Revised SD 19 is a district in which Black-preferred candidates win election. In Revised SD 19 Obama would win 75.0% and McCain 24.0%; Sink would win 70.2% and Scott 26.7%. Also, Blacks are a majority of the Democratic Primary voters and General election voters in 2010. However, in SD 24, the district in this area with the next highest percent Black VAP, Black preferred candidates do not win. Obama would win

46.8% and McCain 52.2% in this district; Sink would win 44.4% and Scott 51.8%.

86. Current SDs 12 and 13 deserve particular mention. The reconfiguration of SD 12 shaves 2 to 3 percentage points off of the vote margins of Obama and Sink. Under Current SD 12, Obama won a plurality of 49.6% to 49.2% for McCain; Sink won 47.0% to Scott's 49.2%. Revised SD 17, of which SD 12 is the core, would vote 46.7% for Obama and 44.4% for Sink. Current SD 13 is completely dismantled and becomes part of SD 19 and SD 20. In Current SD 13, Obama won a 50.1% to McCain's 48.3%; Sink received 47.5% to Scott's 49.2%.

87. The FDP Map makes even fewer county and municipal line cuts in Hillsborough and Pinellas. Proposed SD 20 lies entirely within Pinellas. Proposed SD 19 and 24 lie inside Hillsborough. Proposed SD 17 encompasses Pasco, rather than splitting it across Hillsborough and Pasco Counties. Proposed SD 22 cuts Pinellas, Hillsborough and Manatee, but it keeps Saint Petersburg whole. Proposed SD 26 cuts Hillsborough and Manatee.

88. The FDP Map maintains the number of SDs with substantial Black population and in which Black-preferred candidates win elections. Proposed SD 19 is 35.5% Black VAP. Obama would win 73.1% and McCain 25.9% of votes. Sink would win 67.8% and Scott 28.9% of votes. Blacks are a majority of 2010 Democratic primary election voters and also a majority of Democratic registrants who voted in the 2010 general election.

D.3.vi. Miami-Dade County

89. The Current SD 39 in Miami-Dade is oddly-shaped, and with a Reock of .26, is not compact. It encompasses the western half of Miami-Dade (west of Doral) and the counties of Monroe, Hendry, and part of Collier. In Miami-Dade, Current SD 39 extends an arm from the south through Palmetto Bay all the way up to the northern part of the City of Miami.

90. This configuration of SD 39 allows for the construction of a district in which Blacks may be able to elect their preferred candidates even though they are not a plurality of the VAP, let alone a majority. Current SD 39 is 29.1% Black VAP and 43.0% Hispanic VAP. Even still, in Current SD 39, Obama received just under 68.0% of votes; Sink

received 63.7%. And, Blacks comprised 55.6 percent of the 2010 Democratic primary voters in Current SD 39 and 52.1 percent of Democratic registrants.

91. Current SD 39 was overpopulated by 13,151 persons according to the 2010 Census. It was possible to maintain this as a Black opportunity district by shedding some population.

92. The Revised Senate Map reconfigures SD 39 considerably. First, it moves the boundary of the district in central Miami-Dade County to the east to include a large portion of the southern part of Current SD 34. The shift in the eastern boundary of SD 39 has the effect of dismantling Current SD 34, a Democratic district, without creating a new Black Majority VAP District or improving the representation of Blacks. Since SD 39 was already overpopulated it is unclear why this boundary shift was necessary. Second, Revised SD 39 cuts off the arm that extended through Palmetto Bay. Third, Revised SD 39 extends an arm due west through Doral, a municipality that was not split under the old district lines in this area. This arm bounds SDs 37 and 40 to the north. Fourth, a second arm of the Revised SD 39 envelopes SDs 37 and 40 to the south.

93. The reconfiguration of SD 39 in the Revised Map is less compact than in the Current Map, according to the Reock measure. Revised SD 39 has a Reock of .23, compared with .26 in the Current Map. This reconfiguration amounts to a 15.3% reduction in the compactness of SD 39.

94. The Revised version of SD 39 is not plurality Black VAP. Revised SD 39 is 35.3% Black VAP and 39.7% Hispanic VAP.

95. Revised SD 39 is a Black-opportunity SD, as was Current SD 39. In Revised SD 39, Obama received 70.5% of votes; Sink received 66.2%. And, in Revised SD 39, Blacks are 62.3% of 2010 Democratic primary election voters and 58.3% of registered Democrats who voted in the 2010 General election.

