IN THE UNITED STATES DISTRICT COURT
FOR THE WESTERN DISTRICT OF WISCONSIN

WILLIAM WHITFORD, et al.,

      Plaintiffs,

v.   Case No. 15-CV-421-bbc

GERALD NICHOL, et al.,

      Defendants.

DEFENDANTS' ANSWER

NOW COME Defendants Gerald C. Nichol, Thomas Barland, John Franke, Harold V. Froehlich, Kevin J. Kennedy, Elsa Lamelas, and Timothy Vocke, by their undersigned counsel, as and for their Answer to the Complaint hereby respond as follows.

INTRODUCTION

1.   Defendants respond that the first sentence in paragraph 1 of the complaint states legal conclusions to which no response is required. Defendants deny the allegations in the second sentence of paragraph 1. Defendants admit the allegations in the third sentence of paragraph 1. Defendants deny the allegations in the fourth sentence of paragraph 1.

2.   Defendants respond that paragraph 2 of the complaint states legal conclusions to which no response is required, but deny the allegations to the extent a response is required.

3.   Defendants deny the allegations in the first sentence in paragraph 3 of the complaint. Defendants respond that the second sentence in paragraph 3 states legal conclusions to which no response is required, but deny the allegations to the extent a response is required.

4.   Defendants respond that paragraph 4 of the complaint states legal conclusions to which no response is required, but deny the allegations to the extent a response is required.

5.   Defendants deny the allegations of paragraph 5 of the complaint.

6.   Defendants respond that paragraph 6 of the complaint states legal conclusions to which no response is required, but deny the allegations to the extent a response is required.

7.   Defendants state that the first sentence of paragraph 7 of the complaint states legal conclusions to which no response is required, but deny the allegations to the extent a response is required. Defendants deny the remaining allegations in paragraph 7.

8.   Defendants respond that the first sentence of paragraph 8 of the complaint states legal conclusions to which no response is required, but deny the allegations to the extent a response is required. Defendants deny the allegations in the remaining sentences of paragraph 8.

9.   Defendants deny the allegations in paragraph 9 of the complaint.

10.   Defendants deny the allegations in paragraph 10 of the complaint.

11.   Defendants respond that paragraph 11 of the complaint states legal conclusions to which no response is required, but deny the allegations to the extent a response is required.

JURISDICTION AND VENUE

12.   Defendants admit that this Court has jurisdiction over this action.

13.   Defendants admit that a three-judge panel is appropriate for this case.

14.   Defendants admit that venue is proper in the Western District of Wisconsin.

PARTIES

15.   Defendants lack knowledge or information to form a belief about the allegations in the first two sentences of paragraph 15 of the complaint. Defendants respond that the remaining allegations in paragraph 15 state legal conclusions to which no response is required, but deny the allegations to the extent a response is required.

16.   Defendants respond that paragraph 16 of the complaint states legal conclusions to which no response is required, but deny the allegations to the extent a response is required.

17.   Defendants lack knowledge or information to form a belief about the allegations in paragraph 17 of the complaint.

18.   Defendants lack knowledge or information to form a belief about the allegations in paragraph 18 of the complaint.

19.   Defendants lack knowledge or information to form a belief about the allegations in paragraph 19 of the complaint.

20.   Defendants lack knowledge or information to form a belief about the allegations in the first sentence of paragraph 20 of the complaint. Defendants respond that the second sentence of paragraph 20 states legal conclusions to which no response is required, but deny the allegations to the extent a response is required.

21.   Defendants lack knowledge or information to form a belief about the allegations in paragraph 21 of the complaint.

22.   Defendants lack knowledge or information to form a belief about the allegations in paragraph 22 of the complaint.

23.   Defendants lack knowledge or information to form a belief about the allegations in the first sentence of paragraph 23 of the complaint. Defendants respond that the second sentence of paragraph 23 states legal conclusions to which no response is required, but deny the allegations to the extent a response is required.

24.   Defendants lack knowledge or information to form a belief about the allegations in the first sentence of paragraph 24 of the complaint. Defendants respond that the second sentence of paragraph 24 states legal conclusions to which no response is required, but deny the allegations to the extent a response is required.

25.   Defendants lack knowledge or information to form a belief about the allegations in paragraph 25 of the complaint.

26.   Defendants lack knowledge or information to form a belief about the allegations in the first sentence of paragraph 26 of the complaint. Defendants respond that the second sentence of paragraph 26 states legal conclusions to which no response is required, but deny the allegations to the extent a response is required.

27.   Defendants lack knowledge or information to form a belief about the allegations in paragraph 27 of the complaint.

28.   Defendants admit the allegations in paragraph 28 of the complaint.

29.   Defendants admit the allegations in paragraph 29 of the complaint.

30.   Defendants admit the allegations in paragraph 28 of the complaint.

BACKGROUND

The Current Plan Was Intended To Discriminate Against Democrats

31.   Defendants deny the allegations in the first sentence of paragraph 31 of the complaint. Defendants state the opinion in *Baldus v. Wisconsin Government Accountability Board*, 849 F. Supp. 2d 840 (E.D. Wis. 2012) speaks for itself.

32.   Defendants deny the allegations in paragraph 32 of the complaint.

33.   Defendants admit the allegations in the first sentence of paragraph 33 of the complaint except for the word "ostensibly." Defendants deny the allegations in the second sentence of paragraph 33.

34.   Defendants deny the allegations in paragraph 34 of the complaint.

35.   Defendants deny the allegations in paragraph 35 of the complaint.

36.   Defendants admit the allegations in the first sentence of paragraph 36 of the complaint. With respect to the allegations in the second sentence of paragraph 36, Defendants admit that Dr. Gaddie created a model that analyzed the past partisan performance of all the districts established by Act 43, but deny that Dr. Gaddie created a model that was intended to predict the expected performance in the future. Defendants deny the allegations in the third and fourth sentences of paragraph 36.

37.   Defendants deny the allegations in the first and second sentences of paragraph 37 of the complaint. With respect to the third sentence in paragraph 37, Defendants admit that all redistricting work was done in the offices of Michael Best before the file was sent to the Legislative Reference Bureau for drafting and admit that the "map room" was located at Michael Best's offices. Defendants admit the allegations in the fourth sentence of paragraph 37.

38.   Defendants admit the allegations in the first three sentences of paragraph 38 of the complaint. Defendants deny the allegations in the last sentence of paragraph 38.

39.   Defendants admit the allegations in the first sentence of paragraph 39 of the complaint. With respect to the second sentence of paragraph 39, Defendants admit the allegations except for the statement that "Michael Best had been hired to develop" the plan. Defendants admit the allegations in the third sentence of paragraph 39, but state that the opinion in *Baldus v. Wisconsin Government Accountability Board*, 843 F. Supp. 2d 955 (E.D. Wis. 2012) speaks for itself.

40.   Defendants admit the allegations in the first sentence of paragraph 40 of the complaint. With respect to the second sentence of paragraph 40, Defendants admit the allegations except for the statement that "Michael Best had been hired to develop" the plan.

41.   Defendants admit the allegations in paragraph 41 of the complaint.

42.   Defendants deny the allegations in the first sentence of paragraph 42 of the complaint. Defendants admit the allegations in the second sentence of paragraph 42 of the complaint.

43.   With respect to the allegations in paragraph 43 of the complaint, Defendants admit that Michael Best was paid $431,000 by the State for its work, but deny the remaining allegations in paragraph 43.

The Current Plan Has The Effect of Discriminating Against Democrats

The Efficiency Gap Reliably Measures Partisan Gerrymandering

44.   Defendants respond that paragraph 44 of the complaint states legal conclusions to which no response is required, but deny the allegations to the extent a response is required.

45.   Defendants respond that paragraph 45 of the complaint states legal conclusions to which no response is required, but deny the allegations to the extent a response is required.

46.   Defendants respond that paragraph 46 of the complaint states legal conclusions to which no response is required, but deny the allegations to the extent a response is required.

47.   With respect to the allegations in paragraph 47 of the complaint, Defendants admit that the efficiency gap has only been developed in the last few years by Eric McGhee and Nicholas Stephanopolous, but deny the remaining allegations in paragraph 47.

48.   Defendants deny the allegations in paragraph 48 of the complaint.

49.   Defendants deny the allegations in paragraph 49 of the complaint.

50.   With respect to the allegations in paragraph 50 of the complaint, Defendants admit that this provides an example of the efficiency gap calculated under the district-by-district method used by Kenneth Mayer.

Defendants admit that this also provides an example for calculating the efficiency gap in the manner used by Simon Jackman, but only because equal votes are cast in each district.

51.   Defendants respond that the allegations in paragraph 51 state legal conclusions to which not response is required, but deny the allegations to the extent a response is required.

52.   Defendants deny the allegations in paragraph 52 of the complaint.

53.   Defendants deny the allegations in paragraph 53 of the complaint.

Wisconsin's Current Plan Is an Outlier

54.   Defendants' responses to paragraph 54 are based on the assumption that the "efficiency gap" referred to in paragraph 54 is the version as calculated by Simon Jackman. Defendants admit the allegations in the first sentence of paragraph 54. Defendants deny the allegations in the second sentence of paragraph 54. Defendants admit the allegations in the third, fourth and fifth sentences of paragraph 54. Defendants admit that the efficiency gap as calculated by Jackman has averaged 11% in 2012 and 2014, but deny the allegation that this is "thanks to the Current Plan" to the extent that this implies this efficiency gap is caused entirely, or even mostly, by the Current Plan.

55.   Defendants deny the allegations in paragraph 55 of the complaint.

56.   Defendants deny the allegations in paragraph 56 of the complaint.

57.   Defendants deny the allegations in paragraph 57 of the complaint.

58.   Defendants deny the allegations in paragraph 58 of the complaint.

Examples of Cracking and Packing in the Current Plan

59.   Defendants deny the allegations in paragraph 59 of the complaint. Defendants affirmatively allege that the plaintiffs' focus on the 2008 and 2012 elections is misleading because in the 2010 election, the Democratic candidates lost nine of the seats that the plaintiffs allege were won by Democrats in the 2008 election.

Milwaukee, Ozaukee, Washington, and Waukesha Counties:

60.   Defendants admit the allegations in the first and second sentences of paragraph 60 of the complaint, but state they are without knowledge or information sufficient to form a belief about the residence of Plaintiff Walker. Defendants deny the allegations in the third sentence in paragraph 60.

61.   Defendants deny the allegations in the first sentence of paragraph 61 of the complaint. With respect to the allegations in the second sentence of paragraph 61, Defendants admit that the Republican candidates won Districts 22, 23, and 24 in the 2012 election, but deny these victories were "[d]ue to these changes" to the extent that this implies they were caused entirely, or even mostly, by the Current Plan.

62.   Defendants deny the allegations in paragraph 62 of the complaint.

Calumet, Fond du Lac, Manitowoc and Sheboygan Counties:

63.   Defendants admit the allegations in the first and second sentences of paragraph 63 of the complaint, but state they are without knowledge or information sufficient to form a belief about the residence of Plaintiff Donahue. Defendants deny the allegations in the third sentence in paragraph 63.

64.   Defendants deny the allegations in the first sentence of paragraph 64 of the complaint. With respect to the allegations in the second sentence of paragraph 64, Defendants admit that the Republican candidates won Districts 26 and 27 in the 2012 election but deny these victories were "[d]ue to these changes" to the extent that this implies they were caused entirely, or even mostly, by the Current Plan.

65.   Defendants deny the allegations in paragraph 65 of the complaint.

Racine and Kenosha Counties:

66.   Defendants admit the allegations in the first and second sentences of paragraph 66 of the complaint, but state they are without knowledge or information sufficient to form a belief about the residence of Plaintiff Mitchell. Defendants deny the allegations in the third sentence in paragraph 66.

67.   Defendants deny the allegations in the first sentence of paragraph 67 of the complaint. With respect to the allegations in the second sentence of paragraph 67, Defendants admit that the Democratic candidates won

Districts 64, 65 and 66 and that Republican candidates won Districts 61, 62 and 63 in the 2012 election but deny these victories were "[d]ue to these changes" to the extent that this implies they were caused entirely, or even mostly, by the Current Plan.

68.   Defendants deny the allegations in paragraph 68 of the complaint.

Buffalo, Chippewa, Eau Claire, Jackson, La Crosse, Pepin, Pierce, St. Croix, and Trempealeau Counties:

69.   Deny that a Republican won district 67. Subject to that denial, Defendants admit the allegations in the first and second sentences of paragraph 69 of the complaint, but state they are without knowledge or information sufficient to form a belief about the residence of Plaintiff Johnson. Defendants deny the allegations in the third and fourth sentences in paragraph 69.

70.   Defendants deny the allegations in the first sentence of paragraph 70 of the complaint. With respect to the allegations in the second sentence of paragraph 70, Defendants admit that the Democratic candidates won Districts 91, 92, 94 and 95 and that Republican candidates won Districts 67, 68 and 93 in the 2012 election but deny these victories were "[d]ue to these changes" to the extent that this implies they were caused entirely, or even mostly, by the Current Plan.

71.   Defendants deny the allegations in paragraph 71 of the complaint.

Adams, Columbia, Marathon, Portage, and Wood Counties:

72.   Defendants admit the allegations in the first and second sentences of paragraph 72 of the complaint, but state they are without knowledge or information sufficient to form a belief about the residence of the Seaton Plaintiffs. Defendants deny the allegations in the third sentence in paragraph 72.

73.   Defendants deny the allegations in the first sentence of paragraph 73 of the complaint. With respect to the allegations in the second sentence of paragraph 73, Defendants admit that the Democratic candidates won Districts 70, 71 and 85 and that Republican candidates won Districts 41, 42, 69, 72 and 86 in the 2012 election, but deny these victories were "[d]ue to these changes" to the extent that this implies they were caused entirely, or even mostly, by the Current Plan.

74.   Defendants deny the allegations in paragraph 74 of the complaint.

Brown and Manitowoc Counties:

75.   Defendants admit the allegations in the first and second sentences of paragraph 75 of the complaint, but state they are without knowledge or information sufficient to form a belief about the residence of Plaintiff Walker. Defendants deny the allegations in the third and fourth sentences in paragraph 75.

76.   Defendants deny the allegations in the first sentence of paragraph 76 of the complaint. With respect to the allegations in the second sentence of paragraph 76, Defendants admit that the Democratic candidates won District 90 and that Republican candidates won Districts 1, 2, 4, 5, 25, 88 and 89 in the 2012 election, but deny these victories were "[d]ue to these changes" to the extent that this implies they were caused entirely, or even mostly, by the Current Plan.

77.   Defendants deny the allegations in paragraph 77 of the complaint.

Wisconsin Does Not Need to Have a Gerrymandered Plan

78.   Defendants deny the allegations in paragraph 78 of the complaint.

79.   Defendants deny the allegations in paragraph 79 of the complaint.

80.   Defendants deny the allegations in paragraph 80 of the complaint.

COUNT I – FOURTEENTH AMENDMENT VIOLATION

81.   Defendants incorporate and re-allege their responses to paragraphs 1-80.

82.   Defendants response that paragraph 82 of the complaint states legal conclusions to which no response is required, but deny the allegations to the extent a response is required.

83.   Defendants respond that paragraph 83 of the complaint states legal conclusions to which no response is required, but deny the allegations to the extent a response is required.

84. Defendants respond that paragraph 84 of the complaint states legal conclusions to which no response is required, but deny the allegations to the extent a response is required.

85. Defendants respond that the first and last sentences of paragraph 85 of the complaint states legal conclusions to which no response is required, but deny the allegations to the extent a response is required. Defendants deny the allegations in the second through fifth sentences of paragraph 85.

86. Defendants respond that the first, fourth, fifth and sixth sentences in paragraph 86 of the complaint state legal conclusions to which no response is required, but deny the allegations to the extent a response is required. Defendants deny the allegations in the second and third sentences of paragraph 86.

87. Defendants respond that the first sentence in paragraph 87 of the complaint states a legal conclusion to which no response is required, but deny the allegations to the extent a response is required. Defendants deny the allegations in the second and third sentences in paragraph 87.

88. Defendants deny the allegations in paragraph 88 of the complaint.

89. Defendants deny the allegations in the first sentence of paragraph 89 of the complaint. Defendants respond that the second sentence of paragraph 89 states legal conclusions to which no response is required, but deny the allegations to the extent a response is required.

COUNT II – FIRST AMENDMENT VIOLATION

90.   Defendants incorporate and re-allege their responses to paragraphs 1-90.

91.   Defendants deny the allegations in paragraph 91 of the complaint.

92.   Defendants deny the allegations in paragraph 92 of the complaint.

93.   Defendants deny the allegations in paragraph 93 of the complaint.

94.   Defendants deny the allegations in paragraph 94 of the complaint.

95.   Defendants deny the allegations in paragraph 95 of the complaint.

96.   Defendants deny the allegations in paragraph 96 of the complaint.

RELIEF REQUESTED

97.   Defendants respond that paragraph 97 states legal conclusions to which no response is required, but state that the Plaintiffs are not entitled to the requested relief.

98.   Defendants respond that paragraph 98 states legal conclusions to which no response is required, but state that the Plaintiffs are not entitled to the requested relief.

99.   Defendants respond that paragraph 99 states legal conclusions to which no response is required, but state that the Plaintiffs are not entitled to the requested relief.

100.   Defendants respond that paragraph 100 states legal conclusions to which no response is required, but state that the Plaintiffs are not entitled to the requested relief.

101.   Defendants respond that paragraph 101 states legal conclusions to which no response is required, but state that the Plaintiffs are not entitled to the requested relief.

AFFIRMATIVE DEFENSES

A. Plaintiffs lack standing to pursue the statewide challenge they have pled.

B. Plaintiffs fail to state a claim that is justiciable.

C. Plaintiffs fail to state a claim for which relief may be granted.

WHEREFORE, defendants request dismissal of this action in its entirety, together with such other relief as the Court deems equitable and just.

Dated this 30th day of December, 2015.

BRAD D. SCHIMEL
Attorney General

s/ Brian P. Keenan
BRIAN P. KEENAN
Assistant Attorney General
State Bar #1056525

ANTHONY D. RUSSOMANNO
Assistant Attorney General
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Attorneys for Defendants

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IN THE UNITED STATES DISTRICT COURT
FOR THE WESTERN DISTRICT OF WISCONSIN

WILLIAM WHITFORD, et al.,

      Plaintiffs,

v.

                                     Case No. 15-CV-421-bbc

GERALD NICHOL, et al.,

      Defendants.

DEFENDANTS' AMENDED ANSWER

NOW COME Defendants Gerald C. Nichol, Thomas Barland, John Franke, Harold V. Froehlich, Kevin J. Kennedy, Elsa Lamelas, and Timothy Vocke, by their undersigned counsel, as and for their Answer to the complaint hereby respond as follows.

INTRODUCTION

1.   Defendants respond that the first sentence in paragraph 1 of the complaint states legal conclusions to which no response is required. Defendants deny the allegations in the second sentence of paragraph 1. Defendants admit the allegations in the third sentence of paragraph 1. Defendants deny the allegations in the fourth sentence of paragraph 1.

2.   Defendants respond that paragraph 2 of the complaint states legal conclusions to which no response is required, but deny the allegations to the extent a response is required.

3.   Defendants deny the allegations in the first sentence in paragraph 3 of the complaint. Defendants respond that the second sentence in paragraph 3 states legal conclusions to which no response is required, but deny the allegations to the extent a response is required.

4.   Defendants respond that paragraph 4 of the complaint states legal conclusions to which no response is required, but deny the allegations to the extent a response is required.

5.   Defendants deny the allegations of paragraph 5 of the complaint.

6.   Defendants respond that paragraph 6 of the complaint states legal conclusions to which no response is required, but deny the allegations to the extent a response is required.

7.   Defendants state that the first sentence of paragraph 7 of the complaint states legal conclusions to which no response is required, but deny the allegations to the extent a response is required. Defendants deny the remaining allegations in paragraph 7.

8.   Defendants respond that the first sentence of paragraph 8 of the complaint states legal conclusions to which no response is required, but deny the allegations to the extent a response is required. Defendants deny the allegations in the remaining sentences of paragraph 8.

9.   Defendants deny the allegations in paragraph 9 of the complaint.

10.   Defendants deny the allegations in paragraph 10 of the complaint.

11.   Defendants respond that paragraph 11 of the complaint states legal conclusions to which no response is required, but deny the allegations to the extent a response is required.

JURISDICTION AND VENUE

12.   Defendants admit that this Court has jurisdiction over this action.

13.   Defendants admit that a three-judge panel is appropriate for this case.

14.   Defendants admit that venue is proper in the Western District of Wisconsin.

PARTIES

15.   Defendants lack knowledge or information to form a belief about the allegations in the first two sentences of paragraph 15 of the complaint. Defendants respond that the remaining allegations in paragraph 15 state legal conclusions to which no response is required, but deny the allegations to the extent a response is required.

16.   Defendants respond that paragraph 16 of the complaint states legal conclusions to which no response is required, but deny the allegations to the extent a response is required.

17.   Defendants lack knowledge or information to form a belief about the allegations in paragraph 17 of the complaint.

18.   Defendants lack knowledge or information to form a belief about the allegations in paragraph 18 of the complaint.

19.   Defendants lack knowledge or information to form a belief about the allegations in paragraph 19 of the complaint.

20.   Defendants lack knowledge or information to form a belief about the allegations in the first sentence of paragraph 20 of the complaint. Defendants respond that the second sentence of paragraph 20 states legal conclusions to which no response is required, but deny the allegations to the extent a response is required.

21.   Defendants lack knowledge or information to form a belief about the allegations in paragraph 21 of the complaint.

22.   Defendants lack knowledge or information to form a belief about the allegations in paragraph 22 of the complaint.

23.   Defendants lack knowledge or information to form a belief about the allegations in the first sentence of paragraph 23 of the complaint. Defendants respond that the second sentence of paragraph 23 states legal conclusions to which no response is required, but deny the allegations to the extent a response is required.

24.   Defendants lack knowledge or information to form a belief about the allegations in the first sentence of paragraph 24 of the complaint. Defendants respond that the second sentence of paragraph 24 states legal conclusions to which no response is required, but deny the allegations to the extent a response is required.

25.   Defendants lack knowledge or information to form a belief about the allegations in paragraph 25 of the complaint.

26.   Defendants lack knowledge or information to form a belief about the allegations in the first sentence of paragraph 26 of the complaint. Defendants respond that the second sentence of paragraph 26 states legal conclusions to which no response is required, but deny the allegations to the extent a response is required.

27.   Defendants lack knowledge or information to form a belief about the allegations in paragraph 27 of the complaint.

28.   Defendants admit the allegations in paragraph 28 of the complaint.

29.   Defendants admit the allegations in paragraph 29 of the complaint.

30.   Defendants admit the allegations in paragraph 30 of the complaint.

BACKGROUND

The Current Plan Was Intended To Discriminate Against Democrats

31.   Defendants deny the allegations in the first sentence of paragraph 31 of the complaint. Defendants state the opinion in *Baldus v. Wisconsin Government Accountability Board*, 849 F. Supp. 2d 840 (E.D. Wis. 2012) speaks for itself.

32.   Defendants deny the allegations in paragraph 32 of the complaint.

33.   Defendants admit the allegations in the first sentence of paragraph 33 of the complaint except for the word "ostensibly." Defendants deny the allegations in the second sentence of paragraph 33.

34.   Defendants deny the allegations in paragraph 34 of the complaint.

35.   Defendants deny the allegations in paragraph 35 of the complaint.

36.   Defendants admit the allegations in the first sentence of paragraph 36 of the complaint. With respect to the allegations in the second sentence of paragraph 36, Defendants admit that Dr. Gaddie created a model that analyzed the past partisan performance of all the districts established by Act 43, but deny that Dr. Gaddie created a model that was intended to predict the expected performance in the future. Defendants deny the allegations in the third and fourth sentences of paragraph 36.

37.   Defendants deny the allegations in the first and second sentences of paragraph 37 of the complaint. With respect to the third sentence in paragraph 37, Defendants admit that all redistricting work was done in the offices of Michael Best before the file was sent to the Legislative Reference Bureau for drafting and admit that the "map room" was located at Michael Best's offices. Defendants admit the allegations in the fourth sentence of paragraph 37.

38.   Defendants admit the allegations in the first four sentences of paragraph 38 of the complaint. Defendants deny the allegations in the last sentence of paragraph 38.

39.   Defendants admit the allegations in the first sentence of paragraph 39 of the complaint. With respect to the second sentence of paragraph 39, Defendants admit the allegations except for the statement that "Michael Best had been hired to develop" the plan. Defendants admit the allegations in the third sentence of paragraph 39, but state that the opinion in *Baldus v. Wisconsin Government Accountability Board*, 843 F. Supp. 2d 955 (E.D. Wis. 2012) speaks for itself.

40.   Defendants admit the allegations in the first sentence of paragraph 40 of the complaint. With respect to the second sentence of paragraph 40, Defendants admit the allegations except for the statement that "Michael Best had been hired to develop" the plan.

41.   Defendants admit the allegations in paragraph 41 of the complaint.

42.   Defendants deny the allegations in the first sentence of paragraph 42 of the complaint. Defendants admit the remaining allegations in paragraph 42 of the complaint.

43.   With respect to the allegations in paragraph 43 of the complaint, Defendants admit that Michael Best was paid $431,000 by the State for its work, but deny the remaining allegations in paragraph 43.

The Current Plan Has The Effect of Discriminating Against Democrats

The Efficiency Gap Reliably Measures Partisan Gerrymandering

44.   Defendants respond that paragraph 44 of the complaint states legal conclusions to which no response is required, but deny the allegations to the extent a response is required.

45.   Defendants respond that paragraph 45 of the complaint states legal conclusions to which no response is required, but deny the allegations to the extent a response is required.

46.   Defendants respond that paragraph 46 of the complaint states legal conclusions to which no response is required, but deny the allegations to the extent a response is required.

47.   With respect to the allegations in paragraph 47 of the complaint, Defendants admit that the efficiency gap has only been developed in the last few years by Eric McGhee and Nicholas Stephanopolous, but deny the remaining allegations in paragraph 47.

48.   Defendants deny the allegations in paragraph 48 of the complaint.

49.   Defendants deny the allegations in paragraph 49 of the complaint.

50.   With respect to the allegations in paragraph 50 of the complaint, Defendants admit that this provides an example of the efficiency gap calculated under the district-by-district method used by Kenneth Mayer.

Defendants admit that this also provides an example for calculating the efficiency gap in the manner used by Simon Jackman, but only because equal votes are cast in each district.

51.   Defendants respond that the allegations in paragraph 51 state legal conclusions to which not response is required, but deny the allegations to the extent a response is required.

52.   Defendants deny the allegations in paragraph 52 of the complaint.

53.   Defendants deny the allegations in paragraph 53 of the complaint.

Wisconsin's Current Plan Is an Outlier

54.   Defendants' responses to paragraph 54 are based on the assumption that the "efficiency gap" referred to in paragraph 54 is the version as calculated by Simon Jackman. Defendants admit the allegations in the first sentence of paragraph 54. Defendants deny the allegations in the second sentence of paragraph 54. Defendants admit the allegations in the third, fourth and fifth sentences of paragraph 54. Defendants admit that the efficiency gap as calculated by Jackman has averaged 11% in 2012 and 2014, but deny the allegation that this is "thanks to the Current Plan" to the extent that this implies this efficiency gap is caused entirely, or even mostly, by the Current Plan.

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58.   Defendants deny the allegations in paragraph 58 of the complaint.

Examples of Cracking and Packing in the Current Plan

59.   Defendants deny the allegations in paragraph 59 of the complaint. Defendants affirmatively allege that the plaintiffs' focus on the 2008 and 2012 elections is misleading because in the 2010 election, the Democratic candidates lost nine of the seats that the plaintiffs allege were won by Democrats in the 2008 election.

   Milwaukee, Ozaukee, Washington, and Waukesha Counties:

60.   Defendants admit the allegations in the first and second sentences of paragraph 60 of the complaint, but state they are without knowledge or information sufficient to form a belief about the residence of Plaintiff Walker. Defendants deny the allegations in the third sentence in paragraph 60.

61.   Defendants deny the allegations in the first sentence of paragraph 61 of the complaint. With respect to the allegations in the second sentence of paragraph 61, Defendants admit that the Republican candidates won Districts 22, 23, and 24 in the 2012 election, but deny these victories were "[d]ue to these changes" to the extent that this implies they were caused entirely, or even mostly, by the Current Plan.

62.   Defendants deny the allegations in paragraph 62 of the complaint.

Calumet, Fond du Lac, Manitowoc and Sheboygan Counties:

63.   Defendants admit the allegations in the first and second sentences of paragraph 63 of the complaint, but state they are without knowledge or information sufficient to form a belief about the residence of Plaintiff Donahue. Defendants deny the allegations in the third sentence in paragraph 63.

64.   Defendants deny the allegations in the first sentence of paragraph 64 of the complaint. With respect to the allegations in the second sentence of paragraph 64, Defendants admit that the Republican candidates won Districts 26 and 27 in the 2012 election but deny these victories were "[d]ue to these changes" to the extent that this implies they were caused entirely, or even mostly, by the Current Plan.

65.   Defendants deny the allegations in paragraph 65 of the complaint.

Racine and Kenosha Counties:

66.   Defendants admit the allegations in the first and second sentences of paragraph 66 of the complaint, but state they are without knowledge or information sufficient to form a belief about the residence of Plaintiff Mitchell. Defendants deny the allegations in the third sentence in paragraph 66.

67.   Defendants deny the allegations in the first sentence of paragraph 67 of the complaint. With respect to the allegations in the second sentence of

paragraph 67, Defendants admit that the Democratic candidates won Districts 64, 65 and 66 and that Republican candidates won Districts 61, 62 and 63 in the 2012 election but deny these victories were "[d]ue to these changes" to the extent that this implies they were caused entirely, or even mostly, by the Current Plan.

68.   Defendants deny the allegations in paragraph 68 of the complaint.

Buffalo, Chippewa, Eau Claire, Jackson, La Crosse, Pepin, Pierce, St. Croix, and Trempealeau Counties:

69.   Deny that a Republican won district 67. Subject to that denial, Defendants admit the allegations in the first and second sentences of paragraph 69 of the complaint, but state they are without knowledge or information sufficient to form a belief about the residence of Plaintiff Johnson. Defendants deny the allegations in the third and fourth sentences in paragraph 69.

70.   Defendants deny the allegations in the first sentence of paragraph 70 of the complaint. With respect to the allegations in the second sentence of paragraph 70, Defendants admit that the Democratic candidates won Districts 91, 92, 94 and 95 and that Republican candidates won Districts 67, 68 and 93 in the 2012 election but deny these victories were "[d]ue to these changes" to the extent that this implies they were caused entirely, or even mostly, by the Current Plan.

71.   Defendants deny the allegations in paragraph 71 of the complaint.

Adams, Columbia, Marathon, Portage, and Wood Counties:

72.   Defendants admit the allegations in the first and second sentences of paragraph 72 of the complaint, but state they are without knowledge or information sufficient to form a belief about the residence of the Seaton Plaintiffs. Defendants deny the allegations in the third sentence in paragraph 72.

73.   Defendants deny the allegations in the first sentence of paragraph 73 of the complaint. With respect to the allegations in the second sentence of paragraph 73, Defendants admit that the Democratic candidates won Districts 70, 71 and 85 and that Republican candidates won Districts 41, 42, 69, 72 and 86 in the 2012 election, but deny these victories were "[d]ue to these changes" to the extent that this implies they were caused entirely, or even mostly, by the Current Plan.

74.   Defendants deny the allegations in paragraph 74 of the complaint.

Brown and Manitowoc Counties:

75.   Defendants admit the allegations in the first and second sentences of paragraph 75 of the complaint, but state they are without knowledge or information sufficient to form a belief about the residence of Plaintiff Walker. Defendants deny the allegations in the third and fourth sentences in paragraph 75.

76.   Defendants deny the allegations in the first sentence of paragraph 76 of the complaint. With respect to the allegations in the second sentence of paragraph 76, Defendants admit that the Democratic candidates won District 90 and that Republican candidates won Districts 1, 2, 4, 5, 25, 88 and 89 in the 2012 election, but deny these victories were "[d]ue to these changes" to the extent that this implies they were caused entirely, or even mostly, by the Current Plan.

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Wisconsin Does Not Need to Have a Gerrymandered Plan

78.   Defendants deny the allegations in paragraph 78 of the complaint.

79.   Defendants deny the allegations in paragraph 79 of the complaint.

80.   Defendants deny the allegations in paragraph 80 of the complaint.

COUNT I – FOURTEENTH AMENDMENT VIOLATION

81.   Defendants incorporate and re-allege their responses to paragraphs 1-80.

82.   Defendants response that paragraph 82 of the complaint states legal conclusions to which no response is required, but deny the allegations to the extent a response is required.

83.   Defendants respond that paragraph 83 of the complaint states legal conclusions to which no response is required, but deny the allegations to the extent a response is required.

84.   Defendants respond that paragraph 84 of the complaint states legal conclusions to which no response is required, but deny the allegations to the extent a response is required.

85.   Defendants respond that the first and last sentences of paragraph 85 of the complaint states legal conclusions to which no response is required, but deny the allegations to the extent a response is required. Defendants deny the allegations in the second through fifth sentences of paragraph 85.

86.   Defendants respond that the first, fourth, fifth and sixth sentences in paragraph 86 of the complaint state legal conclusions to which no response is required, but deny the allegations to the extent a response is required. Defendants deny the allegations in the second and third sentences of paragraph 86.

87.   Defendants respond that the first sentence in paragraph 87 of the complaint states a legal conclusion to which no response is required, but deny the allegations to the extent a response is required. Defendants deny the allegations in the second and third sentences in paragraph 87.

88.   Defendants deny the allegations in paragraph 88 of the complaint.

89.   Defendants deny the allegations in the first sentence of paragraph 89 of the complaint. Defendants respond that the second sentence of paragraph 89 states legal conclusions to which no response is required, but deny the allegations to the extent a response is required.

COUNT II – FIRST AMENDMENT VIOLATION

90.   Defendants incorporate and re-allege their responses to paragraphs 1-90.

91.   Defendants admit that the plaintiffs have rights under the First Amendment, but respond that the extent of those rights is a legal conclusion to which no response is required.

92.   Defendants deny the allegations in paragraph 92 of the complaint.

93.   Defendants deny the allegations in paragraph 93 of the complaint.

94.   Defendants deny the allegations in paragraph 94 of the complaint.

95.   Defendants deny the allegations in paragraph 95 of the complaint.

96.   Defendants deny the allegations in paragraph 96 of the complaint.

RELIEF REQUESTED

97.   Defendants respond that paragraph 97 states legal conclusions to which no response is required, but state that the Plaintiffs are not entitled to the requested relief.

98.   Defendants respond that paragraph 98 states legal conclusions to which no response is required, but state that the Plaintiffs are not entitled to the requested relief.

99.   Defendants respond that paragraph 99 states legal conclusions to which no response is required, but state that the Plaintiffs are not entitled to the requested relief.

100. Defendants respond that paragraph 100 states legal conclusions to which no response is required, but state that the Plaintiffs are not entitled to the requested relief.

101. Defendants respond that paragraph 101 states legal conclusions to which no response is required, but state that the Plaintiffs are not entitled to the requested relief.

AFFIRMATIVE DEFENSES

A. Plaintiffs lack standing to pursue the statewide challenge they have pled.

B. Plaintiffs fail to state a claim that is justiciable.

C. Plaintiffs fail to state a claim for which relief may be granted.

WHEREFORE, Defendants request dismissal of this action in its entirety, together with such other relief as the Court deems equitable and just.

Dated this 15th day of January, 2016.

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IN THE UNITED STATES DISTRICT COURT
FOR THE WESTERN DISTRICT OF WISCONSIN

WILLIAM WHITFORD, et al.,

      Plaintiffs,

    v.   Case No. 15CV421

GERALD NICHOL, et al.,

      Defendants.

DEFENDANTS' BRIEF IN SUPPORT OF SUMMARY JUDGMENT

The Court should grant summary judgment to the defendants. The plaintiffs' proposed standard fails to measure whether "too much" partisanship entered into the districting process and fails to heed Justice Kennedy's call for "great caution" and a "limited and precise" rationale for judicial intervention.

The core of the plaintiffs' case relies on an "efficiency gap" standard that measures a redistricting plan compared to a hypothetical world in which there is no efficiency gap. But that world does not exist. Recent court-drawn Wisconsin plans enacted using neutral districting criteria come with a pro-Republican efficiency gap as a natural occurrence. The alleged gaps under Act 43 in the 2012 and 2014 elections, which the plaintiffs contend are so large as to show presumptive unconstitutionality, are remarkably similar to the gaps experienced in 2000, 2004, and 2006 under the most recent court-drawn plan. This shows that the efficiency

gap is a flawed way to measure partisanship in the districting process; the "gap" that purports to show partisan intent appears when there is no partisan intent.

Indeed, the plaintiffs' own experts reveal that Wisconsin has merely experienced the same trend as the rest of the country—a pro-Republican efficiency gap that emerged in the mid-1990s and increased over time. This is a natural effect of the residential pattern of voters, not gerrymandering, and explains why Wisconsin has seen large efficiency gaps in favor of Republicans even under maps drawn with no partisan intent.

Further, the plaintiffs' standard demands court intervention to a degree unimagined by Justice Kennedy in *Vieth v. Jubelirer*, 541 U.S. 267 (2004). Under Plaintiffs' evidence, one out of every three plans since 1972 surpasses the proposed threshold for presumptive unconstitutionality of a 7% gap in the first election after redistricting. And one out of every three plans has a 10% efficiency gap at some point over the plans' existence. This broad sweep shows the measure is flawed and not actually detecting extreme partisan gerrymandering.

Especially in light of these deficiencies, the plaintiffs have not overcome the "significant challenges in prevailing on their claims" that this Court recognized in its motion to dismiss ruling. (Dkt. 43:2.) The flaws in the plaintiffs' statistical approach are compounded by their attempt to shift the burden once the gap reaches a certain point. This Court should reject the burden-shifting framework proposed because it is contrary to the basic idea that Plaintiffs bear the burden to make out a

full prima facie case, which is especially important when it comes to court intervention in redistricting—a task entrusted to the political branches.

Neither Justice Kennedy's concurrence in *Vieth* nor any other authority supports the plaintiffs' approach. Such drastic intrusion into the districting process cannot be supported by a standard based on the non-existent constitutional right for political parties to "to translate their popular support into legislative representation with approximately equal ease." (Dkt. 31:18.) Because their proposed test fails under *Vieth*, this case should be dismissed at summary judgment as a matter of law.

FACTS

This brief begins with a detailed examination of the efficiency gap and the plaintiffs' expert reports. It then outlines the undisputed facts relating to elections that have occurred in Wisconsin in the 1990s, the 2000s, and in 2012 and 2014 under the current plan, and then provides context explaining why Wisconsin and the country as a whole saw efficiency gaps begin to favor Republicans in the mid-1990s, a trend that continues to the present day.

I.   The efficiency gap in general

The efficiency gap is central to the plaintiffs' proposed legal standard. The plaintiffs claim that the efficiency gap measures "wasted votes," defined as all votes cast for a losing candidate (which it counts as "cracking") and all votes cast for a winning candidate in excess of the number needed to prevail (which it counts as "packing"). (PFOF ¶ 1.) The concept of the efficiency gap comes from an article

written in 2014 by Eric McGhee in Legislative Studies Quarterly and an article written by McGhee and Nicholas Stephanopolous in the University of Chicago Law Review. (PFOF ¶ 2.)

The plaintiffs have submitted reports by two expert witnesses, Kenneth Mayer and Simon Jackman, relating to the efficiency gap. Mayer relied on the formulas and methods outlined in the Chicago Law Review article in determining the efficiency gap. (PFOF ¶ 3.) Jackman also relied on the method outlined in the Chicago Law Review and was not familiar with the efficiency gap before being retained to work on this case. (PFOF ¶ 4.)

The plaintiffs have relied on two different versions of the efficiency gap. One is a district-by-district calculation in which the wasted votes cast for each party's candidates are added and "the difference between the parties' respective wasted votes" is then "divided by the total number of votes cast." (PFOF ¶ 5.) Mayer's report involves this type of calculation, although discovery has shown that he did not calculate the wasted votes that were actually cast in the 2012 election.

The plaintiffs also use a different method, which they have dubbed a "shortcut" for calculating the district-by-district version of the efficiency gap. (PFOF ¶ 6.) In order for this shortcut to equate with the district-by-district calculation, one needs to assume that there were an equal number of votes cast in each district. (PFOF ¶ 7.) Jackman's report involves this type of calculation of the efficiency gap.

II.   Mayer's report

A.   Mayer's calculation of the efficiency gap for Wisconsin in 2012

While Mayer performs district-by-district calculations related to the 2012 Assembly elections in Wisconsin, he does not tabulate the number of "wasted votes" that were cast in that election. Instead, Mayer has created a regression model with eight variables that generates "predicted Democratic and Republican votes [which] are model estimates of what the votes would have been if the race was contested and when there was no incumbent running." (PFOF ¶ 8.)

Mayer's model predicts the Assembly vote share for Democratic and Republican candidates in each ward using regressions based on the ward's total voting age population, total black voting age population, total Hispanic voting age population, President Obama's vote share, Mitt Romney's vote share, whether there is a Democratic incumbent, whether there is a Republican incumbent, and the county of the ward. (PFOF ¶ 9.) Mayer explains his model as follows:

The regression model used to predict Assembly vote totals takes the standard form of

$$Y_i = \alpha + \beta X_i + \varepsilon_i,$$

where Y_i is the dependent variable in ward i, X_i is a set of independent variables in ward i, and α, β, and ε_i are parameters estimated as a function of the variables. The full model is:

$$\begin{aligned}
\text{Assembly Vote}_i &= \alpha + \beta_1 \text{Total VEP}_i + \beta_2 \text{Black VEP}_i + \beta_3 \text{Hispanic VEP}_i \\
&+ \beta_4 \text{Democratic Presidential Vote}_i + \beta_5 \text{Republican Presidential Vote}_i \\
&+ \beta_6 \text{Democratic Incumbent}_i + \beta_7 \text{Republican Incumbent}_i + \sum_{j=1}^{71} \gamma_j \text{County}_j + \varepsilon_i
\end{aligned}$$

(PFOF ¶ 10.)

Mayer used only the 2012 election results in his model; it does not rely on the results of any other elections. (PFOF ¶ 11.)

Mayer's model does not show the actual wasted votes that were cast in the 2012 election. For example, in District 1, Mayer predicts that the Republican candidate would win 16,628 votes and the Democratic candidate would win 16,235 votes. (PFOF ¶ 12.) This generates 197 wasted votes for the Republicans and 16,235 wasted votes for the Democrats. (PFOF ¶ 13.) In the actual 2012 election, the Republican won with 16,993 votes and the Democrat lost with 16,124 votes. (PFOF ¶ 14.) In the actual election, there were thus 435 wasted votes for the Republicans and 16,124 wasted votes for the Democrats. (PFOF ¶ 15.)

Mayer's model predicts a significant number of seats incorrectly. He admits his model predicts two seats incorrectly (PFOF ¶ 16), but the model actually predicts five seats incorrectly (four predicted to be won by Democrats that were actually won by Republicans and one the other way). (PFOF ¶ 17.) The following table summarizes the errors, with predicted winners and actual winners in bold.

District	Mayer Dem. votes	Mayer Rep. votes	Actual Dem. Votes	Actual Rep. votes
50	**12,467**	12,326	11,945	**12,326**
51	**14,173**	13,048	10,577	**10,642**
68	**13,663**	13,005	12,482	**13,758**
70	12,211	**14,387**	**13,518**	13,374
72	**14,294**	13,895	14,029	**14,138**

(PFOF ¶¶ 18–27.)[1] Republicans won 60 seats in the 2012 Assembly elections (PFOF ¶ 29), yet Mayer's model predicts only 57 Republican wins. (PFOF ¶ 30.) Mayer does not correct his model for what actually happened in the election; instead, he counts the wasted votes based on what his model predicts should have happened. (PFOF ¶ 31.)

For his model, Mayer admits in his report that "the average absolute error in the vote margin is 1.49%." (PFOF ¶ 32.) However, the admitted rate is incorrect because the calculation assumes only two errors in the prediction of seats rather than the actual five. (PFOF ¶ 33.)

Mayer's model of Act 43 contains 42 districts with at least a 50% Democratic baseline. (PFOF ¶ 34.) His model contains 17 seats that have a baseline between 50–55% Republican. (PFOF ¶ 35.) The following table shows these districts ordered from the least Republican to most Republican.

District	Mayer Baseline Rep. %
93	50.2%
1	50.6%
67	51.6%
29	52.2%
88	52.3%
4	52.3%
49	52.5%
27	52.7%
42	53.0%
26	53.3%
62	53.9%
31	54.1%
70	54.1%

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[1] Defendants use the GAB's official election results because Mayer agrees that these numbers are "authoritative." (PFOF ¶ 28.)

40	54.2%
28	54.6%
30	54.7%
21	54.9%

(PFOF ¶¶ 36-52.)

Mayer did not produce a model to predict the results of the 2014 election either under the current plan or his Demonstration Plan. (PFOF ¶ 53.)

B.   Mayer's use of the model produced for the legislature by Professor Gaddie

Mayer also offers an opinion of the efficiency gap using an analysis done by Professor Ronald Keith Gaddie, who assisted the legislature in the districting process. The plaintiffs' claim that Gaddie's model forecast the eventual efficiency gap of the 2012 election, *see*, *e.g.*, Compl. ¶ 36, but Gaddie did not calculate an efficiency gap because the efficiency gap did not emerge until 2014. And Gaddie's analysis did not estimate the number of votes that would be cast in each district, which is an essential element of calculating Mayer's version of the efficiency gap. (PFOF ¶ 54.)

Mayer derives a "Gaddie" efficiency gap by plugging Gaddie's percentages for the Republican and Democratic vote into Mayer's regression model for estimating the results of Act 43. (PFOF ¶ 55.) Mayer made one error in translating Gaddie's data. Gaddie predicted the 86th District would have 55.08% Republican vote share, but Mayer uses 48.38%. (PFOF ¶ 56.) Mayer incorrectly repeated the Republican percentage for the 85th District (48.38%) in the 86th District. (PFOF ¶ 57.)

While the plaintiffs' claim that Gaddie's model forecasts the eventual efficiency gap of the 2012 election (PFOF ¶ 58), this is largely an accident. Gaddie's model predicts the incorrect winner in seven races in the 2012 election (7.1% of seats). The following table summarizes predicted winners and actual winners in bold:

District	Gaddie R%	Actual 2012 R%
49	49.59%	**54.19%**
51	46.23%	**51.85%**
68	49.38%	**52.39%**
70	**50.73%**	49.65%
75	**52.18%**	48.85%
94	**51.91%**	39.38%
96	46.40%	**59.52%**

(PFOF ¶¶ 59 – 72)

The model likewise predicts the incorrect winner in six races in the 2014 election, undercounting five Republican wins.

District	Gaddie R%	Actual 2014 R%
49	49.59%	**61.38%**
51	46.23%	**47.48%[2]**
68	49.23%	**52.82%**
85	48.38%	**50.19%**
94	**51.91%**	45.94%
96	46.40%	**58.91%**

(PFOF ¶¶ 73-77, 80-87)

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[2] The Republican won in District 51 with less than 50% of the vote because an independent candidate won 5.25% of the vote. (PFOF ¶ 78.) When calculated as a percentage of the two-party vote, the Republican won with 50.15%. (PFOF ¶ 79.)

C.   Mayer's Demonstration Plan

Mayer creates an alternative plan, called the Demonstration Plan. (PFOF ¶ 88.) Mayer calculates an efficiency gap based on his regression model as applied to the Demonstration Plan. (PFOF ¶ 89.) Mayer's regression model is based on the specific conditions of the 2012 election—something which the drafters of Act 43 could not have known in 2011. (PFOF ¶ 90.)

While the plaintiffs contend the Demonstration Plan is roughly equivalent to Act 43 in terms of population deviation, compactness, number of municipal splits, and Voting Rights Act compliance, Mayer was unwilling to say that his plan was superior to Act 43, particularly when it came to keeping communities of interest together, which he said was "a very loose and subjective standard that can be difficult to do." (PFOF ¶ 91.)

Mayer predicts that his Demonstration Plan would yield 51 Democratic seats and 48 Republican seats under 2012 conditions, which would still produce a gap of 62,414 wasted votes and a 2.20% efficiency gap in favor of Republicans. (PFOF ¶ 92.) Mayer achieves this result by creating seventeen districts that are 50%–55% Democratic under his model. (PFOF ¶93.) Below is a table showing these districts, ordered from the least Democratic to the most Democratic.

Demonstration Plan District	Predicted Dem. Vote %
49	50.3%
92	50.5%
86	50.7%
96	51.5%
91	51.7%
81	51.8%
40	51.9%

42	51.9%
67	51.9%
71	52.1%
20	52.3%
29	52.3%
51	52.6%
64	52.8%
54	53.4%
57	53.4%
2	54.1%

(PFOF ¶¶ 94-110.) These baselines were determined using the 2012 election environment (PFOF ¶ 111), in which Jackman calculates Democrats won 51.4% of the statewide vote. (PFOF ¶ 112.) Mayer did not create a model to show how these districts would have performed in the 2014 election environment (PFOF ¶ 113), in which Democratic vote share fell 3.4% down to 48.0%. (PFOF ¶ 114.)

III.   Jackman's Report

A.   Jackman's version of the efficiency gap

As noted above, Jackman calculates a version of the efficiency gap, which he shortens to *EG*, that assumes an equal number of votes are cast in each district. (PFOF ¶ 115.) Jackman's report and the plaintiffs' filings are therefore incorrect when they suggest that this version of the efficiency gap assumes districts of "equal population" because the number relevant to "wasted votes" is the number of *votes*, not the number of residents in a district. (PFOF ¶ 116.)

Wisconsin does not have equal turnout across districts. (PFOF ¶ 117.) In Wisconsin's 2012 Assembly elections, the turnout in individual districts varied from just over 8,000 votes in District 8 to over 37,000 votes in District 14. (PFOF ¶ 118.) In Wisconsin's 2014 elections, the turnout in individual districts varied from

approximately 6,400 votes in District 8 to over 31,400 votes in District 23. (PFOF ¶ 119.)

After making the assumption of equal turnout, Jackman's efficiency gap is calculated using statewide vote shares and seat shares: "the average (over districts) of the Democratic share of the two-party vote" corresponds "to the Democratic share of the state-wide two-party vote," which Jackman refers to as V. (PFOF ¶ 120.) The efficiency gap is then calculated by comparing the seat share the party won, which Jackman refers to as S, to the seat share expected under a zero-efficiency gap environment: "For any given observed V, the hypothesis of zero efficiency gap tells us what level of S to expect." (PFOF ¶ 121.)

The hypothesis of zero efficiency gap "implies that *if the efficiency gap is zero*, we obtain a particular type of seats-votes curve," which is "is linear through the 50-50 point with a slope of 2." (PFOF ¶ 122.) This means that "each additional percentage point of vote share for party A generates *two* additional percentage points of seat share." (PFOF ¶ 123.) For example, 51% vote share should result in 52% seat share, 52% vote share should result in 54% seat share, 53% vote share should result in 56% seat share, and so on. (PFOF ¶ 124.)

Jackman claims that the efficiency gap is an "excess seats" measure based on "the party winning more seats than we'd expect given its vote share (V) and if wasted vote rates were the same between the parties." (PFOF ¶ 125.) The efficiency gap is observed by comparing "how far the observed S lies above or below the orange

line in Figure 4" of his report, which represents the seat share called for by the zero

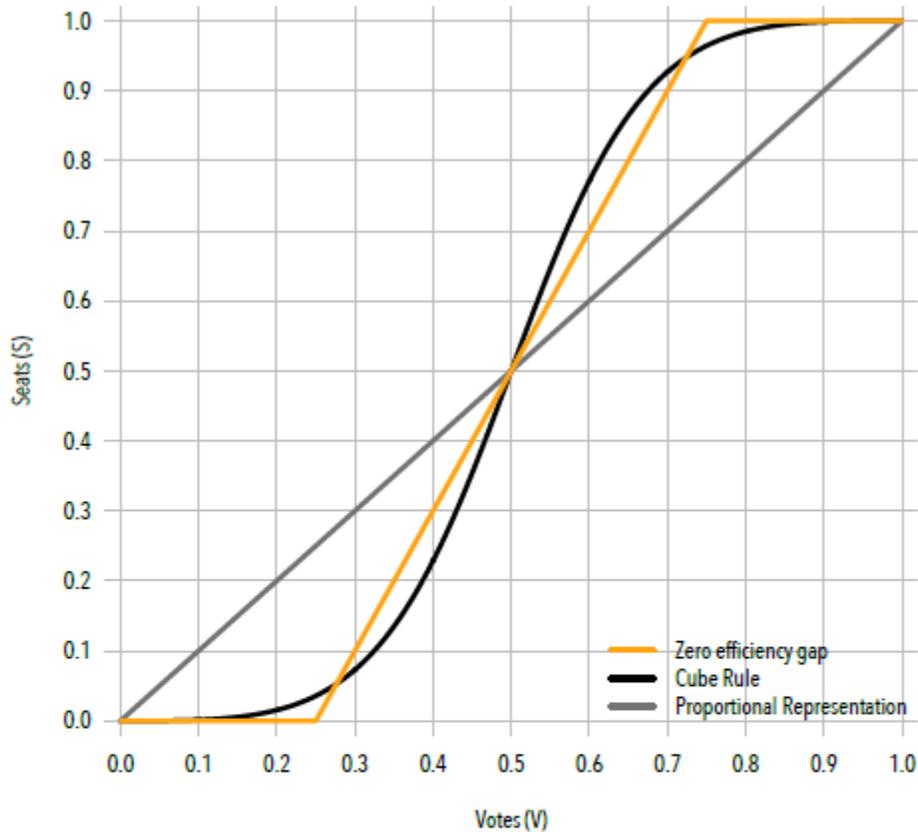efficiency gap hypothesis. (PFOF ¶ 126.) His Figure 4 shows the following:

Figure 4: Theoretical seats-votes curves. The *EG* = 0 curve implies that (a) a party winning less than $V = .25$ jurisdiction-wide should not win any seats; (b) symmetrically, a party winning more than $V = .75$ jurisdistion-wide should win all the seats; and (c) the relationship between seat shares *S* and vote shares *V* over the interval $V \in [.25, .75]$ is a linear function with slope two (i.e., for every one percentage point gain in vote share, seat share should go up by two percentage points).

(PFOF 124.)

This framework is illustrated by the hypothetical election from paragraph 50 of the plaintiffs' complaint (and cited in this court's decision on the motion to dismiss) of 5 districts each with 100 voters. Party A wins three districts by 60 votes

to 40 votes, and Party B wins two districts by 80 votes to 20 votes. (Compl. ¶ 50.) Party B obtained a vote share of 56% (280 of 500 votes) and a seat share of 40% (2 of 5). The zero efficiency gap hypothesis calls for 56% vote share to translate into a 62% seat share. (PFOF ¶ 127.) These elections result in a 22% efficiency gap—the difference between the 62% expected seat share and the 40% actual seat share.

Jackman rounds his efficiency gap calculations to the nearest percent (or .01 as decimal) based on his comfort with "digits of precision." (PFOF ¶ 128.)

B.   Jackman's historical analysis

Jackman calculates the efficiency gap for 786 state legislative elections that occurred from 1972 to 2014. (PFOF ¶ 129.) He computes the *V* (two-party vote share for the Democratic candidates) and *S* (seat share for Democrats) in each election. (PFOF ¶ 130.) The *EG* is then calculated using the process described above that compares the actual seat share obtained against the seat share called for by the zero efficiency gap hypothesis. (PFOF ¶ 131.)

1.   Determining seat share

Seat share is straightforward—it is the percentage of seats won by Democratic candidates—with one caveat. If a seat is won by a third-party candidate that is not a Republican or a Democrat, then this seat is disregarded. (PFOF ¶ 132.) For example, if one independent won a Wisconsin Assembly seat, the seat share would be calculated using 98 seats, rather than the full 99 seats.

2.   Determining vote share

Unlike Mayer, Jackman calculates vote share using the actual votes cast in an election rather than a regression model that predicts the votes that would have been cast if no incumbents had run. (PFOF ¶ 133.) Like Mayer, Jackman adjusts the raw vote totals by imputing vote shares for uncontested races, which he finds are 38.7% of races. (PFOF ¶ 134.) Jackman uses two different methods for imputing vote shares depending on the type of data available. (PFOF ¶ 135.) In one, Jackman "relied on a modeling procedure that used presidential vote tabulated by state legislative district from the most temporally proximate presidential election" when such data became available in the 2000s. (PFOF ¶ 136.) When such data were not available, Jackman models results by "interpolating unobserved Democratic votes shares given (1) previous and future results for a given district; (2) statewide swing in a general election; and (3) the change in incumbency status of a given district." (PFOF ¶ 137.)

3.   Uncertainty in Jackman's calculations

The presence of imputed vote totals leads to uncertainty in Jackman's calculation of vote share, which "generates uncertainty in determining how far each point lies above or below the orange, zero efficiency gap benchmark." (PFOF ¶ 138.) Thus, Jackman expresses his *EG* calculations as "point estimates" with lines indicating a 95% level of confidence. (PFOF ¶ 139.) Jackman has less confidence in the "point estimate" of his *EG* as the number of uncontested seats increases. (PFOF ¶ 140.)

4.   Jackman finds a trend in the efficiency gap favoring Republicans over time

Jackman finds that "[t]he distribution of *EG* measures trends in a pro-Republican direction through the 1990s, such that by the 2000s, *EG* measures were more likely to be negative (Republican efficiency over Democrats)." (PFOF ¶ 141.) Jackman finds this by plotting the efficiency gap of each plan in each year from lowest to highest (from most favorable to Republicans to least) and then calculating the *EG* of the 25th percentile plan, the median plan and the 75th percentile plan. (PFOF ¶ 142.)

The efficiency gap of the median plan has been negative (favorable to Republicans) since the mid-1990s. (PFOF ¶ 143.) The most favorable median toward Democrats since 2000 was in 2010. (PFOF ¶ 144.) The 25th percentile has been below 5% since the mid-1990s and even approached 7% in 2004, 2010, and 2012. (PFOF ¶ 145.) The 75th percentile has been below 5% since the mid-1990s and has hovered between 1% and 2% since 2000. (PFOF ¶ 146.)

Jackman's calculation of the "the probability that a given efficiency gap number from a given election year is positive or negative" also shows a trend in favor of Republicans. (PFOF ¶ 147.) He finds that in every election year since 1996, more plans have had negative efficiency gaps than positive ones. (PFOF ¶ 148.) In 2006, 75% of plans produced a negative efficiency gap while only 25% of plans produced a positive efficiency gap, with similar results in 2000 and 2012. (PFOF ¶ 149.) Since 1996, the best year for the Democrats was 2010, in which there was a 50-50 probability of a plan being negative. (PFOF ¶ 150.)

The trend in favor of Republicans is echoed in the Stephanopolous and McGhee law review article, which found that "the trend has been from a modest edge for Democrats in the 1970s (1.32%) and 1980s (1.27%), to ever larger advantages for Republicans in the 1990s (-1.17%), 2000s (-2.01%), and 2012 (-3.48%)." Stephanopolous & McGhee, 82 U. Chi. L. Rev. at 872.

5.   **Jackman's proposed threshold for presumptive unconstitutionality**

Jackman opines that a plan that has an efficiency gap of 7% in the first election after redistricting should be presumptively unconstitutional. (PFOF ¶ 151.) In determining that number, the key fact Jackman considers is whether the *EG* would flip sign throughout the course of the plan; *i.e.* whether a plan would change from negative to positive or vice versa. (PFOF ¶ 152.) In his report, he opines that "[i]t is especially important that we assess the durability of the sign of the *EG* measure." (PFOF ¶ 153.)

a.   **Jackman's determination of the 7% threshold**

Jackman's analysis focuses on determining a threshold for the *EG* in the first election under a plan from which he could be confident that the sign of the plan would not change. (PFOF ¶ 154.) He chooses to look at the first election in the plan because he "tried to put [himself] in the shoes of litigants" who would have to "intervene early before we've seen much data all from the plan, the election results the plan is throwing off." (PFOF ¶ 155.)

Jackman first calculates the proportion of plans that produced an efficiency gap in excess of a particular threshold in the first election and then calculated the

proportion of the plans in each subclass that produced an election with an efficiency gap of the opposite sign. (PFOF ¶ 156.)[3] Jackman does two calculations, one for the entire set of elections since 1972 and then another for elections since 1991.

For all plans since 1972, Jackman finds that 36% of all plans produced an efficiency gap of 7% or greater in the first election: 18% on the positive side and 18% on the negative side. (PFOF ¶ 158.) Since 1991, 34% of all plans produced an efficiency gap greater than 7% in the first election: 22% produced a gap of at least -7% and 12% percent produced a gap of at least +7%. (PFOF ¶ 159.)

For all plans since 1972, Jackman finds that 18% of plans that had an *EG* of at least -7% go on to produce an election with a positive *EG*. (PFOF ¶ 160.) He finds that 40% of plans that produce an *EG* of at least +7% in the first election go on to produce an election with a negative *EG*. (PFOF ¶ 161.) Since 1991, Jackman finds that 18% of plans that produce an *EG* of at least -7% in the first election go on to produce an election with a positive *EG*. (PFOF ¶ 162.) He finds that 60% of plans that produce an *EG* of at least +7% in the first election go on to produce an election with a negative *EG*. (PFOF ¶ 163.)

> **b.   Jackman finds negative *EG*s are more common and more likely to be durable**

Jackman finds that elections favoring Republicans in the first election are much more common than those favoring Democrats. (PFOF ¶ 164.) Jackman says that "we seldom see a plan in the 1990s or later that commence with a large-pro

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[3] Jackman's figures use red and blue squares spaced at each half percent (.005). (PFOF ¶ 157.) For example, there is a dot at 0.5% (.005), 1%, (.001), 1.5% (.0015), and so on.

Democratic efficiency gap." (PFOF ¶ 165.) In fact, the probability that the first election has an efficiency gap greater than 5% "is only about 11%." (PFOF ¶ 166.) In contrast, negative efficiency gaps "are much more likely under the first election in post-1990 plans: almost 40% of plans open with EG < -.05 [-5%] and about 20% of plans open with EG < -.10 [-10%]." (PFOF ¶ 167.)

Based on the discrepancy between the likelihood of sign change between negative and positive efficiency gaps, Jackman concludes that "pro-Democratic efficiency gaps seem much more fleeting than pro-Republican efficiency gaps." (PFOF ¶ 168.) A Democratic advantage is "not a durable feature" whereas a Republican advantage "tends to be a more durable feature of a plan." (PFOF ¶ 169.) This trend becomes "even more pronounced in the analysis that focuses on recent decades." (PFOF ¶ 170.)

c. Jackman's confidence in his threshold

To determine his confidence in a threshold, Jackman set out to determine the proportion of plans "if left undisturbed, would go on to produce a sequence of EG measures that lie on the same side of zero as the threshold." (PFOF ¶ 171.) Jackman finds that a 7% threshold acceptable because "at that threshold, 96 percent of plans are either not tripping that threshold or if they are, they're continuing to produce efficiency gaps on that side of zero." (PFOF ¶ 172.) As noted above, one third of all plans trip Jackman's threshold. He thinks this number is acceptable because these plans are unlikely to change sign. (PFOF ¶ 173.)

d. Jackman's findings when not focused solely on a plan's first election

Jackman finds that "plans with at least one election" of an efficiency gap of 7% or greater "are reasonably common." (PFOF ¶ 174.) In addition, an *EG* of 7% or greater "is not a particularly informative signal with respect to the other elections in the plan." (PFOF ¶ 175.) Jackman finds that 53% of plans since 1972 have one election with an *EG* of 7% or greater, with 29% of plans having a gap of -7% or greater and 25% of plans having a gap of +7% or greater. (PFOF ¶ 176.) When looking at plans since 1991, 47% of plans have had at least one election with an *EG* greater than 7%, with 38% of plans having an election with a gap of -7% or greater and 19% of plans having an election with an gap of +7% or greater. (PFOF ¶ 177.)

In fact, Jackman's analysis shows that an *EG* of 10% is not that uncommon. Since 1972, 33% of plans have had an election with an *EG* of 10% or higher, with 18% having an election with a gap of -10% and 15% having an election with an gap of +10%. (PFOF ¶ 178.) When looking just at elections since 1991, 35% of plans have had an election with an *EG* of at least 10%, with 24% of plans having had an election with a gap of -10% and 11% of plans having had an election with a gap of +10%. (PFOF ¶ 179.)

e. Jackman's findings on plans that unambiguously favor one party

Jackman found that 17 of the 141 plans for which he could calculate three or more efficiency gaps (12%) were "*utterly unambiguous* with respect to the sign of the efficiency gap," *i.e.*, that even the confidence level bar did not cross over to the other

sign. (PFOF ¶ 180.) Of these seventeen plans, sixteen of them were favorable to the Republicans and only one was favorable to the Democrats. (PFOF ¶ 181.)

Jackman does not analyze whether these plans were partisan districting in the sense of one party controlling the districting process. (PFOF ¶ 182.) When one considers this fact, only seven of seventeen plans featured unified partisan control over the districting process. (PFOF ¶ 183.) In fact, one of the "utterly unambiguous" plans was the Wisconsin 2002 Plan put in place by the federal court in *Baumgart v. Wendelberger*, No. 01-C-0121, 2002 WL 34127471, at *1 (E.D. Wis. May 30, 2002), *amended*, 2002 WL 34127473 (E.D. Wis. July 11, 2002). (PFOF ¶ 184.)

Further, the sign of the efficiency gap does not necessarily correlate to control of the state legislature. In five of the seven plans enacted under unified party control, the party in control of the state house changed despite the fact that the efficiency gap stayed as the same sign. (PFOF ¶ 185.)

6. Jackman's calculations of the efficiency gap following the 2010 round of redistricting

Jackman calculated *EGs* for the 2012 and 2014 elections for 39 states. (PFOF ¶ 186.) Fifty-one point estimates were negative (65.4%) while twenty-seven were positive (34.6%). (PFOF ¶ 187.) In eighteen states (46%), both point estimates were negative. (PFOF ¶ 188.) Included among this eighteen were Minnesota, Missouri, New York, and Kansas. (PFOF ¶ 189.)

IV.   **Facts related to elections in Wisconsin**

A.   **Districting following the 1990 census**

Following the 1990 census, a panel of three federal judges drew Wisconsin's legislative districts. *Prosser v. Elections Bd.*, 793 F. Supp. 859, 862 (W.D. Wis. 1992). The court used parts of two plans submitted in the case, one by Republicans and one by Democrats, and "preserve[d] their strengths, primarily population equality and contiguity and compactness, and avoid[ed] their weaknesses." *Id.* at 870. This court-drafted plan, referred to as the "1992 Plan," was in effect for the 1992, 1994, 1996, 1998, and 2000 elections.

B.   **Districting following the 2000 census**

Following the 2000 census, another three-judge panel drew Wisconsin's legislative districts. *Baumgart*, 2002 WL 34127471, at *1. The court drew its plan "in the most neutral way it could conceive—by taking the 1992 reapportionment plan as a template and adjusting it for population deviations." *Id.* at *7. The court found that "Wisconsin Democrats tend to be found in high concentrations in certain areas of the state, and the only way to assure that the number of seats in the Assembly corresponds roughly to the percentage of votes cast would be at-large election of the entire Assembly[.]" *Id.* That court-drafted plan, referred to as the "2002 Plan," was in effect for the 2002, 2004, 2006, 2008, and 2010 elections.

C.   **Assembly election results under the two court-drawn plans**

In elections held under the 1992 and 2002 Plans, the Republicans failed to win control of the Assembly two times: in 1992 and 2008. (PFOF ¶ 190.) The results

of those elections are summarized in the following chart, with the party in control in

bold.

Year	Rep. Seats	Dem. Seats	Ind. Seats
1992	47	**52**	
1994	**51**	48	
1996	**52**	47	
1998	**55**	44	
2000	**56**	43	
2002	**58**	41	
2004	**60**	39	
2006	**52**	47	
2008	46	**52**	1
2010	**60**	38	1

(PFOF ¶¶ 191-200.) Under the court-drawn plans, the Democrats never achieved a

seat total above 52 seats. (PFOF ¶¶ 191-200.)

D.   Jackman's findings on the Wisconsin's efficiency gaps

When Jackman analyzed each Wisconsin Assembly election since 1972, he

found that Wisconsin's *EG* has ranged from +2% (in 1994) to -14% (in 2012). (PFOF

¶ 201.) Disregarding results from the current plan, the lowest *EG* was -12% (in

2006). (PFOF ¶ 202.) Thus, the most favorable *EG* towards Democrats since 1972

has been 2%, which notably occurred in 1994 when the Republicans gained control

of the Assembly. (PFOF ¶ 203.)

Specifically, Jackman finds that "Wisconsin has recorded an unbroken run of

negative *EG* estimates from 1998 to 2014." (PFOF ¶ 204.) The last positive *EG* was

the 2% from 1994. (PFOF ¶ 205.) With respect to the 2002 Plan, Jackman calculates

an average efficiency gap of -8%, with -12% as the most favorable year to

Republicans and -4% as the most favorable year to Democrats. (PFOF ¶ 206.)

A summary of Jackman's efficiency gap calculations for elections under the 1992 and 2002 Plans is contained in the following table with numbers rounded to the nearest quarter of a percent.

Year	Dem. *V*	Implied *S* under Zero *EG*	Actual *S*	*EG*
1992	52.25%	54.5%	52.5%	-2%
1994	48.25%	46.5%	48.5%	+2%
1996	48.75%	47.5%	47.5%	0%
1998	51%	52%	44.5%	-7.5%
2000	49.75%	49.5%	43.5%	-6%
2002	49.5%	49%	41.5%	-7.5%
2004	50%	50%	40%	-10%
2006	54.75%	59.5%	47.5%	-12%
2008	54%	58%	53%	-5%
2010	46.5%	43%	39%	-4%

(PFOF ¶¶ 207-216.)

E.   The 2008 and 2012 elections

In 2008, the Democrats won control of the Assembly for the first time since 1992. (PFOF ¶ 219.) Senator Obama carried Wisconsin with 56.22% of the total vote (and 57.05% of the two-party vote). (PFOF ¶ 220.) Assembly Democrats ran about two points behind Obama in the two-party vote. (PFOF ¶ 221.)

In the November 2010 election, however, Republican candidates won the Governor's office, a majority in the State Senate and retook the majority in the Assembly. (PFOF ¶ 222.) Scott Walker won the Governor's office with 52.25% of the total vote (52.9% of the two-party vote). (PFOF ¶ 223.) Republicans won 60 seats in the Assembly. (PFOF ¶ 224.) Republicans secured 53.5% of the two-party vote share. (PFOF ¶ 225.)

The complaint lists 20 districts as having been won by Democratic candidates in the 2008 election that have allegedly been cracked by the current plan. (PFOF ¶ 226.) However, in the 2010 elections prior to the current plan, the Republicans won eight of these districts (Districts 2, 5, 26, 42, 68, 72, 88, and 93), and an independent won one (District 25). (PFOF ¶ 227.)

F.   The 2012 and 2014 elections

Following their wins in the 2010 elections, the Republican legislature and Governor passed Act 43, which laid out the new Assembly Districts. *See* 2003 Wisconsin Act 43. With the exception of a change to two districts made by a federal court under the Voting Rights Act, *Baldus v. Wisconsin Government Accountability Board*, 849 F. Supp. 2d 840, 854-58 (E.D. Wis. 2012), Act 43 governed the 2012 and 2014 Assembly elections.

On June 5, 2012, Governor Walker survived a recall attempt with 53.08% of the vote (53.4% of the two-party vote). (PFOF ¶ 228.)

In November 2012, President Obama won Wisconsin in the presidential election with 52.83% of the total vote (53.5% of the two-party vote). (PFOF ¶ 229.) Wisconsin's Democratic candidates for the Assembly again ran about two points behind the President's vote share. Jackman calculates that Democrats had a two-party vote share of 51.4%. (PFOF ¶ 230.)

In November 2014, the Republicans increased their control of the Assembly by winning 63 seats, equating to a 63.6% seat share. (PFOF ¶ 231.) Jackman calculates that Republicans' two-party vote share was 52%. (PFOF ¶ 232.)

The following chart contains a summary of Jackman's *EG* calculations for the

2012 and 2014 elections.

Year	Dem. *V*	Implied *S* under Zero *EG*	Actual *S*	*EG*
2012	51.4%	52.8%	39.4%	-13.4%
2014	48.0%	46.0%	36.4%	-9.6%

(PFOF ¶¶ 217-218.)

V.   Reasons why the efficiency gap favors Republicans

Jackman notes a trend of districting plans favoring Republicans in converting

statewide vote totals into legislative seats, beginning in the mid-1990s and

continuing to the present day. He also found that beginning in the mid-1990s

negative efficiency gaps have become more common than positive efficiency gaps,

that the median *EG* has been more favorable to Republicans, that the 25th

percentile plan is more favorable to the Republicans than the 75th percentile plan is

favorable to Democrats, and that positive *EG*s are fleeting occurrences while

negative *EG*s are durable. (PFOF ¶¶ 164-170.) Jackman measures the results, but

he provides no explanation for the trends he sees.

The defendants' experts, Professor Nicholas Goedert of Lafayette University

and elections analyst Sean Trende of RealClearPolitics.com, explain why these

trends have occurred. Simply put, the nature of the Republican and Democratic

coalitions has shifted over time to one in which Democrats have become ever more

concentrated in large urban areas that are naturally packed with wasted votes,

while Republican support is more geographically spread out and thus more easily translated into legislative seats.

A.   Recent developments in political science show Democrats are disadvantaged by geography

Both Goedert and Trende rely on recent work by political scientists Jowei Chen of the University of Michigan and Jonathan Rodden of Stanford University. (PFOF ¶ 233.) Chen and Rodden have found "that in many states, Democrats are inefficiently concentrated in large cities and smaller industrial agglomerations such that they can expect to win fewer than 50% of the seats when they win 50% of the votes." Jowei Chen and Jonathan Rodden, *Unintentional Gerrymandering: Political Geography and Electoral Bias in Legislatures*, 57 Quarterly Journal of Poli. Sci. 239, 239 (2013) (attached as Exhibit 112 to the Declaration of Brian P. Keenan). Chen and Rodden "used automated districting simulations" that created randomized districts in the State of Florida, the results of which show "a strong relationship between the geographic concentration of Democratic voters and electoral bias favoring Republicans." *Id.* at 240. In fact, Chen and Rodden found that for Florida their "two simulated districting procedures are unable to produce a single districting plan that is neutral or pro-Democratic in terms of electoral bias." *Id.* at 257. In an analysis of fifteen other states, they found that "[a]verage bias in favor of Republicans is substantial — surpassing 5% of legislative seats — in around half the states for which simulations were possible." *Id.* at 262.

Trende analyzes the differences in the election results in 1996 and 2012 in the West South Central region of the country, made up of Texas, Oklahoma,
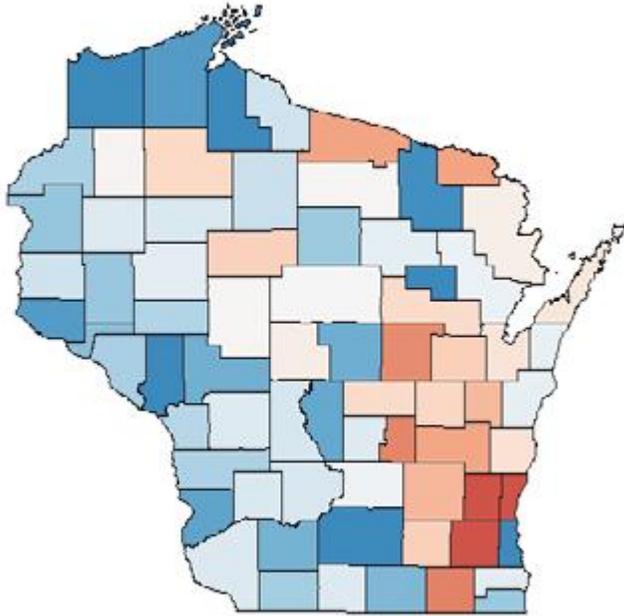
Arkansas, Louisiana, Alabama, Mississippi, Tennessee, and Kentucky, to provide an example of the Democrats' increased clustering. (PFOF ¶ 234.) In 1996, President Clinton's "support in the region was geographically dispersed, which allowed him to carry around 54 percent of the Congressional districts in the region." (PFOF ¶ 235.) In 2012, however, Obama's "coalition shrank geographically" with Obama winning "only 23 percent of the Congressional Districts in the region, with Democrats winning 39 percent of the seats. The latter number fell to 26 percent in 2010." (PFOF ¶ 236.)

B.   Democrats are becoming more concentrated in Wisconsin

Trende also calculates the Partisan Index (PI) of each county in Wisconsin in 1996 and 2012 as a way to show the change in the partisan makeup of the state. (PFOF ¶ 237.) The Partisan Index compares the share of the two-party vote in a jurisdiction compared to the national share of the vote (PFOF ¶ 238); thus it is a way to "control for national effects, and compare results across elections." (PFOF ¶ 239.) Trende color codes each county with red for pro-Republican PI and blue for pro-Democratic PI, with darker colors indicating stronger PIs. Using PI is a good comparison for 1996 and 2012 because Wisconsin "was almost identically as Democratic in 2012 as it was in 1996." (PFOF ¶ 240.)

The Democratic Party's support in 1996 was broad-based throughout the state, as shown by the 1996 map of County PI.
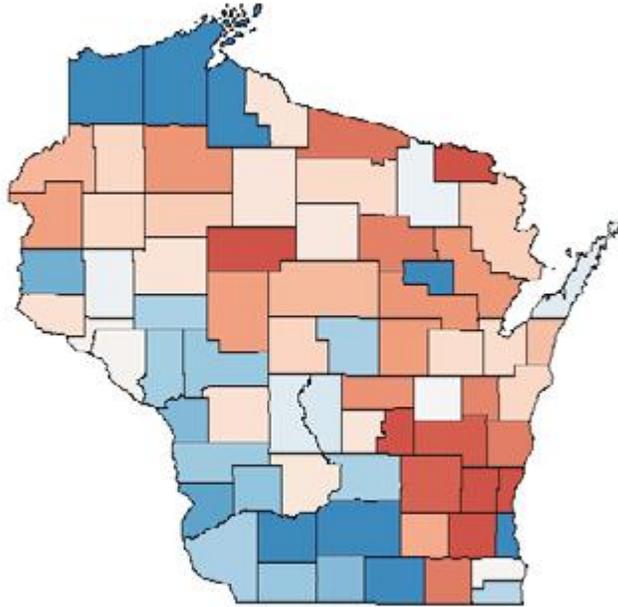
Wisconsin County PI 1996

(PFOF ¶ 241.)

By 2012, however, the story was different. While "the state was almost identically as Democratic in 2012 as it was in 1996, only 27 counties retained a Democratic lean in the latter year, or just 37.5 percent of the state. Moreover, these counties were geographically concentrated, in the southwestern portion of the state, in the far northwest, and in Milwaukee." The 2012 map is as follows:

Wisconsin County PI 2012

(PFOF ¶ 242.)

From 1996 to 2012, Republican support spread throughout much more of the state and Democratic support became more concentrated in its strongholds. (PFOF ¶ 243.) In 1996, Clinton won Milwaukee, Dane, and Rock Counties with 64% of the two-party vote but still managed to carry the rest of the state with 52% of the vote, a difference of twelve percent. (PFOF ¶ 244.) In 2012, Obama received more support in Milwaukee, Dane, and Rock Counties—69% of the vote—but lost the rest of the state by 47% to 53%, a difference of twenty-two percent. (PFOF ¶ 245.)

STANDARD OF REVIEW

This case is unusual in that a summary judgment motion usually tests whether there is a genuine issue of material fact as to whether a claim meets the applicable legal standard. *See* Fed. R. Civ. P. 56(a). In this case, however, there is no governing legal standard; the legal standard itself is the issue in dispute between the parties. The Court should grant summary judgment to the defendants because the undisputed facts, including the facts contained in the plaintiffs' expert reports, show that the plaintiffs' proposed standard is neither a judicially discernible nor judicially manageable standard for judging partisan gerrymandering claims. Because the plaintiffs propose the same standard for measuring a claim under the Fourteenth Amendment and the First Amendment, both claims fail for the same reasons.

ARGUMENT

The plaintiffs' standard does not satisfy Justice Kennedy's supposition that "some limited and precise rationale" could emerge "to correct an established violation of the Constitution in some redistricting cases," *Vieth*, 541 U.S. at 306 (Kennedy, J., concurring), nor does it answer the question of "how much [partisanship] is too much." *Id.* at 298 (plurality). The plaintiffs' "zero efficiency gap hypothesis" assumes as a starting point that efficiency gaps are zero absent partisan intent. But that is not accurate, especially in Wisconsin. It does not measure how much partisanship was involved in the districting process because it assumes all differences are caused by gerrymandering when the undisputed facts

show that, both in Wisconsin specifically and in the country as a whole, significant differences in partisan outcomes are present independent of partisan intent.

The "efficiency gap" (or "*EG*") does not measure "how much is too much" because disparate outcomes in favor of Republicans occur in the absence of partisan intent. For example, under the two court-drawn plans in Wisconsin, Democrats won the Assembly in only two elections, Wisconsin had a negative efficiency gap favoring Republicans every year from 1998 to 2010, and there was an average efficiency gap of -8% favoring Republicans under the court-drawn 2002 plan, including years with gaps comparable to those under Act 43. Yet the plaintiffs propose that the Act 43 plan should be judged on how it compares to a hypothetical zero efficiency gap baseline, even though that baseline is not consistent with the real world or with plans drawn by disinterested federal judges using only traditional districting principles.

The efficiency gap likewise does not provide a "limited and precise rationale" for court intervention in the districting process. *Vieth*, 541 U.S. at 306 (Kennedy, J., concurring). The plaintiffs' threshold of a 7% *EG* in the first election would have swept in one-third of all districting plans enacted since 1972. Further, over one-third of plans have had at least one election with an *EG* of 10% or greater in at least one election. Perhaps this broad sweep would be acceptable if it were to remedy "an established violation of the Constitution," *id.* at 306 (Kennedy, J., concurring), but it does not. There is no constitutional right to a districting plan that provides a seat share matching the zero efficiency gap hypothesis. The plaintiffs' proposed

threshold is based on an estimate of whether a plan will change sign (*i.e.*, flip to an advantage to the other party) at some point in its existence. But, likewise, there is no constitutional right to an *EG* that flips signs.

For Wisconsin in particular, a positive *EG* plan (favoring Democrats) is extremely unlikely when the highest observed *EG* under the court-drawn plans was 2% in 1994 and even the plaintiffs' Demonstration Plan presents a negative *EG* favoring Republicans in a good election year for Democrats.

I.   The plaintiffs' proposed standard does not provide a way for a court to determine "how much is too much."

The efficiency gap provides no way to determine when ordinary consideration of politics in the redistricting process has crossed into a constitutional violation. The efficiency gap measures the disadvantage a party faces in turning its statewide vote share into the seat share called for by the zero efficiency gap hypothesis, but this disadvantage is caused by a myriad of circumstances that go well beyond partisan intent in the districting process. The undisputed facts, including the plaintiffs' own evidence, show that Wisconsin Democrats face a significant disadvantage in converting statewide vote share into legislative seats under plans drawn with no partisan intent. Thus, the "standard for deciding how much partisan dominance is too much," *League of United Latin American Citizens (LULAC) v. Perry*, 548 U.S. 399, 420 (2006) (plurality), cannot be judged by comparing Wisconsin to a zero efficiency gap hypothetical that neutral plans do not even meet.

This shortcoming is not saved by the plaintiffs' incorporation of an intent element or their attempt to shift the burden to the defendants. The Court should

not allow the plaintiffs, who bear the burden of proving a law is unconstitutional, to shift the job of "sail[ing] successfully between the Scylla of administrability and the Charybdis of non-arbitrariness" to the defendants. *See Radogno v. Ill. State Bd. of Elections*, No. 1:11-CV-04884, 2011 WL 5868225, at *5 (N.D. Ill. Nov. 22, 2011).

A. Wisconsin is not a zero efficiency gap state even under plans drawn by disinterested mapmakers with no partisan intent.

The plaintiffs' proposed standard fails because it does not measure Wisconsin's plan against a plan that would be produced under "comprehensive and neutral principles for drawing electoral boundaries." *Vieth*, 541 U.S. at 306-07 (Kennedy, J., concurring). Instead, the efficiency gap measures Wisconsin's plan against an ideal world in which a party should receive 2% of seat share for every 1% of vote share over 50%. What is missing from the plaintiffs' case is a legally sufficient reason why that measure should be constitutionalized.

Wisconsin's current plan is completely consistent with real-life examples of neutral districting. Under the two court-drawn plans, the efficiency gap ranged from +2% to -12%. (PFOF ¶ 246.) The most recent court-drawn plan had an average efficiency gap of -8%, which ranged from -4% to -12%. (PFOF ¶ 247.) In fact, "Wisconsin has recorded an unbroken run of negative *EG* estimates from 1998 to 2014." (PFOF ¶ 204.) The most favorable *EG* for Democrats since 1972 was the 2% observed in 1994, a year in which the Republicans actually gained control of the Assembly for the first time in many years. (PFOF ¶ 203.)

The *EG*s observed in 2012 and 2014 based on Act 43 are not outliers when compared with the 2002, 2004, and 2006 elections under the court-drawn 2002 Plan.

Year	Dem. *V*	Implied *S* under Zero *EG*	Actual *S*	*EG*
2002	49.5%	49.0%	41.5%	-7.5%
2004	50%	50%	40%	-10%
2006	54.75%	59.5%	47.5%	-12%
2012	51.4%	52.8%	39.4%	-13.4%
2014	48.0%	46.0%	36.4%	-9.6%

(PFOF ¶¶ 212-214, 217-218.) In 2002, the Democrats won 41 seats with almost 50% of the vote. In 2004, the Democrats captured 39 seats on 50% of the vote. The result in 2004 under the court plan is similar to the result in 2012 under Act 43, where Democrats captured 39 seats on a slightly higher vote share of 51.4%. Indeed, in 2006 under the court plan, the Democrats received a higher vote share than in either 2012 or 2014, yet were still denied a majority of seats. Thus, using the plaintiffs' own measures, the Act 43 results are entirely consistent with neutral plans and not outliers showing a constitutional violation.[4]

The historical gaps in favor of Republicans under neutral plans are not properly accounted for by the plaintiffs' proposed standard for their constitutional test. The plaintiffs propose that being 7% over the idealized zero baseline should be sufficient evidence of gerrymandering to meet their burden. But if the plaintiffs' test

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[4] What the plaintiffs' idealized baseline also misses is variability based on real-world circumstances that change from election to election. For example, in 2008, the Democrats were able to win a majority of seats on a lesser vote share than they received in 2006, winning 52 seats on 54% of the vote. This drove the efficiency gap down to -5%. The Republican surge in 2010 then reduced Democrats to 39 seats on 46.5% of the vote, but this drove down the efficiency gap another point to -4%. No one can know what will happen in the current plan if we see an election along the lines of 2008 or 2010. The current plan has only seen one election with a 51.4% Democratic vote share and one with a 52% Republican vote share. (PFOF ¶¶ 230-232.)

and threshold were interpreted based on the real-world—where the baseline actually corresponded to the gap under a neutral plan—then Act 43 passes muster. The average pro-Republican gap under the most recent court-drawn plan was -8%. (PFOF ¶ 206.) The largest efficiency gap that the plaintiffs allege under Act 43 is 13.4% (PFOF ¶ 217), which is within 7% of the neutrally-occurring average of -8%. It should follow that Wisconsin's plan is legal even under the plaintiffs' metric.

Based on their Demonstration Plan, the plaintiffs may contend that Wisconsin is not naturally biased against Democrats. But that Plan is irrelevant because the large negative *EG*s under court-drawn plans are irrefutable evidence that application of neutral districting principles *can* lead to large disparate outcomes in converting votes to seats.

In any event, the Demonstration Plan actually shows the natural disadvantage faced by Democrats. Tellingly, even with every motivation to reach the opposite result, the plan still shows an efficiency gap of -2.2% in favor of Republicans. Further, even that gap is likely underestimated and is certainly variable. The Demonstration Plan has 51 Democratic seats, but it may understate Republican wins given that Mayer's model (on which the Plan is based) under-predicted Republican wins under Act 43. It only predicted 57 of the actual 60 Republican wins. Further, in his Demonstration Plan, Mayer reduced the efficiency gap by drawing districts that would be narrow Democratic wins in an election with 51.4% Democratic vote share; fifteen of these districts are 53.4% or less Democratic. Given that he has cut things so close, if Democrats lost 3.4% of vote share, as in

2014, all of the close districts would be in jeopardy and many of them would likely be lost. With any additional Democratic losses, even the Demonstration Plan's efficiency gap will grow ever more negative in favor of Republicans.

B.   Most states in the country are not zero efficiency gap states.

Jackman's report shows that Wisconsin's experience mirrors the country as a whole. Wisconsin began to show negative efficiency gaps in the mid-1990s. With respect to the entire country, Jackman found that "[t]he distribution of *EG* measures trends in a pro-Republican direction through the 1990s, such that by the 2000s, *EG* measures were more likely to be negative." (PFOF ¶ 248.) The median plan has been negative (meaning pro-Republican) since the mid-1990s and the 25th percentile has been below 5% since the mid-1990s and even approached 7% in 2004, 2010, and 2012. (PFOF ¶ 249.) Meanwhile, the 75th percentile has favored Democrats by a much smaller margin of 1% to 2%. (PFOF ¶ 250.) Further, in every election year since 1996, more plans have had negative efficiency gaps than positive ones, with about 75% of plans producing a negative efficiency gap in 2000, 2006, and 2012. (PFOF ¶ 251.) Wisconsin experienced its highest negative efficiency gaps in 2000 (-7.5%), 2006 (-12%), and 2012 (-13%). The academic literature on which the plaintiffs' case is based (by Stephanopolous and McGhee) likewise finds a trend from Democrats towards "Republicans in the 1990s (-1.17%), 2000s (-2.01%), and 2012 (-3.48%)." Stephanopolous & McGhee, 82 U. Chi. L. Rev. at 871.