96. The FDP Map demonstrates that it is possible to improve the Reock of SD 39 simply by removing one of three “arms” of the district, as demonstrated by the FDP Proposed SD 39. Neighboring SDs 37 and 40 are also more compact in the FDP Map than in the Revised Map. Further

improvements may be possible. The comparison of the Revised SD 39 with the Current SD 39 and with the FDP's Proposed SD 39 demonstrates that simple improvements in the district can be made without affecting the representation of Blacks in this district. At the very least, the substantial restructuring of Current SD 39 worsened the compactness of the district without improving Black representation.

97. FDP's Proposed SD 39 does not decrease Black Representation compared with the Current Map. Proposed SD 39 is 30.0% Black VAP and 41.3% Hispanic VAP. Obama won 64.7% of votes; Sink won 59.0%. Proposed SD 39 improves the compactness of all SDs in Miami-Dade without altering either the number of Majority Black SDs in this part of the State or altering which party wins a majority or plurality of votes.

98. Revised SD 39 has the further effect of capturing much of the southern half of SD 34, which was a Democratic district. Thus, the revision of SD 39 reduces by 1 the total number of districts in Miami-Dade and in so doing breaks up Current SD 34 across many different districts. In the Revised Map, Current SD 34 is not the core of any revised district. In this way, the map eliminates one Democratic district

from Miami-Dade County and increases the size and reach of SD 39, without clearly increasing Black representation in the area.

99. As discussed in the next section, the configuration of Revised SD 39 and the other districts in Miami-Dade avoid pairing any incumbents who reside in Miami-Dade, while the more compact alternative map pairs three incumbents.

E. Incumbency

100. One way to gauge the degree to which the map protects incumbents is the extent to which incumbents draw most of their new districts from population that they already represented. The state witnessed substantial population growth resulting in 2 new SDs and that growth occurred unevenly throughout the state. As a result, I expect to observe substantial changes in many districts simply to adjust for population changes. Keeping most districts the same would be indicative of a higher degree of incumbent protection overall. The less

change there is in districts the more incumbents are allowed to build up an incumbency advantage.⁴

101. For each district I determined the Core District as the current SD from which a proposed or new SD draws the highest percent of its population. I consulted the report “District by Existing District – Shares of Population” on the Florida Senate Redistricting Website for each Plan. For the FDP Map I use Maptitude to calculate the percent of the population of each district that derived from its core district.

102. In the Revised Map, the average percent from the Core District across all 40 SDs is 60.5 percent. There are 22 SDs in which less than 60% of the population comes from its Core SD. There are 3 SDs in which over 80% of the population comes from the Core SD.

103. In the FDP Map, the average percent from the Core District across all 27 SDs is 56.8 percent. There are 26 SDs in which less than 60% of

⁴ See Stephen Ansolabehere, James M. Snyder, Jr., and Charles H. Stewart III, “Old Voters, New Voters, and the Personal Vote: Using Redistricting to Measure the Incumbency Advantage” *American Journal of Political Science* 44 (2000): 17-34.

the population comes from its Core SD. There are 3 SDs in which over 80% of the population comes from its Core SD.

104. The Revised Map pairs Senators Lynn (R – term limited) and Thrasher (R) in Revised SD 6. It pairs Senators Wise (R – term limited) and Gibson (D) in Revised SD 9. It pairs Senators Gardiner (R) and Simmons (R) in Revised SD 13. It pairs Senators Altman (R) and Haridopolos (R) in Revised SD 16. It pairs Senators Fasano (R – term limited) and Norman (R) in Revised SD 17. It pairs Senators Rich (D – term limited) and Ring (D) in Revised SD 29.

105. The FDP Map pairs Senators Wise (R – term limited) and Gibson (D) in Proposed SD 9. It puts Senators Siplin (D – term limited) and Gardiner (R) in Proposed SD 12. It puts Senators Altman (R) and Haridopolos (R) in SD 13. It puts Senators Detert (R) and Bennett (R – term limited) in Proposed SD 28. It puts Senators Sobel (D) and Bogdanoff (R) in Proposed SD 33. It puts Senators Ring (D) and Sachs (D) in Proposed SD 34. It puts Bullard (D – term limited), Flores (R), and Dias de la Portilla (R) in Proposed SD 40. Proposed SDs 4, 5, 14, 16, 25, 27, 37, and 39 would have no incumbent resident.

106. There is a notable difference in the pairing of incumbents in the Miami-Dade area. There are seven Current SDs entirely or partly in Miami-Dade (numbers 33, 34, 35, 36, 38, 39, and 40). From the Current 2002 Map to the Revised and FDP Maps the lines in this county change considerably because of the rearrangement of SD 39 and the breaking up of SD 34. In the Revised Map, only 1 incumbent from a Miami-Dade district is paired with another incumbent. Rich (D) from SD 34 is paired with Ring (D). Rich is term limited, and she lives in Broward. So, the Revised Map pairs no incumbents who reside in Miami-Dade, even though the SDs were reconfigured considerably. In the FDP Map, three incumbents from Miami-Dade districts are paired (Bullard, Diaz de la Portilla, and Flores). Bullard is term limited.

F. Conclusions

107. Comparison of the Current Map, the Revised Map, and the FDP Map reveals that across all criteria considered substantial improvements on the constitutional principles remain possible.

108. On geography, the FDP Map is more compact than the Revised or Current Maps. The FDP Map further demonstrates that improvements in the geography of the map are possible in specific areas – especially, Miami-Dade, Orlando, and Tampa/Saint Petersburg – as well as in particular SDs, including SD 32, SD 8, SD 22, SD 14, SD 19, SD 39, and SD 40. An indication of the degree to which improvement in compactness overall is possible is that the FDP Map has half as many SDs with Reock below .3 as the Revised Map. There are 8 Revised SDs with Reock below .3 in the Revised Map, and 3 in the FDP’s Proposed Map. It is not evident what rationale lies behind the creation of the additional districts with low compactness measures. None are majority black or configured so as to create Majority Black VAP SDs. The number of majority Black VAP SDs is the same in all maps.

109. On party, the Revised Map reduces the number of districts in which Democratic candidates win pluralities of votes in three reference elections. The Current Map had equal numbers of districts in which Democrats and Republicans won pluralities of votes in the three reference elections, each of which were close elections statewide. The FDP Map restores the partisan balance that existed in the Current Map.

This demonstrates that it is possible to keep the current partisan balance in the plan and to improve the compactness of the map compared to both the Current Map and the Revised Map. In other words, the increase in the number of Republican districts could not be an inevitable consequence of geography.

110. On incumbency, the FDP Map exhibits more shuffling of core district populations and more pairing of incumbents. In particular, none of the Miami-Dade incumbents are paired in the Revised Plan, despite the extensive redrawing of SD 39. The FDP Map makes a slight change in the boundaries that improves compactness of SD 39 and that is sufficient to put three incumbents in a single district.

111. On the matter of racial representation, I focus on representation of Blacks. I have offered an assessment of voting patterns of Blacks, Hispanics, and Whites statewide based on exit polls, as well as election and registration data. These data show clearly that Blacks vote very cohesively in the State of Florida, but Hispanics do not. The Revised Map and the FDP Map keep the same the number of majority Black VAP SDs. Neither map reduces the number of Hispanic majority districts.

The problems of racial representation, rather, lie with particular communities and the reconfiguration of specific districts.

112. Perhaps the most serious problem of racial representation lies in the area of Current SD 1. The Revised Map and FDP Map restructure Current SD 1 (Revised and Proposed SD 9) to make the district more compact without reducing the representation of Blacks in Jacksonville. The substantial Black populations in Volusia and Putnam Counties who were in Current SD 1 had the ability to elect their preferred candidates under the Current Map. Under the Revised Map, these communities end up in Revised SD 7 and Revised SD 8. Revised SD 8 has a low Reock Score of .24 (the second lowest value in the map). In neither district do Black-preferred candidates (Obama and Sink in the reference elections) win majorities of the vote, so the Black populations in these Counties would end up in districts in which their preferred candidates are unlikely to win.

113. The FDP Map places these communities in Proposed SD 7 and Proposed SD 8. Both districts are more compact in the FDP Map than in the Revised Map, and in the FDP's Proposed versions of these districts

Black-preferred candidates win higher vote shares and win much more often than in the Revised Senate Map. The FDP Map is not taken as definitive, but rather demonstrates that another approach is possible to ensure the representation of Black voters who reside in Current SD 1.