The trend is explained by the simple fact that "political groups that tend to cluster (as is the case with Democratic voters in cities) would be systematically

affected by what might be called a 'natural' packing effect." *Vieth*, 541 U.S. at 290 (plurality). Sean Trende's maps and analysis summarized in the background above show the Democratic Party's growing concentration over time, which has resulted in a reduced ability to translate a statewide vote percentage into legislative seats. (PFOF 234-245.) This is an unavoidable consequence of districting that the efficiency gap miscounts as intentional gerrymandering. The zero efficiency gap standard actually calls for Republican districting bodies to district in a way that assists Democrats in countering the "natural packing" effect.

This phenomenon points to two related problems with the efficiency gap. First, it shows that the gap will change over time. Such changeability is something that, standing alone, should dissuade a court from adopting the measure as a constitutional standard. Second, the way it is changing is important: in Wisconsin and nationally, the efficiency gap has increasingly favored Republicans. A test is unworkable when it conflates a national demographic trend with a gerrymander in a particular instance.

For example, Jackman calculates large negative efficiency gaps in both 2012 and 2014 in Kansas (over 10% average), New York (over 10% average), Missouri (slightly under 10% average), and Minnesota (5-6% average). Yet these were not partisan gerrymanders. Kansas's districts were drawn by a federal court. *Essex v. Kobach*, 874 F. Supp. 2d 1069, 1093-94 (D. Kan. 2012). New York's plan was signed into law by its Democratic Governor. *Favors v. Cuomo*, 881 F. Supp. 2d 356, 360 (E.D.N.Y. 2012). Missouri's districts were drawn by a bipartisan commission

appointed by its Democratic governor. *Johnson v. State*, 366 S.W.3d 11, 16 (Mo. 2012). Minnesota's districts were drawn by a panel appointed by the Chief Justice of the Minnesota Supreme Court. *Hippert v. Ritchie*, 813 N.W.2d 374, 376 (Minn. 2012).

Indeed, some of the problems with the plaintiffs' proposal are apparent when viewing a recent redistricting case in Illinois. In *Radogno*, a three-judge panel observed that political gerrymandering claims remain "'unsolvable' based on the absence of any workable standard for addressing them." *Radogno*, 2011 WL 5868225, at *2. That case involved a challenge to an alleged Democratic gerrymander. The challenge failed even though the plaintiffs "identified factors that are, for the most part, reasonably objective and measurable." *Id.* at *4. The panel explained that the factors did not get at the fundamental problem with political gerrymandering cases:

> it's hard to see how this particular six-factor test is implied by the requirements of the Equal Protection Clause, which as we have noted tolerates some degree of partisanship in redistricting. If judicial adjudication of political gerrymandering were just a matter of isolating a set of factors, even *objective* factors, that inhere in the redistricting context and suggest that partisan considerations played a substantial role, courts would have solved this problem long ago.

Id. The court found that no such set of factors existed that would allow it to discern partisan considerations. Here, the efficiency gap does not supply what was missing in *Radogno* because it measures things that are not gerrymandering.

Notably, the *Radogno* challenge was to a pro-Democratic gerrymander. But, based on the Jackman efficiency gap method, Illinois had a *Republican*-leaning

efficiency gap in one election and the other election showed only a narrow Democratic *EG* advantage. (PFOF 257.) This shows the efficiency gap is not measuring what it purports to measure. Partisan intent was present in *Radogno*, but Illinois presents as a neutral or Republican-leaning plan. This is because the efficiency gap does not detect gerrymandering as traditionally understood—ignoring traditional criteria for partisan advantage. Because the efficiency gap measures a collection of circumstances, including natural political geography, it cannot be the solution to the intractable problem of partisan gerrymandering claims.

C.   **The plaintiffs' intent element does not save their standard.**

In the motion-to-dismiss briefing, the plaintiffs argued that Wisconsin's court-drawn 2002 Plan, even though it surpasses their proposed threshold, was constitutional because their test includes an intent prong. But this misses the point. The neutral 2002 Plan lays bare that the efficiency gap measure and threshold do not actually measure gerrymandering.

The fact that Wisconsin presents significant pro-Republican efficiency gaps when districted by neutral bodies shows that using an idealized zero efficiency gap as the starting point is wrong. Starting at the assumption of a zero *EG* fails to measure the extent to which political classifications "were applied in an invidious manner or in a way unrelated to any legitimate legislative objective." *Vieth*, 541 U.S. at 307 (Kennedy, J., concurring). If a high efficiency gap is present when districting was done with no partisan intent, the presence of a high efficiency gap cannot evince a departure from a "legitimate legislative objective."

The intent element does not solve this problem. If the intent is simply *some* intent to benefit the districting party or disadvantage the other party, then "[a]s long as redistricting is done by a legislature, it should not be very difficult to prove that the likely political consequences of the reapportionment were intended." *Davis v. Bandemer*, 478 U.S. 109, 129 (1986). Under this version of intent, it will always be present whenever the political branches district and so it is meaningless as an element. As the three-judge panel in *Radogno* observed: "The crucial theoretical problem is that partisanship will *always* play *some* role in the redistricting process. As a matter of fact, the use of partisan considerations is inevitable; as a matter of law, the practice is constitutionally acceptable." *Radogno*, 2011 WL 5868225, at *2.

If the intent element calls for a more searching inquiry, then the standard fails under *Vieth*. The *Vieth* plurality and Justice Kennedy both rejected a standard that incorporated a "predominant intent" standard that attempted to measure the relative importance of partisan considerations compared to other districting principles. 541 U.S. at 284-86 (plurality); *id.* at 308 (Kennedy, J., concurring). The court held that "the 'predominant motivation' test . . . all but evaporates when applied statewide." *Id.* at 285 (plurality). It simply is impossible to determine the relative weight of partisan intent compared to "other goals—contiguity, compactness, preservation of neighborhoods, etc.—*statewide*." *Id.*

Of course, one wonders why the plaintiffs think a legislature needs to district so as to minimize the efficiency gap but courts are free to ignore it. If it is truly a constitutional requirement that "both major parties should be able to translate their

popular support into legislative representation with approximately equal ease" (Dkt. 31:18), then even courts that are called upon to district should be using the efficiency gap in drawing their plans so as to not violate that right. Courts have never considered this factor because it is not based in the Constitution.

D.   The burden-shifting framework is fundamentally unfair and exacerbates the flaws in the proposed "efficiency gap" test.

The plaintiffs' attempt to avoid the problems with a gerrymandering lawsuit by claiming that all they need show is intent (which is always present) together with the statistical test and threshold they have tailored. They then wash their hands of all the other intractable problems by saying the burden should then shift. That cannot be right. They invoke the one-person, one-vote cases and their rebuttable presumption of unconstitutionality, but that framework cannot be grafted onto their theory here. It puts the cart before the horse.

In the one-person, one-vote cases, the Court *first* established the constitutional right, leaving the specifics of the test to be developed later. The Court held that the Equal Protection Clause required "that the seats in both houses of a bicameral state legislature must be apportioned on a population basis." *Reynolds v. Sims*, 377 U.S. 533, 568 (1964). The court did not establish a hard limit for population deviation because "it is a practical impossibility to arrange legislative districts so that each one has an identical number of residents, or citizens, or voters." *Id.* at 577. With a firm understanding of the constitutional principle at issue, courts could analyze the claims to establish a working test.

In contrast, the plaintiffs here are trying to establish the constitutional right based on a statistical method. But the courts developed a numerical test in the one-person, one-vote cases *after* the constitutional standard of equal population had been established. They did not use a rule of 10% population deviation to come to the conclusion that vote dilution was unconstitutional; they used the principle of equal population to determine that 10% was an acceptable amount of population deviation. The plaintiffs reverse this order and use the efficiency gap calculation to establish the very existence of a constitutional violation. The Court should not accept this circular reasoning, particularly when the *Vieth* Court recognized that the one-person, one-vote cases "have no bearing upon this question, neither in principle nor in practicality." 541 U.S. at 290 (plurality opinion).

Likewise, the Court should not allow the plaintiffs to push the problem of defining a judicially manageable standard on defendant state officials. Courts rightfully approach partisan gerrymandering claims "with great caution" because courts "risk assuming political, not legal, responsibility for a process that often produces ill will and distrust." *Vieth*, 541 U.S. at 306-07 (Kennedy, J., concurring). The plaintiffs therefore have the burden of justifying court intervention into a process specifically entrusted to the political branches, not the other way around. The plaintiffs attempt to turn the inquiry on its head.

Indeed, the proposed burden-shifting makes the flaws in the proposed efficiency gap measure even more concerning. The plaintiffs want to shift the burden based on a method and threshold that they themselves have selected. In

states like Wisconsin with a natural efficiency gap, it is much easier to shift the burden onto the state to justify a plan, as opposed to a state without the same natural groupings of voters (or as in Illinois, a similar grouping of voters districted by the other party). A test that affects different states differently based on natural demographics, based on a metric that changes over time based on demographics, makes no sense as a constitutional test. This is not what Justice Kennedy had in mind when he discussed using "great caution" when formulating a possible future approach.

II. The plaintiffs' proposed standard is not a "limited and precise" rationale for correcting "an established violation of the Constitution in some redistricting cases."

The plaintiffs' proposed standard would require courts to rule on a large number of state legislative districting plans, which is precisely the opposite of Justice Kennedy's call for a "limited and precise" rationale that should be exercised with "great caution."

A. The plaintiffs' standard is not "limited and precise."

The plaintiffs' proposed standard would encompass a strikingly high number of state legislative plans. Thirty-six percent of plans fail Jackman's standard of a 7% *EG* in the first election following redistricting. (PFOF ¶ 252.) Even upping this standard to a 10% *EG* in the first election sweeps in about 18% of plans. (PFOF ¶ 253.) A standard that finds unconstitutional gerrymandering in one plan out of three, or even one plan out of five, is not a "limited and precise" test for partisan gerrymandering.

In fact, Jackman's calculations based on the first election in a plan understate the amount of judicial involvement that will be required. Jackman did not focus on the first election for any particular reason in political science, but rather merely because he assumed plaintiffs would want to challenge a plan after the first election. (PFOF 155.) The *EG* observed in the first election is not a magic indicator of future election results; it is just one data point. A plan will produce a range of results depending on election conditions, as is seen with Wisconsin's 2002 Plan that produced *EG*s of -7.5%, -10%, -12% -5%, and -4%. (PFOF 212-216.) If the 2004 and 2006 *EG*s had presented themselves first (-10% and -12%, respectively), then the 2002 Plan would have appeared to be identical to the current plan, which Plaintiffs claim is "one of the worst partisan gerrymanders in modern American history." (PFOF ¶ 254.) If the 2008 and 2010 elections had occurred first, then the Plan would escape court scrutiny, yet would actually be capable of producing larger *EG* numbers under different election conditions. This reveals an underlying arbitrariness to the plaintiffs' methods and choices when proposing their standard.

The plaintiffs' standard could sweep in a huge number of plans depending on what type of election occurs in the first election of the cycle. Jackman finds that *53%* of plans since 1972 have at least one election with an *EG* of 7% or greater. (PFOF ¶ 176.) He likewise finds that 33% of plans have had at least one election with an *EG* of 10% or higher, which grows to 35% when looking at elections since 1991. (PFOF ¶¶ 178-179.) Adopting the plaintiffs' standard would therefore invite a

"substantial intrusion into the Nation's political life." *Vieth*, 541 U.S. at 306 (Kennedy, J., concurring).

To make matters worse, the criteria Jackman used to calculate his 7% threshold has no basis in the Constitution. Jackman's threshold is based on whether a plan is likely to change sign during its existence (*i.e.*, flip from negative to positive or vice versa). He is 95% confident in his threshold because he is confident that the 36% percent of plans implicated will not change sign over their existence. The plaintiffs, however, have never explained why unconstitutional gerrymandering should be decided by whether a plan will change sign. Jackman's own research shows that pro-Republican negative efficiency gaps are durable, which is borne out by Wisconsin's experience under the 1992 and 2002 Plans. Jackman himself found that the plan in place in Wisconsin immediately before the current plan, enacted by completely neutral decision-makers, was unambiguously negative. His constitutional threshold expects Republican lawmakers to enact a plan that will turn positive for Democrats—something that has not happened in Wisconsin since 1994 (including eight elections conducted under court-drawn plans).

Once laid bare, the plaintiffs' plan plainly cannot be a constitutional standard. It is not limited (it sweeps in a high number of plans) or precise (it detects natural trends well beyond gerrymandering, much less extreme gerrymandering that might justify limited court intervention).

B.   This substantial intervention is not related to correcting established constitutional violations.

Plaintiffs' imprecise and expansive test is doubly problematic because it does not address a violation of the Constitution. There is no constitutional right to a small efficiency gap. It is a measure of proportionality, which is something the Supreme Court has rejected as a constitutional right.

The plaintiffs have maintained that the efficiency gap does not call for one-for-one proportional representation. That is true as far as it goes. But the zero efficiency gap hypothesis actually calls for hyper-proportional representation. Each 1% increase in vote share is expected to translate into an additional 2% in seat share. This hyper-proportionality, if anything, makes their standard less tenable under *Vieth* than one-for-one proportionality.

The *Vieth* Court rejected a standard based on whether a party was thwarted in "translat[ing] a majority of votes into a majority of seats," 541 U.S. at 286-87 (plurality), because "this standard rests upon the principle that groups (or at least political-action groups) have a right to proportional representation." *Id.* at 288 (plurality). The plurality held that

> the Constitution contains no such principle. It guarantees equal protection of the law to persons, not equal representation in government to equivalently sized groups. It nowhere says that farmers or urban dwellers, Christian fundamentalists or Jews, Republicans or Democrats, must be accorded political strength proportionate to their numbers."

Id. Justice Kennedy agreed that "the standards proposed . . . by the parties before us" were "either unmanageable or inconsistent with precedent or both." *Id.* at 308

(Kennedy, J., concurring). There simply is no constitutional right for parties to be able to translate their statewide support into legislative seats with equal ease.

If the Constitution does not require proportional representation, then it surely does not require that electoral systems deliver hyper-proportional representation in which each 1% vote share above 50% yields 2% additional seat share, as called for by the orange line in Figure 4 of Jackman's report.

III.   The plaintiffs have not satisfied Justice Kennedy's concerns with partisan symmetry expressed in *LULAC*.

The plaintiffs have relied heavily on Justice Kennedy's statement in *LULAC* that he would not "altogether discount[]" the utility of partisan symmetry "in redistricting planning and litigation." 548 U.S. at 420 (plurality). The plaintiffs' case, however, has not addressed Justice Kennedy's concerns about dealing in a "hypothetical state of affairs" and speculating about "where possible vote-switchers will reside." *Id.*

Mayer's entire report is based on a "hypothetical state of affairs" in which votes are not counted as they were cast, but as they would have been cast in the hypothetical world in which there were no incumbents and each district was contested. (PFOF ¶ 8.) His model incorrectly picks the winning candidate in 5% of races even when he knows the results of the actual 2012 elections. (PFOF ¶¶ 17-30.) His opinions on his Demonstration Plan are likewise a counterfactual "hypothetical state of affairs" using a regression model to predict the results of an election that never happened.

Further, the efficiency gap is subject to wide swings based on "vote switchers" who swing close elections. Very small swings in statewide vote share (as small as a few hundred votes) can change seat share by several percentage points. The efficiency gap treats losing these close races as systemic bias against a party when, in reality, they represent voters' choices to support specific candidates for various reasons.

Thus, the proposed test runs headlong into Justice Kennedy's admonishments. It does not solve the problems in other redistricting cases but rather adds to them. It should be rejected for these additional reasons.

A.   The plaintiffs' case is based on a counter-factual, not actual votes cast.

Justice Kennedy's tepid support of partisan symmetry in *LULAC* surely does not envision courts invalidating plans based on election results that did not actually happen but were generated by a regression model. The plaintiffs have not presented any evidence of the number of wasted votes that were actually cast in either the 2012 or 2014 Assembly elections. Instead, they have offered Mayer's "prediction" of the 2012 votes that would have been wasted had no incumbents run and had each party contested every seat. This is an interesting exercise in political science, but it is clearly an analysis of a "hypothetical state of affairs." *LULAC*, 548 U.S. at 399 (plurality). In fact, Mayer counts these hypothetical votes as "wasted" even if his model predicted the incorrect winner of the Assembly seat. (PFOF ¶ 31.)

Further, the assumptions that Mayer uses in his hypothetical state of affairs ignore an important political reality: the power of incumbency. Mayer assumes no

incumbents, which is not an unreasonable thing to do when determining the underlying partisan makeup of a district. But it does not reflect reality in that (1) incumbents did run in the 2012 elections and (2) Republicans disproportionately benefitted from the incumbency advantage because they had a 60-seat majority. Thus, contrary to Justice Kennedy's warning, the plaintiffs have offered statistics based on counterfactuals and hypotheticals.

In addition, the Court cannot have confidence that Mayer's regression model even accurately predicts what would happen in the "hypothetical state of affairs" it is supposed to predict (whether for Act 43 or the Demonstration Plan) given the number of errors the model produces when predicting the 2012 election. His model incorrectly predicts five seats—five percent of seats—and undercounts Republican success by three seats—a three percent error in seat share. (PFOF ¶¶ 17-30.) A three-seat swing in Wisconsin can change the efficiency gap by 3%, which is nearly half the way to presumptive unconstitutionality under Plaintiffs' standard.

And, even in Mayer's counterfactual world, the plaintiffs do not provide all the relevant calculations that arise in that world. They omit (1) a calculation of what the efficiency gap under Act 43 would have been in the 2014 election had no incumbents run and every seat been contested and (2) a prediction of what the efficiency gap would have been under the Demonstration Plan in the 2014 election. The 2014 election results were available for Mayer to develop a regression model, but he ignored them. Apparently, the plaintiffs were not interested in predicting the Demonstration Plan's efficiency gap in an election in which Republicans won 52% of

the vote for Governor and Assembly. Especially since the plaintiffs bear the burden, one can only assumed the results of such an analysis would not have supported their theory.

Jackman's research is likewise based on a counterfactual—that an equal number of votes were cast in each district. (PFOF ¶ 5.) This is not a valid assumption in Wisconsin (PFOF ¶¶ 118-119) or in the nation as a whole. Similarly, his seats-vote curve is explicitly based on the hypothetical of the "zero efficiency gap hypothesis," which as noted above, has no basis in reality. Likewise, his calculations are "point estimates" with confidence intervals to account for his imputations in uncontested races. (PFOF ¶¶ 138-140.)

B. The efficiency gap is sensitive to the results in close races decided by "vote switchers."

The efficiency gap's focus on statewide vote shares means that it is highly sensitive to variation based on close elections. These races are decided by numbers of votes that are inconsequential to the statewide vote share, but they decidedly affect seat share. Justice Kennedy's concern with vote-switchers thus is not accounted for in the plaintiffs' test.

In *Vieth*, the Court approvingly quoted the proposition that "[t]here is no statewide vote in this country for the . . . state legislature. . . . Political parties do not compete for the highest statewide vote totals or the highest mean district vote percentages: They compete for specific seats." 541 U.S. at 289 (plurality) (quoting Lowenstein & Steinberg, *The Quest of Legislative Districting in the Public Interest: Elusive or Illusory*, 33 UCLA L. Rev. 1, 59-60 (1985)). Seat share is not tied to

statewide vote share. This understanding underlies Justice Kennedy's statement in *LULAC* that "[t]he existence or degree of asymmetry may in large part depend on conjecture about where possible vote-switchers will reside." 548 U.S. at 420. This speculative and changeable aspect of the plaintiffs' measure is yet another flaw.

The recent Wisconsin elections illustrate this effect. In 2012, the Republicans won five seats (Districts 1, 26, 50, 72 and 93) with no more than 51.3% of the total vote. (PFOF ¶ 255.) The margin of victory across all of these races was about 3,200 votes, each less than 900 votes and one at only 109 votes (District 93). (PFOF ¶ 256.) Thus, more than 5% of seat share was determined by 0.1% of vote share. In part, the large efficiency gap was caused by the Democrats' inability to win these close races. Had they won all of these races, the efficiency gap would have fallen by a dramatic 5% (and would have fallen 1% for any seat won).

Perhaps the Democratic candidates would have won these seats if the election had a slightly larger Democratic tide (as in 2006 or 2008); perhaps they could have won them if they ran different candidates, emphasized different issues, or spent more money on the races. Whatever the reasons the Democrats lost these races, a large "degree of asymmetry" was produced by their failure to win over a sufficient number of "vote switchers" who live in these districts. *See LULAC*, 548 U.S. at 420 (plurality).

The changeable and uncertain aspects of politics, especially in close races, have significant impacts on the efficiency gap. That makes the gap an unreliable measure of real-world gerrymandering and one that fails to draw a constitutionally

mandated line. For this and the various other reasons discussed, the plaintiffs'

proposed use of the efficiency gap does not solve the problems in gerrymandering

cases. It should be rejected.

CONCLUSION

The Court should grant summary judgment to the Defendants because the

plaintiffs' standard is not a judicially discernible or judicially manageable test for

judging partisan gerrymandering claims.

Respectfully submitted,

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IN THE UNITED STATES DISTRICT COURT
FOR THE WESTERN DISTRICT OF WISCONSIN

WILLIAM WHITFORD, et al.,

   Plaintiffs,

  v.   Case No. 15-CV-421-bbc

GERALD NICHOL, et al.,

   Defendants.

DEFENDANTS' AMENDED ANSWER

NOW COME Defendants Gerald C. Nichol, Thomas Barland, John Franke, Harold V. Froehlich, Kevin J. Kennedy, Elsa Lamelas, and Timothy Vocke, by their undersigned counsel, as and for their Answer to the complaint hereby respond as follows.

INTRODUCTION

1. Defendants respond that the first sentence in paragraph 1 of the complaint states legal conclusions to which no response is required. Defendants deny the allegations in the second sentence of paragraph 1. Defendants admit the allegations in the third sentence of paragraph 1. Defendants deny the allegations in the fourth sentence of paragraph 1.

2. Defendants respond that paragraph 2 of the complaint states legal conclusions to which no response is required, but deny the allegations to the extent a response is required.

3.   Defendants deny the allegations in the first sentence in paragraph 3 of the complaint. Defendants respond that the second sentence in paragraph 3 states legal conclusions to which no response is required, but deny the allegations to the extent a response is required.

4.   Defendants respond that paragraph 4 of the complaint states legal conclusions to which no response is required, but deny the allegations to the extent a response is required.

5.   Defendants deny the allegations of paragraph 5 of the complaint.

6.   Defendants respond that paragraph 6 of the complaint states legal conclusions to which no response is required, but deny the allegations to the extent a response is required.

7.   Defendants state that the first sentence of paragraph 7 of the complaint states legal conclusions to which no response is required, but deny the allegations to the extent a response is required. Defendants deny the remaining allegations in paragraph 7.

8.   Defendants respond that the first sentence of paragraph 8 of the complaint states legal conclusions to which no response is required, but deny the allegations to the extent a response is required. Defendants deny the allegations in the remaining sentences of paragraph 8.

9.   Defendants deny the allegations in paragraph 9 of the complaint.

10.   Defendants deny the allegations in paragraph 10 of the complaint.

11.   Defendants respond that paragraph 11 of the complaint states legal conclusions to which no response is required, but deny the allegations to the extent a response is required.

JURISDICTION AND VENUE

12.   Defendants admit that this Court has jurisdiction over this action.

13.   Defendants admit that a three-judge panel is appropriate for this case.

14.   Defendants admit that venue is proper in the Western District of Wisconsin.

PARTIES

15.   Defendants lack knowledge or information to form a belief about the allegations in the first two sentences of paragraph 15 of the complaint. Defendants respond that the remaining allegations in paragraph 15 state legal conclusions to which no response is required, but deny the allegations to the extent a response is required.

16.   Defendants respond that paragraph 16 of the complaint states legal conclusions to which no response is required, but deny the allegations to the extent a response is required.

17.   Defendants lack knowledge or information to form a belief about the allegations in paragraph 17 of the complaint.

18.   Defendants lack knowledge or information to form a belief about the allegations in paragraph 18 of the complaint.

19.   Defendants lack knowledge or information to form a belief about the allegations in paragraph 19 of the complaint.

20.   Defendants lack knowledge or information to form a belief about the allegations in the first sentence of paragraph 20 of the complaint. Defendants respond that the second sentence of paragraph 20 states legal conclusions to which no response is required, but deny the allegations to the extent a response is required.

21.   Defendants lack knowledge or information to form a belief about the allegations in paragraph 21 of the complaint.

22.   Defendants lack knowledge or information to form a belief about the allegations in paragraph 22 of the complaint.

23.   Defendants lack knowledge or information to form a belief about the allegations in the first sentence of paragraph 23 of the complaint. Defendants respond that the second sentence of paragraph 23 states legal conclusions to which no response is required, but deny the allegations to the extent a response is required.

24.   Defendants lack knowledge or information to form a belief about the allegations in the first sentence of paragraph 24 of the complaint. Defendants respond that the second sentence of paragraph 24 states legal conclusions to which no response is required, but deny the allegations to the extent a response is required.

25.   Defendants lack knowledge or information to form a belief about the allegations in paragraph 25 of the complaint.

26.   Defendants lack knowledge or information to form a belief about the allegations in the first sentence of paragraph 26 of the complaint. Defendants respond that the second sentence of paragraph 26 states legal conclusions to which no response is required, but deny the allegations to the extent a response is required.

27.   Defendants lack knowledge or information to form a belief about the allegations in paragraph 27 of the complaint.

28.   Defendants admit the allegations in paragraph 28 of the complaint.

29.   Defendants admit the allegations in paragraph 29 of the complaint.

30.   Defendants admit the allegations in paragraph 30 of the complaint.

BACKGROUND

The Current Plan Was Intended To Discriminate Against Democrats

31.   Defendants deny the allegations in the first sentence of paragraph 31 of the complaint. Defendants state the opinion in *Baldus v. Wisconsin Government Accountability Board*, 849 F. Supp. 2d 840 (E.D. Wis. 2012) speaks for itself.

32.   Defendants deny the allegations in paragraph 32 of the complaint.

33.   Defendants admit the allegations in the first sentence of paragraph 33 of the complaint except for the word "ostensibly." Defendants deny the allegations in the second sentence of paragraph 33.

34.   Defendants deny the allegations in paragraph 34 of the complaint.

35.   Defendants deny the allegations in paragraph 35 of the complaint.

36.   Defendants admit the allegations in the first sentence of paragraph 36 of the complaint. With respect to the allegations in the second sentence of paragraph 36, Defendants admit that Dr. Gaddie created a model that analyzed the past partisan performance of all the districts established by Act 43, but deny that Dr. Gaddie created a model that was intended to predict the expected performance in the future. Defendants deny the allegations in the third and fourth sentences of paragraph 36.

37.   Defendants deny the allegations in the first and second sentences of paragraph 37 of the complaint. With respect to the third sentence in paragraph 37, Defendants admit that all redistricting work was done in the offices of Michael Best before the file was sent to the Legislative Reference Bureau for drafting and admit that the "map room" was located at Michael Best's offices. Defendants admit the allegations in the fourth sentence of paragraph 37.

38.   Defendants admit the allegations in the first four sentences of paragraph 38 of the complaint. Defendants deny the allegations in the last sentence of paragraph 38.

39.   Defendants admit the allegations in the first sentence of paragraph 39 of the complaint. With respect to the second sentence of paragraph 39, Defendants admit the allegations except for the statement that "Michael Best had been hired to develop" the plan. Defendants admit the allegations in the third sentence of paragraph 39, but state that the opinion in *Baldus v. Wisconsin Government Accountability Board*, 843 F. Supp. 2d 955 (E.D. Wis. 2012) speaks for itself.

40.   Defendants admit the allegations in the first sentence of paragraph 40 of the complaint. With respect to the second sentence of paragraph 40, Defendants admit the allegations except for the statement that "Michael Best had been hired to develop" the plan.

41.   Defendants admit the allegations in paragraph 41 of the complaint.

42.   Defendants deny the allegations in the first sentence of paragraph 42 of the complaint. Defendants admit the remaining allegations in paragraph 42 of the complaint.

43.   With respect to the allegations in paragraph 43 of the complaint, Defendants admit that Michael Best was paid $431,000 by the State for its work, but deny the remaining allegations in paragraph 43.

The Current Plan Has The Effect of Discriminating Against Democrats

The Efficiency Gap Reliably Measures Partisan Gerrymandering

44.   Defendants respond that paragraph 44 of the complaint states legal conclusions to which no response is required, but deny the allegations to the extent a response is required.

45.   Defendants respond that paragraph 45 of the complaint states legal conclusions to which no response is required, but deny the allegations to the extent a response is required.

46.   Defendants respond that paragraph 46 of the complaint states legal conclusions to which no response is required, but deny the allegations to the extent a response is required.

47.   With respect to the allegations in paragraph 47 of the complaint, Defendants admit that the efficiency gap has only been developed in the last few years by Eric McGhee and Nicholas Stephanopolous, but deny the remaining allegations in paragraph 47.

48.   Defendants deny the allegations in paragraph 48 of the complaint.

49.   Defendants deny the allegations in paragraph 49 of the complaint.

50.   With respect to the allegations in paragraph 50 of the complaint, Defendants admit that this provides an example of the efficiency gap calculated under the district-by-district method used by Kenneth Mayer.

Defendants admit that this also provides an example for calculating the efficiency gap in the manner used by Simon Jackman, but only because equal votes are cast in each district.

51.   Defendants respond that the allegations in paragraph 51 state legal conclusions to which not response is required, but deny the allegations to the extent a response is required.

52.   Defendants deny the allegations in paragraph 52 of the complaint.

53.   Defendants deny the allegations in paragraph 53 of the complaint.

Wisconsin's Current Plan Is an Outlier

54.   Defendants' responses to paragraph 54 are based on the assumption that the "efficiency gap" referred to in paragraph 54 is the version as calculated by Simon Jackman. Defendants admit the allegations in the first sentence of paragraph 54. Defendants deny the allegations in the second sentence of paragraph 54. Defendants admit the allegations in the third, fourth and fifth sentences of paragraph 54. Defendants admit that the efficiency gap as calculated by Jackman has averaged 11% in 2012 and 2014, but deny the allegation that this is "thanks to the Current Plan" to the extent that this implies this efficiency gap is caused entirely, or even mostly, by the Current Plan.

55.   Defendants deny the allegations in paragraph 55 of the complaint.

56.   Defendants deny the allegations in paragraph 56 of the complaint.

57. Defendants deny the allegations in paragraph 57 of the complaint.

58. Defendants deny the allegations in paragraph 58 of the complaint.

Examples of Cracking and Packing in the Current Plan

59. Defendants deny the allegations in paragraph 59 of the complaint. Defendants affirmatively allege that the plaintiffs' focus on the 2008 and 2012 elections is misleading because in the 2010 election, the Democratic candidates lost nine of the seats that the plaintiffs allege were won by Democrats in the 2008 election.

Milwaukee, Ozaukee, Washington, and Waukesha Counties:

60. Defendants admit the allegations in the first and second sentences of paragraph 60 of the complaint, but state they are without knowledge or information sufficient to form a belief about the residence of Plaintiff Walker. Defendants deny the allegations in the third sentence in paragraph 60.

61. Defendants deny the allegations in the first sentence of paragraph 61 of the complaint. With respect to the allegations in the second sentence of paragraph 61, Defendants admit that the Republican candidates won Districts 22, 23, and 24 in the 2012 election, but deny these victories were "[d]ue to these changes" to the extent that this implies they were caused entirely, or even mostly, by the Current Plan.

62. Defendants deny the allegations in paragraph 62 of the complaint.

Calumet, Fond du Lac, Manitowoc and Sheboygan Counties:

63.   Defendants admit the allegations in the first and second sentences of paragraph 63 of the complaint, but state they are without knowledge or information sufficient to form a belief about the residence of Plaintiff Donahue. Defendants deny the allegations in the third sentence in paragraph 63.

64.   Defendants deny the allegations in the first sentence of paragraph 64 of the complaint. With respect to the allegations in the second sentence of paragraph 64, Defendants admit that the Republican candidates won Districts 26 and 27 in the 2012 election but deny these victories were "[d]ue to these changes" to the extent that this implies they were caused entirely, or even mostly, by the Current Plan.

65.   Defendants deny the allegations in paragraph 65 of the complaint.

Racine and Kenosha Counties:

66.   Defendants admit the allegations in the first and second sentences of paragraph 66 of the complaint, but state they are without knowledge or information sufficient to form a belief about the residence of Plaintiff Mitchell. Defendants deny the allegations in the third sentence in paragraph 66.

67.   Defendants deny the allegations in the first sentence of paragraph 67 of the complaint. With respect to the allegations in the second sentence of

paragraph 67, Defendants admit that the Democratic candidates won Districts 64, 65 and 66 and that Republican candidates won Districts 61, 62 and 63 in the 2012 election but deny these victories were "[d]ue to these changes" to the extent that this implies they were caused entirely, or even mostly, by the Current Plan.

68.   Defendants deny the allegations in paragraph 68 of the complaint.

Buffalo, Chippewa, Eau Claire, Jackson, La Crosse, Pepin, Pierce, St. Croix, and Trempealeau Counties:

69.   Deny that a Republican won district 67. Subject to that denial, Defendants admit the allegations in the first and second sentences of paragraph 69 of the complaint, but state they are without knowledge or information sufficient to form a belief about the residence of Plaintiff Johnson. Defendants deny the allegations in the third and fourth sentences in paragraph 69.

70.   Defendants deny the allegations in the first sentence of paragraph 70 of the complaint. With respect to the allegations in the second sentence of paragraph 70, Defendants admit that the Democratic candidates won Districts 91, 92, 94 and 95 and that Republican candidates won Districts 67, 68 and 93 in the 2012 election but deny these victories were "[d]ue to these changes" to the extent that this implies they were caused entirely, or even mostly, by the Current Plan.

71.   Defendants deny the allegations in paragraph 71 of the complaint.

Adams, Columbia, Marathon, Portage, and Wood Counties:

72.   Defendants admit the allegations in the first and second sentences of paragraph 72 of the complaint, but state they are without knowledge or information sufficient to form a belief about the residence of the Seaton Plaintiffs. Defendants deny the allegations in the third sentence in paragraph 72.

73.   Defendants deny the allegations in the first sentence of paragraph 73 of the complaint. With respect to the allegations in the second sentence of paragraph 73, Defendants admit that the Democratic candidates won Districts 70, 71 and 85 and that Republican candidates won Districts 41, 42, 69, 72 and 86 in the 2012 election, but deny these victories were "[d]ue to these changes" to the extent that this implies they were caused entirely, or even mostly, by the Current Plan.

74.   Defendants deny the allegations in paragraph 74 of the complaint.

Brown and Manitowoc Counties:

75.   Defendants admit the allegations in the first and second sentences of paragraph 75 of the complaint, but state they are without knowledge or information sufficient to form a belief about the residence of Plaintiff Walker. Defendants deny the allegations in the third and fourth sentences in paragraph 75.

76.   Defendants deny the allegations in the first sentence of paragraph 76 of the complaint. With respect to the allegations in the second sentence of paragraph 76, Defendants admit that the Democratic candidates won District 90 and that Republican candidates won Districts 1, 2, 4, 5, 25, 88 and 89 in the 2012 election, but deny these victories were "[d]ue to these changes" to the extent that this implies they were caused entirely, or even mostly, by the Current Plan.

77.   Defendants deny the allegations in paragraph 77 of the complaint.

Wisconsin Does Not Need to Have a Gerrymandered Plan

78.   Defendants deny the allegations in paragraph 78 of the complaint.

79.   Defendants deny the allegations in paragraph 79 of the complaint.

80.   Defendants deny the allegations in paragraph 80 of the complaint.

COUNT I – FOURTEENTH AMENDMENT VIOLATION

81.   Defendants incorporate and re-allege their responses to paragraphs 1-80.

82.   Defendants response that paragraph 82 of the complaint states legal conclusions to which no response is required, but deny the allegations to the extent a response is required.

83.   Defendants respond that paragraph 83 of the complaint states legal conclusions to which no response is required, but deny the allegations to the extent a response is required.

84.   Defendants respond that paragraph 84 of the complaint states legal conclusions to which no response is required, but deny the allegations to the extent a response is required.

85.   Defendants respond that the first and last sentences of paragraph 85 of the complaint states legal conclusions to which no response is required, but deny the allegations to the extent a response is required. Defendants deny the allegations in the second through fifth sentences of paragraph 85.

86.   Defendants respond that the first, fourth, fifth and sixth sentences in paragraph 86 of the complaint state legal conclusions to which no response is required, but deny the allegations to the extent a response is required. Defendants deny the allegations in the second and third sentences of paragraph 86.

87.   Defendants respond that the first sentence in paragraph 87 of the complaint states a legal conclusion to which no response is required, but deny the allegations to the extent a response is required. Defendants deny the allegations in the second and third sentences in paragraph 87.

88.   Defendants deny the allegations in paragraph 88 of the complaint.

89.   Defendants deny the allegations in the first sentence of paragraph 89 of the complaint. Defendants respond that the second sentence of paragraph 89 states legal conclusions to which no response is required, but deny the allegations to the extent a response is required.

COUNT II – FIRST AMENDMENT VIOLATION

90.   Defendants incorporate and re-allege their responses to paragraphs 1-90.

91.   Defendants admit that the plaintiffs have rights under the First Amendment, but respond that the extent of those rights is a legal conclusion to which no response is required.

92.   Defendants deny the allegations in paragraph 92 of the complaint.

93.   Defendants deny the allegations in paragraph 93 of the complaint.

94.   Defendants deny the allegations in paragraph 94 of the complaint.

95.   Defendants deny the allegations in paragraph 95 of the complaint.

96.   Defendants deny the allegations in paragraph 96 of the complaint.

RELIEF REQUESTED

97.   Defendants respond that paragraph 97 states legal conclusions to which no response is required, but state that the Plaintiffs are not entitled to the requested relief.

98.   Defendants respond that paragraph 98 states legal conclusions to which no response is required, but state that the Plaintiffs are not entitled to the requested relief.

99.   Defendants respond that paragraph 99 states legal conclusions to which no response is required, but state that the Plaintiffs are not entitled to the requested relief.

100. Defendants respond that paragraph 100 states legal conclusions to which no response is required, but state that the Plaintiffs are not entitled to the requested relief.

101. Defendants respond that paragraph 101 states legal conclusions to which no response is required, but state that the Plaintiffs are not entitled to the requested relief.

AFFIRMATIVE DEFENSES

A. Plaintiffs lack standing to pursue the statewide challenge they have pled.

B. Plaintiffs fail to state a claim that is justiciable.

C. Plaintiffs fail to state a claim for which relief may be granted.

WHEREFORE, Defendants request dismissal of this action in its entirety, together with such other relief as the Court deems equitable and just.

Dated this 15th day of January, 2016.

BRAD D. SCHIMEL
Attorney General

s/ Brian P. Keenan
BRIAN P. KEENAN
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IN THE UNITED STATES DISTRICT COURT
FOR THE WESTERN DISTRICT OF WISCONSIN

WILLIAM WHITFORD, *et al.*,

      Plaintiffs,

    v.   Case No. 15-CV-0421

GERALD NICHOL, *et al.*,

      Defendants.

**DEFENDANTS' NOTICE AND
MOTION FOR SUMMARY JUDGMENT**

TO:

Nicholas O. Stephanopoulos	Peter G. Earle
University of Chicago Law School	Law Office of Peter Earle, LLC
1111 E. 60th St.	839 N. Jefferson St., Ste. 300
Chicago, IL 60637	Milwaukee, WI 53202
Ruth M. Greenwood	Michele L. Odorizzi
Paul Strauss	Mayer Brown LLP
Chicago Lawyers' Committee for Civil	71 S. Wacker Dr.
Rights Under Law	Chicago, IL 60606
100 N. La Salle St., Ste. 600	
Chicago, IL 60602	

PLEASE TAKE NOTICE that Defendants Gerald Nichol, et al., by

Wisconsin Attorney General Brad D. Schimel and Assistant Attorneys

General Brian P. Keenan and Anthony D. Russomanno, hereby move this

Court pursuant to Rule 56 of the Federal Rules of Civil Procedure for summary judgment on all counts and seeking dismissal of the case in its entirety. The grounds for this motion are, as set forth in the accompanying brief and exhibits, that there is no genuine issue as to any material fact and movants are entitled to a judgment as a matter of law.

Dated this 4th day of January, 2016.

Respectfully submitted,

BRAD D. SCHIMEL
Attorney General

s/ Brian P. Keenan

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IN THE UNITED STATES DISTRICT COURT
FOR THE WESTERN DISTRICT OF WISCONSIN

WILLIAM WHITFORD, et al.,

      Plaintiffs,

      v.   Case No. 15CV421

GERALD NICHOL, et al.,

      Defendants.

DEFENDANTS' BRIEF IN SUPPORT OF SUMMARY JUDGMENT

The Court should grant summary judgment to the defendants. The plaintiffs' proposed standard fails to measure whether "too much" partisanship entered into the districting process and fails to heed Justice Kennedy's call for "great caution" and a "limited and precise" rationale for judicial intervention.

The core of the plaintiffs' case relies on an "efficiency gap" standard that measures a redistricting plan compared to a hypothetical world in which there is no efficiency gap. But that world does not exist. Recent court-drawn Wisconsin plans enacted using neutral districting criteria come with a pro-Republican efficiency gap as a natural occurrence. The alleged gaps under Act 43 in the 2012 and 2014 elections, which the plaintiffs contend are so large as to show presumptive unconstitutionality, are remarkably similar to the gaps experienced in 2000, 2004, and 2006 under the most recent court-drawn plan. This shows that the efficiency

gap is a flawed way to measure partisanship in the districting process; the "gap" that purports to show partisan intent appears when there is no partisan intent.

Indeed, the plaintiffs' own experts reveal that Wisconsin has merely experienced the same trend as the rest of the country—a pro-Republican efficiency gap that emerged in the mid-1990s and increased over time. This is a natural effect of the residential pattern of voters, not gerrymandering, and explains why Wisconsin has seen large efficiency gaps in favor of Republicans even under maps drawn with no partisan intent.

Further, the plaintiffs' standard demands court intervention to a degree unimagined by Justice Kennedy in *Vieth v. Jubelirer*, 541 U.S. 267 (2004). Under Plaintiffs' evidence, one out of every three plans since 1972 surpasses the proposed threshold for presumptive unconstitutionality of a 7% gap in the first election after redistricting. And one out of every three plans has a 10% efficiency gap at some point over the plans' existence. This broad sweep shows the measure is flawed and not actually detecting extreme partisan gerrymandering.

Especially in light of these deficiencies, the plaintiffs have not overcome the "significant challenges in prevailing on their claims" that this Court recognized in its motion to dismiss ruling. (Dkt. 43:2.) The flaws in the plaintiffs' statistical approach are compounded by their attempt to shift the burden once the gap reaches a certain point. This Court should reject the burden-shifting framework proposed because it is contrary to the basic idea that Plaintiffs bear the burden to make out a

full prima facie case, which is especially important when it comes to court intervention in redistricting—a task entrusted to the political branches.

Neither Justice Kennedy's concurrence in *Vieth* nor any other authority supports the plaintiffs' approach. Such drastic intrusion into the districting process cannot be supported by a standard based on the non-existent constitutional right for political parties to "to translate their popular support into legislative representation with approximately equal ease." (Dkt. 31:18.) Because their proposed test fails under *Vieth*, this case should be dismissed at summary judgment as a matter of law.

FACTS

This brief begins with a detailed examination of the efficiency gap and the plaintiffs' expert reports. It then outlines the undisputed facts relating to elections that have occurred in Wisconsin in the 1990s, the 2000s, and in 2012 and 2014 under the current plan, and then provides context explaining why Wisconsin and the country as a whole saw efficiency gaps begin to favor Republicans in the mid-1990s, a trend that continues to the present day.

I.   The efficiency gap in general

The efficiency gap is central to the plaintiffs' proposed legal standard. The plaintiffs claim that the efficiency gap measures "wasted votes," defined as all votes cast for a losing candidate (which it counts as "cracking") and all votes cast for a winning candidate in excess of the number needed to prevail (which it counts as "packing"). (PFOF ¶ 1.) The concept of the efficiency gap comes from an article

written in 2014 by Eric McGhee in Legislative Studies Quarterly and an article written by McGhee and Nicholas Stephanopolous in the University of Chicago Law Review. (PFOF ¶ 2.)

The plaintiffs have submitted reports by two expert witnesses, Kenneth Mayer and Simon Jackman, relating to the efficiency gap. Mayer relied on the formulas and methods outlined in the Chicago Law Review article in determining the efficiency gap. (PFOF ¶ 3.) Jackman also relied on the method outlined in the Chicago Law Review and was not familiar with the efficiency gap before being retained to work on this case. (PFOF ¶ 4.)

The plaintiffs have relied on two different versions of the efficiency gap. One is a district-by-district calculation in which the wasted votes cast for each party's candidates are added and "the difference between the parties' respective wasted votes" is then "divided by the total number of votes cast." (PFOF ¶ 5.) Mayer's report involves this type of calculation, although discovery has shown that he did not calculate the wasted votes that were actually cast in the 2012 election.

The plaintiffs also use a different method, which they have dubbed a "shortcut" for calculating the district-by-district version of the efficiency gap. (PFOF ¶ 6.) In order for this shortcut to equate with the district-by-district calculation, one needs to assume that there were an equal number of votes cast in each district. (PFOF ¶ 7.) Jackman's report involves this type of calculation of the efficiency gap.

II.   Mayer's report

A.   Mayer's calculation of the efficiency gap for Wisconsin in 2012

While Mayer performs district-by-district calculations related to the 2012 Assembly elections in Wisconsin, he does not tabulate the number of "wasted votes" that were cast in that election. Instead, Mayer has created a regression model with eight variables that generates "predicted Democratic and Republican votes [which] are model estimates of what the votes would have been if the race was contested and when there was no incumbent running." (PFOF ¶ 8.)

Mayer's model predicts the Assembly vote share for Democratic and Republican candidates in each ward using regressions based on the ward's total voting age population, total black voting age population, total Hispanic voting age population, President Obama's vote share, Mitt Romney's vote share, whether there is a Democratic incumbent, whether there is a Republican incumbent, and the county of the ward. (PFOF ¶ 9.) Mayer explains his model as follows:

The regression model used to predict Assembly vote totals takes the standard form of

$$Y_i = \alpha + \beta X_i + \varepsilon_i,$$

where Y_i is the dependent variable in ward i, X_i is a set of independent variables in ward i, and α, β, and ε_i are parameters estimated as a function of the variables. The full model is:

$$\text{Assembly Vote}_i = \alpha + \beta_1 \text{Total VEP}_i + \beta_2 \text{Black VEP}_i + \beta_3 \text{Hispanic VEP}_i$$
$$+ \beta_4 \text{Democratic Presidential Vote}_i + \beta_5 \text{Republican Presidential Vote}_i$$
$$+ \beta_6 \text{Democratic Incumbent}_i + \beta_7 \text{Republican Incumbent}_i + \sum_{j=1}^{71} \gamma_j \text{County}_j + \varepsilon_i$$

(PFOF ¶ 10.)

Mayer used only the 2012 election results in his model; it does not rely on the results of any other elections. (PFOF ¶ 11.)

Mayer's model does not show the actual wasted votes that were cast in the 2012 election. For example, in District 1, Mayer predicts that the Republican candidate would win 16,628 votes and the Democratic candidate would win 16,235 votes. (PFOF ¶ 12.) This generates 197 wasted votes for the Republicans and 16,235 wasted votes for the Democrats. (PFOF ¶ 13.) In the actual 2012 election, the Republican won with 16,993 votes and the Democrat lost with 16,124 votes. (PFOF ¶ 14.) In the actual election, there were thus 435 wasted votes for the Republicans and 16,124 wasted votes for the Democrats. (PFOF ¶ 15.)

Mayer's model predicts a significant number of seats incorrectly. He admits his model predicts two seats incorrectly (PFOF ¶ 16), but the model actually predicts five seats incorrectly (four predicted to be won by Democrats that were actually won by Republicans and one the other way). (PFOF ¶ 17.) The following table summarizes the errors, with predicted winners and actual winners in bold.

District	Mayer Dem. votes	Mayer Rep. votes	Actual Dem. Votes	Actual Rep. votes
50	**12,467**	12,326	11,945	**12,326**
51	**14,173**	13,048	10,577	**10,642**
68	**13,663**	13,005	12,482	**13,758**
70	12,211	**14,387**	**13,518**	13,374
72	**14,294**	13,895	14,029	**14,138**

(PFOF ¶¶ 18–27.)[1] Republicans won 60 seats in the 2012 Assembly elections (PFOF ¶ 29), yet Mayer's model predicts only 57 Republican wins. (PFOF ¶ 30.) Mayer does not correct his model for what actually happened in the election; instead, he counts the wasted votes based on what his model predicts should have happened. (PFOF ¶ 31.)

For his model, Mayer admits in his report that "the average absolute error in the vote margin is 1.49%." (PFOF ¶ 32.) However, the admitted rate is incorrect because the calculation assumes only two errors in the prediction of seats rather than the actual five. (PFOF ¶ 33.)

Mayer's model of Act 43 contains 42 districts with at least a 50% Democratic baseline. (PFOF ¶ 34.) His model contains 17 seats that have a baseline between 50–55% Republican. (PFOF ¶ 35.) The following table shows these districts ordered from the least Republican to most Republican.

District	Mayer Baseline Rep. %
93	50.2%
1	50.6%
67	51.6%
29	52.2%
88	52.3%
4	52.3%
49	52.5%
27	52.7%
42	53.0%
26	53.3%
62	53.9%
31	54.1%
70	54.1%

---

[1] Defendants use the GAB's official election results because Mayer agrees that these numbers are "authoritative." (PFOF ¶ 28.)

40	54.2%
28	54.6%
30	54.7%
21	54.9%

(PFOF ¶¶ 36-52.)

Mayer did not produce a model to predict the results of the 2014 election either under the current plan or his Demonstration Plan. (PFOF ¶ 53.)

B. Mayer's use of the model produced for the legislature by Professor Gaddie

Mayer also offers an opinion of the efficiency gap using an analysis done by Professor Ronald Keith Gaddie, who assisted the legislature in the districting process. The plaintiffs' claim that Gaddie's model forecast the eventual efficiency gap of the 2012 election, *see, e.g.*, Compl. ¶ 36, but Gaddie did not calculate an efficiency gap because the efficiency gap did not emerge until 2014. And Gaddie's analysis did not estimate the number of votes that would be cast in each district, which is an essential element of calculating Mayer's version of the efficiency gap. (PFOF ¶ 54.)

Mayer derives a "Gaddie" efficiency gap by plugging Gaddie's percentages for the Republican and Democratic vote into Mayer's regression model for estimating the results of Act 43. (PFOF ¶ 55.) Mayer made one error in translating Gaddie's data. Gaddie predicted the 86th District would have 55.08% Republican vote share, but Mayer uses 48.38%. (PFOF ¶ 56.) Mayer incorrectly repeated the Republican percentage for the 85th District (48.38%) in the 86th District. (PFOF ¶ 57.)

While the plaintiffs' claim that Gaddie's model forecasts the eventual efficiency gap of the 2012 election (PFOF ¶ 58), this is largely an accident. Gaddie's model predicts the incorrect winner in seven races in the 2012 election (7.1% of seats). The following table summarizes predicted winners and actual winners in bold:

District	Gaddie R%	Actual 2012 R%
49	49.59%	**54.19%**
51	46.23%	**51.85%**
68	49.38%	**52.39%**
70	**50.73%**	49.65%
75	**52.18%**	48.85%
94	**51.91%**	39.38%
96	46.40%	**59.52%**

(PFOF ¶¶ 59 – 72)

The model likewise predicts the incorrect winner in six races in the 2014 election, undercounting five Republican wins.

District	Gaddie R%	Actual 2014 R%
49	49.59%	**61.38%**
51	46.23%	**47.48%[2]**
68	49.23%	**52.82%**
85	48.38%	**50.19%**
94	**51.91%**	45.94%
96	46.40%	**58.91%**

(PFOF ¶¶ 73-77, 80-87)

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[2] The Republican won in District 51 with less than 50% of the vote because an independent candidate won 5.25% of the vote. (PFOF ¶ 78.) When calculated as a percentage of the two-party vote, the Republican won with 50.15%. (PFOF ¶ 79.)

C.   Mayer's Demonstration Plan

Mayer creates an alternative plan, called the Demonstration Plan. (PFOF ¶ 88.) Mayer calculates an efficiency gap based on his regression model as applied to the Demonstration Plan. (PFOF ¶ 89.) Mayer's regression model is based on the specific conditions of the 2012 election—something which the drafters of Act 43 could not have known in 2011. (PFOF ¶ 90.)

While the plaintiffs contend the Demonstration Plan is roughly equivalent to Act 43 in terms of population deviation, compactness, number of municipal splits, and Voting Rights Act compliance, Mayer was unwilling to say that his plan was superior to Act 43, particularly when it came to keeping communities of interest together, which he said was "a very loose and subjective standard that can be difficult to do." (PFOF ¶ 91.)

Mayer predicts that his Demonstration Plan would yield 51 Democratic seats and 48 Republican seats under 2012 conditions, which would still produce a gap of 62,414 wasted votes and a 2.20% efficiency gap in favor of Republicans. (PFOF ¶ 92.) Mayer achieves this result by creating seventeen districts that are 50%–55% Democratic under his model. (PFOF ¶93.) Below is a table showing these districts, ordered from the least Democratic to the most Democratic.

Demonstration Plan District	Predicted Dem. Vote %
49	50.3%
92	50.5%
86	50.7%
96	51.5%
91	51.7%
81	51.8%
40	51.9%

42	51.9%
67	51.9%
71	52.1%
20	52.3%
29	52.3%
51	52.6%
64	52.8%
54	53.4%
57	53.4%
2	54.1%

(PFOF ¶¶ 94-110.) These baselines were determined using the 2012 election environment (PFOF ¶ 111), in which Jackman calculates Democrats won 51.4% of the statewide vote. (PFOF ¶ 112.) Mayer did not create a model to show how these districts would have performed in the 2014 election environment (PFOF ¶ 113), in which Democratic vote share fell 3.4% down to 48.0%. (PFOF ¶ 114.)

III.   Jackman's Report

A.   Jackman's version of the efficiency gap

As noted above, Jackman calculates a version of the efficiency gap, which he shortens to *EG*, that assumes an equal number of votes are cast in each district. (PFOF ¶ 115.) Jackman's report and the plaintiffs' filings are therefore incorrect when they suggest that this version of the efficiency gap assumes districts of "equal population" because the number relevant to "wasted votes" is the number of *votes*, not the number of residents in a district. (PFOF ¶ 116.)

Wisconsin does not have equal turnout across districts. (PFOF ¶ 117.) In Wisconsin's 2012 Assembly elections, the turnout in individual districts varied from just over 8,000 votes in District 8 to over 37,000 votes in District 14. (PFOF ¶ 118.) In Wisconsin's 2014 elections, the turnout in individual districts varied from

approximately 6,400 votes in District 8 to over 31,400 votes in District 23. (PFOF ¶ 119.)

After making the assumption of equal turnout, Jackman's efficiency gap is calculated using statewide vote shares and seat shares: "the average (over districts) of the Democratic share of the two-party vote" corresponds "to the Democratic share of the state-wide two-party vote," which Jackman refers to as *V*. (PFOF ¶ 120.) The efficiency gap is then calculated by comparing the seat share the party won, which Jackman refers to as *S*, to the seat share expected under a zero-efficiency gap environment: "For any given observed *V*, the hypothesis of zero efficiency gap tells us what level of *S* to expect." (PFOF ¶ 121.)

The hypothesis of zero efficiency gap "implies that *if the efficiency gap is zero*, we obtain a particular type of seats-votes curve," which is "is linear through the 50-50 point with a slope of 2." (PFOF ¶ 122.) This means that "each additional percentage point of vote share for party A generates *two* additional percentage points of seat share." (PFOF ¶ 123.) For example, 51% vote share should result in 52% seat share, 52% vote share should result in 54% seat share, 53% vote share should result in 56% seat share, and so on. (PFOF ¶ 124.)

Jackman claims that the efficiency gap is an "excess seats" measure based on "the party winning more seats than we'd expect given its vote share (*V*) and if wasted vote rates were the same between the parties." (PFOF ¶ 125.) The efficiency gap is observed by comparing "how far the observed *S* lies above or below the orange

line in Figure 4" of his report, which represents the seat share called for by the zero efficiency gap hypothesis. (PFOF ¶ 126.) His Figure 4 shows the following:
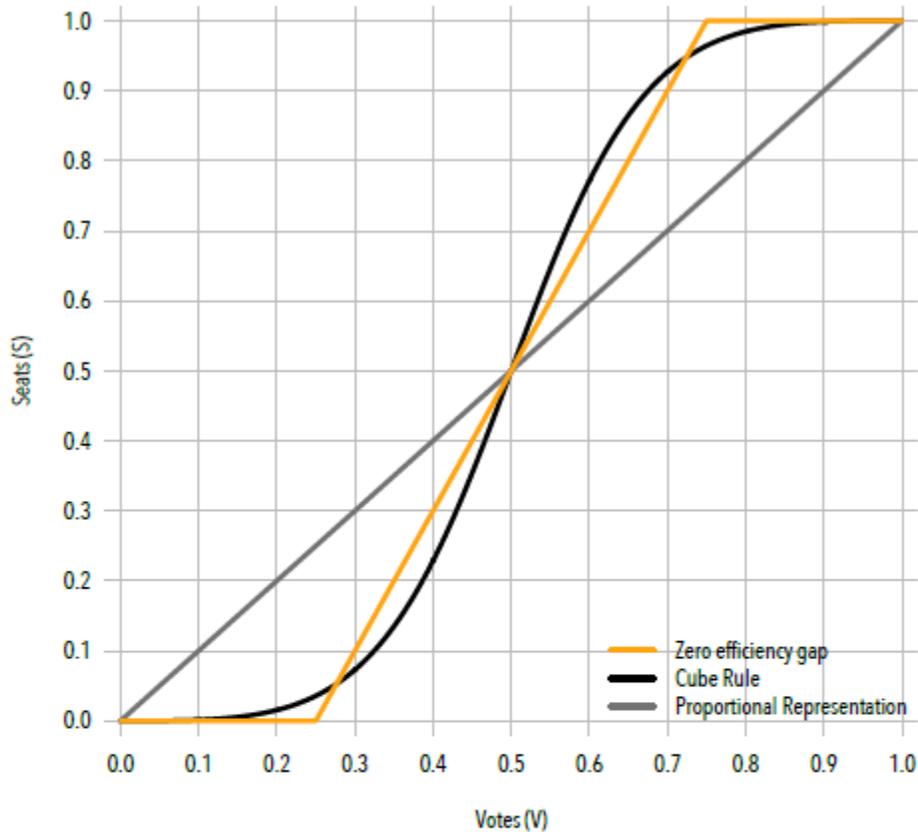

Figure 4: Theoretical seats-votes curves. The $EG = 0$ curve implies that (a) a party winning less than $V = .25$ jurisdiction-wide should not win any seats; (b) symmetrically, a party winning more than $V = .75$ jurisdistion-wide should win all the seats; and (c) the relationship between seat shares S and vote shares V over the interval $V \in [.25, .75]$ is a linear function with slope two (i.e., for every one percentage point gain in vote share, seat share should go up by two percentage points).

(PFOF 124.)

This framework is illustrated by the hypothetical election from paragraph 50 of the plaintiffs' complaint (and cited in this court's decision on the motion to dismiss) of 5 districts each with 100 voters. Party A wins three districts by 60 votes

to 40 votes, and Party B wins two districts by 80 votes to 20 votes. (Compl. ¶ 50.) Party B obtained a vote share of 56% (280 of 500 votes) and a seat share of 40% (2 of 5). The zero efficiency gap hypothesis calls for 56% vote share to translate into a 62% seat share. (PFOF ¶ 127.) These elections result in a 22% efficiency gap—the difference between the 62% expected seat share and the 40% actual seat share.

Jackman rounds his efficiency gap calculations to the nearest percent (or .01 as decimal) based on his comfort with "digits of precision." (PFOF ¶ 128.)

B.   Jackman's historical analysis

Jackman calculates the efficiency gap for 786 state legislative elections that occurred from 1972 to 2014. (PFOF ¶ 129.) He computes the *V* (two-party vote share for the Democratic candidates) and *S* (seat share for Democrats) in each election. (PFOF ¶ 130.) The *EG* is then calculated using the process described above that compares the actual seat share obtained against the seat share called for by the zero efficiency gap hypothesis. (PFOF ¶ 131.)

1.   Determining seat share

Seat share is straightforward—it is the percentage of seats won by Democratic candidates—with one caveat. If a seat is won by a third-party candidate that is not a Republican or a Democrat, then this seat is disregarded. (PFOF ¶ 132.) For example, if one independent won a Wisconsin Assembly seat, the seat share would be calculated using 98 seats, rather than the full 99 seats.

2.   Determining vote share

Unlike Mayer, Jackman calculates vote share using the actual votes cast in an election rather than a regression model that predicts the votes that would have been cast if no incumbents had run. (PFOF ¶ 133.) Like Mayer, Jackman adjusts the raw vote totals by imputing vote shares for uncontested races, which he finds are 38.7% of races. (PFOF ¶ 134.) Jackman uses two different methods for imputing vote shares depending on the type of data available. (PFOF ¶ 135.) In one, Jackman "relied on a modeling procedure that used presidential vote tabulated by state legislative district from the most temporally proximate presidential election" when such data became available in the 2000s. (PFOF ¶ 136.) When such data were not available, Jackman models results by "interpolating unobserved Democratic votes shares given (1) previous and future results for a given district; (2) statewide swing in a general election; and (3) the change in incumbency status of a given district." (PFOF ¶ 137.)

3.   Uncertainty in Jackman's calculations

The presence of imputed vote totals leads to uncertainty in Jackman's calculation of vote share, which "generates uncertainty in determining how far each point lies above or below the orange, zero efficiency gap benchmark." (PFOF ¶ 138.) Thus, Jackman expresses his *EG* calculations as "point estimates" with lines indicating a 95% level of confidence. (PFOF ¶ 139.) Jackman has less confidence in the "point estimate" of his *EG* as the number of uncontested seats increases. (PFOF ¶ 140.)

4. Jackman finds a trend in the efficiency gap favoring Republicans over time

Jackman finds that "[t]he distribution of *EG* measures trends in a pro-Republican direction through the 1990s, such that by the 2000s, *EG* measures were more likely to be negative (Republican efficiency over Democrats)." (PFOF ¶ 141.) Jackman finds this by plotting the efficiency gap of each plan in each year from lowest to highest (from most favorable to Republicans to least) and then calculating the *EG* of the 25th percentile plan, the median plan and the 75th percentile plan. (PFOF ¶ 142.)

The efficiency gap of the median plan has been negative (favorable to Republicans) since the mid-1990s. (PFOF ¶ 143.) The most favorable median toward Democrats since 2000 was in 2010. (PFOF ¶ 144.) The 25th percentile has been below 5% since the mid-1990s and even approached 7% in 2004, 2010, and 2012. (PFOF ¶ 145.) The 75th percentile has been below 5% since the mid-1990s and has hovered between 1% and 2% since 2000. (PFOF ¶ 146.)

Jackman's calculation of the "the probability that a given efficiency gap number from a given election year is positive or negative" also shows a trend in favor of Republicans. (PFOF ¶ 147.) He finds that in every election year since 1996, more plans have had negative efficiency gaps than positive ones. (PFOF ¶ 148.) In 2006, 75% of plans produced a negative efficiency gap while only 25% of plans produced a positive efficiency gap, with similar results in 2000 and 2012. (PFOF ¶ 149.) Since 1996, the best year for the Democrats was 2010, in which there was a 50-50 probability of a plan being negative. (PFOF ¶ 150.)

The trend in favor of Republicans is echoed in the Stephanopolous and McGhee law review article, which found that "the trend has been from a modest edge for Democrats in the 1970s (1.32%) and 1980s (1.27%), to ever larger advantages for Republicans in the 1990s (-1.17%), 2000s (-2.01%), and 2012 (-3.48%)." Stephanopolous & McGhee, 82 U. Chi. L. Rev. at 872.

5. Jackman's proposed threshold for presumptive unconstitutionality

Jackman opines that a plan that has an efficiency gap of 7% in the first election after redistricting should be presumptively unconstitutional. (PFOF ¶ 151.) In determining that number, the key fact Jackman considers is whether the *EG* would flip sign throughout the course of the plan; *i.e.* whether a plan would change from negative to positive or vice versa. (PFOF ¶ 152.) In his report, he opines that "[i]t is especially important that we assess the durability of the sign of the *EG* measure." (PFOF ¶ 153.)

a. Jackman's determination of the 7% threshold

Jackman's analysis focuses on determining a threshold for the *EG* in the first election under a plan from which he could be confident that the sign of the plan would not change. (PFOF ¶ 154.) He chooses to look at the first election in the plan because he "tried to put [himself] in the shoes of litigants" who would have to "intervene early before we've seen much data all from the plan, the election results the plan is throwing off." (PFOF ¶ 155.)

Jackman first calculates the proportion of plans that produced an efficiency gap in excess of a particular threshold in the first election and then calculated the

proportion of the plans in each subclass that produced an election with an efficiency gap of the opposite sign. (PFOF ¶ 156.)[3] Jackman does two calculations, one for the entire set of elections since 1972 and then another for elections since 1991.

For all plans since 1972, Jackman finds that 36% of all plans produced an efficiency gap of 7% or greater in the first election: 18% on the positive side and 18% on the negative side. (PFOF ¶ 158.) Since 1991, 34% of all plans produced an efficiency gap greater than 7% in the first election: 22% produced a gap of at least -7% and 12% percent produced a gap of at least +7%. (PFOF ¶ 159.)

For all plans since 1972, Jackman finds that 18% of plans that had an *EG* of at least -7% go on to produce an election with a positive *EG*. (PFOF ¶ 160.) He finds that 40% of plans that produce an *EG* of at least +7% in the first election go on to produce an election with a negative *EG*. (PFOF ¶ 161.) Since 1991, Jackman finds that 18% of plans that produce an *EG* of at least -7% in the first election go on to produce an election with a positive *EG*. (PFOF ¶ 162.) He finds that 60% of plans that produce an *EG* of at least +7% in the first election go on to produce an election with a negative *EG*. (PFOF ¶ 163.)

b.   Jackman finds negative *EG*s are more common and more likely to be durable

Jackman finds that elections favoring Republicans in the first election are much more common than those favoring Democrats. (PFOF ¶ 164.) Jackman says that "we seldom see a plan in the 1990s or later that commence with a large-pro

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[3] Jackman's figures use red and blue squares spaced at each half percent (.005). (PFOF ¶ 157.) For example, there is a dot at 0.5% (.005), 1%, (.001), 1.5% (.0015), and so on.

Democratic efficiency gap." (PFOF ¶ 165.) In fact, the probability that the first election has an efficiency gap greater than 5% "is only about 11%." (PFOF ¶ 166.) In contrast, negative efficiency gaps "are much more likely under the first election in post-1990 plans: almost 40% of plans open with $EG < -.05$ [-5%] and about 20% of plans open with $EG < -.10$ [-10%]." (PFOF ¶ 167.)

Based on the discrepancy between the likelihood of sign change between negative and positive efficiency gaps, Jackman concludes that "pro-Democratic efficiency gaps seem much more fleeting than pro-Republican efficiency gaps." (PFOF ¶ 168.) A Democratic advantage is "not a durable feature" whereas a Republican advantage "tends to be a more durable feature of a plan." (PFOF ¶ 169.) This trend becomes "even more pronounced in the analysis that focuses on recent decades." (PFOF ¶ 170.)

c.   Jackman's confidence in his threshold

To determine his confidence in a threshold, Jackman set out to determine the proportion of plans "if left undisturbed, would go on to produce a sequence of EG measures that lie on the same side of zero as the threshold." (PFOF ¶ 171.) Jackman finds that a 7% threshold acceptable because "at that threshold, 96 percent of plans are either not tripping that threshold or if they are, they're continuing to produce efficiency gaps on that side of zero." (PFOF ¶ 172.) As noted above, one third of all plans trip Jackman's threshold. He thinks this number is acceptable because these plans are unlikely to change sign. (PFOF ¶ 173.)

d. Jackman's findings when not focused solely on a plan's first election

Jackman finds that "plans with at least one election" of an efficiency gap of 7% or greater "are reasonably common." (PFOF ¶ 174.) In addition, an *EG* of 7% or greater "is not a particularly informative signal with respect to the other elections in the plan." (PFOF ¶ 175.) Jackman finds that 53% of plans since 1972 have one election with an *EG* of 7% or greater, with 29% of plans having a gap of -7% or greater and 25% of plans having a gap of +7% or greater. (PFOF ¶ 176.) When looking at plans since 1991, 47% of plans have had at least one election with an *EG* greater than 7%, with 38% of plans having an election with a gap of -7% or greater and 19% of plans having an election with an gap of +7% or greater. (PFOF ¶ 177.)

In fact, Jackman's analysis shows that an *EG* of 10% is not that uncommon. Since 1972, 33% of plans have had an election with an *EG* of 10% or higher, with 18% having an election with a gap of -10% and 15% having an election with an gap of +10%. (PFOF ¶ 178.) When looking just at elections since 1991, 35% of plans have had an election with an *EG* of at least 10%, with 24% of plans having had an election with a gap of -10% and 11% of plans having had an election with a gap of +10%. (PFOF ¶ 179.)

e. Jackman's findings on plans that unambiguously favor one party

Jackman found that 17 of the 141 plans for which he could calculate three or more efficiency gaps (12%) were "*utterly unambiguous* with respect to the sign of the efficiency gap," *i.e.*, that even the confidence level bar did not cross over to the other

sign. (PFOF ¶ 180.) Of these seventeen plans, sixteen of them were favorable to the Republicans and only one was favorable to the Democrats. (PFOF ¶ 181.)

Jackman does not analyze whether these plans were partisan districting in the sense of one party controlling the districting process. (PFOF ¶ 182.) When one considers this fact, only seven of seventeen plans featured unified partisan control over the districting process. (PFOF ¶ 183.) In fact, one of the "utterly unambiguous" plans was the Wisconsin 2002 Plan put in place by the federal court in *Baumgart v. Wendelberger*, No. 01-C-0121, 2002 WL 34127471, at *1 (E.D. Wis. May 30, 2002), *amended*, 2002 WL 34127473 (E.D. Wis. July 11, 2002). (PFOF ¶ 184.)

Further, the sign of the efficiency gap does not necessarily correlate to control of the state legislature. In five of the seven plans enacted under unified party control, the party in control of the state house changed despite the fact that the efficiency gap stayed as the same sign. (PFOF ¶ 185.)

6. Jackman's calculations of the efficiency gap following the 2010 round of redistricting

Jackman calculated *EGs* for the 2012 and 2014 elections for 39 states. (PFOF ¶ 186.) Fifty-one point estimates were negative (65.4%) while twenty-seven were positive (34.6%). (PFOF ¶ 187.) In eighteen states (46%), both point estimates were negative. (PFOF ¶ 188.) Included among this eighteen were Minnesota, Missouri, New York, and Kansas. (PFOF ¶ 189.)

IV.   **Facts related to elections in Wisconsin**

A.   **Districting following the 1990 census**

Following the 1990 census, a panel of three federal judges drew Wisconsin's legislative districts. *Prosser v. Elections Bd.*, 793 F. Supp. 859, 862 (W.D. Wis. 1992). The court used parts of two plans submitted in the case, one by Republicans and one by Democrats, and "preserve[d] their strengths, primarily population equality and contiguity and compactness, and avoid[ed] their weaknesses." *Id.* at 870. This court-drafted plan, referred to as the "1992 Plan," was in effect for the 1992, 1994, 1996, 1998, and 2000 elections.

B.   **Districting following the 2000 census**

Following the 2000 census, another three-judge panel drew Wisconsin's legislative districts. *Baumgart*, 2002 WL 34127471, at *1. The court drew its plan "in the most neutral way it could conceive—by taking the 1992 reapportionment plan as a template and adjusting it for population deviations." *Id.* at *7. The court found that "Wisconsin Democrats tend to be found in high concentrations in certain areas of the state, and the only way to assure that the number of seats in the Assembly corresponds roughly to the percentage of votes cast would be at-large election of the entire Assembly[.]" *Id.* That court-drafted plan, referred to as the "2002 Plan," was in effect for the 2002, 2004, 2006, 2008, and 2010 elections.

C.   **Assembly election results under the two court-drawn plans**

In elections held under the 1992 and 2002 Plans, the Republicans failed to win control of the Assembly two times: in 1992 and 2008. (PFOF ¶ 190.) The results

of those elections are summarized in the following chart, with the party in control in bold.

Year	Rep. Seats	Dem. Seats	Ind. Seats
1992	47	**52**	
1994	**51**	48	
1996	**52**	47	
1998	**55**	44	
2000	**56**	43	
2002	**58**	41	
2004	**60**	39	
2006	**52**	47	
2008	46	**52**	1
2010	**60**	38	1

(PFOF ¶¶ 191-200.) Under the court-drawn plans, the Democrats never achieved a seat total above 52 seats. (PFOF ¶¶ 191-200.)

D.   Jackman's findings on the Wisconsin's efficiency gaps

When Jackman analyzed each Wisconsin Assembly election since 1972, he found that Wisconsin's *EG* has ranged from +2% (in 1994) to -14% (in 2012). (PFOF ¶ 201.) Disregarding results from the current plan, the lowest *EG* was -12% (in 2006). (PFOF ¶ 202.) Thus, the most favorable *EG* towards Democrats since 1972 has been 2%, which notably occurred in 1994 when the Republicans gained control of the Assembly. (PFOF ¶ 203.)

Specifically, Jackman finds that "Wisconsin has recorded an unbroken run of negative *EG* estimates from 1998 to 2014." (PFOF ¶ 204.) The last positive *EG* was the 2% from 1994. (PFOF ¶ 205.) With respect to the 2002 Plan, Jackman calculates an average efficiency gap of -8%, with -12% as the most favorable year to Republicans and -4% as the most favorable year to Democrats. (PFOF ¶ 206.)

A summary of Jackman's efficiency gap calculations for elections under the 1992 and 2002 Plans is contained in the following table with numbers rounded to the nearest quarter of a percent.

Year	Dem. *V*	Implied *S* under Zero *EG*	Actual *S*	*EG*
1992	52.25%	54.5%	52.5%	-2%
1994	48.25%	46.5%	48.5%	+2%
1996	48.75%	47.5%	47.5%	0%
1998	51%	52%	44.5%	-7.5%
2000	49.75%	49.5%	43.5%	-6%
2002	49.5%	49%	41.5%	-7.5%
2004	50%	50%	40%	-10%
2006	54.75%	59.5%	47.5%	-12%
2008	54%	58%	53%	-5%
2010	46.5%	43%	39%	-4%

(PFOF ¶¶ 207-216.)

E.   The 2008 and 2012 elections

In 2008, the Democrats won control of the Assembly for the first time since 1992. (PFOF ¶ 219.) Senator Obama carried Wisconsin with 56.22% of the total vote (and 57.05% of the two-party vote). (PFOF ¶ 220.) Assembly Democrats ran about two points behind Obama in the two-party vote. (PFOF ¶ 221.)

In the November 2010 election, however, Republican candidates won the Governor's office, a majority in the State Senate and retook the majority in the Assembly. (PFOF ¶ 222.) Scott Walker won the Governor's office with 52.25% of the total vote (52.9% of the two-party vote). (PFOF ¶ 223.) Republicans won 60 seats in the Assembly. (PFOF ¶ 224.) Republicans secured 53.5% of the two-party vote share. (PFOF ¶ 225.)

The complaint lists 20 districts as having been won by Democratic candidates in the 2008 election that have allegedly been cracked by the current plan. (PFOF ¶ 226.) However, in the 2010 elections prior to the current plan, the Republicans won eight of these districts (Districts 2, 5, 26, 42, 68, 72, 88, and 93), and an independent won one (District 25). (PFOF ¶ 227.)

F.   The 2012 and 2014 elections

Following their wins in the 2010 elections, the Republican legislature and Governor passed Act 43, which laid out the new Assembly Districts. *See* 2003 Wisconsin Act 43. With the exception of a change to two districts made by a federal court under the Voting Rights Act, *Baldus v. Wisconsin Government Accountability Board*, 849 F. Supp. 2d 840, 854-58 (E.D. Wis. 2012), Act 43 governed the 2012 and 2014 Assembly elections.

On June 5, 2012, Governor Walker survived a recall attempt with 53.08% of the vote (53.4% of the two-party vote). (PFOF ¶ 228.)

In November 2012, President Obama won Wisconsin in the presidential election with 52.83% of the total vote (53.5% of the two-party vote). (PFOF ¶ 229.) Wisconsin's Democratic candidates for the Assembly again ran about two points behind the President's vote share. Jackman calculates that Democrats had a two-party vote share of 51.4%. (PFOF ¶ 230.)

In November 2014, the Republicans increased their control of the Assembly by winning 63 seats, equating to a 63.6% seat share. (PFOF ¶ 231.) Jackman calculates that Republicans' two-party vote share was 52%. (PFOF ¶ 232.)

The following chart contains a summary of Jackman's *EG* calculations for the 2012 and 2014 elections.

Year	Dem. *V*	Implied *S* under Zero *EG*	Actual *S*	*EG*
2012	51.4%	52.8%	39.4%	-13.4%
2014	48.0%	46.0%	36.4%	-9.6%

(PFOF ¶¶ 217-218.)

V.   Reasons why the efficiency gap favors Republicans

Jackman notes a trend of districting plans favoring Republicans in converting statewide vote totals into legislative seats, beginning in the mid-1990s and continuing to the present day. He also found that beginning in the mid-1990s negative efficiency gaps have become more common than positive efficiency gaps, that the median *EG* has been more favorable to Republicans, that the 25th percentile plan is more favorable to the Republicans than the 75th percentile plan is favorable to Democrats, and that positive *EG*s are fleeting occurrences while negative *EG*s are durable. (PFOF ¶¶ 164-170.) Jackman measures the results, but he provides no explanation for the trends he sees.

The defendants' experts, Professor Nicholas Goedert of Lafayette University and elections analyst Sean Trende of RealClearPolitics.com, explain why these trends have occurred. Simply put, the nature of the Republican and Democratic coalitions has shifted over time to one in which Democrats have become ever more concentrated in large urban areas that are naturally packed with wasted votes,

while Republican support is more geographically spread out and thus more easily translated into legislative seats.

A.   Recent developments in political science show Democrats are disadvantaged by geography

Both Goedert and Trende rely on recent work by political scientists Jowei Chen of the University of Michigan and Jonathan Rodden of Stanford University. (PFOF ¶ 233.) Chen and Rodden have found "that in many states, Democrats are inefficiently concentrated in large cities and smaller industrial agglomerations such that they can expect to win fewer than 50% of the seats when they win 50% of the votes." Jowei Chen and Jonathan Rodden, *Unintentional Gerrymandering: Political Geography and Electoral Bias in Legislatures*, 57 Quarterly Journal of Poli. Sci. 239, 239 (2013) (attached as Exhibit 112 to the Declaration of Brian P. Keenan). Chen and Rodden "used automated districting simulations" that created randomized districts in the State of Florida, the results of which show "a strong relationship between the geographic concentration of Democratic voters and electoral bias favoring Republicans." *Id.* at 240. In fact, Chen and Rodden found that for Florida their "two simulated districting procedures are unable to produce a single districting plan that is neutral or pro-Democratic in terms of electoral bias." *Id.* at 257. In an analysis of fifteen other states, they found that "[a]verage bias in favor of Republicans is substantial — surpassing 5% of legislative seats — in around half the states for which simulations were possible." *Id.* at 262.

Trende analyzes the differences in the election results in 1996 and 2012 in the West South Central region of the country, made up of Texas, Oklahoma,
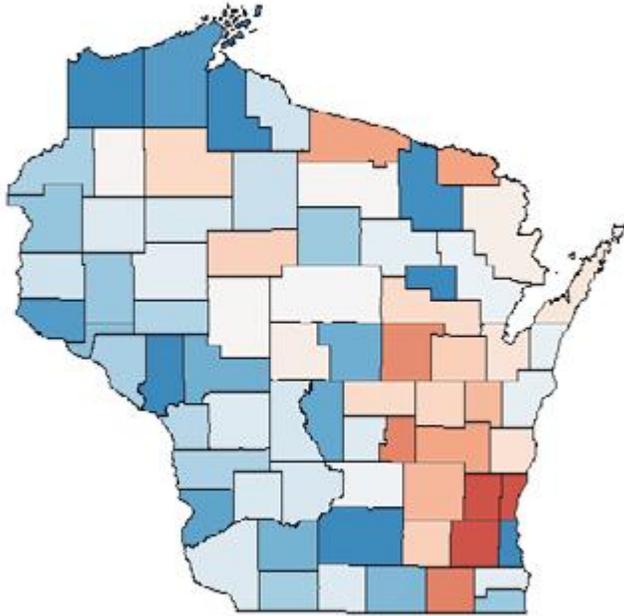
Arkansas, Louisiana, Alabama, Mississippi, Tennessee, and Kentucky, to provide an example of the Democrats' increased clustering. (PFOF ¶ 234.) In 1996, President Clinton's "support in the region was geographically dispersed, which allowed him to carry around 54 percent of the Congressional districts in the region." (PFOF ¶ 235.) In 2012, however, Obama's "coalition shrank geographically" with Obama winning "only 23 percent of the Congressional Districts in the region, with Democrats winning 39 percent of the seats. The latter number fell to 26 percent in 2010." (PFOF ¶ 236.)

B.   Democrats are becoming more concentrated in Wisconsin

Trende also calculates the Partisan Index (PI) of each county in Wisconsin in 1996 and 2012 as a way to show the change in the partisan makeup of the state. (PFOF ¶ 237.) The Partisan Index compares the share of the two-party vote in a jurisdiction compared to the national share of the vote (PFOF ¶ 238); thus it is a way to "control for national effects, and compare results across elections." (PFOF ¶ 239.) Trende color codes each county with red for pro-Republican PI and blue for pro-Democratic PI, with darker colors indicating stronger PIs. Using PI is a good comparison for 1996 and 2012 because Wisconsin "was almost identically as Democratic in 2012 as it was in 1996." (PFOF ¶ 240.)

The Democratic Party's support in 1996 was broad-based throughout the state, as shown by the 1996 map of County PI.
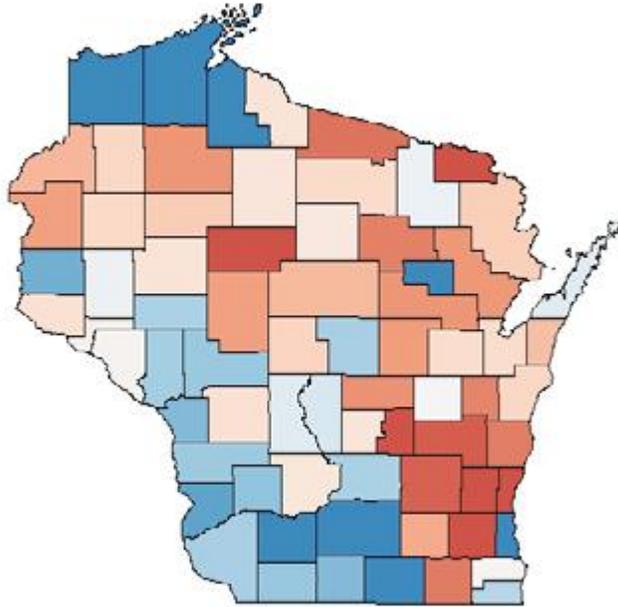
Wisconsin County PI 1996

(PFOF ¶ 241.)

By 2012, however, the story was different. While "the state was almost identically as Democratic in 2012 as it was in 1996, only 27 counties retained a Democratic lean in the latter year, or just 37.5 percent of the state. Moreover, these counties were geographically concentrated, in the southwestern portion of the state, in the far northwest, and in Milwaukee." The 2012 map is as follows:

Wisconsin County PI 2012

(PFOF ¶ 242.)

From 1996 to 2012, Republican support spread throughout much more of the state and Democratic support became more concentrated in its strongholds. (PFOF ¶ 243.) In 1996, Clinton won Milwaukee, Dane, and Rock Counties with 64% of the two-party vote but still managed to carry the rest of the state with 52% of the vote, a difference of twelve percent. (PFOF ¶ 244.) In 2012, Obama received more support in Milwaukee, Dane, and Rock Counties—69% of the vote—but lost the rest of the state by 47% to 53%, a difference of twenty-two percent. (PFOF ¶ 245.)

STANDARD OF REVIEW

This case is unusual in that a summary judgment motion usually tests whether there is a genuine issue of material fact as to whether a claim meets the applicable legal standard. *See* Fed. R. Civ. P. 56(a). In this case, however, there is no governing legal standard; the legal standard itself is the issue in dispute between the parties. The Court should grant summary judgment to the defendants because the undisputed facts, including the facts contained in the plaintiffs' expert reports, show that the plaintiffs' proposed standard is neither a judicially discernible nor judicially manageable standard for judging partisan gerrymandering claims. Because the plaintiffs propose the same standard for measuring a claim under the Fourteenth Amendment and the First Amendment, both claims fail for the same reasons.

ARGUMENT

The plaintiffs' standard does not satisfy Justice Kennedy's supposition that "some limited and precise rationale" could emerge "to correct an established violation of the Constitution in some redistricting cases," *Vieth*, 541 U.S. at 306 (Kennedy, J., concurring), nor does it answer the question of "how much [partisanship] is too much." *Id.* at 298 (plurality). The plaintiffs' "zero efficiency gap hypothesis" assumes as a starting point that efficiency gaps are zero absent partisan intent. But that is not accurate, especially in Wisconsin. It does not measure how much partisanship was involved in the districting process because it assumes all differences are caused by gerrymandering when the undisputed facts

show that, both in Wisconsin specifically and in the country as a whole, significant differences in partisan outcomes are present independent of partisan intent.

The "efficiency gap" (or "*EG*") does not measure "how much is too much" because disparate outcomes in favor of Republicans occur in the absence of partisan intent. For example, under the two court-drawn plans in Wisconsin, Democrats won the Assembly in only two elections, Wisconsin had a negative efficiency gap favoring Republicans every year from 1998 to 2010, and there was an average efficiency gap of -8% favoring Republicans under the court-drawn 2002 plan, including years with gaps comparable to those under Act 43. Yet the plaintiffs propose that the Act 43 plan should be judged on how it compares to a hypothetical zero efficiency gap baseline, even though that baseline is not consistent with the real world or with plans drawn by disinterested federal judges using only traditional districting principles.

The efficiency gap likewise does not provide a "limited and precise rationale" for court intervention in the districting process. *Vieth*, 541 U.S. at 306 (Kennedy, J., concurring). The plaintiffs' threshold of a 7% *EG* in the first election would have swept in one-third of all districting plans enacted since 1972. Further, over one-third of plans have had at least one election with an *EG* of 10% or greater in at least one election. Perhaps this broad sweep would be acceptable if it were to remedy "an established violation of the Constitution," *id.* at 306 (Kennedy, J., concurring), but it does not. There is no constitutional right to a districting plan that provides a seat share matching the zero efficiency gap hypothesis. The plaintiffs' proposed

threshold is based on an estimate of whether a plan will change sign (*i.e.*, flip to an advantage to the other party) at some point in its existence. But, likewise, there is no constitutional right to an *EG* that flips signs.

For Wisconsin in particular, a positive *EG* plan (favoring Democrats) is extremely unlikely when the highest observed *EG* under the court-drawn plans was 2% in 1994 and even the plaintiffs' Demonstration Plan presents a negative *EG* favoring Republicans in a good election year for Democrats.

I.   The plaintiffs' proposed standard does not provide a way for a court to determine "how much is too much."

The efficiency gap provides no way to determine when ordinary consideration of politics in the redistricting process has crossed into a constitutional violation. The efficiency gap measures the disadvantage a party faces in turning its statewide vote share into the seat share called for by the zero efficiency gap hypothesis, but this disadvantage is caused by a myriad of circumstances that go well beyond partisan intent in the districting process. The undisputed facts, including the plaintiffs' own evidence, show that Wisconsin Democrats face a significant disadvantage in converting statewide vote share into legislative seats under plans drawn with no partisan intent. Thus, the "standard for deciding how much partisan dominance is too much," *League of United Latin American Citizens (LULAC) v. Perry*, 548 U.S. 399, 420 (2006) (plurality), cannot be judged by comparing Wisconsin to a zero efficiency gap hypothetical that neutral plans do not even meet.

This shortcoming is not saved by the plaintiffs' incorporation of an intent element or their attempt to shift the burden to the defendants. The Court should

not allow the plaintiffs, who bear the burden of proving a law is unconstitutional, to shift the job of "sail[ing] successfully between the Scylla of administrability and the Charybdis of non-arbitrariness" to the defendants. *See Radogno v. Ill. State Bd. of Elections*, No. 1:11-CV-04884, 2011 WL 5868225, at *5 (N.D. Ill. Nov. 22, 2011).

A.   Wisconsin is not a zero efficiency gap state even under plans drawn by disinterested mapmakers with no partisan intent.

The plaintiffs' proposed standard fails because it does not measure Wisconsin's plan against a plan that would be produced under "comprehensive and neutral principles for drawing electoral boundaries." *Vieth*, 541 U.S. at 306-07 (Kennedy, J., concurring). Instead, the efficiency gap measures Wisconsin's plan against an ideal world in which a party should receive 2% of seat share for every 1% of vote share over 50%. What is missing from the plaintiffs' case is a legally sufficient reason why that measure should be constitutionalized.