Table 1. Core Districts and Geographic Compactness of Senate Districts in the Current 2002 Florida Senate Map, the Revised Map (9030), and FDP Proposed Map

	REVISED MAP (9030)			FDP PROPOSED MAP		
Current District	District Number	Core %	Reock	District Number	Core %	Reock
1	9	62.2%	.41	9	62.8%	.43
2	2	66.4%	.43	2	66.1%	.48
3	5	70.1%	.47	5	57.6%	.47
4	1	57.8%	.45	1	58.1%	.47
5				6	42.4%	.36
6	3	81.5%	.34	3	83.5%	.37
7	8	56.7%	.24	8	55.3%	.33
8	4	50.7%	.49	4	55.2%	.50
	6	49.6%	.47			
9				11	50.9%	.36
10	24	77.4%	.53	26	65.7%	.43
11	18	53.8%	.37	17	43.3%	.36
12	17	67.0%	.38	24	68.9%	.34
13	20	50.9%	.55	20	51.6%	.57
14	7	59.1%	.45	7	66.6%	.50
15	15	55.3%	.41	15	60.0%	.63
				18	29.8%	.41
16	22	59.2%	.39	22	65.0%	.43
17	21	59.0%	.37	21	56.5%	.40
18	19	76.7%	.23	19	76.9%	.28
19	12	48.8%	.41	12	52.7%	.57
	14	46.0%	.27	14	45.8%	.44
20	11	74.9%	.40			
21	26	63.6%	.32			
22	10	64.7%	.57	10	67.7%	.56
23	28	89.0%	.40	28	63.4%	.32
24	13	51.6%	.42	13	70.5%	.48
25	34	49.2%	.28	25	29.4%	.40
26	16	55.3%	.44	16	59.7%	.50

Table 1, Continued						
Current District	Revised District	Revised SD Core %	Revised SD Reock	FDP District	FDP SD Core %	FDP SD Reock
27	27	40.5%	.54			
28	32	71.5%	.23	32	89.3%	.39
29	31	47.6%	.33	31	47.5%	.34
30	25	30.7%	.55	27	38.8%	.39
				34	53.8%	.53
31	33	71.5%	.30	33	54.5%	.39
32	29	54.9%	.44			
33	36	49.5%	.60	36	44.7%	.53
34				29	51.5%	.58
35	35	64.1%	.28	35	57.7%	.28
36	40	66.2%	.29	40	44.3%	.35
37	23	59.8%	.33	23	50.8%	.33
	30	42.8%	.58	30	42.9%	.52
38	37	64.5%	.41	37	51.9%	.41
39	39	75.2%	.23	39	54.2%	.24
40	38	84.6%	.60	38	84.2%	.56
Average		60.5%	.41		56.8%	.43


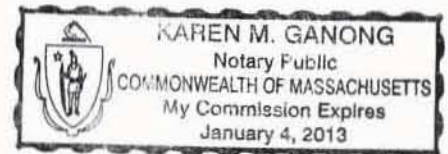
Under penalty of perjury, the information contained in this affidavit is true and correct.

EXECUTED in Cambridge, Massachusetts, on this 9th day of April, 2012.



Stephen Ansolabehere

Sworn to or affirmed before me and subscribed in my presence the 9th day of
April, 2012.


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1998-2009	Elting Morison Professor, Department of Political Science, MIT (Associate Head, 2002-2005)
1995-1998	Associate Professor, Department of Political Science, MIT
1993-1994	National Fellow, The Hoover Institution
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American Academy of Arts and Sciences	2007
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PUBLICATIONS

Books

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With Benjamin Ginsberg, Ted Lowi, and Kenneth Shepsle
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- 2008 “Voter Fraud in the Eye of the Beholder” (with Nathaniel Persily)
Harvard Law Review (May)
- 2007 “Incumbency Advantages in U. S. Primary Elections,”
Electoral Studies (September)
(with John Mark Hansen, Shigeo Hirano, and James M. Snyder, Jr.)
- 2007 “Television and the Incumbency Advantage” *Legislative Studies Quarterly*. (with Erik C. Snowberg and James M. Snyder, Jr.)
- 2006 “The Political Orientation of Newspaper Endorsements” *Quarterly Journal of Political Science* vol. 1, (with Rebecca Lessem and James M. Snyder, Jr.)
- 2006 “Voting Cues and the Incumbency Advantage: A Critical Test”
Quarterly Journal of Political Science vol. 1, issue 2. (with Shigeo Hirano, James M. Snyder, Jr., and Michiko Ueda)
- 2006 “American Exceptionalism? Similarities and Differences in National Attitudes Toward Energy Policies and Global Warming”
Environmental Science and Technology (February 22, 2006),
http://pubs3.acs.org/acs/journals/doilookup?in_doi=10.1021/es052010b (with David Reiner, Howard Herzog, K. Itaoka, M. Odenberger, and Phillip Johanssen)
- 2006 “Purple America” (with Jonathan Rodden and James M. Snyder, Jr.)
Journal of Economic Perspectives (Winter).
- 2005 “Did the Introduction of Voter Registration Decrease Turnout?”
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- 2005 “Statistical Bias in Newspaper Reporting: The Case of Campaign Finance” *Public Opinion Quarterly* (with James M. Snyder, Jr., and Erik Snowberg).

- 2005 “Studying Elections” *Policy Studies Journal*
(with Charles H. Stewart III and R. Michael Alvarez).
- 2005 “Legislative Bargaining under Weighted Voting”
American Economic Review
(with James M. Snyder, Jr., and Michael Ting)
- 2005 “Voting Weights and Formateur Advantages in Coalition Formation:
Evidence from Parliamentary Coalitions, 1946 to 2002”
(with James M. Snyder, Jr., Aaron B. Strauss, and Michael M. Ting)
American Journal of Political Science.
- 2005 “Reapportionment and Party Realignment in the American States”
Pennsylvania Law Review (with James M. Snyder, Jr.)
- 2004 “Residual Votes Attributable to Voting Technologies” (with Charles
Stewart) *Journal of Politics*
- 2004 “Using Term Limits to Estimate Incumbency Advantages When
Office Holders Retire Strategically” (with James M. Snyder, Jr.).
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- 2004 “Did Firms Profit From Soft Money?” (with James M. Snyder, Jr., and
Michiko Ueda) *Election Law Journal* vol. 3, April 2004.
- 2003 “Bargaining in Bicameral Legislatures” *American Political Science
Review*, August. (with James M. Snyder, Jr. and Mike Ting)
- 2003 “Why Is There So Little Money in U.S. Politics?” *Journal of
Economic Perspectives*, Winter. (with James M. Snyder, Jr.)
- 2002 “Equal Votes, Equal Money: Court-Ordered Redistricting and the
Public Spending in the American States” *American Political Science
Review*, December, 2002.
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Paper awarded the Heinz Eulau award for the best paper in the
American Political Science Review.

- 2002 “Are PAC Contributions and Lobbying Linked?” *Business and Politics* 4, no. 2. (with James M. Snyder, Jr. and Micky Tripathi)
- 2002 “The Incumbency Advantage in U.S. Elections: An Analysis of State and Federal Offices, 1942-2000” (with James Snyder) *Election Law Journal*, 1, no. 3.
- 2001 “Voting Machines, Race, and Equal Protection.” *Election Law Journal*, vol. 1, no. 1
- 2001 “Models, assumptions, and model checking in ecological regressions” (with Andrew Gelman, David Park, Phillip Price, and Lorraine Minnite) *Journal of the Royal Statistical Society*, series A, 164: 101-118.
- 2001 “The Effects of Party and Preferences on Congressional Roll Call Voting.” (with James Snyder and Charles Stewart) *Legislative Studies Quarterly*.
Paper awarded the *Jewell-Lowenberg Award* for the best paper published on legislative politics in 2001. Paper awarded the *Jack Walker Award* for the best paper published on party politics in 2001.
- 2001 “Candidate Positions in Congressional Elections,” (with James Snyder and Charles Stewart). *American Journal of Political Science* 45 (November).
- 2000 “Old Voters, New Voters, and the Personal Vote,” *American Journal of Political Science* 44 (February).
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- 2000 “Soft Money, Hard Money, Strong Parties,” (with James Snyder) *Columbia Law Review* 100 (April):598 - 619.
- 2000 “Campaign War Chests and Congressional Elections,” *Business and Politics*. 2 (April): 9-34. (with James Snyder)
- 1999 “Replicating Experiments Using Surveys and Aggregate Data: The Case of Negative Advertising.” *American Political Science Review* 93 (December). (with Shanto Iyengar and Adam Simon)