Wisconsin's current plan is completely consistent with real-life examples of neutral districting. Under the two court-drawn plans, the efficiency gap ranged from +2% to -12%. (PFOF ¶ 246.) The most recent court-drawn plan had an average efficiency gap of -8%, which ranged from -4% to -12%. (PFOF ¶ 247.) In fact, "Wisconsin has recorded an unbroken run of negative *EG* estimates from 1998 to 2014." (PFOF ¶ 204.) The most favorable *EG* for Democrats since 1972 was the 2% observed in 1994, a year in which the Republicans actually gained control of the Assembly for the first time in many years. (PFOF ¶ 203.)

The *EG*s observed in 2012 and 2014 based on Act 43 are not outliers when compared with the 2002, 2004, and 2006 elections under the court-drawn 2002 Plan.

Year	Dem. *V*	Implied *S* under Zero *EG*	Actual *S*	*EG*
2002	49.5%	49.0%	41.5%	-7.5%
2004	50%	50%	40%	-10%
2006	54.75%	59.5%	47.5%	-12%
2012	51.4%	52.8%	39.4%	-13.4%
2014	48.0%	46.0%	36.4%	-9.6%

(PFOF ¶¶ 212-214, 217-218.) In 2002, the Democrats won 41 seats with almost 50% of the vote. In 2004, the Democrats captured 39 seats on 50% of the vote. The result in 2004 under the court plan is similar to the result in 2012 under Act 43, where Democrats captured 39 seats on a slightly higher vote share of 51.4%. Indeed, in 2006 under the court plan, the Democrats received a higher vote share than in either 2012 or 2014, yet were still denied a majority of seats. Thus, using the plaintiffs' own measures, the Act 43 results are entirely consistent with neutral plans and not outliers showing a constitutional violation.[4]

The historical gaps in favor of Republicans under neutral plans are not properly accounted for by the plaintiffs' proposed standard for their constitutional test. The plaintiffs propose that being 7% over the idealized zero baseline should be sufficient evidence of gerrymandering to meet their burden. But if the plaintiffs' test

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[4] What the plaintiffs' idealized baseline also misses is variability based on real-world circumstances that change from election to election. For example, in 2008, the Democrats were able to win a majority of seats on a lesser vote share than they received in 2006, winning 52 seats on 54% of the vote. This drove the efficiency gap down to -5%. The Republican surge in 2010 then reduced Democrats to 39 seats on 46.5% of the vote, but this drove down the efficiency gap another point to -4%. No one can know what will happen in the current plan if we see an election along the lines of 2008 or 2010. The current plan has only seen one election with a 51.4% Democratic vote share and one with a 52% Republican vote share. (PFOF ¶¶ 230-232.)

and threshold were interpreted based on the real-world—where the baseline actually corresponded to the gap under a neutral plan—then Act 43 passes muster. The average pro-Republican gap under the most recent court-drawn plan was -8%. (PFOF ¶ 206.) The largest efficiency gap that the plaintiffs allege under Act 43 is 13.4% (PFOF ¶ 217), which is within 7% of the neutrally-occurring average of -8%. It should follow that Wisconsin's plan is legal even under the plaintiffs' metric.

Based on their Demonstration Plan, the plaintiffs may contend that Wisconsin is not naturally biased against Democrats. But that Plan is irrelevant because the large negative *EG*s under court-drawn plans are irrefutable evidence that application of neutral districting principles *can* lead to large disparate outcomes in converting votes to seats.

In any event, the Demonstration Plan actually shows the natural disadvantage faced by Democrats. Tellingly, even with every motivation to reach the opposite result, the plan still shows an efficiency gap of -2.2% in favor of Republicans. Further, even that gap is likely underestimated and is certainly variable. The Demonstration Plan has 51 Democratic seats, but it may understate Republican wins given that Mayer's model (on which the Plan is based) under-predicted Republican wins under Act 43. It only predicted 57 of the actual 60 Republican wins. Further, in his Demonstration Plan, Mayer reduced the efficiency gap by drawing districts that would be narrow Democratic wins in an election with 51.4% Democratic vote share; fifteen of these districts are 53.4% or less Democratic. Given that he has cut things so close, if Democrats lost 3.4% of vote share, as in

2014, all of the close districts would be in jeopardy and many of them would likely be lost. With any additional Democratic losses, even the Demonstration Plan's efficiency gap will grow ever more negative in favor of Republicans.

B.   Most states in the country are not zero efficiency gap states.

Jackman's report shows that Wisconsin's experience mirrors the country as a whole. Wisconsin began to show negative efficiency gaps in the mid-1990s. With respect to the entire country, Jackman found that "[t]he distribution of *EG* measures trends in a pro-Republican direction through the 1990s, such that by the 2000s, *EG* measures were more likely to be negative." (PFOF ¶ 248.) The median plan has been negative (meaning pro-Republican) since the mid-1990s and the 25th percentile has been below 5% since the mid-1990s and even approached 7% in 2004, 2010, and 2012. (PFOF ¶ 249.) Meanwhile, the 75th percentile has favored Democrats by a much smaller margin of 1% to 2%. (PFOF ¶ 250.) Further, in every election year since 1996, more plans have had negative efficiency gaps than positive ones, with about 75% of plans producing a negative efficiency gap in 2000, 2006, and 2012. (PFOF ¶ 251.) Wisconsin experienced its highest negative efficiency gaps in 2000 (-7.5%), 2006 (-12%), and 2012 (-13%). The academic literature on which the plaintiffs' case is based (by Stephanopolous and McGhee) likewise finds a trend from Democrats towards "Republicans in the 1990s (-1.17%), 2000s (-2.01%), and 2012 (-3.48%)." Stephanopolous & McGhee, 82 U. Chi. L. Rev. at 871.

The trend is explained by the simple fact that "political groups that tend to cluster (as is the case with Democratic voters in cities) would be systematically

affected by what might be called a 'natural' packing effect." *Vieth*, 541 U.S. at 290 (plurality). Sean Trende's maps and analysis summarized in the background above show the Democratic Party's growing concentration over time, which has resulted in a reduced ability to translate a statewide vote percentage into legislative seats. (PFOF 234-245.) This is an unavoidable consequence of districting that the efficiency gap miscounts as intentional gerrymandering. The zero efficiency gap standard actually calls for Republican districting bodies to district in a way that assists Democrats in countering the "natural packing" effect.

This phenomenon points to two related problems with the efficiency gap. First, it shows that the gap will change over time. Such changeability is something that, standing alone, should dissuade a court from adopting the measure as a constitutional standard. Second, the way it is changing is important: in Wisconsin and nationally, the efficiency gap has increasingly favored Republicans. A test is unworkable when it conflates a national demographic trend with a gerrymander in a particular instance.

For example, Jackman calculates large negative efficiency gaps in both 2012 and 2014 in Kansas (over 10% average), New York (over 10% average), Missouri (slightly under 10% average), and Minnesota (5-6% average). Yet these were not partisan gerrymanders. Kansas's districts were drawn by a federal court. *Essex v. Kobach*, 874 F. Supp. 2d 1069, 1093-94 (D. Kan. 2012). New York's plan was signed into law by its Democratic Governor. *Favors v. Cuomo*, 881 F. Supp. 2d 356, 360 (E.D.N.Y. 2012). Missouri's districts were drawn by a bipartisan commission

appointed by its Democratic governor. *Johnson v. State*, 366 S.W.3d 11, 16 (Mo. 2012). Minnesota's districts were drawn by a panel appointed by the Chief Justice of the Minnesota Supreme Court. *Hippert v. Ritchie*, 813 N.W.2d 374, 376 (Minn. 2012).

Indeed, some of the problems with the plaintiffs' proposal are apparent when viewing a recent redistricting case in Illinois. In *Radogno*, a three-judge panel observed that political gerrymandering claims remain "'unsolvable' based on the absence of any workable standard for addressing them." *Radogno*, 2011 WL 5868225, at *2. That case involved a challenge to an alleged Democratic gerrymander. The challenge failed even though the plaintiffs "identified factors that are, for the most part, reasonably objective and measurable." *Id.* at *4. The panel explained that the factors did not get at the fundamental problem with political gerrymandering cases:

> it's hard to see how this particular six-factor test is implied by the requirements of the Equal Protection Clause, which as we have noted tolerates some degree of partisanship in redistricting. If judicial adjudication of political gerrymandering were just a matter of isolating a set of factors, even *objective* factors, that inhere in the redistricting context and suggest that partisan considerations played a substantial role, courts would have solved this problem long ago.

Id. The court found that no such set of factors existed that would allow it to discern partisan considerations. Here, the efficiency gap does not supply what was missing in *Radogno* because it measures things that are not gerrymandering.

Notably, the *Radogno* challenge was to a pro-Democratic gerrymander. But, based on the Jackman efficiency gap method, Illinois had a *Republican*-leaning

efficiency gap in one election and the other election showed only a narrow Democratic *EG* advantage. (PFOF 257.) This shows the efficiency gap is not measuring what it purports to measure. Partisan intent was present in *Radogno*, but Illinois presents as a neutral or Republican-leaning plan. This is because the efficiency gap does not detect gerrymandering as traditionally understood—ignoring traditional criteria for partisan advantage. Because the efficiency gap measures a collection of circumstances, including natural political geography, it cannot be the solution to the intractable problem of partisan gerrymandering claims.

C.   The plaintiffs' intent element does not save their standard.

In the motion-to-dismiss briefing, the plaintiffs argued that Wisconsin's court-drawn 2002 Plan, even though it surpasses their proposed threshold, was constitutional because their test includes an intent prong. But this misses the point. The neutral 2002 Plan lays bare that the efficiency gap measure and threshold do not actually measure gerrymandering.

The fact that Wisconsin presents significant pro-Republican efficiency gaps when districted by neutral bodies shows that using an idealized zero efficiency gap as the starting point is wrong. Starting at the assumption of a zero *EG* fails to measure the extent to which political classifications "were applied in an invidious manner or in a way unrelated to any legitimate legislative objective." *Vieth*, 541 U.S. at 307 (Kennedy, J., concurring). If a high efficiency gap is present when districting was done with no partisan intent, the presence of a high efficiency gap cannot evince a departure from a "legitimate legislative objective."

The intent element does not solve this problem. If the intent is simply *some* intent to benefit the districting party or disadvantage the other party, then "[a]s long as redistricting is done by a legislature, it should not be very difficult to prove that the likely political consequences of the reapportionment were intended." *Davis v. Bandemer*, 478 U.S. 109, 129 (1986). Under this version of intent, it will always be present whenever the political branches district and so it is meaningless as an element. As the three-judge panel in *Radogno* observed: "The crucial theoretical problem is that partisanship will *always* play *some* role in the redistricting process. As a matter of fact, the use of partisan considerations is inevitable; as a matter of law, the practice is constitutionally acceptable." *Radogno*, 2011 WL 5868225, at *2.

If the intent element calls for a more searching inquiry, then the standard fails under *Vieth*. The *Vieth* plurality and Justice Kennedy both rejected a standard that incorporated a "predominant intent" standard that attempted to measure the relative importance of partisan considerations compared to other districting principles. 541 U.S. at 284-86 (plurality); *id.* at 308 (Kennedy, J., concurring). The court held that "the 'predominant motivation' test . . . all but evaporates when applied statewide." *Id.* at 285 (plurality). It simply is impossible to determine the relative weight of partisan intent compared to "other goals—contiguity, compactness, preservation of neighborhoods, etc.—*statewide*." *Id.*

Of course, one wonders why the plaintiffs think a legislature needs to district so as to minimize the efficiency gap but courts are free to ignore it. If it is truly a constitutional requirement that "both major parties should be able to translate their

popular support into legislative representation with approximately equal ease" (Dkt. 31:18), then even courts that are called upon to district should be using the efficiency gap in drawing their plans so as to not violate that right. Courts have never considered this factor because it is not based in the Constitution.

D.   The burden-shifting framework is fundamentally unfair and exacerbates the flaws in the proposed "efficiency gap" test.

The plaintiffs' attempt to avoid the problems with a gerrymandering lawsuit by claiming that all they need show is intent (which is always present) together with the statistical test and threshold they have tailored. They then wash their hands of all the other intractable problems by saying the burden should then shift. That cannot be right. They invoke the one-person, one-vote cases and their rebuttable presumption of unconstitutionality, but that framework cannot be grafted onto their theory here. It puts the cart before the horse.

In the one-person, one-vote cases, the Court *first* established the constitutional right, leaving the specifics of the test to be developed later. The Court held that the Equal Protection Clause required "that the seats in both houses of a bicameral state legislature must be apportioned on a population basis." *Reynolds v. Sims*, 377 U.S. 533, 568 (1964). The court did not establish a hard limit for population deviation because "it is a practical impossibility to arrange legislative districts so that each one has an identical number of residents, or citizens, or voters." *Id.* at 577. With a firm understanding of the constitutional principle at issue, courts could analyze the claims to establish a working test.

In contrast, the plaintiffs here are trying to establish the constitutional right based on a statistical method. But the courts developed a numerical test in the one-person, one-vote cases *after* the constitutional standard of equal population had been established. They did not use a rule of 10% population deviation to come to the conclusion that vote dilution was unconstitutional; they used the principle of equal population to determine that 10% was an acceptable amount of population deviation. The plaintiffs reverse this order and use the efficiency gap calculation to establish the very existence of a constitutional violation. The Court should not accept this circular reasoning, particularly when the *Vieth* Court recognized that the one-person, one-vote cases "have no bearing upon this question, neither in principle nor in practicality." 541 U.S. at 290 (plurality opinion).

Likewise, the Court should not allow the plaintiffs to push the problem of defining a judicially manageable standard on defendant state officials. Courts rightfully approach partisan gerrymandering claims "with great caution" because courts "risk assuming political, not legal, responsibility for a process that often produces ill will and distrust." *Vieth*, 541 U.S. at 306-07 (Kennedy, J., concurring). The plaintiffs therefore have the burden of justifying court intervention into a process specifically entrusted to the political branches, not the other way around. The plaintiffs attempt to turn the inquiry on its head.

Indeed, the proposed burden-shifting makes the flaws in the proposed efficiency gap measure even more concerning. The plaintiffs want to shift the burden based on a method and threshold that they themselves have selected. In

states like Wisconsin with a natural efficiency gap, it is much easier to shift the burden onto the state to justify a plan, as opposed to a state without the same natural groupings of voters (or as in Illinois, a similar grouping of voters districted by the other party). A test that affects different states differently based on natural demographics, based on a metric that changes over time based on demographics, makes no sense as a constitutional test. This is not what Justice Kennedy had in mind when he discussed using "great caution" when formulating a possible future approach.

II.   The plaintiffs' proposed standard is not a "limited and precise" rationale for correcting "an established violation of the Constitution in some redistricting cases."

The plaintiffs' proposed standard would require courts to rule on a large number of state legislative districting plans, which is precisely the opposite of Justice Kennedy's call for a "limited and precise" rationale that should be exercised with "great caution."

A.   The plaintiffs' standard is not "limited and precise."

The plaintiffs' proposed standard would encompass a strikingly high number of state legislative plans. Thirty-six percent of plans fail Jackman's standard of a 7% *EG* in the first election following redistricting. (PFOF ¶ 252.) Even upping this standard to a 10% *EG* in the first election sweeps in about 18% of plans. (PFOF ¶ 253.) A standard that finds unconstitutional gerrymandering in one plan out of three, or even one plan out of five, is not a "limited and precise" test for partisan gerrymandering.

In fact, Jackman's calculations based on the first election in a plan understate the amount of judicial involvement that will be required. Jackman did not focus on the first election for any particular reason in political science, but rather merely because he assumed plaintiffs would want to challenge a plan after the first election. (PFOF 155.) The *EG* observed in the first election is not a magic indicator of future election results; it is just one data point. A plan will produce a range of results depending on election conditions, as is seen with Wisconsin's 2002 Plan that produced *EG*s of -7.5%, -10%, -12% -5%, and -4%. (PFOF 212-216.) If the 2004 and 2006 *EG*s had presented themselves first (-10% and -12%, respectively), then the 2002 Plan would have appeared to be identical to the current plan, which Plaintiffs claim is "one of the worst partisan gerrymanders in modern American history." (PFOF ¶ 254.) If the 2008 and 2010 elections had occurred first, then the Plan would escape court scrutiny, yet would actually be capable of producing larger *EG* numbers under different election conditions. This reveals an underlying arbitrariness to the plaintiffs' methods and choices when proposing their standard.

The plaintiffs' standard could sweep in a huge number of plans depending on what type of election occurs in the first election of the cycle. Jackman finds that *53%* of plans since 1972 have at least one election with an *EG* of 7% or greater. (PFOF ¶ 176.) He likewise finds that 33% of plans have had at least one election with an *EG* of 10% or higher, which grows to 35% when looking at elections since 1991. (PFOF   ¶¶ 178-179.) Adopting the plaintiffs' standard would therefore invite a

"substantial intrusion into the Nation's political life." *Vieth*, 541 U.S. at 306 (Kennedy, J., concurring).

To make matters worse, the criteria Jackman used to calculate his 7% threshold has no basis in the Constitution. Jackman's threshold is based on whether a plan is likely to change sign during its existence (*i.e.*, flip from negative to positive or vice versa). He is 95% confident in his threshold because he is confident that the 36% percent of plans implicated will not change sign over their existence. The plaintiffs, however, have never explained why unconstitutional gerrymandering should be decided by whether a plan will change sign. Jackman's own research shows that pro-Republican negative efficiency gaps are durable, which is borne out by Wisconsin's experience under the 1992 and 2002 Plans. Jackman himself found that the plan in place in Wisconsin immediately before the current plan, enacted by completely neutral decision-makers, was unambiguously negative. His constitutional threshold expects Republican lawmakers to enact a plan that will turn positive for Democrats—something that has not happened in Wisconsin since 1994 (including eight elections conducted under court-drawn plans).

Once laid bare, the plaintiffs' plan plainly cannot be a constitutional standard. It is not limited (it sweeps in a high number of plans) or precise (it detects natural trends well beyond gerrymandering, much less extreme gerrymandering that might justify limited court intervention).

B.   This substantial intervention is not related to correcting established constitutional violations.

Plaintiffs' imprecise and expansive test is doubly problematic because it does not address a violation of the Constitution. There is no constitutional right to a small efficiency gap. It is a measure of proportionality, which is something the Supreme Court has rejected as a constitutional right.

The plaintiffs have maintained that the efficiency gap does not call for one-for-one proportional representation. That is true as far as it goes. But the zero efficiency gap hypothesis actually calls for hyper-proportional representation. Each 1% increase in vote share is expected to translate into an additional 2% in seat share. This hyper-proportionality, if anything, makes their standard less tenable under *Vieth* than one-for-one proportionality.

The *Vieth* Court rejected a standard based on whether a party was thwarted in "translat[ing] a majority of votes into a majority of seats," 541 U.S. at 286-87 (plurality), because "this standard rests upon the principle that groups (or at least political-action groups) have a right to proportional representation." *Id.* at 288 (plurality). The plurality held that

> the Constitution contains no such principle. It guarantees equal protection of the law to persons, not equal representation in government to equivalently sized groups. It nowhere says that farmers or urban dwellers, Christian fundamentalists or Jews, Republicans or Democrats, must be accorded political strength proportionate to their numbers."

Id. Justice Kennedy agreed that "the standards proposed . . . by the parties before us" were "either unmanageable or inconsistent with precedent or both." *Id.* at 308

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(Kennedy, J., concurring). There simply is no constitutional right for parties to be able to translate their statewide support into legislative seats with equal ease.

If the Constitution does not require proportional representation, then it surely does not require that electoral systems deliver hyper-proportional representation in which each 1% vote share above 50% yields 2% additional seat share, as called for by the orange line in Figure 4 of Jackman's report.

III.   The plaintiffs have not satisfied Justice Kennedy's concerns with partisan symmetry expressed in *LULAC*.

The plaintiffs have relied heavily on Justice Kennedy's statement in *LULAC* that he would not "altogether discount[]" the utility of partisan symmetry "in redistricting planning and litigation." 548 U.S. at 420 (plurality). The plaintiffs' case, however, has not addressed Justice Kennedy's concerns about dealing in a "hypothetical state of affairs" and speculating about "where possible vote-switchers will reside." *Id.*

Mayer's entire report is based on a "hypothetical state of affairs" in which votes are not counted as they were cast, but as they would have been cast in the hypothetical world in which there were no incumbents and each district was contested. (PFOF ¶ 8.) His model incorrectly picks the winning candidate in 5% of races even when he knows the results of the actual 2012 elections. (PFOF ¶¶ 17-30.) His opinions on his Demonstration Plan are likewise a counterfactual "hypothetical state of affairs" using a regression model to predict the results of an election that never happened.

Further, the efficiency gap is subject to wide swings based on "vote switchers" who swing close elections. Very small swings in statewide vote share (as small as a few hundred votes) can change seat share by several percentage points. The efficiency gap treats losing these close races as systemic bias against a party when, in reality, they represent voters' choices to support specific candidates for various reasons.

Thus, the proposed test runs headlong into Justice Kennedy's admonishments. It does not solve the problems in other redistricting cases but rather adds to them. It should be rejected for these additional reasons.

A.   The plaintiffs' case is based on a counter-factual, not actual votes cast.

Justice Kennedy's tepid support of partisan symmetry in *LULAC* surely does not envision courts invalidating plans based on election results that did not actually happen but were generated by a regression model. The plaintiffs have not presented any evidence of the number of wasted votes that were actually cast in either the 2012 or 2014 Assembly elections. Instead, they have offered Mayer's "prediction" of the 2012 votes that would have been wasted had no incumbents run and had each party contested every seat. This is an interesting exercise in political science, but it is clearly an analysis of a "hypothetical state of affairs." *LULAC*, 548 U.S. at 399 (plurality). In fact, Mayer counts these hypothetical votes as "wasted" even if his model predicted the incorrect winner of the Assembly seat. (PFOF ¶ 31.)

Further, the assumptions that Mayer uses in his hypothetical state of affairs ignore an important political reality: the power of incumbency. Mayer assumes no

incumbents, which is not an unreasonable thing to do when determining the underlying partisan makeup of a district. But it does not reflect reality in that (1) incumbents did run in the 2012 elections and (2) Republicans disproportionately benefitted from the incumbency advantage because they had a 60-seat majority. Thus, contrary to Justice Kennedy's warning, the plaintiffs have offered statistics based on counterfactuals and hypotheticals.

In addition, the Court cannot have confidence that Mayer's regression model even accurately predicts what would happen in the "hypothetical state of affairs" it is supposed to predict (whether for Act 43 or the Demonstration Plan) given the number of errors the model produces when predicting the 2012 election. His model incorrectly predicts five seats—five percent of seats—and undercounts Republican success by three seats—a three percent error in seat share. (PFOF ¶¶ 17-30.) A three-seat swing in Wisconsin can change the efficiency gap by 3%, which is nearly half the way to presumptive unconstitutionality under Plaintiffs' standard.

And, even in Mayer's counterfactual world, the plaintiffs do not provide all the relevant calculations that arise in that world. They omit (1) a calculation of what the efficiency gap under Act 43 would have been in the 2014 election had no incumbents run and every seat been contested and (2) a prediction of what the efficiency gap would have been under the Demonstration Plan in the 2014 election. The 2014 election results were available for Mayer to develop a regression model, but he ignored them. Apparently, the plaintiffs were not interested in predicting the Demonstration Plan's efficiency gap in an election in which Republicans won 52% of

the vote for Governor and Assembly. Especially since the plaintiffs bear the burden, one can only assumed the results of such an analysis would not have supported their theory.

Jackman's research is likewise based on a counterfactual—that an equal number of votes were cast in each district. (PFOF ¶ 5.) This is not a valid assumption in Wisconsin (PFOF ¶¶ 118-119) or in the nation as a whole. Similarly, his seats-vote curve is explicitly based on the hypothetical of the "zero efficiency gap hypothesis," which as noted above, has no basis in reality. Likewise, his calculations are "point estimates" with confidence intervals to account for his imputations in uncontested races. (PFOF ¶¶ 138-140.)

B.   The efficiency gap is sensitive to the results in close races decided by "vote switchers."

The efficiency gap's focus on statewide vote shares means that it is highly sensitive to variation based on close elections. These races are decided by numbers of votes that are inconsequential to the statewide vote share, but they decidedly affect seat share. Justice Kennedy's concern with vote-switchers thus is not accounted for in the plaintiffs' test.

In *Vieth*, the Court approvingly quoted the proposition that "[t]here is no statewide vote in this country for the . . . state legislature. . . . Political parties do not compete for the highest statewide vote totals or the highest mean district vote percentages: They compete for specific seats." 541 U.S. at 289 (plurality) (quoting Lowenstein & Steinberg, *The Quest of Legislative Districting in the Public Interest: Elusive or Illusory*, 33 UCLA L. Rev. 1, 59-60 (1985)). Seat share is not tied to

statewide vote share. This understanding underlies Justice Kennedy's statement in *LULAC* that "[t]he existence or degree of asymmetry may in large part depend on conjecture about where possible vote-switchers will reside." 548 U.S. at 420. This speculative and changeable aspect of the plaintiffs' measure is yet another flaw.

The recent Wisconsin elections illustrate this effect. In 2012, the Republicans won five seats (Districts 1, 26, 50, 72 and 93) with no more than 51.3% of the total vote. (PFOF ¶ 255.) The margin of victory across all of these races was about 3,200 votes, each less than 900 votes and one at only 109 votes (District 93). (PFOF ¶ 256.) Thus, more than 5% of seat share was determined by 0.1% of vote share. In part, the large efficiency gap was caused by the Democrats' inability to win these close races. Had they won all of these races, the efficiency gap would have fallen by a dramatic 5% (and would have fallen 1% for any seat won).

Perhaps the Democratic candidates would have won these seats if the election had a slightly larger Democratic tide (as in 2006 or 2008); perhaps they could have won them if they ran different candidates, emphasized different issues, or spent more money on the races. Whatever the reasons the Democrats lost these races, a large "degree of asymmetry" was produced by their failure to win over a sufficient number of "vote switchers" who live in these districts. *See LULAC*, 548 U.S. at 420 (plurality).

The changeable and uncertain aspects of politics, especially in close races, have significant impacts on the efficiency gap. That makes the gap an unreliable measure of real-world gerrymandering and one that fails to draw a constitutionally

mandated line. For this and the various other reasons discussed, the plaintiffs'

proposed use of the efficiency gap does not solve the problems in gerrymandering

cases. It should be rejected.

CONCLUSION

The Court should grant summary judgment to the Defendants because the

plaintiffs' standard is not a judicially discernible or judicially manageable test for

judging partisan gerrymandering claims.

Respectfully submitted,

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**IN THE UNITED STATES DISTRICT COURT
FOR THE WESTERN DISTRICT OF WISCONSIN**

WILLIAM WHITFORD, ROGER ANCLAM, EMILY BUNTING, MARY LYNNE DONOHUE, HELEN HARRIS, WAYNE JENSEN, WENDY SUE JOHNSON, JANET MITCHELL, ALLISON SEATON, JAMES SEATON, JEROME WALLACE, and DONALD WINTER,	)))))))	No. 15-cv-421-bbc
Plaintiffs,	))	
v.	))	
GERALD C. NICHOL, THOMAS BARLAND, JOHN FRANKE, HAROLD V. FROEHLICH, KEVIN J. KENNEDY, ELSA LAMELAS, and TIMOTHY VOCKE,	))))))	
Defendants.	)	

PLAINTIFFS' OPPOSITION TO DEFENDANTS' MOTION FOR SUMMARY JUDGMENT

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INTRODUCTION

Plaintiffs have proposed a three-part test for adjudicating partisan gerrymandering claims. First, plaintiffs must show that a district plan was enacted with partisan *intent*. Second, they must demonstrate that the *effect* of the plan was to create a large and durable level of partisan asymmetry relative to historical norms. Third, if the first two prongs are met, the map will be held unconstitutional unless defendants can show that its partisan tilt was unavoidable given the state's political geography and legitimate redistricting objectives.[1] As they did in their motion to dismiss, defendants largely ignore the first and third prongs of the test, focusing their attention almost exclusively on the primary measure of partisan asymmetry that plaintiffs have proposed for the test's effect prong—the efficiency gap.

Throughout their brief, defendants tilt at a strawman because they misunderstand the role the efficiency gap plays in plaintiffs' analysis. Defendants rely heavily on the fact that maps crafted by courts or through bipartisan processes sometimes result in large efficiency gaps, arguing that this proves that the efficiency gap is a "flawed way to measure partisanship in the districting process; the 'gap' that purports to show partisan intent appears when there is no partisan intent." Defs' Br. at 2. But plaintiffs do not offer the efficiency gap to prove that Wisconsin's Current Plan (or any other map) was drawn with the intent to achieve a partisan advantage. Instead, plaintiffs employ the efficiency gap as a measure of partisan *effect* to determine when an *intentional* gerrymander gives rise to a partisan asymmetry that is so severe and durable that it should be deemed unconstitutional.[2] When defendants' misunderstanding is

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[1] As discussed in greater detail below, plaintiffs' proposed test is just that—a proposal. The Court may decide to alter it in any number of ways. But however it might be altered, that would not affect the outcome of this motion.

[2] Plaintiffs' expert Professor Simon Jackman pointed out in his rebuttal report that defendants' expert Professor Nicholas Goedert misunderstood this vital point and that Professor Goedert's opinion that the efficiency gap could not be used to infer partisan intent is therefore irrelevant: "But this is not at all the legal function of the efficiency gap in plaintiffs' proposed test. Rather, partisan intent is its own independent inquiry, and the efficiency gap then

cleared away, it becomes apparent that summary judgment must be denied because defendants have not met their burden of showing that there are no genuine issues of material fact and that they are entitled to judgment as a matter of law.

Importantly, defendants do not claim that they are entitled to summary judgment on plaintiffs' allegations that the legislators who designed the Current Plan did so with the intent of maximizing Republicans' electoral advantage by diluting the voting strength of Democrats through the rampant packing and cracking of Democratic voters. Nor do they mount a serious challenge to plaintiffs' Demonstration Plan, which shows that the Current Plan's extreme asymmetry was not necessitated by Wisconsin's political geography or legitimate redistricting goals. And even as to the test's second prong, defendants do not dispute that the Current Plan resulted in a large efficiency gap, however that metric is calculated, which is unlikely to disappear over the course of the Plan's ten-year life. Thus, defendants do not contest that the Current Plan fails plaintiffs' proposed test, and instead seek summary judgment based solely on their argument that the test itself is not judicially discernible or manageable.

As to this argument, defendants' principal contention is that the Current Plan's extreme asymmetry could have resulted even if the Plan had been created without any partisan intent. Citing the 2000 plan endorsed by a federal court, defendants assert that Wisconsin's political geography leads naturally to a map favoring Republicans and that this somehow shows that plaintiffs' proposed effect prong does not meet the Supreme Court's requirement of judicial manageability. Indeed, defendants go even further, claiming that the nationwide increase in partisan gerrymandering that plaintiffs' expert Professor Jackman documented is the result of a *nationwide* geographic trend in Republicans' favor. According to defendants and their experts,

comes into play at the *second* stage of the test, to determine if a plan's electoral *consequences* are sufficiently severe that it should be deemed presumptively unconstitutional. To put it simply, the efficiency gap is plaintiffs' measure of partisan *effect*, not of partisan *intent*." Jackman Rebuttal Rpt. at 3-4; APFOF ¶ 175.

this trend has arisen because Republicans are more spread out while Democrats are naturally "packed" into urban areas.

As demonstrated below, defendants' arguments fail on both the facts and the law. The facts do not support defendants' claim that a large pro-Republican efficiency gap is the necessary consequence of Wisconsin's political geography. While in some election years the 2000 plan exhibited a substantial pro-Republican efficiency gap, two earlier court-drawn plans had average efficiency gaps of nearly zero, as does plaintiffs' Demonstration Plan. Well-established measures of geographic clustering and isolation also show that Democratic and Republican voters in Wisconsin have almost identical spatial distributions. And the efficiency gap models of defendants' own expert, Professor Goedert, reveal that if Wisconsin's 2011 map had been designed through a bipartisan or nonpartisan process, it would have favored *Democrats* in 2012 and 2014.

Professor Goedert's models also indicate that the typical state nationwide would have had a pro-Democratic efficiency gap in 2012 and 2014 if its map were neutrally drawn. In addition, standard indices of segregation show that Democratic and Republican voters have been roughly equally spatially distributed for decades. And while it is true enough that plans' efficiency gaps have grown more Republican over the last two decades, record evidence establishes that this trend is entirely attributable to Republicans' control of more state governments—not to any change in the country's political geography. At the very least, defendants' arguments on all of these points raise disputed questions of fact.

On the law, the fact that bipartisan or nonpartisan line-drawing processes have sometimes resulted in substantial partisan asymmetries does not disqualify the efficiency gap as either a discernible or manageable measure of partisan effect. Defendants suggest that this fact shows

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that there is no discernible constitutional right to symmetrical treatment. But this claim once again ignores the intent prong of plaintiffs' proposed test: the Court need not decide whether there is a constitutional right to partisan symmetry, *regardless* of the mapmaker's intent; rather, the question is whether there is a constitutional right not to be *intentionally* subjected to unequal electoral treatment. The Supreme Court's recent discussions of partisan symmetry—and this Court's ruling on defendants' motion to dismiss—show that the answer to that question is "yes."

As to manageability, the pivotal issue is whether plaintiffs' proposed test reliably distinguishes lawful from unlawful plans. *See Vieth v. Jubelirer*, 541 U.S. 267, 278 (2004) (plurality opinion) ("[L]aw pronounced by the courts must be principled, rational, and based upon reasoned distinctions."). The test's partisan intent prong meets this requirement. There is unlikely to be partisan intent absent unified control of the redistricting process by a single party, and when a single party is in control intent can ordinarily be divined (as in this case) from the redistricting process itself. The test's effect prong also provides a principled way to distinguish between politics as usual and excessive partisan gerrymandering. The efficiency gap is an intuitive metric that precisely captures the extent of a plan's partisan asymmetry in a single number. Courts may then use that number to compare the extent of a challenged plan's asymmetry to historical norms, both statewide and across the country. It is that comparison to historical patterns—and not merely a single data point like Wisconsin's 2000 plan—that allows courts to decide, based on reasoned distinctions, when intentional gerrymandering has reached a level that is intolerable under the Equal Protection Clause and/or the First Amendment.

Contrary to defendants' assertion, plaintiffs' proposed test would not result in the invalidation of an inordinate number of district plans. Defendants again ignore the test's partisan intent prong, suggesting that every plan with an initial efficiency gap of 7% or above would

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automatically be overturned under plaintiffs' proposal. But that is not true. Only plans that were drawn with partisan intent would be at risk—usually those where a single party had unified control over redistricting. Of the roughly two hundred distinct plans in Professor Jackman's database, only about seventy recorded an efficiency gap above 7% in their first election, and of these seventy, only about forty were designed by a single party with unified control over redistricting. Thus at least *80%* of plans would be wholly insulated from judicial review under plaintiffs' approach. This amounts to far less disruption than was caused by the reapportionment revolution of the 1960s—and far less than already takes place during each redistricting cycle.

For all of these reasons and the reasons outlined below, defendants' motion should be denied.

STANDARD OF REVIEW

Summary judgment is not a substitute for a trial on the merits, nor is it a vehicle for resolving factual disputes. *Waldridge v. Am. Hoechst Corp.*, 24 F.3d 918, 920 (7th Cir. 1994). The Court must construe all facts in the light most favorable to the non-moving party and draw all reasonable inferences in favor of the non-moving party. *Anderson v. Liberty Lobby, Inc.*, 477 U.S. 242, 255 (1986). Summary judgment may be granted if and only if the evidence, when so viewed, shows that there is "no genuine issue as to any material fact and that the moving party is entitled to a judgment as a matter of law." Fed. R. Civ. P. 56(c); *Celotex Corp. v. Catrett*, 477 U.S. 317, 322 (1986).

Summary judgment cannot be granted where, as here, the evidence consists almost entirely of dueling expert reports. *See, e.g.*, *Landmark-Ind. Ltd. P'ship v. City of Indianapolis*, 2015 WL 2449592, at *11 (S.D. Ind. May 22, 2015) ("The parties' opposing expert witness opinions is a classic 'battle of the experts' which precludes the entry of summary judgment");

Bullock v. Dart, 599 F. Supp. 2d 947, 959 (N.D. Ill. 2009) (same); *Coles v. LaSalle Partners Inc.*

Disability Plan, 287 F. Supp. 2d 896, 903-04 (N.D. Ill. 2003) ("Here we have the classic 'battle

of the experts' that cries out for resolution by a factfinder (either the court in a bench trial or a

jury, as the case may be), not by a court operating within the strictures of Rule 56."). Indeed,

unless defendants "can keep out plaintiff's experts' testimony," such testimony will almost

always "present[] a genuine issue of material fact." *Grismer v. The Upjohn Co.*, 1995 WL

390053, at *3 (N.D. Ill. June 26, 1995). Here, defendants have not even attempted to argue that

either of plaintiffs' experts' opinions should be excluded.

BACKGROUND

Rather than presenting undisputed facts, defendants' twenty-seven pages of "facts" offer

defendants' spin on the evidence in the record, treating their own experts' hotly disputed

conclusions as uncontested and ignoring the rebuttal reports provided by plaintiffs' experts,

which rebut defendants' various criticisms. Below, we first provide general background on

plaintiffs' experts and their analyses (Part I), and then explain the factual dispute between the

parties' experts as to whether the recent pro-Republican trend in the efficiency gap, both

nationwide and in Wisconsin, is due to a change in political geography (Parts II and III). Part IV

addresses defendants' claims about the volume of plans at risk of failing plaintiffs' proposed test.

The last three sections respond to various criticisms defendants have leveled at the

methodologies employed by plaintiffs' experts, involving the reliability of the efficiency gap

(Part V), Professor Mayer's efficiency gap calculations for Wisconsin (Part VI), and the two

methods for calculating the efficiency gap (Part VII).

I.   Plaintiffs' Experts and Their Analyses.

There is no question that plaintiffs' experts are well-qualified to render the opinions they offered in their initial and rebuttal expert reports. Simon Jackman is a Professor of Political Science at Stanford University, where he teaches classes on American politics and statistical methods in the social sciences. Jackman Rpt. (Dkt. 62) at p. 1; APFOF ¶ 1.[3] He has authored and published many articles in peer-reviewed journals over the last decade on a variety of subjects in his field, including the properties of electoral systems and election administration. APFOF ¶ 1-2. Kenneth Mayer is a Professor of Political Science at the University of Wisconsin-Madison, and a faculty affiliate at the University's Lafollette School of Public Affairs. He teaches courses on American politics, the presidency, Congress, campaign finance, election law, and electoral systems. He too has published numerous articles in peer-reviewed journals on these topics. Mayer Rpt. (Dkt. 54) at p. 2; APFOF ¶ 3-4. Although neither Professor Jackman nor Professor Mayer invented the efficiency gap measure, both were already highly conversant with the principles of partisan symmetry on which it is based before this lawsuit was filed, and both are well-qualified to calculate the metric for any district plan. APFOF ¶ 5.

As the Court has correctly noted, the efficiency gap is "the difference between the parties' respective wasted votes in an election, divided by the total number of votes cast." Order (Dkt. 43) at 4. Wasted votes are votes that are cast either for a losing candidate ("lost votes") or for a winning candidate but in excess of what he or she needed to prevail ("surplus votes"). Jackman Rpt. (Dkt. 62) at pp. 15-16; APFOF ¶ 6. All gerrymandering is accomplished by cracking and packing the disadvantaged party's voters, causing that party to accrue more lost and surplus votes and thus to convert its popular support into legislative representation less efficiently than the favored party. The efficiency gap measures the extent to which one party's

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[3] Citations to "APFOF" are to plaintiffs' Additional Proposed Findings of Fact, filed herewith.

voters are more cracked and packed than the other's, and so provides a single intuitive figure (expressed as a negative value for a pro-Republican gap and a positive value for a pro-Democratic gap) that can be used to assess the existence and extent of partisan gerrymandering and to compare one plan's partisan impact to another's. Jackman Rpt. (Dkt. 62) at pp. 15-16; APFOF ¶ 7.

Professor Jackman calculated the efficiency gap for every state house election for which data was available over the period from 1972 to 2014, using actual election results. To do so, he did not aggregate wasted votes district by district, but rather used a simplified computation method based on statewide electoral data. *See* Part VII, *infra*. Defendants' expert, Professor Goedert, "concur[s] that this shortcut is an appropriate and useful summary measure of [the] efficiency gap." Jackman Rep. (Dkt. 62) at p. 16; Goedert Rpt. (Dkt. 51) at p. 5; Goedert Dep. (Dkt. 65) at 70:17-73:2; APFOF ¶ 8-9. Using the simplified method for Wisconsin's Current Plan, Professor Jackman calculated an efficiency gap of -13% in 2012 and -10% in 2014. He also found that, from 1972 to 2010, not a single map in the country was as asymmetric as the Plan in its first two elections, and that there is nearly a 100% likelihood that the Plan will continue to disadvantage Democrats throughout its lifespan. Jackman Rpt. (Dkt. 62) at pp. 4-5, 63-73; APFOF ¶ 10-11. Indeed, Professor Jackman opined that any plan that gives rise to an efficiency gap of 7% or more in its first election is likely to create a partisan advantage that will endure for the remainder of the decade. Jackman Rpt. (Dkt. 62) at pp. 56-69; Jackman Rebuttal Rpt. (Dkt. 63) at pp. 5-17; Jackman Decl. Ex. D (Dkt. 58-4) at pp. 1-6; APFOF ¶ 12. *See also* Part V, *infra*.

Professor Mayer's task and hence his methodology were somewhat different. He calculated the efficiency gap in 2012 both for Wisconsin's Current Plan and for a Demonstration Plan he developed to show that it would have been possible to design a map that met all federal

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and state requirements at least as well as the Current Plan, but that did not have a large pro-Republican efficiency gap. Unlike Professor Jackman, Professor Mayer used the full method to calculate the efficiency gap, tallying wasted votes district by district. Also unlike Professor Jackman, Professor Mayer did not use actual vote totals. Instead, because he was comparing an actual with a hypothetical plan, he used a regression analysis to estimate what the wasted votes would have been in each district, under both the Current Plan and his Demonstration Plan. Mayer Rpt. (Dkt. 54) at pp. 5-10, 8-18; APFOF ¶ 13-14.

Although defendants have criticized Professor Mayer's failure to use actual votes in his calculations, his results were remarkably similar to those generated by Professor Jackman using actual data. *See* Jackman Rpt. (Dkt. 62) at p. 72 (-13% efficiency gap for Current Plan in 2012); Mayer Rpt. (Dkt. 54) at p. 46 (-12% efficiency gap for Current Plan in 2012); APFOF ¶ 15. Professor Mayer also found that his Demonstration Plan would have had an efficiency gap of only -2% in 2012, a score more than 80% smaller than the Current Plan's. Mayer Rpt. (Dkt. 54) at p. 46; APFOF ¶ 16. He further determined that the partisanship estimates prepared *prior* to the 2012 election by the Legislature's consultant, Professor Keith Gaddie, corresponded to an efficiency gap of -12% for the Current Plan. Mayer Rpt. (Dkt. 54) at p. 46; APFOF ¶ 17. This figure, of course, is virtually identical to the ones calculated by Professor Mayer and Professor Jackman *after* the 2012 election.

In their brief, defendants repeat a number of criticisms their experts made of Professors Jackman's and Professor Mayer's methodologies and opinions. Both of plaintiffs' experts submitted rebuttal reports in which they not only debunked defendants' criticisms, but also tried out virtually all of the suggestions made by defendants' experts to test their opinions. As

demonstrated below, these rejoinders, which defendants essentially ignore, demonstrate that, at most, defendants have raised questions of fact that can only be resolved at trial.

II.   National Trends in the Efficiency Gap and Their Explanations.

Professor Jackman's work shows that over the modern redistricting era, from 1972 to 2014, the average efficiency gap of state house plans has been -0.5%, or almost exactly zero. Jackman Rpt. (Dkt. 62) at p. 35; APFOF ¶ 18. The same is true for congressional plans from 1972 to 2012. Nicholas O. Stephanopoulos & Eric M. McGhee, *Partisan Gerrymandering and the Efficiency Gap*, 82 U. CHI. L. REV. 831, 869-870 (2015); APFOF ¶ 19. In the last three redistricting cycles, however, state house plans have become steadily more pro-Republican, with their average efficiency gap dropping from -0.6% in the 1990s to -2.1% in the 2000s to -3.2% in the 2010s. Jackman Rebuttal Rpt. (Dkt. 63) at p. 20; APFOF ¶ 20.

Remarkably, defendants claim that this pro-Republican trend is entirely attributable to a change in the country's political geography. Defs' Br. at 27-28. But as Professor Jackman's rebuttal report shows, the actual explanation is the growing share of district plans that were designed by Republicans in full control of the state government. This proportion increased from about 10% in the 1990s to about 20% in the 2000s to about 40% in the 2010s. By comparison, fewer than 20% of current plans were designed by Democrats in full control of the state government. Jackman Rebuttal Rpt. (Dkt. 63) at p. 19; Trende Dep. (Dkt. 66) at 79:11-23; APFOF ¶ 21-22. The chart below shows how the average efficiency gap of state house plans would have changed from the 1990s to the 2010s if the distribution of party control over redistricting had remained constant over this period. Strikingly, the average efficiency gap would barely have changed, going from -0.6% only to -0.8%. Jackman Rebuttal Rpt. (Dkt. 63) at p. 20; Jackman Decl. Ex. F (Dkt. 58-6); APFOF ¶ 23-24. Based on this analysis of Professor

Jackman's, a finder of fact could conclude that essentially *all* of the pro-Republican trend in the efficiency gap stems from greater Republican control over redistricting.
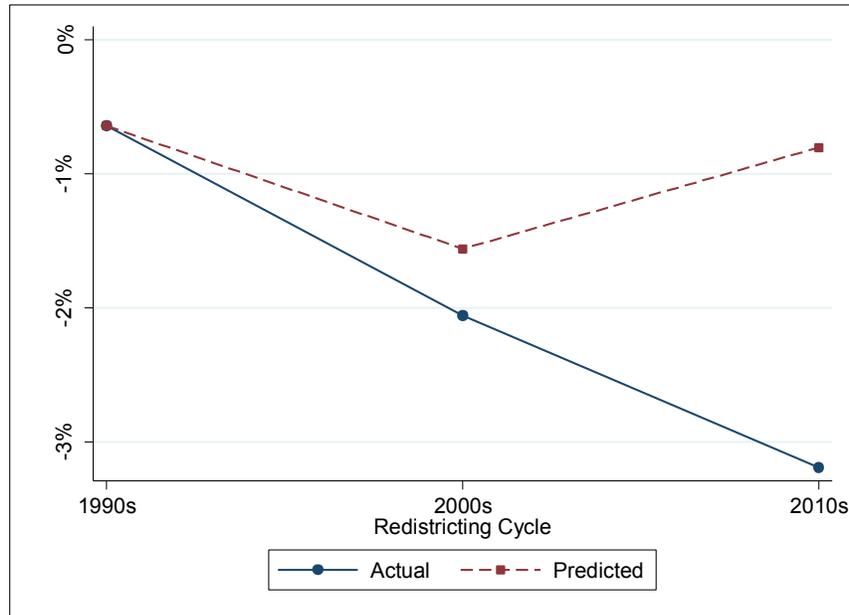
APFOF ¶ 23.

The conclusion that the country's political geography has not appreciably shifted in recent years—and so cannot explain the pro-Republican trend in the efficiency gap—is supported by the work of Edward Glaeser and Bryce Ward. They calculated what is known as the isolation index for Democratic and Republican voters by county from 1840 to 2004. This index indicates, for the average Democratic or Republican voter, what share of his or her fellow county residents are also Democrats or Republicans. Edward L. Glaeser & Bryce Adam Ward, *Myths and Realities of American Political Geography* (2005) (Dkt. 59-3) at pp. 5-6; APFOF ¶ 25. If the country's political geography were becoming more favorable for Republicans due to the natural "packing" of Democrats, as defendants contend, the isolation score for Democrats would be high and rising and there would be a low and steady isolation score for Republicans. Defs' Br. at 27-28.

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As the below chart reveals, this is not at all the case. Instead, over the last half-century, both Democratic and Republican isolation scores have been close to 50%, oscillating over a range from roughly 40% to 60%. Glaeser & Ward, *supra* (Dkt. 59-3), at p. 39; APFOF ¶ 26. In some elections, Democrats are more isolated; in other elections, it is Republicans who are more packed. In the final election covered by the study (2004), "[t]he isolation index . . . was 53.4 percent for Republicans and 52.6 percent for Democrats." Thus "[t]he isolation measures show even less of a trend," and certainly do not support defendants' Democratic clustering thesis. Glaeser & Ward, *supra* (Dkt. 59-3) at p. 6; APFOF ¶ 27.
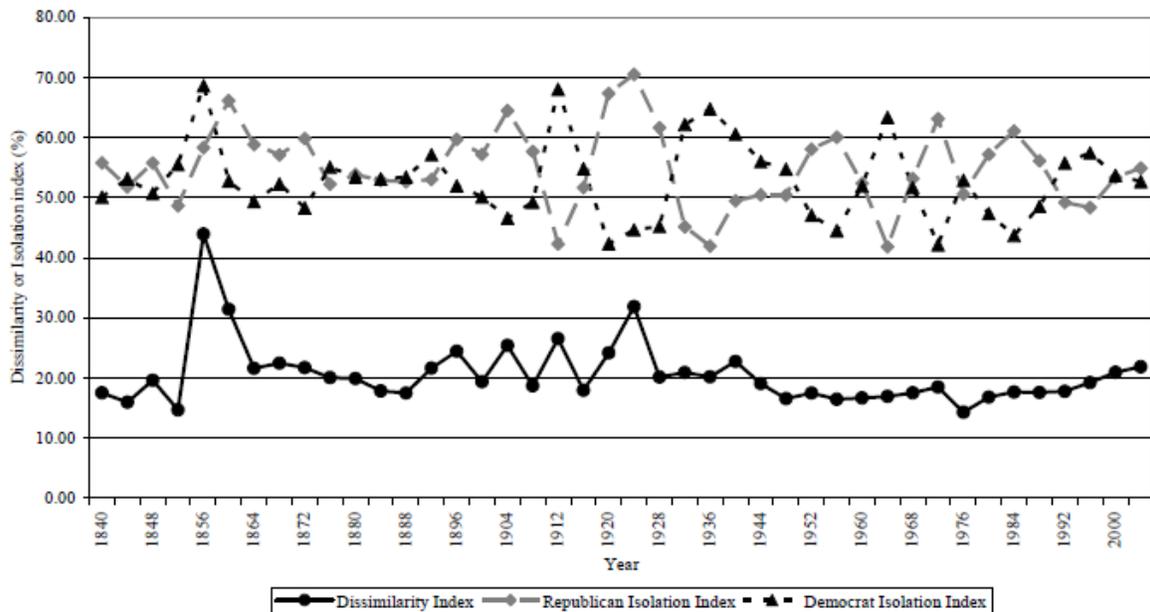
APFOF ¶ 26.

Further evidence that the country's political geography does not intrinsically benefit Republicans comes from work done by defendants' own expert, Professor Goedert. For both 2012 and 2014, he constructed models with a measure essentially identical to the efficiency gap as the dependent variable, along with the following independent variables: whether a plan was designed by Democrats or Republicans in full control of the state government or through a bipartisan or nonpartisan process; each state's proportions of black and Hispanic residents; each

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state's level of urbanization; the Democratic share of the statewide vote; and the number of seats in each state. Both of these models have large R-squared values (0.829 in 2012, 0.570 in 2014), indicating that the models capture a large fraction of the variance in the efficiency gap. Nicholas Goedert, *Gerrymandering or Geography? How Democrats Won the Popular Vote But Lost the Congress in 2012*, Res. & Pol. (2014), Goedert Dep. Ex. 20 (Dkt. 65-2) at p. 6 [hereinafter Goedert, *Gerrymandering or Geography?*]; Nicholas Goedert, *The Case of the Disappearing Bias: A 2014 Update to the "Gerrymandering or Geography* (2015), Goedert Dep. Ex. 21 (Dkt. 65-3) at p. 13 [hereinafter Goedert, *Disappearing Bias*]; Goedert Dep. (Dkt. 65) at 79:24-80:3; APFOF ¶ 28-29.

As Professor Mayer explains in his rebuttal report, Professor Goedert's models can be used to predict what the efficiency gap would have been in 2012 and 2014 in a state that resembled the country as a whole—demographically, geographically, and electorally—if that state's plan was designed through a bipartisan or nonpartisan process. Plugging the appropriate values of the independent variables into the models reveals that the typical state would have had a *pro-Democratic* efficiency gap of 0.7% in 2012, and a *pro-Democratic* efficiency gap of 1.6% in 2014, if its map had been drawn by a court, a commission, or a divided state government. Mayer Rebuttal Rpt. (Dkt. 64) at pp. 15-16; Goedert Dep. (Dkt. 65) at 90:12-18; APFOF ¶ 30-31. Thus, Professor Goedert's own work indicates that, far from inherently favoring Republicans, the country's political geography is, on average, slightly tilted in a Democratic direction.[4]

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[4] Professor Goedert's work includes two additional findings that undermine defendants' political geography claim. First, in both 2012 and 2014, unified Democratic control over redistricting was associated with about as large a pro-Democratic efficiency gap boost as unified Republican control was with a pro-Republican boost. Second, Professor Goedert's proxy for political geography, a state's level of urbanization, failed to reach statistical significance in one of his two 2012 models *and* in his 2014 model. Goedert, *Gerrymandering or Geography*, *supra* (Dkt. 65-2), at 6; Goedert, *Disappearing Bias*, *supra* (Dkt. 65-3), at 13; APFOF ¶ 28.

Defendants argue to the contrary primarily on the basis of a single political science article: Jowei Chen & Jonathan Rodden, *Unintentional Gerrymandering: Political Geography and Electoral Bias in Legislatures*, 57 Q.J. POL. SCI. 239 (2013). *See* Defs' Br. at 27. This article contends that if district plans were drawn randomly, using only contiguity, compactness, and equal population as criteria, they would exhibit pro-Republican partisan biases in most (but not all) states. But, as explained in Professor Jackman's rebuttal report, "there are several issues with [this] work that make it inapplicable here." Jackman Rebuttal Rpt. (Dkt. 63) at p. 20; APFOF ¶ 32.

First, Chen and Rodden's simulated plans are not lawful because they completely ignore the Voting Rights Act as well as state legal requirements such as respect for political subdivisions and respect for communities of interest, which are in effect in a majority of states. Jackman Rebuttal Rpt. (Dkt. 63) at pp. 20-21; Goedert Dep. (Dkt. 65) at 154:20-55:3; Trende Dep. (Dkt. 66) at 67:10-21; APFOF ¶ 33. Second, Chen and Rodden use only presidential election results from 2000 in their analysis. They do not use state legislative election results (which are more relevant to the issue of state legislative partisan gerrymandering) or results from more recent years. Jackman Rebuttal Rpt. (Dkt. 63) at p. 21; APFOF ¶ 34.

Third, Chen and Rodden's simulated maps do not actually constitute a representative sample of all possible maps that satisfy their criteria. Because of flaws in their simulation algorithm, their maps capture only an arbitrary subset of the entire solution space. Jackman Rebuttal Rpt. (Dkt. 63) at p. 21; Benjamin Fifield et al., *A New Automated Redistricting Simulator Using Markov Chain Monte Carlo* (2015), Jackman Decl. Ex. H (Dkt. 58-8) at pp. 2-3; APFOF ¶ 35. And fourth, their results are directly contradicted by other recent work using a nearly identical methodology. Roland Fryer and Richard Holden also simulated plans with

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contiguous, compact, and equipopulous districts for multiple states. But they found that, "[u]nder maximally compact districting, measures of Bias are slightly *smaller* in all states except [one]." And not only are the biases slightly smaller, they are also slightly *pro-Democratic* in all cases. Roland Gerhard Fryer & Richard Holden, *Measuring the Compactness of Political Districting Plans*, 54 J.L. & Econ. 493 (2011), Goedert Dep. Ex. 18 (Dkt. 65-1) at pp. 514-15; Jackman Rebuttal Rpt. (Dkt. 63) at p. 21; APFOF ¶ 36.

The only other evidence defendants cite in support of their claim that Democrats are becoming more clustered nationwide is the opinion of their expert (Sean Trende) based on his analysis of a set of maps comparing county-level presidential election results in 1996 and 2012 in the West South Central region of the country. Defs' Br. at 27-28; Trende Decl. (Dkt. 55) ¶¶ 66-68; APFOF ¶ 37. There are a host of problems with Trende's analysis. Among other things, Trende admitted that there are no "peer-reviewed studies that have analyzed the geographic clustering of Democratic and Republican voters by examining trends in counties won by each part[y's] presidential candidate," Trende Dep. (Dkt. 66) at 51:6-11; APFOF ¶ 38; that the maps he relied upon make no adjustment for counties' wildly divergent populations, Trende Dep. (Dkt. 66) at 52:25-53:3; Goedert Dep. (Dkt. 65) at 186:5-7; APFOF ¶ 39; that the maps do not display each party's margin of victory in each county, Trende Dep. (Dkt. 66) at 52:3-6; APFOF ¶ 40; that the maps are based on presidential rather than state legislative election results, Trende Dep. (Dkt. 66) at 53:25-54:13; APFOF ¶ 41; and that the maps do not generate any quantitative measure of partisan clustering over time, but rather are simply meant to be "eyeball[ed]," Trende Dep. (Dkt. 66) at 59:2-8; APFOF ¶ 42. Plaintiffs will soon be filing a *Daubert* motion challenging the admissibility of Trende's opinions. But even if these opinions were admissible, they would do no more than raise questions of fact as to whether the nationwide pro-Republican

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trend in the efficiency gap is the product of geographic change or shifts in partisan control over redistricting.

III.   Wisconsin's Political Geography

Defendants claim not only that the country's political geography increasingly favors Republicans, but that Wisconsin's does so as well. Defs' Br. at 28-30. Wisconsin's own Assembly plans over the five cycles of the modern redistricting era refute that claim—or, at the very least, raise questions of fact. In this period, four of the state's five plans (all but the Current Plan) were designed either through bipartisan agreement or by a court. In the 1970s, a Democratic Governor and Assembly were able to reach a compromise with a Republican Senate. In the 1980s, a federal court drew the Assembly districts (which were then revised somewhat by the elected branches). *See Wisc. State AFL-CIO v. Elections Bd.*, 543 F. Supp. 630 (E.D. Wis. 1982). In the 1990s, another federal court drew the districts. *See Prosser v. Elections Bd.*, 793 F. Supp. 859 (W.D. Wis. 1992). The *Prosser* court took into account likely electoral effects and designed the map that was the "least partisan" and "create[d] the least perturbation in the political balance of the state." *Id.* at 871. In the 2000s, still another federal court drew the districts. *See Baumgart v. Wendelberger*, 2002 WL 34127471 (E.D. Wis. May 30, 2002). Defendants seize on this plan as evidence that Wisconsin's political geography has a natural pro-Republican tilt. Defs' Br. at 22-25. But that single data point proves nothing. For one thing, the tilt may be explained by the fact that the *Baumgart* court did *not* consider likely electoral effects and adopted a plan more similar to that submitted by the Republican intervenors than to the one offered by the Democratic intervenors. *Id.* at *7; Mayer Dep. (Dkt. 52) at 121:7-16; APFOF ¶ 43.

In addition, the 2000 plan is itself an anomaly. The table below lists the average efficiency gaps of each of Wisconsin's modern plans over their lifetimes. The table also lists the

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average efficiency gap of Professor Mayer's Demonstration Plan over the Democratic wave, Republican wave, and 2012 electoral scenarios. Four of the five average efficiency gaps are very small: -0.3% in the 1970s, -1.9% in the 1980s, -2.4% in the 1990s, and -1.9% for the Demonstration Plan. Jackman Rpt. (Dkt. 62) at p. 72; Jackman Decl. Ex. F (Dkt. 58-6) at p. 3-25; Mayer Rebuttal Rpt. (Dkt. 64) at p. 26; APFOF ¶ 44-48. The *only* large average efficiency gap is the one for the court-drawn plan in the 2000s.[5] The most reasonable inference to be drawn from this data is that *most* Assembly plans designed through a bipartisan or nonpartisan process do not significantly benefit either party. Certainly one cannot conclude that a neutral plan would necessarily have a significant pro-Republican tilt.

Cycle	Designer	Average Efficiency Gap
1970s	Divided government	-0.3%
1980s	Court	-1.9%
1990s	Court	-2.4%
2000s	Court	-7.6%
2010s	Professor Mayer	-1.9%

APFOF ¶ 44-48.

This view is bolstered by Professor Goedert's efficiency gap models for 2012 and 2014. In his rebuttal report, Professor Mayer plugged in Wisconsin's values for the models' independent variables (6.6% black, 6.5% Hispanic, 70.2% urbanized, 50.8% Democratic in 2012, and 47.2% Democratic in 2014) and assumed a bipartisan or nonpartisan redistricting process. The results were a *pro-Democratic* efficiency gap of 1.9% in 2012, and a *pro-Democratic* efficiency gap of 4.4% in 2014. Mayer Rebuttal Rpt. (Dkt. 64) at pp. 15-16; Goedert

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[5] Apart from the fact that it is but a single data point, that plan also showed a great deal of variability over its life. In the first election (2002), the efficiency gap was -7.5%; in the next two elections, the efficiency gap grew to -10% (2004) and -12% (2006), but then the trend reversed and in the last two elections the gap declined to -5% (2008) and -4% (2010). In their brief, defendants notably omit 2008 and 2010 from their table, relegating these years' much smaller gaps to a footnote. Defs' Br. at 35.

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Dep. (Dkt. 65) at 85:7-20; APFOF ¶ 49-50. Based on this analysis, a finder of fact could conclude that if a neutral institution had designed Wisconsin's district plan, the map would have slightly advantaged *Democrats* over the last two elections.

In his rebuttal report, Professor Mayer also calculated measures of the isolation and concentration of Wisconsin's Democratic and Republican voters. One was the isolation index described above, which indicates, for the average Democratic or Republican voter, how much more heavily Democratic or Republican his or her ward is than the state as a whole. A Democratic isolation score of 10%, for example, means that the average Democratic voter lives in a ward that is 10% more Democratic than the state in its entirety. *See* Mayer Rebuttal Rpt. (Dkt. 64) at pp. 16-17; Edward Glaeser & Jacob Vigdor, *The End of the Segregated Century* (2012), Mayer Decl. Ex. D (Dkt. 59-4) at p. 3; APFOF ¶ 51. The other measure, Global Moran's I, shows how spatially clustered Democratic or Republican voters are. It varies from -1 (perfect dispersion) to +1 (perfect clustering). *See* Mayer Rebuttal Rpt. (Dkt. 64) at pp 16-17; Su-Yeul Chung & Lawrence A. Brown, *Racial/Ethnic Sorting in Spatial Context: Testing the Explanatory Frameworks*, 28 Urb. Geo. 312 (2007), Mayer Decl. Ex. E (Dkt. 59-5) at p. 322; APFOF ¶ 52.

The table below displays the Democratic isolation, Republican isolation, Democratic clustering, and Republican clustering scores for all available years: 2004-2014 for the isolation index and 2012-2014 for Global Moran's I. As Professor Mayer opined in his rebuttal report, at all times, Democratic and Republican voters were about equally isolated and about equally clustered. In some years, Democratic voters were slightly more isolated (2008, 2012, 2014) and clustered (2014). In other years, Republican voters were slightly more isolated (2004, 2006, 2010) and clustered (2012). Mayer Rebuttal Rpt. (Dkt. 64) at pp. 17-18; APFOF ¶ 53. There is absolutely no indication, as defendants claim, that Wisconsin's Democrats are systematically

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more packed than its Republicans. Defs' Br. at 28-30. To the contrary, as Professor Mayer explains, the more plausible inference is that the state's Democrats and Republicans have comparable spatial distributions.

Year	Democratic Isolation	Republican Isolation	Democratic Clustering	Republican Clustering
2004	20%	21%		
2006	16%	17%		
2008	15%	14%		
2010	15%	17%		
2012	14%	12%	0.68	0.69
2014	23%	20%	0.75	0.68

APFOF ¶ 53.

Lastly, in his rebuttal report, Professor Mayer compares the partisan distribution of Wisconsin's *wards* with that of the Current Plan's *districts*. Mayer Rebuttal Rpt. (Dkt. 64) at pp. 11-12; APFOF ¶ 55. He notes that if the state had an intrinsic pro-Republican geography, the two distributions would look very similar, with both featuring a clear pro-Republican median (indicative of natural Democratic "cracking") and a pronounced Democratic tail (suggesting natural Democratic "packing"). Professor Mayer observes both of these properties in the Current Plan's district distribution, which peaks at around 42% Democratic and has a long Democratic tail. Mayer Rebuttal Rpt. (Dkt. 64) at pp. 11-12; APFOF ¶ 56. The ward distribution, however, looks completely different. It is almost perfectly symmetric in its shape, and its peak is very close to 50% Democratic. Mayer Rebuttal Rpt. (Dkt. 64) at pp. 11-12; APFOF ¶ 57. In combination, these histograms "reveal that Act 43's designers were able to distort a fairly neutral ward distribution into a far more advantageous district distribution, through gerrymandering."

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Mayer Rebuttal Rpt. (Dkt. 64) at p. 12; Goedert Dep. (Dkt. 65) at 166:7-13, 169:3-15; APFOF ¶ 58.[6]

Figure C: Distribution of Wards vs. Districts
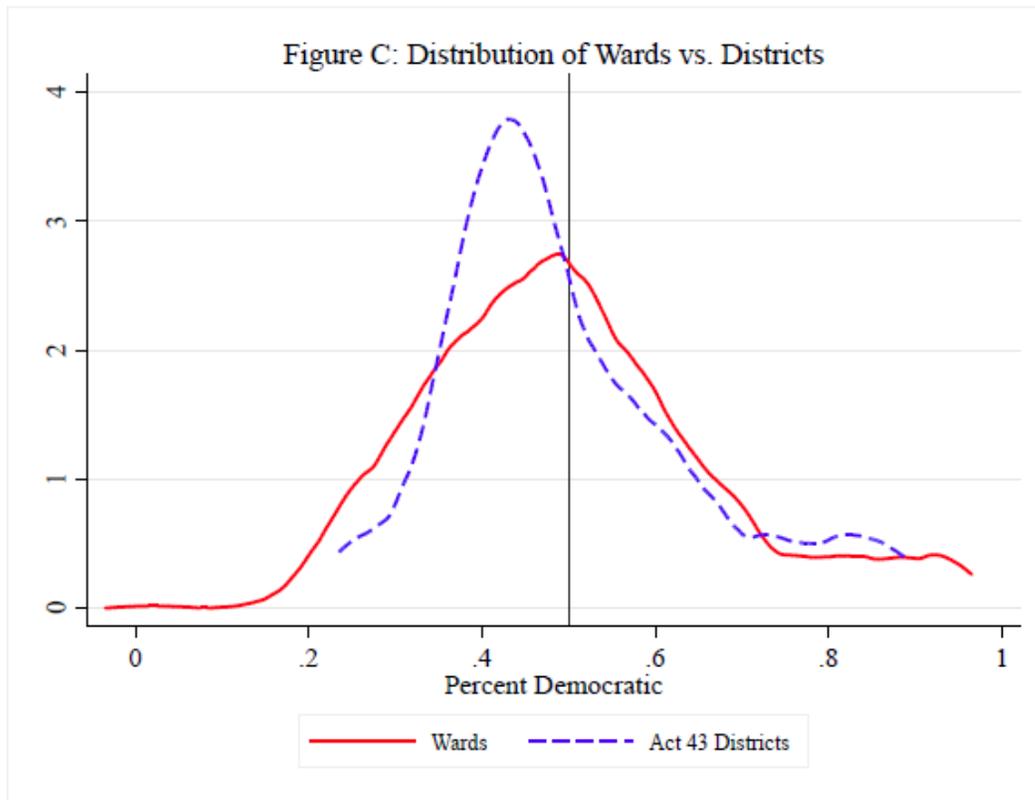
APFOF ¶ 55.

Defendants' only countervailing evidence consists of the opinion of one of their experts (Trende) that is based on two Wisconsin maps, one from 1996 and the other from 2012, showing what Trende calls the "partisan index" of each of the state's counties. Defs' Br. at 28-30. Trende calculated this index by determining how much more or less Democratic each county's presidential vote was than the country as a whole in these years. For reasons that will be explained at greater length in plaintiffs' *Daubert* motion, Trende's opinions are not even admissible, much less undisputed. As Professor Mayer points out, the partisan index is used

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[6] This is the case even though, in violation of usual practice, the current ward boundaries were determined *after* the Current Plan's districts had already been drawn. *See* Jason Stein & Patrick Marley, *GOP Redistricting Maps Make Dramatic Changes*, MILWAUKEE JOURNAL-SENTINEL (July 8, 2011) Earle Decl. Ex. D (Dkt. 57-4); APFOF ¶ 59. The wards are thus endogenous to the districts, not exogenous as in previous years.

"almost exclusively by political commentators," and "less frequently in academic research." Mayer Rebuttal Rpt. (Dkt. 64) at p. 5; Trende Dep. (Dkt. 66) at 56:2-6 (admitting that he could not "identify any peer-reviewed studies that have analyzed the geographic clustering of Democratic and Republican voters by examining trends in County Partisan Indices"); APFOF ¶ 60-61.

Apart from this fundamental problem, Trende's analysis suffers from a host of other flaws. As he conceded, the maps he used do not adjust for Wisconsin counties' very different populations, Trende Dep. (Dkt. 66:7-17) at 58; Goedert Dep. (Dkt. 65) at 185:19-186:4; APFOF ¶ 62, and are based on presidential rather than state legislative election results, covering only two elections to boot, Trende Dep. (Dkt. 66) at 56:9-58:9; APFOF ¶ 63. As Trende also admitted, the maps do not generate any "quantitative scores for Democratic and Republican clustering," but rather must be "eyeball[ed]" by the viewer—hardly a scientific analysis. Trende Dep. (Dkt. 66) at 59:2-8; Trende Decl. (Dkt. 55) ¶ 25; APFOF ¶ 64. And if anything, this eyeballing leads to the conclusion that it is Wisconsin's *Republicans* who are more clustered. As Trende agreed, while "there are about 10 adjacent red counties in the southeast corner of the state," it is impossible to identify "any clusters of 10 very blue counties anywhere in the state." Trende Dep. (Dkt. 66) at 62:22-63:2; APFOF ¶ 65.

Unable to show that the Current Plan's extreme pro-Republican efficiency gap is necessitated by Wisconsin's political geography, defendants retreat to arguing that a very small pro-Republican tilt is inherent. Defs' Br. at 36. In support, defendants point to Professor Mayer's Demonstration Plan, which averages a -1.9% efficiency gap under a variety of electoral scenarios. Jackman Rpt. (Dkt. 62) at p. 7; APFOF ¶ 68. That very small gap, however, is more

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than *80%* lower than the actual 2012 gap and (as demonstrated below) is hardly a basis for granting summary judgment to defendants.

IV.   The Volume of Plans at Risk of Failing Plaintiffs' Proposed Test

While defendants' principal factual arguments involve Wisconsin's and the country's political geography, they also contend that too many plans would be invalidated under plaintiffs' proposed test. Defs' Br. at 17-20, 44-46. But because plaintiffs' proposed test includes three distinct elements, it is impossible to say exactly how many historical or current plans would fail it. To make this determination, one would need to know (1) whether each plan was designed with partisan intent; (2) whether each plan's initial efficiency gap was large and durable relative to historical norms; and (3) whether this significant asymmetry could have been avoided given each state's political geography and legitimate redistricting goals. This information can only be gathered through litigation. Still, the data in the record does enable a first pass at the issue of the test's impact. But what is clear—though consistently resisted by defendants—is that efficiency gap scores *alone* are not enough to make any headway here. At the very least, the scores must be supplemented with some proxy for partisan intent.

In his work, defendant's own expert, Professor Goedert, has recommended exactly such a proxy: whether a single party had unified control over redistricting, in the sense of holding majorities in both legislative chambers as well as the state's governorship. *See* Goedert, *Gerrymandering or Geography*, *supra*, Goedert Dep. Ex. 20 (Dkt. 65-2) at 3 ("Each state is coded for redistricting control by Republicans, Democrats, or some other institution (e.g. commission, court, bipartisan agreement)."); Goedert Dep. (Dkt. 65) at 39:19-40:5 ("The definition of partisan gerrymandering I use in my work is . . . a redistricting plan which is done under the complete control of one party. . . . [with] control over both houses of the state

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legislature and the governorship."); APFOF ¶ 66. Plaintiffs agree that when a single party has unified control over redistricting, partisan intent is usually (though not necessarily) present. They therefore employ Professor Goedert's proxy for purposes of this analysis, while noting that a more rigorous examination would be required in actual litigation.

There are 206 distinct plans in Professor Jackman's database. Of these, 70 plans (or 34%) had initial efficiency gaps above 7%. And of these 70, 43 plans (or 21%) had initial efficiency gaps above 7% *and* unified control over redistricting by a single party. If we increase the threshold to 10%, 32 plans (or 16%) had initial efficiency gaps this large, and of these 32, 20 plans (or 10%) had initial efficiency gaps this large *and* unified control over redistricting by a single party. Jackman Rpt. (Dkt. 62) at p. 7; Jackman Rebuttal Rpt. (Dkt. 63) at pp. 18-20; Jackman Decl. Ex. F (Dkt. 58-6; APFOF ¶ 67-71. The below table includes all of these figures.

The table also includes analogous information for the 43 current plans in Professor Jackman's database. Of these, 16 plans (or 37%) had initial efficiency gaps above 7%, and of these 16, 11 plans (or 26%) had initial efficiency gaps above 7% *and* unified control over redistricting by a single party. Raising the threshold to 10%, 11 plans (or 26%) had initial efficiency gaps this large, and of these 11, 7 plans (or 16%) had initial efficiency gaps this large *and* unified control over redistricting by a single party. Jackman Rpt. (Dkt. 62) at p. 7; Jackman Rebuttal Rpt. (Dkt. 63) at pp. 18-20; Jackman Decl. Ex. F (Dkt. 58-6); APFOF ¶ 72-75.

Historical		Current	
All plans	206	Current plans	43
All plans with initial *EG* above 7%	70	Current plans with initial *EG* above 7%	16
All plans with initial *EG* above 7% *and* unified party control over redistricting	43	Current plans with initial *EG* above 7% *and* unified party control over redistricting	11
All plans with initial *EG* above 10%	32	Current plans with initial *EG* above 10%	11
All plans with initial *EG* above 10% *and* unified party control over redistricting	20	Current plans with initial *EG* above 10% *and* unified party control over redistricting	7

APFOF ¶ 67-75.

This data allows us to place some upper bounds on the potential impact of plaintiffs' proposed test. Of all plans in the modern redistricting era, at most 43 would have been at risk under a 7% threshold, and at most 20 under a 10% threshold. Of all current plans, at most 11 would be in danger under a 7% threshold, and at most 7 under a 10% threshold. And all of these numbers are at least somewhat overstated. A single party with unified control over redistricting does not always seek to benefit itself. *See* Goedert Rpt. (Dkt. 51) at p. 10 ("In the 2000's decade, Democrats controlled all branches of state government in California, but instead of crafting an aggressively partisan congressional map, worked closely with Republicans in the legislature to draw districts that would protect incumbents of both parties."); APFOF ¶ 76. And a large efficiency gap is not always avoidable given a state's political geography and legitimate redistricting goals.

To put these figures in perspective, the reapportionment revolution of the 1960s resulted in the invalidation of almost *every* state house, state senate, and congressional plan in the country. *See* Gary W. Cox & Jonathan N. Katz, Elbridge Gerry's Salamander (2002) ("Both state legislative and congressional districts were redrawn more comprehensively—by far—than at any

previous time in our nation's history."); Jackman Decl. Ex. J (Dkt. 620) at p. 4; APFOF ¶ 77.

The Supreme Court's decision in *Thornburg v. Gingles*, 478 U.S. 30 (1986), construing Section

2 of the Voting Rights Act, spawned at least 800 lawsuits over the next generation. *See* Ellen D.

Katz et al., *Documenting Discrimination in Voting: Judicial Findings Under Section 2 of the*

Voting Rights Act, 39 U. Mich. J.L. Reform 643, 655 (2006), Earle Decl. Ex. B (Dkt. 57-2) at p.

655; APFOF ¶ 78. And in just the current cycle, 224 cases were filed in 42 states, resulting in 23

plans being invalidated or designed by the courts. *See Litigation in the 2010 Cycle*, All About

Redistricting, http://redistricting.lls.edu/cases.php [hereinafter *2010 Litigation*]; APFOF ¶ 79.

Relative to the enormous volume of redistricting litigation that already takes place, the adoption

of plaintiffs' proposed test would thus amount to a fairly modest development.

V.   The Reliability of the First Efficiency Gap Recorded Under a Plan

Another of defendants' factual challenges involves the reliability of the first efficiency

gap recorded under a plan. Defendants claim in various places that this first value is not a robust

enough guide to a plan's subsequent performance over its lifetime. Defs' Br. at 17-20, 38, 45, 49.

Plaintiffs agree that it is important to determine how reliably a plan's *initial* efficiency gap

predicts the magnitude and direction of the plan's *average* efficiency gap over its lifetime. If the

relationship between the initial and average values is strong, then a court can be confident that

the initial value captures the plan's true partisan asymmetry. Conversely, if the relationship is

weak, then a court might legitimately worry that not much information about the plan's true

nature is conveyed by the initial value.

The below scatter plot, prepared by Professor Jackman in his rebuttal report, displays the

relationship between state house plans' initial and average efficiency gap values from 1972 to

2010 (including only plans with at least three recorded efficiency gaps, for which the average is

more meaningful). Jackman Rebuttal Rpt. (Dkt. 63) at pp. 15-17; APFOF ¶ 80. As is evident from the plot, the relationship is very strong. Specifically, plans' initial efficiency gaps explain fully *three-fourths* of the variation in their average efficiency gaps. Jackman Rebuttal Rpt. (Dkt. 63) at pp. 15-17; APFOF ¶ 81. All other factors—candidate quality, campaign spending, electoral tides, etc.—account for only a quarter of the variation.

The plot also indicates the size and orientation of the average efficiency gap associated with each initial efficiency gap. For an initial efficiency gap of 7% in a Republican direction, for example, the average efficiency gap is predicted to be 5.3%, and there is more than a 96% likelihood that the average will be pro-Republican. Jackman Rebuttal Rpt. (Dkt. 63) at p. 16; APFOF ¶ 82. Similarly, for an initial efficiency gap of 7% in a Democratic direction, the average efficiency gap is forecast to be 3.7%, and there is roughly a 90% likelihood that the average will be pro-Democratic. Jackman Rebuttal Rpt. (Dkt. 63) at p. 16; APFOF ¶ 83. As for Wisconsin's Current Plan, which opened with a pro-Republican efficiency gap of 13.3%, it is likely to have an average efficiency gap of *9.5%* over its lifetime, with more than a *99.9%* likelihood of exhibiting a pro-Republican mean. Jackman Rebuttal Rpt. (Dkt. 63) at p. 16; APFOF ¶ 84.
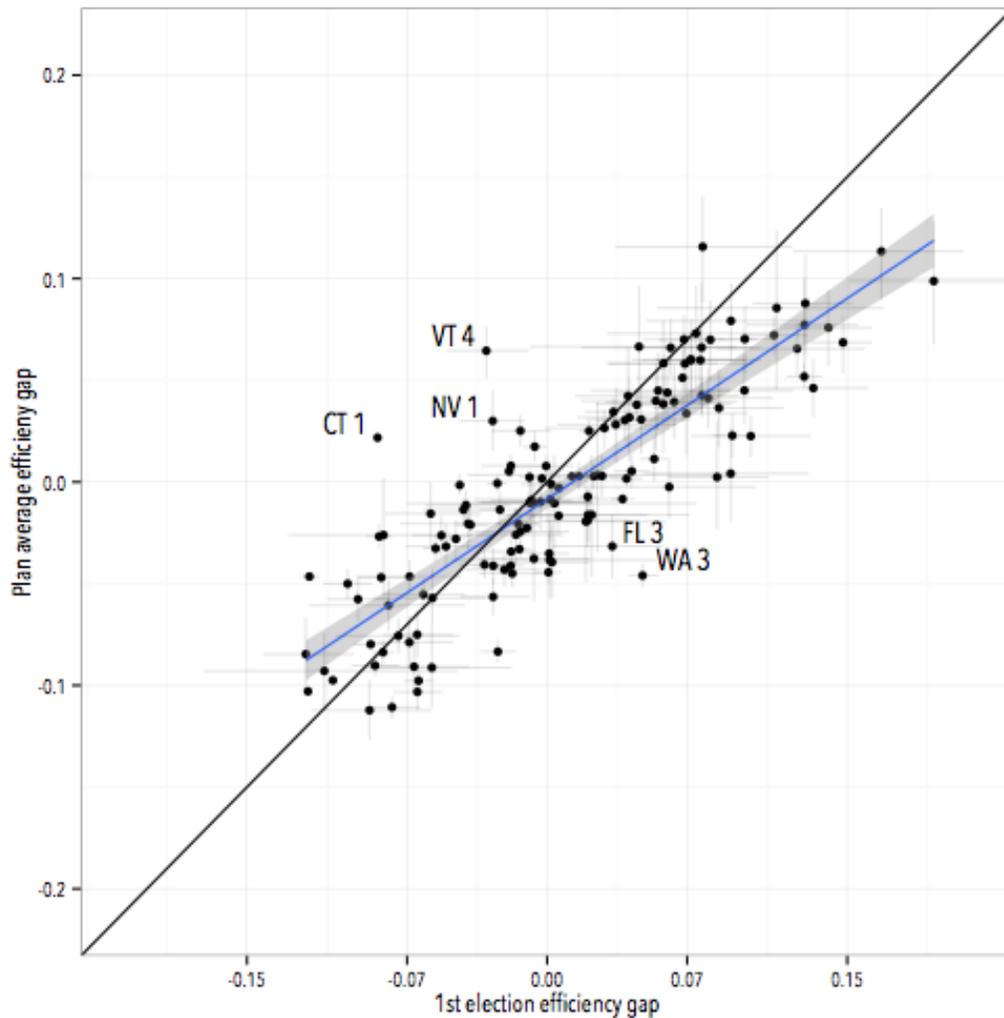
APFOF ¶ 80.

Of course, this analysis is based on historical data, and so may not apply perfectly to the state house plans currently in effect. To determine how the current plans' efficiency gaps would vary under different electoral environments, Professor Jackman carried out the sensitivity testing recommended by defendants' expert, Professor Goedert. *See* Goedert Rpt. (Dkt. 51) at p. 15 (referring to sensitivity testing as "an important acknowledgement of the fluctuations observed in efficiency gap as electoral tides shift"); APFOF ¶ 85. Professor Jackman also used the uniform swing methodology employed and endorsed by Professor Goedert. *See* Goedert Rpt (Dkt. 51) at p. 22 (using "uniform swing from 2012 Presidential Election Results"); Goedert Dep. (Dkt. 65)

at 123:12-20 ("recommend[ing] using uniform swing assumption"); Jackman Decl. Ex. D (Dkt. 58-4); APFOF ¶ 86. That is, Professor Jackman shifted the actual 2012 and 2014 election results by up to five points in each direction, and then recorded the efficiency gaps produced by each shift. Election swings of this magnitude encompass "the vast majority of state legislative elections from 1972 to 2012," and thus illustrate how the current plans would perform under almost all plausible electoral conditions. Jackman Decl. Ex. D (Dkt. 58-4) at pp. 1-2; Goedert Dep. (Dkt. 65) at 126:16-127:10; APFOF ¶ 87-88.

The below figure, prepared by Professor Jackman, divides the current plans' actual efficiency gaps into three categories: small (absolute value below 3%), medium (absolute value between 3% and 7%), and large (absolute value above 7%). Jackman Decl. Ex. D (Dkt. 58-4) at p. 4; APFOF ¶ 89. For each category, the figure then shows the *correlation* between the plans' actual and predicted efficiency gaps, as well as the proportion of actual and predicted efficiency gaps *with the same sign*, given different vote swings. As is evident, for plans with large actual efficiency gaps, the correlation between their actual and predicted values is very high (always above 0.7 and usually above 0.9) for all vote swings. For these plans, the proportion of their actual and predicted efficiency gaps with the same sign is even higher—nearly 100% for all vote swings. Jackman Decl. Ex. D (Dkt. 58-4) at p. 4; APFOF ¶ 90-91. The sensitivity testing thus corroborates the historical analysis; a large initial efficiency gap is again an excellent predictor of lifetime efficiency gap magnitude and direction.

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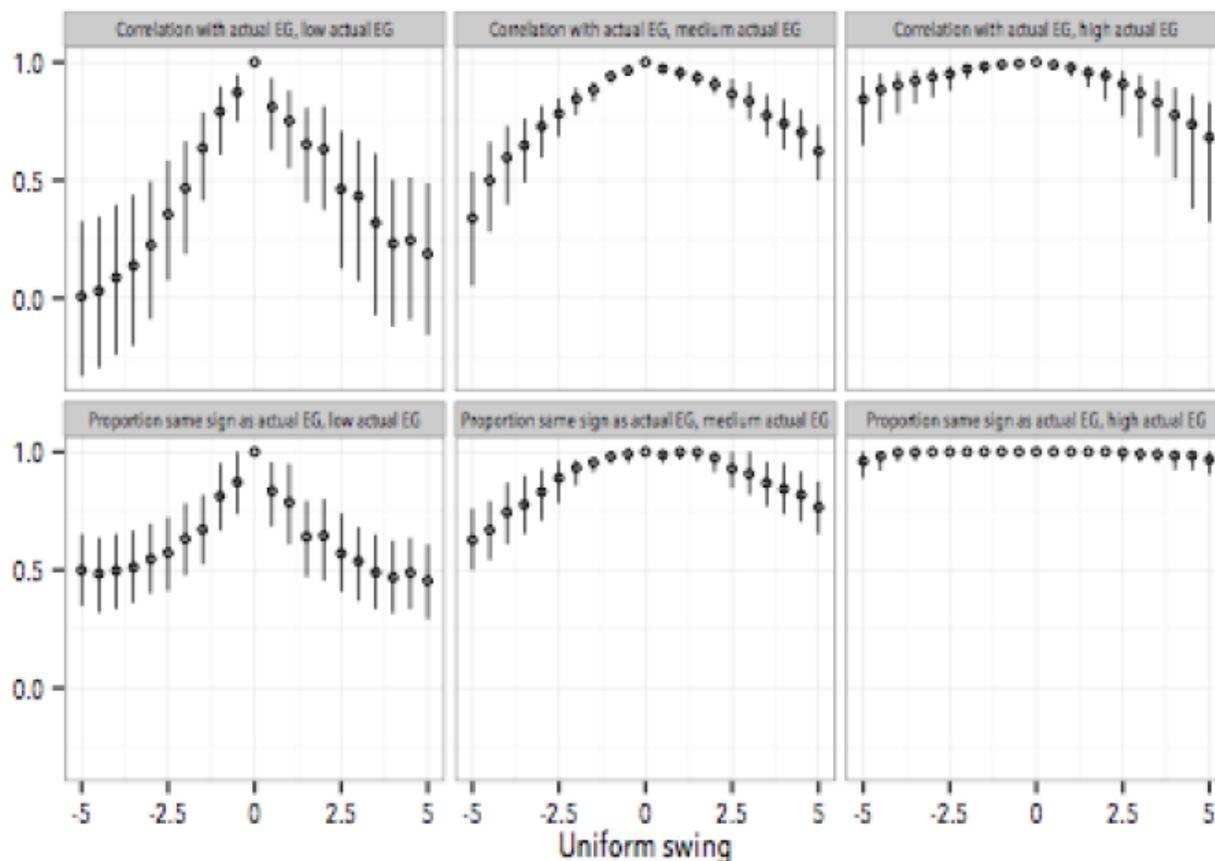
APFOF ¶ 89.

Further confirmation along these lines comes from the prognostic tests that Professor Jackman ran in his rebuttal report. In these tests (among other things), he analyzed how often a given efficiency gap threshold would result in a "false positive," that is, a conclusion that a plan's average efficiency gap would have the same sign as its initial efficiency gap that turned out to be incorrect. He found that a 7% threshold would drive down the rate of false positives to minute levels, below 5%. A slightly higher threshold of around 8% would reduce the rate of false positives all the way to zero. Jackman Rebuttal Rpt. (Dkt. 63) at p. 12; APFOF ¶ 92.

Still more evidence of this kind was included in Professor Jackman's initial report, in which he calculated, for different efficiency gap thresholds, the proportion of plans that either (1) would fall below the threshold or (2) if above the threshold, would exhibit an efficiency gap of

the same sign throughout their lifetimes. On the Republican side, this proportion is roughly 96%

for an efficiency gap threshold of 7%. On the Democratic side, a 7% efficiency gap threshold is

associated with an almost identical confidence rate of 93%. Jackman Rpt. (Dkt. 62) at p. 67;

APFOF ¶ 93. This is strong additional proof that plans' initial efficiency gaps, when they are

large, accurately forecast their lifetime performance.

VI.   Efficiency Gap Calculations for Wisconsin's Current Plan and Demonstration Plan

Defendants also quibble with some of the methods used by Professor Mayer and argue

that he should have conducted certain additional analyses. Defs' Br. at 5-11, 36-37, 49-51.

Defendants' methodological cavils betray their misunderstanding of Professor Mayer's work,

while their suggestions for further study all confirm Professor Mayer's original findings: namely,

that the Current Plan has an extreme pro-Republican tilt and the Demonstration Plan is

impressively symmetric.