- 1999 “Valence Politics and Equilibrium in Spatial Models,” *Public Choice*. (with James Snyder)
- 1999 “Money and Institutional Power,” *Texas Law Review* 77 (June, 1999): 1673-1704. (with James Snyder)
- 1997 “Incumbency Advantage and the Persistence of Legislative Majorities,” (with Alan Gerber), *Legislative Studies Quarterly* 22 (May 1997).
- 1996 “The Effects of Ballot Access Rules on U.S. House Elections,” (with Alan Gerber), *Legislative Studies Quarterly* 21 (May 1996).
- 1994 “Riding the Wave and Issue Ownership: The Importance of Issues in Political Advertising and News,” (with Shanto Iyengar) *Public Opinion Quarterly* 58: 335-357.
- 1994 “Horseshoes and Horseraces: Experimental Evidence of the Effects of Polls on Campaigns,” (with Shanto Iyengar) *Political Communications* 11/4 (October-December): 413-429.
- 1994 “Does Attack Advertising Demobilize the Electorate?” (with Shanto Iyengar), *American Political Science Review* 89 (December).
- 1994 “The Mismeasure of Campaign Spending: Evidence from the 1990 U.S. House Elections,” (with Alan Gerber) *Journal of Politics* 56 (September).
- 1993 “Poll Faulting,” (with Thomas R. Belin) *Chance* 6 (Winter): 22-28.
- 1991 “The Vanishing Marginals and Electoral Responsiveness,” (with David Brady and Morris Fiorina) *British Journal of Political Science* 22 (November): 21-38.
- 1991 “Mass Media and Elections: An Overview,” (with Roy Behr and Shanto Iyengar) *American Politics Quarterly* 19/1 (January): 109-139.

- 1990 “The Limits of Unraveling in Interest Groups,” *Rationality and Society* 2: 394-400.
- 1990 “Measuring the Consequences of Delegate Selection Rules in Presidential Nominations,” (with Gary King) *Journal of Politics* 52: 609-621.
- 1989 “The Nature of Utility Functions in Mass Publics,” (with Henry Brady) *American Political Science Review* 83: 143-164.

Special Reports and Policy Studies

- 2010 The Future of Nuclear Power, Revised.
- 2006 *The Future of Coal*. MIT Press. Continued reliance on coal as a primary power source will lead to very high concentrations of carbon dioxide in the atmosphere, resulting in global warming. This cross-disciplinary study – drawing on faculty from Physics, Economics, Chemistry, Nuclear Engineering, and Political Science – develop a road map for technology research and development policy in order to address the challenges of carbon emissions from expanding use of coal for electricity and heating throughout the world.
- 2003 *The Future of Nuclear Power*. MIT Press. This cross-disciplinary study – drawing on faculty from Physics, Economics, Chemistry, Nuclear Engineering, and Political Science – examines the what contribution nuclear power can make to meet growing electricity demand, especially in a world with increasing carbon dioxide emissions from fossil fuel power plants.
- 2002 “Election Day Registration.” A report prepared for DEMOS. This report analyzes the possible effects of Proposition 52 in California based on the experiences of 6 states with election day registration.
- 2001 *Voting: What Is, What Could Be*. A report of the Caltech/MIT Voting

Technology Project. This report examines the voting system, especially technologies for casting and counting votes, registration systems, and polling place operations, in the United States. It was widely used by state and national governments in formulating election reforms following the 2000 election.

- 2001 “An Assessment of the Reliability of Voting Technologies.”
A report of the Caltech/MIT Voting Technology Project. This report provided the first nationwide assessment of voting equipment performance in the United States. It was prepared for the Governor’s Select Task Force on Election Reform in Florida.

Chapters in Edited Volumes

- 2012 “Voting Technology” in *Margin of Victory: How Technologists Help Politicians Win Elections*, ABC-CLIO.
- 2010 “Dyadic Representation” in *Oxford Handbook on Congress*, Eric Schickler, ed., Oxford University Press.
- 2008 “Voting Technology and Election Law” in *America Votes!*, Benjamin Griffith, editor, Washington, DC: American Bar Association.
- 2007 “What Did the Direct Primary Do to Party Loyalty in Congress” (with Shigeo Hirano and James M. Snyder Jr.) in *Process, Party and Policy Making: Further New Perspectives on the History of Congress*, David Brady and Matthew D. McCubbins (eds.), Stanford University Press, 2007.
- 2007 “Election Administration and Voting Rights” in *Renewal of the Voting Rights Act*, David Epstein and Sharyn O’Hallaran, eds. Russell Sage Foundation.
- 2006 “The Decline of Competition in Primary Elections,” (with John Mark Hansen, Shigeo Hirano, and James M. Snyder, Jr.) *The Marketplace of Democracy*, Michael P. McDonald and John Samples, eds. Washington, DC: Brookings.

- 2005 “Voters, Candidates and Parties” in *Handbook of Political Economy*, Barry Weingast and Donald Wittman, eds. New York: Oxford University Press.
- 2003 “Baker v. Carr in Context, 1946 – 1964” (with Samuel Isaacharoff) in *Constitutional Cases in Context*, Michael Dorf, editor. New York: Foundation Press.
- 2002 “Corruption and the Growth of Campaign Spending”(with Alan Gerber and James Snyder). *A User’s Guide to Campaign Finance*, Jerry Lubenow, editor. Rowman and Littlefield.
- 2001 “The Paradox of Minimal Effects,” in Henry Brady and Richard Johnston, eds., *Do Campaigns Matter?* University of Michigan Press.
- 2001 “Campaigns as Experiments,” in Henry Brady and Richard Johnson, eds., *Do Campaigns Matter?* University of Michigan Press.
- 2000 “Money and Office,” (with James Snyder) in David Brady and John Cogan, eds., *Congressional Elections: Continuity and Change*. Stanford University Press.
- 1996 “The Science of Political Advertising,” (with Shanto Iyengar) in *Political Persuasion and Attitude Change*, Richard Brody, Diana Mutz, and Paul Sniderman, eds. Ann Arbor, MI: University of Michigan Press.
- 1995 “Evolving Perspectives on the Effects of Campaign Communication,” in Philo Warburn, ed., *Research in Political Sociology*, vol. 7, JAI.
- 1995 “The Effectiveness of Campaign Advertising: It’s All in the Context,” (with Shanto Iyengar) in *Campaigns and Elections American Style*, Candice Nelson and James A. Thurber, eds. Westview Press.
- 1993 “Information and Electoral Attitudes: A Case of Judgment Under Uncertainty,” (with Shanto Iyengar), in *Explorations in Political Psychology*, Shanto Iyengar and William McGuire, eds. Durham: Duke University Press.

Working Papers

- 2009 “Sociotropic Voting and the Media” (with Marc Meredith and Erik Snowberg), American National Election Study Pilot Study Reports, John Aldrich editor.
- 2007 “Public Attitudes Toward America’s Energy Options: Report of the 2007 MIT Energy Survey” CEEPR Working Paper 07-002 and CANES working paper.
- 2004 “Using Recounts to Measure the Accuracy of Vote Tabulations: Evidence from New Hampshire Elections, 1946 to 2002” (with Andrew Reeves).
- 2002 “Evidence of Virtual Representation: Reapportionment in California,” (with Ruimin He and James M. Snyder).
- 1999 “Why did a majority of Californians vote to lower their own power?” (with James Snyder and Jonathan Woon). Paper presented at the annual meeting of the American Political Science Association, Atlanta, GA, September, 1999. Paper received the award for the best paper on Representation at the 1999 Annual Meeting of the APSA.
- 1999 “Has Television Increased the Cost of Campaigns?” (with Alan Gerber and James Snyder).
- 1996 “Money, Elections, and Candidate Quality,” (with James Snyder).
- 1996 “Party Platform Choice - Single- Member District and Party-List Systems,”(with James Snyder).
- 1995 “Messages Forgotten” (with Shanto Iyengar).
- 1994 “Consumer Contributors and the Returns to Fundraising: A Microeconomic Analysis,” (with Alan Gerber), presented at the Annual Meeting of the American Political Science Association, September.
- 1992 “Biases in Ecological Regression,” (with R. Douglas Rivers) August,

(revised February 1994). Presented at the Midwest Political Science Association Meetings, April 1994, Chicago, IL.