To begin with, defendants seem to have completely misunderstood why Professor Mayer

constructed a model to predict Assembly votes rather than using actual Assembly votes. Defs'

Br. at 5-6, 49-51. He did *not* do so simply in order to calculate the Current Plan's efficiency gap.

That can be done perfectly well with actual votes—and, indeed, *was* done for the Current Plan

and for 205 other plans by Professor Jackman. Rather, Professor Mayer constructed the model so

that he could determine the efficiency gap of the *Demonstration Plan* that he designed. *This*

plan's efficiency gap "cannot be estimated by simply rearranging the votes cast in actual

Assembly contests into a new district configuration, as the votes cast for specific Assembly

candidates in each district are a function of the electoral environment in that district and whether

a race is even contested by both parties." Mayer Rpt. (Dkt. 54) at pp. 5-6; APFOF ¶ 94.

Fortunately, "[a] large literature has developed around the problem of estimating the likely election results in redistricting plan alternatives." Mayer Rpt. (Dkt. 54) at p. 6; APFOF ¶ 95. The key insight of this literature is that *exogenous* variables such as presidential election results can be used to *predict* election results at the level of the map at issue (here the Wisconsin Assembly). Since presidential election results are independent of Assembly results, they enable the latter to be forecast not just for Wisconsin's actual district plan but also for any other district configuration. There is no dispute among scholars that this sort of modeling is the appropriate (in fact, the only) way to assess proposed maps under which no elections have been held. *See, e.g.*, Bruce E. Cain, *Assessing the Partisan Effects of Redistricting*, 79 Am. Pol. Sci. Rev. 320 (1985), Jackman Decl. Ex. K (Dkt. 621); Andrew Gelman & Gary King, *Estimating the Electoral Consequences of Legislative Redistricting*, 85 J. Am. Stat. Ass'n 274 (1990), Jackman Decl. Ex. I (Dkt. 58-9); APFOF ¶ 96. This is why the Legislature's consultant, Professor Keith Gaddie, used the exact same method to predict the Current Plan's partisan consequences prior to the Plan's enactment. Mayer Rpt. (Dkt. 54) at p. 29; APFOF ¶ 97.

Next, defendants are simply wrong when they claim that Professor Mayer's model incorrectly predicted the winners of five Assembly seats. Defs' Br. at 6-7, 36, 50. The actual number is two: District 51 (actual Republican vote: 51.9%; predicted Republican vote: 49.9%) and District 70 (actual Republican vote: 49.7%; predicted Republican vote: 50.1%). Mayer Rpt. (Dkt. 54) at pp. 24-25; Mayer Dep. (Dkt. 52) at 87:22; APFOF ¶ 98. These incorrect predictions are balanced, one for each party, meaning that in the aggregate, Professor Mayer's model forecast the partisan distribution of contested districts (56 Republican, 16 Democratic) with perfect accuracy. Mayer Rpt. (Dkt. 54) at pp. 24-25; APFOF ¶ 99.

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In fact, it is quite odd that defendants take issue with Professor Mayer's model, because if there is one thing that can be said about it, it is that it is spectacularly reliable. The R-squared value for the Republican Assembly Votes regression is 0.99, and the R-squared value for the Democratic Assembly Votes regression is 0.98. Mayer Rpt. (Dkt. 54) at pp. 24-25; Mayer Dep. (Dkt. 52) at 125:11-17; APFOF ¶ 100. These extraordinarily high values mean that the independent variables capture essentially *all* of the variation in the dependent variable. The model's precision is apparent in the below scatter plot, prepared by Professor Mayer, which compares the actual Assembly vote to the predicted Assembly vote for all contested districts. The fit between the actual and predicted values is more or less perfect, with the two sets of scores tightly hugging the regression line. Mayer Rpt. (Dkt. 54) at p. 23; APFOF ¶ 101.

Figure 5: Predicted vs. Actual District Assembly Vote - 2012
Both Parties, Contested Districts
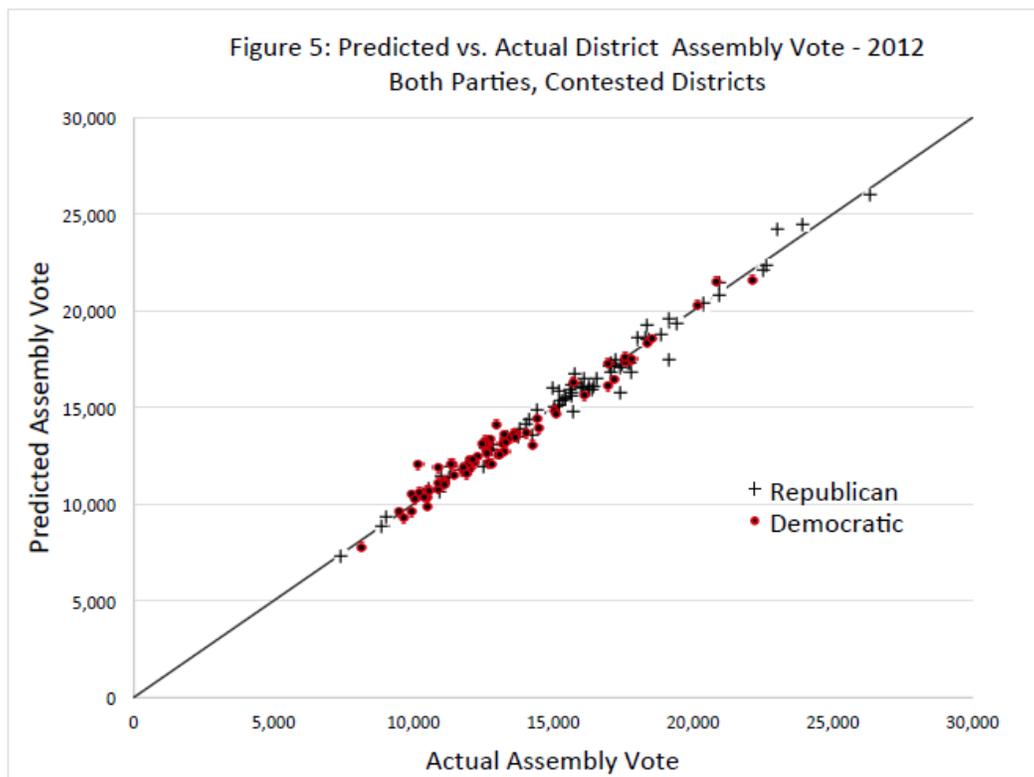
APFOF ¶101.

Where, then, does defendants' erroneous five-seat figure come from? It comes from a later permutation of Professor Mayer's model, in which he "set[] all incumbency variables to zero." Mayer Rpt. (Dkt. 54) at p. 29; APFOF ¶ 102. Professor Mayer made this adjustment for the same reason that the Legislature's consultant, Professor Gaddie, did: to determine the baseline level of partisanship in each district, or as Professor Gaddie put it, to find out "what the vote would usually do without an incumbent in the district." Mayer Rebuttal Rpt. (Dkt. 64) at p. 22; Goedert Dep. Ex. 25 (Dkt. 65-4); APFOF ¶ 103. *See also* Mayer Rebuttal Rpt. (Dkt. 64) at p. 24 (noting that "incumbents can be defeated, retire, run for higher office, or switch parties over a plan's decade-long lifespan," and that "[a] map's authors will typically want to ensure that their projections do not depend on particular incumbents continuing to run in particular districts"); APFOF ¶ 104.

Crucially, this version of the model, stripped of incumbency effects, was *not* intended to predict the winners of the Current Plan's districts in 2012. Obviously, to make such predictions, it would be foolish to discard relevant information about candidates, and the first form of the model, discussed above, did not do so. *See* Mayer Dep. (Dkt. 52) at 52:19-53:19; APFOF ¶ 105. Rather, this version was intended to determine how the parties would fare in contested districts without incumbents, thus enabling an apples-to-apples comparison between the Current Plan and the Demonstration Plan. As Professor Mayer explained, "This is a more accurate method of determining the baseline partisanship of a district, as it removes the effect of incumbents, who may or may not be running in an alternative plan. This baseline process is standard in the discipline, and was used by the expert retained by the state legislature." Mayer Rpt. (Dkt. 54) at p. 31; Mayer Dep. (Dkt. 52) at 63:15-24, 70:4-17; APFOF ¶ 106. Defendants thus arrive at their

five-seat figure only by using Professor Mayer's baseline model for a purpose for which it was not designed.

Defendants, though, do identify a transcription error with respect to Professor Gaddie's estimates. Defs' Br. at 8. But this error actually works against them. Using Professor Gaddie's correct estimate for District 86 (55.08% Republican), the Current Plan's predicted efficiency gap *rises* from 12.36% to 13.29% due to the addition of one more Republican seat. In addition, defendants' claim that it is an accident that Professor Gaddie's predictions were so accurate would come as a surprise to the legislative leadership that hired him precisely to make accurate predictions. Compl. (Dkt. 1) ¶36; Mayer Rpt. (Dkt. 54) at p. 31; Mayer Dep. (Dkt. 52) at 63:15-24, 70:4-17; APFOF ¶ 107. In any event, the accuracy is no accident. Because "election results in Wisconsin (and in most states) are extremely highly correlated from one election to the next," predicted efficiency gaps will be very similar no matter which elections they are based on. Mayer Rebuttal Rpt. (Dkt. 64) at p. 23; *see also id.* (pointing out that Wisconsin's "2008 county level presidential vote and the 2012 county level presidential vote are almost perfectly correlated (r^2=0.96)"); Mayer Dep. (Dkt. 52) at 75:3-15; APFOF ¶ 108-109.

Defendants' final criticisms of Professor Mayer's analysis are that he did not take incumbency into account and that he did not consider electoral environments other than of 2012. Defs' Br. at 36-37, 49-51; Goedert Rpt. (Dkt. 51) at pp. 16-17. These criticisms are misplaced since the professional norm (also followed by Professor Gaddie) is to ignore incumbency, and since the point of the Demonstration Plan was to show that the Current Plan's extreme partisan asymmetry in 2012 was avoidable. Nevertheless, in his rebuttal report, Professor Mayer carried out robustness checks that squarely addressed both of these concerns. Strangely, defendants do not even mention these checks in their brief.

With respect to incumbency, Professor Mayer "used the actual incumbents who ran in the plan's districts" for the Current Plan, and "geocoded incumbents' home addresses and then identified which districts had incumbents residing in them" for the Demonstration Plan. Mayer Rebuttal Rpt. (Dkt. 64) at p. 24; Goedert Dep. (Dkt. 65) at 145:21-25; APFOF ¶ 110. Incorporating incumbency into the models had next to no effect on their results. The Current Plan's efficiency gap rose from 11.7% to 13.0%, and the Demonstration Plan's efficiency gap rose from 2.2% to 3.7%. The enormous gulf between the two plans' efficiency gaps remained essentially unchanged (9.5% without incumbency, 9.3% with incumbency). Mayer Rebuttal Rpt. (Dkt. 64) at pp. 24-25; APFOF ¶ 111-113.

Likewise, with respect to shifting electoral environments, Professor Mayer used the uniform swing methodology endorsed by Professor Goedert to simulate the largest Democratic and Republican wave elections of the past three decades: 2006 (with a Democratic vote share 3% higher than in 2012) and 2010 (with a Democratic vote share 5% lower than in 2012). Mayer Rebuttal Rpt. (Dkt. 64) at pp. 26-27; APFOF ¶ 114. The outcomes of this sensitivity testing are displayed in the below chart prepared by Professor Mayer—and confirm the Current Plan's extreme asymmetry and the Demonstration Plan's neutrality under a wide range of electoral conditions. Mayer Rebuttal Rpt. (Dkt.59-2) at pp. 26-27; APFOF ¶ 115. The Current Plan's efficiency gap varies from 8.8% (in the Republican wave scenario) to 10.7% (in the Democratic wave scenario) to 13.0% (in 2012). Likewise, the Demonstration Plan's efficiency gap varies from -2.0% (in the Republican wave scenario) to 3.7% (in 2012) to 3.9% (in the Democratic wave scenario). At all times, the Current Plan's efficiency gap is well above 7%, and the Demonstration Plan's is well below. Mayer Rebuttal Rpt. (Dkt. 64) at pp. 26-27; APFOF ¶ 116-118.

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Figure E: Sensitivity Analysis
-5 to +3 Democratic Swing
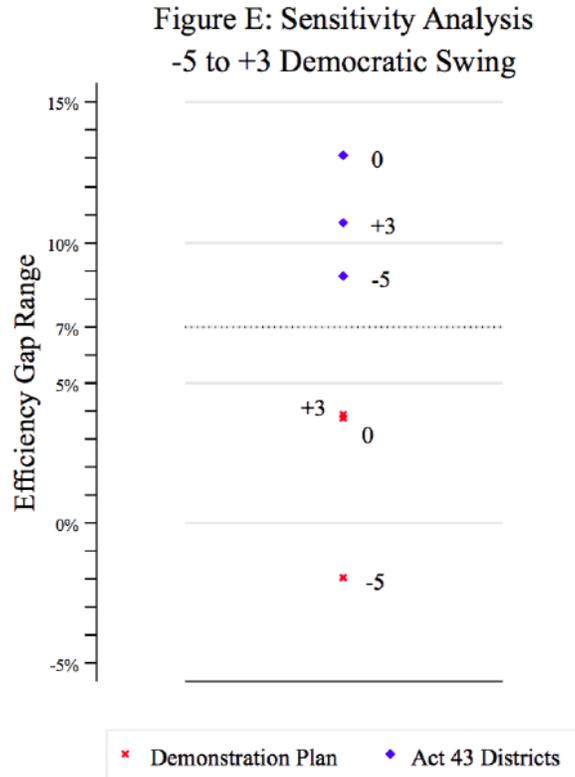
APFOF ¶ 115.

VII.   General Properties of the Efficiency Gap

Finally, defendants make a series of misleading or false claims about the properties of the efficiency gap: that it does not correspond to parties' advantage or disadvantage due to redistricting, Defs' Br. at 33-34; that there are two different "versions" of the efficiency gap, *id.* at 11-12; and that the measure requires "hyper-proportional" representation, *id.* at 12-14, 47-48. All of these criticisms are wrong or, at the very least, raise disputed issues of fact.

That the efficiency gap perfectly captures a party's edge or handicap from redistricting was demonstrated by Eric McGhee in his initial article introducing the measure. He compiled a set of 501 state house elections from 1970 to 2003, and then constructed a pair of very simple models. In both cases, party seat share was the dependent variable, and party vote share was one of the independent variables. The other independent variable was either partisan bias (an older

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measure of partisan symmetry) or the efficiency gap. Partisan bias turned out to be a relatively poor predictor of party seat share, with a coefficient of only 0.246. But the efficiency gap turned out to be a *perfect* predictor, with a coefficient of exactly 2.0. Eric McGhee, *Measuring Partisan Bias in Single-Member District Electoral Systems*, 39 Legis. Stud. Q. 55 (2014), Jackman Decl. Ex. G (Dkt. 58-7) at p. 67; APFOF ¶ 119.

Next, while it is true that there are two different *methods* for calculating the efficiency gap, Defs' Br. at 11-12, the underlying concept remains the same no matter how it is computed. In its full form, as calculated by Professor Mayer, the efficiency gap aggregates the parties' wasted votes district by district. Mayer Rpt. (Dkt. 54) at pp. 5-6; APFOF ¶ 120. However, this district-by-district aggregation is unnecessary when districts have equal turnout. In this case, the efficiency gap can be computed using the formula $(S - 0.5) - 2(V - 0.5)$, where S is a party's statewide seat share and V is a party's statewide vote share. Jackman Rpt. (Dkt. 62) at p. 16; APFOF ¶ 121. This formula is not a different measure of the efficiency gap, as it produces exactly the same values as district-by-district aggregation when there is equal district turnout. This is why, as noted earlier, defendants' own expert, Professor Goedert, "concur[s] that this shortcut is an appropriate and useful summary measure." Goedert Rpt. (Dkt. 51) at 5; Goedert Dep. (Dkt. 65) at 70:17-71:1; APFOF ¶ 122.

Of course, districts are never exactly equal in their turnout. But America's very strict equal population rule—the most rigid in the world—ensures that they are never *too* different either. *See* Nicholas O. Stephanopoulos, *Our Electoral Exceptionalism*, 80 U. Chi. L. Rev. 769 (2013), Earle Decl. Ex. 1 (Dkt. 57-1) at pp. 797, 806; APFOF ¶ 123. More importantly, variations in turnout have only a minor impact on the values of the efficiency gap that are obtained using the full method and the simplified method. Defendants' other expert, Trende,

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established this point with respect to Wisconsin's Current Plan and Demonstration Plan. In 2012, the Current Plan had an efficiency gap of -11.7% using the full method and -9.9% using the simplified method, a difference of only 1.8%. Similarly, the Demonstration Plan had an efficiency gap of -2.2% using the full method and -0.8% using the simplified method, a difference of only 1.4%. Mayer Rpt. (Dkt. 54) at p. 46; Jackman Rpt. (Dkt. 62) at p. 71; APFOF ¶ 124.

That the two methods converge for all practical purposes can be shown even more rigorously by considering elections in which all races were contested, thus allowing both methods to be used without any statistical adjustment. There were three such cases in Professor Jackman's database of state house elections: Michigan in 1996, Michigan in 2014, and Minnesota in 2008. Professor Jackman also identified six successive state senate elections in Michigan in which all races were contested, from 1994 to 2014. Jackman Rpt. (Dkt. 62) at p. 25; Jackman Dep. (Dkt. 53) at 61:12-62:17; Jackman Decl. Ex. E (Dkt. 58-5); APFOF ¶ 125. The efficiency gaps for these states and years, calculated using both methods, are as follows:

State	Year	Chamber	Full Method	Simplified Method	Difference
Michigan	1996	House	-6.7%	-7.5%	0.8%
Michigan	2014	House	-13.4%	-13.1%	-0.3%
Minnesota	2008	House	0.8%	1.4%	-0.6%
Michigan	1994	Senate	-3.5%	-4.1%	0.6%
Michigan	1998	Senate	-9.7%	-10.3%	0.6%
Michigan	2002	Senate	-10.3%	-10.4%	0.1%
Michigan	2006	Senate	-18.7%	-18.4%	-0.3%
Michigan	2010	Senate	-14.6%	-14.4%	-0.2%
Michigan	2014	Senate	-22.8%	-21.8%	-1.0%

APFOF ¶ 126-134.

Plainly, it makes effectively no difference whether the full method or the simplified method is used. The two methods produce nearly identical estimates in all cases, never varying by more than 1.0% and exhibiting a correlation of 0.997. Jackman Rpt. (Dkt.58-1) at p. 25; Jackman Dep. (Dkt. 53) at 40-41, 61-62; Jackman Decl. Ex. E (Dkt.58-5); PFOF ¶¶ 121-130; APFOF ¶ 135. This is further confirmation that the equal turnout assumption is reasonable for purposes of calculating the efficiency gap.

As for defendants' claim that plaintiffs' proposal would require "hyper-proportional" representation, Defs' Br. at 12-14, 47-48, it appears to stem from the fact that under the simplified method, the $(S - 0.5) - 2(V - 0.5)$ formula implies that for the efficiency gap to be zero, there must be a 2:1 relationship between seat share and vote share (also known as "responsiveness"). Jackman Rpt. (Dkt. 62) at pp. 17-18; APFOF ¶ 136. But this 2:1 relationship is merely an algebraic implication of the formula, not the normative underpinning of the efficiency gap (which is equal wasted votes). The 2:1 relationship also does not necessarily apply when the full method is used.

More significantly, as Professor Goedert has explained in his report and other work, a responsiveness of 2 "conform[s] with the observed average seat/votes curve in historical U.S. congressional and legislative elections." Goedert Rpt. (Dkt. 51) at p. 6; Goedert Dep. (Dkt. 65) at 95:17-21; APFOF ¶ 137. At the congressional level, the seat/vote curve had "an average slope of 2.02 for the past 40 years." During "the preceding 70 years," it had an "average of 2.09." Goedert, *Gerrymandering or Geography*, *supra,* Goedert Dep. Ex. 20 (Dkt. 65-2) at p. 7; APFOF ¶ 138. This is why Professor Goedert "assume[s] that a party should expect to win a proportion of seats in line with historical patterns"—featuring a responsiveness of 2—and then compares the party's actual seat share "with the expected seat share under a 'fair map' with . . . a

historically average seats-votes curve." *Id.* at 2-3; APFOF ¶ 139. In other words, he calculates a

quantity essentially indistinguishable from the simplified version of the efficiency gap, and treats

it as his measure of partisan asymmetry. Plaintiffs can hardly be faulted for doing the same.

ARGUMENT

Defendants' scattershot arguments in support of their motion for summary judgment fall

into three general categories: (1) challenges to the three-part test plaintiffs have proposed; (2)

challenges to the test's discernibility; and (3) challenges to the test's manageability. For the

reasons outlined below, none of defendants' arguments show that they are entitled to summary

judgment.

I.   Defendants' Challenges to Plaintiffs' Proposed Three-Part Test Should Be Rejected.

Beginning with their proposed three-part test, plaintiffs first point out some of the ways

in which the Court could, at its discretion, alter it. Plaintiffs then show that the test's intent prong

neither will always be satisfied nor will prove incapable of consistent application. Lastly,

plaintiffs explain that, as in the one-person, one-vote cases, it is reasonable to shift the burden to

justify a plan onto defendants at the test's third stage.

A.   The Court May Adjust Plaintiffs' Proposal as It Sees Fit.

At the outset, it should be noted that plaintiffs' proposed three-part test is not set in stone.

Partisan gerrymandering plaintiffs no doubt bear some of the responsibility for developing a

discernible and manageable standard for this cause of action. But the task is not theirs alone.

Rather, it is shared by the judiciary. As the *Vieth* plurality explained, "it is *our* job, not the

plaintiffs', to explicate the standard that makes the facts alleged by the plaintiffs adequate or

inadequate to state a claim." 541 U.S. at 301 (plurality opinion). Justice Stevens made the same

point in *LULAC v. Perry*, observing that "it is this Court, not proponents of the symmetry

standard, that has the judicial obligation to answer the question of how much unfairness is too much." 548 U.S. 399, 468 n.9 (2006) (Stevens, J., concurring in part and dissenting in part). *See also Baldus v. Wisc. Gov't Accountability Bd.*, 849 F. Supp. 2d 840, 853 (E.D. Wis. 2012) (commenting that "the Court shares th[e] duty" of "development of the law.").

Although plaintiffs believe that their test as stated meets the requirements of discernibility and manageability, there are ways in which it could be revised. First, as plaintiffs have said all along, there is no need for an efficiency gap threshold to be set in this case. Instead, as in the one-person, one-vote cases, the threshold may be allowed to emerge over time as courts become more familiar with the extent of partisan gerrymandering. *See* Stephanopoulos & McGhee, *supra*, at 890-91 (describing how the 10% population deviation threshold was set only after the Court first struck down plans with deviations of 20%, 26%, and 34%, and upheld plans with deviations of 8% and 10%, over roughly a decade); APFOF ¶ 140.

If the Court does wish to choose a threshold in this case, however, it is not bound by Professor Jackman's 7% recommendation. The Court could raise or lower the cutoff as it sees fit. Notably, Wisconsin's Current Plan, with its initial efficiency gap of 13%, satisfies any plausible threshold. In addition, the Court could supplement any threshold with the sensitivity testing recommended by defendants' expert, Professor Goedert. Goedert Rpt. (Dkt. 51) at p. 15; APFOF ¶ 141. That is, the Court could require not only that a plan's initial efficiency gap exceed some cutoff, but also that the plan would likely *remain* asymmetric over its lifespan given realistic shifts in the state's electoral environment.

In his rebuttal report, Professor Mayer conducted precisely the sensitivity testing Professor Goedert suggested, and found that the Current Plan is likely to continue to exhibit large pro-Republican efficiency gaps even if Wisconsin experiences Democratic or Republican

electoral waves. APFOF ¶ 116-118. Professor Jackman also performed this sensitivity testing, concluding that an initial efficiency gap above 7% is an excellent predictor of the measure's size and sign under a wide range of electoral environments. APFOF ¶ 90-93.

Second, instead of requiring defendants to show that a plan's large efficiency gap was unavoidable, the Court could oblige plaintiffs to show that a plan's asymmetry was avoidable. This shift in the burden would not alter the outcome here: defendants do not contest that plaintiffs' Demonstration Plan complies at least as well as the Current Plan with all federal and state requirements, but has an efficiency gap more than 80% smaller. Mayer Rpt. (Dkt. 54) at p. 37, 46; APFOF ¶ 142.

And third, the Court could require a different measure of partisan symmetry, such as partisan bias, to be used instead of or in addition to the efficiency gap. The efficiency gap resolves the concerns about partisan bias voiced by Justice Kennedy in *LULAC*, *see* 548 U.S. at 419-20 (opinion of Kennedy, J.), though partisan bias is more widely known. Here the Current Plan had a 13% pro-Republican partisan bias in 2012, and a 12% pro-Republican partisan bias in 2014—scores virtually identical to, and just as extreme as, the Plan's efficiency gaps. Compl. (Dkt. 1) at ¶ 9; APFOF ¶ 10.

B.   The Test's Partisan Intent Prong Is Neither Always Satisfied nor Unmanageable.

Defendants' first complaint about plaintiffs' proposed test is that its partisan intent prong either will always be satisfied or else resembles the predominant intent standard deemed unmanageable in *Vieth*. Defs' Br. at 41. Plaintiffs agree that *Vieth* precludes any purpose inquiry based on predominant intent and do not advocate one here. But defendants are wrong to claim that "intentional discrimination against an identifiable political group" will *always* be present in a partisan gerrymandering case. *Davis v. Bandemer*, 478 U.S. 109, 127 (1986) (plurality

opinion). In fact, it will usually *not* be present when a district plan is designed by a commission, a court, or a state government under divided party control.

That a redistricting commission or a court responsible for redrawing boundaries will rarely aim to benefit one party and disadvantage its adversary follows from the nature of these institutions. As a general matter, bipartisan or nonpartisan bodies have no incentive to try to provide an electoral edge or handicap to either party. The same is true when the elected branches draw the lines under conditions of divided government. In these circumstances, the elected branches may try to protect incumbents of *both* parties, but any proposal that seeks to help *one* party and harm its opponent is likely to be blocked. It is thus unsurprising that partisan gerrymandering challenges against plans designed through bipartisan or nonpartisan processes have failed for lack of partisan intent. *See, e.g.*, *In re 2003 Legislative Apportionment of House of Representatives*, 827 A.2d 810, 811 817 (Me. 2003) (no "impermissible discriminatory intent" where Maine "Legislature established a bipartisan Apportionment Commission" to draw maps); *McClure v. Sec'y*, 766 N.E.2d 847, 857 (Ma. 2002) ("Nor have the plaintiffs shown discriminatory intent on the part of the Legislature" where Massachusetts maps were enacted under divided government).

In addition, even though "it should not be very difficult to prove" partisan intent when a single party has unified control over redistricting, this "does not, of course, mean that it need not be proved at all." *Bandemer*, 478 U.S. at 129, n.11 (plurality opinion). Consistent with this reasoning, plaintiffs' proposed test does not *presume* partisan intent, even under conditions of unified government, but rather requires it to be affirmatively demonstrated. Professor Goedert identified one well-known case where such a demonstration would not have been possible. "In the 2000's decade, Democrats controlled all branches of state government in California, but

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instead of crafting an aggressively partisan congressional map, worked closely with Republicans in the legislature to draw districts that would protect incumbents of both parties." Goedert Rpt. at 10; APFOF ¶ 76. Similar examples in the current cycle include Maine, where Republicans in full control of the state government authorized an advisory commission and then heeded its line-drawing recommendations, and Vermont, where Democrats in full control did the same. *See Maine*, All About Redistricting, http://redistricting.lls.edu/states-ME.php; *Vermont*, All About Redistricting, http://redistricting.lls.edu/states-VT.php; APFOF ¶ 172.

Defendants also oddly assert that under plaintiffs' proposal, "a legislature needs to district so as to minimize the efficiency gap but courts are free to ignore it." Defs' Br. at 41. This statement is doubly incorrect. To avoid failing the test's partisan intent prong, all a legislature must do is refrain from deliberately benefiting one party and disadvantaging its opponent when designing a district plan. The legislature need not deliberately *minimize* its plan's partisan asymmetry. As for a court or other neutral body that is tasked with crafting a district plan, the proposed test does not absolve the mapmaker from the requirement of acting without partisan intent. It is simply unlikely that a neutral institution *would* act with such intent, thus typically barring any partisan gerrymandering challenge.

Furthermore, defendants' claim that "[c]ourts have never considered" electoral effects when designing plans is belied by both Wisconsin's own history and that of several other states. Courts do sometimes—properly—take into account likely electoral consequences when entrusted with responsibility over redistricting. For example, the court that drew Wisconsin's Assembly and Senate districts in the 1990s considered election results from the previous decade and produced the plan that was the "least partisan" and "create[d] the least perturbation in the political balance of the state." *Prosser*, 793 F. Supp. at 871. This plan had an average efficiency

gap of only -2.4% over the course of the ensuing cycle. Jackman Rpt. at 72; APFOF ¶ 46. *See also, e.g.*, *Legislature v. Reinecke*, 516 P.2d 6, 38 (Cal. 1973) (designing plan that would not "produce a manifestly unfair political result," and in fact had average efficiency gap of 2.5%); *Maestas v. Hall*, 274 P.3d 66, 79 (N.M. 2012) (designing plan that "avoid[s], to the extent possible, partisan bias," and in fact had average efficiency gap of -1.6%); APFOF ¶ 143-144.

To repeat: plaintiffs do not seek a declaration that the Constitution requires every district plan to meet some Platonic ideal of partisan symmetry. Instead, they seek a ruling that a state cannot adopt a district plan that deliberately and severely disadvantages the adherents of one party over the other, unless the asymmetry is unavoidable. That said, given the tools that are now available, including the efficiency gap, it seems likely that in the future, bipartisan and nonpartisan mapmakers will give greater attention than they have in the past to partisan symmetry, adding it to the list of factors that should be taken into account in developing a fair map.

C.   There Is Nothing Unfair About Setting a Threshold for the Effect Prong and Shifting the Burden to the State to Justify Large Intentional Deviations.

Defendants also object to the notion of setting a threshold at which intentional partisan gerrymandering is presumed unconstitutional, subject to a state's ability to show that the extreme asymmetry was unavoidable. Defendants argue that plaintiffs' analogy to the one-person, one-vote cases, which use exactly the same burden-shifting framework, is inapposite; and that it is "fundamentally unfair" to ask the state to justify its plan. Defs' Br. at 42-44. But the reapportionment analogy is actually very close, since the one-person, one-vote cases also involve a constitutional value (there, equal population; here, partisan symmetry) that must be balanced against other redistricting criteria and constraints. And it is eminently reasonable to ask the party

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best acquainted with a plan's goals and tradeoffs—namely, the state—to explain why a more symmetric map could not have been drawn.

Ironically, plaintiffs largely agree with defendants' characterization of the one-person, one-vote cases: that "the Court *first* established the constitutional right, leaving the specifics of the test to be developed later," and that "the courts developed a numerical test . . . *after* the constitutional standard of equal population had been established." *Id.* at 42-43. This is precisely the sequence plaintiffs advocate here. In *LULAC*, five Justices expressed interest in the concept of partisan symmetry, making the case similar to the Court's tentative endorsement of population equality in *Baker v. Carr*, 369 U.S. 186 (1962). *See id.* at 251 (Clark, J., concurring) (noting that the Court only "holds that the appellants have alleged a cause of action" and "fails to give the District Court any guidance" as to how liability is meant to be proven).

If *LULAC* bears some resemblance to *Baker*, then the next doctrinal period should look like the one that stretched from *Reynolds v. Sims*, 377 U.S. 533 (1964), all the way to *Connor v. Finch*, 431 U.S. 407 (1977). In this era, there was no population deviation threshold above which plans were presumptively unconstitutional and below which they were presumptively valid. Instead, the courts decided reapportionment cases in a more qualitative and common law fashion, reasoning based on specific facts and past precedents rather than firm quantitative cutoffs. Plaintiffs recommend this mode of inquiry until the courts have more experience with plans' levels of partisan asymmetry and the reasons for them.

Only in *Connor*, after more than a decade of experience with one-person, one-vote claims, did the Court announce that "'under-10%' deviations" are "considered to be of prima facie constitutional validity." 431 U.S. at 418; *see also Brown v. Thomson*, 462 U.S. 835, 852 (1983) (Brennan, J., dissenting) ("We have come to establish a rough threshold of 10%

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maximum deviation from equality . . . ."). Likewise, a particular partisan asymmetry threshold may be identified by the courts after a number of partisan gerrymandering cases have been decided. The information and expertise accumulated in these cases would ensure that the eventual threshold is appropriate.

Given this position, defendants' claims that plaintiffs "are trying to establish the constitutional right based on a statistical method," and "use the efficiency gap calculation to establish the very existence of a constitutional violation," are self-evidently wrong. Defs' Br. at 43. The *Supreme Court*, not plaintiffs, "establish[ed] the constitutional right" to a district plan free from partisan gerrymandering in *Bandemer*. *Id.* And the Court, not plaintiffs, recognized the underlying concept of partisan symmetry in *LULAC*. All plaintiffs have done in this action is introduce a *measure* of partisan symmetry (the efficiency gap) that enables a court to determine exactly how symmetric or asymmetric a plan is, and thus whether a sufficient partisan effect has been shown once partisan intent has been proven. This "statistical method" or "calculation" is obviously not the "constitutional violation" itself. *Id.*

Defendants also complain that it would be unfair to shift the burden onto them at the test's third stage. But this burden allocation makes perfect sense given the point of the third stage: to determine whether a plan's extreme partisan asymmetry was necessitated by a state's political geography or legitimate redistricting goals. Since the state will have *designed* the map at issue, it will be more cognizant of the choices and tradeoffs inherent in the plan than anyone else could be. *See Brown*, 462 U.S. at 843 (noting Wyoming's showing that it respected political subdivision boundaries "in a manner 'free from any taint of arbitrariness or discrimination'"); *Mahan v. Howell*, 410 U.S. 315, 326 (1973) (noting Virginia's evidence that its plan "'produces the minimum deviation above and below the norm, keeping intact political boundaries'").

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Another reason to allocate the burden to defendants is that, by the time the test's third stage is reached, plaintiffs will already have demonstrated both partisan intent and large and durable partisan asymmetry. These showings of discriminatory purpose and effect may properly be viewed as the establishment of a prima facie case, making it appropriate to require the state to justify its deliberately and dramatically asymmetric plan. *See Voinovich v. Quilter*, 507 U.S. 146, 161 (1993) (holding that "appellants were required to justify the deviation" after "appellees established a prima facie case of discrimination" by showing that "the maximum total deviation from ideal district size exceeded 10%"); *Brown*, 462 U.S. at 842-43 ("A plan with larger disparities in population, however, creates a prima facie case of discrimination and therefore must be justified by the State.").

In any event, nothing hinges on the allocation of the burden in this case. At the very least, plaintiffs' Demonstration Plan shows that there is a question of fact as to whether the Current Plan's extreme partisan asymmetry was necessitated by Wisconsin's political geography or by the state's legitimate redistricting goals. Indeed, defendants do not even challenge the Demonstration Plan, which complies at least as well with all federal and state requirements while exhibiting an efficiency gap more than 80% smaller. APFOF ¶ 142.

II. Defendants Have Not Shown That They Are Entitled to Summary Judgment on the Issue of the Proposed Test's Discernibility.

A number of defendants' arguments relate to the discernibility of the effect prong of plaintiffs' proposed test—that is, whether the prong is sufficiently connected to a principle of constitutional magnitude. For example, defendants claim that the prong "calls for hyper-proportional representation." Defs' Br. at 47. They also complain that Professor Mayer's analysis relies on a "'hypothetical state of affairs'" and the presence of "'vote switchers'" in violation of Justice Kennedy's admonitions in *LULAC*. *Id.* at 49 (quoting 548 U.S. at 420 (opinion of

Kennedy, J.)). For the reasons outlined below, these and other discernibility arguments advanced by defendants should be rejected.

A.   **Partisan Symmetry Is a Viable Foundation for the Effect Prong of a Partisan Gerrymandering Test.**

Before addressing defendants' specific claims, plaintiffs first make two brief points about the concept of partisan symmetry that underlies their proposed test's effect prong. The first is that, as this Court has observed, "some of the justices have pointed to partisan symmetry as a theory with promise." Order (Dkt. 43) at 21-22. The Justices' interest likely stems from the fact that partisan symmetry corresponds closely to the Court's conception of partisan gerrymandering in multiple cases. In *Bandemer*, when the Court first recognized gerrymandering as a constitutional offense, a plurality described the practice as "the manipulation of individual district lines" causing a party's "voters over the State as a whole" to be "subjected to unconstitutional discrimination." 478 U.S. at 127 (plurality opinion). In *Vieth*, the plurality defined gerrymandering as "giv[ing] one political party an unfair advantage by diluting the opposition's voting strength." 541 U.S. at 271 n.1 (plurality opinion). And in *Ariz. State Legis. v. Ariz. Indep. Redist. Comm'n*, 135 S. Ct. 2652, 2658 (2015), the Court reiterated this definition: "the drawing of legislative district lines to subordinate adherents of one political party and entrench a rival party in power."

Partisan symmetry—the idea that the electoral system should "treat similarly-situated parties equally," so that they are able to convert their popular support into legislative representation with approximately equal ease—is closely linked to all of these notions. *LULAC*, 548 U.S. at 466 (Stevens, J., concurring in part and dissenting in part). A plan is asymmetric if (1) a party's supporters are discriminated against through the manipulation of district boundaries, *Bandemer*, 478 U.S. at 127 (plurality opinion); (2) one party is granted an electoral advantage

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through the dilution of its opponent's votes, *Vieth*, 541 U.S. at 271 n.1 (plurality opinion); and

(3) if district lines are drawn to subordinate one party and entrench its rival in power, *Ariz. State*

Legis., 135 S. Ct. at 2658. Accordingly, partisan symmetry is not some esoteric concept upon

which the *LULAC* Court happened to stumble. Rather, it is a principle at the heart of all of the

Court's partisan gerrymandering jurisprudence. *See also* Bernard Grofman & Gary King, *The*

Future of Partisan Symmetry as a Judicial Test for Partisan Gerrymandering After LULAC v.

Perry, 6 ELECTION L.J. 2, 6 (2007) (noting that the use of "partisan symmetry . . . to define

partisan fairness in the American system . . . has been virtually a consensus position of the

scholarly community").

In addition, partisan symmetry may be the *only* theory that is still doctrinally available. In

Bandemer, *Vieth*, and *LULAC*, the Court rejected most other potential bases for a test:

proportional representation, *see Vieth*, 541 U.S. at 288 (plurality opinion); *Bandemer*, 478 U.S. at

130 (plurality opinion); predominant or exclusive partisan intent, *see LULAC*, 548 U.S. at 417

(opinion of Kennedy, J.); *Vieth*, 541 U.S. at 285 (plurality opinion); district noncompactness, *see*

Vieth, 541 U.S. at 296 (plurality opinion); and minority party entrenchment, *see id.* at 300. So if

the courts are ever to limit one of the most pernicious practices in modern American politics—a

practice that produces legislatures and policies that flout rather than respect the will of the people

and a practice that has risen sharply in intensity in recent years—it will likely be by finding a

workable measure of partisan symmetry.

B.   The Test Does Not Mandate "Hyper-Proportional Representation."

Turning to defendants' discernibility arguments, they finally concede in their motion for

summary judgment that plaintiffs' proposed test would not require proportional representation.

See Defs' Br. at 47 ("The plaintiffs have maintained that the efficiency gap does not call for one-

for-one proportional representation. That is true . . .”). This concession confirms that the test is not barred by the Court's decisions rejecting proportionality as the benchmark for distinguishing between permissible and unlawful gerrymandering.

Defendants now claim, however, that the test “calls for hyper-proportional representation,” with “[e]ach 1% increase in vote share . . . translat[ing] into an additional 2% in seat share.” *Id.* This contention is based on Professor Jackman's simplified method for calculating the efficiency gap, using the formula $(S - 0.5) - 2(V - 0.5)$, where S is a party's statewide seat share and V is a party's statewide vote share. APFOF ¶ 121. If this formula is used *and* the efficiency gap is zero, there is a 2:1 relationship between seat share and vote share. But this does not mean, as defendants appear to argue, that plaintiffs' proposal would somehow require district plans to be drawn so that a 1% increase in vote share would always yield a 2% increase in seat share.

As demonstrated above, the 2:1 relationship is an algebraic implication of the formula that applies only when another assumption holds—equal turnout in every district. *See* Background Part VII, *supra.* When the full method for calculating the efficiency gap is used— tallying wasted votes district by district in a world where turnout is not equal—the 2:1 ratio does *not* follow even if the efficiency gap is zero. Professor Mayer used the full method in calculating the efficiency gap for Wisconsin's Current Plan and Demonstration Plan, and confirmed that there is no necessary relationship between a party's vote share and seat share. APFOF ¶ 13.

Even with respect to the simplified method Professor Jackman used, the 2:1 relationship is an artifact of the assumptions used and *not* one of the normative bases of the efficiency gap. Instead, the concept underpinning the measure remains that neither party's supporters should be excessively packed or cracked, and thus that neither party should waste many more votes than its

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opponent. Roughly equal wasted votes, not any kind of seat-vote relationship, is the essence of the efficiency gap. *See* McGhee, *supra*, at 68 (referring to the efficiency gap as "relative wasted votes" in the article introducing the measure); Eric McGhee, *Measuring Partisan Bias in Single-Member District Electoral Systems*, 39 Legis. Stud. Q. 55 (2014), Jackman Decl. Ex. G (Dkt. 58-7) at p. 68; APFOF ¶ 145.

Moreover, even under the simplified method, no seat-vote relationship would actually be constitutionalized. A plan could have any seat-vote link if it was not designed with partisan intent, or if its asymmetry was unavoidable. Under the test's second prong too, plans' efficiency gaps would not be required to be *zero*—the only value that results in a 2:1 seat-vote relationship under conditions of equal turnout—but rather would be allowed to vary widely so long as they stayed within historical norms. Assume, for example, that a party won 55% of the statewide vote in the first election after redistricting, and that the courts had set a 7% efficiency gap threshold. Then the party could win anywhere from 53% to 67% of the state's seats without exceeding the threshold, corresponding to seat-vote relationships anywhere from 0.6 to 3.4.[7] These relationships range from very weak to very strong, and show that no *particular* relationship is required by plaintiffs' test.

Furthermore, a 2:1 seat-vote relationship is not arbitrary, but rather represents the actual seat-vote relationship that American elections have exhibited for many years. Indeed, defendants' own expert, Professor Goedert, explained in his report that this relationship "conform[s] with the observed average seat/votes curve in historical U.S. congressional and legislative elections." Goedert Rpt. (Dkt. 51) at p. 6; Goedert Dep. (Dkt. 65) at 95:17-21; APFOF

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[7] Under the simplified method, the efficiency gap would be -7% if the party received 53% of the seats $((0.53 - 0.5) - 2(0.55 - 0.5))$, and 7% if the party received 67% of the seats $((0.67 - 0.5) - 2(0.55 - 0.5))$. The seat-vote relationship would be 0.6 in the first case $((0.53 - 0.5) / (0.55 - 0.5))$, and 3.4 in the second case $((0.67 - 0.5) / (0.55 - 0.5))$, relative to the benchmark of $S = V = 0.5$. *See* Gelman & King, *supra* (Jackman Decl. Ex. I (Dkt. 58-9) at p.9) (explaining how to calculate electoral responsiveness); APFOF ¶ 148.

¶ 146. *See also* Background Part VII, *supra*. Thus, to the extent that plaintiffs' proposed test may push jurisdictions toward adopting plans with 2:1 seat-vote ratios, it encourages them to comply with rather than defy historical norms.

Lastly, plaintiffs' alternate measure of partisan symmetry, partisan bias, does not imply any kind of seat-vote relationship. Because partisan bias denotes "the extent to which a majority party would fare better than the minority party, should their respective shares of the vote reverse," *LULAC*, 548 U.S. at 420 (opinion of Kennedy, J.), it is compatible with any seat-vote ratio. *See* Grofman & King, *supra*, at 9 ("An electoral system may have any degree of partisan bias, no matter what level of responsiveness happens to exist."); APFOF ¶ ___. As noted earlier, this Court may ask that partisan bias be used instead of or in addition to the efficiency gap.

C.   The Test Resolves Justice Kennedy's Concern About "a Hypothetical State of Affairs."

Defendants also contend that plaintiffs' proposed test does not adequately resolve the concerns Justice Kennedy voiced in *LULAC* about partisan bias because plaintiffs' experts relied on "a hypothetical state of affairs" in conducting their analyses. Defs' Br. at 48-53. But when Justice Kennedy's opinion is read in context, it is clear that he was not objecting to the use of any social science study that employs hypotheticals, nor would such resistance to modern statistical methods be plausible or reasonable. Rather, he was expressing reservations about the *particular* hypothetical used to calculate partisan bias, under which the parties' "respective shares of the vote" are "reverse[d]" to simulate a counterfactual election. 548 U.S. at 420 (opinion of Kennedy, J.). As he explained, "[e]ven assuming a court could choose reliably among different models of shifting voter preferences, we are wary of adopting a constitutional standard that invalidates a map based on unfair results that would occur in a hypothetical state of affairs." *Id*. Justice Kennedy's skepticism is understandable. Reversing the parties' respective shares of the

vote *is* problematic because it requires substantial speculation as to which party would have won each district in an election very different from the one that actually occurred.[8]

Nothing in Justice Kennedy's reference to a "hypothetical state of affairs" casts doubt—let alone precludes reliance—on the various methods that plaintiffs' experts used. Defendants complain that Professor Mayer used a regression model rather than actual votes to estimate the 2012 efficiency gap under the Current Plan and his Demonstration plan, and that he constructed a baseline model of partisanship by removing the effects of incumbency. Defendants also argue that Professor Jackman's report impermissibly veers into the realm of the "hypothetical" because his efficiency gap formula assumes equal turnout. Defs' Br. at 50-51. But Justice Kennedy never commented on any of these types of assumptions, which are utterly unexceptional. Indeed, the Legislature's own consultant, Professor Gaddie, removed the effects of incumbency from his model, imputed election results in uncontested races, and assumed equal district turnout—all choices defendants now condemn. Mayer Rebuttal Rpt. (Dkt. 64) at p. 22; APFOF ¶ 151.

In any event, defendants' quarrels with the methodologies used by plaintiffs' experts at most raise questions of fact. For instance, defendants argue that the effects of incumbency should not be removed from efficiency gap models. Defs' Br. at 49-50. But Professor Mayer's initial model, the one he actually used to predict district vote shares (with almost perfect precision), did not remove incumbency effects. Mayer Rpt. (Dkt. 54) at pp. 19-28; APFOF ¶ 152. Nor did the efficiency gap estimates for the Current Plan and for the Demonstration Plan that he presented in

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[8] Recent scholarship confirms Justice Kennedy's intuition about the unreliability of this speculation. *See* McGhee, *supra*, Jackman Decl. Ex. G (Dkt. 58-7) at p. 67 (finding that partisan bias is a relatively poor predictor of party seat share); Stephanopoulos & McGhee, *supra*, at 858 (finding that the more uncompetitive a state's election, the less accurate partisan bias becomes); APFOF ¶ 149-150. In addition, if this Court were to require partisan bias to be used instead of or in addition to the efficiency gap, a different version should be used that asks how the parties' seat shares would differ if they each received *50%* of the statewide vote. *See LULAC*, 548 U.S. at 464-70 (Stevens, J., concurring in part and dissenting in part) (using this version). That version requires much smaller counterfactual vote swings, and is thus substantially more reliable than the version Justice Kennedy discussed in *LULAC*.

his rebuttal report, which show that taking incumbency into account barely changes the estimates. APFOF ¶ 111-113. Nor did *any* of Professor Jackman's calculations, all of which made no adjustments for incumbency. Jackman Rpt. (Dkt. 62) at pp. 19-32; APFOF ¶ 153.

Similarly, as explained above, defendants' quarrel with Professor Mayer's use of a regression formula rather than actual vote totals to calculate the efficiency gap ignores the purpose of Professor Mayer's analysis, which was to compare the Current Plan with his Demonstration Plan. *See* Background Part VI, *supra*. Defendants also ignore the fact that Professor Mayer's model predicted actual votes with astonishing accuracy. Defendants insist that the model incorrectly forecast the outcomes of five races. Defs' Br. at 50. But this figure comes from Professor Mayer's baseline model with incumbency effects removed, which was not designed to make such predictions. APFOF ¶ 105. His initial model, which included incumbency effects, perfectly forecast the overall partisan breakdown of contested races. APFOF ¶ 99.

Defendants also argue that Professor Mayer should have determined how the Current Plan and the Demonstration Plan would have performed in the 2014 election. Defs' Br. at 50-51. But they ignore the fact that, in his rebuttal report, he conducted a far more thorough sensitivity analysis than even defendants suggest, assessing how both plans' efficiency gaps would vary in the event of a Republican wave akin to 2010, as well as a Democratic wave akin to 2006. APFOF ¶ 114. He found that, under both scenarios, the Current Plan would remain highly asymmetric and the Demonstration Plan would remain highly balanced. APFOF ¶ 116-117. Professor Jackman also carried out extensive sensitivity testing for *all* current plans nationwide, concluding that a large initial efficiency gap is an excellent predictor of the measure's performance under a wide range of electoral environments. Jackman Decl. Ex. D (Dkt. 58-4) at pp. 1-6; APFOF ¶ 154.

Defendants further criticize Professor Jackman's "counterfactual" assumption of equal district turnout. Defs' Br. at 51. But in elections in which all races were contested, there was a correlation of *0.997* between the full method's and the simplified method's efficiency gap calculations, showing that the assumption is reasonable. *See* Background Part VII, *supra*. And by objecting to Professor Jackman's "point estimates" and "confidence intervals," Defs' Br. at 51, defendants seem to be griping at much of modern social science.

In sum, all of defendants' quibbles with the methodologies employed by plaintiffs' experts are wrong or, at the very least, hotly contested. In their initial and rebuttal reports, plaintiffs' experts used almost all of the techniques that defendants' experts claimed should have been used.[9] Far from altering the experts' conclusions, those techniques reinforced their opinions that the Current Plan's efficiency gap is extreme compared to historical norms and likely to endure throughout the Plan's ten-year lifespan even in the event of a Democratic wave election.

D.   Plaintiffs' Proposed Test Resolves Justice Kennedy's Concern About "Vote-Switchers."

Defendants also latch onto Justice Kennedy's reference in *LULAC* to "vote-switchers" to argue that the efficiency gap is too sensitive to results in close races. Defs' Br. at 51-53. But as the full quote reveals—"[t]he existence or degree of asymmetry may in large part depend on conjecture about where possible vote-switchers will reside," *LULAC*, 548 U.S. at 420 (opinion of Kennedy, J.)—Justice Kennedy was addressing an entirely different issue: problems with the partisan bias metric. He noted that to find out what would happen "should [the parties'] respective shares of the vote reverse"—for example, by flipping from 60% Democratic to 60%

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[9] The only suggestion of defendants not tried out by plaintiffs' experts is treating uncontested races as if they were decided by a margin of 100% to 0%. *See* Defs' Br. at 49. This crude approach is guaranteed to produce errors since the voters in uncontested races are never unanimously in favor of the winning party's candidate. Jackman Rpt. at 24; Stephanopoulos & McGhee, *supra*, at 867 ("We strongly discourage analysts from . . . treating [uncontested races] as if they produced unanimous support for a party."); APFOF ¶ 173.

Republican—assumptions had to be made as to the locations of the voters who would have to change their minds. *Id.* These "vote-switchers'" locations would determine whether few, some, or many seats would change hands in the counterfactual election, and thus what partisan bias the plan would be expected to exhibit.

Defendants try to link Justice Kennedy's observation about "vote-switchers" to the *Vieth* plurality's comments about the supposed meaninglessness of statewide seat and vote shares. *See* Defs' Br. at 51-52. But Justice Kennedy did not join the plurality's opinion. Nor is there any discernible connection between the plurality's comments and Justice Kennedy's "vote-switchers" reference. Furthermore, Justice Kennedy's statement had nothing to do with voters who happen to live in competitive districts in an actual election. *See id.* at 52-53. Indeed, such voters are irrelevant to the calculation of partisan bias, which hinges instead on the voters who would have to change their minds to produce the counterfactual election with the parties' vote shares reversed.

In any event, defendants' underlying point here—that the large efficiency gaps of the Current Plan, and of other plans across the country, would vanish if a few close districts changed hands—is wrong as well. As noted above, Professor Mayer's sensitivity testing determined that the Current Plan's extreme asymmetry would endure even in the event of Democratic or Republican electoral waves. APFOF ¶ 114-117. Likewise, Professor Jackman's sensitivity testing showed that maps throughout the nation with large efficiency gaps would remain highly asymmetric even given swings of up to five points in either party's direction. Jackman Decl. Ex. D (Dkt. 58-4) at pp. 1-6; APFOF ¶ 154. Thus, even if the concept of "vote-switchers" is pulled entirely out of context, it cannot salvage defendants' argument.

III.   **Defendants Have Not Shown That They Are Entitled to Summary Judgment
        on the Issue of the Proposed Test's Manageability.**

Defendants' final set of claims involve the manageability of plaintiffs' proposed test—

that is, whether it reliably distinguishes lawful from unlawful plans. Defendants point out that

Wisconsin's 2000 plan, as well as other plans nationwide, exhibited large pro-Republican

efficiency gaps despite being designed without partisan intent. Defendants also contend that

plaintiffs' proposed test would result in too many plans being invalidated. And defendants assert

in passing that the efficiency gap is too changeable to be dependable. None of these arguments

has merit, and none entitles defendants to summary judgment.

A.   **The Facts of This Case Confirm the Test's Manageability.**

The *Vieth* plurality explained that, in the partisan gerrymandering context as elsewhere,

judicially adopted tests must be predictable rather than arbitrary, reliable rather than capricious.

"[J]udicial action must be governed by *standard*, by *rule*. Laws promulgated by the Legislative

Branch can be inconsistent, illogical, and ad hoc; law pronounced by the courts must be

principled, rational, and based upon reasoned distinctions." 541 U.S. at 278 (plurality opinion).

The facts of this case demonstrate that plaintiffs' proposed test meets these requirements.

Start with the test's first prong: whether a plan was designed with the intention of

benefiting one party and disadvantaging its adversary. This issue is ordinarily easy to resolve

given the actors responsible for redistricting, the statements they made, and the process they

followed. Here, for example, defendants do not argue that this Court would have any difficulty

divining the intent of the Republican leadership who crafted the Current Plan in secret using

cutting-edge techniques aimed at maximizing the Republicans' share of seats, and then rammed

the Plan through the Legislature in a matter of days. Compl. (Dkt. 1) at ¶¶ 31-43; APFOF ¶ 155.

And what is true here applies more generally as well. Courts, commissions, and state

governments under divided control rarely seek to tilt plans in a particular party's favor; any partisan gerrymandering challenges to these bodies' plans are thus unlikely to get to first base. By contrast, state governments under unified control usually *do* try to enact plans that advantage the ruling party. When they do not, their bipartisanship is likely to be readily apparent. It is only in the unusual case where motive is unclear that a plan's efficiency gap may be probative of partisan intent.

Next consider the test's second prong: whether a plan exhibited a high and durable level of partisan asymmetry in the first election after redistricting. Again, there is no doubt this criterion is met here. From 1972 to 2010, not a single map in the country was as asymmetric as the Current Plan in its first two elections, and there is nearly a 100% likelihood that the Plan will continue to disadvantage Democrats throughout its lifespan. APFOF ¶ 11. Again, though, courts should have little trouble ascertaining when the effect prong is *not* satisfied. It is not met when a plan's initial efficiency gap is relatively small, in accordance with historical norms. It is also not met when there is evidence that a plan's large initial efficiency gap would disappear over the course of the decade given plausible shifts in the state's electoral environment (assuming the Court were to require sensitivity testing at this stage).

Lastly, the test's third prong—whether a plan's intentional and severe asymmetry was avoidable given the state's political geography and legitimate redistricting objectives—is manageable as well. This element has plainly been established here. The Demonstration Plan shows that a map with a near-zero efficiency gap could have been drawn while still abiding at least as well with all federal and state requirements. APFOF ¶ 142. And once again, courts would easily be able to tell if the element was *not* proven. As the map's author, the state would often have evidence indicating that any district alterations that reduced the map's efficiency gap would

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violate federal or state law. *See, e.g.*, *Mahan*, 410 U.S. at 326 (discussing Virginia's showing to this effect). In addition, if a large efficiency gap were actually compelled by the state's political geography, the plaintiffs ought to be unable to craft a map that slashes the efficiency gap while still achieving the state's legitimate goals. No matter which party bears the burden at this stage, this inability would be telling.

> **B.   Wisconsin's Experience in the 2000s Neither Undermines the Test's Manageability nor Shows that the State Has a Natural Pro-Republican Tilt.**

Defendants' first manageability argument hinges on the fact that Wisconsin's court-drawn plan in the 2000s had a substantial pro-Republican efficiency gap. From this single data point, involving just one of the hundreds of plans in Professor Jackman's database, defendants leap to the conclusion that plaintiffs' proposed test is unworkable and that Wisconsin has a natural pro-Republican political geography. *See* Defs' Br. at 34-37. But there is an insurmountable gap between the data point and the conclusions defendants would draw from it.

To begin with, plaintiffs agree with defendants that any viable gerrymandering test should lead to court-drawn plans like Wisconsin's in the 2000s being upheld. Plaintiffs' proposal *would* have produced this outcome because the plan was not designed with partisan intent, and so would not have satisfied the test's first prong. *See Baumgart*, 2002 WL 34127471, at *7 (court's goals were "maintaining municipal boundaries," "uniting communities of interest," and "keep[ing] population deviation between districts as low as possible"). Thus, a plan that *should* not have been struck down *would* not have been struck down, showing that the test yields sensible results even for this allegedly difficult category of cases.

Next, as demonstrated at length above, defendants' contention that Wisconsin's experience in the 2000s indicates that the state has a natural pro-Republican political geography is contradicted by a wealth of record evidence that, at the very least, raises questions of fact.

Among other things, this evidence establishes that all of Wisconsin's other bipartisan or nonpartisan plans in the modern era had very small efficiency gaps; that a neutral map would have produced a slight pro-Democratic advantage in 2012 and 2014; that Wisconsin's Democratic and Republican voters are about equally spatially isolated and clustered; and that Wisconsin's current districts are far more skewed in favor of Republicans than the wards from which they were assembled. *See* Background Part III, *supra*.

Furthermore, even if Wisconsin has a natural pro-Republican political geography, the first and third prongs of plaintiffs' proposed test are specifically designed to take into account this possibility. A state that sought diligently to respect political subdivisions and communities of interest, thus producing a map that accurately reflected its spatial realities, would not have enacted the plan with partisan intent, and so would not have violated the test's first prong. Likewise, as this Court has noted, if a state can show that its plan's intentional and extreme asymmetry was "the necessary result of . . . the state's underlying political geography," then the test's third prong is not met and again there is no liability. Order (Dkt. 43) at 17 (internal quotation marks omitted). Defendants' complaint that the test ignores the impact of geography fails given that two of its three prongs revolve around this very topic.

As for defendants' suggestion that geography be incorporated into the test's second prong too, setting a "baseline" that "corresponded to the gap under a neutral plan," Defs' Br. at 36, the idea is untenable. First, it is in sharp tension with *LULAC*, where a majority of the Justices noted the promise of *actual* measures of partisan asymmetry, not *adjusted* measures indicating how skewed a plan is relative to a map designed through a bipartisan or nonpartisan process. *See, e.g.*, 548 U.S. at 466-72 (Stevens, J., concurring in part and dissenting in part) (reporting actual, not adjusted, partisan bias scores). Second, a non-zero benchmark would give rise to an anomalous

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situation under which plans with equal partisan tilts would be treated differently based on which party they happened to favor. This result cannot be squared with the principle of partisan symmetry.

Third, no one actually knows how symmetric the "typical" plan designed through a bipartisan or nonpartisan process would be, in Wisconsin or anywhere else. Professor Goedert's models are a good start, but they only cover actual plans in two elections. The simulated plans created by other scholars are not lawful because they ignore most federal and state requirements, have methodological issues that remain unresolved, and give rise to different conclusions as to whether Democrats or Republicans would benefit from random redistricting. APFOF ¶ 33. And fourth, to the extent the full sweep of modern history is any guide here, it counsels in favor of a neutral benchmark. The 786 observations in Professor Jackman's database, covering all available plans from 1972 to 2014, have an average efficiency gap of -0.5%, or essentially zero. APFOF ¶ 18.

Lastly, defendants' consistently mischaracterize plaintiffs' Demonstration Plan. The Plan does not "show[] the natural disadvantage faced by Democrats." Defs' Br. at 36. Its efficiency gap would have been very close to zero in 2012, and would become *pro-Democratic* under one scenario examined in Professor Mayer's sensitivity testing. APFOF ¶ 115-118. The model on which the Plan is based also did not "underpredict[] Republican wins under Act 43." Defs' Br. at 36. The version suited to making forecasts was exactly right when it came to the overall partisan breakdown of contested races. APFOF ¶ 99. And the Plan's efficiency gap would not "grow ever more negative in favor of Republicans" under different electoral conditions. Defs' Br. at 37. In fact, it would remain very small even in the event of Democratic or Republican electoral waves. APFOF ¶ 115-118.

C.   National Data Neither Undermines the Test's Manageability nor Shows that the Country Has a Natural Pro-Republican Tilt.

The undisputed fact that the average efficiency gap of state house plans nationwide has grown substantially more pro-Republican from the 1990s to the present also does not help defendants. *See* Defs' Br. at 37-38. Defendants cite this fact and then jump to the entirely unwarranted conclusion that the country's political geography increasingly favors Republicans. But as demonstrated above, the far more plausible explanation for the pro-Republican trend is the fourfold increase in the number of states with Republicans in full control of the state government. In fact, this increase accounts for essentially *all* of the efficiency gap's movement in a Republican direction. Jackman Rebuttal Rpt. (Dkt. 63) at p. 20; APFOF ¶ 156.[10] That the country's political geography is not becoming more pro-Republican is confirmed by the isolation scores for Democratic and Republican voters, which if anything suggest a pro-Democratic shift; and by Professor Goedert's models, which show that the typical state would have had pro-Democratic efficiency gaps in 2012 and 2014 if its plan had been designed through a bipartisan or nonpartisan process. *See* Background Part II, *supra*.

After making unsubstantiated (or at the very least debatable) assertions about the country's political geography, defendants identify several current plans that have exhibited substantial efficiency gaps, but that are unlikely to have been enacted with partisan intent. Defendants also note that partisan intent was probably present in Illinois, but did not manifest itself in a large efficiency gap. *See* Defs' Br. at 38-40. Like Wisconsin's court-drawn plan in the 2000s, these examples actually demonstrate the manageability of plaintiffs' proposed test. If the plans in the first category were challenged under the test, they would be upheld because partisan

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[10] Another factor that can influence the average efficiency gap is the *severity* of partisan gerrymandering, regardless of which party is responsible for redistricting. The severity has clearly increased in the current cycle (showing a spike in the average absolute value of the efficiency gap in the 2010s). APFOF ¶ 20.

intent was absent. Similarly, if Illinois's plan were disputed, it would be sustained because it has not produced large and durable levels of partisan asymmetry. None of this is especially complicated; a test that requires partisan intent *and* partisan impact is not satisfied if one of the elements is missing.

What seems to be driving defendants' confusion is an implicit view that partisan intent and partisan impact should always go hand in hand. But purpose and effect are distinct issues, and it is improper to conflate them. *See Bandemer*, 478 U.S. at 127 (plurality opinion) (gerrymandering plaintiffs are "required to prove both intentional discrimination against an identifiable political group and an actual discriminatory effect on that group"); Opinion at 16 ("Generally, an equal protection claim requires a showing of a discriminatory intent and a discriminatory effect."). It is true enough that partisan intent is often a driver of partisan impact, as Professor Goedert's work shows. *See* Goedert, *Gerrymandering or Geography*, *supra*, Goedert Dep. Ex. 20 (Dkt. 65-2) at p. 6 (finding that unified party control over redistricting leads to a large efficiency gap boost in favor of that party); Goedert, *Disappearing Bias*, *supra*, Goedert Dep. Ex. 21 (Dkt. 65-3) at p. 13 (same); APFOF ¶ 157. But partisan impact is also a function of redistricting skill, political geography, electoral swings, and other factors. This is precisely why it is necessary to separate the inquiries, and to insist that both purpose and effect be independently demonstrated.

Moreover, while defendants have focused on cases where partisan intent and partisan impact point in opposite directions, there are many more examples where they are perfectly aligned. In the current cycle, the Florida, Georgia, Indiana, Michigan, North Carolina, Ohio, Rhode Island, Tennessee, Vermont, Wisconsin, and Wyoming plans were all enacted by a single party with unified control over redistricting, and all exhibited efficiency gaps above 7% in 2012.

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Likewise, the Alaska, California, Colorado, Connecticut, Hawaii, Iowa, Kentucky, Maine, Minnesota, Montana, Nevada, New Mexico, and Washington plans were all enacted by some other institution (a court, a commission, or divided government), and all had efficiency gaps below 7% in 2012. Jackman Rpt. (Dkt. 62) at pp. 7, 73; Jackman Rebuttal Rpt. (Dkt. 63) at pp. 18-20; Jackman Decl. Ex. F (Dkt. 58-6); APFOF ¶ 174. One of the strengths of plaintiffs' proposed test is that it is easily able to distinguish between these two groups of plans, focusing judicial attention on the former and diverting it from the latter.

D.   **The Test Would Not Result in the Invalidation of Too Many Plans.**

Defendants further argue that plaintiffs' proposal is unmanageable because it would result in too many plans being struck down. *See* Defs' Br. at 44-46. This claim, however, is once again based only on the test's second prong, and entirely overlooks its first and third elements. Defendants assert that the test would "find[] unconstitutional gerrymandering in one plan out of three" *solely* by counting the share of plans that "fail Jackman's standard of a 7% *EG* in the first election following redistricting." Defs' Br. at 44. Not only does this approach pay no heed to the test's first and third prongs, it also misapplies the second one. As noted earlier, plaintiffs' position is that an efficiency gap threshold need not be set in this case, but rather should be allowed to emerge over time. In no way have plaintiffs suggested that Professor Jackman's 7% proposal be treated as ironclad.

Since defendants' figures are flawed, how many plans would actually be in jeopardy under plaintiffs' proposed test? It is impossible to say with certainty because only litigation can determine whether a plan was designed with partisan intent, whether the plan's initial efficiency gap was large and durable relative to historical norms, and whether this significant asymmetry was avoidable. Still, plaintiffs have paired efficiency gap data with information about the

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institution responsible for redistricting to produce some rough estimates. To recap: Only 11 current plans had initial efficiency gaps above 7% and were designed by a single party with unified control over redistricting (a number that drops to 7 if the threshold is increased to 10%). Only 43 plans over the entire modern redistricting era satisfied both of these conditions (32 if the cutoff is raised to 10%). APFOF ¶ 73, 75, 69. And even these figures overstate the test's impact, since not every party with unified control seeks to benefit itself, and not every large efficiency gap is avoidable.

Of course, judicial intervention on this scale is not trivial; if it were, there would be little point in trying to fashion a test for partisan gerrymandering. But two points are in order about the volume of potentially affected plans. The first is that it pales in comparison to the number of plans struck down during the reapportionment revolution of the 1960s (almost all of them), to the number of Voting Rights Act lawsuits filed since *Gingles* (at least 800), and even to the amount of litigation that occurs during each redistricting cycle. APFOF ¶ 77-78. In the current cycle alone, more than two hundred cases were filed in more than forty states, resulting in more than twenty plans (or two to three times more than those at risk under plaintiffs' proposed test) being invalidated or judicially designed. APFOF ¶ 79.

The second point is that if the courts began enforcing the constitutional ban on partisan gerrymandering, the volume of *other* redistricting litigation might decrease substantially. At present, the motivation for many one-person, one-vote, Voting Rights Act, and state law claims is partisan dissatisfaction at being the victim of gerrymandering. *See, e.g.*, Samuel Issacharoff, *Gerrymandering and Political Cartels*, 116 Harv. L. Rev. 593, 630-31 (2002), Earle Decl. Ex. E (Dkt. 57-5) at pp. 630-31 (noting that "the absence of any real constitutional vigilance over partisan gerrymandering" causes litigants to "squeeze all claims . . . into the suffocating category

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of race"); Richard H. Pildes, *The Theory of Political Competition*, 85 Va. L. Rev. 1605, 1608 (1999), Earle Decl. Ex. F (Dkt. 57-6) at pp. 1608 (observing that "[t]he 'right' claimed" in many "political cases" is "obviously a stalking horse for other interests"); APFOF ¶ 158-159. So if gerrymandering became less prevalent thanks to judicial supervision, other kinds of lawsuits might become rarer too.

After raising the specter of excessive judicial intervention, defendants complain about plaintiffs' focus on the *first* election after redistricting. They call this focus "arbitrar[y]," and note that more plans exceed a 7% efficiency gap at some point during their lifetimes than in their initial values. *See* Defs' Br. at 45-46. But since Justice Kennedy's opinion in *LULAC* seems to rule out litigation before an election has occurred, the first election represents the first moment after which a lawsuit may be filed. *See* 548 U.S. at 420 (opinion of Kennedy, J.) (objecting to claims based on "a hypothetical state of affairs"). Litigants also have every incentive to bring suit as soon as an election has taken place, rather than suffering through multiple elections under a potentially unlawful plan. This is why, for decades, the vast majority of redistricting litigation has been resolved very early in the cycle. *See 2010 Litigation*, *supra* (showing that more than 85% of redistricting suits in the 2010 cycle have already been resolved); APFOF ¶ 160.

Lastly, defendants criticize Professor Jackman for setting his suggested threshold "based on whether a plan is likely to change sign during its existence." Defs' Br. at 46. In fact, in assessing what cutoff would be reasonable, he considered a much broader range of factors: (1) whether a plan's initial efficiency gap is "large relative to those observed in the previous 40 years of state legislative elections," Jackman Rpt. (Dkt. 62) at p. 65; APFOF ¶ 161; (2) what proportion of plans either fall below a given threshold, or if above, would exhibit an efficiency gap of the same sign throughout their lifetimes, Jackman Rpt. (Dkt. 62) at pp. 66-69; APFOF ¶

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162; (3) what a series of prognostic tests reveal about the reliability of different thresholds, Jackman Rebuttal Rpt. (Dkt.63) at pp. 5-14; APFOF ¶ 163; (4) how a plan's initial efficiency gap is related to its average efficiency gap over its lifetime, Jackman Rebuttal Rpt. (Dkt. 63) at pp. 15-17; APFOF ¶ 164; and (5) what sensitivity testing demonstrates about the durability of plans' efficiency gaps in the current cycle, Jackman Decl. Ex. D (Dkt. 58-4) at pp. 1-6. APFOF ¶ 165. *All* of these analyses confirm that a threshold on the order of 7% would be sensible.

And to answer defendants' question, "why unconstitutional gerrymandering should be decided by whether a plan will change sign," Defs' Br. at 46, the durability of a plan's asymmetry has long been identified as an important consideration. In *Bandemer*, in particular, the plurality noted the absence of evidence that a particular election's "results were a reliable prediction of future ones," and observed that "had the Democratic candidates received an additional few percentage points of the votes cast statewide, they would have obtained a majority of the seats in both houses." 478 U.S. at 135 (plurality opinion); *see also id.* at 132-33 (requiring a plan to "*consistently* degrade" a party's influence and "*continued* frustration" of voters' preferences (emphasis added)). Thus, far from having "no basis in the Constitution," Defs' Br. at 46, plaintiffs' emphasis on the durability of gerrymandering is rooted in the Court's own pronouncements on the subject.

E.   **The Efficiency Gap Is Not Too Changeable to Be Reliable.**

Finally, defendants claim in various places that the efficiency gap is too changeable a metric to serve as the basis for a test's partisan effect prong. *See id.* at 38 ("the gap will change over time"); *id.* at 45 ("A plan will produce a range of results depending on election conditions . . . ."); *id.* at 49 ("the efficiency gap is subject to wide swings"). In his initial report, Professor Jackman examined whether most variation in the efficiency gap is *within* plans (in which case

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the metric would not be very trustworthy) or *between* plans (in which case it would amount to a durable plan characteristic). His results confirmed the latter thesis. "About 76% of the variation in the *EG* estimates is between-plan variation," indicating that "there is a moderate to strong 'plan-specific' component to variation in the *EG* scores," and that "the efficiency gap *is* measuring an enduring feature of a districting plan." Jackman Rpt. (Dkt. 62) at pp. 48; Jackman Dep. (Dkt. 53) at 75:10-76:4; APFOF ¶ 166. Defendants do not contest this conclusion.

The reliability of a plan's initial efficiency gap is as important as the measure's overall dependability, since most litigation will be based on this first score. Four separate types of evidence (items (2)-(5) in the above list) show that a plan that exhibits a large efficiency gap in the first election after redistricting is highly likely to remain asymmetric over its lifetime. First, about 95% of plans from 1972 to 2014 either had initial efficiency gaps below 7% or had larger initial efficiency gaps and never once favored the opposing party. Jackman Rpt. (Dkt. 62) at p. 67; Goedert Dep. (Dkt. 51) at 120: 24-121:1; APFOF ¶ 167. Second, Professor Jackman's prognostic tests indicate that there would be almost no false positives with a 7% threshold, that is, cases where a plan's average efficiency gap was expected to have the same sign as its initial efficiency gap, but this expectation turned out to be incorrect. Jackman Rebuttal Rpt. (Dkt. 63) at p. 12; APFOF ¶ 168. Third, there is a very strong relationship between a plan's initial efficiency gap and its average efficiency gap, with the former accounting for fully three-fourths of the variation in the latter. Jackman Rebuttal Rpt. (Dkt. 63) at pp. 15-17; APFOF ¶ 169. And fourth, this tight relationship applies not just retrospectively but also prospectively; if current plans with large efficiency gaps experienced electoral tides of up to five points in either direction, their new efficiency gaps would be extremely highly correlated with their original ones, and almost certain to have the same sign. Jackman Decl. Ex. D (Dkt. 58-4) at p. 4; APFOF ¶ 170.

In any event, defendants' changeability critique is inapplicable to plaintiffs' other measure of partisan symmetry, partisan bias. Because partisan bias is calculated based on counterfactual rather than actual elections, it is essentially unaffected by the electoral swings that in fact occur. *See* McGhee, *supra*, Jackman Decl. Ex. G (Dkt. 58-7) at p. 73 (noting that partisan bias exhibits "more persistence through time"); Stephanopoulos & McGhee, *supra*, at 864 (observing that "partisan bias is fairly stable" because "it shifts all actual results to the point of the hypothetical election"); APFOF ¶ 171. As plaintiffs have repeatedly pointed out, this Court may ask that partisan bias be used instead of or in addition to the efficiency gap.

CONCLUSION

With respect to all of the issues that bear on the discernibility and manageability of plaintiffs' proposed test, there remain genuine—indeed, heated—disputes as to material facts. A trial is the appropriate venue for resolving these disputes.

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Respectfully submitted,

s/   Michele Odorizzi
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Dated: January 25, 2016

IN THE UNITED STATES DISTRICT COURT
FOR THE WESTERN DISTRICT OF WISCONSIN

WILLIAM WHITFORD, *et al.*,

      Plaintiffs,

      v.   Case No. 15-cv-421-bbc

GERALD NICHOL, *et al.*,

      Defendants.

DEFENDANTS' REPLY BRIEF IN SUPPORT OF THEIR MOTION FOR SUMMARY JUDGMENT

The issue before the Court is a legal one: have the plaintiffs offered a legal standard by which the constitutionality of an alleged partisan gerrymander can be judged? The defendants' motion for summary judgment showed that the plaintiffs' test fails as a matter of law. The plaintiffs' response has not solved the legal problems with their proposed standard. This is a question of law for the Court, not a question of political science for political scientists to decide.

The plaintiffs' standard is not a judicially discernible or judicially manageable standard for partisan gerrymandering claims. A partisan motive in the redistricting process is not illegal or unconstitutional; instead, the Supreme Court has recognized that it is an "an ordinary and lawful motive." *Vieth v. Jubelirer*, 541 U.S. 267, 286 (2004) (plurality). The challenge in developing a legal standard is determining how much partisan intent is too much. The plaintiffs' standard, however, is triggered by the mere presence of the "ordinary and lawful motive" of

partisan intent. It then shifts to the efficiency gap to prove "partisan effect." Because there is no dispute that neither of these elements measures the level of partisanship intent in the districting process, the standard does not measure how much partisan intent in the redistricting process is "too much."

The undisputed facts also show that the plaintiffs' "partisan effect" element does not measure what is required to prove a constitutional violation: the "actual discriminatory effect" of the plan. *Davis v. Bandemer*, 478 U.S. 109, 127 (1986) (plurality opinion). Instead, the efficiency gap measures asymmetry that happens to be seen in a plan enacted with the "lawful and ordinary motive" of partisan intent. The undisputed facts show that Wisconsin recently experienced large efficiency gaps in favor of Republicans when districted with no partisan intent, comparable to the gaps in 2012 and 2014. Therefore, the efficiency gap cannot be used to prove "discriminatory effect" related to excessive partisanship in the districting process.

The defendants' motion is based on the plaintiffs' own expert reports and undisputed facts regarding the elections that have occurred in Wisconsin from the 1990s to today. It therefore does not present a "battle of the experts." The undisputed facts show that the plaintiffs have not proposed a legal standard by which partisan gerrymandering claims can be judged. The defendants' expert reports provide context for the trends seen in Simon Jackman's historical analysis, but the Court need not adopt the opinions of the defendants' experts in order to reject the plaintiffs' legal standard. Wisconsin's electoral experience under plans drawn with no partisan intent demonstrates that the plaintiffs' standard fails as a

matter of law. Regression analysis from political scientists cannot change the case law to make the plaintiffs' standard acceptable for judging partisan gerrymandering claims.

ARGUMENT

The plaintiffs' response brief makes clear that all three elements of their proposed standard (partisan intent, partisan effect, and the burden-shifting step) are inconsistent with Supreme Court precedent. In addition, the undisputed facts show that their standard does not satisfy Justice Kennedy's concerns regarding partisan gerrymandering claims. The plaintiffs fail in their attempt to manufacture genuine issues of material fact for trial. They provide no facts explaining why Wisconsin saw large pro-Republican efficiency gaps when districted by federal courts (a phenomenon also seen in other states), instead resorting to misrepresenting the research of defendants' expert Nicholas Goedert.

I.   The plaintiffs' intent element is inconsistent with Supreme Court precedent.

The plaintiffs' response brief makes clear that their intent element is satisfied by the districting party intending to benefit itself and to disadvantage the opposing party. (Dkt. 68:44.) The Supreme Court has repeatedly held, however, that a partisan motive in the districting process is lawful and not the basis for a constitutional violation. The Court rejected the contention that "that any political consideration taken into account in fashioning a reapportionment plan is sufficient to invalidate it. Our cases indicate quite the contrary." *Gaffney v. Cummings*, 412 U.S. 735, 752 (1973). In fact, "partisan districting is a lawful and common practice."

Vieth, 541 U.S. at 286 (plurality opinion). Justice Kennedy agreed that "[a] determination that a gerrymander violates the law must rest on something more than the conclusion that political classifications were applied." *Id.* at 307 (Kennedy, J.). The plaintiffs' proposed standard is inconsistent with precedent because their intent element is satisfied with mere "partisan districting" and the fact that "political classifications were applied."

The question in gerrymandering cases is not the mere presence of partisan motive, but "determining whether it is so substantially affected by the excess of an ordinary and lawful motive as to invalidate it." *Vieth*, 541 U.S. at 286 (plurality opinion). The plaintiffs do not dispute that their standard does not even attempt to determine whether there was "an excess of an ordinary and lawful motive." *Id.* Their "partisan intent" element does not do so because it is satisfied by the presence of any partisan intent. Their "partisan effect" element also does not do so because the plaintiffs admit they "do not offer the efficiency gap to prove that Wisconsin's Current Plan (or any other map) was drawn with the intent to achieve a partisan advantage." (Dkt. 68:7.)[1] Thus, the plaintiffs have conceded that their standard provides no way of judging whether there was "*too much* partisanship in districting." *Vieth*, 541 U.S. at 286 (plurality opinion).

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[1] This is inconsistent with their complaint, which alleged that when a large efficiency gap is present, "an intent to disadvantage voters based on their political beliefs can be inferred from the severity of the gerrymander alone." (Dkt. 1 ¶ 6.) Citation is made to the ECF page number at the top of the document, not to the page number at the bottom of the page.

II.   **A constitutional violation requires a "discriminatory effect" caused by the allegedly unconstitutional conduct, not a "partisan effect" that occurs even when there is no discriminatory conduct.**

The plaintiffs' "partisan effect" element does not solve the problems with their "partisan intent" element because it does not show the effect cause by partisanship in the districting process. An unconstitutional gerrymander is not proven by a "partisan effect." Instead, "an equal protection claim requires a showing of a discriminatory intent and a *discriminatory effect.*" (Dkt. 43:16 (citing *Bandemer*, 478 U.S. at 127) (emphasis added).) The plaintiffs do not provide a way for showing the "discriminatory effect" of a districting plan. Instead, their standard measures the level of partisan asymmetry (compared to a zero efficiency gap benchmark) seen under a plan enacted with the "ordinary and lawful motive" of partisan districting.

The undisputed facts show that the efficiency gap does not measure the "discriminatory effect" produced by a redistricting plan. In Wisconsin, Democrats have experienced a large and durable disadvantage in converting statewide vote totals into legislative seats under the two preceding plans, both enacted with no partisan intent. That same disadvantage cannot be counted as a "discriminatory effect" when it also presents itself under a partisan plan. The efficiency gap treats all asymmetry as a "discriminatory effect," even asymmetry that occurs in the absence of partisan discrimination.

It is undisputed that in 2004, under a plan drawn by a court looking only to neutral districting principles, the Republicans won 60 Assembly seats with 50% statewide vote share (a 10% *EG*). (Dkt. 67 ¶ 213.) In 2012, the Republicans won 60

Assembly seats with 48.4% statewide vote share (a 13% *EG*). (Dkt. 67 ¶¶ 217, 230.) Even if one assumes the entire difference between the two results was caused solely by the Republicans' partisan intent, this assumption leads to only slightly better results: the same number of seats on 1.6% lower vote share and a 3% increase in *EG*. It is also undisputed that the 13% *EG* is not an outlier—it is only 1% larger than the 12% *EG* produced by the court-drawn plan in 2006. (Dkt. 67 ¶ 214.) The plaintiffs cannot dispute these facts because they were taken from their own expert's work, yet they attempt to count the entirety of the efficiency gap as a "discriminatory effect."

Wisconsin's experience under the court-drawn plans in the 1990s and 2000s is not just a "single data point," (Dkt. 68:22), it is the closest example of the results one could expect to see in Wisconsin from the application of neutral districting principles free of partisan intent. In addition, the pro-Republican trend spans two different plans, both the 1990s and 2000s; the plaintiffs want this Court to ignore the fact that the last pro-Democratic efficiency gap was in 1994 and that the 1998 and 2000 elections saw large efficiency gaps in favor of the Republicans. Wisconsin's experience points out a fundamental weakness in the plaintiffs' standard: the entire amount of the efficiency gap cannot be treated as a "discriminatory effect" of a partisan plan. Nor can the "durability" of an efficiency gap show the durability of the discriminatory effect: Wisconsin experienced a sustained efficiency gap that was not caused by any partisan gerrymandering.

Wisconsin's experience shows that the plaintiffs' standard fails with respect to Wisconsin. The undisputed facts also show Wisconsin's experience is not unique, which shows the standard fails for the country as a whole. Jackman found high pro-Republican efficiency gaps in Kansas, New York, Missouri, and Minnesota in the most recent elections even though these states were districted by with no partisan intent. (Dkt. 46:38–39; Dkt. 67 ¶ 189.) Further, the plaintiffs' response shows that thirteen percent of all plans Jackman analyzed (27 of 206) presented a 7% *EG* in their first election even in the absence of partisan intent. (Dkt. 68:30; Dkt. 69 ¶¶ 68–69.) Six percent of all plans (12 of 206) presented a 10% *EG* in their first election even in the absence of partisan intent. (Dkt. 68:30; Dkt. 69 ¶¶ 70–71.) These undisputed facts show that the efficiency gap is measuring an "effect" that is not attributable to discriminatory gerrymandering. The plaintiffs cannot bootstrap all asymmetry into a "discriminatory effect" where the plan was enacted with the lawful motive of partisan intent.

Attempting to count all asymmetry as a discriminatory effect is especially problematic when partisan intent is "an ordinary and lawful motive." *Vieth*, 541 U.S. at 286 (plurality opinion). It is not unconstitutional for the Republicans to enact a plan that benefits their party more than the prior court-drawn plan did. This would become unconstitutional only if there was so much of an "excess of [this] ordinary and lawful motive as to invalidate it." *Vieth*, 541 U.S. at 286 (plurality opinion). This is why the defendants are correct "that partisan intent and partisan impact should always go hand in hand," (Dkt. 68:70) and why the plaintiffs cannot

build a wall between these two elements. Partisan intent is not unlawful, unlike the intent to discriminate by race, which is unconstitutional in and of itself. *Id.* at 286; *id.* at 307 (Kennedy, J.) ("Race is an impermissible classification.")

Further, the intent element cannot be used to sidestep the problems caused by the fact that the plaintiffs' "partisan effects" element captures the effects of nonpartisan districting. The plaintiffs in *Vieth* offered a two-part test that included a "predominant intent" element, which was rejected by the entire Court as unworkable. *Id.* at 284–85 (plurality opinion); *id.* at 308 (Kennedy, J.). The entire Court also went on to reject the *Vieth* plaintiffs' "effects" prong because it would reject plans enacted by a neutral body. *Id.* at 289–90 (looking to results under election "conducted under a judicially drawn district map 'free from partisan gerrymandering'"); *id.* at 308 (Kennedy, J.) ("The plurality demonstrates the shortcomings of the … standard[] offered "by the parties before us"). The fact that these neutral plans would not have been covered by the standard due to its intent prong did not save the *Vieth* plaintiffs' effects prong.

Nor does Justice Kennedy's "tepid at best" support for partisan symmetry, (Dkt. 43:22), save the plaintiffs' standard. Combining a lawful motive with asymmetry cannot show "unconstitutional partisanship" under *LULAC*. Justice Kennedy said that "asymmetry alone is not a reliable measure of unconstitutional partisanship." *League of United Latin Am. Citizens (LULAC) v. Perry*, 548 U.S. 399, 420 (2006) (Kennedy, J.). The plaintiffs' standard merely adds the lawful motive of

partisan districting or, in Justice Kennedy's words, the fact that "political classifications were applied." *Vieth*, 541 U.S. at 307 (Kennedy, J.).

The plaintiffs admit their standard does not measure the asymmetry caused by partisanship because they say "no one actually knows how symmetric the 'typical' plan designed through a bipartisan or nonpartisan process would be, in Wisconsin or anywhere else." (Dkt. 68:68.) Thus, there is no issue of fact as to the "natural" efficiency gap in Wisconsin (or in the country as a whole). The mere fact that high efficiency gaps exist in the absence of partisan intent shows that the entire amount of the efficiency gap cannot be counted as a "discriminatory effect."

III.   The response brief makes clear the plaintiffs' burden shifting element is either not rebuttable or unmanageable.

The plaintiffs claim that their burden-shifting threshold involves the "constitutional value" of "partisan symmetry[] that must be balanced against other redistricting criteria and constraints." (Dkt. 68:51.) As an initial matter, partisan symmetry is not a constitutional value. The *LULAC* decision did not accept partisan symmetry as a constitutional standard, with Justice Kennedy expressing "tepid, at best" support for partisan symmetry. (Dkt. 43:22.) This contrasts with equal population of districts. The Court in *Reynolds v. Sims*, 377 U.S. 533, 577 (1964), established a constitutional principle of equal population of state legislative districts. The Court has made no such ruling with respect to partisan symmetry.

In any event, the plaintiffs' expression of the burden-shifting test reveals that it involves no balancing at all, and thus is not like the one-person, one-vote cases. Instead, this test requires a State to show that its "partisan tilt was *unavoidable*

given the state's political geography and legitimate districting criteria." (Dkt. 68:1 (emphasis added).) As phrased by the plaintiffs, this is an unrebuttable presumption. The plaintiffs' claim that their third prong is established because "[t]he Demonstration Plan shows that a map with a near-zero efficiency gap could have been drawn while still abiding at least as well with all federal and state requirements." (Dkt. 68:65.) After an election, it will always be possible to reverse-engineer a plan that has a better political result for one side while coming close in population deviation, compactness and municipal splits.

The plaintiffs avoid a true balancing of asymmetry and compliance with neutral districting principles because such a test would be unmanageable. Justice Kennedy observed that "there are yet no agreed upon substantive principles of fairness in districting." *Vieth*, 541 U.S. at 307 (Kennedy, J.). With no agreed principles, there is "no basis on which to define clear, manageable, and politically neutral standards for measuring the particular burden a given partisan classification imposes on representational rights." *Id.* at 307–308 (Kennedy, J.) This makes the plaintiffs' burden-shifting step contrary to the procedure in the one-person, one-vote cases. That test does not require that population deviation be "unavoidable;" it requires the State to "justify the deviation" by looking to whether the plan reasonably advances state policy such as preserving the boundaries of political subdivisions. *Voinovich v. Quilter*, 507 U.S. 146, 161 (1993). The plaintiffs have offered no way of performing such a balance of the interests.

For example, the 2002 Plan enacted by the court in *Baumgart v. Wendelberger* was not "unavoidable" or "necessary." Both the Democrats and Republicans presented plans to the Court. No. 01-C-0121, 2002 WL 34127471, at *4 (E.D. Wis. May 30, 2002) *amended,* No. 01-C-0121, 2002 WL 34127473 (E.D. Wis. July 11, 2002). The Court rejected all the plans and "undertook its redistricting endeavor in the most neutral way it could conceive—by taking the 1992 reapportionment plan as a template and adjusting it for population deviations."