- 1992 “Using Aggregate Data to Correct Nonresponse and Misreporting in Surveys” (with R. Douglas Rivers). Presented at the annual meeting of the Political Methodology Group, Cambridge, Massachusetts, July.
- 1991 “The Electoral Effects of Issues and Attacks in Campaign Advertising” (with Shanto Iyengar). Presented at the Annual Meeting of the American Political Science Association, Washington, DC.
- 1991 “Television Advertising as Campaign Strategy: Some Experimental Evidence” (with Shanto Iyengar). Presented at the Annual Meeting of the American Association for Public Opinion Research, Phoenix.
- 1991 “Why Candidates Attack: Effects of Televised Advertising in the 1990 California Gubernatorial Campaign,” (with Shanto Iyengar). Presented at the Annual Meeting of the Western Political Science Association, Seattle, March.
- 1990 “Winning is Easy, But It Sure Ain’t Cheap.” Working Paper #90-4, Center for the American Politics and Public Policy, UCLA. Presented at the Political Science Departments at Rochester University and the University of Chicago.

Research Grants

1989-1990 Markle Foundation. “A Study of the Effects of Advertising in the 1990 California Gubernatorial Campaign.” Amount: \$50,000

1991-1993 Markle Foundation. “An Experimental Study of the Effects of Campaign Advertising.” Amount: \$150,000

1991-1993 NSF. “An Experimental Study of the Effects of Advertising in the 1992 California Senate Electoral.” Amount: \$100,000

1994-1995 MIT Provost Fund. “Money in Elections: A Study of the Effects of

- Money on Electoral Competition.” Amount: \$40,000
- 1996-1997 National Science Foundation. “Campaign Finance and Political Representation.” Amount: \$50,000
- 1997 National Science Foundation. “Party Platforms: A Theoretical Investigation of Party Competition Through Platform Choice.” Amount: \$40,000
- 1997-1998 National Science Foundation. “The Legislative Connection in Congressional Campaign Finance. Amount: \$150,000
- 1999-2000 MIT Provost Fund. “Districting and Representation.” Amount: \$20,000.
- 1999-2001 Sloan Foundation. “Congressional Staff Seminar.” Amount: \$156,000.
- 2000-2001 Carnegie Corporation. “The Caltech/MIT Voting Technology Project.” Amount: \$253,000.
- 2001-2002 Carnegie Corporation. “Dissemination of Voting Technology Information.” Amount: \$200,000.
- 2003-2005 National Science Foundation. “State Elections Data Project.” Amount: \$256,000.
- 2003-2004 Carnegie Corporation. “Internet Voting.” Amount: \$279,000.
- 2003-2005 Knight Foundation. “Accessibility and Security of Voting Systems.” Amount: \$450,000.
- 2006-2008 National Science Foundation, “Primary Election Data Project”
- 2008-2009 Pew/JEHT. “Measuring Voting Problems in Primary Elections, A National Survey.” Amount: \$300,000
- 2008-2009 Pew/JEHT. “Comprehensive Assessment of the Quality of Voter Registration Lists in the United States: A pilot study proposal”

(with Alan Gerber). Amount: \$100,000.

2010-2011 National Science Foundation, “Cooperative Congressional Election Study,” \$360,000

2010-2012 Sloan Foundation, “Precinct-Level U. S. Election Data,” \$240,000.

2012-2014 National Science Foundation, “Cooperative Congressional Election Study 2010-2012 Panel Study”. Amount: \$482,000.

Professional Boards

Editor, Cambridge University Press Book Series, Political Economy of Institutions and Decisions.

Member, Board of Overseers, American National Election Studies, 1999 to present.

Member, Board of the Reuters International School of Journalism, Oxford University, 2007 to present.

Contributing Editor, *Boston Review*, The State of the Nation.

Editorial Board of American Journal of Political Science, 2005 to present.

Editorial Board of Legislative Studies Quarterly, 2005 to present.

Editorial Board of Public Opinion Quarterly, 2006 to present.

Editorial Board of the Election Law Journal, 2002 to present.

Editorial Board of the Harvard International Journal of Press/Politics, 1996 to 2008.

Editorial Board of Business and Politics, 2002 to Present.

Scientific Advisory Board, Polimetrix, 2004 to 2006.

Special Projects and Task Forces

Principal Investigator, Cooperative Congressional Election Study, 2005 – present.

MIT Energy Innovation Study, 2009-2010.

MIT Energy Initiative, Steering Council, 2007-2008

Co-Director, Caltech/MIT Voting Technology Project, 2000-2004.
Co-Organizer, MIT Seminar for Senior Congressional and Executive Staff, 1996-2007.
MIT Coal Study, 2004-2006.
MIT Energy Research Council, 2005-2006.
MIT Nuclear Study, 2002-2004.
Voting Technology Task Force Leader, Election Reform Initiative of the Constitution Project, 2001 to 2002.