Id. at *7.[2] The Court concluded that its plan was the best implementation of districting principles, not that it was the only possible plan that could have been enacted. The Democrats surely could have reverse-engineered a plan following the 2002 election that matched the 2002 Plan on certain mathematical criteria and was more favorable to themselves. That would not have entitled them to a different plan if a Court drew the map, and it should not entitle them to a new plan because a duly-elected legislature of the opposite party drew one.

IV.   The plaintiffs have not met Justice Kennedy's requirements for a discernible and manageable legal standard.

Although Justice Kennedy held the door open in *Vieth* to the emergence of a legal standard, he also laid down characteristics that a standard would need to meet. A plaintiff would have to show that political classifications were "applied in

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[2] This also refutes the plaintiffs' contention that the 2002 Plan was a departure from the 1992 Plan. (Dkt. 68:22.)

an invidious manner or in a way unrelated to any legitimate legislative objective."
Vieth, 541 U.S. at 307 (Kennedy, J.). And, as a prudential matter, the standard should be a "limited and precise rationale" that could "correct an established violation of the Constitution in some redistricting cases." *Id.* at 306 (Kennedy, J.) The undisputed facts show that the plaintiffs have not satisfied either of these criteria.

A. The plaintiffs' standard does not address whether partisanship was applied in an "invidious manner or in a way unrelated to any legitimate legislative objective."

The plaintiffs' standard does not even attempt to show that Wisconsin's districts were drawn in an invidious way or in a way unrelated to any legitimate legislative objective. The intent element does not measure "invidiousness" because it is satisfied by legislators acting with a lawful purpose. The effect element also does not measure invidiousness because the plaintiffs admit it only measures "partisan effect" and has no tie to partisan intent. (Dkt. 68:7.)

The standard likewise does not measure whether the plan was "unrelated to any legitimate legislative objective" because the efficiency gap is present in plans that implement only legitimate legislative objectives such as keeping communities of interest together in a district, compact districts, contiguous districts, and other objectives considered by neutral districting bodies. (*See, e.g.*, Dkt. 67 ¶¶ 184, 189, 201–06.) Further, the plaintiffs put forward no evidence that the current plan is unrelated to legitimate legislative objectives. They do not contend the

Demonstration Plan is better at implementing legitimate legislative objectives than the current plan, only that it is, at most, equivalent to the current plan.

B.   The plaintiffs' standard is not "limited" or "precise."

The plaintiffs argue that their plan is sufficiently "limited and precise" because, of the 207 plans Jackman studied, it would jeopardize only twenty percent of plans (43 of 206) at the 7% *EG* threshold, and ten percent of plans at the 10% *EG* threshold (20 of 206). (Dkt. 68:30.) In the current round of redistricting, these numbers increase to twenty-five percent of plans (11 of 43) at the 7% *EG* threshold, and sixteen percent of plans at the 10% *EG* threshold. (Dkt. 68:30.) While this is less court involvement than what stemmed from the one-person, one-vote revolution, Justice Kenendy's concurrence in *Vieth* did not imagine court intervention on that kind of scale. 541 U.S. at 306 (Kennedy, J.).

Further, the plaintiffs make their standard "limited" only by sacrificing precision. The plaintiffs limit the number of plans encompassed by the standard by removing those plans enacted by neutral bodies. (Dkt. 68:30.) Almost eighteen percent of all plans (27 of 206) had an *EG* exceeding 7% in their first election but which featured no unified party control of districting. (Dkt. 68:30.) Almost six percent of all plans (12 of 207) had an *EG* exceeding 10% in their first election without unified party control, which increased to nine percent (5 of 43) in the latest round of redistricting. (Dkt. 68:30.)

Nor is the plaintiffs' historical analysis the upper limit of plans that could be implicated in the future. Over half of plans have had one election with an *EG*

greater than 7%, and one third have had one *EG* greater than 10%, (Dkt. 67 ¶¶ 176–77), showing the extent to which the threshold could be triggered depending on electoral conditions in the future.

The plaintiffs seem to misunderstand the problem presented by the prevalence of high efficiency gaps in the absence of partisan intent. The efficiency gap is not "precise" in detecting gerrymandering even looking backwards as in Jackman's study. Wisconsin's 2002 Plan surpassed the 7% *EG* threshold in its first election (and surpassed the 10% *EG* threshold in later elections). If Republicans had controlled the districting process in the 2000s and enacted the very plan the *Baumgart* court did, the plaintiffs' standard would detect this as a partisan gerrymander when, in fact, it would have been entirely consistent with neutral districting principles. In Jackman's historical analysis, how many plans present as partisan gerrymanders due to unified party control, but would have experienced high *EG*s even if they had been districted by neutral bodies? The plaintiffs say there is no way of knowing. (Dkt. 68:68.)

Looking forward, how many plans will be implicated as partisan gerrymanders when a party gains unified control over districting and enacts a plan that has an *EG* similar to the ones experienced under nonpartisan plans? Nine percent of plans in this current round of redistricting produced *EG*s over 10% in their first election without partisan intent. If Republicans were to win control of one of these states for the 2020 redistricting, the plaintiffs' standard will combine the lawful motive of partisan districting with the high *EG* to find a presumptively

unconstitutional partisan gerrymander, even if the plan has the same *EG*, or perhaps even a lower *EG*, than that seen in 2012 and 2014 under a plan with no partisan intent.

This shows the standard requires partisan bodies to district in a way that is more favorable to the opposing party than a court-drawn plan. In 2004, Wisconsin Republicans won 60 seats with 50% of the vote (a 10% *EG*) under a court-drawn plan. (Dkt. 67 ¶ 213.) In order to come under a 10% *EG* threshold, they would have to draw a map under which they would not win 60 seats (or 57 seats to avoid a 7% *EG* threshold). The plaintiffs are incorrect that their standard does not require a legislature to "deliberately *minimize* its plan's partisan asymmetry." (Dkt. 68:50.) The burden-shifting prong will not save a plan if the other party can reverse-engineer a plan that resembles the current plan on a few mathematical criteria.

V.   The Court need not make any particular finding as to why efficiency gaps have favored Republicans in Wisconsin in order to reject the plaintiffs' legal standard.

The plaintiffs' legal standard fails regardless of whether Democratic voters have become more concentrated Wisconsin or in the country as a whole, and this Court need not make a finding as to the concentration of Democratic voters in order to reject the plaintiffs' legal standard. The key point is that high *EG*s in Wisconsin during the 1990s and 2000s (and high *EG*s seen in other states) were not caused by partisanship in districting. Thus, the plaintiffs' standard mistakenly treats effects caused by nonpartisan districting as effects caused by discrimination.

Because Wisconsin's experience in the 1990s and 2000s cannot be explained by partisan intent, the defendants in their opening brief provided context explaining that increased concentration of Wisconsin Democrats was a cause of asymmetry even under court-drawn plans. The defendants also provided context for the findings with regard for the nation as a whole because partisanship cannot explain, for example, why nine percent of plans had an election with an *EG* exceeding 10% in 2012 without any partisan motive. The defendants presented evidence as to why pro-Republican *EG*s are present even in the absence of partisanship, but they have not claimed that the nationwide trend "is entirely attributable to a change in the country's political geography." (Dkt. 68:16.)

In contrast, the plaintiffs have offered no explanation for the presence of pro-Republican *EG*s that Wisconsin experienced during the 1992 Plan and 2002 Plan. The plaintiffs cannot claim partisanship caused the trend in Wisconsin during the 1990s and the 2000s, even assuming Professor Mayer's concentration analysis is correct. Likewise, the plaintiffs offer no explanation for why the trend occurs in other states even when there is no partisanship in the districting process. For example, the plaintiffs provide no explanation for why sixteen of seventeen plans with unambiguous signs favored Republicans, why large pro-Democratic efficiency gaps became rare starting in the 1990s, and why pro-Republican efficiency gaps are more durable than pro-Democratic gaps.

A.   **Jackman's rebuttal report ignores Wisconsin's experience and shows a Republican advantage nationally.**

The plaintiffs contend that Professor Jackman's rebuttal report shows the increase in the efficiency gap was caused by increased Republican control over districting. (Dkt. 68:16–17.) That is incorrect. First, Jackman's analysis cannot apply to Wisconsin under the 1992 and 2002 Plans because there was no partisan motive involved in those districting plans. In addition, his reply report analyzes only plans enacted with unified party control; "[t]he omitted category is any other institution responsible for districting, such as divided government, a court, or a commission." (Dkt. 63:19.) Jackman does not even use Wisconsin's experience as a "single data point" in his analysis, let alone the multiple other data points where nonpartisan plans have led to pro-Republican efficiency gaps (as recently seen in New York, Missouri, Kansas and Minnesota). His analysis omits sixty percent of nonpartisan plans in the 1990s and forty percent of nonpartisan plans in the 2010s. (Dkt. 63:18.)

Jackman's analysis actually shows an inherent pro-Republican bias in districting. His analysis purports to show "how the average efficiency gap of state house plans would have changed from the 1990s to the 2010s if the distribution of party control over redistricting had remained constant over this period." (Dkt. 68:10.) Discussing the 1990s, Jackman says that 10% of plans were designed by Republicans, 30% by Democrats, and 60% by other bodies. (Dkt. 63:18.) Therefore, his analysis shows that the average *EG* would almost reach -1% even if Democrats drew three times as many plans as Republicans, with Republicans only

drawing 10% of plans. (Dkt. 63:19.) His analysis does not show what the average *EG* would be if neutral plans were included because he decided to omit them from consideration.

B.   The plaintiffs misrepresent Professor Goedert's research.

The plaintiffs simply misrepresent Professor Goedert's research when they say that his "efficiency gap models . . . reveal that if Wisconsin's 2011 map had been designed through a bipartisan or nonpartisan process, it would have favored Democrats in 2012 and 2014" and that "the typical state nationwide would have had a pro-Democratic efficiency gap in 2012 and 2014 if its map were neutrally drawn." (Dkt. 68:9.) The plaintiffs' reliance on Professor Goedert is puzzling given that his analysis of the 2012 congressional elections concluded "Democrats also underperformed under bipartisan maps, and gained only small advantages from their own maps, suggesting that their main issue is not gerrymandering, but districting itself." (Dkt. 60-2:2.) Therefore, the plaintiffs are simply wrong that his work "indicates that . . . the country's political geography is, on average, slightly tilted in a Democratic direction." (Dkt. 68:19.)

The plaintiffs reach this conclusion by misstating Goedert's research. First, the plaintiffs fail to mention that Goedert analyzed *congressional* elections in 2012 and 2014, not state legislative elections, and that he does not even claim his model applies to state legislative elections. (Dkt. 60-2; Dkt. 60-3.) The distribution of voters in congressional elections is much different than state legislative elections because of the vastly different district sizes, as is seen in Wisconsin. For purposes of

redistricting, Wisconsin's population was 5,686,986. *Baldus v. Members of Wis. Gov't Accountability Bd.*, 849 F. Supp. 2d 840, 844 (E.D. Wis. 2012). Wisconsin has eight congressional districts, which would be 710,873 people each if they had equal population. *Id* at 848–849. Wisconsin has 99 Assembly districts, which each would have 57,444 if they had equal population. *See id* at 848. The plaintiffs have not explained how a model examining elections of districts with seven hundred thousand people applies to districts with fewer than sixty thousand people.

Further, Goedert's research actually shows that Democrats are disadvantaged by geography in winning congressional seats in the country as a whole. This can be seen from the very title of his article: "How Democrats won the popular vote but lost Congress in 2012." (Dkt. 60-2.) Goedert's research shows the Democrats failed to secure the seats one might expect from their vote share not only in 2012 but also in 1998, 2000, 2004, 2006, and 2008. (Dkt. 60-2, Fig. 1.)

The plaintiffs make claims about the "country as a whole" by misusing Goedert's model. First, the model does not apply to the country as a whole; by its terms, it examines only the twenty-one states that have seven or more congressional seats. (Dkt. 60:87; Dkt. 60-2:6–7.) Second, the plaintiffs purport to apply Goedert's model to a hypothetical state with the demographic characteristics of the nation as a whole. (Dkt. 68:19.) But that exercise is meaningless. The political geography of the country is determined by elections as they occur in states as they actually exist, not by a non-existent hypothetical state.

Because Goedert's models do not apply state legislative maps in general or to Wisconsin's Assembly map specifically, the plaintiffs are wrong that "a finder of fact could conclude that if a neutral institution had designed Wisconsin's district plan, the map would have slightly advantaged Democrats over the last two elections." (Dkt. 68:24.)

VI.   The plaintiffs' evidence is based on counterfactuals, not on elections as they actually occurred.

The plaintiffs misunderstand the problem caused by the "counterfactual" nature of the efficiency gap evidence they present. In a case that alleges a partisan gerrymander based on Wisconsin's efficiency gap, one would think the plaintiffs would be able to (1) state what Wisconsin's actual efficiency gap was in 2012 and 2014 and (2) state the method by which it should be calculated. The precise amount and manner of calculating the efficiency gap should be clear given that the plaintiffs want the Court to establish a firm numerical threshold for presumptive unconstitutionality. Further, the precise method is important for determining when the threshold is triggered because the two methods can vary by as much as 1% even under the plaintiffs' own calculations. (Dkt. 68:39.)

The plaintiffs are not clear on what method the Court should use to calculate the efficiency gap. The plaintiffs suggest that the correct way to calculate the efficiency gap is the "full method" of "tallying wasted votes district by district." (Dkt. 68:9.) Mayer, however, did not calculate the "full method" for the legislative elections that actually occurred in Wisconsin in 2012. Instead, "he used a regression analysis to estimate what the wasted votes would have been in each district."

(Dkt. 68:15.) The plaintiffs' statement that "the purpose of Professor Mayer's analysis . . . was to compare the Current Plan with his Demonstration Plan," (Dkt. 68:61), seems to suggest that Wisconsin's efficiency gap should instead be calculated using Jackman's "simplified method." As explained in the defendant's initial brief, the simplified method, though, judges plans against a seats-to-votes relationship that has no basis in law.

A.   The plaintiffs admit Mayer's efficiency gaps do not use actual election results.

In the complaint, the plaintiffs used Mayer's analysis as the basis to assert that "the Current Plan produced a pro-Republican efficiency gap of 12% in 2012." (Dkt. 1 ¶ 56.) On summary judgment, the plaintiffs contend that "[i]n 2012, the Current Plan had an efficiency gap of -11.7% using the full method." (Dkt. 68:44.) The undisputed facts show these statements are incorrect because they do not reflect the actual election that took place in 2012. Instead, they rely on a counterfactual election of 2012 in which no incumbents ran and every seat was contested.

When Mayer changed his model to better reflect the reality of incumbency, his numbers changed significantly. His Demonstration Plan now has an efficiency gap of 3.71% in favor of Republicans, an increase of 1.51% from the 2.20% gap with no incumbents. (Dkt. 64:24.) After accounting for incumbency, the Demonstration Plan is more than halfway to the 7% *EG* threshold, with one-fifth of the threshold accounted for by incumbency.

That "the professional norm . . . is to ignore incumbency," (Dkt. 68:40), does not make it acceptable, as a legal matter, to put forward an efficiency gap based on the results of elections that never occurred. Justice Kennedy in *LULAC* rejected using partisan bias based on its counterfactual nature even though it was put forward by leading political scientists. 548 U.S. at 419–20. The plaintiffs seem to think that Justice Kennedy's rejection of the specific hypotheticals and counterfactuals before the Court in *LULAC* opens the door to different types of hypotheticals and counterfactuals. This is not the case.

Further, Mayer's results highlight the manageability problems with the efficiency gap. The fact that Mayer's "no incumbent" efficiency gap was "remarkably similar to" Jackman's calculation, (Dkt. 68:15), is a bug, not a feature. Mayer calculates the 11.7% efficiency gap using a model that predicted the wrong outcome in five seats and used a seat share of 57 Republican seats. (Dkt. 54, Table 8.) His number should not be the same as Jackman's gap when they used seat shares (57 for Mayer vs. 60 for Jackman) that differ by 3%.

Lastly, Mayer's uniform swing analysis of his 2012 model (Dkt. 68:35), does not make up for the fact that he did not analyze the 2014 election at all. Justice Kennedy in *LULAC* suggested looking at the results of elections that have actually occurred. 548 U.S. at 420. Mayer's alternative counterfactuals of the 2012 election in his rebuttal report, (Dkt. 64:26), do not change the fact that he ignored an election that actually happened (and produced at 52% Republican vote share).

B.   **Jackman's efficiency gap is not based in the constitution.**

Jackman's rebuttal report does not resolve the problems with his standard discussed in the defendants' initial brief. (Dkt. 46:44–48.) Jackman performs "sensitivity testing" designed at detecting whether the plan will change signs during its existence: "[t]he outcome of interest is whether the plan's remaining efficiency gaps have the same sign as the *EG* from the first election." (Dkt. 63:6.) There is no right to a plan that will change *EG*, particularly not in Wisconsin where the most recent nonpartisan plan was unambiguously negative.

VII.   **The Court should reject the plaintiffs' attempt to use partisan bias or some other standard not actually propounded by the plaintiffs.**

Partisan bias does not provide a basis for a partisan gerrymandering claim. In *LULAC*, the Court rejected using partisan bias as a standard. 548 U.S. at 419–20 (plurality opinion). Further, the partisan bias allegedly present in this case (12% or 13%) is the same as the 12.5% bias present under the Texas congressional maps considered in *LULAC*, under which the Republicans would likely win 62.5% of seats (20 of 32) with 50% of the vote. *Id.* at 466 (opinion of Stevens, J.).

The Court should also reject the plaintiffs' request to develop a standard not put forward by the plaintiffs to date. First, the problems with the efficiency gap outlined above show that it cannot be incorporated into a workable standard. In addition, the Court should not adopt a standard that the defendants would not be able to contest in a dispositive motion, either as to whether the standard should be adopted as a legal matter or whether the undisputed facts meet the legal standard.

CONCLUSION

For the reasons stated in this brief and the defendants' opening brief, the

Court should grant summary judgment to the defendants.

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Respectfully submitted,

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**IN THE UNITED STATES DISTRICT COURT
FOR THE WESTERN DISTRICT OF WISCONSIN**

WILLIAM WHITFORD, ROGER ANCLAM,	)	
EMILY BUNTING, MARY LYNNE DONOHUE,	)	
HELEN HARRIS, WAYNE JENSEN,	)	
WENDY SUE JOHNSON, JANET MITCHELL,	)	No. 15-cv-421-bbc
ALLISON SEATON, JAMES SEATON,	)	
JEROME WALLACE, and DONALD WINTER,	)	
	)	
Plaintiffs,	)	
	)	
v.	)	
	)	
GERALD C. NICHOL, THOMAS BARLAND,	)	
JOHN FRANKE, HAROLD V. FROEHLICH,	)	
KEVIN J. KENNEDY, ELSA LAMELAS, and	)	
TIMOTHY VOCKE,	)	
	)	
Defendants.	)	

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INTRODUCTION

There are only two legal questions in this case. *First*, is plaintiffs' proposed test for partisan gerrymandering—amended as the Court sees fit—judicially discernible and manageable? And *second*, does Wisconsin's Act 43 (the "Current Plan") fail this test? The evidence presented at trial will demonstrate that the answer to both questions is yes. The test is deeply rooted in the Supreme Court's redistricting case law, and enables unlawful partisan gerrymanders to be distinguished easily from valid plans. And the Current Plan not only fails the test, because it intentionally and unjustifiably exhibits a high and durable level of partisan asymmetry, but is also one of the worst gerrymanders in modern American history.

The test's first prong is whether a plan was enacted with *discriminatory intent*, that is, in order to engage in "intentional discrimination against an identifiable political group." *Davis v. Bandemer*, 478 U.S. 109, 127 (1986) (plurality opinion). This prong is discernible because it follows from the "basic equal protection principle that the invidious quality of a law . . . must ultimately be traced to a . . . discriminatory purpose." *Washington v. Davis*, 426 U.S. 229, 240 (1976). The prong also remains doctrinally available, as the Court recognized just last month. *See Harris v. Indep. Redist. Comm'n*, 136 S. Ct. 1301, 1310 (2016) (suggesting that "partisanship is an illegitimate redistricting factor"). And the prong is highly manageable; it is usually satisfied when a single party has unified control over redistricting, *see Bandemer*, 478 U.S. at 129 (plurality opinion), but not when a plan is designed by a court, a commission, or divided government, *see Vieth v. Jubelirer*, 541 U.S. 267, 350 (2004) (Souter, J., dissenting).

Here the evidence will show—as defendants have already admitted—that "partisan motivation . . . clearly lay behind Act 43." *Baldus v. Wisc. Gov't Accountability Bd.*, 849 F. Supp. 2d 840, 852 (E.D. Wis. 2012) (*Baldus II*); *see also* Summ. Jdgmt. Op. (Dkt. 94) at 12

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("defendants conceded that plaintiffs can prove this element"). To highlight some of the smoking guns: One of the Current Plan's drafters gave a speech to Republican legislators noting their "opportunity" and "obligation" to "draw these maps that Republicans haven't had in decades." The political scientist who advised the drafters dismissed any effort to "create[] a fair, balanced, or even a reactive map," and sought instead to "show to lawmakers the political potential of the district[s]." In tandem, the Plan's authors crafted a series of draft maps with names like "Adam Assertive" and "Joe Aggressive," whose partisan consequences were painstakingly calculated—and became steadily more pro-Republican with each iteration as Democratic voters were further cracked and packed. All sitting Republican legislators, but not a single Democrat, were allowed to see their districts prior to the Plan's introduction. And when the Plan was finally introduced, it was rushed to passage on a party-line vote in just over a week.

The second prong of plaintiffs' test is *discriminatory effect*, or whether a plan has exhibited a high and durable level of partisan asymmetry relative to historical norms. This prong is discernible because the concept of partisan symmetry underpins all of the Court's partisan gerrymandering decisions, and was marked as promising by five Justices in *LULAC v. Perry*. *See, e.g.*, 548 U.S. 399, 420 (2006) (opinion of Kennedy, J.) (not "discounting [symmetry's] utility in redistricting planning and litigation"). The prong is also manageable because a plan's asymmetry can be reliably measured through metrics such as the efficiency gap and partisan bias. These metrics can be used to determine both the magnitude of a plan's asymmetry and how skewed the plan will likely remain over its lifetime. This information, in turn, can help set an asymmetry threshold above which the effect prong is satisfied and below which it is not. *See id.* at 466 (Stevens, J., concurring in part and dissenting in part) ("the symmetry standard . . . is

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undoubtedly a reliable standard for measuring a burden on the complainants' representative rights" (internal quotation marks omitted)).

Here the evidence will show that the Current Plan has exhibited an extraordinarily high and durable level of partisan asymmetry in the two elections in which it has been in force. It recorded pro-Republican efficiency gaps of 13% in 2012 and 10% in 2014—meaning that Republicans won 13% and 10% more seats, respectively, than they would have under a neutral map. Similarly, the Plan recorded pro-Republican partisan biases of 13% in 2012 and 12% in 2014. Between 1972 and 2010, not a single map *in the country* was as asymmetric as the Plan in its first two elections. And the Plan's performance to date indicates that there is nearly a 100% likelihood that it will continue to benefit Republicans for the rest of the decade—and to a striking extent, with a predicted lifetime efficiency gap of almost 10%.

The test's third and final prong is *justification*, or whether a plan's severe and durable asymmetry can be "justified by the State" based on its political geography or legitimate redistricting objectives. *Brown v. Thomson*, 462 U.S. 835, 843 (1983). This prong is discernible because it is borrowed directly from the Court's reapportionment doctrine, *see, e.g.*, *id.* at 842-43; *Mahan v. Howell*, 410 U.S. 315, 328 (1973), and recognizes that symmetry must be balanced against both feasibility and other valid goals. The prong is also manageable because it typically boils down to whether the State could have designed a much more symmetric map that still complies as well with all federal and state requirements. If so, there are no proper aims left that could account for the asymmetry. *See, e.g.*, *Chapman v. Meier*, 420 U.S. 1, 25 (1975) (invalidating plan where alternative map "demonstrates that neither [factor] prevents attaining a significantly lower population variance").

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Here the evidence will show that the Current Plan's asymmetry cannot be justified by Wisconsin's political geography or legitimate redistricting objectives. Assembly plans in previous decades typically performed somewhat better than the Current Plan in terms of traditional redistricting criteria—and much better in terms of partisan symmetry. Plaintiffs' Demonstration Plan complies at least as well as the Current Plan with all federal and state requirements, while exhibiting an efficiency gap more than 80% smaller. And Professor Jowei Chen created *hundreds* of Assembly plans, *all* of which improve on the Current Plan's compactness, respect for political subdivisions, and partisan symmetry. Indeed, the vast majority of these plans have efficiency gaps within 3% of zero.

After the trial has concluded, the Court should therefore hold that the Current Plan is an unconstitutional partisan gerrymander that violates the First and Fourteenth Amendments. It was designed with the *intent* of benefiting Republican candidates and voters and disadvantaging Democratic ones on account of their political views. Its observed *effect* is perfectly consistent with this intent: the largest partisan asymmetry in a plan's first two elections in a period of almost forty years. And this imbalance is entirely *unjustified*, as illustrated by Wisconsin's own prior maps, plaintiffs' Demonstration Plan, and hundreds of additional map simulations.

Moreover, the need for the judiciary to begin enforcing the Constitution's ban on partisan gerrymandering is urgent. Thanks to improvements in electoral forecasting and mapping software, today's district plans are more asymmetric, on average, than any of their predecessors in modern American history. *See* Jackman Rpt. (Dkt. 62, Tr. Ex. 34) at 47; PFOF ¶ 292. This unprecedented asymmetry exacts a severe democratic toll. "[M]inority control of state legislative bodies" is common, thereby "deny[ing] majority rights." *Reynolds v. Sims*, 377 U.S. 533, 565 (1964). Enacted policies are not "responsive to the popular will." *Id.* And "the core principle of

republican government" is subverted, "namely, that the voters should choose their representatives, not the other way around." *Ariz. State Legis. v. Ariz. Indep. Redist. Comm'n*, 135 S. Ct. 2652, 2677 (2015) (internal quotation marks omitted); *see also* Pippa Norris, Ferran Martinez I Coma, Alessandro Nai, Max Gromping, *The Year in Elections: 2015,* Electoral Integrity Project 24 (2016) (ranking the United States second-to-last among 139 countries, ahead of only Malaysia, with respect to redistricting).

FACTS

Plaintiffs have submitted to the Court a lengthy set of proposed findings of fact. The parties have agreed on stipulations of uncontested facts as well. To avoid undue length and repetition, plaintiffs therefore focus their present factual presentation on four issues: (1) evidence of discriminatory intent; (2) measures of partisan symmetry; (3) Wisconsin's past Assembly plans; and (4) alternatives to the Current Plan. All of these are issues that were only covered in passing in previous briefing, and about which the Court requested more information in its summary judgment decision.[1]

I.   The Current Plan Was Enacted with Discriminatory Intent.

In *Baldus*, the Current Plan's drafters "testified that the partisan makeup of the potential new districts played no part at all in their decisions." 849 F. Supp. 2d at 845. "[Joseph] Handrick, for instance, testified that he did not know if partisan makeup was considered, that he had no access to voting data from past elections, and that only 'population equality, municipal splits, compactness, contiguity, [and] communities of interest' were considered." *Id.* Similarly, Adam Foltz claimed that he merely followed the instructions of legislators who "advised him where to draw the boundaries." *Id.*

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[1] However, plaintiffs cover additional factual issues in the Argument section.

The *Baldus* panel found "those statements to be almost laughable," *id.*, and plaintiffs'

evidence at trial will show why the panel was so incredulous. This evidence of discriminatory

intent is overwhelming and falls into the following categories: (1) the absolute secrecy with

which the Current Plan was drafted; (2) Democrats' complete exclusion from the drafting

process; (3) the elaborate lengths to which the Plan's drafters went to estimate its partisan

consequences; (4) the escalating magnitude and durability of the Republican advantage in drafts

of the Plan; and (5) the highly unusual manner in which the Plan was enacted. *See also* Summ.

Jdgmt. Op. (Dkt. 94) at 30 (plaintiffs "should be prepared to present the strongest evidence that

they have" on discriminatory intent).

A.   The Plan Was Drafted in Absolute Secrecy.

The Current Plan's key drafters were Adam Foltz (then a member of Assembly Speaker

Jeff Fitzgerald's staff), Joseph Handrick (then a consultant with the law firm of Reinhart Boerner

Van Duren s.c.), and Tad Ottman (then and now a member of Senate Majority Leader Scott

Fitzgerald's staff). Foltz, Handrick, and Ottman were given technical assistance by Professor

Keith Gaddie (a political scientist at the University of Oklahoma). *See Baldus II*, 849 F. Supp. 2d

at 845; *see also* Defs.' Resp. Pls.' Rqst. for Adms. (Tr. Ex. 314) ("RFA") ¶¶ 25-28; Foltz Dep.

(Dkt. 113, Tr. Ex. 191) at 42:2-10; Gaddie Dep. (Dkt. 108, Tr. Ex. 161) at 40:12-24, 69:4-11,

72:11-17; Ottman Dep. (Dkt. 118, Tr. Ex. 226) at 35:15-25; PFOF ¶¶ 27-29.[2] The Plan's drafting

began shortly after new Census data was released in March 2011, and the process concluded with

the Plan's passage in July 2011.

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[2] "Others involved in the process were James Troupis, Eric McLeod, Ray Taffora, Speaker Fitzgerald, Majority Leader Fitzgerald, Sarah Troupis, [Representative] Robin Vos, [and] Senator Rich Zipperer." *Baldus II*, 849 F. Supp. 2d at 845; *see also* Foltz Dep. (Dkt. 113, Tr. Ex. 191) at 73:6-74:25; Ottman Dep. (Dkt. 118, Tr. Ex. 226) at 59:19-60:3; PFOF ¶¶ 57, 60, 171.

Throughout this period, the Plan's authors took extraordinary measures to ensure the secrecy of their activity. If they had been pursuing *legitimate* objectives, they would not have had to carry out their work so furtively. *See Baldus II*, 849 F. Supp. 2d at 845 ("Every effort was made to keep this work out of the public eye . . . ."); *Baldus v. Wisc. Gov't Accountability Bd.*, 843 F. Supp. 2d 955, 959 (E.D. Wis. 2012) (*Baldus I*) (criticizing the Legislature for "flailing wildly in a desperate attempt to hide from both the Court and the public the true nature of exactly what transpired in the redistricting process").

In early January 2011, the Assembly Organization Committee and the Committee on Senate Organization voted not to work on redistricting themselves, but rather to outsource the entire project to the Republican law firms of Michael Best & Friedrich, LLP ("Michael Best") and the Troupis Law Office, LLC ("Troupis Office"). Tr. Exs. 355, 356; PFOF ¶¶ 31, 32. Through this unprecedented delegation to private firms, the Committees ensured that ordinary rules of legislative transparency would not apply. The Committees adhered to this decision even after the Legislature's Democratic leadership objected, instead proposing to "authoriz[e] our Legislative Council to . . . serve the Legislature in a nonpartisan fashion to meet our duty and fashion a redistricting plan." Tr. Ex. 357; PFOF ¶ 33.

As soon as the drafting process began in a designated "map room" at Michael Best, a formal written policy was issued providing that only the Assembly Speaker, the Senate Majority Leader, Foltz, Ottman, Michael Best attorney Eric McLeod, and legal staff specified by McLeod, would have unlimited access to the location. Defs.' Amend. Answer (Dkt. 56, Tr. Ex. 73) ¶ 33; Tr. Ex. 463; PFOF ¶¶ 21-23. This policy further permitted only limited access by rank-and-file legislators: "Legislators will be allowed into the office for the sole purpose of looking at and discussing their district. They are only to be present when an All Access member is present. No

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statewide or regional printouts will be on display while they are present (with the exception of existing districts). They will be asked at each visit to sign an agreement that the meeting they are attending is confidential and they are not to discuss it." Defs.' Amend. Answer (Dkt. 56, Tr. Ex. 73) ¶ 38; Tr. Ex. 463; PFOF ¶ 23.

The fixation on secrecy extended to the consulting agreement into which Gaddie entered with Michael Best on April 11, 2011. The agreement stated that "all communications between you and MB&F, as well as communications with the Senate and Assembly, and work performed by you in connection with the Representation, shall be confidential." It further provided, "You will not discuss with or otherwise disclose to anyone . . . the nature or content of any oral or written communications or of any information or work performed related to the Representation. You will not disclose or permit inspection of any papers or documents related to the Representation." And it continued, "every page must be sealed or otherwise stamped "Attorney/Client Work-Product Privilege Confidential." Tr. Ex. 169; PFOF ¶¶ 1-5, 34.[3]

Between April and June 2011, under McLeod's direction and supervision, Foltz and Ottman met with 58 Republican members of the Assembly and with 17 Republican members of the Senate to review and discuss their respective districts. Tr. Ex. 342; PFOF ¶¶ 144, 145, 147. Republican Assembly member (now Speaker) Robin Vos also attended all of the meetings with Assembly members. Foltz Dep. (Dkt. 110, Tr. Ex. 205) at 236:6-265:5; PFOF ¶ 149. All of these legislators signed secrecy agreements entitled "Confidentiality and Nondisclosure Related to Reapportionment" before being allowed to proceed with their meetings. Defs.' Amend. Answer (Dkt. 56, Tr. Ex. 73) ¶¶ 39-40; Tr. Exs. 243-244; Tr. Ex. 72. These agreements (wrongly)

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[3] On July 27, 2010, months before the redistricting process even began, Foltz and Ottman entered into retention agreements with Michael Best that included nearly identical secrecy and confidentiality provisions. RFA (Tr. Ex. 341) ¶¶ 18-19; Tr. Ex. 257. On February 9, 2011, Troupis also e-mailed Foltz, McLeod, Ottman, and others about Gaddie and Handrick's agreements. He noted that he "kept these purposely vague, on the assumption they may one day be made public." Tr. Ex. 347; PFOF ¶ 34.

characterized the legislators' conversations with Foltz and Ottman as privileged communications pursuant to the attorney-client and attorney work product privileges. Compl. (Dkt. 1, Tr. Ex. 138) Ex. 4; Defs.' Amend. Answer (Dkt. 56, Tr. Ex. 73) ¶¶ 39-40; Tr. Exs. 243-244; PFOF ¶¶ 145-150; *see also Baldus I*, 843 F. Supp. 2d at 958-59 (holding that "[t]hose argued privileges . . . exist in derogation of the truth" and are "a charade masking as privilege").

On June 20, 2011, shortly before the Legislature voted on the Current Plan, Foltz created a document for Vos entitled "General Talking Points for Robin." These talking points advised the audience of Republican legislators that "[p]ublic comments on the map may be different than what you hear in this room. Ignore the public comments." The talking points further warned the legislators not to speak about the Plan because "[p]ublic comment will lead to depositions and being called to the witness stand." Tr. Ex. 213; RFA (Tr. Ex. 341) ¶¶ 16-17; PFOF ¶ 152.

B.   Democrats Were Completely Excluded from the Plan's Drafting.

The Current Plan's authors were preoccupied not only with secrecy but also with excluding Democratic legislators from the drafting process. As noted above, Foltz and Ottman met with 58 Republican members of the Assembly (with Vos also in attendance) and with 17 Republican members of the Senate to go over their respective districts. In contrast, they did not meet with a *single* Democratic member of the Legislature about redistricting. Indeed, not a single Democrat had set eyes on even a single district (let alone the Plan in its entirety) prior to Act 43's formal introduction on July 11, 2011. *See Baldus II*, 849 F. Supp. 2d at 845; RFA (Tr. Ex. 341) ¶¶ 34-36; Defs.' Amend. Answer (Dkt. 56, Tr. Ex. 73) ¶ 38; Foltz. Dep. (Dkt. 113, Tr. Ex. 191) at 75:16-18; PFOF ¶ 160.

Moreover, Democratic legislators were left out of all of the mapmaking and meetings that took place at Michael Best even though the firm had been hired to represent the *entire*

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Legislature, not just its Republican caucus. Democratic members were officially *clients* of Michael Best, yet they were systematically barred from learning anything about the firm's activities, ostensibly on their behalf. Indeed, when efforts were made in *Baldus* to unveil the work that was carried out at Michael Best, the defendants asserted a spurious attorney-client privilege—against parties who included the firm's own nominal clients. *See Baldus I*, 843 F. Supp. 2d at 958-59; PFOF ¶¶ 30-32, 147, 150, 157.

Foltz also completely excluded Democratic Assembly members from the memos he circulated on June 19, 2011 to all 58 Republican (and Republican-leaning Independent) Assembly members, cc'ing Speaker Fitzgerald, Majority Leader Scott Suder, and Vos. These memos summarized each new district's deviation from the ideal population and also presented a map of the new district's boundaries. The memos' centerpiece, though, was a table showing how the old and new versions of each district performed in five statewide races between 2004 and 2010: "Walker '10," "JB '10," "McCain '08," "JB '06," and "Bush '04." For each race, the table displayed "Old District %," "New District %," "Change in Percentage," "Old District Votes," "New District Votes," and "Change in Votes." Tr. Ex. 342; PFOF ¶ 151.

While most of the Republican legislators who met with Foltz and Ottman abided by their secrecy agreements, Senator Leah Vukmir e-mailed Ottman on May 4, 2011 after their meeting. She wrote, "So glad we are in control!" She also offered tactical advice aimed at unseating a Democratic Assembly member, Tony Staskunas. "If you need a way to take the Staskunas seat, put a little bit of my Senate seat into New Berlin (2-3 wards could make that a GOP assembly seat)." Tr. Ex. 239; PFOF ¶ 169. This advice was apparently heeded; Staskunas's seat was identified by Handrick's "summary" spreadsheet as a "Statistical Pick Up" and one of the

"Currently held DEM seats that move to 55% or better." summary.xlsx, Tr. Exs. 239; PFOF ¶ 54.

On June 24, 2011, after Foltz and Ottman had finished their meetings with Republican legislators and Foltz had distributed his memos to them, Troupis e-mailed Foltz, Ottman, and McLeod, asking "Any issues to date with members?" McLeod responded to the group: "I think all the members are very happy with their new districts based on Tad's and Adam's reports to date." Tr. Ex. 470; PFOF ¶ 171.

C.   The Plan's Drafters Painstakingly Assessed Its Partisan Effects.

The discriminatory intent that underlay the Current Plan can be inferred not only from the secret and partisan manner in which it was drafted, but also from the extraordinarily thorough analysis its authors conducted of its partisan consequences. This analysis began as early as April 5, 2011, just days after the new Census data was released. Ottman e-mailed Andy Speth, a staffer for Wisconsin U.S. House member Paul Ryan, that in assessing district partisanship, "[f]or now, we are using a 3-race composite of GOP Presidential in 2008 and 2004 plus Attorney General for 2010." Ottman added "the caveat that we are scheduling our political expert to come in and see if he agrees or would recommend different races." Tr. Ex. 238; PFOF ¶¶ 69-70.

This "political expert"—Gaddie—entered into a consulting agreement with Michael Best on April 11, 2011. Under this agreement, his responsibilities included determining "the appropriate . . . political make-up of legislative and congressional districts in Wisconsin," "based on . . . election data or information." RFA (Tr. Ex. 341) ¶¶ 1-5; Gaddie Dep. (Dkt. 108, Tr. Ex. 161) Ex. 35, Tr. Ex. 169; PFOF ¶ 34. On April 17, 2011, less than a week after being retained, Gaddie wrote a memo about analyzing district partisanship. He first noted that because "[w]e are not in court this time," "we do not need to show that we have created a fair, balanced, or even a

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reactive map." "But, we do need to show to lawmakers the political potential of the district[s]."

He then described his efforts to date: "I have gone through the electoral data for state office and

built a partisan score for the assembly districts. It is based on a regression analysis of the

Assembly vote from 2006, 2008, and 2010, and it is based on prior election indicators of future

election performance. I am also building a series of visual aides to demonstrate the partisan

structure of Wisconsin politics. The graphs will communicate the top-to-bottom party basis of

the state politics." RFA (Tr. Ex. 341) ¶¶ 8-11; Gaddie Dep. (Dkt. 108, Tr. Ex. 161) Ex. 36, Tr.

Ex. 134; PFOF ¶ 38.[4]

On April 19, 2011, Handrick e-mailed Gaddie about his attempts with Foltz and Ottman

to identify the right prior races to include in a "composite" (or average) that could be used to

predict districts' future electoral performances. "We looked at the different combos today. The

2006 and 2010 races combined tilt too much to the GOP. I thought 06 and 10 would balance but

they don't. The northern seats were especially out of whack. So I had Tad do a composite with

the 2006 and 2010 races and all the federal races from 04 to 2010 (in other words, all statewide

races from 04 to 2010). This seems to work well both in absolute terms as well as in relation to

each other." Tr. Ex. 175; PFOF ¶¶ 71-72.

On April 20, 2011, Gaddie responded to Handrick's e-mail, and Handrick forwarded the

response to Foltz and Ottman. Gaddie wrote: "I just went ahead and ran the regression models

for 2006, 2008, and 2010 to generate open seat estimates on all of the precincts. The[] expected

GOP open seat assembly vote using the equations correlates at .96 with the 2004-2010

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[4] At his deposition, Gaddie further explained his methodology. "[Y]ou can take the actual election results, okay, the actual outcomes of previous elections, you turn those into a dependent variable, an outcome of interest, and then you regress using linear regression those results onto these larger statewide measures. The other thing you do is you attempt to take into account whether or not there's an incumbent running so that you can account for the incumbency impact." Gaddie Dep. (Dkt. 108, Tr. Ex. 161) at 44:1-11; PFOF ¶¶ 39-41; *see also id.* at 47:10-52:10, 58:3-59:17, 101:1-103:14, 196:22-198:15, 226:11-228:25.

composite, and at a .93 level with the 2006-2010 state constitutional office composite." He continued, "at this point, if you asked me, the power of the relationships indicates that the partisanship proxy you are using (all races) is an almost perfect proxy for the open seat vote, and the best proxy you'll come up with. This seems to pretty much wrap[] up the partisanship measure debate." Tr. Ex. 175; RFA (Tr. Ex. 341) ¶ 13; PFOF ¶ 73; *see also* Gaddie Dep. (Dkt. 108, Tr. Ex. 161) at 198:25-200:6.

Reassured by Gaddie that their composite measure was extremely highly correlated with the open seat baseline produced by his regression model, Foltz, Handrick, and Ottman used this composite in all of their subsequent analyses of draft plans. *See* Foltz Dep. (Dkt. 113, Tr. Ex. 191) at 80:19-21, 91:24-92:6, 96:14-98:21; Ottman Dep. (Dkt. 118, Tr. Ex. 226) at 73:10-17; PFOF ¶ 74. The composite, again, was the average of the Republican candidates' shares of the vote in every statewide election (federal and state) held in Wisconsin between 2004 and 2010. The composite was calculated at the ward level, thus enabling partisanship scores to be generated for each draft district based on the wards it contained. *See* Wisconsin_Election_Data.xlsx, Tr. Ex. 464; PFOF ¶ 75; *see also* Ottman Dep. (Dkt. 118, Tr. Ex. 226) at 74:6-75:16.[5]

Using the composite, Foltz, Handrick, and Ottman designed and then assessed a series of draft plans. *See* Foltz Dep. (Dkt. 113, Tr. Ex. 191) at 102:4-9; Ottman Dep. (Dkt. 118, Tr. Ex. 226) at 61:4-62:5; PFOF ¶ 77. These plans had titles including "Adam Assertive," "Adam Aggressive," "Joe Basemap Basic," "Joe Basemap Assertive," "Joe Assertive," "Joe Aggressive," "Joe Aggressive 2," "Tad Assertive," and "Tad Aggressive." *See, e.g.*, joe base map numbers.xlsx, Tr. Ex. 465; PFOF ¶¶ 78-81 (including district-by-district partisanship scores

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[5] At his deposition, Gaddie described Foltz, Handrick, and Ottman's methodology: They "use[d] what's called a reconstituted election technique where we take . . . several statewide elections, exogenous elections, which are elections that occur outside a district. And we attempt to get a sense of a partisan average from that." Gaddie Dep. (Dkt. 108, Tr. Ex. 161) at 43:18-25; PFOF ¶ 76.

for "Joe Basemap Basic" and "Joe Basemap Assertive");
/Users/tad/Desktop/PlanComparisons.xlsx, Tr. Ex. 467; PFOF ¶¶ 87-89 (same for "Joe
Aggressive 1" and "Joe Aggressive 2"). Gaddie testified that these monikers signaled that "[t]his
was an aggressive map. It's an assertive map. . . . it is a map that makes an assertive move
toward Republican advantage." Gaddie Dep. (Dkt. 108, Tr. Ex. 161) at 129:23-130:1, 156:4-9,
222:3-7; PFOF ¶ 44; *see also id.* at 156:4-9, 222:3-7.

For several of these plans, Foltz, Handrick, and Ottman created spreadsheets like the one
excerpted below for the "Joe Assertive" map. These spreadsheets listed, for all 99 Assembly
districts and all 33 Senate districts, their "Current" partisanship composite scores (under the
2000s plan), their "New" scores (under the draft plan), and the "Delta" between the "Current"
and "New" scores. The spreadsheets also included tables showing how the "Current Map" and
"New Map" performed in terms of "Safe GOP (55%+)," "Lean GOP (52.1-54.9%)," "Swing (48-
52%)," "Lean DEM (45.1-47.9%)," and "Safe DEM (-45%)" Assembly and Senate districts. Tr.
Ex. 366; PFOF ¶¶ 84-85, 110-111; *see also* Foltz Dep. (Dkt. 113, Tr. Ex. 191) at 129:13-142:7,
177:12-20 Ottman Dep. (Dkt. 118, Tr. Ex. 226) at 99:1-103:15.

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Figure 1: Partisanship Scores from "Joe Assertive" for Assembly Districts 1-33 and Senate Districts 1-11, Along with Summary Table for Plan. PFOF ¶ 111.

	Assembly				Senate		
DISTRICT	Current	New	Delta	DISTRICT	Current	New	Delta
1	51.15%	51.43%	0.28%	1	54.04%	53.95%	-0.09%
2	54.93%	55.01%	0.08%				
3	56.10%	55.82%	-0.28%				
4	53.31%	52.98%	-0.33%	2	55.44%	54.51%	-0.93%
5	53.74%	53.07%	-0.67%				
6	59.77%	57.76%	-2.01%				
7	48.20%	45.41%	-2.79%	3	40.52%	38.26%	-2.26%
8	22.39%	22.30%	-0.09%				
9	36.73%	35.13%	-1.60%				
10	10.27%	12.82%	2.55%	4	17.58%	19.36%	1.78%
11	11.91%	19.63%	7.72%				
12	29.23%	26.56%	-2.67%				
13	43.67%	59.22%	15.55%	5	50.62%	57.58%	6.96%
14	59.06%	57.74%	-1.32%				
15	48.21%	55.34%	7.13%				
16	14.21%	11.67%	-2.54%	6	14.12%	16.03%	1.91%
17	13.21%	19.87%	6.66%				
18	15.28%	15.35%	0.07%				
19	29.15%	28.31%	-0.84%	7	41.13%	40.81%	-0.32%
20	43.71%	43.69%	-0.02%				
21	51.92%	52.86%	0.94%				
22	39.05%	55.96%	16.91%	8	52.82%	60.68%	7.86%
23	51.70%	59.30%	7.60%				
24	67.29%	67.37%	0.08%				
25	52.79%	53.05%	0.26%	9	52.96%	54.74%	1.78%
26	45.42%	54.67%	9.25%				
27	59.20%	56.34%	-2.86%				
28	54.85%	56.43%	1.58%	10	53.14%	53.46%	0.32%
29	51.32%	50.64%	-0.68%				
30	53.29%	53.16%	-0.13%				
31	67.57%	61.04%	-6.53%	11	67.64%	59.65%	-7.99%
32	61.06%	58.28%	-2.78%				
33	72.24%	59.90%	-12.34%				

Current Map	Assembly	Senate
Safe GOP (55%+)	27	7
Lean GOP (52.1-54.9%):	13	8
Total GOP Seats (safe + lean):	40	15
Swing (48-52%):	19	5
Lean DEM (45.1-47.9%):	7	3
Safe DEM (-45%):	33	10
Total DEM Seats (safe + lean):	40	13

New Map	Assembly	Senate
Safe GOP (55%+)	36	9
New Lean GOP (52.1-54.9%):	15	7
Total GOP Seats (safe + lean):	51	16
New Swing (48-52%)	11	4
New Lean DEM (45.1-47.9%):	7	2
Safe DEM (-45%):	30	11
Total DEM Seats (safe + lean):	37	13

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Not content merely to produce these spreadsheets for individual plans, on May 25, 2011, Ottman created another file, "summaries," that tracked the performance of the "Current Map," the "Team Map," "Adam Aggressive," "Joe Assertive," and "Tad Aggressive" in terms of "Strong GOP," "Lean GOP," "Swing," "Lean DEM," and "Strong DEM" districts. This "Tale of the Tape" listed the following "Good outcomes": "statistical pickup = seat that is currently held by DEM that goes to 55% or more," "GOP incumbent strengthened = positive movement on composite," "DEM incumbent weakened = positive GOP movement on composite," and "GOP Donors = those who are helping the team." The file also listed the following "Bad outcomes": "statistical loss = seat that is currently held by GOP that goes to 45% or below," "GOP incumbent weakened = those 55% and below who have negative movement on composite," "DEM incumbent strengthened = DEM over 45% who has negative movement on composite," and "GOP non-donors = those over 55% who do not donate points." Tr. Ex. 283; PFOF ¶¶ 45-51; *see also* Foltz Dep. (Dkt. 113, Tr. Ex. 191) at 164:22-175:11; Ottman Dep. (Dkt. 118, Tr. Ex. 226) at 112:19-118:16, 122:2-127:19.

Similarly, on June 8, 2011, with the Current Plan nearly finalized, Handrick created a spreadsheet, "summary," that compared the Plan to its predecessor along multiple partisan dimensions. Five districts (13, 15, 22, 37, and 62) were "Statistical Pick Up[s]" for Republicans, or "Currently held DEM seats that move to 55% or better." Fourteen districts (21, 23, 26, 36, 42, 44, 51, 55, 68, 72, 87, 88, 93, and 96) were "GOP seats strengthened a lot," or "Currently held GOP seats that start at 55% or below that improve by at least 1%." Eleven districts (4, 5, 25, 28, 30, 34, 35, 49, 69, 75, and 86) were "GOP seats strengthened a little," or "Currently held GOP seats that start at 55% or below that improve less than 1%." In all five cases in which Democratic and Republican incumbents were paired, it was in districts (14, 22, 33, 60, and 61) whose

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partisan scores were higher than 57% Republican. And twenty Republican legislators were identified as "GOP Donors to the Team," or "Incumbents with numbers above 55% that donate to the team" by allowing their districts to be made less safe. Tr. Ex. 284; PFOF ¶¶ 52-54; *see also* Foltz Dep. (Dkt. 113, Tr. Ex. 191) at 160:1-164:11; Ottman Dep. (Dkt. 118, Tr. Ex. 226) at 106:3-112:18.[6]

For his part, Gaddie analyzed the expected partisan performance of draft plans in a more sophisticated fashion, aimed at assessing the durability of the Republican advantage. Using his open seat baseline rather than Foltz, Handrick, and Ottman's composite, he shifted the *statewide* vote share by up to ten percentage points in each party's direction. He then determined what each party's vote share would be in each *district* if it shifted by the same amount as the statewide vote share. He colored safe Republican districts (over 55% Republican) in red, Republican-leaning districts (50-55% Republican) in orange, Democratic-leaning districts (45-50% Republican) in teal, and safe Democratic districts (below 45% Republican) in blue. This sort of "uniform swing" analysis is meant to show the resilience of a gerrymander, that is, whether it retains its partisan tilt even if the state's electoral environment changes. The analysis gives rise to "S-curves"— called that because of the shape of the seat-vote relationship—one of which, for the "Joe Assertive" map, is shown below. *See* Tr. Ex. 188; PFOF ¶¶ 128-130; *see also* Gaddie Dep. (Dkt. 108, Tr. Ex. 161) at 107:2-8; PFOF ¶ 100 ("[I]f you simply looked at it visually it would create something resembling . . . an S curve. You could see the point at which a party got stronger or

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[6] On June 9, 2011, Ottman created an analogous spreadsheet for the Senate plan. It listed five districts (5, 8, 9, 21, and 23) as "GOP seats strengthened a lot," four districts (10, 17, 29, and 32) as "GOP seats strengthened a little," two districts (12 and 30) as "Dems weakened," and five Republican incumbents as "GOP donors to the team." Ottman Dep. (Dkt. 118, Tr. Ex. 226) 118:23-121:19, Ex. 89, Tr. Ex. 262.

weaker, the possibility of its district tipping in one direction or another."); *id.* at 45:1-14, 126:18-

129:18.[7]

Figure 2: S-Curve for "Joe Assertive" Showing Assembly Districts' Expected Performance for Partisan Shifts of up to 10% in Either Direction. Tr. Ex. 265; PFOF ¶¶ 128-130.

D.   The Size and Durability of the Republican Advantage Increased Steadily over Drafts of the Plan.

It is clear from the record that Foltz, Handrick, and Ottman went through numerous drafts of the Current Plan. Did the size of the predicted Republican advantage increase over these drafts? Indeed it did, and dramatically so, providing further compelling evidence of discriminatory intent. And it was not just the *size* of the Republican edge that rose, but also its *durability*, indicating that the Plan's authors sought to craft a gerrymander that would endure no matter what electoral conditions came to pass.

Plaintiffs' discovery efforts have yielded ten maps for which Foltz, Handrick, and Ottman calculated district-by-district partisanship scores (using their composite measure). These are the 2000s Map, Joe Basemap Basic, Joe Basemap Assertive, Tad MayQandD, Joe Assertive, Joe Aggressive 1, Joe Aggressive 2, Milwaukee_Gaddie, the Team Map, and the Final Map (i.e., Act 43 as enacted).[8] *See* RFA (Tr. Ex. 341) ¶ 14; Tr. Exs. 172, 364, 366, 465, 467; PFOF ¶¶ 77-98.

Nine of these plans have the same predicted Republican statewide vote share of 48.6%. (The 2000s Map's vote share is slightly lower, at 48.2%.)[9] However, the plans vary widely in the number of *seats* they predict Republicans would win for this vote share. Under the 2000s Map, Republicans would win just 49 seats, or less than a majority of the Assembly. Tr. Ex. 465. Under Joe Basemap Basic, they would win 52, or a narrow majority. *Id.* Under Joe Basemap Assertive, Republican seats would increase to 56, or a comfortable majority. *Id.* Under Tad MayQandD, Republican seats would rise by a notch to 57, and under Joe Assertive by another notch to 58. Tr. Exs. 364, 366. And under Joe Aggressive 1, Joe Aggressive 2, Milwaukee_Gaddie, the Team

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[8] The 2000s Map is referred to as the Current Map in these spreadsheets, and Milwaukee_Gaddie is referred to as Milwaukee_Gaddie_v_16_11_V1_B. Plaintiffs' designations are intended to save space and avoid confusion.

[9] These figures are simply the averages of all of the districts' partisanship scores.

Map, and the Final Map, Republican seats would reach their pinnacle of 59. Tr. Exs. 172, 467;

PFOF ¶¶ 77-98.

The below chart converts this data into efficiency gaps (using the simplified method for

calculating the measure). It shows the pro-Republican efficiency gap rising inexorably from

3.0% under the 2000s Map, to 5.4% under Joe Basemap Basic, to 9.4% under Joe Basemap

Assertive, to 10.4% under Tad MayQandD, to 11.4% under Joe Assertive, and finally to 12.4%

under Joe Aggressive 1, Joe Aggressive 2, Milwaukee_Gaddie, the Team Map, and the Final

Map. Tr. Ex. 323; *see also* Gaddie Dep. (Dkt. 108, Tr. Ex. 161) at 162:24-25; PFOF ¶¶ 107-116

(acknowledging that "there is some shift in the skew of the map between the base map and the

assertive curve"). This relentless trend reinforces the conclusion that Foltz, Handrick, and

Ottman intended to crack and pack Democratic voters and to create a plan that dramatically

benefited Republicans.[10]

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[10] Foltz, Handrick, and Ottman also analyzed an Assembly map submitted by Democratic Assembly member Fred Kessler. Using the composite measure, this map had a Republican statewide vote share of 48.7%, but predicted that Republicans would win only *40* seats for this vote share, yielding a *pro-Democratic* efficiency gap of 7.0%. This map further indicates that the Current Plan's pro-Republican tilt was far from inevitable. *See* Tr. Ex. 172.

Figure 3: Predicted Efficiency Gaps for Drafts of the Current Plan. Tr. Ex. 323; PFOF ¶ 116.
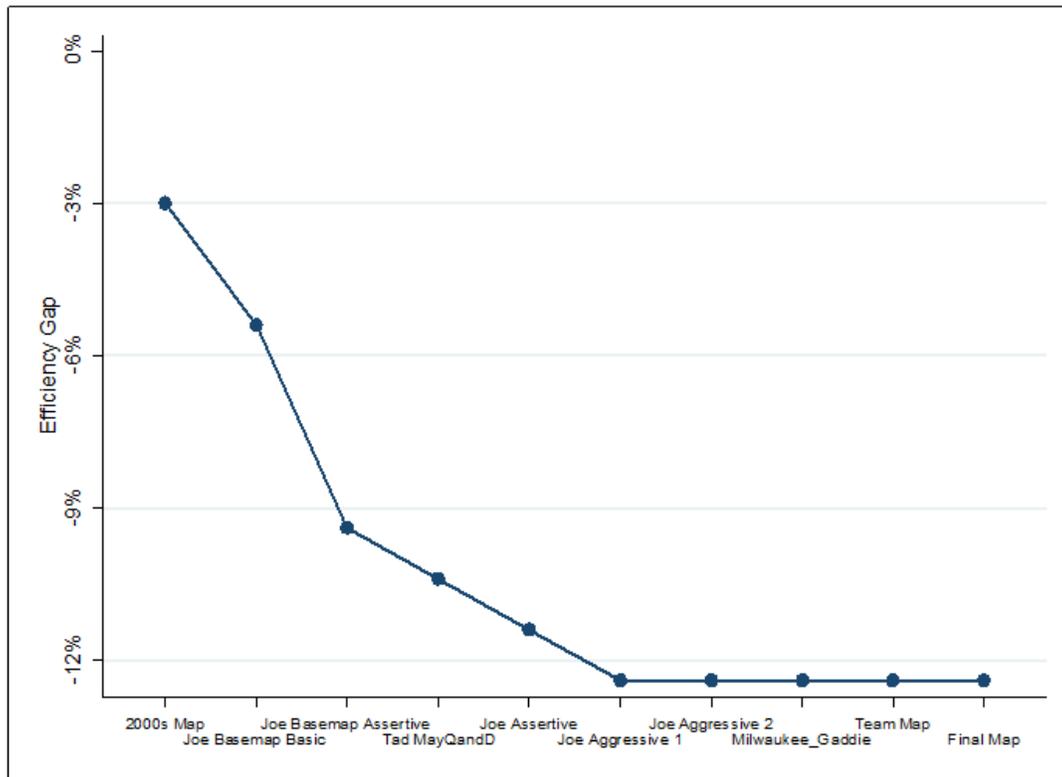
As stark as it is, this trend does not reveal whether the various drafts of the Current Plan

increased the *durability* of the Republican advantage relative to the 2000s Map. But Gaddie's S-

curves using his open seat baseline, unlike Foltz, Handrick, and Ottman's spreadsheets using

their composite measure, address exactly this issue. Plaintiffs have located S-curves for five draft

maps: the 2000s Map, Adam Assertive, Tad Aggressive, Joe Assertive, and the Team Map.[11] *See*

Composite_Current_Curve, Tr. Ex. 273; Composite_Adam_Assertive_Curve, Tr. Ex. 272;

TadAggressiveCurve,   Tr.   Ex.   280;   Composite_Joe_Assertive_Curve,   Tr.   Ex.   274;

Team_Map_Curve, Tr. Ex. 282; PFOF ¶¶ 120-139; *see also* Ottman Dep. (Dkt. 118, Tr. Ex.

226) at 68:9 (referring to an S-curve as a "responsiveness curve").

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[11] It appears that, of these, the Team Map was closest to the plan that was enacted. *See* Foltz Dep. (Dkt. 113, Tr. Ex. 191) at 144:18-23; Gaddie Dep. (Dkt. 108, Tr. Ex. 161) at 164:21-22 ("[T]his would be a final version of a map that was agreed to by the mapmakers."); Ottman Dep. (Dkt. 118, Tr. Ex. 226) at 111:14-23; PFOF ¶¶ 141-142.

For each of these S-curves, plaintiffs calculated the efficiency gap (again using the simplified method) for the benchmark column, which assumed a Republican statewide vote share of about 49%, as well as for the All_46, All_47, All_48, All_50, All_51, and All_52 columns, which shifted this vote share by up to three percentage points in either direction. This sensitivity testing indicates how the plans were expected to perform under conditions including those of 2012 (which corresponded almost perfectly to the 49% benchmark), 2014 (a good Republican year very close to All_52), and 2008 (a good Democratic year very close to All_46).[12]

The below chart plots the efficiency gap ranges for each plan, as well as each plan's average efficiency gap across the different electoral environments. The 2000s Map has an efficiency gap stretching all the way from 5.1% in a *Democratic* direction (in the All_46 scenario) to 11.1% in a Republican direction (in the All_52 scenario). Tr. Ex. 273; PFOF ¶ 140. In contrast, all of the draft maps have much more confined (and pro-Republican) efficiency gap ranges. Adam Assertive has a pro-Republican efficiency gap varying from 4.2% (in All_46) to 6.4% (in All_52). Tr. Ex. 272; PFOF ¶ 140. Joe Assertive has a pro-Republican efficiency gap varying from 3.5% (in All_46) to 11.7% (in All_50 and All_51). Tr. Ex. 274; PFOF ¶ 140. Tad Aggressive has a pro-Republican efficiency gap varying from 3.5% (in All_46) to 10.6% (in All_48 and All_50). Tr. Ex. 280; PFOF ¶ 140. And the Team Map has a pro-Republican efficiency gap varying from 4.8% (in All_46) to 11.0% (in All_52). Tr. Ex. 282; PFOF ¶ 140; *see also* Gaddie Dep. (Dkt. 108, Tr. Ex. 161) at 136:8-10 (agreeing that "[t]he band of responsive districts at the mid point [is] broader" under the 2000s Map).

This data shows that the Current Plan's drafters aimed not only to give Republicans a significant advantage, but also to make this advantage *stick* even if Wisconsin's electoral

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[12] However, Gaddie's sensitivity testing was somewhat less sophisticated than Professor Mayer's, since it assumed that seats would remain open throughout the decade. *See* Mayer Rebuttal Rpt. (Dkt. 95, Tr. Ex. 114) at 25-29; PFOF ¶ 119 (taking into account incumbency in sensitivity testing).

conditions changed. This is why the S-curves were produced in the first place. And this is also

what the S-curves show as a substantive matter: the high level of responsiveness in the 2000s

Map systematically contracting in Adam Assertive, Joe Assertive, Tad Aggressive, and the Team

Map. Indeed, due to this contraction, three of the four draft plans (all but Adam Assertive) did

not anticipate Democrats capturing a majority of the Assembly even if they won as much as *53%*

of the statewide vote.

Figure 4: Predicted Efficiency Gap Ranges, and Average Efficiency Gaps over These Ranges, for Drafts of the Current Plan. Tr. Ex. 323; PFOF ¶ 140.
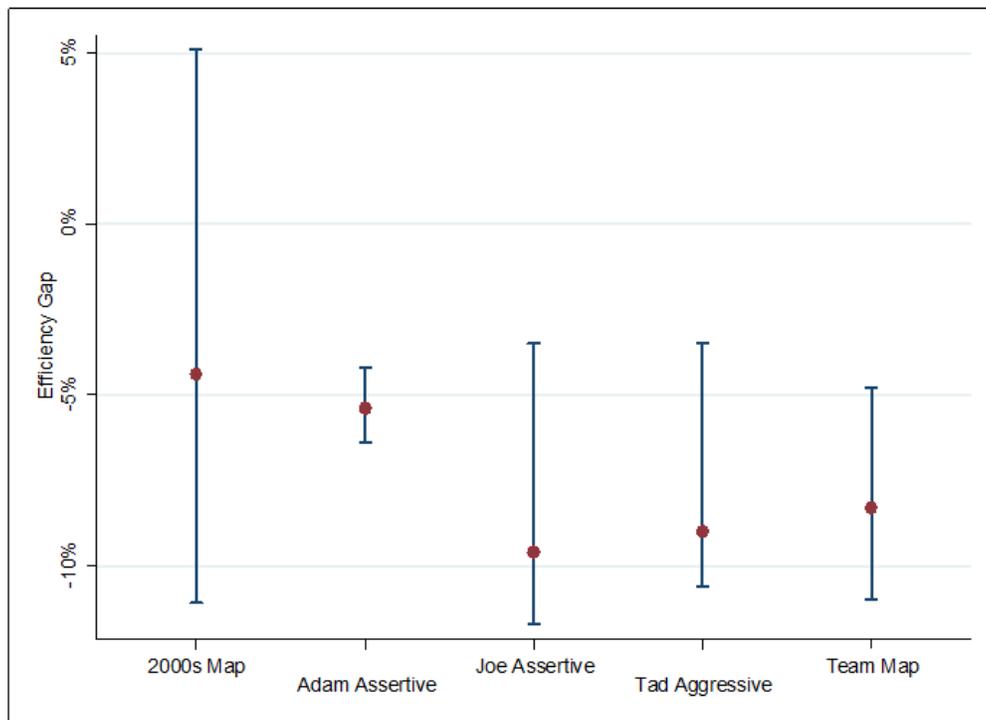
E.   The Plan Was Rushed to Passage with Little Opportunity for Debate.

The final confirmation of the discriminatory intent underpinning Act 43 comes from the

highly rushed—and partisan—manner in which it was introduced, debated, and enacted. In early

July 2011, days before the bill was to be unveiled, Ottman prepared notes for remarks he

delivered to a Republican-only meeting of legislators. These notes confirmed the durability of

the gerrymander they were about to adopt, stating, "The maps we pass will determine who's here

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10 years from now." The notes added, "We have an opportunity and an obligation to draw these maps that Republicans haven't had in decades." Tr. Ex. 241; PFOF ¶ 55.

Also in early July 2011, Ottman prepared notes for the bill's public hearing with the aim of concealing the partisan nature of the drafting process. One of the questions he anticipated was "What is the partisan makeup of these districts?" His planned response was "Everyone has the ability to draw their own conclusions and interpret how past elections may play out in the new districts." Another question he anticipated was "Why were Republican Attorneys hired to draw maps but Democrats were not allowed attorneys to draw maps?" His planned response was "Your staff has had all the same hardware, software and data available to them for over a year. . . . I don't know what your staff has been doing with all that equipment and data. Our staff has been working on this bill." Tr. Ex. 237; PFOF ¶ 56.

On July 12, 2011, Ottman e-mailed Foltz and several others involved with the Current Plan's drafting. He recommended deleting negative information about how many counties the Plan split from memos that were being prepared for the next day's hearing. "One thing I would recommend changing is the enumeration of the County splits, since it doesn't tell a great story . . . ." Instead, he advised focusing on the number of split municipalities. "The municipal splits are a better comparison and a higher priority."[13] Tr. Ex. 362; PFOF ¶¶ 57-58.

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[13] There is abundant further evidence that the Current Plan's drafters were not particularly concerned about traditional redistricting criteria. *First*, Foltz, Handrick, and Ottman did not save any compactness analyses for the draft maps they drew, and did not receive any such analyses from Gaddie until the end of the drafting process. *See* Foltz Dep. (Dkt. 113, Tr. Ex. 191) at 49:23-50:14; Gaddie Dep. (Dkt. 108, Tr. Ex. 161) at 239:23-240:5; Ottman Dep. (Dkt. 118, Tr. Ex. 226) at 43:3-44:17; PFOF ¶ 59.

Second, Republican attorney Jim Troupis wrote a memo to Foltz and Ottman on December 15, 2011, roughly a week before they were deposed in *Baldus*, advising them to use population equality to defend gerrymandered districts. He recommended, "When there are other issues about criteria, e.g. political gerrymandering & race, we will want to make sure that those districts that may be most questioned meet Population criteria as closely as possible." He also noted that the criteria used to design the Current Plan included "Political Change," "Incumbent protection—who is and is not protected/jeopardized," and "R pairs/D pairs." Tr. Ex. 469; PFOF ¶¶ 66-67.

And *third*, in another spreadsheet of Foltz's, he again revealed the Plan's authors' intent to manipulate districts' population deviations in order to shield their partisan choices from scrutiny. In this file, he divided existing

After all of this buildup, the sole public hearing on Act 43 took place on July 13, 2011, just two days after the bill was introduced by the Committee on Senate Organization. The bill was passed by the Senate six days later, on July 19, 2011, and by the Assembly the very next day, on July 20, 2011. Both of these votes were strictly along party lines. *See* Defs.' Amend. Answer (Dkt. 56, Tr. Ex. 73) at 7; PFOF ¶ 161. A district map that had been painstakingly and clandestinely crafted for months was thus revealed to the public, considered by the Legislature, and voted on by both chambers in the span of little more than a week. It is little wonder that Speth, in an e-mail to Foltz, Ottman, and others, described this "legislative agenda" as "very aggressive." Tr. Ex. 208; PFOF ¶ 173.

Haste, moreover, was not the only irregular aspect of Act 43's passage. Because its districts were crafted without any consideration of ward boundaries, they necessitated the "upending [of] more than a century of practice in Wisconsin" with respect to designing wards after each Census. *Baldus II*, 849 F. Supp. 2d at 846. Under this tradition, municipalities had drawn wards *first*, and congressional and legislative districts had then preserved all of these wards intact. But in this cycle, the districts were shaped first, and the Legislature then directed municipalities around the state to revise their wards to make them fit entirely within the districts. Indeed, the Legislature passed the statute containing this edict, Act 39, less than a week after enacting Act 43. *See id.* at 845-46; *see also* Tr. Ex. 331; Handrick Dep. (Dkt. 119, Tr. Ex. 290) at 35-36, 146-50, 169-70, 194-95, 220-21; PFOF ¶ 178.[14]

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districts into three categories, "GOP," "Indp.," and "Dem," and listed the population deviation of each district, color-coding so that green indicated overpopulation and red underpopulation. RFA (Tr. Ex. 341) ¶ 15; Tr. Ex. 363; PFOF ¶¶ 63-65.

[14] The Current Plan's drafters had originally planned to adhere to Wisconsin's time-honored approach of drawing wards first and districts second. On February 25, 2011, Ottman e-mailed Troupis, McLeod, and Foltz with a proposed "Redistricting timeline." Under this timeline, counties and municipalities would have had from March to October 2011 to form supervisory districts and wards. Districts would then have been designed from "October 2011 to early 2012." The Plan's drafters evidently abandoned this timeline once it became inconvenient for them. Tr. Ex. 361; PFOF ¶ 177.

F.   **Plaintiffs and Other Democratic Voters Were Discriminated Against Because of Their Political Views.**

The discriminatory intent animating the Current Plan was nothing more than the bare aim of discriminating against plaintiffs and other Democratic voters on the basis of their political views and their past and predicted political activity. Plaintiffs in this action—William Whitford, Roger Anclam, Emily Bunting, Mary Lynne Donohue, Helen Harris, Wayne Jensen, Wendy Sue Johnson, Janet Mitchell, James Seaton, Allison Seaton, Jerome Wallace, and Don Winter—are all qualified and registered Wisconsin voters who support the Democratic Party and Democratic candidates for office. PFOF ¶¶ 1-17. The Current Plan's authors used the electoral data available about plaintiffs and other Democratic voters to systematically crack and pack them, thus deliberately impeding their rights to political expression and representation. Such "burdening or penalizing citizens because of their participation in the electoral process, their voting history, their association with a political party, or their expression of political views" offends both the First and Fourteenth Amendments. *Vieth*, 541 U.S. at 314 (Kennedy, J., concurring in the judgment).

II.   **Other Measures of Partisan Symmetry Confirm that the Current Plan Is an Egregious Outlier.**

In both the summary judgment oral argument and its ensuing decision, the Court expressed interest in measures of partisan symmetry other than the efficiency gap. *See* Summ. Jdgmt. Oral Arg. Tr. (Dkt. 89, Tr. Ex. 222) at 70-71; Summ. Jdgmt. Op. (Dkt. 94) at 10. From the beginning of this case, plaintiffs have argued that the Court may use these other measures instead of, or in addition to, the efficiency gap to assess plans' partisan consequences. *See* Compl. (Dkt. 1, Tr. Ex. 138) ¶¶ 9, 88; Pls.' Br. in Opp. to Defs.' Mot. to Dis. (Dkt. 31) at 8, 11,

17, 25; Pls.' Br. in Opp. to Defs.' Mot. for Summ. Jdgmt. (Dkt. 68) at 42, 53-54, 70. Accordingly, plaintiffs provide additional information here about two partisan symmetry metrics, partisan bias and the mean-median difference, drawn from the academic literature and the evidence in the record.

Partisan bias is the difference between the shares of *seats* that the major parties would win if they each received the same share (typically 50%) of the statewide *vote*. *See LULAC*, 548 U.S. at 420 (opinion of Kennedy, J.) (bias is "the extent to which a majority party would fare better than the minority party, should their respective shares of the vote reverse"); *id.* at 466 (Stevens, J., concurring in part and dissenting in part) (bias is absent when "each [party] receives the same fraction of legislative seats for a particular vote percentage as the other party would receive if it had received the same percentage"); Bernard Grofman & Gary King, *The Future of Partisan Symmetry as a Judicial Test for Partisan Gerrymandering After* LULAC v. Perry, 6 Election L.J. 2, 6-13 (2007), Tr. Ex. 333; Jackman Rpt. (Dkt. 62, Tr. Ex. 34) at 11-15; PFOF ¶¶ 223-225. For example, if Democrats would win 55% of a plan's districts if they received 50% of the statewide vote (leaving 45% of the districts to be won by Republicans), then the plan would have a pro-Democratic bias of 5%.

The calculation of partisan bias is relatively straightforward. An analyst first obtains district-by-district electoral results as well as the statewide vote share for each party. Next, the analyst *shifts* the observed vote share in each district by the same amount: the amount necessary to simulate a tied statewide election (or alternatively an election in which the parties' respective vote shares flipped). The analyst then tallies how many districts each party would have won and lost in this hypothetical election. The difference between the parties' seat shares in the hypothetical election is partisan bias. For instance, if Republicans won 47% of the statewide

vote, then the observed vote share in each district would be increased by 3% to simulate a tied election. Partisan bias would be determined by comparing the parties' seat shares after this uniform swing was carried out. *See* Jackman Rpt. (Dkt. 62, Tr. Ex. 34) at 11-14; PFOF ¶ 226.

When a statewide election *is* in fact tied, partisan bias and the efficiency gap are identical. This is because the $(S - 0.5) - 2(V - 0.5)$ formula used to calculate the simplified form of the efficiency gap reduces to $(S - 0.5)$ when the parties' vote shares (V) are both 50%. In turn, $(S - 0.5)$ is the very definition of partisan bias: the difference between the parties' seat shares (S) and 50% in a tied election. *See id.* at 17, 19; Nicholas O. Stephanopoulos & Eric M. McGhee, *Partisan Gerrymandering and the Efficiency Gap*, 82 U. Chi. L. Rev. 831, 856 (2015), Tr. Ex. 141; PFOF ¶ 227. Partisan bias and the efficiency gap are also very similar when statewide elections are competitive, that is, closer than 55% to 45%. Under these conditions, the uniform swing that must be carried out to compute partisan bias is relatively small, meaning that there is not much opportunity for the measure to diverge from the efficiency gap. *See* Eric M. McGhee, *Measuring Partisan Bias in Single-Member District Electoral Systems*, 39 Legis. Stud. Q. 55, 67, 69 (2014), Tr. Ex. 98 (finding that both partisan bias and the efficiency gap are excellent predictors of party seat share in competitive elections); PFOF ¶ 229-230.

Because Wisconsin has generally had competitive Assembly elections over the last forty years, we would expect its partisan bias and efficiency gap trends to be comparable. As the below chart illustrates, this is indeed the case. The measures are less consistent in the 1970s and 1980s, when Democrats often received more than 55% of the statewide vote. But from the 1990s to the present—a period in which all Assembly elections have been closer than 55% to 45%—the metrics track almost perfectly. They both grow steadily more pro-Republican from 1994 to 2006, they both move in a Democratic direction in 2008 and 2010, and they both show an

unprecedented Republican advantage in 2012 and 2014. *See* Tr. Exs. 461-462; PFOF ¶ 228. This

data should reassure the Court that there is nothing idiosyncratic about the statistical picture

painted by the efficiency gap. In competitive settings like Wisconsin, the picture is strongly

confirmed by partisan bias.

Figure 5: Efficiency Gaps and Partisan Biases for Wisconsin Assembly Plans, 1972-2014. Tr. Ex. 329; PFOF ¶ 228.
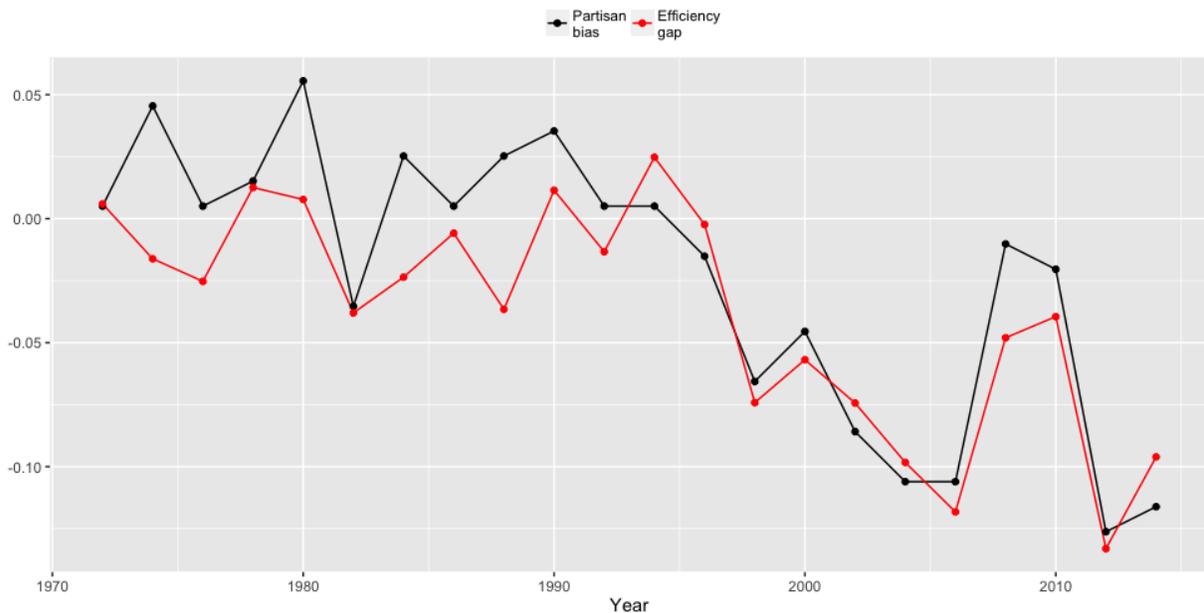
In *uncompetitive* settings, however, partisan bias becomes less reliable and, in plaintiffs'

view, should not be used. This is because larger uniform swings need to be carried out in these

settings to simulate a tied election (let alone an election in which the parties' vote shares

flipped). These larger swings are politically implausible and subject to a high degree of error;

just think about trying to predict what would happen if Massachusetts or Utah suddenly became

tossup states. For precisely this reason, even advocates of partisan bias recommend applying the

measure only to competitive statewide elections. *See, e.g.,* Andrew Gelman & Gary King,

Enhancing Democracy Through Legislative Redistricting, 88 Am. Pol. Sci. Rev. 541, 545

(1994), Tr. Ex. 100 ("We therefore limit our analysis to 'competitive electoral systems' . . . .");

Grofman & King, Tr. Ex. 333 at 19; PFOF ¶ 229 (partisan bias is "intended only for jurisdictions where the politics is competitive").

The two charts below highlight the unreliability of partisan bias in uncompetitive settings. The first (Figure 6) plots the difference between the efficiency gap and partisan bias versus the Democratic share of the statewide vote in state house elections from 1972 to 2014. The data points resemble a bowtie, tightly bunched when elections are competitive but fanning in all directions when they are uncompetitive. *See* Tr. Exs. 325, 461-462; PFOF ¶ 230; *see also* Stephanopoulos & McGhee, Tr. Ex. 141 at 858 (presenting an analogous scatter plot). The second chart (Figure 7) indicates how the efficiency gap and partisan bias are related in competitive (closer than 55% to 45%) and uncompetitive (further apart than 55% to 45%) state house elections from 1972 to 2014. In competitive elections, the measures are very highly correlated (r = 0.89) and cluster closely around the best fit line. But in uncompetitive elections, the metrics are only modestly correlated (r = 0.58) and diverge much more from the best fit line. *See* Tr. Exs. 461-462; PFOF ¶ 231. Plaintiffs therefore recommend that partisan bias be used as a robustness check only when statewide elections are relatively close.[15]

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[15] One final property of partisan bias warrants mention: its relative stability from election to election. This stability is a consequence of the uniform swings on which the measure relies. These swings return the analysis to the benchmark of the hypothetical tied election, no matter what transpired in the election that actually took place. Refer back, for example, to Gaddie's S-curves. Each shift of the vote results in different districts being won and lost, and so a different efficiency gap. But because each shift is *undone* to calculate partisan bias, the measure remains constant in every column of the chart. *See* McGhee, Tr. Ex. 98 at 73; PFOF ¶¶ 232-234 (finding that partisan bias exhibits "more persistence through time"). *But see* Stephanopoulos & McGhee, Tr. Ex. 141 at 864 (pointing out that "this relative stability is an artifact . . . stemming from the fact that [partisan bias] . . . . negates all uniform swings that may have occurred, and even negates any *non*-uniform swings that fail to move any districts into or out of the counterfactual window").

Figure 6: Efficiency Gap Minus Partisan Bias Versus Democratic Share of Statewide Vote, State House Elections, 1972-2014, Current Plan in Red. Tr. Ex. 325; PFOF ¶ 230.
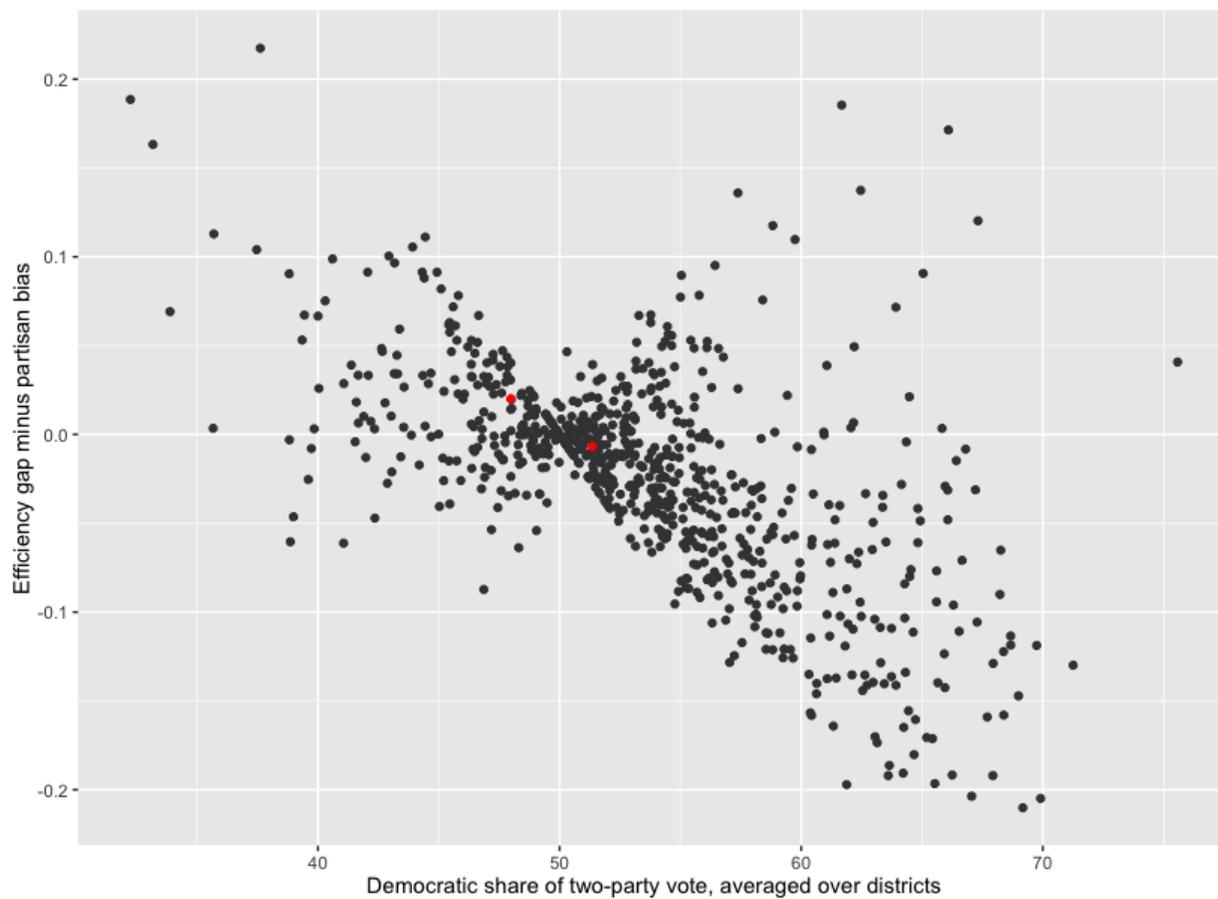
Figure 7: Efficiency Gap Versus Partisan Bias, Competitive and Uncompetitive Elections, State House Elections, 1972-2014, Current Plan in Red. Tr. Ex. 325; PFOF ¶ 231.
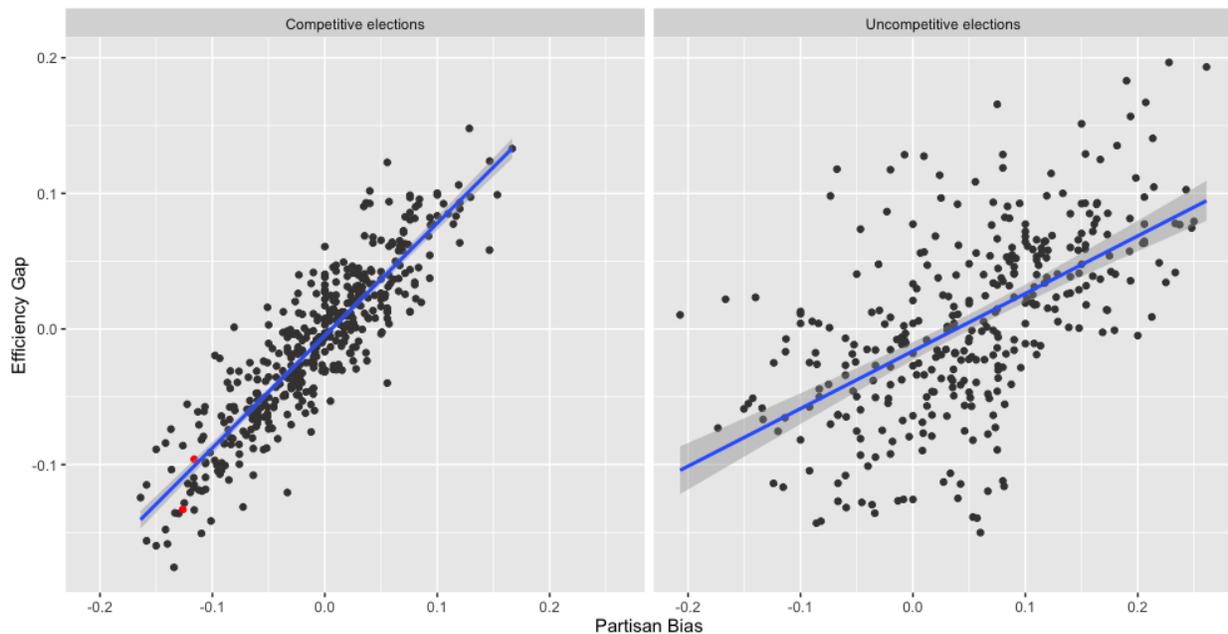
While partisan bias and the efficiency gap are the most established measures of partisan symmetry, scholars have recently advanced still another metric: the mean-median difference. This is simply the difference between a party's *mean* vote share and *median* vote share across all of the districts in a plan. The intuition is that when the mean and the median diverge significantly, the district distribution is skewed in favor of one party and against its opponent. Conversely, when the mean and the median are close, the district distribution is more symmetric. *See* Michael D. McDonald & Robin E. Best, *Unfair Partisan Gerrymanders in Politics and Law: A Diagnostic Applied to Six Cases*, 14 Election L.J. 312 (2015), Tr. Ex. 405; Samuel S. Wang, *Three Tests for Practical Evaluation of Partisan Gerrymandering*, 68 Stan. L. Rev. (forthcoming 2016), Tr. Ex. 408; PFOF ¶ 235.

Unlike partisan bias and the efficiency gap, the mean-median difference is denominated in units of *vote share* rather than *seat share*. PFOF ¶ 236. In fact, the measure ignores which party actually wins each district, as this is immaterial to the calculation of the mean and the

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median. The mean-median difference also has an arithmetical relationship with partisan bias. It is partisan bias divided by the slope of a plan's seat-vote curve at the point of a tied election. As this slope is usually close to two, the magnitude of the mean-median difference is usually about half that of partisan bias. *See* McDonald & Best, Tr. Ex. 405 at 315 (illustrating these points graphically).

Thanks to their arithmetical connection, the mean-median difference and partisan bias are highly correlated in both competitive (r = 0.91) and uncompetitive (r = 0.83) elections. Also thanks to this connection, the mean-median difference has essentially the same links to the efficiency gap as does partisan bias. That is, the mean-median difference is highly correlated with the efficiency gap in competitive elections (r = 0.80) but only somewhat correlated with it in uncompetitive ones (r = 0.38). *See* Tr. Exs. 461-462; PFOF ¶ 237. Both because the mean-median difference is so similar to partisan bias, and because its facial validity as a measure of gerrymandering is undermined by its exclusive focus on votes rather than seats, plaintiffs recommend using it, at most, as a secondary robustness check in competitive settings.

As Wisconsin is a competitive setting, at least under the Current Plan, it is worthwhile to note the Plan's mean-median differences. In 2012, the mean Democratic vote share was 51.4% and the median Democratic vote share was 45.7%, resulting in a pro-Republican differential of 5.6%. In 2014, the mean Democratic vote share was 48.0% and the median Democratic vote share was 41.1%, for a pro-Republican differential of 6.9%. These are very large mean-median differences—Wisconsin's average from 1972 to 2010 was just 1.1%—that further confirm the severity of the Plan's partisan asymmetry. *See* Tr. Exs. 461-462; PFOF ¶ 238.

III.   Comparing the Current Plan to Prior Wisconsin Plans Shows that Its Extreme Asymmetry Is Unjustified.

In its summary judgment decision, the Court also asked for "comparative evidence of prior redistricting plans in the State of Wisconsin." Summ. Jdgmt. Op. (Dkt. 94) at 30. This kind of evidence is probative of both discriminatory intent (which may be inferred if the Current Plan is no better than its predecessors in terms of traditional redistricting criteria but much worse in terms of partisan symmetry) and justification (which is then presumably absent). Plaintiffs therefore present here the data they have been able to find with respect to current and previous Assembly plans' compliance with traditional criteria and levels of partisan symmetry.

Plaintiffs note at the outset that, due to inconsistencies in prior plans' shapefiles, they have not been able to assess directly these maps' compliance with traditional criteria. Instead, they have had to rely on statements by the courts that designed the plans as well as the defendants' pretrial submissions in *Baldus*. These sources provide three types of information with respect to traditional criteria: (1) the number of county splits in each cycle from the 1970s onward; (2) the number of municipal splits from the 1990s onward; and (3) average district compactness for the 2000s Map and the Current Plan. *See Baumgart v. Wendelberger*, 2002 WL 34127471, at *7 (E.D. Wis. July 11, 2002); *Prosser v. Elections Bd.*, 793 F. Supp. 859, 871 (W.D. Wis. 1992); *Wisc. State AFL-CIO v. Elections Bd.*, 543 F. Supp. 630, 635 (E.D. Wis. 1982); Joint Pretrial Rpt., Ex. A, tbls. 20-21, *Baldus v. Brennan*, 2:11-cv-00562-JPS-DPW-RMD, Tr. Ex. 178; PFOF ¶ 363.

However, plaintiffs did locate an intriguing e-mail that helps explain the relatively large partisan asymmetry of the court-drawn 2000s Map. On June 21, 2011, Troupis wrote to Foltz, McLeod, and Ottman about experts that the Legislature could choose to hire in the event of litigation. Troupis strongly advocated Bernard Grofman, a political scientist at UC-Irvine who

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was retained by the Republican intervenors in the 2000s *Baumgart* litigation, and who "has been recognized by courts as perhaps the single most respected political scientist addressing matters of redistricting." Troupis added, "Without Grofman in 2001 we would not have succeeded in getting the map we did get as Easterbrook followed his direction in drawing the map." Tr. Ex. 348; PFOF ¶ 341. This message in no way impugns the integrity of the *Baumgart* court. But it does suggest that the court may have unwittingly crafted a pro-Republican map by heeding the advice of the Republican intervenors' expert.

In any event, the below chart plots the average efficiency gap of each Assembly plan from the 1970s to the present versus the number of counties split by each plan. (Again, only county split data is available from the 1970s to today.) The Current Plan is clearly the most extreme along both dimensions, exhibiting an average efficiency gap of -11.5% and splitting 58 of Wisconsin's 72 counties. All earlier plans both exhibited much smaller efficiency gaps and split fewer (often many fewer) counties. The chart also demonstrates that, in Wisconsin at least, there is no conflict between respecting county boundaries and designing a symmetric map. In fact, the relationship runs in exactly the opposite direction; greater respect for county lines is strongly associated with a *smaller* efficiency gap. *See* Jackman Rpt. (Dkt. 62, Tr. Ex. 34) at 72; Tr. Ex. 324, PFOF ¶ 364.

Figure 8: Average Efficiency Gap Versus Counties Split, Wisconsin Assembly Plans from 1970s to Present. Tr. Ex. 324; PFOF ¶ 364.
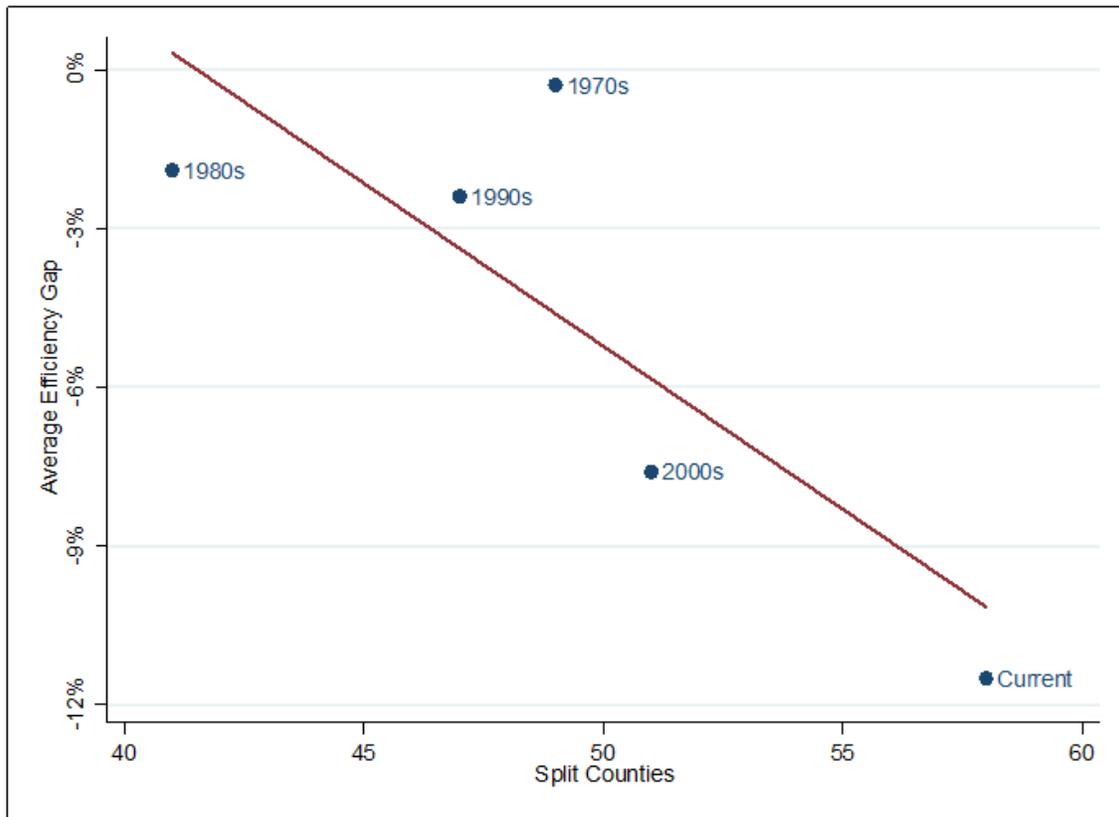
The story is much the same with other traditional criteria. The Current Plan splits 62 municipalities, which is more than the 2000s Map (50) and less than the 1990s map (72). But the Current Plan's average efficiency gap (-11.5%) is much worse than either the 2000s Map's (-7.6%) or the 1990s map's (-2.4%). Similarly, the Current Plan's average smallest-circle and perimeter-to-area compactness scores are both worse than those of the 2000s Map (0.39 versus 0.41, and 0.28 versus 0.29, respectively). And again, the Current Plan is not just more noncompact but also more asymmetric than the 2000s Map. *See id.*; PFOF ¶ 363. In short, this historical examination spanning five redistricting cycles lends no support to any attempt to justify the Current Plan based on compliance with traditional criteria. Previous Assembly plans satisfied these criteria at least as well while exhibiting much smaller efficiency gaps.

IV.   **Comparing the Current Plan to Simulated Wisconsin Plans Further Confirms that Its Extreme Asymmetry Is Unjustified.**

As discussed above, one way to draw inferences about a plan's motivations and justifications is to consider "comparative evidence of prior redistricting plans." Summ. Jdgmt. Op. (Dkt. 94) at 30. A logically related approach is to examine a large number of lawful simulated maps. If the challenged plan is similar to many of the simulated maps in terms of partisan symmetry and compliance with traditional criteria, this undermines claims that the plan was driven by partisanship and cannot be neutrally justified. On the other hand, if the challenged plan is an outlier relative to the simulated maps, this provides further evidence that the plan was driven by partisanship and lacks a legitimate justification.

Using a simulation technique that defendants have repeatedly praised, University of Michigan political scientist and noted redistricting expert Professor Jowei Chen created 200 randomly drawn Assembly plans for Wisconsin. His algorithm used four line-drawing criteria: (1) equal population, so that no district deviates by more than 1% from the ideal population; (2) the preservation of county boundaries; (3) the preservation of municipal boundaries; and (4) smallest-circle (also known as Reock) compactness. Additionally, Professor Chen froze in place the Current Plan's six black-majority districts (10, 11, 12, 16, 17, 18) and one Hispanic-majority district (8) to ensure compliance with the Voting Rights Act. And he did not consider electoral data in any way when programming and running his algorithm. *See* Jowei Chen, *Wisconsin Act 43 Analysis*, 16 Election L.J. (forthcoming 2017) (manuscript at 5-8), Tr. Ex. 156; Mayer Dep. (Dkt. 99) at 10:9-16, 138:3-21; PFOF ¶ 377.

Plaintiffs note that this analysis by Professor Chen does not fall victim to their criticisms of his earlier work with Professor Jonathan Rodden. *See* Pls.' Br. in Opp. to Defs.' Mot. for Summ. Jdgmt. (Dkt. 68) at 14-15. Here, unlike in that work, Professor Chen takes into account

redistricting requirements such as respect for county boundaries, respect for municipal boundaries, and compliance with the Voting Rights Act. Here, he employs recent data from the 2012 election rather than outdated data from 2000. Here, his results are consistent with the findings of other scholars. And here, it is irrelevant that his simulated maps may not be a representative sample of all possible maps that satisfy his criteria, since the point of the exercise is simply to find out whether maps both more symmetric than the Current Plan and at least as compliant with traditional criteria could have been designed.

Professor Chen's analysis gives a crystal clear answer to this question. *Every one* of his 200 simulated maps keeps intact more counties than the Current Plan (18-25 versus 14). *Every one* also keeps intact more municipalities (1837-1853 versus 1825). *Every one* has a better average smallest-circle compactness score as well (0.43-0.46 versus 0.37).[16] And most importantly, *every one* has a much smaller efficiency gap. Fully 144 of the 200 simulated maps have efficiency gaps within 3% of zero. Forty-six of them have efficiency gaps within *1%* of zero. And the *very worst* efficiency gap exhibited by any simulated map is -5.8%, or less than half of that exhibited by the Current Plan. *See* Chen, Tr. Ex. 156 at 1, 5-8, 10, Tr. Exs. 158-160; Mayer Dep. (Dkt. 99) at 10:9-16, 138:3-21; PFOF ¶¶ 378-383.

The three charts below illustrate these points graphically. The first (Figure 9) plots counties kept intact by a plan versus the plan's efficiency gap. It reveals the Current Plan to be a dramatic outlier along both dimensions, splitting more counties and displaying greater asymmetry than any simulated map. Chen, Tr. Ex. 156 at 10; Tr. Exs. 157-159; PFOF ¶ 383. The second (Figure 10) plots municipalities kept intact by a plan versus the plan's efficiency gap. It

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[16] Professor Chen's average smallest-circle compactness score for the Current Plan, 0.37, is slightly different from the one reported in the defendants' pretrial submissions in *Baldus*, 0.39. This difference illustrates the challenge plaintiffs faced in trying to assess plans' compliance with traditional criteria directly.

also shows the Current Plan to be a striking outlier relative to the simulated maps. Chen, Tr. Ex. 156 at 12; Tr. Exs. 157-159; PFOF ¶ 383.

Lastly, the third chart (Figure 11) presents the Current Plan's districts and the average simulated map's districts in order from least to most Republican. The two distributions are most different in their respective centers, where about ten Current Plan districts lie above the 50% threshold while about ten simulated districts fall below; and on the right-hand side, where only seven Current Plan districts are above 60% compared to roughly a dozen simulated districts. The chart highlights two of the techniques that account for the Current Plan's extreme Republican tilt: the cracking of Democratic voters in districts they otherwise would have won narrowly, and the unpacking of Republican voters in districts they otherwise would have won by large margins. The chart also further undermines any claim that the Current Plan had neutral motivations or justifications. Chen, Tr. Ex. 156 at 17; Tr. Ex. 160: PFOF ¶ 383.

Figure 9: Counties Preserved Intact Versus Efficiency Gap for 200 Simulated Plans and Act 43. Tr. Ex. 158; PFOF ¶ 383.

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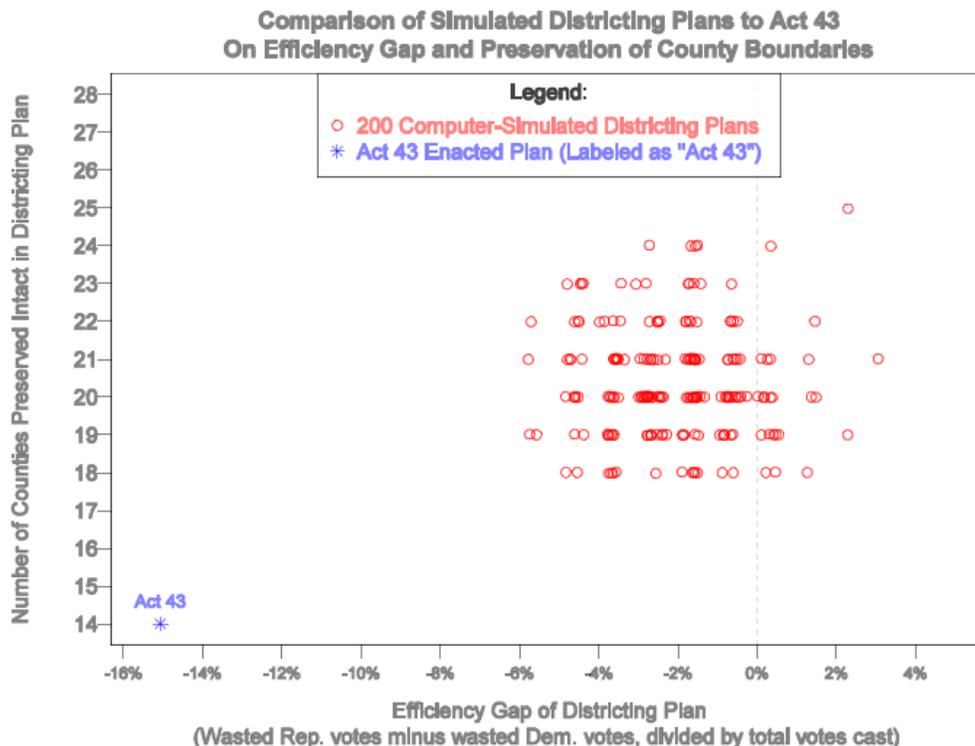
Figure 10: Municipalities Preserved Intact Versus Efficiency Gap for 200 Simulated Plans and Act 43. Tr. Ex. 159; PFOF ¶ 383.
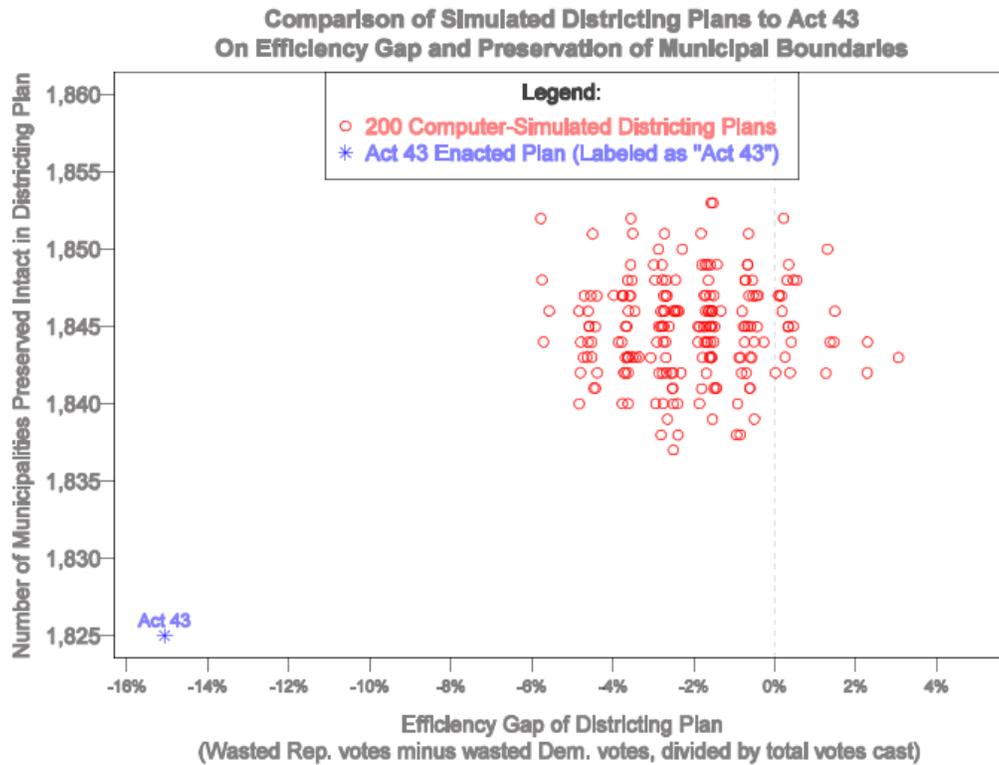
Figure 11: Assembly Districts in Order of Partisanship for Act 43 and Mean Simulated Plan. Tr. Ex. 160; PFOF ¶ 384.

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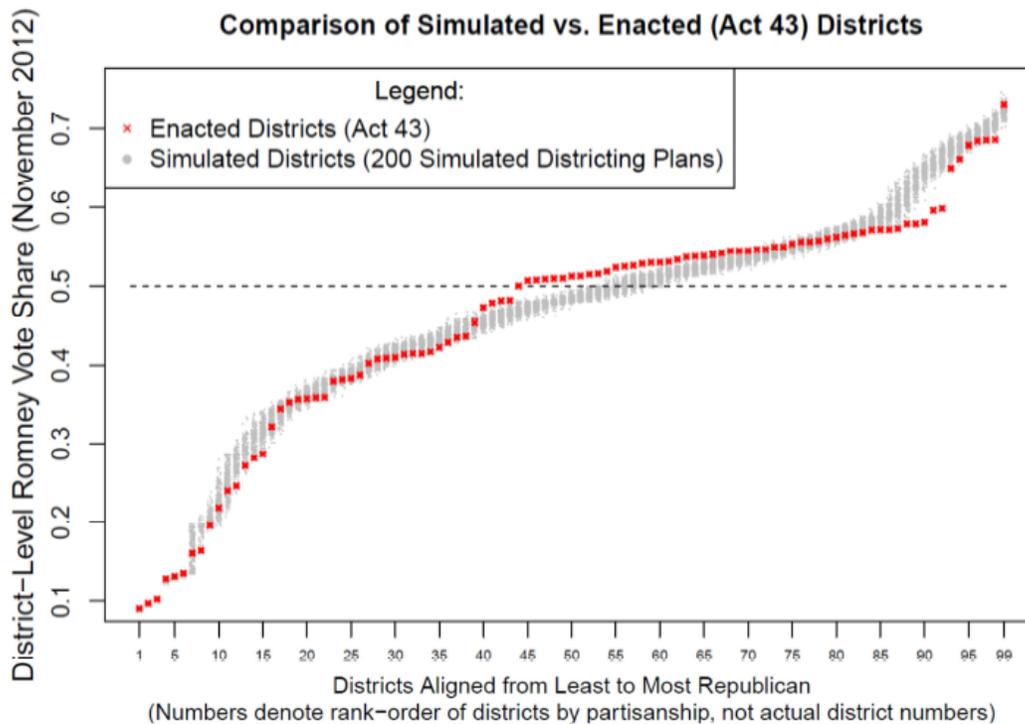
ARGUMENT

Plaintiffs comment below on the three prongs of their proposed test for partisan gerrymandering: (1) discriminatory intent; (2) discriminatory effect; and (3) justification. For each prong, plaintiffs explain why it is judicially discernible and manageable, respond to the Court's analysis in its summary judgment decision, rebut defendants' likely criticisms, and show that the prong is satisfied here.

I.   **The Test's Discriminatory Intent Prong Is Discernible, Manageable, and Satisfied Here.**

A.   **The Intent Prong Is Discernible.**

A partisan gerrymandering test must include an intent prong. *See Bandemer*, 478 U.S. at 127 (plurality opinion) ("We . . . agree . . . that in order to succeed the . . . plaintiffs were required to prove . . . intentional discrimination . . . ."); Summ. Jdgmt. Op. (Dkt. 94) at 4 ("the plaintiffs must prove a discriminatory intent"). Plaintiffs have advanced the precise intent prong that was adopted by the *Bandemer* plurality and that was used in dozens of cases between *Bandemer* and *Vieth*. This prong asks whether a plan was enacted with discriminatory intent, that is, in order to engage in "intentional discrimination against an identifiable political group." *Bandemer*, 478 U.S. at 127 (plurality opinion).

So formulated, the prong is consistent with key First and Fourteenth Amendment tenets, and thus judicially discernible. In the First Amendment context, "political belief and association constitute the core of those activities protected," *Elrod v. Burns*, 427 U.S. 347, 356 (1976), meaning that strict scrutiny applies when the government disadvantages people "on account of their political association," *O'Hare Truck Serv., Inc. v. City of Northlake*, 518 U.S. 712, 717 (1996). Similarly, under the Fourteenth Amendment, it is a "basic equal protection principle that the invidious quality of a law . . . must ultimately be traced to a . . . discriminatory purpose."

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Washington, 426 U.S. at 240; *see also, e.g., Village of Arlington Heights v. Metro Hous. Dev. Corp.*, 429 U.S. 252, 265 (1977) ("Proof of . . . discriminatory intent or purpose is required to show a violation of the Equal Protection Clause.").

Contrary to defendants' argument in their summary judgment briefing, a discriminatory intent requirement has not been precluded by any of the Supreme Court's partisan gerrymandering cases. In *Vieth*, the plurality rejected the appellants' proposal that mapmakers be shown to have "'acted with a *predominant intent* to achieve partisan advantage.'" 541 U.S. at 284 (plurality opinion). In the course of rejecting this proposal, the Court unfavorably assessed it relative to *Bandemer*'s intent prong. "As compared with the *Bandemer* plurality's test of mere intent to disadvantage the plaintiff's group, this proposal . . . makes . . . the standard more indeterminate." *Id.* In other words, *Bandemer*'s intent prong is more manageable than a predominant-intent requirement. Likewise, in *LULAC*, the Court rebuffed the appellants' suggestion that a plan be held invalid if it is "*solely* motivated by partisan objectives." 548 U.S. at 416 (opinion of Kennedy, J.) (emphasis added). The Court said not a word about *Bandemer*'s quite different approach.

It is true, as defendants have pointed out, that the *Vieth* plurality remarked that partisanship is an "ordinary and lawful motive." 541 U.S. at 286 (plurality opinion). But the plurality made this statement in response to the claim that an "excess" of partisanship should be enough, on its own, to "invalidate" a plan. *Id.* That, of course, is not how plaintiffs' discriminatory intent prong would operate. Even if a discriminatory motive were shown, a plan would not be struck down unless the discriminatory effect and justification prongs were satisfied as well.

The *Vieth* plurality's statement was also sharply criticized by the other justices. Justice Stevens wrote that "the plurality errs in assuming that politics is 'an ordinary and lawful motive,'" and that "a naked purpose to disadvantage a political minority" is not "a rational basis for drawing a district line." *Id.* at 324, 336-37 (Stevens, J., dissenting). Justice Souter made clear that, in his view, "naked partisan advantage" is an impermissible motive. *Id.* at 351 (Souter, J., dissenting). Justice Breyer took the same position with respect to "an effort to obtain partisan political advantage." *Id.* at 366 (Breyer, J., dissenting). And in his key concurrence, Justice Kennedy declared that plans should be invalidated if "political classifications . . . . were applied in an invidious manner or in a way unrelated to any legitimate legislative objective." *Id.* at 307 (Kennedy, J., concurring in the judgment). That is, line-drawers violate the Constitution if they use electoral data ("political classifications") to benefit themselves and harm the opposing party ("in an invidious manner") or to accomplish any other improper goal ("in a way unrelated to any legitimate legislative objective"). *Id.*

It is also true that the Court commented in *Gaffney v. Cummings*, 412 U.S. 735, 752 (1973), that "[i]t would be idle . . . to contend that any political consideration taken into account in fashioning a reapportionment plan is sufficient to invalidate it." This, again, is not how plaintiffs' discriminatory intent prong would work. More importantly, the only "political consideration" present in *Gaffney* was the "conscious intent to . . . achieve a rough approximation of the statewide political strengths of the Democratic and Republican Parties." *Id.* Plaintiffs agree wholeheartedly with the *Gaffney* Court that "judicial interest should be at its lowest ebb when a State purports fairly to allocate political power to the parties in accordance with their voting strength." *Id.* at 754. When a State uses electoral data to *avoid* a partisan gerrymander and to treat both parties *symmetrically*, there is no reason for the courts to interfere.

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That plaintiffs' discriminatory intent prong remains doctrinally available is further confirmed by the Court's recent cases involving allegations that districts were malapportioned on partisan grounds. In *Cox v. Larios*, 542 U.S. 947 (2004), the Court summarily affirmed the invalidation of a Georgia plan whose districts' population deviations were attributable to "'an intentional effort to allow incumbent Democrats to maintain or increase their delegation.'" *Id.* at 947 (Stevens, J., concurring). Similarly, in *Harris*, decided just last month, the Court confirmed that *Cox* is still good law, and assumed without deciding that "partisanship is an illegitimate redistricting factor." 136 S. Ct. at 1310. Plainly, this entire line of doctrine would be incoherent if partisanship were actually an "ordinary and lawful motive." *Vieth*, 541 U.S. at 286 (plurality opinion).

In its summary judgment decision, this Court hinted that *durability* could be incorporated into the discriminatory intent prong. *See* Summ. Jdgmt. Op. (Dkt. 94) at 30 ("One suggestion was that plaintiffs show that defendants had the intent to prevent the minority party from regaining control throughout the life of the districting plan."). Plaintiffs can make this showing here thanks to the S-curves they located during discovery. The only reason to create S-curves is to assess gerrymanders' resilience in the face of changing electoral conditions. And the S-curves in fact demonstrate that the drafts of the Current Plan were much less responsive to shifts in voter sentiment than the 2000s Map. *See supra* Facts I.D. Nevertheless, plaintiffs note some reasons to be wary of formally including a durability element in the intent inquiry.

First, such an element would be inconsistent with how the *Bandemer* plurality, the five concurring and dissenting Justices in *Vieth*, and the full Court in the malapportionment cases approached the issue of intent. In all of these contexts, their focus was exclusively on the motive to achieve partisan advantage. Second, a durability element would diverge from general free

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speech and equal protection principles. Under these tenets, discriminatory intent suffices, and a motive to achieve a discriminatory *and resilient* advantage is not required. Third, durability is more naturally incorporated into the discriminatory effect prong of plaintiffs' proposed test. At that stage, courts could ask whether a plan has exhibited a high and durable level of partisan asymmetry relative to historical norms. And fourth, it may be the atypical case in which plaintiffs are able to find direct evidence, like the S-curves, that durability was considered by the mapmakers. Indeed, even here, the State furiously resisted turning over this material, which was disclosed only after the *Baldus* panel compelled its production. *See Baldus I*, 843 F. Supp. 2d at 960-61 (ordering the State to "*cooperate immediately*" and criticizing "the litigation tactics being used by public officials").

B.   The Intent Prong Is Manageable.

Neither this Court nor defendants have suggested that plaintiffs' discriminatory intent prong is unmanageable, in that it would produce outcomes that are "inconsistent, illogical, and ad hoc" rather than "principled, rational, and based upon reasoned distinctions." *Vieth*, 541 U.S. at 278 (plurality opinion). Plaintiffs therefore discuss the prong's manageability only briefly, and direct the Court to their summary judgment briefing for further analysis. *See* Pls.' Br. in Opp. to Defs.' Mot. for Summ. Jdgmt. (Dkt. 68) at 42-45.

In short, plaintiffs agree with the *Bandemer* plurality that when a single party has unified control over redistricting, "it should not be very difficult to prove that the likely political consequences of the reapportionment were intended." 478 U.S. at 129 (plurality opinion); *see also Vieth*, 541 U.S. at 350 (Souter, J., dissenting) ("proving intent should not be hard" when "a plan [is] devised by a single major party"). Plaintiffs also agree with the *Bandemer* plurality that, whether the task is easy or hard, discriminatory intent must actually be established and cannot

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simply be assumed. *See* 478 U.S. at 129 n.11 (plurality opinion) ("That discriminatory intent may not be difficult to prove in this context does not, of course, mean that it need not be proved at all . . . ."). And plaintiffs agree as well with Justice Souter's opinion in *Vieth* that discriminatory intent is usually absent when a plan is enacted by a court, a commission, or divided government. *See* 541 U.S. at 350 (Souter, J., dissenting) ("I would . . . treat any showing of intent . . . as too equivocal to count unless the entire legislature were controlled by the governor's party (or the dominant legislative party were vetoproof)."); *id.* at 351 ("[A] plaintiff would naturally have a hard time showing requisite intent behind a plan produced by a bipartisan commission.").

That this inquiry is manageable is further demonstrated by the Court's prior decisions. The *Bandemer* plurality was "confident that . . . th[e] record would support a finding that the discrimination was intentional" when Indiana maps were designed by Republicans in unified control of the state government. 478 U.S. at 127 (plurality opinion). The *Cox* Court was equally sure that a Georgia plan crafted by Democrats in unified control reflected "'an intentional effort to allow incumbent Democrats to maintain or increase their delegation.'" 542 U.S. at 947 (Stevens, J., concurring). Conversely, the Court in *Gaffney* concluded that discriminatory intent was *not* present when a Connecticut map was drawn by a three-member bipartisan board. *See* 412 U.S. at 736-37, 751-54. Nor did the Court in *Harris* find discriminatory intent when an Arizona plan was the product of a five-member bipartisan commission. *See* 136 S. Ct. at 1309-10. By any reasonable standard, these holdings are a model of judicial predictability, falling reliably on the correct side of the line.[17]

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[17] In determining whether discriminatory intent is present, courts also have the benefit of the well-established *Arlington Heights* framework. *See* 429 U.S. at 267-68 (identifying disparate impact, "[t]he historical background of the decision," "[t]he specific sequence of events leading up to the challenged decision," "[d]epartures from the normal procedural sequence," "substantive departures too," "[t]he legislative or administrative history,"

C.   The Intent Prong Is Satisfied Here.

Turning to whether plaintiffs' discriminatory intent prong is satisfied here—that is, whether the Current Plan was enacted with the motive of benefiting Republican candidates and voters and disadvantaging Democratic ones—defendants have already admitted that the answer is yes. *See* Summ. Jdgmt. Op. (Dkt. 94) at 12 ("defendants conceded that plaintiffs can prove this element of the test"). This is a wise concession given the *Baldus* panel's explicit findings that "partisan motivation . . . clearly lay behind Act 43," and that "the testimony of Foltz, Ottman, and the other drafters . . . that they were not influenced by partisan factors" was "almost laughable." 849 F. Supp. 2d at 851.[18]

It is also a wise concession given the overwhelming evidence of discriminatory intent that plaintiffs presented above. *See supra* Facts I.A-E. This evidence, again, can be slotted into five separate categories. First, the Current Plan's drafters took elaborate measures to guarantee the secrecy of the mapmaking process, including removing the process from the Legislature, transferring it to a private law firm, and cloaking the proceedings at the firm with a fraudulent attorney-client privilege. Second, Republican legislators were allowed to see their new districts (and analyses of the districts' partisanship) prior to the Plan's unveiling, while Democratic legislators were denied this opportunity. Third, the Plan's drafters extensively analyzed the expected partisan consequences of multiple iterations of the map. Fourth, over the course of

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and "contemporaneous statements by members of the decisionmaking body, minutes of its meetings, or reports" as factors probative of illicit intent).

[18] In his deposition in this case, Ottman, at least, changed his tune from *Baldus*, repeatedly admitting that in drafting the Current Plan, he, Foltz, and Handrick took into account partisan considerations. He testified: "In evaluating the districts that became part of Act 43, we looked at partisan data as part of our evaluation of the maps." He added: "The partisan considerations came into play in evaluating what we had drawn." And again: "We used . . . the partisan analysis to evaluate what had been drawn." And once more: "The partisan scores were something that we used to evaluate the maps." Ottman Dep. (Dkt. 118, Tr. Ex. 226) at 47:21-23, 49-3-4, 50:2-3, 62:13-16; PFOF ¶ 68; *see also* RFA (Tr. Ex. 341) ¶ 29 (admitting that "Foltz, Ottman, and Gaddie looked at the past performance of voters in the existing legislative districts"); RFA (Tr. Ex. 341) ¶ 30 (admitting that "Foltz and Ottman looked at whether a district was likely to vote majority Republican or majority Democrat"); PFOF ¶ 144.

these iterations, the Republican advantage grew dramatically and the Plan's responsiveness to shifts in voter sentiment plunged. And fifth, the Plan was ultimately introduced, debated, and passed in the span of little more than a week. *See id.* In combination, these facts leave no doubt that the *Baldus* panel's conclusions about the Plan's partisan motivation are accurate.

At trial, defendants may argue that the Current Plan's drafters merely sought to protect incumbent legislators and to adjust the existing lines as the incumbents requested. But almost all of the mapmaking took place before any sitting members were consulted, and *no* changes to the lines were made as a result of the consultations. *See* Compl. (Dkt. 1, Tr. Ex. 138) Ex. 4; Defs.' Amend. Answer (Dkt. 56, Tr. Ex. 73) at 7; Foltz. Dep. (from *Baldus*) at 269:2-7; Tr. Ex. 368; PFOF ¶ 167. The drafters also deliberately *weakened* the electoral position of *twenty* Republican "Donors to the Team," in order to bolster less secure Republicans and undercut Democrats. *See* summary.xlsx, Tr. Ex. 284; PFOF ¶ 54. And most importantly, it can hardly be said that the drafters' goal was to protect incumbents *generally* when they met only with *Republican* incumbents and carefully targeted *Democratic* incumbents for elimination. *See id.*; *see also* RFA (Tr. Ex. 341) ¶¶ 34-36; Defs.' Amend. Answer (Dkt. 56, Tr. Ex. 73) at 7; Foltz. Dep. (Dkt. 113, Tr. Ex. 191) at 75:16-18; PFOF ¶¶ 54, 162,163.

Defendants may also claim that the Current Plan's authors intended to comply with traditional redistricting criteria. Even if this was one of their aims, their compliance effort paled in comparison to their pursuit of partisan advantage. For instance, Foltz, Handrick, and Ottman did not save any compactness analyses for the draft maps they drew, and did not receive any such analyses from Gaddie until the very end of the drafting process. *See* Foltz Dep. (Dkt. 113, Tr. Ex. 191) at 49:23-50:14; Gaddie Dep. (Dkt. 108, Tr. Ex. 161) at 239:23-240:5; Ottman Dep. (Dkt. 118, Tr. Ex. 226) at 43:3-44:17; PFOF ¶ 59. Likewise, with respect to population

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deviation, their objective was to ensure that "[w]hen there are . . . issues about criteria, e.g.

political gerrymandering . . . those districts that may be most questioned meet Population criteria

as closely as possible." Tr. Ex. 469; PFOF ¶ 67. Additionally, when they noticed that "the

enumeration of the County splits . . . doesn't tell a great story" about the Plan, they deleted this

information from their presentation to the Legislature. Tr. Ex. 362; PFOF ¶¶ 57-58. And rather

than abide by the Wisconsin custom of respecting ward boundaries, they designed the districts

first and then compelled the State's municipalities to fit their wards within the districts. Tr. Ex.

331; PFOF ¶ 178. Plainly, these were not the actions of mapmakers who prioritized traditional

criteria over partisan gain.

Defendants may further assert that the Current Plan's drafters did not literally intend to

maximize the number of Republican seats in the Assembly. This too is technically true; in theory,

given the statewide Republican vote share of 48.6% that they expected, they could have created

as many as 87 districts that Republicans would have won by 55% to 45%, leaving just 12 to be

won by Democrats. But the map the drafters actually drew was more than bad enough. They

anticipated that it would enable Republicans to win 59 out of 99 districts with a *minority* of the

statewide vote. They also anticipated that Republicans would manage to hold on to their

Assembly majority even if their statewide vote share fell to 47%—or even lower if incumbency

were taken into account. *See* Gaddie Dep. (Dkt. 108, Tr. Ex. 161) Ex. 39; Tr. Ex. 172;

Team_Map_Curve, Tr. Ex. 282; PFOF ¶ 139.

In any event, all of these arguments are beside the point. The dispositive issue is whether

partisan advantage was *a* motivation for the Current Plan, not whether it *predominated* over

other factors or was *maximal* in scale. And on this issue, the parties are in agreement that

"plaintiffs can prove this element of the test." Summ. Jdgmt. Op. (Dkt. 94) at 12.

II.   **The Test's Discriminatory Effect Prong Is Discernible, Manageable, and Satisfied
        Here.**

    A.   **The Court May Adjust the Effect Prong.**

A partisan gerrymandering test must also include an effect prong. *See LULAC*, 548 U.S.
at 418 (opinion of Kennedy, J.) ("a successful claim . . . must . . . show a burden . . . on the
complainants' representational rights"); *Bandemer*, 478 U.S. at 127 (plurality opinion)
("plaintiffs were required to prove . . . an actual discriminatory effect"); Summ. Jdgmt. Op. (Dkt.
94) at 4. The effect prong that plaintiffs recommend is whether a plan has exhibited a high and
durable level of partisan asymmetry relative to historical norms. As this is a somewhat terse
formulation, plaintiffs now unpack how it might be applied (or adjusted) by the Court.
Specifically, plaintiffs address (1) which measures of partisan symmetry could be consulted; (2)
how sensitivity testing could be used; (3) whether an asymmetry threshold should be set here;
and (4) whether the baseline from which asymmetry is assessed should be shifted from zero. *Cf.*
Baldus II, 849 F. Supp. 2d at 853 (noting that "the Court shares that duty" "for the development
of the law").

First, in plaintiffs' view, the efficiency gap is the best available measure of partisan
symmetry. Unique among metrics, it recognizes that all partisan gerrymandering is accomplished
through either the *packing* of a party's supporters in "district[s] with a supermajority of a given
group," or the supporters' *cracking* "among several districts to deny that group . . . a majority in
any of those districts." *Vieth*, 541 U.S. at 286 n.7 (plurality opinion). Indeed, at its core, the
efficiency gap is nothing more than a compilation of all of a plan's packing and cracking choices
into a single, tidy number. *See* Jackman Rpt. (Dkt. 62, Tr. Ex. 34) at 15-19; PFOF ¶¶ 186-190.
The efficiency gap can also be calculated for any plan, requires no consideration of
counterfactual elections, and has an easily grasped substantive meaning: a party's extra seat

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share relative to a perfectly symmetric map. *See id.*; Stephanopoulos & McGhee, Tr. Ex. 141 at

850-55; PFOF ¶ 195.

However, plaintiffs do not ask the Court to embrace one measure to the exclusion of all

others. Rather, at least when statewide elections are competitive (that is, decided by a margin

closer than 55% to 45%),[19] the Court could supplement the efficiency gap with partisan bias and,

perhaps, the mean-median difference. These metrics do not capture the essence of partisan

gerrymandering as well as the efficiency gap. But they do correspond to closely related concepts:

what would transpire in the event of a tied election (in the case of partisan bias), and how skewed

the underlying district distribution is (in the case of the mean-median difference). The metrics

are also highly correlated with the efficiency gap in competitive statewide settings. This means

that they will generally confirm the impression given by the efficiency gap—and that if they do

not, a court could reasonably decide that its intervention is unwarranted. *See* Compl. (Dkt. 1, Tr.

Ex. 138) ¶¶ 9, 88; Pls.' Br. in Opp. to Defs.' Mot. to Dis. (Dkt. 31) at 8, 11, 17, 25; Pls.' Br. in

Opp. to Defs.' Mot. for Summ. Jdgmt. (Dkt. 68) at 42, 53-54, 70.

Second, while the durability of a plan's asymmetry is closely tied to the asymmetry's

size, *see* Jackman Rpt. (Dkt. 62, Tr. Ex. 34) at 66-69; Jackman Rebuttal Rpt. (Dkt. 63, Tr. Ex.

83) at 11-17; PFOF ¶¶ 258-261, the Court could also require durability to be demonstrated using

sensitivity testing. Sensitivity testing analyzes how a plan's asymmetry would change if the

statewide electoral environment shifted. If the asymmetry would remain even if electoral

conditions became quite different, then it is a resilient feature of the plan. Conversely, if the

asymmetry would disappear in other electoral settings, then it is a more transient plan attribute—

and one that is less supportive of judicial intervention. Gaddie's S-curves are an excellent

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[19] Plaintiffs do not recommend consulting partisan bias or the mean-median difference in uncompetitive
statewide settings, though. In these circumstances, the metrics become unreliable and their own creators advise
against their use. *See* Gelman & King, Tr. Ex. 148 at 545; Grofman & King, Tr. Ex. 333 at 19; PFOF ¶ 229.

example of sensitivity testing, *see* PFOF ¶ 106, and the technique was also carried out by defendants' expert, Professor Goedert, *see* Goedert Rpt. (Dkt. 51, Tr. Ex. 136) at 13-14; PFOF ¶ 273, as well as by Professor Jackman, *see* Tr. Ex. 93 at 1-6; PFOF ¶¶ 261-285, and Professor Mayer, *see* Mayer Rebuttal Rpt. (Dkt. 95, Tr. Ex. 114) at 25-29; PFOF ¶¶ 361-362. This repeated use is evidence of the technique's value, as is its endorsement by the case law and the academic literature. *See Bandemer*, 478 U.S. at 135 (plurality opinion) (criticizing the lower court because it "did not ask by what percentage the statewide Democratic vote would have had to increase to control either the House or the Senate"); Stephanopoulos & McGhee, Tr. Ex. 141 at 889-90.

Third, while it would be useful *eventually* to set an asymmetry threshold, above which the effect prong is satisfied and below which it is not, it may be unnecessary to try to do so in this case. As the Court explained in its summary judgment decision, "in the equal apportionment cases, the Supreme Court did not determine at first how large a population deviation must be in order to trigger a presumption of unconstitutionality." Summ. Jdgmt. Op. (Dkt. 94) at 26. Instead, "the Court proceeded on a case by case basis, settling on ten percent as the threshold only after several years." *Id.* Here too, since "the efficiency gap created by Act 43 is one of the largest in recent history," "determining a threshold may be something that can wait for another day." *Id.*

And fourth, in its summary judgment decision, this Court flagged defendants' argument that the baseline from which asymmetry is assessed should not be zero (or perfect symmetry), but rather "should incorporate whatever natural advantage a party has a result of political geography." *Id.* at 16. Plaintiffs advise against this kind of approach for several reasons. First, perfect symmetry is the only baseline that enjoys normative support. By definition, any baseline other than zero would be one that does *not* treat the parties symmetrically or allow them to

convert their popular support into legislative representation with equal ease. Second, perfect symmetry is the only baseline that enjoys doctrinal support. When the Justices commented on the promise of symmetry in *LULAC*, they referred only to *actual* partisan bias scores, not to scores somehow *adjusted* to take into account Texas's political geography. *See, e.g.*, 548 U.S. at 466-72 (Stevens, J., concurring in part and dissenting in part).

Third, the impact of political geography is already fully incorporated into the first and third prongs of plaintiffs' proposed test. A State that sought only to respect political subdivisions and communities of interest, thus producing a map that accurately reflected its spatial realities, would *not* have enacted the plan with discriminatory intent, and so would not have violated the test's first prong. Likewise, if a State could show that its map's large and durable asymmetry stemmed from the State's political geography, then the asymmetry would be justified and the third prong would not be met. Lastly, while it may be debatable whether a baseline of perfect symmetry is feasible in all circumstances, there is no doubt that it is appropriate here. As discussed below, both plaintiffs' Demonstration Plan and dozens of Professor Chen's simulated maps perform at least as well as the Current Plan with respect to all traditional redistricting criteria, while exhibiting efficiency gaps nearly indistinguishable from zero.

B.   The Effect Prong Is Discernible.

1.   The Prong's Discernibility Stems from Several Factors.

Plaintiffs turn next to the discernibility of their proposed discriminatory effect prong. This Court has already noted three reasons why the prong is discernible. First, it is based on the concept of partisan symmetry—the idea that "'the electoral system [should] treat similarly-situated parties equally'"—in which five Justices expressed interest in *LULAC*. *Id.* at 466; *see also* Summ. Jdgmt. Op. (Dkt. 94) at 7-8. Second, it is consistent with the Supreme Court's

understanding that partisan gerrymandering, at its core, means "'giv[ing] one political party an unfair advantage by diluting the opposition's voting strength.'" *Vieth*, 541 U.S. at 271 n.1 (plurality opinion); *see also* Summ. Jdgmt. Op. (Dkt. 94) at 8. And third, by relying on symmetry, it reflects the "consensus position of the scholarly community." Grofman & King, Tr. Ex. 333 at 6; *see also* Summ. Jdgmt. Op. (Dkt. 94) at 8-9.

Rather than belabor these points, plaintiffs highlight one more reason why their proposed effect prong is discernible: its explicit emphasis on the *durability* of a plan's asymmetry. The *Bandemer* plurality made durability a formal element of its test: whether a plan "will *consistently* degrade . . . a group of voters' influence," resulting in the "*continued* frustration of the will . . . of the voters." 478 U.S. at 132-33 (plurality opinion) (emphasis added). Similarly, both Justice Breyer's opinion in *Vieth* and Justice Kennedy's in *LULAC* stressed the harm of minority party entrenchment in the face of countervailing voter sentiment. *See LULAC*, 548 U.S. at 419 (opinion of Kennedy, J.) (criticizing a plan that "entrenched a party on the verge of minority status"); *Vieth*, 541 U.S. at 360 (Breyer, J., dissenting) (suggesting test based on "use of political factors to entrench a minority in power"); *see also* Summ. Jdgmt. Op. (Dkt. 94) at 20.

Precisely because of the Justices' repeated references to durability, plaintiffs' experts thoroughly analyzed how plans' initial efficiency gaps are related to their lifetime average efficiency gaps. *See* Jackman Rpt. (Dkt. 62, Tr. Ex. 34) at 66-69; Jackman Rebuttal Rpt. (Dkt. 63, Tr. Ex. 83) at 11-17; Tr. Exs. 90, 95; PFOF ¶¶ 258-285. Also for this reason, the experts carried out extensive sensitivity testing, both for all plans now in effect nationwide, *see* Tr. Ex. 93 at 1-6, and for Wisconsin's Current Plan and plaintiffs' Demonstration Plan. , *see* Mayer Rebuttal Rpt. (Dkt. 95, Tr. Ex. 114) at 25-29; Tr. Exs. 116-117; PFOF ¶¶ 361-362, 373-376. Accordingly, plaintiffs present to the Court not only an effect prong that overtly requires a

durably asymmetric map, but also the most rigorous empirical analysis of durability that has ever

been conducted.

2. A Plan's Partisan Asymmetry Need Not Be Solely the Product of Discriminatory Intent.

Defendants' main discernibility argument (albeit one not raised until their summary

judgment reply brief) is that the efficiency gap fails as a measure of gerrymandering because it is

not *exclusively* the product of discriminatory intent. As the Court summarized this claim, "the

mere existence of large efficiency gaps in plans adopted by neutral bodies is sufficient to

discredit the efficiency gap as a tool." Summ. Jdgmt. Op. (Dkt. 94) at 15. In addition to distilling

defendants' position, the Court identified one fatal flaw with it. This is that, under well-

established First and Fourteenth Amendment principles, discriminatory intent and discriminatory

effect are separate inquiries, and the *entire* discriminatory effect counts, not just that portion of it

that is attributable to discriminatory intent. In the Court's words, "there are many instances in

which a government act or policy may have a disparate impact even in the absence of intentional

discrimination," and "discriminatory intent and discriminatory effect [need not] be borne out by

the same evidence." *Id.* at 16; *see also, e.g.*, *Arlington Heights*, 429 U.S. at 265 (noting that "a

plaintiff [does not have] to prove that the challenged action rested solely on racially

discriminatory purposes").

But there are two further problems with defendants' argument. The first is that, in its

partisan gerrymandering decisions, the Supreme Court has recognized over and over that there

can be discriminatory effect without discriminatory intent, as well as discriminatory intent

without discriminatory effect. The former possibility was raised as far back as *Gaffney*, in which

the Court criticized the suggestion that "those who redistrict and reapportion should work with

census, not political, data and achieve population equality without regard for political impact."

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412 U.S. at 753. "[T]his politically mindless approach may produce, *whether intended or not, the most grossly gerrymandered results.*" *Id.* (emphasis added). In other words, and contrary to defendants' view of the law, an extreme partisan impact can arise even in the absence of any partisan motivation. *See also Vieth*, 541 U.S. at 289 (plurality opinion) (pointing out that "a legislature that draws district lines with no objectives in mind except compactness and respect for the lines of political subdivisions" might unintentionally disadvantage Democrats); *id.* at 308-09 (Kennedy, J., concurring in the judgment) (observing that "a decision under these [traditional redistricting] standards would unavoidably have significant political effect, whether intended or not").

As for the latter possibility, discriminatory intent without discriminatory effect, it describes the holding of *Bandemer* itself. The plurality "assumed that there was discriminatory intent," but nevertheless "found that there was insufficient discriminatory effect"—a scenario that defendants think is impossible. 478 U.S. at 141-42 (plurality opinion). The plurality also warned that discriminatory intent and discriminatory effect are "separate components of an equal protection analysis," meaning that it is "inappropriate" for them "to be considered together without regard for their separate functions or meaning." *Id.* at 142. The plurality continued, "This undifferentiated consideration of the various factors confuses the import of each factor." *Id.* Unfortunately, defendants are now making the exact mistake the plurality cautioned against.

The other problem with defendants' argument is that it applies not only to the efficiency gap but also to *any* measure of gerrymandering that takes into account parties' seats or votes. If the efficiency gap fails because it is not attributable entirely to discriminatory intent, then partisan bias, the mean-median difference, and any other conceivable seat or vote metric are invalid as well. They too are the product of discriminatory intent *and* redistricting skill, political

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geography, electoral swings, and other factors. But in that case, defendants are simply repeating their error with respect to the discriminatory intent prong: that is, claiming "that there is *no* viable [discriminatory effect] element for a partisan gerrymandering claim." Summ. Jdgmt. Op. (Dkt. 94) at 28-29. This position is untenable since "a majority of the Supreme Court has directed litigants and lower courts to continue searching for an appropriate standard." *Id.* at 29.

3.   The Prong Would Not Require "Hyper-Proportionality."

Defendants' only other discernibility critique is that plaintiffs' proposed discriminatory effect prong would mandate "hyper-proportionality," or a seat-vote relationship of two. The Court has already pointed out several of the defects of this claim. When the efficiency gap is calculated using the full method, tallying wasted votes district by district, no seat-vote ratio whatsoever is implied. *See id.* at 21. Even using the simplified method to compute the efficiency gap, "the 2:1 ratio appears . . . only when the efficiency gap is zero." *Id.* at 22. When the efficiency gap is *not* zero, there can be "a significant deviation from the 2:1 ratio." *Id.* Also under the simplified method, "the ratio is not a normative requirement," but rather "simply what happens when a district plan treats the parties symmetrically." *Id.* Furthermore, the effect prong cannot be considered in isolation from the test's intent and justification prongs. "The efficiency gap is only part of plaintiffs' test, so no claim can prevail simply because a districting plan produces a particular vote share to seat share ratio." *Id.* And to the extent the efficiency gap encourages jurisdictions to enact plans that are reasonably responsive, it merely prods them to comply with historical norms, "which show[] that a 1 percent increase in vote share generally leads to a two percent increase in seat share." *Id.*

To these points, plaintiffs would add two more. The first is that the *other* measures of partisan symmetry that plaintiffs have discussed, partisan bias and the mean-median difference,

do not entail any sort of seat-vote relationship. Because partisan bias asks what would occur in a hypothetical tied election, "a[]n electoral system may have any degree of partisan bias, no matter what level of responsiveness happens to exist." Grofman & King, Tr. Ex. 333 at 9; PFOF ¶ 224. Likewise, because the mean-median difference is calculated using district vote shares alone, it has no bearing on how the statewide vote share should be linked to the statewide *seat* share. *See* McDonald & Best, Tr. Ex. 405 at 315; PFOF ¶¶ 235-238.

The second point responds to the Court's reformulation of defendants' argument: that the efficiency gap might be "an improper measure simply because it treats a particular vote share to seat share ratio as the 'ideal' result." Summ. Jdgmt. Op. (Dkt. 94) at 22. As noted above, in its full form, the efficiency gap does *not* treat any seat-vote ratio as the ideal; and in its simplified form, an efficiency gap of zero implies the exact seat-vote ratio that has characterized American elections for generations. Additionally, under plaintiffs' proposed test, a State would be free to deliberately design a plan with a seat-vote ratio below two (perhaps to achieve proportional representation) or above two (maybe to heighten responsiveness to shifts in voter sentiment). In both of these cases, the State's motive would not be partisan advantage, so the test's first prong would not be satisfied, and the State's policy would justify even a large efficiency gap, so the third prong would not be met either.

C.   The Effect Prong Is Manageable.

1.   A Plan's Partisan Symmetry Is Reliably Measurable.

Proceeding to the manageability of the effect prong, the case for the prong's workability is quite simple. There exist measures of partisan symmetry—the efficiency gap in particular, but also partisan bias and the mean-median difference—that capture the extent to which a plan treats the parties' candidates and voters asymmetrically. These measures can be reliably calculated

using easily obtained electoral results, as shown by Professor Jackman's expert report, which computed the efficiency gap for all available state house elections over a five-decade period. *See* Jackman Rpt. (Dkt. 62, Tr. Ex. 34) at 32-36; PFOF ¶ 239. Accordingly, to determine if the prong is satisfied, all a court must do is ascertain the challenged plan's asymmetry and then compare it to historical norms. This is a straightforward quantitative exercise, akin to determining a plan's total population deviation and then comparing it to the 10% threshold. *See LULAC*, 548 U.S. at 466 (Stevens, J., concurring in part and dissenting in part) ("the symmetry standard . . . is undoubtedly a reliable standard for measuring a burden on the complainants' representative rights" (internal quotation marks omitted)); *Bandemer*, 478 U.S. at 134 (plurality opinion) (arguing that "[r]eapportionment cases involving the one person, one vote principle" are a useful template for the "effect" inquiry in gerrymandering cases).

This analysis would hold even if the Court were to tweak the effect prong in the ways suggested above. *See supra* Argument II.A. It is no harder to calculate multiple measures of partisan symmetry than a single metric; all that is necessary is some more basic arithmetic. If the various measures point in the same direction (and the electoral setting is competitive, so that partisan bias and the mean-median difference are applicable), then a court may be more confident in its appraisal of a plan's asymmetry. Conversely, if the metrics point in different directions, then a court may decide that a plan's asymmetry is not clear enough to warrant invalidation. *Cf.* D. James Greiner, *Ecological Inference in Voting Rights Act Disputes: Where Are We Now, and Where Do We Want to Be?*, 47 Jurimetrics 115, 155-57 (2007), Tr. Ex. 473; PFOF ¶ 185 (listing dozens of cases in which courts properly used two distinct methods to estimate racial polarization in voting). Similarly, the sensitivity testing that plaintiffs recommend is a well-established statistical technique. It may show either that a plan's asymmetry would

endure under different electoral environments, or that it would evaporate if conditions changed. Plainly, judicial intervention is more appropriate in the former case.

Defendants do not seem to disagree with any of this. Instead, they insist that the effect prong is unmanageable because (1) both in Wisconsin and nationwide, large efficiency gaps sometimes arise in the absence of discriminatory motivation; (2) the prong would result in too many plans being struck down; (3) the efficiency gap can shift from election to election; and (4) some of plaintiffs' experts' methods are allegedly unreliable. Plaintiffs therefore turn next to these claims, addressing them relatively briefly because they have already been canvassed thoroughly in plaintiffs' summary judgment briefing. *See* Pls.' Br. in Opp. to Defs.' Mot. for Summ. Jdgmt. (Dkt. 94) at 53-70.

2. Defendants' Political Geography Objections Are Meritless.

Defendants' core critique of the effect prong's manageability involves political geography. Supposedly, Democratic voters in both Wisconsin and the country as a whole are naturally packed while Republican voters are more efficiently distributed. As a consequence, large pro-Republican efficiency gaps are said to ensue even when plans are designed by neutral institutions. Because the efficiency gap does not correct for this purported spatial reality, defendants claim it is a flawed and unworkable metric.

The following is the sum total of evidence that defendants have advanced in support of this critique: Wisconsin's court-drawn plan in the 2000s had a significant pro-Republican efficiency gap. *See* Defs.' Br. in Supp. of Summ. Jdgmt. (Dkt. 94) at 34-37. So do a handful of current maps in other states drawn by courts or commissions. *See id.* at 38-39. Nationwide, the average efficiency gap has grown more pro-Republican since the 1990s. *See id.* at 37-38. Wisconsin's ward distribution has a slight pro-Republican skew. *See* Goedert Rpt. (Dkt. 51, Tr.

Ex. 136) at 21-23; PFOF ¶¶ 409-411. The pattern of counties won by the major parties'
presidential candidates in the West South Central region of the country has shifted since the
1990s. *See* Trende Decl. (Dkt. 55, Tr. Ex. 126) ¶¶ 66-70. So has the pattern of these candidates'
margins of victory by county in Wisconsin. *See id.* ¶¶ 79-86. Democratic wards in Wisconsin
have grown more Democratic over the past decade. *See id.* ¶¶ 91-95; PFOF ¶ 429. And
Democratic wards in Wisconsin are spatially closer to their "nearest neighbors" (defined by
partisanship) than are Republican wards. *See id.* ¶¶ 96-100; PFOF ¶¶ 419-424.

The fundamental problem with all of this evidence is that, even if true, it undermines the
manageability of neither the efficiency gap nor plaintiffs' test in its entirety. As to the efficiency
gap, plaintiffs have never claimed that it captures only that proportion of a plan's asymmetry that
is attributable to the drafter's discriminatory intent. Rather, as emphasized above, *all* symmetry
metrics—the efficiency gap, partisan bias, the mean-median difference, and so on—are driven by
discriminatory intent *and* redistricting skill, political geography, electoral swings, and other
factors. *See supra* Argument II.B.2. Defendants' assertions thus merely highlight the obvious.

As to the test as a whole, its first and third prongs are specifically designed to avoid the
outcome that troubles defendants: the invalidation of plans whose large efficiency gaps are the
product of political geography rather than discriminatory intent. Again to reiterate earlier points,
a State that merely tried to follow the contours of its subdivisions and communities would be
exempt from liability since it was not motivated by partisan advantage. Likewise, a large
efficiency gap that stemmed from the natural spatial allocation of a State's voters would be
justified at the test's third stage, and so safe from judicial interference. Accordingly, if
defendants are right that Wisconsin's and America's political geographies increasingly compel

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pro-Republican plans, they have nothing to fear from plaintiffs' test. Plans that reflect this trend would be upheld under it.

But defendants are not right. In fact, there are severe flaws with all of their evidence, and it is contradicted by more reliable analyses in the record. Start with Wisconsin's court-drawn plan in the 2000s. Every *other* Wisconsin plan crafted by a neutral institution has had a much lower average efficiency gap: the 1970s map enacted by divided government (-0.3%), the 1980s court-drawn map (-1.9%), the 1990s court-drawn map (-2.4%), Professor Mayer's Demonstration Plan (-2.5% across three scenarios), and Professor Chen's hundreds of simulated maps (72% of which fall within 3% of zero). *See* Chen, Tr. Ex. 156 at 1; Jackman Rpt. (Dkt. 62, Tr. Ex. 34) at 72; Mayer Rebuttal Rpt. (Dkt. 95, Tr. Ex. 114) at 27; PFOF ¶¶ 343, 377, 381. Moreover, while the 2000s court *itself* harbored no discriminatory intent, it apparently "followed [the Republican intervenors' expert's] direction in drawing the map." Tr. Ex. 348; PFOF ¶ 341. This may explain why the plan is an outlier.

Next, consider the pro-Republican trend in the country's average efficiency gap since the 1990s. This trend is *entirely* attributable to the rising share of plans designed by Republicans in unified control of redistricting. If the distribution of party control had remained constant over this period, so too would have the average efficiency gap. *See* Jackman Rebuttal Rpt. (Dkt. 63, Tr. Ex. 83) at 18-20; PFOF ¶ 294. Similarly, consider the slight pro-Republican skew of Wisconsin's ward distribution. Compared to the far more lopsided distribution of Wisconsin's Assembly districts, the ward distribution is almost perfectly symmetric. If anything, the gulf between the two distributions is further proof of the partisanship animating the Current Plan. *See* Mayer Rebuttal Rpt. (Dkt. 95, Tr. Ex. 114) at 11-12: PFOF ¶ 413.

This leaves only Trende's work, which is so methodologically deficient that plaintiffs have challenged it on *Daubert* grounds. To flag just a few of its errors: There is no academic precedent for analyzing partisan clustering using county-level maps of presidential election results. Such maps ignore counties' varying populations and sizes, and must be "eyeball[ed]" by the viewer since they do not generate "quantitative scores for Democratic and Republican clustering." Trende Dep. (Dkt. 66, Tr. Ex. 128) at 59:2-23; *see also id.* at 51:6-11, 52:3-6, 52:25-53:3, 53:25-54:13, 56:2-59:9, 62:22-63:2, 185:19-186:4; PFOF ¶¶ 313-319. Trende miscalculated Wisconsin wards' partisan voting index scores. When ward partisanship is correctly computed, it has increased for *both* Democratic and Republican wards over the last decade. *See* Mayer Rebuttal Rpt. (Dkt. 95, Tr. Ex. 114) at 4-6: PFOF ¶¶ 415-418. And "near neighbor analysis" is not a suitable way to study clustering because it completely ignores the *adjacency* (or lack of it) of geographic units. In carrying out this analysis, Trende also wrongly failed to control for ward size and calculated the median rather than the mean inter-ward distance. *See id.* at 6-11; PFOF ¶ 424.[20]

In contrast to this unsound (and inadmissible) evidence, the facts at trial will show that, both in Wisconsin and nationwide, both parties' supporters are roughly equally spatially distributed. For example, the isolation index indicates, for the typical Democratic or Republican voter, what share of her fellow county or ward residents are also Democrats or Republicans. Both in Wisconsin and nationwide, Democratic and Republican isolation scores are about the same and fairly steady over time. *See* Edward L. Glaeser & Bryce Adam Ward, *Myths and Realities of American Political Geography* 6, 39 (2005), Tr. Ex. 118; Mayer Rebuttal Rpt. (Dkt.

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[20] Trende also opined at length about the supposed underinclusiveness and overinclusiveness of plaintiffs' proposed test. *See* Trende Decl. (Dkt. 55, Tr. Ex. 126) ¶¶ 106-31. This section of his report completely ignores the test's first and third prongs, mostly analyzes congressional rather than state legislative plans, and disregards academic norms in conducting this analysis. *See* Jackman Rebuttal Rpt. (Dkt. 63, Tr. Ex. 83) at 22-26.

95, Tr. Ex. 114) at 16-17; PFOF ¶ 299. Similarly, Global Moran's I is the most widely used measure of spatial autocorrelation. According to this metric, Wisconsin's Democrats and Republicans are nearly identically clustered. *See* Mayer Rebuttal Rpt. (Dkt. 95, Tr. Ex. 114) at 17-18; PFOF ¶¶ 387-388.

Furthermore, the models created by defendants' own expert, Professor Goedert, can be used to predict what efficiency gaps different States would exhibit given different mapmaking institutions. These models show that Wisconsin would have had a small *pro-Democratic* efficiency gap in both 2012 and 2014 if its map had been designed by a court, a commission, or divided government. The models produce the same result, in both years, for a hypothetical State mirroring the country demographically and electorally. *See id.* at 12-16: PFOF ¶ 304. And while it is true that the models are based on congressional plans with smaller numbers of districts, Professor Chen and Professor Rodden have found that asymmetry predictions are highly reliable as long as plans have more than a handful of districts. *See* Jowei Chen & Jonathan Rodden, *Unintentional Gerrymandering: Political Geography and Electoral Bias in Legislatures*, 57 Q.J. Pol. Sci. 239, 252 (2013), Tr. Ex. 394.

In any event, plaintiffs view the debate over whether Wisconsin's or America's political geographies have natural pro-Republican tilts as irrelevant at this stage of the legal analysis. The best available data indicates that they do not. But even if they do, this possibility is fully taken into account by the first and third prongs of plaintiffs' proposed test. It in no way lessens the manageability of the second one.

3.   The Prong Would Not Result in the Invalidation of Too Many Plans.

Defendants also attack the effect prong's manageability on the ground that it would lead to too many plans being struck down. The Court correctly declined to cite defendants' inflated

estimates of the volume of plans in jeopardy, which wholly ignore whether maps were designed with discriminatory intent or can be justified by the State. *See* Defs.' Br. in Supp. of Summ. Jdgmt. (Dkt. 94) at 44-46. Instead, the Court observed that "approximately 20 to 25 percent of plans adopted by a party with unified control of the state government . . . have an initial efficiency gap of seven percent or more," and noted its reluctance "to adopt a standard that rendered suspect a large swath of districting plans around the country." Summ. Jdgmt. Op. (Dkt. 94) at 24-25. Plaintiffs agree with both the Court's statistics and its reluctance to launch another reapportionment revolution, but add two further points.

First, as recognized by the Court, the volume of plans put at risk by a partisan gerrymandering test can easily be *calibrated* by adjusting the test's asymmetry threshold up or down. *See id.* at 26 ("If plaintiffs' proposed formulation is not sufficiently demanding, this may support raising the threshold . . . ."). For instance, while plaintiffs consider a 10% efficiency gap threshold to be too high, if the bar were set at this level, then only 20 of 206 plans in the modern era, and only 7 of 43 current plans, would both have exceeded the threshold and been enacted by a single party with unified control over redistricting. *See* Jackman Rpt. (Dkt. 62, Tr. Ex. 34) at 7, 34; Jackman Rebuttal Rpt. (Dkt. 63, Tr. Ex. 83) at 18-20; Tr. Ex. 124; PFOF ¶ 327. These are very low figures compared to the many plans that are already invalidated or designed by courts in each cycle. They are also upper bounds of the test's impact since they do not take into account whether plans could have been justified by legitimate factors.

Second, plaintiffs stress that, to the extent that many maps might be endangered by a partisan gerrymandering test, it is because many *mapmakers* engage in deliberate and brazen gerrymandering. Illustrative of these efforts is a memorandum prepared by the Republican State Leadership Committee ("RSLC") after the 2012 elections, in which "voters pulled the lever for

Republicans only 49 percent of the time," but "Republicans [won] a 33-seat margin in the U.S. House." The memorandum boasted that this "aberration" was only possible because "Republicans had an unquestioned [redistricting] advantage," and so were able "to erect a Republican firewall . . . that paved the way to Republicans retaining a U.S. House majority." The memorandum also detailed how the RSLC raised and spent tens of millions of dollars on "a strategy to keep or win Republican control of state legislatures with the largest impact on congressional redistricting." Wisconsin's was one of these targeted chambers. "[T]he RSLC spent $1.1 million to successfully flip both chambers of the Wisconsin legislature," resulting in "a 5-3 Republican majority to Congress" even though "Wisconsin voters . . . reelected President Obama by nearly seven points." Tr. Ex. 472; PFOF ¶ 184.

Plaintiffs do not mean to single out either party for blame; partisan gerrymandering is a bipartisan abuse. But they do mean to call the Court's attention to how often egregious asymmetries are exactly what mapmakers intended. *That* is the essential reason why large efficiency gaps are more common than one might like, not any issue with the measure itself.

4.   The Efficiency Gap Is Not Too Changeable to Be Reliable.

Defendants' next manageability critique is that the efficiency gap changes from election to election. In their view, there is thus no guarantee that a plan that exhibits a large efficiency gap in one election will also do so in the next. This is less a point about the efficiency gap and more one about the nature of elections themselves. Parties' votes and seats vary from year to year; the efficiency gap simply registers this variation because it is calculated using vote and seat data. The point is also largely inapplicable to partisan bias and the mean-median difference. Because partisan bias is computed based on a counterfactual tied election, it is unaffected by many of the vote and seat swings that in fact occur. *See* McGhee, Tr. Ex. 98 at 73; Stephanopoulos &

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McGhee, Tr. Ex. 141 at 864; PFOF ¶ 227. Similarly, because seats won or lost are irrelevant to the mean-median difference, it is a relatively stable measure. *See* McDonald & Best, Tr. Ex. 405 at 322.

More importantly, Professor Jackman conducted a series of five analyses to confirm that the efficiency gap is a durable plan characteristic and that a plan's initial efficiency gap is a reliable guide to its lifetime performance. First, he examined whether most variation in the efficiency gap is *within* plans (in which case the metric would not be very trustworthy) or *between* plans (in which case it would be a resilient plan attribute). His results confirmed the latter thesis. Fully 76% of the efficiency gap's variation is between plans, indicating that it "*is* measuring an enduring feature of a districting plan." Jackman Rpt. (Dkt. 62, Tr. Ex. 34) at 48: PFOF ¶¶ 262, 264.

Second, he calculated the proportions of plans that either had initial efficiency gaps below 7% (his suggested threshold) or had larger initial efficiency gaps and never once favored the opposing party over their lifetimes. These shares were 96% on the Republican side and 93% on the Democratic side, both extremely high figures. Jackman Rpt. (Dkt. 62, Tr. Ex. 34) at 67; PFOF ¶ 258. Third, he subjected different efficiency gap thresholds to a battery of prognostic tests. A 7% threshold resulted in very few false positives, that is, cases where a plan's average efficiency gap was expected to have the same sign as its initial efficiency gap, but this expectation turned out to be incorrect. A 7% threshold also produced a rate of true negatives (or accurate predictions) of nearly 100%. *See* Jackman Rebuttal Rpt. (Dkt. 63, Tr. Ex. 83) at 12; PFOF ¶ 283.

Fourth, he analyzed the relationship between a plan's initial efficiency gap and the size and sign of its average efficiency gap. The former accounts for fully three-fourths of the

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variation in the latter. Given an initial efficiency gap of 7%, there is also roughly a 95% likelihood (96% on the Republican side, 90% on the Democratic side) that the average efficiency gap will have the same sign as the first value. *See id.* at 15-17; PFOF ¶¶ 269, 271. And fifth, he carried out rigorous sensitivity testing for all plans currently in force, shifting their electoral environments by up to five percentage points in each party's direction. For plans with large observed efficiency gaps (above 7%), their predicted efficiency gaps were very strongly correlated with their original ones, and almost certain to have the same sign. Tr. Ex. 93 at 1-6; PFOF ¶¶ 274-282.

As noted above, no previous litigant (or scholar) has so thoroughly analyzed the durability of a measure of partisan symmetry. This painstaking work should reassure the Court that when a map exhibits a high level of asymmetry—as the Current Plan unquestionably does— it is extremely likely to remain asymmetric over its lifetime.

5. Defendants' Methodological Criticisms Are Unfounded.

Lastly, defendants criticize some of the methods used by Professor Jackman and Professor Mayer, and by extension the manageability of the approaches they advocate. Most of defendants' suggestions for additional analyses were tried out in Professor Jackman's and Professor Mayer's rebuttal reports, and did not change the experts' conclusions. Defendants' remaining points betray a misunderstanding of basic social scientific techniques.

First, defendants complain that Professor Mayer did not consider incumbency when calculating the efficiency gaps of the Current Plan and of the Demonstration Plan. He did not do so originally for the same reason that the Legislature's consultant, Gaddie, did not: "incumbents can be defeated, retire, run for higher office, or switch parties," so "[a] map's authors will typically want to ensure that their projections do not depend on particular incumbents continuing

to run in particular districts." Mayer Rebuttal Rpt. (Dkt. 95, Tr. Ex. 114) at 24; PFOF ¶ 427; *see also* Gaddie Dep. (Dkt. 108, Tr. Ex. 161) at 44:8-11, 45:7-8, 197:14-20, 227:8-11; PFOF ¶ 41. But to allay defendants' concerns, Professor Mayer did take incumbency into account in his rebuttal report. Doing so actually *bolstered* his conclusions; the differential between the Current Plan's and the Demonstration Plan's efficiency gaps *rose* from 9.5% to 10.3%. *See* Mayer Rebuttal Rpt. (Dkt. 95, Tr. Ex. 114) at 24; PFOF ¶ 446. Moreover, every one of the 786 efficiency gap scores in Professor Jackman's database incorporates incumbency as well. Since he was not designing a new map, he had no reason to generate an open seat measure. *See* Jackman Rpt. (Dkt. 62, Tr. Ex. 34) at 19-32; PFOF ¶¶ 244-253.

Second, defendants claim that Professor Jackman's analysis of how party control is related to the efficiency gap, *see* Jackman Rebuttal Rpt. (Dkt. 63, Tr. Ex. 83) at 18-20; PFOF ¶¶ 293-296, omits plans enacted by a court, a commission, or divided government. It does not. In fact, in Professor Jackman's model, enactment by a neutral institution is the *benchmark* relative to which the impact of unified Democratic or Republican control over redistricting is assessed. Defendants seem to confuse an omitted *variable* (necessary to avoid collinearity) with the omission of *cases* (something the model did not and should not do).

Third, defendants point out that two different methods exist for calculating the efficiency gap: the full method, in which wasted votes are tallied district by district, and the simplified method, which assumes that district turnout is equal and employs the $(S - 0.5) - 2(V - 0.5)$ formula. This is true enough, but these methods produce virtually identical results because turnout variations are neither overly large nor especially partisan. In fact, in all of the cases in Professor Jackman's database in which all races were contested, the methods' efficiency gap

estimates never diverge by more than 1% and exhibit a correlation of *0.997*. Tr. Ex. 93; PFOF ¶ 216.

Fourth, defendants argue that plaintiffs' experts should have considered the results of the 2014 election specifically, and other electoral environments generally. This is an odd claim since Professor Jackman's database includes efficiency gaps for all available state house plans in 2014. *See* Jackman Rpt. (Dkt. 62, Tr. Ex. 34) at 7, 34; PFOF ¶ 239. In their rebuttal reports, both Professor Jackman and Professor Mayer also carried out extensive sensitivity testing in which they shifted the statewide vote in both directions and then assessed how plans' efficiency gaps would change as a result. Professor Jackman analyzed swings of up to five points for all plans currently in force, while Professor Mayer analyzed Democratic and Republican wave scenarios for both the Current Plan and the Demonstration Plan. In both cases, the experts' conclusions did not budge. Highly asymmetric plans nationwide remain asymmetric when subjected to sensitivity testing, and in Wisconsin, the Current Plan stays tilted and the Demonstration Plan stays balanced. Tr. Ex. 93 at 1-6; Mayer Rebuttal Rpt. (Dkt. 95, Tr. Ex. 114) at 26-29; PFOF ¶¶ 282, 362, 376.

And fifth, defendants assert that Professor Mayer's baseline model, which he used to produce comparable efficiency gap estimates for the Current Plan and the Demonstration Plan, is unreliable because it wrongly predicts the outcomes of certain Assembly races. But this model was never meant to make predictions for actual races; obviously, one would not strip out the effects of incumbency if such forecasting was the aim. Rather, like Gaddie's baseline model, it was meant to enable apples-to-apples comparisons between the Current Plan and an alternative map. *See* Mayer Rpt. (Dkt. 54, Tr. Ex. 2) at 29-31. Moreover, Professor Mayer's *original* model, which did *not* remove the effects of incumbency, was spectacularly accurate. It accounted for

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99.0% of the variation in Republican Assembly votes and 98.4% of the variation in Democratic ones. Social scientific models do not come any more reliable than this. *See id.* at 21-25; PFOF ¶ 437.

D.   The Effect Prong Is Satisfied Here.

Having cleared away all of this underbrush, plaintiffs now turn to the application of their proposed effect prong: that is, whether the Current Plan has exhibited a high and durable level of partisan asymmetry relative to historical norms. Every available category of evidence indicates that the answer is yes: the Plan's efficiency gaps, partisan biases, and mean-median differences in 2012 and 2014, the Plan's drafters' forecasts before it went into effect, Professor Jackman's comparative analysis, Professor Mayer's Wisconsin-specific analysis, and so on. In fact, "It is undisputed that, from 1972 to 2010, not a single legislative map in the country was as asymmetric in its first two elections as [the Current Plan] in 2012 and 2014." Summ. Jdgmt. Op. (Dkt. 94) at 12.

Start with the Plan's actual symmetry scores. It exhibited pro-Republican efficiency gaps of 13% in 2012 and 10% in 2014. It also exhibited pro-Republican partisan biases of 13% in 2012 and 12% in 2014. And it exhibited pro-Republican mean-median differences of 6% in 2012 and 7% in 2014. As just noted, in the four decades prior to the current cycle, not a single state house map *in America* was this skewed in a party's favor in its two initial elections. *See* Jackman Rpt. (Dkt. 62, Tr. Ex. 34) at 7, 63; Tr. Exs. 35, 461-462; PFOF ¶¶ 345-347.

As these figures are somewhat bloodless, it is worth reiterating what they reveal. Efficiency gaps of 13% and 10% mean that Republicans won 13 and 10 more Assembly seats (and Democrats 13 and 10 fewer) than they would have under a neutral map. Partisan biases of 13% and 12% mean that if Wisconsin had experienced a tied election, Republicans would have

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won 62 and 61 Assembly seats (leaving Democrats with 37 and 38). And mean-median differences of 6% and 7% mean that the dispositive district for majority control of the Assembly was miles away electorally from the chamber's average district.[21] Asymmetry this severe both produces wrong-winner outcomes (as in 2012, when Republicans won 49% of the vote but 61% of the seats) and distorts even majoritarian results (as in 2014, when Republicans won 52% of the vote but 64% of the seats). It is simply "incompatible with democratic principles." *Ariz. State Legis.*, 135 S. Ct. at 2658 (internal alterations omitted).

Moreover, the asymmetry's severity was both anticipated by the Current Plan's drafters and confirmed by Professor Mayer's baseline model. Using past statewide elections (and so assuming no incumbents or uncontested races), Foltz, Handrick, and Ottman predicted that Republicans would win 49% of the vote but 60% of the seats under their Final Map, for a pro-Republican efficiency gap of 12%. *See* Gaddie Dep. (Ex. 108, Tr. Ex. 161) Ex. 39, Tr. Ex. 172; PFOF ¶ 115. Likewise, using 2012 election results and also assuming that all seats were open and contested, Professor Mayer found that the Current Plan had a pro-Republican efficiency gap of 12%. *See* Mayer Rpt. (Dkt. 54, Tr. Ex. 2) at 46; PFOF ¶ 448. The similarity of these estimates to each other, as well as to the Plan's actual symmetry scores, shows that the Plan's extreme pro-Republican tilt was forecast in advance and holds no matter how it is computed.

Turn next to the durability of the Current Plan's asymmetry. According to Professor Jackman's historical analysis, there is almost a 0% chance that the Plan will favor Democrats in even a single election—let alone that it will favor Democrats *on average* over its lifetime. To the contrary, the Plan is likely to produce an average pro-Republican efficiency gap of 10% during the decade it is in force. *See* Jackman Rpt. (Dkt. 62, Tr. Ex. 34) at 56-63; Jackman Rebuttal Rpt.

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[21] As noted earlier, the mean-median difference is denominated in units of vote share rather than seat share, and its magnitude is usually about half that of partisan bias. This relationship holds nearly perfectly for the Current Plan: its mean-median differences (6% and 7%) are very close to half its partisan biases (13% and 12%). *See supra* Facts II

(Dkt. 63, Tr. Ex. 83) at 5-17; PFOF ¶¶ 272, 357. Similarly, according to Professor Jackman's sensitivity testing, it is nearly certain that the Plan's efficiency gap will remain large and pro-Republican even if Wisconsin's electoral environment shifts by up to five points in either a Democratic or Republican direction. Specifically, given such shifts, the plan's efficiency gaps would vary from -7% to -13%, a tight and very pro-Republican band. *See* Tr. Ex. 93 at 1-6; PFOF ¶ 357.

Again, Professor Jackman's results are corroborated by both the Current Plan's authors and Professor Mayer. Gaddie's S-curves show that the Plan's responsiveness to changing electoral conditions was estimated to be less than half of the 2000 map's. The S-curves also show that Republicans were expected to keep their Assembly majority even if their statewide vote share fell to 47%—or even lower if incumbency were considered. *See* Team_Map_Curve, Tr. Ex. 282; PFOF ¶ 139. And Professor Mayer's sensitivity testing indicates that the Plan would have an average pro-Republican efficiency gap of 12% across three electoral scenarios: a close election like 2012, a Democratic wave like 2006, and a Republican wave like 2010. *See* Mayer Rebuttal Rpt. (Dkt. 95, Tr. Ex. 114) at 28; PFOF ¶ 362.

In combination, this evidence leaves no doubt that the effect prong is satisfied. The Current Plan plainly exhibited a high and durable level of partisan asymmetry relative to historical norms in 2012 and 2014. This leaves only the test's justification prong, which plaintiffs next address.

III.   The Test's Justification Prong is Discernible, Manageable, and Satisfied Here.

A.   The Court May Adjust the Justification Prong.

Plaintiffs' proposed justification prong asks whether a plan's large and durable asymmetry can be "justified by the State" based on the State's political geography or legitimate

redistricting objectives. *Brown*, 462 U.S. at 843. Plaintiffs have amended their formulation of this prong in response to the Court's analysis in its summary judgment decision. While some state legislative reapportionment cases have required the State to show *necessity*, *see, e.g.*, *Chapman*, 420 U.S. at 24 (examining whether "factors . . . necessitate the substantial population deviation embraced by the plan"); *Kilgarlin v. Hill*, 386 U.S. 120, 123 (1967) (examining whether "the announced policy of the State . . . necessitated the range of deviations"), the more common requirement has been a showing of *justification* by the State, *see, e.g.*, *Voinovich v. Quilter*, 507 U.S. 146, 161 (1993) ("appellants were required to justify the deviation"); *Brown*, 462 U.S. at 843; *Mahan*, 410 U.S. at 326 ("Virginia [had] to justify the divergences"); *Swann v. Adams*, 385 U.S. 440, 444 (1967) ("variations from a pure population standard might be justified by . . . state policy considerations"). Accordingly, plaintiffs' articulation of the prong now reflects the majority view that justification, not necessity, is the crux of the inquiry.

Under this familiar approach, three points are important. First, the burden is on the State to justify the plan's asymmetry, not on plaintiffs to prove that the asymmetry is *un*justified. This burden allocation is sensible because, by the time the justification prong is reached, plaintiffs have already "established a prima facie case of discrimination" by showing discriminatory intent and discriminatory effect. *Voinovich*, 507 U.S. at 161; *see also Brown*, 462 U.S. at 842-43 (a plan that "creates a prima facie case of discrimination . . . must be justified by the State"). The burden allocation also reflects the State's greater familiarity with the choices and tradeoffs inherent in the map. *See, e.g.*, *Brown*, 462 U.S. at 843; *Mahan*, 410 U.S. at 326.

Second, it is the plan's *asymmetry* that must be justified by the State, not the plan's general layout. Almost every map is underpinned by at least some legitimate considerations. But these factors do not save the map unless they actually justify its asymmetry. This is why the

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Court's reapportionment cases refer over and over to the "deviations" or "variations" for which the State must account.

And third, alternative plans are the most probative evidence of justification, though other kinds of material (such as statistical analyses, academic literature, or mapmaker testimony) are relevant as well. If alternative plans show that the challenged map's asymmetry cannot be meaningfully reduced while still achieving the State's valid goals, then the asymmetry is justified. Conversely, if other plans reveal that the challenged map's asymmetry *can* be significantly cut without sacrificing the State's legitimate aims, then the asymmetry is unjustified. *See, e.g.*, *Chapman*, 420 U.S. at 25; *Kilgarlin*, 386 U.S. at 124.

Notwithstanding these threshold principles, plaintiffs recognize that the reapportionment and gerrymandering contexts are not identical, and so do not challenge the Court's suggestion that they may "have an initial burden to show that defendants' plan cannot be justified using neutral criteria." Summ. Jdgmt. Op. (Dkt. 94) at 17, 35. Notably, in another related area, Section 2 of the Voting Rights Act, plaintiffs must typically submit a demonstration map indicating "the possibility of creating more than the existing number of reasonably compact [majority-minority] districts." *Johnson v. De Grandy*, 512 U.S. 997, 1008 (1994); *see also, e.g.*, *LULAC*, 548 U.S. at 437. Applying here this aspect of Section 2 doctrine, plaintiffs presumably would be obligated to present something like their Demonstration Plan, and then, if they satisfied the rest of their prima facie case as well, the burden would ultimately shift to the State to justify its plan's asymmetry. Plaintiffs will proceed at trial as if they bear this threshold burden.

B.   The Justification Prong Is Discernible.

Proceeding to the discernibility of the justification prong, it is deeply rooted in (indeed, borrowed from) the Supreme Court's state legislative reapportionment decisions. *See, e.g.*,

Voinovich, 507 U.S. at 161; *Brown*, 462 U.S. at 843; *Mahan*, 410 U.S. at 326; *Swann*, 385 U.S. at 444. As this Court observed in its summary judgment decision, the prong also has analogues in the partisan gerrymandering case law. *See Vieth*, 541 U.S. at 307 (Kennedy, J., concurring in the judgment) (asking whether "classifications . . . were applied . . . in a way unrelated to any legitimate legislative objective"); *id.* at 351 (Souter, J., dissenting) ("I would then shift the burden to the defendants to justify their decision by reference to objectives other than naked partisan advantage."); *Bandemer*, 478 U.S. at 141 (plurality opinion) (if plaintiffs set forth a prima facie case, "then the legislation would be examined for valid underpinnings"); *Karcher v. Daggett*, 462 U.S. 725, 759-60 (1983) (Stevens, J., concurring) ("In order to overcome a prima facie case of invalidity," "the State can demonstrate that the plan as a whole embodies acceptable, neutral objectives."); Summ. Jdgmt. Op. (Dkt. 94) at 32-33.

Not only is the justification prong grounded in longstanding doctrine, it is also a reasonable way to balance a constitutional imperative (like population equality or partisan symmetry) against other legitimate interests. If there were no justification prong, then States would be unable to pursue goals like compactness, respect for political subdivisions, respect for communities of interest, compliance with the Voting Rights Act, proportional representation, or electoral competitiveness to the extent these aims resulted in excessive asymmetry. States could also be placed in an impossible position if their political geography prevented them from enacting a sufficiently symmetric (and otherwise lawful) plan. The justification prong avoids both of these scenarios. It allows States to further the valid interests of their choice as long as they take care in doing so to limit asymmetry to the extent possible. It also recognizes that partisan balance cannot be mandated in States where it cannot realistically be attained. *See* Stephanopoulos & McGhee, Tr. Ex. 141 at 891-95.

C.   The Justification Prong Is Manageable.

That the justification prong is manageable as well is evident from the half century in which it has been used in reapportionment cases. Over this period, courts have shown that they can reliably distinguish between plans whose large population deviations are justified by legitimate factors and plans whose malapportionment cannot be properly explained. *Mahan* and *Brown* offer good examples of plans with justifiable deviations. In *Mahan*, Virginia "consistently sought to avoid the fragmentation of [political] subdivisions," and "[t]here was uncontested evidence . . . that the legislature's plan . . . 'produce[d] the minimum deviation above and below the norm, keeping intact political boundaries.'" 410 U.S. at 323, 326. Similarly, in *Brown*, Wyoming had a "constitutional policy—followed since statehood—of using counties as representative districts," and applied this policy so that "population deviations [were] no greater than necessary to preserve counties as representative districts." 462 U.S. at 843-44. Unsurprisingly, the Court upheld both plans.

On the other hand, *Kilgarlin* and *Chapman* are both cases featuring unjustifiable deviations. In *Kilgarlin*, Texas claimed that it was "respect[ing] county boundaries wherever possible," but "Texas policy . . . permit[ted] . . . the violation of county lines" and "at least two other plans [were] presented to the court, which respected county lines but which produced substantially smaller deviations." 386 U.S. at 123-24. Likewise, in *Chapman*, North Dakota invoked "the division of the State caused by the Missouri River" and "the asserted state policy of observing existing geographical and political subdivision boundaries." 420 U.S. at 25. But "North Dakota policy [neither] requires nor favors strict adherence to political lines," and "a plan devised by [a] Special Master . . . demonstrates that neither [interest] prevents attaining a

significantly lower population variance." *Id.* As one might expect, both of these plans were struck down.

What is workable in the reapportionment context is also feasible in gerrymandering cases. Population equality and partisan symmetry are both quantifiable using data to which mapmakers have access when designing their plans. Both of these values are also linked only loosely to other legitimate aims. That is, plans can have high or low levels of population equality and partisan symmetry while simultaneously having high or low levels of compactness, respect for political subdivisions, electoral competitiveness, and so on. And both values can be rigorously analyzed using cartographic evidence. Alternative maps are an intuitive way to distinguish between valid explanations for large population deviations or partisan asymmetries— and reasons that are "a mere pretext for an old-fashioned gerrymander." *Vieth*, 541 U.S. at 352 (Souter, J., dissenting); *see also Karcher*, 462 U.S. at 759 (Stevens, J., concurring) (arguing that "[t]he same kinds of justification that the Court accepts as legitimate in the context of population disparities" should be available in the gerrymandering context).

D.   The Justification Prong Is Satisfied Here.

1.   Four Types of Alternative Maps Confirm the Lack of Justification for the Current Plan's Asymmetry.

Can defendants, then, justify the Current Plan's large and durable symmetry based on Wisconsin's political geography or legitimate redistricting objectives? Four separate types of alternative maps show that they cannot: Professor Mayer's Demonstration Plan; the 200 simulated maps created by Professor Chen; the Assembly plans used in Wisconsin in earlier cycles; and the drafts of the Current Plan produced by Foltz, Handrick, and Ottman. *All* of these maps are similar to (or better than) the Current Plan in terms of compliance with federal and state requirements, and far superior in terms of partisan symmetry.

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Beginning with Professor Mayer's Demonstration Plan, it complies at least as well as the Current Plan with all applicable criteria. It has a total population deviation smaller than 1%. It includes as many black-majority (6) and Hispanic-majority (1) districts as the Current Plan. Its average smallest-circle compactness score is slightly better (0.41 versus 0.39). And it splits slightly fewer political subdivisions (119 versus 120). *See* Mayer Rpt. (Dkt. 54, Tr. Ex. 2) at 37-38; PFOF ¶¶ 367, 370. However, the Demonstration Plan is far more symmetric than the Current Plan. Using 2012 election results, assuming that all seats are contested and open, and calculating the efficiency gap with the full method, the Demonstration Plan has a gap of only -2.2%, compared to -11.7% for the Current Plan. In other words, the Demonstration Plan is more than *80%* more balanced. *See id.* at 46; PFOF ¶ 366.[22]

Moreover, the Demonstration Plan's neutrality endures even if incumbents are taken into account or large electoral swings are simulated. Incorporating incumbents worsens the Demonstration Plan's efficiency gap by only 1.7%, or less than the 2.5% by which the Current Plan's efficiency gap deteriorates under the same condition. *See* Mayer Rebuttal Rpt. (Dkt. 95, Tr. Ex. 114) at 24; PFOF ¶ 446. Similarly, incorporating incumbents *and* replicating the most dramatic Democratic and Republican waves of the last generation only makes the Demonstration Plan *more* symmetric. Its efficiency gap declines from -3.9% to -3.7% in the Democratic wave scenario, and from -3.9% to 0.1% in the Republican wave scenario. Across 2012 and the two wave scenarios, the Plan has an average efficiency gap of just -2.5%. *See id.* at 27; PFOF ¶ 376.

Next consider Professor Chen's two hundred simulated maps. Every one of them keeps intact more counties than the Current Plan (18-25 versus 14); preserves more municipalities (1837-1853 versus 1825); has a better average smallest-circle compactness score (0.43-0.46

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[22] For the sake of consistency, plaintiffs report these efficiency gaps using the same signs (negative for pro-Republican gaps, positive for pro-Democratic gaps) as elsewhere in their briefing.

versus 0.37); and is equally compliant with the one person, one vote rule and the Voting Rights Act. Every simulated map also has a much smaller efficiency gap (calculated using 2012 election results and the full method) than the Current Plan. In fact, fully 144 of the 200 maps have efficiency gaps within 3% of zero, and 46 of them have efficiency gaps no more than *1%* away from perfect symmetry. *See* Chen, Tr. Ex. 156 at 1, 5-8, 10; Mayer Dep. (Dkt. 99) 10:9-16, 138:3-21; PFOF ¶ 381. In combination, these maps show that Professor Mayer's Demonstration Plan is not unusual in achieving a much lower efficiency gap without compromising along other dimensions. To the contrary, there are dozens, if not hundreds, of plans that generate similar improvements.

Wisconsin's Assembly plans in previous cycles are the third set of maps that bear on the justifiability of the Current Plan's asymmetry. The Current Plan splits more counties than any other map in Wisconsin's history (58 compared to 51 in the 2000s, 47 in the 1990s, 41 in the 1980s, 49 in the 1970s, and 0 in the 1960s and earlier). *See supra* Facts III; *see also Wisc. State AFL-CIO*, 543 F. Supp. at 635. The Current Plan also splits more municipalities than the 2000s map (62 versus 50), though fewer than the 1990s map (62 versus 72). The Current Plan's districts are less compact than the 2000s Map's too, both in terms of average smallest-circle compactness (0.39 versus 0.41) and average perimeter-to-area compactness (0.28 versus 0.29). *See supra* Facts III. And despite (or perhaps because of) its inferior performance in these respects, the Current Plan is far more asymmetric than any of its predecessors. Its average efficiency gap was -11.5% over the 2012 and 2014 elections, compared to plan averages of -7.6% in the 2000s, -2.4% in the 1990s, -1.9% in the 1980s, and -0.3% in the 1970s. *See* Jackman Rpt. (Dkt. 62, Tr. Ex. 34) at 72; PFOF ¶¶ 343-344.

Lastly, the draft maps crafted by the Current Plan's own authors further illustrate the unjustifiability of the enacted version's asymmetry. Four of these drafts (Joe Basemap Basic, Joe Basemap Assertive, Tad MayQandD, and Joe Assertive) had predicted efficiency gaps smaller than the Final Map's -12.4% (-5.4%, -9.4%, -10.4%, and -11.4%, respectively). The most symmetric of these drafts (Joe Basemap Basic) also had district-by-district partisanship scores, black population shares, and Hispanic population shares that were extremely highly correlated (above 0.9) with those of the Final Map. *See supra* Facts I.C; *see also* joe base map.xlsx, Tr. Ex. 337. The most reasonable inference from these correlations is that the Final Map did not much change Joe Basemap Basic's overall layout, but *did* substantially amend a few of its districts to yield a greater Republican advantage.[23]

2. Defendants' Rationalizations for the Current Plan's Asymmetry Are Unpersuasive.

In response to this broad and varied evidence of unjustifiability, plaintiffs expect defendants to raise two kinds of arguments. First, they may take issue with Professor Mayer's Demonstration Plan for pairing more incumbents than the Current Plan or for allegedly producing results similar to the Current Plan's under electoral conditions like those of 2014.[24] Second, they may claim that the Current Plan's asymmetry is explained by traditional redistricting criteria such as respect for political subdivisions. Neither approach has merit.

With respect to incumbent pairings, defendants only criticize the Demonstration Plan for *unintentionally* pairing incumbents. This criticism rings hollow given that Foltz, Handrick, and

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[23] Unfortunately, the Current Plan's authors do not seem to have conducted or saved any analyses of these drafts' compliance with traditional criteria. Also of note, Foltz, Handrick, and Ottman examined an Assembly map submitted by Democratic Assembly member Fred Kessler. This map was predicted to have a *pro-Democratic* efficiency gap of 7.0% while still performing similarly in terms of traditional criteria. *See* Tr. Ex. 172 at 5.

[24] Defendants may also argue that the Demonstration Plan cannot give rise to a valid *Senate* map (with each Senate district composed of three Assembly districts). This is plainly false. Starting with the Demonstration Plan, it would be straightforward to produce a Senate map that complied with the one person, one vote rule, the Voting Rights Act, and all state legal requirements. Professor Mayer did not perform this exercise for the simple reason that plaintiffs are only challenging the constitutionality of the Assembly plan.

Ottman *purposefully* paired incumbents in such a way that five Democratic incumbents would be defeated. There were five districts (14, 22, 33, 60, and 61) in the Current Plan in which Democratic incumbents were pitted against Republican incumbents in 2012. *All* of these districts had predicted Republican partisanship scores of 57% or higher, thus effectively guaranteeing the Democratic incumbents' elimination. Needless to say, there is nothing like this selective targeting of one party's incumbents in the Demonstration Plan. Summary.xlsx, Tr. Ex. 284; PFOF ¶ 54.

Similarly, with respect to defendants' assertion that the Demonstration Plan would have performed no differently than the Current Plan in 2014, it ignores their own expert's warning that, when conducting sensitivity testing, data on "which districts will be contested by which incumbents" should be incorporated. Goedert Rpt. (Dkt. 51, Tr. Ex. 136) at 16-17. It is appropriate (indeed the professional norm) to omit such data when generating an open seat baseline for a plan's *first* election. *See* Mayer Rebuttal Rpt. (Dkt. 95, Tr. Ex. 114) at 22-24; PFOF ¶¶ 427, 431-433, 444, 445. But in *subsequent* elections, almost every candidate who prevailed in the first election will be running for reelection, and it is foolish to discard this information. When this information is taken into account, it reveals that the Demonstration Plan would remain highly symmetric not only under the electoral conditions of 2014, but also in the event of an even larger Republican wave like that of 2010. *See id.* at 27; PFOF ¶ 376; *see also* Tr. Ex. 93 at 1-6 (taking incumbency into account when conducting sensitivity testing).

That defendants' calculations are unreliable becomes even more evident when their method is applied to Professor Mayer's open seat estimates for the Current Plan. Six of these estimates are in the range of 50.0% to 53.4% Democratic, meaning that, under defendants' approach, all of these districts would have been expected to flip from Democratic to Republican

control in 2014. But in fact, Republicans won only three more districts in 2014, not six. And the *reason* they won only three more is that Democratic incumbents outperformed the open seat estimates for their districts. *See* Mayer Rpt. (Dkt. 54, Tr. Ex. 2) at 50-51.

Applying defendants' method to the Demonstration Plan's open seat estimates in the event of a *pro-Democratic* swing is also illuminating. Twelve of these estimates are in the range of 50.0% to 53.4% Republican, meaning that, under defendants' approach, all of these districts would be expected to flip from Republican to Democratic control if there was an analogous pro-Democratic shift. *See id.* at 48-49. This degree of turnover is again implausible because it overlooks the effects of incumbency. More importantly, it demonstrates that there is no latent pro-Republican bias in the Demonstration Plan. Rather, defendants have simply stumbled upon the Plan's high degree of responsiveness, that is, the fact that it enables *both* Democrats and Republicans to make rapid seat gains if the electorate moves in their direction. *See id.* at 34; ("Beyond these criteria, the primary decision rule was creating competitive districts where possible . . . ."). A high degree of responsiveness, of course, is generally thought to be a desirable plan characteristic.

This leaves only defendants' effort to justify the Current Plan's asymmetry based on compliance with traditional redistricting criteria. This attempt is untenable for two reasons. First, Professor Mayer's Demonstration Plan, Professor Chen's two hundred simulated maps, the Assembly plans used in Wisconsin in earlier cycles, and the Current Plan's authors' own draft maps *all* show that a far lower level of asymmetry could have been attained while still complying at least as well with traditional criteria. *See supra* Argument III.D.1.

Second, while the Current Plan's authors claim to have considered traditional criteria, they repeatedly twisted them to facilitate their pursuit of partisan advantage. The authors sought

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to insulate their most grossly gerrymandered districts from an anticipated legal challenge by making their populations as close as possible to the ideal. *See* Tr. Ex. 469; PFOF ¶¶ 66-67. When the authors noticed that municipal split data cast their Plan in a rosier light than county split data, they deleted the latter information from their presentation to the Legislature. *See* Tr. Ex. 362; PFOF ¶ 57-58. And the authors flipped the normal process for delineating wards so that their districts would not have to respect ward boundaries—but rather the wards would have to follow the district lines. *See* Tr. Ex. 331; PFOF ¶ 178. Plainly, these sorts of actions do not *justify* the Plan's asymmetry but rather further *indict* it.

CONCLUSION

Plaintiffs have advanced a three-part test for partisan gerrymandering, all of whose prongs are judicially discernible and manageable. The Current Plan fails this test because it discriminates against Democratic candidates and voters (1) intentionally, (2) severely and durably, and (3) unjustifiably. This Court should therefore hold that the Plan is an unconstitutional partisan gerrymander in violation of the First and Fourteenth Amendments.

Respectfully submitted,

s/ Nicholas O. Stephanopoulos
One of the attorneys for plaintiffs

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IN THE UNITED STATES DISTRICT COURT
FOR THE WESTERN DISTRICT OF WISCONSIN

WILLIAM WHITFORD, ROGER ANCLAM, EMILY BUNTING, MARY LYNNE DONOHUE, HELEN HARRIS, WAYNE JENSEN, WENDY SUE JOHNSON, JANET MITCHELL, ALLISON SEATON, JAMES SEATON, JEROME WALLACE, and DONALD WINTER,	))))))))	No. 15-cv-421-bbc
Plaintiffs,	)))	
v.	))	
GERALD C. NICHOL, THOMAS BARLAND, JOHN FRANKE, HAROLD V. FROEHLICH, KEVIN J. KENNEDY, ELSA LAMELAS, and TIMOTHY VOCKE,	)))))	
Defendants.	))	

JOINT FINAL PRETRIAL REPORT

This action for declaratory relief challenges 2011 Wisconsin Act 43, which adopted new boundaries for the state's legislative districts, and codified them in Chapter 4 of the Wisconsin Statutes. The case is scheduled for trial commencing Tuesday, May 24, 2016 and is expected to last four days. In accordance with the Court's October 15, 2015 Scheduling Order (Dkt. 33) and Civil L.R. 16(c)(1), the parties, through their respective counsel, submit the following pre-trial report.

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JOINT STATEMENT OF STIPULATED FACTS

Plaintiffs

1.   Plaintiffs are qualified, registered voters in the State of Wisconsin, who reside in various counties and legislative districts.

2.   Plaintiffs are all supporters of the Democratic party and of Democratic candidates, and they almost always vote for Democratic candidates in Wisconsin elections.

3.   Plaintiff William Whitford, a citizen of the United States and of the State of Wisconsin, is a resident and registered voter in the 76th Assembly District in Madison, in Dane County, Wisconsin.

4.   Plaintiff Roger Anclam, a citizen of the United States and of the State of Wisconsin, is a resident and registered voter in the 31st Assembly District in Beloit, in Rock County, Wisconsin.

5.   Plaintiff Emily Bunting, a citizen of the United States and of the State of Wisconsin, is a resident and registered voter in the 49th Assembly District in Viola, Richland County, Wisconsin.

6.   Plaintiff Mary Lynne Donohue, a citizen of the United States and of the State of Wisconsin, is a resident and registered voter in the 26th Assembly District in Sheboygan, in Sheboygan County, Wisconsin.

7.   Plaintiff Helen Harris, a citizen of the United States and of the State of Wisconsin, is a resident and registered voter in the 22nd Assembly District in Milwaukee, in Milwaukee County, Wisconsin.

8.   Plaintiff Wayne Jensen, a citizen of the United States and of the State of Wisconsin, is a resident and registered voter in the 63rd Assembly District in Rochester, in

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Racine County, Wisconsin.

9.   Plaintiff Wendy Sue Johnson, a citizen of the United States and of the State of
Wisconsin, is a resident and registered voter in the 91st Assembly District in Eau Claire, in Eau
Claire County, Wisconsin.

10.   Plaintiff Janet Mitchell, a citizen of the United States and of the State of
Wisconsin, is a resident and registered voter in the 66th Assembly District in Racine, in Racine
County, Wisconsin.

11.   Plaintiffs James and Allison Seaton, citizens of the United States and of the State
of Wisconsin, are residents and registered voters in the 42nd Assembly District in Lodi, in
Columbia County, Wisconsin.

12.   Plaintiff Jerome Wallace, a citizen of the United States and of the State of
Wisconsin, is a resident and registered voter in the 23rd Assembly District, in Fox Point, in
Milwaukee County, Wisconsin.

13.   Plaintiff Don Winter, a citizen of the United States and of the State of Wisconsin,
is a resident and registered voter in the 55th Assembly District in Neenah, in Winnebago County,
Wisconsin.

Defendants

14.   Defendant Gerald C. Nichol is the Chair of the Wisconsin Government
Accountability Board ("G.A.B."), and is named solely in his official capacity as such. The
G.A.B. is a state agency under Wis. Stat. § 15.60, which has "general authority" over and
"responsibility for the administration of . . . [the State's] laws relating to elections and election
campaigns," Wis. Stat. § 5.05(1), including the election every two years of Wisconsin's
representatives in the Assembly.

15.   Defendants Thomas Barland, John Franke, Harold V. Froehlich, Elsa Lamelas,

and Timothy Vocke are all members of the G.A.B., and are named solely in their respective

official capacities as such.

16.   Defendant Kevin J. Kennedy is the Director and General Counsel of the G.A.B.,

and is named solely in his official capacity as such.

The Redistricting Process in 2011

17.   In 2011, Adam Foltz was a legislative aide to the Republican then-Speaker of the

Wisconsin Assembly.

18.   In 2011, Tad Ottman was a legislative aide to Republican Majority Leader of the

Wisconsin Senate.

19.   In 2011, Adam Foltz and Tad Ottman worked with consultants, including Joseph

Handrick and Professor Keith Gaddie, as well as others, to develop a redistricting plan for

Wisconsin's legislative districts.

20.   In January 2011, Scott Fitzgerald, Republican member of the Wisconsin State

Senate and Wisconsin Senate Majority Leader, and Jeff Fitzgerald, Republican member of the

Wisconsin State Assembly and Speaker of the Assembly, hired attorney Eric McLeod

("McLeod") and the law firm of Michael Best to represent the entire Wisconsin State Senate and

Wisconsin State Assembly in connection with the reapportionment of the state legislative

districts after the 2010 Census.

21.   On January 3, 2011, the Committee on Senate Organization approved the

following motion with all three Republican members of the Committee (Senator Scott Fitzgerald,

Senator Michael Ellis, and Senator Glenn Grothman) voting "Aye" and the single Democrat

member (Senator Mark Miller) voting "No":

[MOTION] To authorize the hiring of the law firms of Michael Best & Friedrich, LLP and Troupis Law Office, LLC for services related to redistricting of legislative and congressional districts for the 2012 elections. The law firms shall perform work at the direction of the Majority Leader. This authorization includes the authority to provide the law firms with any redistricting software applications procured or developed by the Legislature that are necessary to facilitate participation in the redistricting drafting process. Upon adoption of this motion, the retention of the law firm of O'Neil, Cannon, Hollman, DeJong, S.C. is terminated. The Chief Clerk may pay the law firm of O'Neil, Cannon, Hollman, DeJong, S.C. for services rendered through the date on which this ballot is adopted but not for services rendered on any date thereafter." [The Motion/Ballot was part of the record in Baldus (2:11-cv-00562-JPS-DPW-RMD, filed 12/16/11 Doc. 81-2) and is subject to judicial notice pursuant to FRE Rule 201(b)(2)].

22.   On January 4, 2011, the Assembly Organization Committee approved the following motion to:

"*Authorize the Speaker of the Assembly, Jeff Fitzgerald, to retain legal counsel for the purpose of apportioning and redistricting the Legislative and Congressional Districts following the 2010 decennial Census as required by Article IV, Section 3 of the Wisconsin Constitution. Such counsel will be compensated under s. 20.765(1)(a).*" [The Motion was part of the record in Baldus (2:11-cv-00562-JPS-DPW-RMD, filed 12/16/11 Doc. 81-3) and is subject to judicial notice pursuant to FRE Rule 201(b)(2)].

23.   All redistricting work was done in Michael Best's office before the file (the

redistricting plan that became Act 43) was sent to the Legislative Reference Bureau for drafting,

and the "map room" where all redistricting work was done was located in Michael Best's office.

24.   A formal written policy provided that only the Senate Majority Leader, the

Speaker of the House, and their aides Tad Ottman and Adam Foltz, and Michael Best attorney

Eric Mcleod and legal staff designated by Mr. McLeod, would have unlimited access to the "map

room."

25.   The access policy provided for limited access by rank and file legislators:

>   "*Legislators will be allowed into the office* [mapping room] *for the sole purpose*
>
>   *of looking at and discussing their district. They are only to be present when an*
>
>   *All Access member is present. No statewide or regional printouts will be on*
>
>   *display while they are present (with the exception of existing districts). They will*
>
>   *be asked at each visit to sign an agreement that the meeting they are attending is*
>
>   *confidential and they are not to discuss it.*" But only Republican legislators were
>
>   allowed even this limited access.

26.   Three computers were deployed by the Legislative Technology Services Bureau

("LTSB") to the "map room" at Michael Best & Friedrich for use in drafting the redistricting

plan. Each computer contained two mirrored internal hard drives and one external hard drive.

On July 15, 2010, a computer coded for identification purposes as WRK32587 was deployed to

Michael Best & Friedrich for use by Tad Ottman. Computer WRK32587 was deployed with an

external hard drive with the identification code of HDD32575. On June 4, 2012, computer

WRK32587 was moved from Michael Best & Friedrich to the legislative office of Senator Scott

Fitzgerald in the Capitol Building. On May 21, 2015, the hard drives from computer

WRK32587 and its external hard drive HDD32575 were shredded pursuant to the established

policy and procedures for disposal established by the LTSB. Ylvisaker Dep. (Dkt. 106), at 14:18-

15:12, 23:7-26:17, 28:7-31:17; Ex. 49, Ex. 50 at 12.

27.   Also on July 15, 2010, a computer coded WRK32586 was deployed to Michael

Best & Friedrich for use by Adam Foltz. Computer WRK32586 was deployed with an external

hard drive with the identification code of HDD32574. On September 13, 2012, computer

WRK32586 was returned to the LTSB. On May 21, 2015, the hard drives from computer

WRK32586 and its external hard drive HDD32574 were shredded pursuant to the established

policy and procedures for disposal established by the LTSB. Ylvisaker Dep. (Dkt. 106), at 14:18-

15:12, 23:7-26:17, 28:7-31:17; Ex. 49, Ex.50 at 12.

28.   On March 21, 2011, a third computer coded WRK32864 was deployed to Michael

Best & Friedrich for use by Joseph Handrick. Computer WRK32864 was deployed with an

external hard drive with the identification code of HDD32579. On June 4, 2012, computer

WRK32864 was moved from Michael Best & Friedrich to the legislative office of Senator Scott

Fitzgerald in the Capitol Building. On May 21, 2015, the hard drives from computer

WRK32864 and its external hard drive HDD32579 were shredded pursuant to the established

policy and procedures for disposal established by the LTSB. Ylvisaker Dep. (Dkt. 106), at 14:18-

15:12, 23:7-26:17, 28:7-31:17; Ex. 49, Ex. 50 at 12.

29.   In the course of drafting the redistricting plan enacted by Act 43 (the Current

Plan) for Wisconsin's legislative districts, Adam Foltz, Tad Ottman, and Keith Gaddie examined

the past partisan performance of voters in the existing legislative districts, as well as the expected

future partisan performance of voters in various configurations of potential new districts.

30.   Specifically, in the course of developing the Current Plan for Wisconsin's

legislative districts, Adam Foltz, Tad Ottman, and Keith Gaddie examined whether past districts were likely to vote majority Republican or majority Democratic, and whether various configurations of potential new districts were likely to vote majority Republican or majority Democratic.

31.   On April 11, 2011, Professor Ronald Keith Gaddie entered into a Consulting Services Agreement with Michael Best & Friedrich. The agreement stated that Professor Gaddie was to serve as a consultant to Michael Best & Friedrich in connection with its representation of the Wisconsin State Senate and the Wisconsin State Assembly on "*matters relating to the reapportionment of the Wisconsin Senate, Assembly and Congressional Districts arising out of the 2010 census.*" The agreement described Professor Gaddie's "*duties*" as including "*service as an independent advisor on the appropriate racial and/or political make-up of legislative and congressional districts in Wisconsin,*" and would include "*providing advice based on certain statistical and demographic information and on election data or information.*" Additionally, the Consulting Services Agreement stated, "*Any work papers or materials prepared by you, or under your direction, belong to the Senate pursuant to the Representation, and every page must be sealed or otherwise stamped "Attorney/Client Work-Product Privilege Confidential.*"

32.   On April 17, 2011, Keith Gaddie drafted a note to himself while he was in Madison, Wisconsin, providing consulting services for the development of a redistricting plan. The document stated in full:

> "*The measure of partisanship should exist to establish the change in the partisan balance of the district. We are not in court this time; we do not need to show that we have created a fair, balanced, or even a reactive map. But, we do need to show to lawmakers the political potential of the district.*

I have gone through the electoral data for state office and built a partisan score

for the assembly districts. It is based on a regression analysis of the Assembly

vote from 2006, 2008, and 2010, and it is based on prior election indicators of

future election performance.

I am also building a series of visual aides to demonstrate the partisan structure

of Wisconsin politics. The graphs will communicate the top-to-bottom party basis

of the state politics. It is evident, from the recent Supreme Court race and also

the Milwaukee County executive contest, that the partisanship of Wisconsin is

invading the ostensibly non-partisan races on the ballot this year." Gaddie Dep.

(Dkt. 108), at 95: 6-96:2.

33.   On March 9, 2016, during his deposition, Keith Gaddie was asked the following

question:

"*Q: You said something to the effect that is important to understand the partisan*

effect. Why is it important to understand the partisan effect?"

Professor Gaddie responded to that question:

"*A: Well, again, I was writing as a political scientist. If you're going to redistrict*

it's important to understand the consequences of it. Lawmakers are going to be

concerned about a variety of different consequences of a redistricting. The impact

on their constituency, the impact on other constituencies.

If a lawmaker comes in and wants to know what you did to his district, it would be

nice to be able to tell him we've got an estimate of what your district used to look

like in terms of partisanship and here's what it looks like now. So this kind of

technique allows us to generate a measure that you can show to somebody and

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explain to them, this is what we think the net electoral impact is on your

constituency.

In the aggregate, it means you can look at an entire map and ascertain the extent

to which you have moved the partisan balance one way or the other."

Gaddie Dep. (Dkt. 108), at 98:24-99:24.

"Q: And you use the word "potential" there. What did you mean by the word

potential?

A: If you had an election in the future, how might it turn out. So when I say

potential, what I'm saying is that if we ran an election, this is our best estimate of

what a non-incumbent election would look like given a particular set of

circumstances, depending on whether one party is stronger or weaker.

Q. And that's what your regression model was designed to do, to show that

potential of the district?

A. Yeah, it was designed to tease out a potential estimated vote for the legislator

in the district and then allow you to also look at that and say, okay, what if the

Democrats have a good year? What if the Republicans have a good year? How

does it shift? Okay?

The other thing is we know that districts don't correspond precisely to our

statistical models all the time. So we're not concerned just with the crafting of the

district or a point estimate of the vote. It's only an estimate. There's error. Right?

There's going to be a range within which the outcome might occur.

The idea was to give to those people that were mapping, those people that were

making choices, as much knowledge as we could glean about each district by

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giving them the most leverage on the least amount of data." Gaddie Dep. (Dkt.

108) at 100:22 -102:3.

34.   On March 9, 2016, during his deposition, Keith Gaddie was asked the following

question:

> "*Q: But a significant part of your work that you were retained to do and that you*
>
> *did perform in 2011 had to do with the – with building a regression model to be*
>
> *able to test the partisan makeup and performance of districts as they might be*
>
> *configured in different ways, correct?*"

Professor Gaddie responded to that question:

> *A: "Yes, that's correct."*

Gaddie Dep. (Dkt. 108) at 46:12-19.

35.   Professor Gaddie identified two measures to estimate the partisan change that

would occur due to redistricting:

> "*There are basically two ways you can measure or you can estimate a partisan*
>
> *change when you redistrict. One is to use what's called a reconstituted election*
>
> *technique where we take either one or an index with several statewide elections,*
>
> *exongenous elections, which are elections that occur outside a district. Right? Higher*
>
> *levels of office. And we attempt to get a sense of a partisan average from that.*
>
> *Or what you can do is you can take the actual election results, okay, the actual*
>
> *outcomes of previous elections, you turn those into a dependent variable, an outcome*
>
> *of interest, and then you regress using linear regression those results on these larger*
>
> *statewide measures.*

The other thing you do is you attempt to take into account whether or not there's

an incumbent running so that you can account for the incumbency impact. Again, it's

been four years since I did this. But what we did is I had proposed to the map

drawers that if they wanted to present a best estimate of partisan impact so the

lawmakers can understand the consequence of different maps, that a regressions

driven technique is the best approach. So I set about building a regression equation

using data that should have been produced to generate estimates of partisanship,

partisan behavior in those districts for different district proposals.

So what this – what this spreadsheet is, is the consequence of applying one of

those models. If it is what I think it is, it's the consequence of applying one of those

models to a map generated by a map maker where what we know is, we know the

statewide election results, and we then put those data for each district into the

regression equation and that gives us an estimated vote value for each district. And

that's what reported here, assuming no incumbent.

Gaddie Dep. (Dkt. 108) at 43:16-45:8.

36.   "joe base map numbers.xlsx" is a document saved on the disc, Amended

Lanterman Decl., Ex. B (Dkt. 97-2), and located in the "WRK32864 Responsive Spreadsheets

Deduplicated file," and is a true and correct copy of a spreadsheet found by Mark Lanterman on

the computer deployed to Michael Best & Friedrich for use by Joseph Handrick. Amended

Lanterman Decl., Ex. B (Dkt. 97-2).

37.   The metadata for "joe base map numbers" is shown here:

File Name	joe base map numbers.xlsx
Extension	xlsx
Created (Central)	4/11/2011 5:09:21 PM (2011-04-11 22:09:21 UTC)

13

Accessed (Central)	5/12/2011 7:06:05 PM (2011-05-13 00:06:05 UTC)
Modified (Central)	5/12/2011 7:06:05 PM (2011-05-13 00:06:05 UTC)
File Path	/Users/tad/Documents/joe base map numbers.xlsx
File Size	22.91 KB
Author	tad
Last Saved By	tad
Office Created Date	4/11/2011 4:35:26 PM (2011-04-11 21:35:26 UTC)
Office Last Printed Date	5/12/2011 7:04:21 PM (2011-05-13 00:04:21 UTC)
Office Last Saved Date	5/12/2011 7:06:05 PM (2011-05-13 00:06:05 UTC)
Hidden Columns or Rows	FALSE
Track Changes	FALSE
MD5 Hash Value	9697f259cb6de2e7e838a4de973f2481

Amended Lanterman Decl., Ex. B (Dkt. 97-2), "WRK32684 Responsive Spreadsheets File Detail

Report."

38.   The "joe base map numbers" spreadsheet lists district-by-district partisanship

scores developed by Handrick, Foltz, and Ottman. Gaddie Dep. (Dkt. 108) at 40:12-24, 223:7-12.

39.   The "joe base map numbers" spreadsheet lists district-by-district partisan scores

for three Assembly district plans: the "current map," "basemap BASIC," and "basemap

assertive." Amended Lanterman Decl., Ex. B (Dkt. 97-2), "WRK32864 Responsive Spreadsheets

Deduplicated file."

40.   "TADOTTMANSUPPPROD000094" is a true and correct copy of a spreadsheet

created by Tad Ottman in 2011 and produced to the Court as part of the Legislature's

supplemental production in *Baldus v. Brennan* (2:11-cv-00562-JPS-DPW-RMD; dated January

10, 2012).

41.   "TADOTTMANSUPPPROD000094" lists district-by-district partisan scores

developed by Handrick, Foltz, and Ottman. Gaddie Dep. (Dkt. 108) at 40:12-24, 223:7-12.

42.   "TADOTTMANSUPPPROD000097" is a true and correct copy of a spreadsheet created by Tad Ottman in 2011 and produced to the Court as part of the Legislature's supplemental production in *Baldus v. Brennan* (2:11-cv-00562-JPS-DPW-RMD; dated January 10, 2012).

43.   "TADOTTMANSUPPPROD000097" lists district-by-district partisan scores developed by Handrick, Foltz, and Ottman. Gaddie Dep. (Dkt. 108) at 40:12-24, 223:7-12.

44.   "Plancomparisons.xlsm," a document saved on the disc, Amended Lanterman Decl., Ex. B (Dkt. 97-2), and located in the WRK32864 Responsive Spreadsheets Deduplicated file, is a true and correct copy of a spreadsheet found by Mark Lanterman on the computer deployed to Michael Best & Friedrich for use by Joseph Handrick.

45.   The metadata for "PlanComparisons" is shown here:

File Name	PlanComparisons.xlsm
Extension	xlsm
Created (Central)	5/13/2011 12:58:51 PM (2011-05-13 17:58:51 UTC)
Accessed (Central)	7/14/2011 1:32:51 PM (2011-07-14 18:32:51 UTC)
Modified (Central)	7/14/2011 1:32:51 PM (2011-07-14 18:32:51 UTC)
File Path	/Users/tad/Desktop/PlanComparisons.xlsm
File Size	69.10 KB
Author	afoltz
Last Saved By	tad
Office Created Date	5/2/2011 6:13:18 PM (2011-05-02 23:13:18 UTC)
Office Last Printed Date	6/15/2011 3:28:17 PM (2011-06-15 20:28:17 UTC)
Office Last Saved Date	7/14/2011 1:32:51 PM (2011-07-14 18:32:51 UTC)
Hidden Columns or Rows	FALSE
Track Changes	FALSE
MD5 Hash Value	8d0b9118f01010be5b553b0306e60037

Amended Lanterman Decl., Ex. B (Dkt. 97-2), "WRK32684 Responsive Spreadsheets File Detail Report."

46.   The "PlanComparisons" spreadsheet lists district-by-district partisan scores

developed by Handrick, Foltz, and Ottman. Gaddie Dep. (Dkt. 108) at 40:12-24, 223:7-12.

47.   The "PlanComparisons" spreadsheet lists district-by-district partisan proxy scores

for four Assembly district plans: each tab includes an identical column for a "Current" plan, and

there are three tabs labeled as "Joe Aggressive," "Joe Aggressive (2)," and "TeamMap 6-15-11."

Amended Lanterman Decl., Ex. B (Dkt. 97-2), "WRK32864 Responsive Spreadsheets

Deduplicated file." Gaddie Dep. (Dkt. 108) at 215:22-217-20.

48.   A spreadsheet labeled "Final Map" is a true and correct copy of a spreadsheet

created by Adam Foltz. Gaddie Dep. (Dkt. 108), Ex. 39 at 3; Foltz. Dep. (Dkt 109) at 128:14-16.

49.   The metadata associated with the "Final Map" is written on Exhibit 39, as

follows:

> "Plan Comparisons.xlsm"
>
> created 5/9/11 5:39 PM
>
> accessed 4/27/12 4:50 PM
>
> modified 4/27/12 4:50 PM
>
> file path: /users/afoltz/Desktop/projects/PlanComparisons.xlsm

Gaddie Dep. (Dkt. 108), Ex. 39 at 1; Amended Lanterman Decl., Ex. B (Dkt. 97-2).

50.   The "Final Map" spreadsheet lists district-by-district partisan scores developed by

Handrick, Foltz, and Ottman. Gaddie Dep. (Dkt. 108) at 40:12-24, 223:7-12.

51.   The spreadsheets shown in "joe base map numbers," "PlanComparisons,"

TADOTTMANSUPPPROD000094," "TADOTTMANSUPPPROD000097," and "Final Map"

all include district-by-district partisan scores for both the "current map" and a different version

of a potential future plan. Gaddie Dep. (Dkt. 108) at 220:25-221:13.

52.   The "current map" referred to in "joe base map numbers," "PlanComparisons,"

"TADOTTMANSUPPPROD000094," "TADOTTMANSUPPPROD000097," and "Final Map,"

denotes the existing map, the maps as constituted in the State of Wisconsin before the 2012 re-

map. Gaddie Dep. (Dkt. 108) at 234:22-24.

53.   The district-by-district partisan scores for the "Current map" column in "joe base

map numbers," and the "Current" column for the Assembly in "PlanComparisons,"

"TADOTTMANSUPPPROD000094," "TADOTTMANSUPPPROD000097," and "Final Map"

are identical for all 99 districts.

54.   "joe base map" is a document saved on the disc, Amended Lanterman Decl., Ex.

B (Dkt. 97-2), and located in the WRK32864 Responsive Spreadsheets Deduplicated file, and is

a true and correct copy of a spreadsheet found by Mark Lanterman on the computer deployed to

Michael Best & Friedrich for use by Joseph Handrick. Amended Lanterman Decl., Ex. B (Dkt.

97-2).

55.   The district-by-district partisan scores for the "base map BASIC" columns

(columns F and P) in "joe base map numbers" are identical to the district-by-district partisan

scores listed in the column "ALL0410" (column AU) in "joe base map."

56.   "Final Map" was "probably the final map," and at minimum, "it's a safe

assumption that [the map is] very near the completion of the process." Foltz Dep. (Dkt. 113) at

140:6-11, referring to Gaddie Dep. (Dkt. 108), Ex 39 at 3.

57.   Professor Gaddie produced "S-curves" for draft Assembly redistricting plans

prepared by Adam Foltz, Tad Ottman, and Joe Handrick. Gaddie Dep. (Dkt. 108) at 126:2-10.

58.   Professor Gaddie agreed "with Joe Handrick to provide these types of

spreadsheets to Adam Foltz, to himself and Adam Foltz and Tad Ottman, for the legislature in

the drafting process. So one thing we do, they would create a map, then there would be part --

there's electoral history data attached to it. Those data were used to generate spreadsheets of this

sort that indicated how a district would perform on a partisan measure under different scenarios."

Gaddie Dep. (Dkt. 108) at 40:14-24.

59.   S-curves show "based upon an expected statewide vote for one party of the other

which seats are going to tend more Democratic shaded in blue, more Republican shaded in red.

Light blue means that they're Democratic tending, but competitive. Orange means they're

Republican tending but competitive." Gaddie Dep. (Dkt. 108) at 128:10-16.

60.   S-curves show "as you move the value of the vote for one party either up or

down, you can see the responsiveness of the districts and how they shift and the number of seats

that come into play for one party or fall away." Gaddie Dep. (Dkt. 108) at 129:6-11.

61.   S-curves provide "a visualization of both the distribution of partisanship in the

districts and the sensitivity of individual districts to changes and partisan strength across the

state, assuming that the entire state shifts in the same direction one way or the other." Gaddie

Dep. (Dkt. 108) at 129:12-18.

62.   "Composite_Current_Curve.xlsx" is located in the WRK32586 Responsive

Spreadsheets Deduplicated file, and is a true and correct copy of an "S-Curve" found by Mark

Lanterman on the computer deployed to Michael Best & Friedrich for use by Adam Foltz.

Amended Lanterman Decl., Ex. B (Dkt. 97-2).

63.   The metadata for "Composite_Current_Curve" is as follows:

File Name	Composite_Current_Curve.xlsx
Extension	Xlsx
Created (Central)	5/28/2011 12:03:01 PM (2011-05-28 17:03:01 UTC)
Accessed (Central)	6/1/2011 11:48:33 AM (2011-06-01 16:48:33 UTC)
Modified (Central)	6/1/2011 11:48:33 AM (2011-06-01 16:48:33 UTC)

File Path	/Users/afoltz/Desktop/Projects/Composite_Current_Curve.xlsx
File Size	447.98 KB
Author	Ronald Keith Gaddie
Last Saved By	Afoltz
Office Created Date	5/28/2011 8:12:17 AM (2011-05-28 13:12:17 UTC)
Office Last Printed Date	6/1/2011 10:46:26 AM (2011-06-01 15:46:26 UTC)
Office Last Saved Date	6/1/2011 11:48:33 AM (2011-06-01 16:48:33 UTC)
Hidden Columns or Rows	FALSE
Track Changes	FALSE
MD5 Hash Value	2acd25783c0be60bbe563ab324024556

Amended Lanterman Decl., Ex. B (Dkt. 97-2), "WRK32586 Responsive Spreadsheets File Detail

Report."

64.   In "Composite_Current_Curve," the total number of seats for which Republicans

have a baseline over 50%, using Professor Gaddie's regression model, for statewide Republican

vote shares between 46% and 52% is as follows:

46%	**47%**	**48%**	**49%**	**50%**	**51%**	**52%**
36	42	46	53	58	62	64

Amended Lanterman Decl., Ex. B (Dkt. 97-2).

65.   "Composite_Joe_Assertive_Curve.xlsx" is located in the WRK32586 Responsive

Spreadsheets Deduplicated file, and is a true and correct copy of an "S-Curve" found by Mark

Lanterman on the computer deployed to Michael Best & Friedrich for use by Adam Foltz.

Amended Lanterman Decl., Ex. B (Dkt. 97-2).

66.   The metadata for "Composite_Joe_Assertive_Curve" is as follows:

File Name	Composite_Joe_Assertive_Curve.xlsx
Extension	Xlsx

Created (Central)	5/28/2011 12:03:01 PM (2011-05-28 17:03:01 UTC)
Accessed (Central)	5/28/2011 12:49:55 PM (2011-05-28 17:49:55 UTC)
Modified (Central)	5/28/2011 12:49:56 PM (2011-05-28 17:49:56 UTC)
File Path	/Users/afoltz/Desktop/Projects/Composite_Joe_Assertive_Curve.xlsx
File Size	440.42 KB
Author	Ronald Keith Gaddie
Last Saved By	Afoltz
Office Created Date	5/28/2011 8:12:17 AM (2011-05-28 13:12:17 UTC)
Office Last Printed Date	
Office Last Saved Date	5/28/2011 12:49:56 PM (2011-05-28 17:49:56 UTC)
Hidden Columns or Rows	FALSE
Track Changes	FALSE
MD5 Hash Value	4a25a4cc8403f9c9ffb61b1eb0bb0de5

Amended Lanterman Decl., Ex. B (Dkt. 97-2), "WRK32586 Responsive Spreadsheets File Detail

Report."

67.　　In "Composite_Joe_Assertive_Curve," the total number of seats for which

Republicans have a baseline over 50%, using Professor Gaddie's regression model, for statewide

Republican vote shares between 46% and 52% is as follows:

46%	47%	48%	49%	50%	51%	52%
44	50	55	58	60	62	63

Amended Lanterman Decl., Ex. B (Dkt. 97-2).

68.　　"Team_Map_Curve.xlsx" is located in the WRK32586 Responsive Spreadsheets

Deduplicated file, and is a true and correct copy of an "S-Curve" found by Mark Lanterman on

the computer deployed to Michael Best & Friedrich for use by Adam Foltz. Amended Lanterman

Decl., Ex. B (Dkt. 97-2).

69.　　The metadata for "Team_Map_Curve" is as follows:

20

File Name	Team_Map_Curve.xlsx
Extension	Xlsx
Created (Central)	6/14/2011 1:56:03 PM (2011-06-14 18:56:03 UTC)
Accessed (Central)	6/14/2011 1:56:03 PM (2011-06-14 18:56:03 UTC)
Modified (Central)	6/14/2011 1:56:03 PM (2011-06-14 18:56:03 UTC)
File Path	/Users/afoltz/Desktop/Projects/Team_Map_Curve.xlsx
File Size	35.70 KB
Author	Ronald Keith Gaddie
Last Saved By	Afoltz
Office Created Date	6/14/2011 12:06:15 PM (2011-06-14 17:06:15 UTC)
Office Last Printed Date	6/14/2011 1:47:35 PM (2011-06-14 18:47:35 UTC)
Office Last Saved Date	6/14/2011 1:56:03 PM (2011-06-14 18:56:03 UTC)
Hidden Columns or Rows	FALSE
Track Changes	FALSE
MD5 Hash Value	5a79df0e25b95605c14ca7824dbb8614

Amended Lanterman Decl., Ex. B (Dkt. 97-2), "WRK32586 Responsive Spreadsheets File Detail Report."

70.   In "Team_Map_Curve," the total number of seats for which Republicans have a baseline over 50%, using Professor Gaddie's regression model, for statewide Republican vote shares between 46% and 52% is as follows:

46%	47%	48%	49%	50%	51%	52%
46	50	54	56	58	60	64

Amended Lanterman Decl., Ex. B (Dkt. 97-2).

71.   On March 9, 2016, during his deposition, Keith Gaddie was asked the following question:

> *Q. Is the Team Map Curve a more pro Republican map than a pro Democrat*

map?

Professor Gaddie responded to that question:

> *A. Let me look at it for a minute. Okay. At 50% of the expected vote statewide, of*
>
> *the 99 assembly districts it appears that 55 of them are either safely or leaning*
>
> *Republican with 21 of those seats being competitive Republican districts. At 53%*
>
> *Republican statewide vote of the 99 assembly districts, 46 of them appear to be*
>
> *districts that we would term safely Republican based upon the estimate. So there*
>
> *is a Republican lean in this map, yes.*

Gaddie Dep. (Dkt. 108) at 167:6-17.

72.　　　　No Democrats participated in the drafting process that led to the creation of the

redistricting plan that was enacted in Act 43.

73.　　　　Prior to the legislative introduction of Act 43, no Democrat was given an

opportunity to see the boundaries of any legislative districts in the proposed map.

74.　　　　Prior to the legislative introduction of Act 43, Republican legislators who had not

been involved in drafting the plan were allowed to see the boundaries of their own district, but

were not allowed to see the boundaries of any other district in the map.

75.　　　　Prior to the passage of Act 43, when Republican legislators were shown the

boundaries of what would be their new legislative district, they were given information about the

expected partisan voting patterns in the district, i.e., what percentage of voters were likely to vote

for a Republican candidate and what percentage of voters were likely to vote for a Democratic

candidate.

76.　　　　Under the direction and supervision of Eric McLeod, Tad Ottman met with 17

Republican members of the Wisconsin State Senate, identified in Exhibit 4 attached to the

Complaint. Each of the 17 Republican Senators signed a secrecy agreement entitled

"*Confidentiality and Nondisclosure Related to Reapportionment*" before being allowed to review

and discuss their districts.

77.	The secrecy agreement stated that Eric McLeod had "instructed" Tad Ottman to

meet with certain members of the Senate to discuss the reapportionment process and

characterized such conversations as privileged communications pursuant to the attorney-client

and attorney work product privileges.

78.	Under the supervision of Eric McLeod, Adam Foltz met with 58 Republican

members of the Wisconsin State Assembly, identified in Exhibit 4 attached to the Complaint.

Each of the 58 Republican Representatives signed a secrecy agreement entitled "*Confidentiality*

and Nondisclosure Related to Reapportionment" before being allowed to review and discuss

their districts, which also improperly described their conversations as privileged.

79.	After each of the 58 Republican members of the Wisconsin State Assembly

signed the secrecy agreement entitled "*Confidentiality and Nondisclosure Related to*

Reapportionment," they gave it to Adam Foltz and none kept a copy for themselves. Foltz Dep.

(Dkt. 110) at 357:16 -358:3.

80.	Robin Vos participated in each of the meetings that Adam Foltz had with each of

the 58 Republican members of the Wisconsin State Assembly listed in Exhibit 4 of the

Complaint. Foltz Dep. (Dkt. 110) at 263:6-265:5.

81.	Exhibit 100 to the deposition of Adam Foltz, dated 2/1/12, is an authentic copy

(within the meaning of Fed. Evid. Rule 901(a)) of a one-page memo addressed to Representative

Garey Bies from Adam Foltz, dated June 19, 2011, with copies to Speaker Jeff Fitzgerald,

Majority Leader Scott Suder, and Representative Robin Vos, which is captioned "*New Map for*

the 1st District" and which had attached to it a map of the new 1ˢᵗ Assembly District that became

part of Act 43. The information contained in the memo identified the partisan performance of

the new 1ˢᵗ Assembly District based on data from five prior elections (Scott Walker in 2010, J.B.

Van Hollen in 2010, John McCain in 2008, J.B. Van Hollen in 2008, and George W. Bush in

2004). Similar one-page memos with analogous partisan performance data with attached copies

of the member's new district were sent to each of the 58 Republican members of the Wisconsin

State Assembly on the same date, June 19, 2011. Foltz Dep. (Dkt.110) at 266:10-267:15.

82.   Exhibit 113 to the deposition of Adam Foltz, dated 2/1/12, is an authentic copy

(within the meaning of Fed. Evid. Rule 901(a)) of a one-page memo created by Adam Foltz on

June 20, 2011, at 12:34 p.m., and which was last saved on Adam Foltz's computer on July 7,

2011, at 2:40 p.m. and was a WORD document captioned "*General Talking Points for Robin.*"

Foltz Dep. (Dkt.110) at 337:6-16, 347:22-351:4.

83.   Exhibit 114 to the deposition of Adam Foltz, dated 2/1/12, is an authentic copy

(within the meaning of Fed. Evid. Rule 901(a)) of a printout of the metadata associated with

Exhibit 113 to the same deposition, which was a WORD document created on June 20, 2011, at

12:34 p.m. and which was last saved on Adam Foltz's computer on July 7, 2011, at 2:40 p.m.

Foltz Dep. (Dkt.110) at 337:6-16, 347:22-351:4.

84.   In *Baldus v. Wisconsin Government Accountability Board,* 843 F. Supp. 2d 955,

959 (E.D. Wis. 2012), the Court held that the Legislature improperly asserted attorney-client and

work product privileges to prevent discovery of information regarding the redistricting process.

85.   On July 11, 2011, the Current Plan was introduced by the Committee on Senate

Organization without any Democratic members of the Legislature having previously seen their

districts or the plan as a whole. All Republican members of the Legislature had previously seen

their individual districts along with visual aids demonstrating the partisan performance of their

districts, but had not seen the overall map.

86.   A public hearing was held on July 13, 2011. The bill was then passed by the

Senate on July 19, 2011, and by the Assembly the next day on July 20, 2011. Act 43 was

published on August 23, 2011.

87.   Eric McLeod and Michael, Best & Friedrich, LLP, were paid $431,000.00 in State

taxpayer funds for their work on the Current Plan.

88.   "ADAMFOLZSUPPPROD000431" is true and correct copy of a page from Adam

Foltz's calendar for June 20, 2011 – June 24, 2011.

89.   "ADAMFOLZSUPPPROD000431" shows meetings with twenty-nine individual

Republican legislators during the week of June 20, 2011 – June 24, 2011.

90.   "ADAMFOLZSUPPPROD000424" is a true and correct copy of a document

titled "General Talking Points" drafted by Adam Foltz in 2011 in advance of the individual

meetings held with Republican legislators in June 2011, to discuss the redistricting plan that

would become Act 43.

91.   "ADAMFOLZSUPPPROD000119" is a true and correct copy of a series of 59

memos addressed to each Republican Assembly member, and CCed to Speaker Jeff Fitzgerald,

Majority Leader Scott Suder, and Rep. Robin Vos, from Adam Foltz – Assembly Redistricting

Coordinator, dated 6/19/2011 with the subject lines "New Map for the 1st District," "New Map

for the 2nd District," and so on until "New Map for the 99th District."

92.   Page 62 of 63 in document 156-1 filed on 2/14/12 in *Baldus v. Brennan*, 2:11-cv-

00562-JPS-DPW-RMD, is a true and correct copy of an email from Tad Ottman to Jim Troupis,

Raymond Taffora, Eric M. McLeod, and Adam Foltz, sent on July 12, 2011 at 10:00PM with the

subject line "Hearing memos" and listing attachment titled "sb148 committee memos.docx."

93.   Page 63 of 63 in document 156-1 filed on 2/14/12 in *Baldus v. Brennan*, 2:11-cv-00562-JPS-DPW-RMD, is a true and correct copy of an email from Tad Ottman to Adam Foltz, sent on July 12, 2011 at 8:52PM with the subject line "committee memos" and listing attachment titled "sb146 committee memos.docx."

94.   "ADAMFOLZSUPPPROD000446.PDF" is a true and correct copy of an email from Dana Wolff to Tad Ottman and Adam Foltz and CCed to Tony Van Der Wielen sent on Monday May 9, 2011 at 12:32PM, with the subject line "Letter" and listing attachment titled "MCD_Letter.pdf."

95.   Page 56 of 63 in document 156-1 filed on 2/14/12 in *Baldus v. Brennan*, 2:11-cv-00562-JPS-DPW-RMD, is a true and correct copy of an email from Tad Ottman to Jim Troupis and Eric M McLeod, CCed to Adam Foltz, sent on Friday February 25, 2011 at 2:31PM, with the subject line "Redistricting timeline."

96.   "MBF000217" is a true and correct copy of an email from Jim Troupis to Tad Ottman and Adam Folz, CCed to Eric M McLeod and Sarah Troupis, sent on Monday, June 13, 2011 at 8:25AM, with the subject line "Gaddie & Hispanic."

97.   Page 3 of 63 in document 156-1 filed on 2/14/12 in *Baldus v. Brennan*, 2:11-cv-00562-JPS-DPW-RMD, is a true and correct copy of an email from Tad Ottman to Jim Troupis, Eric M. McLeod, Raymond Taffora, and Adam Foltz sent on Wednesday July 13, 2011 at 1:45PM with the subject line "Latino voices will be there."

98.   "Foltz001075" is a true and correct copy of a chart prepared by Adam Foltz in 2011.

99.   "Foltz001075" sets out the population deviations for the seats that were held

following the 2010 elections by the "GOP," by "Indp" and by "Dem" in separate categories.

Professor Jackman's Reports

100.   The efficiency gap indicates the extra proportion of seats that an advantaged party wins relative to a baseline where the parties are wasting equal numbers of votes. Jackman Rpt. (Dkt. 62) at 19.

101.   Defendants' expert, Professor Goedert, "concur[s] that this shortcut is an appropriate and useful summary measure." Goedert Rpt. (Dkt. 51) at 5; Goedert Dep. (Dkt. 65) at 70:17-71:1.

102.   Defendants' expert, Sean Trende, noted that in 2012 Professor Mayer calculated that the Current Plan had an efficiency gap of -11.7% using the full method and Mr Trende calculated the efficiency gap for 2012 as -9.9% using the simplified method, a difference of 1.8 percentage points. Mayer Rpt. (Dkt. 54) at 46; Jackman Rpt. (Dkt. 62) at 71; Trende Rpt. (Dkt. 55) at 59.

103.   Similarly, Mr. Trende noted that Professor Mayer calculated that the Demonstration Plan had an efficiency gap of -2.2% using the full method and Mr. Trende calculated the efficiency gap for 2012 as -0.8% using the simplified method, a difference of 1.4 percentage points. Mayer Rpt. (Dkt. 54) at 46; Jackman Rpt. (Dkt. 62) at 71; Trende Rpt. (Dkt. 55) at 60.

104.   Under the simplified method only, the $(S - 0.5) - 2(V - 0.5)$ formula implies that for the efficiency gap to be zero, there must be a 2:1 relationship between seat share and vote share (also known as "responsiveness"). Jackman Rpt. (Dkt. 62) at 17-18.

105.   As Professor Goedert has explained in his report and other work, a responsiveness

of 2 "conform[s] with the observed average seat/votes curve in historical U.S. congressional and

legislative elections." Goedert Rpt. (Dkt. 51) at 6; Goedert Dep. (Dkt. 65) at 95:17-21.

106.   At the congressional level, the seat/vote curve had "an average slope of 2.02 for

the past 40 years." During "the preceding 70 years," it had an "average of 2.09." Goedert Dep.,

Ex. 20 (Dkt. 65-2) at 7.

107.   Professor Jackman's dataset used for his calculations of the efficiency gap in state

legislative elections spans the period 1972 to 2014, representing the post-malapportionment era.

Jackman Rpt. (Dkt. 62) at 19.

108.   Professor Jackman's calculations of the efficiency gap rely on a dataset widely

used in political science and freely available from the Inter-University Consortium for Political

and Social Research (ICPSR study number 34297). The release of the dataset utilized by

Professor Jackman covers state legislative election results from 1967 to 2014, updated by Carl

Klarner (Indiana State University and Harvard University). Jackman Rpt. (Dkt. 62) at 20;

Jackman Dep. (Dkt. 53) at 46:23-47:14.

109.   Professor Jackman uses a subset of the original dataset for general elections since

1972 in states whose lower houses are elected via single-member districts, or where single-

member districts are the norm. Professor Jackman treats multi-member districts "with positions"

as if they are single-member districts. Jackman Rpt. (Dkt. 62) at 20; Jackman Dep (Dkt. 53) at

44:24-46:22.

110.   The total dataset used by Professor Jackman spans 83,260 district-level state

legislative races, from 786 elections across 41 states. Jackman Rpt. (Dkt. 62) at 20-21, and

Figure 5. Jackman Dep. (Dkt. 53) 48:1-3.

111.   Professor Jackman groups the efficiency gap scores across the series of elections

held under the same districting plan, using the unique identifier for the districting plan in place

for each state legislative election provided by Stephanopoulos and McGhee, as shown in the

following chart:
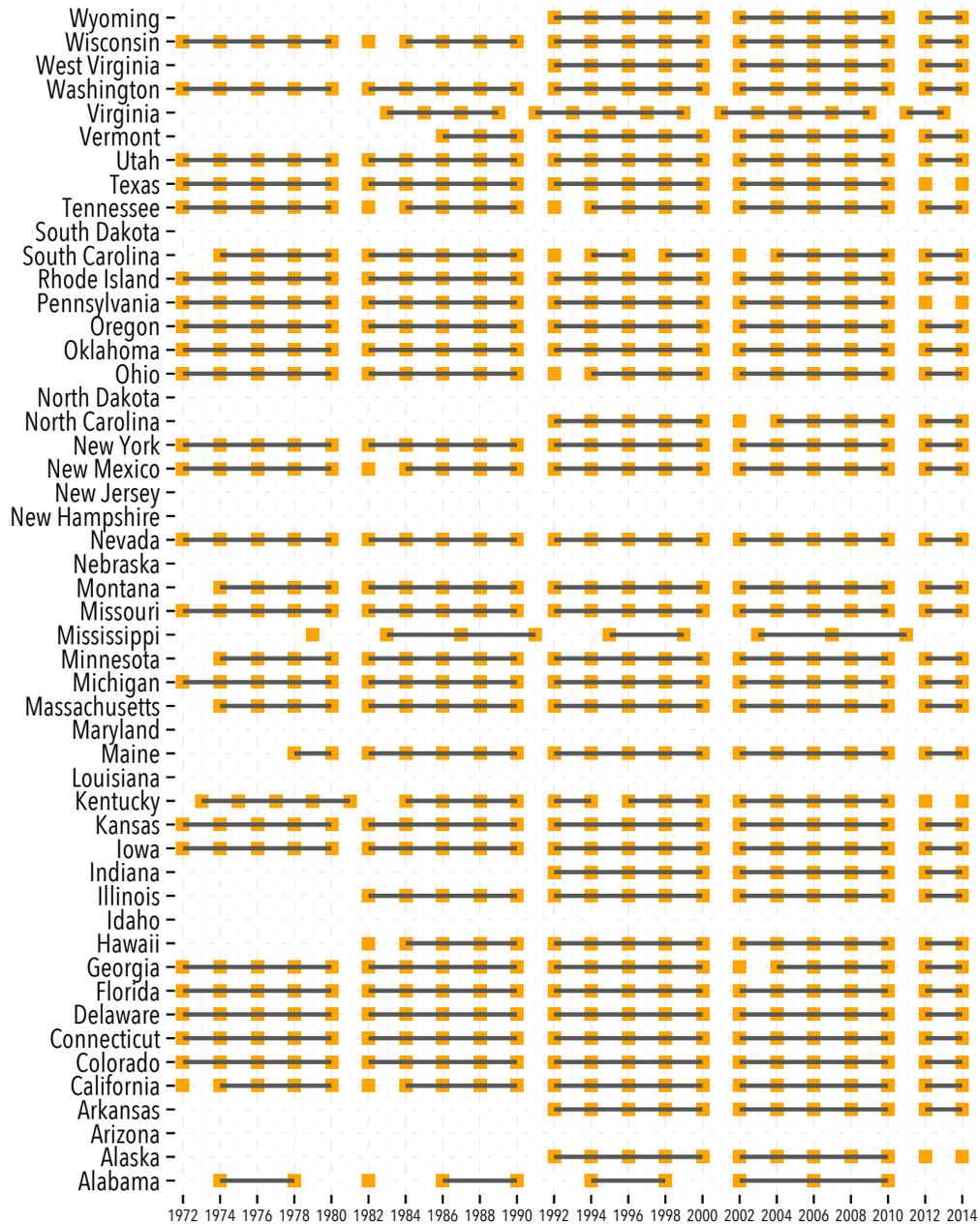
Figure 6: 786 state legislative elections available for analysis, 1972-2014, by
state, grouped by districting plan (horizontal line).

Jackman Rpt. (Dkt. 62) at 22-23.

112.   Professor Jackman calculated the efficiency gap for every state house election for which data was available over the period from 1972 to 2014, using actual election results. Professor Jackman did not aggregate wasted votes district by district, but rather used a simplified computation method based on statewide electoral data, with the formula $EG = (S - 0.5) - 2(V - 0.5)$, where EG is the efficiency gap, S is the statewide Democratic seat share, and V is the statewide Democratic vote share. Jackman Rpt. (Dkt. 62) at 16-17.

113.   Professor Jackman's analysis found that for a plan with an initial efficiency gap of -7%, the average efficiency gap over the life of the plan is estimated to be -5.3%.

114.   Similarly, Professor Jackman's analysis found that for a plan with an initial efficiency gap of 7%, the average efficiency gap over the life of the plan is estimated to be 3.7%.

115.   The average *net* efficiency gap (i.e., the mean of the actual values of all plans' efficiency gaps in a given year) has recently trended in a Republican direction. This metric was mildly pro-Democratic from the early 1970s to the mid-1990s, but has been moderately pro-Republican from the mid-1990s to the present. Jackman Rpt. (Dkt. 62) at 44-45; Stephanopoulos & McGhee, *supra*, at 873.

116.   There are 206 distinct plans in Professor Jackman's database. Of these, 70 plans (or 34%) had an initial efficiency gap greater than 7% in magnitude, and 32 plans (or 16%) had an initial efficiency gap greater than 10% in magnitude. Jackman Rpt. (Dkt. 62) at 7; Jackman Rebuttal Rpt. (Dkt. 63) at 18-20; Jackman Decl. Ex. F (Dkt. 58-6).

117.   Of the 70 plans that had an initial efficiency gap greater than 7% in magnitude, 43 plans (or 21% of the 206 total plans) were designed by a single party that had unified control

over redistricting. Jackman Rpt. (Dkt. 62) at 7; Jackman Rebuttal Rpt. (Dkt. 63) at 18-20;

Jackman Decl. Ex. F (Dkt. 58-6).

118.   Of the 32 plans that had an initial efficiency gap greater than 10% in magnitude,

20 plans (or 10% of the 206 total plans) were designed by a single party that had unified control

over redistricting. Jackman Rpt. (Dkt. 62) at 7; Jackman Rebuttal Rpt. (Dkt. 63) at 18-20;

Jackman Decl. Ex. F (Dkt. 58-6).

119.   Of the 43 plans from the current redistricting cycle in Professor Jackman's

database, 16 (or 37% of the 43 plans) had initial efficiency gaps above 7% in magnitude, and of

these, 11 plans (or 26% of the 43 plans) were designed by a single party that had unified control

over redistricting. Jackman Rpt. (Dkt. 62) at 7; Jackman Rebuttal Rpt. (Dkt. 63) at 18-20;

Jackman Decl. Ex. F (Dkt. 58-6).

120.   Of the 43 plans from the current redistricting cycle in Professor Jackman's

database, 11 plans (or 26% of the 43 plans) had initial efficiency gaps greater than 10% in

magnitude and of these, 7 plans (or 16% of the 43 plans) were designed by a single party that had

unified control over redistricting. Jackman Rpt. (Dkt. 62) at 7; Jackman Rebuttal Rpt. (Dkt. 63)

at 18-20; Jackman Decl. Ex. F (Dkt. 58-6).

121.   The following chart identifies: (i) the number of plans, historically and currently,

in Professor Jackman's database that had an initial efficiency gap above 7%; (ii) the number of

plans with an initial efficiency gap above 7% *and* unified party control; (iii) the number of plans

with an initial efficiency gap above 10%; and (iv) the number of plans with an initial efficiency

gap above 10% *and* unified party control:

Historical		Current	
All plans	206	Current plans	43
All plans with initial *EG* above 7%	70	Current plans with initial *EG* above 7%	16
All plans with initial *EG* above 7% *and* unified party control over redistricting	43	Current plans with initial *EG* above 7% *and* unified party control over redistricting	11
All plans with initial *EG* above 10%	32	Current plans with initial *EG* above 10%	11
All plans with initial *EG* above 10% *and* unified party control over redistricting	20	Current plans with initial *EG* above 10% *and* unified party control over redistricting	7

Jackman Rpt. (Dkt. 62) at 7; Jackman Rebuttal Rpt. (Dkt. 63) at 18-20; Jackman Decl. Ex. F

(Dkt. 58-6).

122.   The proportion of plans created by Republicans in full control of the state

government increased from about 10% in the 1990s, to about 20% in the 2000s, to about 40% in

the 2010s (in 49 states, excluding Nebraska). By comparison, fewer than 20% of current plans

were designed by Democrats in full control of the state government. Jackman Rebuttal Rpt. (Dkt.

63) at 19; Trende Dep. (Dkt. 66) at 79:11-23.

123.   The reapportionment revolution of the 1960s resulted in the invalidation of almost

every state house, state senate, and congressional plan in the country. Jackman Decl. Ex. J (Dkt.

58-10) at 4.

124.   Wisconsin does not have equal turnout across Assembly districts.

125.   In Wisconsin's 2012 Assembly elections, the turnout in individual districts varied

from just over 8,000 votes in District 8 to over 37,000 votes in District 14.

126.   In Wisconsin's 2014 elections, the turnout in individual districts varied from

approximately 6,400 votes in District 8 to over 31,400 votes in District 23.

127.   The presence of imputed vote totals leads to uncertainty in Professor Jackman's calculation of vote share, which "generates uncertainty in determining how far each point lies above or below the orange, zero efficiency gap benchmark."

128.   Professor Jackman expresses his *EG* calculations as "point estimates" with lines indicating a 95% level of confidence.

129.   Professor Jackman has less confidence in the "point estimate" of his *EG* as the number of uncontested seats increases.

130.   Professor Jackman found that "[t]he distribution of *EG* measures trends in a pro–Republican direction through the 1990s, such that by the 2000s, *EG* measures were more likely to be negative (Republican efficiency over Democrats)."

131.   Professor Jackman plotted the efficiency gap of each plan in each year from lowest to highest (from most favorable to Republicans to least) and then overlaying estimates of the smoothed weighted quantiles (with blue lines showing the 25th percentile, 50th percentile, and 75th percentile plan).

132.   The median efficiency gap has been negative (favorable to the Republicans) since the mid–1990s.

133.   The most favorable median toward Democrats since 2000 was in 2010.

134.   The 25th percentile has been below 5% since the mid–1990s and even approached 7% in 2004, 2010, and 2012.

135.   The 75th percentile has been below 5% since the mid–1990s and has hovered between 1% and 2% since 2000.

136.   Professor Jackman's calculation of the "the probability that a given efficiency gap number from a given election year is positive or negative" also shows a trend in favor of Republicans.

137.   Professor Jackman finds that in every election year since 1996, more plans have had negative efficiency gaps than positive ones with the exception of 2010.

138.   In 2010, Professor Jackman found that the proportion of plans having a positive efficiency gap was slightly more than 0.5.

139.   In 2006, 75% of plans produced a negative efficiency gap while only 25% of plans produced a positive efficiency gap, with similar results in 2000 and 2012.

140.   Since 1996, the year with the greatest proportion of efficiency gap measures favoring Democrats was 2010, in which there was a slightly more than a 50–50 probability of a plan being positive (favorable to Democrats).

141.   Professor Jackman chose to look at the first election in the plan because he "tried to put [himself] in the shoes of litigants" who would have to "intervene early before we've seen much data all from the plan, the election results the plan is throwing off."

142.   For all plans Professor Jackman studied since 1972, he finds that 36% of all plans produced an efficiency gap of 7% or greater in the first election: 18% on the positive side and 18% on the negative side.

143.   For all plans Professor Jackman studied since 1991, 34% of all plans produced an efficiency gap greater than 7% in magnitude in the first election: 22% produced a gap of at least – 7% in magnitude and 12% percent produced a gap of at least +7% in magnitude.

144.   For all plans since 1972 that Professor Jackman studied, he finds that 18% of plans that had an *EG* of at least –7% in magnitude go on to produce an election with a positive *EG*.

145.   For all plans Professor Jackman studied since 1991, he finds that 40% of plans that produce an *EG* of at least +7% in magnitude in the first election go on to produce an election with a negative *EG*.

146.   For all plans Professor Jackman studied since 1991, he finds that 18% of plans that produce an *EG* of at least –7% in magnitude in the first election go on to produce an election with a positive *EG*.

147.   For all plans Professor Jackman studied since 1991, he finds that 60% of plans that produce an *EG* of at least +7% in magnitude in the first election go on to produce an election with a negative *EG*.

148.   Professor Jackman finds that "we seldom see a plan in the 1990s or later that commence with a large–pro Democratic efficiency gap."

149.   In the 1990s and later, Professor Jackman finds that the probability the first election has an efficiency gap greater than +5% (favorable to Democrats) "is only about 11%."

150.   Negative efficiency gaps "are much more likely under the first election in post–1990 plans: almost 40% of plans open with $EG < -.05$ and about 20% of plans open with $EG < -.10$."

151.   Jackman finds that "plans with at least one election" of an efficiency gap of 7% or greater "are reasonably common."

152.   Jackman finds that 53% of plans since 1972 have one election with an *EG* of 7% or greater in magnitude, with 29% of plans having a gap of –7% or greater in magnitude and 25% of plans having a gap of +7% or greater.

153.   When looking at plans since 1991, 47% of plans have had at least one election with an *EG* greater than 7% in magnitude, with 38% of plans having an election with a gap of −7% or greater in magnitude and 19% of plans having an election with a gap of +7% or greater.

154.   Since 1972, 33% of plans have had an election with an *EG* of 10% or greater in magnitude, with 18% having an election with a gap of −10% in magnitude and 15% having an election with a gap of +10% or greater.

155.   When looking just at elections since 1991, 35% of plans have had an election with an *EG* of at least 10% in magnitude: 24% of plans have had an election with a gap of −10% in magnitude and 11% of plans having an election with a gap of +10%.

156.   Professor Jackman found that 17 of the 141 plans for which he could calculated three or more efficiency gaps (12%) were "*utterly unambiguous* with respect to the sign of the efficiency gap," *i.e.*, that even the confidence level bar did not cross over to the other sign.

157.   Of these seventeen plans, sixteen of them were favorable to the Republicans and only one was favorable to the Democrats.

158.   One of the "utterly unambiguous" plans was the Wisconsin 2002 Plan put in place by the federal court in *Baumgart v. Wendelberger*, No. 01–C–0121, 2002 WL 34127471, at *1 (E.D. Wis. May 30, 2002), *amended*, 2002 WL 34127473 (E.D. Wis. July 11, 2002).

159.   Professor Jackman calculated *EGs* for the 2012 and 2014 elections for 39 states.

160.   Fifty point estimates were negative (64.1%) while twenty-eight point estimates were positive (35.9%).

161.   Eighteen states (46%) had point estimates for 2012 and 2014 that were both negative.

162.   Included among this eighteen were Minnesota, Missouri, New York, and Kansas.

163.   With respect to the entire country, Professor Jackman found that "[t]he distribution of *EG* measures trends in a pro–Republican direction through the 1990s, such that by the 2000s, *EG* measures were more likely to be negative."

164.   The median plan has been negative since the mid–1990s and the 25th percentile has been below 5% since the mid–1990s and even approached 7% in 2004, 2010, and 2012.

165.   Meanwhile the seventy–fifth percentile has only favored Democrats by 1%–2%.

166.   In every election year since 1996, more plans have had negative efficiency gaps than positive ones with about 75% of plans producing a negative efficiency gap in 2000, 2006 and 2012.

167.   In 2012, the Republicans won five seats (Districts 1, 26, 50, 72 and 93) with no more than 51.3% of the total vote.

168.   The margin of victory across all of these races was about 3,200 votes, each less than 900 votes and one at only 109 votes (District 93).

169.   For 2012 and 2014, Professor Jackman calculates that Illinois had one negative efficiency gap and one narrowly positive efficiency gap.

Professor Mayer's Reports

170.   To generate his baseline partisanship estimates, Professor Mayer assumed that all districts were contested and that no incumbents were running. This method removes the effect of incumbents, who may or may not be running in an alternative plan. The consultant retained by the state legislature, Professor Gaddie, used the same method. Mayer Rpt. (Dkt. 54) at 31; Mayer Dep. (Dkt. 52) at 63:15-24, 70:4-17; Gaddie Dep. (Dkt. 108) at 43:9-44:22.

171.   Professor Mayer's regression model used wards as the unit of analysis to increase the number of observations and allow for more precise estimates. Mayer Rpt. (Dkt. 54) at 8.

172.   Professor Mayer's regression model relied on demographic and electoral data

provided by the LTSB and the G.A.B., both online and in the 2013 edition of the *Wisconsin Blue*

Book. Mayer Rpt. (Dkt. 54) at 10.

173.   The full specification for the regression model that Professor Mayer used is:

$$\underset{i}{\overset{Assembly}{Vote}} = \alpha + \beta_1 Total\ VEP_i + \beta_2 Black\ VEP_i + \beta_3\ Hispanic\ VEP_i$$

$$+\beta_4 \overset{Democratic}{Presidential\ Vote_i} + \beta_5 \overset{Republican}{Presidential\ Vote_i}$$

$$+\beta_6 \overset{Democratic}{Incumbent_i} + \beta_7 \overset{Republican}{Incumbent_i} + \sum_{j=1}^{71} \gamma_j County_j + \varepsilon_i$$

Where

Assembly Vote	Number of votes cast for the Republican or Democratic candidate in the 2012 Assembly election in ward *i*. I estimate separate equations for the Democratic and Republican candidates
Total VEP	Voting eligible population in ward *i*, as measured in the 2010 Census
Black VEP	Voting eligible Black population in ward *i*
Hispanic VEP	Voting eligible Hispanic population in ward *i*
Democratic Presidential Vote	Number of votes cast for Barack Obama in the 2012 presidential election in ward *i*
Republican Presidential Vote	Number of votes cast for Mitt Romney in the 2012 presidential election in ward *i*
Democratic Incumbent	1 if the Assembly election in ward *i* has a Democratic incumbent, 0 otherwise, multiplied by the VEP in ward *i*
Republican Incumbent	1 if the Assembly election in ward *i* has a Republican incumbent, 0 otherwise, multiplied by the VEP in ward *i*
County	Set of fixed effects dummy variables for each county. Dunn County is the excluded value.[9]

Mayer Rpt. (Dkt. 54) at 10-11.

174.   The full specification for the regression model that Professor Mayer used includes the Assembly vote by ward as the dependent variable and the following as independent variables (each by ward): total voting eligible population; black voting eligible population; Hispanic voting eligible population; Democratic presidential vote; Republican presidential vote; Democratic incumbent; Republican incumbent; and a set of fixed effect dummy variables for each county, with Dunn County as the excluded value. Mayer Rpt. (Dkt. 54) at 10-11.

175.   Professor Keith Gaddie used a regression model "very similar" to the one used by Professor Mayer in 2002 in the *Baumgart* litigation, stating that he "basically replicated [Professor Mayer's] model," to predict the Current Plan's partisan consequences prior to the Plan's enactment. Gaddie Dep. (Dkt. 108) at 53:3-7, 47:10-14, 43:9-44:22; Mayer Rpt. (Dkt. 54) at 29.

176.   In Table 2, Professor Mayer's regression model incorrectly predicted the outcomes of only two extremely competitive districts: District 51 (actual Republican vote: 51.9%; predicted Republican vote: 49.9%) and District 70 (actual Republican vote: 49.7%; predicted Republican vote: 50.1%). Mayer Rpt. (Dkt. 54) at 24-25; Mayer Dep. (Dkt. 52) at 87:22-23.

177.   According to Table 2, these incorrect predictions are balanced, one for each party, meaning that in the aggregate, Professor Mayer's model estimated the partisan distribution of contested districts in 2012 (56 Republican, 16 Democratic) with perfect accuracy. Mayer Rpt. (Dkt. 54) at 24-25.

178.   Professor Mayer's baseline partisanship model produces the following vote totals and two-party vote percentages:

City	Dem. Votes	Rep. Votes	Total
Milwaukee	193,940 (77.9%)	54,992 (22.1%)	248,932
Madison	109,466 (78.0%)	30,928 (22.0%)	140,394
Green Bay	23,403 (55.2%)	18,998 (44.8%)	42,402
Kenosha	26,515 (62.6%)	15,828 (37.4%)	42,342
Racine	22,614 (70.4%)	9,517 (29.6%)	32,131
Appleton	18,232 (51.6%)	17,129 (48.4%)	35,361
Waukesha	15,257 (37.6%)	25,273 (62.4%)	40,530
Oshkosh	17,364 (52.1%)	15,945 (47.9%)	33,309
Eau Claire	20,601 (59.2%)	14,202 (40.8%)	34,803
Janesville	20,208 (58.9%)	14,080 (41.1%)	34,288
La Crosse	17,554 (67.4%)	8,485 (32.6%)	26,039
Sheboygan	14,573 (56.5%)	11,215 (43.5%)	25,787
Beloit	11,440 (63.3%)	6,623 (36.7%)	18,062

179.   Professor Mayer's baseline partisanship model for Act 43 produces 197 wasted votes for the Republicans and 16,235 wasted votes for the Democrats in District 1.

180.   In the actual 2012 election, in District 1 the Republican won with 16,993 votes and the Democrat lost with 16,124 votes.

181.   In the actual election, in District 1, there were 435 wasted votes for the Republicans and 16,124 wasted votes for the Democrats.

182.   In the actual 2012 election, the Republican candidate won District 50 with 12,842 votes to the Democratic candidate's 11,945 votes.

183.   In the actual election, the Republican candidate won District 51 with 10,642 votes to the Democratic candidate's 10,577 votes.

184.   In the actual election, the Republican candidate won District 68 with 13,758 votes to the Democratic candidate's 12,482 votes.

185.   In the actual election, the Democratic candidate won District 70 with 13,518 votes to the Republican candidate's 13,374.

186.   For his model, Professor Mayer admits that "the average absolute error in the vote margin is 1.49%."

187.   Professor Mayer's baseline partisanship model of Act 43 contains 42 districts with at least a 50% Democratic baseline.

188.   Professor Mayer's baseline partisanship model of Act 43 contains 17 seats that have a baseline between 50–55% Republican. These districts and percentages are shown in the chart below, from the least Republican to the most Republican:

District	Mayer Baseline Rep. %
93	50.2%
1	50.6%
67	51.6%
29	52.2%
88	52.3%
4	52.3%
49	52.5%
27	52.7%
42	53.0%
26	53.3%
62	53.9%
31	54.1%
70	54.1%
40	54.2%
28	54.6%
30	54.7%
21	54.9%

Comparison of Act 43 with Prior Plans

189.   In the 1980s, a federal court drew the State Assembly districts. *Wisc. State AFL-CIO v. Elections Bd.*, 543 F. Supp. 630 (E.D. Wis. 1982). The districts were amended by a legislature and Governor with unified Democratic control in 1983 and used for the period 1984-1990.

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190.   The average efficiency gap of the Wisconsin State Assembly redistricting plan from 1992-2000 was -2.4%. Jackman Rpt. (Dkt. 62) at 72; Jackman Decl. Ex. F (Dkt. 58-6) at 18.

191.   In the 1990s, a federal court drew the State Assembly districts. *Prosser v. Elections Bd.*, 793 F. Supp. 859 (W.D. Wis. 1992). The *Prosser* court took into account likely electoral effects and designed the map that was the "least partisan" and "create[d] the least perturbation in the political balance of the state." *Id.* at 871.

192.   The average efficiency gap of the Wisconsin State Assembly redistricting plan from 2002-2010 was -7.6%. Jackman Rpt. (Dkt. 62) at 72; Jackman Decl. Ex. F (Dkt. 58-6) at 25.

193.   In the 2000s, a federal court drew the State Assembly districts. *See Baumgart v. Wendelberger*, 2002 WL 34127471 (E.D. Wis. May 30, 2002).

194.   A summary of the average efficiency gap for each decade, and the list of who was in control of the redistricting process is shown in this table:

Decade	Control of government	Average efficiency gap
1972-1980	Divided	-0.3%
1982-1990	Court drawn, then unified Democratic control	-1.9%
1992-2000	Court drawn	-2.4%
2002-2010	Court drawn	-7.6%

195.   Between 1972 and 2014, fewer than four percent of all state house plans nationwide had an efficiency gap with an absolute value of 13% or higher. Jackman Rpt. (Dkt. 62) at 7; Defs. Adnission to RFA #20.

196.   Between 1972 and 2010, no state house plan anywhere in the United States had an efficiency gap as large as the Current Plan in the first two elections after redistricting. Jackman Rpt. (Dkt. 62) at 4; Defs. Admission to RFA #21.

197.   The Current Plan created six black-majority districts (districts 10-12 and 16-18), ranging from 56.7% to 67.6% black population, and from 51.1% to 61.8% black voting age population. The Demonstration Plan retains six black-majority districts, ranging from 60.0% to 63.4% black population, and from 56.2% to 60.5% black voting age population. Mayer Rpt. (Dkt. 54) at 37.

198.   In *Baldus v. Wisc. Gov't Accountability Bd.*, 849 F. Supp. 2d 840 (E.D. Wis. 2012), a federal court created a Latino-majority district in Milwaukee (District 8). The Demonstration Plan retains the boundaries of this district. Mayer Rpt. (Dkt. 54) at 38.

199.   According to the 2010 Census, Wisconsin is 70.2% urbanized, and according to the 2014 update to the Census, Wisconsin is 6.6% black and 6.5% Hispanic.

200.   The 1992 Assembly map entered by the *Prosser* court plan had an overall range of population deviation of 0.91 percent, with 48 districts below the ideal and 51 above the ideal. Only one district was more than a half point away from the ideal. In the Senate, the 1992 plan had an overall deviation range 0.52 percent, with 15 districts above the ideal population and 18 below the ideal.

201.   The 2002 Assembly map entered by the *Baumgart* court had an overall range of 1.59 percent deviation, with 47 districts above the ideal, 51 below the ideal, and one exactly apportioned district. In the Senate, the overall deviation range of the 2002 map was 0.98 percent, with 15 districts above the ideal population, 17 below, and one perfectly apportioned. Of the 99

Assembly districts in 2002, 77 districts were within +/- 0.5 percent of the ideal population; in the Senate, 32 of 33 districts fell in this range.

202.   Act 43 creates 99 Assembly districts with populations falling within a range of 0.76 percent (+0.39 percent to -0.37 percent) of the ideal population; 56 districts are above the ideal population, 41 are below the ideal, and two districts are perfectly apportioned. In the Senate, population variations fall within a range of 0.62 percent (+0.35 percent to -0.27 percent); 17 districts are above the ideal population, 14 are below the ideal, and two districts are perfectly apportioned.

203.   The population deviation in Act 43 from the ideal for each Assembly and Senate district (using 2010 Census data) is described in the Appendix to Act 43 and Tables 2 and 3 to the pretrial report filed in the *Baldus* case on February 14, 2012.

204.   A summary of population deviation in Assembly districts in Act 43, the 1992 plan, and the 2002 plan is in Table 4 of the pretrial report filed in the *Baldus* case on February 14, 2012.

205.   Each state Senate district is composed of three entire state Assembly districts.

206.   Assembly members serve two-year terms. Senators serve four-year, staggered terms with half elected in presidential years and the other half coincident with gubernatorial elections.

207.   The 1992 Federal Court map for the Assembly split 72 municipalities.

208.   In 2002, the Federal Court's Assembly map split 50 municipalities.

209.   Act 43 splits 62 municipalities in the Assembly.

210.   The 1992 Federal Court map split 47 counties in the Assembly.

211.   In 2002, the Federal Court divided 51 counties in the Assembly

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212.   Act 43 splits 58 counties in the Assembly.

213.   Two widely-used measures of compactness applied to legislative districts are the Perimeter-to-Area measure and the Smallest Circle score.

214.   The Perimeter-to-Area measure compares the relative length of the perimeter of a district to its area. It represents the area of the district as the proportion of the area of a circle with the same perimeter. The score ranges from 0 to 1, with a value of 1 indicating perfect compactness. This score is achieved if a district is a circle. Most redistricting software generates this measure as the Polsby-Popper statistic.

215.   Smallest Circle scores measure the space occupied by the district as a proportion of the space of the smallest encompassing circle, with values ranging from 0 to 1. A value of 1 indicates perfect compactness and is achieved if a district is a circle. This statistic is often termed the Reock measure by redistricting applications. Ernest C. Reock, Jr. 1961, "A Note: Measuring Compactness as a Requirement of Legislative Apportionment," *Midwest Journal of Political Science* 5: 70-74.

216.   The average Smallest Circle score for the entire Assembly map is 0.39 (range from 0.20 to 0.61).

217.   The average Smallest Circle score for the entire Assembly map drawn by the *Baumgart* court in 2002 was 0.41 (range from 0.18 to 0.63).

218.   The average Perimeter To Area score for the Assembly map is .28 (range of .05 to .56).

219.   The average Perimeter To Area score for the Assembly map drawn by the *Baumgart* court in 2002 was 0.29 (range of 0.06 to 0.58).

220.   The average Assembly compactness scores are marginally lower for Act 43 than

for the 2002 court-crafted plan.

221.   The following chart contains a summary of municipal splits, county splits and

compactness scores for Act 43 and prior plans.

	Municipal Splits	County Splits	Reock (mean)	Polsby-Popper (mean)
1972 Plan		49		
1982 Plan		41		
1992 Plan	72	47		
2002 Plan	50	51	0.41	0.29
Act 43	62	58	0.39	0.28

222.   The average efficiency gap of the Wisconsin State Assembly redistricting plan

from 1972-1980 was -0.3%, and it was drawn by divided government. Jackman Rpt. (Dkt. 62) at

72; Jackman Decl. Ex. F (Dkt. 58-6) at 3.

223.   The average efficiency gap of the Wisconsin State Assembly redistricting plan

from 1982-1990 was -1.9%. Jackman Rpt. (Dkt. 62) at 72; Jackman Decl. Ex. F (Dkt. 58-6) at

11.

The Demonstration Plan

224.   There are eighteen districts in Professor Mayer's Demonstration Plan that are 50%–

55% Democratic under his baseline partisanship model, assuming all seats were contested and no

incumbents were running, including sixteen districts between 50%–53.4%. The following table

shows these districts ordered from least Democratic to most Democratic.

Demonstration Plan District	Predicted Dem. Vote %
49	50.3%
92	50.5%
86	50.7%
96	51.5%
91	51.7%

46

81	51.8%
40	51.9%
42	51.9%
67	51.9%
71	52.1%
20	52.3%
29	52.3%
51	52.6%
64	52.8%
54	53.4%
57	53.4%
2	54.1%
45	54.6%

225.   In the 2014 election environment the statewide vote for Democratic candidates for the Assembly fell 3.4 percentage points, from 51.4% down to 48.0%.

226.   On the criteria listed below, the Demonstration Plan performs as shown in the table below:

		Demonstration Plan	**Act 43**
Population Deviation		0.86%	0.76%
Average Compactness (Reock)		0.41	0.39
Number of Municipal Splits	County	55	58
	City Town Village	64	62

Mayer Rpt. (Dkt. 54) at 37.

227.   The Demonstration Plan has a marginally larger population deviation than the Current Plan (0.86% versus 0.76%), but is well below even the strictest standards applied to state legislative plans. Mayer Rpt. (Dkt. 54) at 37.

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228.   The Demonstration Plan's districts are slightly more compact on average than the Current Plan's, with an average Reock score of 0.41, compared to 0.39 for the Current Plan. Mayer Rpt. (Dkt. 54) at 37.

229.   The Demonstration Plan has one fewer municipal split than the Current Plan (119 versus 120). Mayer Rpt. (Dkt. 54) at 37.

History of Elections in Wisconsin

230.   The Government Accountability Board's official election results are authoritative for Wisconsin elections dating back to the year 2000.

231.   For elections in years prior to 2000, the Wisconsin Blue Book's election results are authoritative.

232.   The City of Milwaukee Election Commission maintains election results dating back to 1997 on its website. These results are authoritative for election results in the City of Milwaukee.

233.   The following chart contains the number of seats won by Democratic, Republican and Independent candidates in the November general elections from 1972 to 2014. The party with the majority is listed in bold.

Year	Democrat	Republican	Independent
1972	**62**	37	
1974	**63**	36	
1976	**66**	33	
1978	**60**	39	
1980	**59**	40	
1982	**59**	40	
1984	**52**	47	
1986	**54**	45	
1988	**56**	43	
1990	**58**	41	
1992	**52**	47	
1994	48	**51**	
1996	47	**52**	
1998	44	**55**	
2000	43	**56**	

2002	41	**58**	
2004	39	**60**	
2006	47	**52**	
2008	**52**	46	1
2010	38	**60**	1
2012	39	**60**	
2014	36	**63**	

234.   The Democrats won a majority of seats in the Wisconsin Assembly in each general election from 1972 through 1994.

235.   The Republicans won a majority of seats in the Wisconsin Assembly in each general election from 1994 through 2014, with the exception of the 2008 election.

236.   The Assembly map in place for the 1972, 1974, 1976, 1978 and 1980 plans was enacted by the Democratic Assembly and Republican Senate and signed by a Democratic Governor.

237.   The Assembly map in place for the 1982 election was put in place by the federal court in *Wisconsin State AFL-CIO v. Elections Bd.*, 543 F. Supp. 630 (E.D. Wis. 1982).

238.   The Assembly map in place for the 1982 election was amended and enacted by the Democratic Assembly and Democratic Senate and signed by a Democratic Governor and was then in place for the 1984, 1986, 1988 and 1990 elections.

239.   The Assembly map in place for the 1992, 1994, 1996, 1998 and 2000 elections was drawn by the federal court in *Prosser v. Elections Board*, 793 F. Supp. 859 (W.D. Wis. 1992).

240.   The Assembly map in place for the 2002, 2004, 2006, 2008 and 2010 elections was drawn by the federal court in *Baumgart v. Wendelberger*, No. 01–C–0121, 2002 WL 34127471, at *1 (E.D. Wis. May 30, 2002), *amended*, 2002 WL 34127473 (E.D. Wis. July 11, 2002).

241.   Professor Jackman analyzed each Wisconsin Assembly elections since 1972 and found that Wisconsin's *EG* has ranged from a high (most favorable to Democrats) of +2.48% in 1994 to a low (most favorable to Republicans) of −13.31% in 2012.

242.   Disregarding results from the current plan, the lowest *EG* was −11.83% in 2006.

243.   The most favorable *EG* towards Democrats notably occurred in 1994 when the Republicans gained control of the Assembly for the first time since the 1968 election.

244.   Professor Jackman finds that "Wisconsin has recorded an unbroken run of negative *EG* estimates from 1998 to 2014."

245.   The last positive *EG* that Professor Jackman found in Wisconsin was the 2.48% from 1994.

246.   With respect to the 2002 Plan, Professor Jackman calculated an average efficiency gap of −7.6%, with −4.0% as the most favorable year to Democrats and −11.8% as the most favorable year to Republicans.

247.   In 1992, the Democrats' seat share, rounded to the nearest 0.25%, was 52.5%. Given that Professor Jackman calculates an *EG* of −2%, the Democratic vote share was 52.25% because the implied seat share if the efficiency gap was zero is 54.5%.

248.   In 1994, the Democrats' seat share, rounded to the nearest 0.25%, was 48.5%. Given that Professor Jackman calculates an *EG* of +2%, the Democratic vote share was 48.25% because the implied seat share if the efficiency gap was zero is 46.5%.

249.   In 1996, the Democrats' seat share, rounded to the nearest 0.25%, was 47.5%. Given that Professor Jackman calculates an *EG* of 0%, the Democratic vote share was 48.75% because the implied seat share if the efficiency gap was zero is 47.5%.

250.	In 1998, the Democrats' seat share, rounded to the nearest 0.25%, was 44.5%. Given that Professor Jackman calculates an *EG* of –7.5%, the Democratic vote share was 51% because the implied seat share if the efficiency gap was zero is 52%.

251.	In 2000, the Democrats' seat share, rounded to the nearest 0.25%, was 43.5%. Given that Professor Jackman calculates an *EG* of –6%, the Democratic vote share was 49.75% because the implied seat share if the efficiency gap was zero is 49.5%.

252.	In 2002, the Democrats' seat, share rounded to the nearest 0.25%, was 41.5%. Given that Professor Jackman calculates an *EG* of –7.5%, the Democratic vote share was 49.5% because the implied seat share if the efficiency gap was zero is 49%.

253.	In 2004, the Democrats' seat share, rounded to the nearest 0.25%, was 40%. Given that Professor Jackman calculates an *EG* of –10%, the Democratic vote share was 50% because the implied seat share if the efficiency gap was zero is 50%.

254.	In 2006, the Democrats' seat share, rounded to the nearest 0.25%, was 47.5%. Given that Professor Jackman calculates an *EG* of –12%, the Democratic vote share was 54.75% because the implied seat share if the efficiency gap was zero is 59.5%.

255.	In 2008, the Democrats' seat share, rounded to the nearest 0.25%, was 53%. Given that Professor Jackman calculates an *EG* of –5%, the Democratic vote share was 54% because the implied seat share if the efficiency gap was zero is 58%.

256.	In 2010, the Democrats' seat share, rounded to the nearest 0.25%, was 39%. Given that Professor Jackman calculates an *EG* of –4%, the Democratic vote share was 46.5% because the implied seat share if the efficiency gap was zero is 43%.

257.   In 2012, Professor Jackman calculates that the Democrats' vote share was 51.4%. This yields an implied seat share of 52.8% if the efficiency gap was zero. The Democrats' actual seat share was 39.4%, yielding an efficiency gap of −13.4%.

258.   In 2014, Professor Jackman calculates that the Democrats' vote share was 48.0%. This yields an implied seat share of 46.0% if the efficiency gap was zero. Their actual seat share was 36.4%, which yields an efficiency gap of −9.6%.

259.   In 1988, Michael Dukakis, the Democratic candidate for President, won 1,126,794 votes in Wisconsin to Republican George H.W. Bush's 1,047,499 votes, winning 51.8% of the two-party vote.

260.   In the presidential election nationwide, George H.W. Bush won 53.9% of the two-party vote and Dukakis won 46.1%.

261.   The following chart shows the vote totals for Dukakis and Bush in each county in Wisconsin.

County	Dukakis Vote	Bush Vote	Two Party Total
Adams	3,598	3,258	6,856
Ashland	4,526	2,926	7,452
Barron	8,951	8,527	17,478
Bayfield	4,323	3,095	7,418
Brown	41,788	43,625	85,413
Buffalo	3,481	2,783	6,264
Burnett	3,537	2,884	6,421
Calumet	6,481	8,107	14,588
Chippewa	11,447	9,757	21,204
Clark	6,642	6,296	12,938
Columbia	9,132	10,475	19,607
Crawford	3,608	3,238	6,846
Dane	105,414	69,143	174,557
Dodge	12,663	17,003	29,666
Door	5,425	6,907	12,332

County	Dukakis Vote	Bush Vote	Two Party Total
Douglas	13,907	6,440	20,347
Dunn	9,205	7,273	16,478
Eau Claire	21,150	17,664	38,814
Florence	1,018	1,106	2,124
Fond du Lac	15,887	21,985	37,872
Forest	2,142	1,845	3,987
Grant	9,421	10,049	19,470
Green	5,153	6,636	11,789
Green Lake	3,033	5,205	8,238
Iowa	4,268	4,240	8,508
Iron	2,090	1,599	3,689
Jackson	3,924	3,555	7,479
Jefferson	11,816	14,309	26,125
Juneau	3,734	4,869	8,603
Kenosha	30,089	21,661	51,750
Kewaunee	4,786	4,330	9,116
La Crosse	22,204	21,548	43,752
Lafayette	3,521	3,665	7,186
Langlade	4,254	4,884	9,138
Lincoln	5,819	5,257	11,076
Manitowoc	19,680	16,020	35,700
Marathon	24,658	24,482	49,140
Marinette	8,030	9,637	17,667
Marquette	2,463	3,059	5,522
Menominee	1,028	381	1,409
Milwaukee	268,287	168,363	436,650
Monroe	6,437	7,073	13,510
Oconto	6,549	7,084	13,633
Oneida	7,414	8,130	15,544
Outagamie	27,771	33,113	60,884
Ozaukee	12,661	22,899	35,560
Pepin	1,906	1,311	3,217
Pierce	8,659	6,045	14,704
Polk	8,981	6,866	15,847
Portage	16,317	12,057	28,374
Price	3,987	3,450	7,437

County	Dukakis Vote	Bush Vote	Two Party Total
Racine	39,631	36,342	75,973
Richland	3,643	4,026	7,669
Rock	29,576	28,178	57,754
Rusk	3,888	3,063	6,951
St. Croix	11,392	9,960	21,352
Sauk	8,324	10,225	18,549
Sawyer	3,231	3,260	6,491
Shawano	6,587	8,362	14,949
Sheboygan	23,429	23,471	46,900
Taylor	3,785	4,254	8,039
Trempealeau	6,212	4,902	11,114
Vernon	5,754	5,226	10,980
Vilas	3,781	5,842	9,623
Walworth	12,203	18,259	30,462
Washburn	3,393	3,074	6,467
Washington	15,907	24,328	40,235
Waukesha	57,598	90,467	148,065
Waupaca	7,078	11,559	18,637
Waushara	3,535	4,953	8,488
Winnebago	28,508	35,085	63,593
Wood	16,074	16,549	32,623
	1,126,794	1,047,499	2,174,293

262.   In 1992, Bill Clinton, the Democratic candidate for President, won 1,041,066 votes in Wisconsin to Republican George H.W. Bush's 930,855, winning 52.8% of the two-party vote share.

263.   In the presidential election nationwide, Clinton won 53.5% of the two-party vote share to Bush's 46.5%.

264.   The following chart shows the vote totals for Clinton and Bush in each county in Wisconsin.

County	Clinton Vote	Bush Vote	Two Party Total
Adams	3,539	2,465	6,004
Ashland	4,213	2,372	6,585
Barron	8,063	6,572	14,635
Bayfield	3,873	2,393	6,266
Brown	37,513	42,352	79,865
Buffalo	2,996	2,029	5,025
Burnett	3,172	2,340	5,512
Calumet	5,701	7,541	13,242
Chippewa	10,487	8,215	18,702
Clark	5,540	4,977	10,517
Columbia	9,348	9,099	18,447
Crawford	3,540	2,390	5,930
Dane	114,724	61,957	176,681
Dodge	11,438	14,971	26,409
Door	4,735	5,468	10,203
Douglas	12,319	5,679	17,998
Dunn	7,965	5,283	13,248
Eau Claire	21,221	15,915	37,136
Florence	978	942	1,920
Fond du Lac	13,757	19,785	33,542
Forest	1,904	1,393	3,297
Grant	8,914	7,678	16,592
Green	5,467	4,887	10,354
Green Lake	2,772	3,897	6,669
Iowa	4,467	3,288	7,755
Iron	1,762	1,273	3,035
Jackson	3,681	2,644	6,325
Jefferson	11,593	13,072	24,665
Juneau	4,177	4,051	8,228
Kenosha	27,341	19,854	47,195
Kewaunee	4,050	3,570	7,620
La Crosse	22,838	18,891	41,729
Lafayette	3,143	2,582	5,725
Langlade	3,630	3,890	7,520
Lincoln	5,297	4,321	9,618
Manitowoc	15,903	14,008	29,911
Marathon	21,482	20,948	42,430

County	Clinton Vote	Bush Vote	Two Party Total
Marinette	7,626	7,984	15,610
Marquette	2,533	2,322	4,855
Menominee	691	244	935
Milwaukee	235,521	151,314	386,835
Monroe	6,427	6,118	12,545
Oconto	5,898	5,720	11,618
Oneida	7,160	6,725	13,885
Outagamie	23,735	30,370	54,105
Ozaukee	11,879	22,805	34,684
Pepin	1,673	1,098	2,771
Pierce	7,824	4,844	12,668
Polk	7,746	5,446	13,192
Portage	15,553	10,914	26,467
Price	3,575	2,654	6,229
Racine	34,875	32,310	67,185
Richland	3,458	3,144	6,602
Rock	31,154	21,942	53,096
Rusk	3376	2,430	3,376
St. Croix	10281	8,114	10,281
Sauk	9128	8,886	9,128
Sawyer	2796	2,658	2,796
Shawano	6,062	7,253	13,315
Sheboygan	20,568	22,526	43,094
Taylor	3,305	3,415	6,720
Trempealeau	6,218	3,577	9,795
Vernon	5,673	4,072	9,745
Vilas	3,764	4,616	8,380
Walworth	11,825	15,727	27,552
Washburn	3,080	2,586	5,666
Washington	13,339	22,739	36,078
Waukesha	50,270	91,461	141,731
Waupaca	6,666	10,252	16,918
Waushara	3,402	4,045	7,447
Winnebago	27,234	33,709	60,943
Wood	13,208	13,843	27,051

County	Clinton Vote	Bush Vote	Two Party Total
	1,041,066	930,855	1,971,921

265.   In 1996, Bill Clinton, the Democratic candidate for President, won 1,071,971 votes

in Wisconsin to Republican Bob Dole's 845,029 votes, winning 55.9% of the two-party vote share.

266.   In the presidential election nationwide, Clinton won 54.7% of the two-party vote to

Dole's 45.3%.

267.   Bill Clinton won Milwaukee, Dane and Rock Counties with 64% of the two–party

vote and carried the rest of the state with 52% of the vote, a difference of twelve percentage points.

268.   The following chart shows the vote totals for Clinton and Dole in each county in

Wisconsin.

County	Clinton Vote	Dole Vote	Two Party Total
Adams	4,119	2,450	6,569
Ashland	3,808	1,863	5,671
Barron	8,025	6,158	14,183
Bayfield	3,895	2,250	6,145
Brown	42,823	38,563	81,386
Buffalo	2,681	1,800	4,481
Burnett	3,625	2,452	6,077
Calumet	6,940	7,049	13,989
Chippewa	9,647	7,520	17,167
Clark	5,540	4,622	10,162
Columbia	10,336	8,377	18,713
Crawford	3,658	2,149	5,807
Dane	109,347	59,487	168,834
Dodge	12,625	12,890	25,515
Door	5,590	4,948	10,538
Douglas	10,976	5,167	16,143
Dunn	7,536	4,917	12,453
Eau Claire	20,298	13,900	34,198
Florence	869	927	1,796
Fond du Lac	15,542	16,488	32,030

County	Clinton Vote	Dole Vote	Two Party Total
Forest	2,092	1,166	3,258
Grant	9,203	7,021	16,224
Green	6,136	4,697	10,833
Green Lake	3,152	3,565	6,717
Iowa	4,690	2,866	7,556
Iron	1,725	1,260	2,985
Jackson	3,705	2,262	5,967
Jefferson	13,188	12,681	25,869
Juneau	4,331	3,226	7,557
Kenosha	27,964	18,296	46,260
Kewaunee	4,311	3,431	7,742
La Crosse	23,647	16,482	40,129
Lafayette	3,261	2,172	5,433
Langlade	4,074	3,206	7,280
Lincoln	6,166	4,076	10,242
Manitowoc	16,750	13,239	29,989
Marathon	24,012	19,874	43,886
Marinette	8,413	7,231	15,644
Marquette	2,859	2,208	5,067
Menominee	992	230	1,222
Milwaukee	216,620	119,407	336,027
Monroe	6,924	5,299	12,223
Oconto	6,723	5,389	12,112
Oneida	7,619	6,339	13,958
Outagamie	28,815	27,758	56,573
Ozaukee	13,269	22,078	35,347
Pepin	1,585	1,007	2,592
Pierce	7,970	4,599	12,569
Polk	8,334	5,387	13,721
Portage	15,901	9,631	25,532
Price	3,523	2,545	6,068
Racine	38,567	30,107	68,674
Richland	3,502	2,642	6,144
Rock	32,450	20,096	52,546
Rusk	2941	2,219	2,941
St. Croix	11384	8,253	11,384

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County	Clinton Vote	Dole Vote	Two Party Total
Sauk	9889	7,448	9,889
Sawyer	2773	2,603	2,773
Shawano	6,850	6,396	13,246
Sheboygan	22,022	20,067	42,089
Taylor	3,253	3,108	6,361
Trempealeau	5,848	3,035	8,883
Vernon	5,572	3,796	9,368
Vilas	4,226	4,496	8,722
Walworth	13,283	15,099	28,382
Washburn	3,231	2,703	5,934
Washington	17,154	25,829	42,983
Waukesha	57,354	91,729	149,083
Waupaca	7,800	8,679	16,479
Waushara	3,824	3,573	7,397
Winnebago	29,564	27,880	57,444
Wood	14,650	12,666	27,316
	1,071,971	845,029	1,917,000

269.   In 2000, Albert Gore, the Democratic candidate for President, won 1,242,987 votes in Wisconsin to Republican George W. Bush's 1,237,279 votes, winning 50.1% of the two-party vote.

270.   In the presidential election nationwide, Gore won 50.27% of the two-party vote to Bush's 49.73%.

271.   The following chart shows the vote totals for Gore and Bush in each county in Wisconsin, as well as a subtotal for votes in the City of Milwaukee.

County	Gore Vote	Bush Vote	Two Party Total
Adams	4,826	3,920	8,746
Ashland	4,356	3,038	7,394
Barron	8,928	9,848	18,776
Bayfield	4,427	3,266	7,693
Brown	49,096	54,258	103,354

County	Gore Vote	Bush Vote	Two Party Total
Buffalo	3,237	3,038	6,275
Burnett	3,626	3,967	7,593
Calumet	8,202	10,837	19,039
Chippewa	12,102	12,835	24,937
Clark	5,931	7,461	13,392
Columbia	12,636	11,987	24,623
Crawford	4,005	3,024	7,029
Dane	142,317	75,790	218,107
Dodge	14,580	21,684	36,264
Door	6,560	7,810	14,370
Douglas	13,593	6,930	20,523
Dunn	9,172	8,911	18,083
Eau Claire	24,078	20,921	44,999
Florence	816	1,528	2,344
Fond du Lac	18,181	26,548	44,729
Forest	2,158	2,404	4,562
Grant	10,691	10,240	20,931
Green	7,863	6,790	14,653
Green Lake	3,301	5,451	8,752
Iowa	5,842	4,221	10,063
Iron	1,620	1,734	3,354
Jackson	4,380	3,670	8,050
Jefferson	15,203	19,204	34,407
Juneau	4,813	4,910	9,723
Kenosha	32,429	28,891	61,320
Kewaunee	4,670	4,883	9,553
La Crosse	28,455	24,327	52,782
Lafayette	3,710	3,336	7,046
Langlade	4,199	5,125	9,324
Lincoln	6,664	6,727	13,391
Manitowoc	17,667	19,358	37,025
Marathon	26,546	28,883	55,429
Marinette	8,676	10,535	19,211
Marquette	3,437	3,522	6,959
Menominee	949	225	1,174
Milwaukee	252,329	163,491	415,820

County	Gore Vote	Bush Vote	Two Party Total
City of Milwaukee subtotal	165,598	69,075	234,673
Monroe	7,460	8,217	15,677
Oconto	7,260	8,706	15,966
Oneida	8,339	9,512	17,851
Outagamie	32,735	39,460	72,195
Ozaukee	15,030	31,155	46,185
Pepin	1,854	1,631	3,485
Pierce	8,559	8,169	16,728
Polk	8,961	9,557	18,518
Portage	17,942	13,214	31,156
Price	3,413	4,136	7,549
Racine	41,563	44,014	85,577
Richland	3,837	3,994	7,831
Rock	40,472	27,467	67,939
Rusk	3161	3,758	3,161
St. Croix	13077	15,240	13,077
Sauk	13035	11,586	13,035
Sawyer	3333	3,972	3,333
Shawano	7,335	9,548	16,883
Sheboygan	23,569	29,648	53,217
Taylor	3,254	5,278	8,532
Trempealeau	6,678	5,002	11,680
Vernon	6,577	5,684	12,261
Vilas	4,706	6,958	11,664
Walworth	15,492	22,982	38,474
Washburn	3,695	3,912	7,607
Washington	18,115	41,162	59,277
Waukesha	64,319	133,105	197,424
Waupaca	8,787	12,980	21,767
Waushara	4,239	5,571	9,810
Winnebago	33,983	38,330	72,313
Wood	15,936	17,803	33,739
	1,242,987	1,237,279	2,480,266

272.   In 2004, John Kerry, the Democratic candidate for President, won 1,489,504 votes in Wisconsin to Republican George W. Bush's 1,478,120 votes, winning 50.2% of the two-party vote.

273.   In the presidential election nationwide, Bush won 51.24% of the two-party vote to Kerry's 48.76%.

274.   The following chart shows the vote totals for Kerry and Bush in each county in Wisconsin, along with a subtotal for votes in the City of Milwaukee.

County	Kerry Vote	Bush Vote	Two Party Total
Adams	5,447	4,890	10,337
Ashland	5,805	3,313	9,118
Barron	11,696	12,030	23,726
Bayfield	5,845	3,754	9,599
Brown	54,935	67,173	122,108
Buffalo	3,998	3,502	7,500
Burnett	4,499	4,743	9,242
Calumet	10,290	14,721	25,011
Chippewa	14,751	15,450	30,201
Clark	6,966	7,966	14,932
Columbia	14,300	14,956	29,256
Crawford	4,656	3,680	8,336
Dane	181,052	90,369	271,421
Dodge	16,690	27,201	43,891
Door	8,367	8,910	17,277
Douglas	16,537	8,448	24,985
Dunn	12,039	10,879	22,918
Eau Claire	30,068	24,653	54,721
Florence	993	1,703	2,696
Fond du Lac	19,216	33,291	52,507
Forest	2,509	2,608	5,117
Grant	12,864	12,208	25,072
Green	9,575	8,497	18,072
Green Lake	3,605	6,472	10,077
Iowa	7,122	5,348	12,470

County	Kerry Vote	Bush Vote	Two Party Total
Iron	1,956	1,884	3,840
Jackson	5,249	4,387	9,636
Jefferson	17,925	23,776	41,701
Juneau	5,734	6,473	12,207
Kenosha	40,107	35,587	75,694
Kewaunee	5,175	5,970	11,145
La Crosse	33,170	28,289	61,459
Lafayette	4,402	3,929	8,331
Langlade	4,751	6,235	10,986
Lincoln	7,484	8,024	15,508
Manitowoc	20,652	23,027	43,679
Marathon	30,899	36,394	67,293
Marinette	10,190	11,866	22,056
Marquette	3,785	4,604	8,389
Menominee	1,412	288	1,700
Milwaukee	297,653	180,287	477,940
City of Milwaukee subtotal	198,907	75,746	274,653
Monroe	8,973	10,375	19,348
Oconto	8,534	11,043	19,577
Oneida	10,464	11,351	21,815
Outagamie	40,169	48,903	89,072
Ozaukee	17,714	34,904	52,618
Pepin	2,181	1,853	4,034
Pierce	11,176	10,437	21,613
Polk	11,173	12,095	23,268
Portage	21,861	16,546	38,407
Price	4,349	4,312	8,661
Racine	48,229	52,456	100,685
Richland	4,501	4,836	9,337
Rock	46,598	33,151	79,749
Rusk	3820	3,985	3,820
St. Croix	18784	22,679	18,784
Sauk	15708	14,415	15,708
Sawyer	4411	4,951	4,411
Shawano	8,657	12,150	20,807

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County	Kerry Vote	Bush Vote	Two Party Total
Sheboygan	27,608	34,458	62,066
Taylor	3,829	5,582	9,411
Trempealeau	8,075	5,878	13,953
Vernon	7,924	6,774	14,698
Vilas	5,713	8,155	13,868
Walworth	19,177	28,754	47,931
Washburn	4,705	4,762	9,467
Washington	21,234	50,641	71,875
Waukesha	73,626	154,926	228,552
Waupaca	10,792	15,941	26,733
Waushara	5,257	6,888	12,145
Winnebago	40,943	46,542	87,485
Wood	18,950	20,592	39,542
	1,489,504	1,478,120	2,967,624

275.   In 2008, Barack Obama, the Democratic candidate for President, won 1,677,211 votes in Wisconsin to Republican John McCain's 1,262,393 votes, winning 57.05% of the two–party vote.

276.   In the presidential election nationwide, Obama won 53.69% of the two-party vote to McCain's 46.31%.

277.   The following chart shows the vote totals for Obama and McCain in each county in Wisconsin including a subtotal of votes in the City of Milwaukee.

County	Obama Vote	McCain Vote	Two Party Total
Adams	5,806	3,974	9,780
Ashland	5,818	2,634	8,452
Barron	12,078	10,457	22,535
Bayfield	5,972	3,365	9,337
Brown	67,269	55,854	123,123
Buffalo	3,949	2,923	6,872
Burnett	4,337	4,200	8,537
Calumet	13,295	12,722	26,017

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County	Obama Vote	McCain Vote	Two Party Total
Chippewa	16,239	13,492	29,731
Clark	7,454	6,383	13,837
Columbia	16,661	12,193	28,854
Crawford	4,987	2,830	7,817
Dane	205,984	73,065	279,049
Dodge	19,183	23,015	42,198
Door	10,142	7,112	17,254
Douglas	15,830	7,835	23,665
Dunn	13,002	9,566	22,568
Eau Claire	33,146	20,959	54,105
Florence	1,134	1,512	2,646
Fond du Lac	23,463	28,164	51,627
Forest	2,673	1,963	4,636
Grant	14,875	9,068	23,943
Green	11,502	6,730	18,232
Green Lake	4,000	5,393	9,393
Iowa	7,987	3,829	11,816
Iron	1,914	1,464	3,378
Jackson	5,572	3,552	9,124
Jefferson	21,448	21,096	42,544
Juneau	6,186	5,148	11,334
Kenosha	45,836	31,609	77,445
Kewaunee	5,902	4,711	10,613
La Crosse	38,524	23,701	62,225
Lafayette	4,732	2,984	7,716
Langlade	5,182	5,081	10,263
Lincoln	8,424	6,519	14,943
Manitowoc	22,428	19,234	41,662
Marathon	36,367	30,345	66,712
Marinette	11,195	9,726	20,921
Marquette	4,068	3,654	7,722
Menominee	1,257	185	1,442
Milwaukee	319,819	149,445	469,264
City of Milwaukee subtotal	213,436	57,665	271,101
Monroe	10,198	8,666	18,864

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County	Obama Vote	McCain Vote	Two Party Total
Oconto	9,927	8,755	18,682
Oneida	11,907	9,630	21,537
Outagamie	50,294	39,677	89,971
Ozaukee	20,579	37,172	57,751
Pepin	2,102	1,616	3,718
Pierce	11,803	9,812	21,615
Polk	10,876	11,282	22,158
Portage	24,817	13,810	38,627
Price	4,559	3,461	8,020
Racine	53,408	45,954	99,362
Richland	5,041	3,298	8,339
Rock	50,529	27,364	77,893
Rusk	3855	3,253	3,855
St. Croix	21177	22,837	21,177
Sauk	18617	11,562	18,617
Sawyer	4765	4,199	4,765
Shawano	10,259	9,538	19,797
Sheboygan	30,395	30,801	61,196
Taylor	4,563	4,586	9,149
Trempealeau	8,321	4,808	13,129
Vernon	8,463	5,367	13,830
Vilas	6,491	7,055	13,546
Walworth	24,177	25,485	49,662
Washburn	4,693	4,303	8,996
Washington	25,719	47,729	73,448
Waukesha	85,339	145,152	230,491
Waupaca	12,952	12,232	25,184
Waushara	5,868	5,770	11,638
Winnebago	48,167	37,946	86,113
Wood	21,710	16,581	38,291
	1,677,211	1,267,393	2,944,604

278.   In 2008, Democratic candidates for the Assembly ran about three points behind

Obama in the statewide two–party vote.

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279.   In 2012, Barack Obama, the Democratic candidate for President, won 1,620,985 votes in Wisconsin to Republican Mitt Romney's 1,407,966 votes, winning 53.5% of the two-party vote.

280.   In the presidential election nationwide, Obama won 51.96% of the two-party vote to Romney's 48.04%.

281.   The following chart shows the vote totals for Obama and Romney in each county in Wisconsin along with a subtotal for the votes in the City of Milwaukee.

County	Obama Vote	Romney Vote	Two Party Total
Adams	5,542	4,644	10,186
Ashland	5,399	2,820	8,219
Barron	10,890	11,443	22,333
Bayfield	6,033	3,603	9,636
Brown	62,526	64,836	127,362
Buffalo	3,570	3,364	6,934
Burnett	3,986	4,550	8,536
Calumet	11,489	14,539	26,028
Chippewa	15,237	15,322	30,559
Clark	6,172	7,412	13,584
Columbia	17,175	13,026	30,201
Crawford	4,629	3,067	7,696
Dane	216,071	83,644	299,715
Dodge	18,762	25,211	43,973
Door	9,357	8,121	17,478
Douglas	14,863	7,705	22,568
Dunn	11,316	10,224	21,540
Eau Claire	30,666	23,256	53,922
Florence	953	1,645	2,598
Fond du Lac	22,379	30,355	52,734
Forest	2,425	2,172	4,597
Grant	13,594	10,255	23,849
Green	11,206	7,857	19,063
Green Lake	3,793	5,782	9,575
Iowa	8,105	4,287	12,392

County	Obama Vote	Romney Vote	Two Party Total
Iron	1,784	1,790	3,574
Jackson	5,298	3,900	9,198
Jefferson	20,158	23,517	43,675
Juneau	6,242	5,411	11,653
Kenosha	44,867	34,977	79,844
Kewaunee	5,153	5,747	10,900
La Crosse	36,693	25,751	62,444
Lafayette	4,536	3,314	7,850
Langlade	4,573	5,816	10,389
Lincoln	7,563	7,455	15,018
Manitowoc	20,403	21,604	42,007
Marathon	32,363	36,617	68,980
Marinette	9,882	10,619	20,501
Marquette	4,014	3,992	8,006
Menominee	1,191	179	1,370
Milwaukee	332,438	154,924	487,362
City of Milwaukee subtotal	227,384	56,553	283,937
Monroe	9,515	9,675	19,190
Oconto	8,865	10,741	19,606
Oneida	10,452	10,917	21,369
Outagamie	45,659	47,372	93,031
Ozaukee	19,159	36,077	55,236
Pepin	1,876	1,794	3,670
Pierce	10,235	10,397	20,632
Polk	10,073	12,094	22,167
Portage	22,075	16,615	38,690
Price	3,887	3,884	7,771
Racine	53,008	49,347	102,355
Richland	4,969	3,573	8,542
Rock	49,219	30,517	79,736
Rusk	3397	3,676	3,397
St. Croix	19910	25,503	19,910
Sauk	18736	12,838	18,736
Sawyer	4486	4,442	4,486
Shawano	9,000	11,022	20,022

County	Obama Vote	Romney Vote	Two Party Total
Sheboygan	27,918	34,072	61,990
Taylor	3,763	5,601	9,364
Trempealeau	7,605	5,707	13,312
Vernon	8,044	5,942	13,986
Vilas	5,951	7,749	13,700
Walworth	22,552	29,006	51,558
Washburn	4,447	4,699	9,146
Washington	23,166	54,765	77,931
Waukesha	78,779	162,798	241,577
Waupaca	11,578	14,002	25,580
Waushara	5,335	6,562	11,897
Winnebago	45,449	42,122	87,571
Wood	18,581	19,704	38,285
	1,620,985	1,407,966	3,028,951

282. In 2012, Obama won Milwaukee, Dane and Rock Counties with 69% of the two-party vote but won only 47% of the two-party vote in the rest of the state (to Mitt Romney's 53%), a difference of twenty–two percentage points.

283. In the November 2010 election, Republican candidates won the Governor's office, a majority in the State Senate and retook the majority in the Assembly.

284. In the November 2010 election, Scott Walker won the Governor's office with 52.25% of the total vote (52.9% of the two–party vote).

285. In the November 2010 election, Republicans won 60 seats in the Assembly.

286. Professor Jackman calculates that the Republican candidates for the Assembly won 53.5% of the statewide two–party vote share in the November 2010 election.

287. On June 5, 2012, Governor Walker survived a recall attempt with 53.08% of the vote (53.4% of the two–party vote).

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288.   In November of 2012, President Obama won Wisconsin in the presidential election with 52.83% of the total vote (53.5% of the two–party vote).

289.   Wisconsin's Democratic candidates for the Assembly ran about two points behind the President's vote share: Professor Jackman calculates that Democrats had a two–party vote share of 51.4%.

290.   In November of 2014, the Republicans increased their control of the Assembly by winning 63 seats, equating to a 63.6% seat share. Professor Jackman calculates that Republican candidates for the Assembly won 52% of the statewide two–party vote share in the November 2014 elections.

291.   In 2010, Bob Ziegelbauer won assembly district 25, and even though he ran as an independent, he typically voted with Republicans. Jason Stein & Patrick Marley, *More than They Bargained For: Scott Walker, Unions, and the Fight for Wisconsin*, Earle Decl. Ex. G (Dkt. 57-7) at 119.

292.   Mr. Trende admitted that there are no "peer-reviewed studies that have analyzed the geographic clustering of Democratic and Republican voters by examining trends in counties won by each part[y's] presidential candidate." Trende Dep. (Dkt. 66) at 51:6-11.

293.   Mr. Trende admitted that the maps he relied upon make no adjustment for counties' very different populations. Trende Dep. (Dkt. 66) at 52:25-53:3; Goedert Dep. (Dkt. 65) at 186:5-7.

294.   Mr. Trende admitted that the maps he relied on do not display each party's margin of victory in each county. Trende Dep. (Dkt. 66) at 52:3-6.

295.   Mr. Trende admitted that the maps he relied on are based on presidential rather than state legislative election results. Trende Dep. (Dkt. 66) at 53:25-54:13, 56:9-58:9.

PROBABLE LENGTH OF TRIAL

296.   The parties agree that the trial will begin on May 24, 2016 and will take four days

in total.

PROSPECTIVE WITNESSES

297.   The Plaintiffs' witness will be as follows:

      a.   William Whitford, J.D.

      b.   Ronald Keith Gaddie, Ph.D. (by video deposition)

      c.   Adam Foltz (adverse)

      d.   Tad Ottman (adverse)

      e.   Jeffrey Ylvisaker (adverse, by video deposition)

      f.   Joseph Handrick (adverse)

      g.   Mark Lanterman (by live video)

      h.   Kenneth Mayer, Ph.D.

      i.   Simon Jackman, PhD.

298.   The Defendants' witnesses will be as follows:

      a.   Nicholas Goedert

      b.   Sean Trende

      c.   Adam Foltz

      d.   Tad Ottman

STIPULATIONS OF WITNESS QUALIFICATIONS

Professor Kenneth Mayer, Ph.D.

299.   Kenneth Mayer is a Professor of Political Science at the University of Wisconsin-Madison, and a faculty affiliate at the University's La Follette School of Public Affairs.

300.   Dr. Mayer teaches courses on American politics, the presidency, Congress, campaign finance, election law, and electoral systems.

301.   From 1996 to 2000, Dr. Mayer served as an Associate Professor in the Department of Political Science at the University of Wisconsin-Madison.

302.   From 1989 through 1996, Dr. Mayer was an Assistant Professor in the Department of Political Science at the University of Wisconsin-Madison.

303.   Dr. Mayer received a Ph.D. in Political Science from Yale University in 1988, where his graduate training included courses in econometrics and statistics.

304.   Dr. Mayer received a M.A., M.Phil. in Political Science from Yale University in 1987.

305.   Dr. Mayer received a B.A. in Political Science from the University of California, San Diego in 1982, where he majored in Political Science and minored in Applied Mathematics.

306.   Dr. Mayer has testified at trial or at deposition in the following cases, among others: *Baldus et al. v. Brennan et al.,* 849 F. Supp. 2d 840 (E.D. Wis. 2012); *Milwaukee Branch of the NAACP et al. v. Walker et al.,* 2014 WI 98, 357 Wis. 2d 469, 851 N.W. 2d 262; *McComish et al. v. Brewer et al.,* No.CV- 08-1550, 2010 WL 2292213 (D. Ariz. June 23, 2010); and *Kenosha County v. City of Kenosha,* No. 11-CV-1813 (Kenosha County Circuit Court, Kenosha, WI, 2011).

307.   Dr. Mayer served as a consultant and expert witness in *Baumgart et al. v. Wendelberger* et al., No. 01–C–0121, 2002 WL 34127471 (E.D. Wis. May 30, 2002).

308.   From 2003 to 2009, Dr. Mayer was Co-Chair of the Committee on Redistricting for the Supreme Court of Wisconsin.

309.   Dr. Mayer served as an expert consultant for Prosser for Supreme Court (2011 Wisconsin Supreme Court recount).

310.   In 2011, Dr. Mayer served as an expert consultant for Voces de la Frontera in the Milwaukee aldermanic redistricting process.

311.   Dr. Mayer is currently serving as an expert witness in the ongoing voting rights case *One Wisconsin Institute, Inc. et al. v. Nichol, et al.*, 3:15-cv-324 (W.D. Wis.).

312.   Dr. Mayer was part of a research group that consulted for the G.A.B., where he reviewed the G.A.B.'s compliance with federal mandates and reporting systems and surveyed local election practices throughout the state of Wisconsin, resulting in a 2009 report to the G.A.B.

313.   Dr. Mayer serves on the Steering Committee of the Wisconsin Elections Research Center, a part of the University of Wisconsin-Madison College of Letters and Science.

314.   Dr. Mayer served on the Education and Social Behavioral Sciences Institutional Review Board from 2009-2014, holding the position of Acting Chair in 2011 and Chair from 2012-2014.

315.   The U.S. Department of Justice retained Dr. Mayer in 2012 to analyze data and methods regarding election practices in the state of Florida.

316.   In 2006, Dr. Mayer was the Fulbright-ANU Distinguished Chair in Political Science at Australian National University.

317.   From 1996-2003, Dr. Mayer served as the Director of the Data and Computation Center at the College of Letters and Science at the University of Wisconsin-Madison.

318.   Dr. Mayer served as a consultant to the RAND Corporation from 1988-1994.

319.   From 1985-1986, Dr. Mayer was a Contract Specialist for the Naval Air Systems Command in Washington, D.C.

320.   Dr. Mayer has published numerous articles on American politics, the presidency, Congress, campaign finance, election law, and electoral systems in the following peer-reviewed journals: Journal of Politics, American Journal of Political Science, Election Law Journal, Legislative Studies Quarterly, Presidential Studies Quarterly, American Politics Research, Congress and the Presidency, Public Administration Review, and PS: Political Science.

321.   Dr. Mayer has also published in several law reviews, including the Richmond Law Review, UCLA Pacific Basin Law Journal, and University of Utah Law Review.

322.   An article written by Dr. Mayer and several colleagues, titled "Election Laws, Mobilization, and Turnout," won the award Best Journal Article Published in the American Journal of Political Science in 2014, from the American Political Science Association, State Politics and Policy Section.

323.   In 2013, an article written by Dr. Mayer and colleagues titled "Election Laws and Partisan Gains," won the Robert H. Durr Award from the Midwest Political Science Association for the Best Paper Applying Quantitative Methods to a Substantive Problem.

324.   Dr. Mayer has won several other honors and awards, including Leo Epstein Faculty Fellow, College of Letters and Science (2012-2015), the Jerry J. and Mary M. Cotter Award, College of Letters and Science (2011-2012), the Alliant Underkofler Excellence in

Teaching Award, University of Wisconsin System (2006), and the Pi Sigma Alpha Teaching

Award (2006), among others.

325.   Dr. Mayer has published and edited numerous books, including *The 2012*

Presidential Election: Forecasts, Outcomes, and Consequences (2014), *The Enduring Debate:*

Classic and Contemporary Reading in American Government (7ᵗʰ ed. 2013), *Faultlines:*

Readings in American Government (4ᵗʰ ed. 2013), and *With the Stroke of a Pen: Executive*

Orders and Presidential Power (2001), among others.

326.   From 2001-2006, Dr. Mayer served as a Book Review Editor for Congress and

the Presidency.

327.   From 2001-2007, Dr. Mayer was on the Editorial Board of the American Political

Science Review.

328.   Dr. Mayer is the recipient of a number of research grants including, among others,

the Graduate School Research Committee at the University of Wisconsin (2015-2016),

Wisconsin Government Accountability Board (2011-2012), Open Society Institute (2010), Pew

Charitable Trusts (2008-2009), Joyce Foundation (2008), JEHT Foundation (2006-2007),

National Science Foundation (1995-1998), and the McArthur Foundation (1992-1995).

329.   Dr. Mayer has also presented at numerous conferences and events, including the

American Political Science Association Annual Meeting, Midwest Political Science Association

Meeting, Foreign Fulbright Enrichment Seminar, Reed College Public Policy Lecture Series,

Southern Political Science Association Meeting, Miller Center for Public Affairs at the

University of Virginia, and the American Politics Seminar at George Washington University,

among others.

Professor Simon Jackman, Ph.D.

330.	Simon Jackman is a Professor in the Department of Political Science and (by courtesy) the Department of Statistics at Stanford University.

331.	Dr. Jackman teaches courses on American politics and statistical methods in social sciences.

332.	Dr. Jackman also currently serves as Chief Executive Officer of the United States Studies Centre at the University of Sydney.

333.	From 2002 through 2007, Dr. Jackman was an Associate Professor in the Department of Political Science and (by courtesy) the Department of Statistics at Stanford University.

334.	From 1996 through 2002, Dr. Jackman was an Assistant Professor in the Department of Political Science at Stanford University.

335.	Dr. Jackman was a Visiting Professor at the United States Studies Centre at the University of Sydney from 2008 to 2009 and 2010 to 2013.

336.	From 1994 to 1996, Dr. Jackman was an Assistant Professor in the Department of Political Science at the University of Chicago.

337.	Dr. Jackman received his Ph.D. in Political Science from the University of Rochester in 1995, where his graduate training included courses in econometrics and statistics.

338.	From 1991-1994, Dr. Jackman was a Visiting Doctoral Student at the Woodrow Wilson School of International and Public Affairs at Princeton University.

339.	Dr. Jackman received his B.A. (with first class Honours in Government) from the University of Queensland in 1988.

340.	Dr. Jackman has published numerous articles on American politics, election law, and electoral systems in the following peer-reviewed journals: The Journal of Politics, Electoral

Studies, The American Journal of Political Science, Legislative Studies Quarterly, Election Law

Journal, Public Opinion Quarterly, Journal of Elections, Public Opinion and Parties, and PS:

Political Science and Politics.

341.　　　Dr. Jackman authored the articles "Bayesian Analysis for Political Research,"

Annual Reviews of Political Science (2004), and "Estimation and Inference via Bayesian

Simulation: an Introduction to Markov Chain Monte Carlo," American Journal of Political

Science (2002), among other articles on political science and quantitative methods.

342.　　　Dr. Jackman is the author of *Bayesian Analysis for the Social Sciences* (2009).

343.　　　In 2014, Dr. Jackman served as a Program Chair at the Annual Meeting of the

American Political Science Association.

344.　　　Dr. Jackman served as a Principal Investigator for the American National Election

Studies from 2009 to 2013.

345.　　　From 2007-2008, Dr. Jackman was a Principal Investigator for the Co-Operative

Campaign Analysis Project.

346.　　　From 2003 to 2005, Dr. Jackman served as President of the Society for Political

Methodology.

347.　　　From 2003 to 2006, Dr. Jackman was the Director of Graduate Studies from the

Department of Political Science at Stanford University.

348.　　　Dr. Jackman was elected as a Fellow to the American Academy of Arts and

Sciences in 2013.

349.　　　Dr. Jackman has received numerous other awards and honors, including, among

others: the Gregory M. Luebbert Prize for Best Article in Comparative Politics Published in 2008

or 2009, from the Comparative Politics Section of the American Political Science Association,

the Journal of Politics 2006 Best Paper Award, at the Southern Political Science Association, the

New South Wales Residency Expatriate Researchers Award, University of Sydney, and the

Dean's Award for Distinguished Teaching at Stanford University, School of Humanities and

Sciences at Stanford University (2001).

350.   Dr. Jackman has received several prestigious research grants from the National

Science Foundation, including in 2010, 2001, and 1999.

351.   In 2014, Dr. Jackman served as a consultant to Facebook on the design and

analysis of surveys.

352.   From 2012 to 2013, Dr. Jackman consulted for the Huffington Post on the matters

of tracking and forecasting public opinion leading up to the 2012 presidential campaign.

353.   Dr. Jackman served as a consultant for the Federal Communications Commission

from 2010 to 2011, assessing how media impacts public opinion and public engagement using

Bayesian modeling.

354.   Dr. Jackman has been an Associate Editor for several editorial journals, including

the Annual Review of Political Science (2005-2013) and Political Analysis (2010 to the present).

355.   Dr. Jackman has provided editorial board service to several journals, including the

American Political Science Review (current), American Journal of Political Science, Journal of

Politics, Electoral Studies, Australian Journal of Political Science (current), Public Opinion

Quarterly (current), and Political Analysis.

356.   Dr. Jackman has been invited to speak at numerous lectures, seminars, and

workshops, including the Asian Political Methodology Conference, the ACSPRI Social Science

Methodology Conference, the Australian Political Studies Association Conference, the Society

for Political Methodology, the Munk School of Global Affairs, the Massachusetts Institute of

Technology, the Research Triangle Institute, Nuffield College, TEDx Sydney, the International Political Science Association, Stanford University Law School, Princeton University, Harvard University, Yale University, and Vanderbilt University.

357.   Dr. Jackman helped develop the software package pscl, a package of classes and methods for R developed in the Political Science Computational Laboratory at Stanford University.

358.   Dr. Jackman has served as a Reviewer for the National Research Council, Chair for the Emerging Scholar Committee at the University of Sydney, on the James Madison Awards Committee at the American Political Science Association, Chair of the Distinguished Career Achievement Award Committee for the Society for Political Methodology, and President of the Society for Political Methodology and the Political Methodology Section of the American Political Science Association, among other services to the political science field.

Sean Trende

359.   Trende received a B.A. from Yale University in 1995, with distinction, with a double major in history and political science.

360.   Trende received a J.D. from Duke University in 2001, cum laude.

361.   Trende received an M.A. from Duke University in 2001, cum laude, in political science.

362.   Trende joined RealClearPolitics in January of 2009 as its Senior Elections Analyst. He assumed a fulltime position with RealClearPolitics in March of 2010 and continues as its Senior Elections Analyst.

363.   RealClearPolitics is one of the most heavily trafficked political websites in the world.

364.   RealClearPolitics provides political analysis and poll aggregation.

365.   RealClearPolitics has a readership in excess of 1 million.

366.   Trende's work has been cited by David Brooks of The New York Times, Brit

Hume of Fox News, Michael Barone of The Almanac of American Politics, Paul Gigot of The

Wall Street Journal, and Peter Beinart of The Atlantic.

367.   Trende's responsibilities with RealClearPolitics consist of tracking, analyzing,

and writing about elections. Trende is in charge of rating the competitiveness of House of

Representatives races, and he collaborates in rating the competitiveness of Presidential, Senate

and gubernatorial races.

368.   Trende's responsibilities also include studying and writing about legislative

redistricting, and supervising and editing the work of RealClearPolitics' elections analyst David

Byler.

369.   Trende regularly writes columns for RealClearPolitics and has written on partisan

gerrymandering and geographic clustering. He has hundreds of articles available online.

370.   Trende's readers include political science professors, members of the media,

elected representatives, and others.

371.   Trende is a Senior Columnist for Dr. Larry Sabato's "Crystal Ball" and has

written for the Crystal Ball since January 2014. Dr. Sabato is a professor of political science at

the University of Virginia and serves as the director of the University of Virginia Center for

Politics.

372.   Trende authored a chapter in Dr. Larry Sabato's *Barack Obama and the New

America: The 2012 Election and the Changing Face of Politics*, ch. 12 (2013), which discussed

the demographic shifts accompanying the 2012 elections.

373.   Trende authored a chapter in Dr. Sabato's *The Surge: 2014's Big GOP Win and What It Means for the Next Presidential Election*, ch. 12 (2015), which discusses demographics and Electoral College shifts.

374.   Trende is the author of *The Lost Majority: Why the Future of Government is up For Grabs and Who Will Take It* (2012). It includes analysis of demographic and political trends beginning around 1920 and continuing through the modern times.

375.   Trende co-authored the *Almanac of American Politics* 2014 (2013). Trende's focus was researching the history of and writing descriptions for many of the newly-drawn congressional districts.

376.   Trende has served as a peer reviewer for articles for the political science journals Party Politics and PS.

377.   Trende has spoken before the Heritage Foundation, the American Enterprise Institute, the CATO Institute, the Bipartisan Policy Center, and the Brookings Institution.

378.   In 2012, Trende was invited to Brussels to speak about American elections to the European External Action Service, which is the European Union's diplomatic corps.

379.   Trende's presentations have included: "The Lost Majorities: 2008, 2010 and America's Political Future," Bradley Lecture, American Enterprise Institute, January 2012; Panelist, "The Future of Red and Blue," Bipartisan Policy Center, Washington, DC, April 2012; "The 2012 Elections: Trends, Prognostications and What's at Stake," 3rd Annual Family Office Wealth Management Forum, Greensboro, Georgia, May 2012; "2012 U.S. Election Series," with Bruce Stokes and Alexandra de Hoop Scheffer, German Marshall Fund, Brussels, Belgium, Oct. 4, 2012

380.   Trende has appeared on Fox News and MSNBC to discuss electoral and demographic trends.

381.   Trende has spoken on radio shows including First Edition with Sean Yoes, the Diane Rehm Show, the Brian Lehrer Show, the John Batchelor Show, the Bill Bennett Show, Beijing Radio, CNN Radio, NPR, and Fox News Radio.

382.   Trende has been cited in publications including The New York Times, The Washington Post, The Los Angeles Times, The Wall Street Journal, and USA Today.

383.   Trende sits on the advisory panel for the "States of Change: Demographics and Democracy" project, which is a three-year project sponsored by the Hewlett Foundation involving the Brookings Institution, the American Enterprise Institute, and the Center for American Progress. The group looks at trends among eligible voters and the overall population, both nationally and in some states.

384.   Trende has drawn, using Adobe Illustrator, complete maps of every congressional district ever drawn, dating back to 1789.

385.   Trende authored an expert report in *Dickson v. Rucho*, No. 11-CVS-16896 (N.C. Super Ct., Wake County), regarding partisanship of various districts, and that report was accepted without objection.

386.   Trende authored two expert reports in *NAACP v. McCrory*, No. 1:13CV658 (M.D.N.C.), which involves challenges to North Carolina's voter laws, and also testified.

387.   Trende authored an expert report in *NAACP v. Husted*, No. 2:14-cv-404 (S.D. Ohio), and in a later iteration of that litigation, *Ohio Democratic Party v. Husted*, No. 2:15-CV-1802 (S.D. Ohio), and testified at trial.

Professor Nicholas Goedert, Ph.D.

388.   Dr. Goedert is currently a Visiting Assistant Professor of political science at Lafayette College in Easton, Pennsylvania.

389.   Dr. Goedert has accepted a tenure track professor position in political science at the Virginia Polytechnic Institute and State University (Virginia Tech) starting next school year.

390.   In 2012, Dr. Goedert received a Ph.D. from the Department of Politics, Princeton University.

391.   Dr. Goedert's dissertation regarding congressional redistricting is titled: "Gerrymandering, Electoral Uncertainty, and Representation." His advisors were Brandice Canes-Wrone (chair), Nolan McCarty, and Adam Meirowitz.

392.   Dr. Goedert's graduate training included coursework on quantitative methods and statistics.

393.   In 2009, Dr. Goedert received a M.A. from the Department of Politics, Princeton University.

394.   His examination fields were American Politics (Public Opinion, Political Psychology, and Legislative Politics), Formal and Quantitative Methodology.

395.   In 2006, Dr. Goedert received a J.D. (cum laude) from Georgetown University Law Center. He specialized in election law.

396.   In 2001, Dr. Goedert received a B.A. (magna cum laude) from the Department of Social Studies, Harvard University.

397.   From 2014 to the present, Dr. Goedert is employed as Visiting Assistant Professor, Department of Government and Law, Lafayette College.

398.   From 2012 to 2014, Dr. Goedert was a Postdoctoral Research Associate,

Department of Political Science at Washington University in St. Louis.

399.   Dr. Goedert's peer-reviewed publications include:

    a.   "The Pseudo-Paradox of Partisan Mapmaking and Congressional

        Competition," conditionally accepted at State Politics and Policy

        Quarterly (2016).

    b.   "The Case of the Disappearing Bias: A 2014 Update to the

        'Gerrymandering or Geography' Debate," forthcoming in Research &

        Politics (2016 research note).

    c.   "Redistricting, Risk, and Representation: How Five State Gerrymanders

        Weathered the Tides of the 2000's." Election Law Journal 13(3): 406-418

        (2014).

    d.   "Gerrymandering or Geography?: How Democrats Won the Popular Vote

        but Lost the Congress in 2012." Research & Politics 1(1):

        2053168014528683 (2014).

400.   Dr. Goedert's working papers include:

    a.   "Redistricting Institutions, Partisan Tides, and Congressional

        Competition"

    b.   "Southern Redistricting under the VRA: A Model of Partisan Tides"

    c.   "Gerrymandering and Competing Norms of Representation"

    d.   "Democratic Incumbent Resilience in the Post-1980 Senate: A Theory of

        Partisan Issue Competence"

      e.   "The Impact of Geographic Constituencies on Regional Parties: Evidence

from Six Nations"

401.   Dr. Goedert's conference presentations include:

      a.   Gerrymandering, Polarization, and Competing Norms of Representation,"

presented at the Annual Meeting of the American Political Science

Association, Washington, DC (2014).

      b.   "Democratic Incumbent Resilience in the Post-1980 Senate: A Theory of

Partisan Issue Competence," presented at the Annual Conference of the

Midwest Political Science Association, Chicago, IL (2014).

      c.   "Gerrymandering and Competing Norms of Representation," presented at

the Annual Conference of the Midwest Political Science Association,

Chicago, IL (2012).

      d.   "Southern Redistricting under the VRA: A Model of Partisan Tides,"

presented at the State Politics and Policy Conference, Houston, TX

(2012).

      e.   "Redistricting Institutions under Electoral Uncertainty," presented at the

Annual Meeting of the American Political Science Association, Seattle,

WA (2011).

      f.   "Redistricting Institutions, Partisan Tides, and Congressional Turnover,"

presented at the State Politics and Policy Conference, Hanover, NH

(2011), the Annual Conference of the MPSA, Chicago, IL, and the Society

for Political Methodology Summer Meeting, Princeton, NJ.

402.   Dr. Goedert is a contributor to political science blogs at The Washington Post, The Monkey Cage and Wonkblog.

403.   Dr. Goedert has written a non-peer-reviewed short article titled "Not Gerrymandering, but Districting: More Evidence on How Democrats Won the Popular Vote but Lost the Congress" for The Monkey Cage (Nov. 15, 2012).

404.   Dr. Goedert's teaching experience includes, as a Visiting Professor, "Introduction to United States Politics" (Fall 2014); "Political Opinion and Participation in the United States" (Fall 2014 and Spring 2016); "Campaigns and Elections" (Spring 2015 and Fall 2015); "Congress and the Legislative Process" (Fall 2015); "Constitutional Law and Politics in the United States" (Spring 2016 (scheduled)); "Representation, Apportionment, and Democratic Participation" (Spring 2015 and Spring 2016).

405.   Dr. Goedert has served as a Legislative Analyst for the Maryland General Assembly, Department of Legislative Services, from 2006-2007.

406.   Dr. Goedert has served as a manuscript reviewer for Legislative Studies Quarterly; State Politics and Policy Quarterly; Election Law Journal; and Social Influence.

SCHEDULES OF EXHIBITS TO BE OFFERED AT TRIAL AND LISTED OBJECTIONS

Plaintiffs' Exhibits

<table>
<tr>
<td colspan="3">EXHIBIT (S) OF

<u>   Plaintiffs   </u>
(Indicate plaintiff or defendant)</td>
<td colspan="2">
WILLIAM WHITFORD, <i>et al.</i>

V.   Case No. <u>15-cv-421-bbc</u>

GERALD NICHOL, <i>et al.</i></td>
</tr>
<tr>
<td rowspan="2">Date</td>
<td colspan="2">Identification</td>
<td rowspan="2">Description</td>
<td>Offers, Objections,</td>
</tr>
<tr>
<td>No.</td>
<td>Witness</td>
<td>Rulings, Exceptions</td>
</tr>
<tr><td></td><td>1</td><td></td><td>Illustrative Maps</td><td></td></tr>
<tr><td></td><td>2</td><td></td><td>Expert Report of Ken Mayer, dated July 3, 2015</td><td></td></tr>
<tr><td></td><td>3</td><td></td><td>Expert Report of Ken Mayer, Mayer Regression Model</td><td></td></tr>
<tr><td></td><td>4</td><td></td><td>Expert Report of Ken Mayer, Figure 1</td><td></td></tr>
<tr><td></td><td>5</td><td></td><td>Expert Report of Ken Mayer, Figure 2</td><td></td></tr>
<tr><td></td><td>6</td><td></td><td>Expert Report of Ken Mayer, Figure 3</td><td></td></tr>
<tr><td></td><td>7</td><td></td><td>Expert Report of Ken Mayer, Figure 4</td><td></td></tr>
<tr><td></td><td>8</td><td></td><td>Expert Report of Ken Mayer, Figure 5</td><td></td></tr>
<tr><td></td><td>9</td><td></td><td>Expert Report of Ken Mayer, Figure 6</td><td></td></tr>
<tr><td></td><td>10</td><td></td><td>Expert Report of Ken Mayer, Figure 7</td><td></td></tr>
<tr><td></td><td>11</td><td></td><td>Expert Report of Ken Mayer, Figure 8</td><td></td></tr>
<tr><td></td><td>12</td><td></td><td>Expert Report of Ken Mayer, Figure 9</td><td></td></tr>
<tr><td></td><td>13</td><td></td><td>Expert Report of Ken Mayer, Figure 10</td><td></td></tr>
<tr><td></td><td>14</td><td></td><td>Expert Report of Ken Mayer, Figure 11</td><td></td></tr>
<tr><td></td><td>15</td><td></td><td>Expert Report of Ken Mayer, Figure 12</td><td></td></tr>
<tr><td></td><td>16</td><td></td><td>Expert Report of Ken Mayer, Figure 13</td><td></td></tr>
<tr><td></td><td>17</td><td></td><td>Expert Report of Ken Mayer, Figure 14</td><td></td></tr>
<tr><td></td><td>18</td><td></td><td>Expert Report of Ken Mayer, Table 1</td><td></td></tr>
<tr><td></td><td>19</td><td></td><td>Expert Report of Ken Mayer, Table 2</td><td></td></tr>
<tr><td></td><td>20</td><td></td><td>Expert Report of Ken Mayer, Table 3</td><td></td></tr>
<tr><td></td><td></td><td></td><td></td><td></td></tr>
</table>

| Date | Identification | | Description | Offers, Objections, |
	No.	Witness		Rulings, Exceptions
	21		Expert Report of Ken Mayer, Table 4	
	22		Expert Report of Ken Mayer, Table 5	
	23		Expert Report of Ken Mayer, Table 6	
	24		Expert Report of Ken Mayer, Table 7	
	25		Expert Report of Ken Mayer, Table 8	
	26		Expert Report of Ken Mayer, Table 9	
	27		Expert Report of Ken Mayer, Table 10	
	28		Expert Report of Ken Mayer, Annex Table, Differences Between GAB reports and LTSB data	
	29		Expert Report of Ken Mayer, Annex Table, Allocation of Reporting Unit Data to Ward Data	
	30		Expert Report of Ken Mayer, Annex Table, Independent Variable: Assembly Republican Vote Totals	
	31		Expert Report of Ken Mayer, Annex Table, Independent Variable: Assembly Democratic Vote Totals	
	32		Expert Report of Ken Mayer, Annex Table, Population Deviation	
	33		Expert Report of Ken Mayer, Annex Table, Compactness	
	34		Expert Report of Simon Jackman, dated July 7, 2015	
	35		Expert Report of Simon Jackman, Figure 1	
	36		Expert Report of Simon Jackman, Figure 2	
	37		Expert Report of Simon Jackman, Figure 3	
	38		Expert Report of Simon Jackman, Figure 4	

Date	Identification		Description	Offers, Objections, Rulings, Exceptions
	No.	**Witness**		
	39		Expert Report of Simon Jackman, Figure 5	
	40		Expert Report of Simon Jackman, Figure 6	
	41		Expert Report of Simon Jackman, Figure 7	
	42		Expert Report of Simon Jackman, Figure 8	
	43		Expert Report of Simon Jackman, Figure 9	
	44		Expert Report of Simon Jackman, Figure 10	
	45		Expert Report of Simon Jackman, Figure 11	
	46		Expert Report of Simon Jackman, Figure 12	
	47		Expert Report of Simon Jackman, Figure 13	
	48		Expert Report of Simon Jackman, Figure 14	
	49		Expert Report of Simon Jackman, Figure 15	
	50		Expert Report of Simon Jackman, Figure 16	
	51		Expert Report of Simon Jackman, Figure 17	
	52		Expert Report of Simon Jackman, Figure 18	
	53		Expert Report of Simon Jackman, Figure 19	
	54		Expert Report of Simon Jackman, Figure 20	
	55		Expert Report of Simon Jackman, Figure 21	
	56		Expert Report of Simon Jackman, Figure 22	

| Date | Identification | | Description | Offers, Objections, |
	No.	Witness		Rulings, Exceptions
	57		Expert Report of Simon Jackman, Figure 23	
	58		Expert Report of Simon Jackman, Figure 24	
	59		Expert Report of Simon Jackman, Figure 25	
	60		Expert Report of Simon Jackman, Figure 26	
	61		Expert Report of Simon Jackman, Figure 27	
	62		Expert Report of Simon Jackman, Figure 28	
	63		Expert Report of Simon Jackman, Figure 29	
	64		Expert Report of Simon Jackman, Figure 30	
	65		Expert Report of Simon Jackman, Figure 31	
	66		Expert Report of Simon Jackman, Figure 32	
	67		Expert Report of Simon Jackman, Figure 33	
	68		Expert Report of Simon Jackman, Figure 34	
	69		Expert Report of Simon Jackman, Figure 35	
	70		Expert Report of Simon Jackman, Figure 36	
	71		Expert Report of Simon Jackman, Table 1	
	72		Secrecy Agreements by Republican Legislators	
	73		Defendants' Amended Answer, dated January 15, 2016	
	74		Nicholas Stephanopoulos, Our Electoral Exceptionalism (2013) article	Objection: hearsay

Date	Identification		Description	Offers, Objections, Rulings, Exceptions
	No.	Witness		
	75		Ellen Katz, Documenting Discrimination in Voting-Judicial Findings Under Section 2 (2005) article (Part 1 of 2)	Objection: hearsay
	76		Ellen Katz, Documenting Discrimination in Voting- Judicial Findings Under Section 2 (2005) article (Part 2 of 2)	Objection: hearsay
	77		Jacob Stein & Patrick Marley, GOP Redistricting Maps Make Dramatic Changes, July 8, 2011	Objection: hearsay
	78		Samuel Issacharoff, Gerrymandering and Political Cartels (2002) article	Objection: hearsay
	79		Richard Pildes, The Theory of Political Competition (1999) article	Objection: hearsay
	80		Jacob Stein and Patrick Marley, More Than They Bargained For (2013) book excerpt, from Chapter "First Assembly Vote"	Objection: hearsay
	81		Trende dataset2.csv	
	82		Curriculum Vitae of Dr. Simon Jackman	
	83		Expert Rebuttal Report of Simon Jackman, dated December 21, 2015	
	84		Expert Rebuttal Report of Simon Jackman, Figure 1	
	85		Expert Rebuttal Report of Simon Jackman, Figure 2	
	86		Expert Rebuttal Report of Simon Jackman, Figure 3	
	87		Expert Rebuttal Report of Simon Jackman, Figure 4	
	88		Expert Rebuttal Report of Simon Jackman, Figure 5	
	89		Expert Rebuttal Report of Simon Jackman, Figure 6	

Date	Identification		Description	Offers, Objections, Rulings, Exceptions
	No.	Witness		
	90		Expert Rebuttal Report of Simon Jackman, Figure 7	
	91		Expert Rebuttal Report of Simon Jackman, Figure 8	
	92		Expert Rebuttal Report of Simon Jackman, Figure 9	
	93		Jackman Sensitivity Testing Reliance Material	
	94		Jackman Sensitivity Testing Reliance Material, Figure 1	
	95		Jackman Sensitivity Testing Reliance Material, Figure 2	
	96		Excerpted Carl Klarner Data	
	97		Party Control Data	
	98		Eric McGhee, Measuring Partisan Bias in Single-Member District Electoral Systems (2014) article	Objection: hearsay
	99		Fifield et al, A New Automated Redistricting Simulator Using Markov Chain Monte Carlo (2015) article	Objection: hearsay
	100		Andrew Gelman and Gary King, Estimating the Electoral Consequences of Legislative Redistricting (1990) article	Objection: hearsay
	101		Gary Cox and Jonathan Katz, Elbridge Gerry's Salamander (2002) book excerpt	Objection: hearsay
	102		Bruce Cain, Assessing the Partisan Effects of Redistricting (1985) article	Objection: hearsay
	103		Curriculum Vitae of Dr. Kenneth Mayer	
	104		Expert Rebuttal Report of Kenneth Mayer, dated December 21, 2015	
	105		Expert Rebuttal Report of Kenneth Mayer, Figure A	
	106		Expert Rebuttal Report of Kenneth Mayer, Figure B	

Date	Identification		Description	Offers, Objections, Rulings, Exceptions
	No.	Witness		
	107		Expert Rebuttal Report of Kenneth Mayer, Figure C	
	108		Expert Rebuttal Report of Kenneth Mayer, Figure D	
	109		Expert Rebuttal Report of Kenneth Mayer, Table A	
	110		Expert Rebuttal Report of Kenneth Mayer, Table B	
	111		Expert Rebuttal Report of Kenneth Mayer, Table C	
	112		Expert Rebuttal Report of Kenneth Mayer, Table D	
	113		Expert Rebuttal Report of Kenneth Mayer, Table E	
	114		Amended Expert Rebuttal Report of Kenneth Mayer, dated March 31, 2016	Objection: untimely under pretrial order and w/o leave of court
	115		Amended Expert Rebuttal Report of Kenneth Mayer, Figure E	Objection: untimely under pretrial order and w/o leave of court
	116		Amended Expert Rebuttal Report of Kenneth Mayer, Table F	Objection: untimely under pretrial order and w/o leave of court
	117		Amended Expert Rebuttal Report of Kenneth Mayer, Table G	Objection: untimely and w/o leave of court
	118		Edward Glaeser & Bryce Ward, Myths and Realities of American Political Geography (2005) article	Objection: hearsay
	119		Edward Glaeser and Jacob Vigdor, The End of the Segregated Century (2012) article	Objection: hearsay
	120		Su-Yuel Chung & Lawrence Brown, Racial/Ethnic Sorting in Spatial Context: Testing the Explanatory Frameworks (2007) article	Objection: hearsay

Date	Identification		Description	Offers, Objections, Rulings, Exceptions
	No.	Witness		
	121		Glaeser & Ward Isolation Index Chart	Objection: hearsay
	122		Chart with Average Efficiency Gaps for Wisconsin Plans 1970s-2010s	Reserve right to object
	123		Chart with Democratic and Republican Isolation and Clustering Scores 2004-2014	Reserve right to object
	124		Chart with Breakdown of Efficiency Gap and Party Control – Historical and Current	Reserve right to object
	125		Chart with Efficiency Gap Calculations for Elections Where All Races Contested	Objection: beyond scope of Prof. Jackman's report
	126		Declaration of Sean Trende, dated December 2, 2015	
	127		Curriculum Vitae of Sean Trende	
	128		Transcript of Sean Trende deposition, dated December 14, 2015	
	129		Subpoena for Sean Trende to appear at deposition, dated December 7, 2015	
	130		Transcript of Nicholas Goedert deposition, dated December 15, 2015	
	131		Fryer & Holden, Measuring the Compactness of Political Districting Plans (2011) article	Objection: hearsay
	132		Nicholas Goedert, Gerrymandering or Geography? How Democrats Won the Popular Vote But Lost the Congress (2012) article	
	133		Nicholas Goedert, The Case of Disappearing Bias: A 2014 Update to the Gerrymandering or Geography (2015)	
	134		Keith Gaddie April 17, 2011 Memo (Wisconsin_Partisanship.docx)	
	135		Subpoena for Nicholas Goedert to appear at deposition, dated December 7, 2015	

Date	Identification		Description	Offers, Objections, Rulings, Exceptions
	No.	Witness		
	136		Expert Report of Nicholas Goedert	
	137		Curriculum Vitae of Nicholas Goedert	
	138		Plaintiffs' Complaint, dated July 8, 2015	Objection: hearsay
	139		Goedert Calculations from Math Exercise During Deposition, dated December 15, 2015	
	140		Nicholas Goedert, Redistricting, Risk, and Representation (2014) article	
	141		Nicholas Stephanopoulos & Eric McGhee, Partisan Gerrymandering and the Efficiency Gap (2015) article	Objection: hearsay
	142		"Media" section from Goedert's academic home page	Objection: hearsay
	143		Vox article, "What is gerrymandering"	Objection: hearsay
	144		Vox article, "How does gerrymandering work?"	Objection: hearsay
	145		Vox article, "How gerrymandering is important to Republican control of the house"	Objection: hearsay
	146		Smith & Venables, Introduction to R (2015) article	Objection: hearsay
	147		Sean Trende's "Wisconsin_clustering_computation.R" file	
	148		Andrew Gelman & Gary King, Unified Method of Evaluating Electoral Systems and Redistricting Plans (1994) article	Objection: hearsay
	149		Friedman & Holden, Optimal Gerrymandering: Sometimes Pack, but Never Crack (2008) article	Objection: hearsay
	150		Luc Anseln, Local Indicators of Spatial Association – LISA (1995) article	Objection: hearsay
	151		Tam Cho, Contagion Effects and Ethnic Contribution Networks (2003) article	Objection: hearsay
	152		Reardon & O'Sullivan, Measures of Spatial Segregation (2004) article	Objection: hearsay

| Date | Identification | | Description | Offers, Objections, |
	No.	Witness		Rulings, Exceptions
	153		Denton & Massey, Hypersegregation in U.S. Metropolitan Areas: Black and Hispanic Segregation Along Five Dimensions (1989) article	Objection: hearsay
	154		Jowei Chen Amended Proposed Amicus Brief	Objections: hearsay, relevance, untimely expert testimony, excluded by court order, and outside scope of experts' reports
	155		Jowei Chen Wisconsin Analysis filed with Proposed Amicus Brief	Objections: hearsay, relevance, untimely expert testimony, excluded by court order, and outside scope of experts' reports
	156		Jowei Chen Wisconsin Act 43 Analysis, publicly available at http://www.umich.edu/~jowei/Wisconsin_Act_43_Analysis.pdf	Objections: hearsay, relevance, untimely expert testimony, excluded by court order, and outside scope of experts' reports
	157		Jowei Chen Wisconsin Act 43 Analysis, publicly available, Figure 2	Objections: hearsay, relevance, untimely expert testimony, excluded by court order, and outside scope of experts' reports
	158		Jowei Chen Wisconsin Act 43 Analysis, publicly available, Figure 3	Objections: hearsay, relevance, untimely expert testimony, excluded by court order, and outside scope of experts' reports
	159		Jowei Chen Wisconsin Act 43 Analysis, publicly available, Figure 4	Objections: hearsay, relevance, untimely expert testimony, excluded by court

Date	Identification		Description	Offers, Objections, Rulings, Exceptions
	No.	Witness		
				order, and outside scope of experts' reports
	160		Jowei Chen Wisconsin Act 43 Analysis, publicly available, Figure 7	Objections: hearsay, relevance, untimely expert testimony, excluded by court order, and outside scope of experts' reports
	161		Transcript of Dr. Ronald Keith Gaddie deposition, dated March 9, 2016	
	162		Video deposition of Dr. Ronald Keith Gaddie, dated March 9, 2016	
	163		Notice of Videotaped Deposition to Dr. Gaddie	
	164		Green Lexar Flash Drive (produced by Gaddie at his March 9, 2016 deposition)	
	165		Transcript of Dr. Gaddie deposition from January 20, 2012 (*Baldus* litigation)	
	166		Video deposition of Dr. Ronald Keith Gaddie, dated January 20, 2012	
	167		Transcript of *Baldus* trial	
	168		Flash drive marked in *Baldus* as Ex. 57, produced by Dr. Gaddie January 20, 2012	
	169		Dr. Gaddie's engagement/retention letter, dated April 11, 2011	
	170		Flash drive produced at March 9, 2016 deposition of Dr. Gaddie with files recovered by Mark Lanterman from external hard drives	
	171		Photo of three hard drives	
	172		Plan comparisons spreadsheet (Plancomparisons.xlsm)	
	173		Milwaukee_Gaddie_4_16_11_v1_B , Ex. 72 in *Baldus* January 20, 2012 deposition of Dr. Gaddie	

Date	Identification		Description	Offers, Objections, Rulings, Exceptions
	No.	Witness		
	174		Milwaukee_Gaddie_4_16_11_v1_B	
	175		Email string between Dr. Gaddie and Joe Handrick, Tad Ottman & Adam Foltz cced, dated April 20, 2011	
	176		Team Map chart (from Plan Comparisons.xlsm spreadsheet)	
	177		Partial version of Joint Final Pretrial Report (*Baldus* litigation)	
	178		Exhibit A to Joint Final Pretrial Report (*Baldus* litigation)	
	179		Transcript from Jeff Ylvisaker deposition, dated March 11, 2016	
	180		30(b)(6) Subpoena sent to the Wisconsin Legislative Technology Services Bureau, dated February 12, 2016	
	181		Video deposition of Jeff Ylvisaker, dated April 29, 2013	
	182		Transcript of Jeff Ylvisaker deposition (*Baldus* case), dated April 29, 2013	
	183		Email from Peter Earle to Eric McLeod re: evidence preservation, dated April 10, 2012	Objection: hearsay and relevance
	184		Chart created by Jeff Ylvisaker, tracking Foltz/Ottman computers	
			(exhibit 2 in Ylvisaker April 29, 2013 *Baldus* deposition)	
	185		LTSB configuration item dated February 18, 2016	
	186		Privilege log regarding LTSB decommissioning of redistricting computers, dated March 2016	
	187		*Baldus* 30(b)(6) subpoenas with work orders and configuration documents, dated April 2013	
	188		WRK32586 Responsive Spreadsheets File Detail Report.xlsx	

Date	Identification		Description	Offers, Objections, Rulings, Exceptions
	No.	Witness		
	189		WRK32586 External HD Responsive Spreadsheets File Detail Report.xlsx	
	190		WRK32587 Responsive Spreadsheets File Detail Report.xlsx	
	191		Transcript of Adam Foltz deposition, dated March 31, 2016	
	192		Video deposition of Adam Foltz, dated March 31, 2016	
	193		Subpoena for Adam Foltz to testify at a deposition, dated March 22, 2016	
	194		Flash drive and DVD produced by Adam Foltz, March 31, 2016	
	195		Transcript of Adam Foltz Deposition from *Baldus* case, dated December 21, 2011	
	196		Subpoena for Adam Foltz to testify at a deposition, dated December 13, 2011	
	197		Letter outlining Documents Produced in Response to Subpoena Issued by Plaintiffs to Adam Foltz/Foltz Privilege Log, dated December 21, 2011	
	198		Document produced by Foltz at December 21, 2011 deposition titled 2011-2012 Legislature SB 148 Memo 1	
	199		DVD identified as Adam Foltz Documents Responsive to December 13, 2011 subpoena	
	200		DVD identified as Adam Foltz Statewide Database	
	201		Order dated December 8, 2011 by U.S. District Judge J.P. Stadtmueller	
	202		Order dated December 20, 2011 by U.S. District Judge J.P. Statdtmueller	
	203		December 13, 2011 expert report of Ronald Keith Gaddie, Ph.D.	
	204		December 14, 2011 expert report of John Diex/Magellan Strategies BR	

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| Date | Identification | | Description | Offers, Objections, |
	No.	Witness		Rulings, Exceptions
	205		Transcript of Adam Foltz Deposition from *Baldus* case, dated February 1, 2012	
	206		Breakdown of Regions pdf	
	207		Email from Andy Speth to Judi Rhodes, Tad Ottman dated June 14, 2011	
	208		Email from Andy Speth to Judi Rhodes, Tad Ottman, Andy Gustofson, Adam Foltz, dated June 15, 2011	
	209		Email from Andy Speth to Tad Ottman, Adam Foltz, dated June 21, 2011	
	210		Email chain between Tad Ottman, Adam Foltz, and Michelle Litjens, dated July 7, 2011	
	211		Email from Andrew Welhouse dated July 8, 2011	
	212		Census data (exhibit 112 to February 1, 2012 Foltz deposition)	
	213		General Talking Points Memo by Foltz	
	214		Metadata document showing Adam Foltz as creator on June 20, 2011	
	215		Transcript of Adam Foltz 30(b)(6) Deposition from *Baldus* case, dated April 30, 2013	
	216		Transcript of Adam Foltz Deposition from Baldus case, dated April 30, 2013	
	217		Subpoena for Adam Foltz to appear at a deposition, dated April 22, 2013	
	218		Declaration of Adam Foltz, dated April 25, 2013	
	219		Supplement to Declaration, dated April 26, 2013	
	220		Defendants Rule 26(a)(1) initial disclosures, *Whitford* litigation	
	221		*Baldus* opinion, 849 F. Supp. 2d 840 (E.D. Wis. 2012)	

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Date	Identification		Description	Offers, Objections, Rulings, Exceptions
	No.	Witness		
	222		Transcript of March 23, 2016 *Whitford* motion hearing	
	223		Amended Mark Lanterman Declaration and DVD (image), dated March 18, 2016	
	224		Curriculum Vitae of Mark Lanterman	
	225		Computer Forensic Services DVD	
	226		Transcript of Tad Ottman deposition, dated March 31, 2016	
	227		Video deposition of Tad Ottman, dated March 31, 2016	
	228		Subpoena for Tad Ottman to testify at a deposition, dated March 22, 2016	
	229		Flash drive and DVD produced by Tad Ottman, March 31, 2016	
	230		Transcript of Tad Ottman Deposition in *Baldus* case, dated December 22, 2011	
	231		Letter Outlining Documents Produced in Response to Subpoena Issued by Plaintiffs to Tad Ottman/Privilege Log dated December 22, 2011	
	232		Documents Produced by Tad Ottman	
	233		DVD identified as Tad Ottman Documents Responsive to December 13, 2011 Subpoena	
	234		Subpoena for Tad Ottman to testify at a deposition, dated December 13, 2011	
	235		Emails containing information that was inadvertently redacted, July 8-11, 2011	
	236		Transcript of Tad Ottman Deposition in *Baldus* case, dated February 2, 2012	
	237		Ottman Questions and Responses Document (Ottman 000095 – 000096)_	
	238		Current Map chart and emails between Tad Ottman and Andy Speth (Ottman 000117 – 000120)	

Date	Identification		Description	Offers, Objections, Rulings, Exceptions
	No.	Witness		
	239		Email from Leah Vukmir to Tad Ottman, dated May 4, 2011 (Ottman000131.pdf)	
	240		Current Assembly/Senate Chart MayQandD (Ottman 000144)	
	241		Ottman Talking Points Memo (Ottman000141.pdf)	
	242		Senate District Information (Ottman 000145 – 000161)	
	243		Confidentiality and Nondisclosure Related to Reapportionment Agreements between Michael, Best & Friedrich and 16 Senators	
	244		Confidentiality and Nondisclosure Related to Reapportionment Agreements between Michael, Best & Friedrich and 58 Assembly Representatives	
	245		Outline for Tad Ottman testimony (Ottman 000102 – 000103)	
	246		Transcript of Tad Ottman 30(b)(6) deposition in Baldus case, dated April 30, 2013	
	247		List of paid staff of Senator Fitzgerald June 1, 2012 through February 28, 2013	
	248		Emails and documents related to SB 150	
	249		Email from Tad Ottman to Ray Taffora, Jim Troupis, Adam Foltz, Eric McLeod re Timeline Update, dated June 30, 2011	
	250		Email from Eric McLeod to Jim Troupis, Ray Taffora, Adam Foltz, Tad Ottman re Amendment on Effective Date of Redistricting, dated October 10, 2011	

| Date | Identification | | Description | Offers, Objections, Rulings, Exceptions |
	No.	Witness		
	251		Email from Senator Fitzgerald to Tad Ottman re ALEC Conference Call on Redistricting, dated January 20, 2011	Objection: hearsay and relevance
	252		March 5, 2012 Letter from Eric McLeod to Douglas Poland	Objection: hearsay and relevance
	253		March 8, 2012 Letter from Douglas Poland to Eric McLeod	Objection: hearsay and relevance
	254		March 13, 2012 Letter from Eric McLeod to Douglas Poland	Objection: hearsay and relevance
	255		March 15, 2012 Letter from Douglas Poland to Eric McLeod	Objection: hearsay and relevance
	256		Email from Joseph Olson to Douglas Poland and Eric McLeod, dated March 16 and 17, 2012	Objection: hearsay and relevance
	257		Letter from Michael, Best & Friedrich to Ottman re: Confidentiality and Nondisclosure Related to Reapportionment dated July 27, 2010	Objection: hearsay and relevance
	258		Letter from Douglas Poland to Joseph Olson and Eric McLeod, dated June 13, 2012	Objection: hearsay and relevance
	259		Transcript of Tad Ottman Deposition in *Baldus* case, dated April 30, 2013	
	260		Subpoena for Tad Ottman to appear at a deposition, dated April 22, 2013	
	261		Declaration of Tad Ottman, dated April 25, 2013	
	262		GOP Seats Senate.docx	
	263		C_Users_afoltz_Desktop_Projects_Composite_Adam_Assertive_Curve.xlsx	
	264		C_Users_afoltz_Desktop_Projects_Composite_Current_Curve.xlsx	
	265		C_Users_afoltz_Desktop_Projects_Composite_Joe_Assertive_Curve.xlsx	
	266		C_Users_afoltz_Desktop_Projects_Composite_Joe_Base_Curve.xlsx	

Date	Identification		Description	Offers, Objections, Rulings, Exceptions
	No.	Witness		
	267		C_Users_afoltz_Dekstop_Projects_TadAggressiveCurve.xlsx	
	268		C_Users_afoltz_Desktop_Projects_Team_Map_Curve.xlsx	
	269		C_Users_Public_Documents_Senate_Current_Curve.xlsx	
	270		C_Users_tottman.WRK32587_Documents_Documents_Senate_Current_Curve.xlsx	
	271		C_Users_tottman.WRK32587_Documents_Documents_Tad_Senate_Assertive_Curve.xlsx	
	272		Composite_Adam_Assertive_Curve.xlsx	
	273		Composite_Current_Curve.xlsx	
	274		Composite_Joe_Assertive_Curve.xlsx	
	275		Composite_Joe_Base_Curve.xlsx	
	276		Senate_Current_Curve.xlsx	
	277		Senate_Current_Curve1.xlsx	
	278		Tad_Senate_Assertive_Curve.xlsx	
	279		Tad_Senate_Assertive_Curve1.xlsx	
	280		TadAggressiveCurve.xlsx	
	281		Team_Map_Curve_Senate.xlsx	
	282		Team_Map_Curve.xlsx	
	283		Summaries.xlsx	
	284		Summary.xlsx	
	285		C\Users\afoltz\Desktop\Workspace\Kessler\Kessler_Map_Data\asm.xls	Objection: relevance
	286		C\Users\afoltz\Desktop\Workspace\Kessler\Pass1_Key.xls	Objection: relevance
	287		C\Users\afoltz\Desktop\Workspace\Kessler\asm.xls	Objection: relevance
	288		C\Users\afoltz\Desktop\Workspace\Kessler\asm_jobs.xls	Objection: relevance
	289		C\Users\afoltz\Desktop\Workspace\Kessler\Redistricting\Kessler_Plan_061407_080707\061407_080707_Final.xls	Objection: relevance

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Date	Identification		Description	Offers, Objections, Rulings, Exceptions
	No.	Witness		
	290		Transcript of Joseph Handrick deposition, dated December 20, 2011	
	291		Subpoena to Joseph Handrick from Douglas M. Poland, dated December 13, 2011	
	292		Packet of documents produced by Joseph Handrick via Eric M. McLeod pursuant to the subpoena	
	293		Population Totals	
	294		CD labeled Joe Handrick Draft Maps – Block Assignment Files	
	295		February 15, 2011 Letter to Don M. Millis and Joseph W. Handrick from Eric M. McLeod re: Retention of Joseph Handrick	
	296		February 17, 2011 Letter to Eric M. McLeod from Don M. Millis Engagement Letter	
	297		February 18, 2011 Letter to Eric M. McLeod from Don M. Millis Amended Engagement Letter	
	298		Bio of Joseph W. Handrick from the website of Reinhart	
	299		Joe Handrick's lobbyist license dated January 25, 2011	
	300		Excerpts from the book Born to Run by Ronald Keith Gaddie	Objection: hearsay
	301		Defendants' Amended Initial Rule 26(a) Disclosures in *Baldus*	Objection: relevance
	302		Second Amended Complaint for Declaratory and Injunctive Relief in *Baldus*	Objection: hearsay
	303		Defendants' Answer and Affirmative Defenses to Second Amended Complaint for Declaratory and Injunctive Relief in *Baldus*	Objection: relevance and hearsay

Date	Identification		Description	Offers, Objections, Rulings, Exceptions
	No.	Witness		
	304		Plaintiffs' First Set of Interrogatories and First Request for Production of Documents in *Baldus*	Objection: relevance and hearsay
	305		Chapter 801.17, Commencement of Action and Venue	Objection: relevance
	306		Chapter 751, Supreme Court	Objection: relevance
	307		December 2, 2011 to Kathleen Madden from Joseph Louis Olson with attached Amended Summons and Amended Complaint for Declaratory and Other Relief	Objection: relevance and hearsay
	308		Withdrawn	
	309		Withdrawn	
	310		Withdrawn	
	311		Transcript of Joseph Handrick deposition, dated February 1, 2012	
	312		Letter from Eric M. McLeod to Douglas Poland with Supplemental Production in Response to Subpoenas Issued by Plaintiffs to Joe Handrick, Adam Foltz, and Tad Ottman, dated January 10, 2012	
	313		Letter from Eric M. McLeod to Douglas Poland with additional documents, dated January 11, 2012	
	314		Summary Core Constituency Report	
	315		Series of emails between Joseph Handrick and Jim Troupis, dated January 14, 2011	
	316		Series of emails between Joseph Handrick and Jim troupis, dated January 17, 2011	
	317		Series of emails between Joseph Handrick, Tad Ottman, dated January 25, 2011	

| Date | Identification | | Description | Offers, Objections, |
	No.	Witness		Rulings, Exceptions
	318		Series of emails between Joseph Handrick and Jim Troupis, dated February 1, 2011	
	319		Emails between Joseph Handrick, Tad Ottman, dated February 14, 2011	
	320		Printout of menu of a disk	
	321		Transcript of Joseph Handrick deposition, dated April 30, 2013	
	322		Subpoena for Joseph Handrick to appear at a deposition dated April 22, 2013	
	323		Demonstrative Exhibit - Charts Tracking Vote Share, Seat Share, Efficiency Gap, and Efficiency Gap Durability for Draft Act 43 Plans	Reserve right to object pending verification
	324		Demonstrative Exhibit - Charts Showing Efficiency Gap and Compliance with Traditional Criteria for Wisconsin Plans by Decade	Reserve right to object pending verification
	325		Demonstrative Exhibit - Charts Showing Correlations Between Efficiency Gap and Alternative Measures of Partisan Gerrymandering	Reserve right to object pending verification
	326		Demonstrative Exhibit - Charts Showing Time Trends of Efficiency Gap and Alternative Measures of Partisan Gerrymandering	Reserve right to object pending verification
	327		Demonstrative Exhibit - Charts Showing Distributions of Efficiency Gap and Alternative Measures of Partisan Gerrymandering	Reserve right to object pending verification
	328		Demonstrative Exhibit - Charts Showing Stability of Efficiency Gap and Alternative Measures of Partisan Gerrymandering	Reserve right to object pending verification

Date	Identification		Description	Offers, Objections, Rulings, Exceptions
	No.	Witness		
	329		Demonstrative Exhibit - Charts Showing Values and Time Trends of Efficiency Gap and Alternative Measures of Partisan Gerrymandering for Wisconsin	Reserve right to object pending verification
	330		Demonstrative Exhibit - Charts Showing Relationships Between Measures of Gerrymandering and Competitiveness	Reserve right to object pending verification
	331		Wisconsin Legislative Council Act Memo: 2011 Wisconsin Act 39	
	332		Litigation in the 2010 Cycle, All About Redistricting, http://redistricting.lls.edu/cases.php	Objection: hearsay
	333		Bernard Grofman & Gary King, The Future of Partisan Symmetry as a Judicial Test for Partisan Gerrymandering After LULAC v. Perry (2007) article	Objection: hearsay
	334		Wisconsin State Legislature, Senate Bill 148: History, https://docs.legis.wisconsin.gov/2011/proposals/sb148	
	335		Joseph Handrick Timesheets April 13, 2011 to April 20, 2011	
	336		Joseph Handrick Timesheets May 25, 2011 to May 26, 2011	
	337		Joe_base_map.xlsx.pdf spreadsheet with printed metadata from Joseph Handrick's document production in January 2012	
	338		Joe_map_assert.xlsx.pdf spreadsheet with printed metadata from Joseph Handrick's document production in January 2012	

| Date | Identification | | Description | Offers, Objections, Rulings, Exceptions |
	No.	Witness		
	339		Stipulation Regarding 30(b)(6) Depositions of the Legislative Technology Services Bureau and Wisconsin State Senate and Assembly, dated March 18, 2016	
	340		Plaintiffs' First Set of Requests for Admission and Attachments 1-9, dated February 5, 2016	
	341		Defendants' Response to Plaintiffs' First Set of Requests for Admission, dated March 7, 2016	
	342		Individual Legislator Memos and Maps from Adam Foltz to Republican Legislators (ADAMFOLZSUPPPROD000119.PDF)	
	343		Declaration of Mark Lanterman in *Baldus*, dated February 15, 2013	Objection: hearsay and relevance for anything other than chain of custody
	344		Declaration of Mark Lanterman in *Baldus*, dated March 11, 2013	Objection: hearsay and relevance for anything other than chain of custody
	345		Third Declaration of Mark Lanterman in *Baldus*, dated April 20, 2013	Objection: hearsay and relevance for anything other than chain of custody
	346		Email chain between Tad Ottman, Joseph Handrick, and Adam Foltz dated August 3, 2011 (Handrick000352.pdf)	
	347		Email chain between Eric McLeod, Tad Ottman, Adam Foltz, Sarah Troupis, Jim Troupis re: "Letters of Retention—Gaddie & Handrick," dated February 11, 2011 (from 11-CV-562 DISC 2012-02-17 Legislature Released Docs_MBF 000202.pdf)	

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Date	Identification		Description	Offers, Objections, Rulings, Exceptions
	No.	**Witness**		
	348		Email from Jim Troupis to Eric McLeod, Adam Foltz, Tad Ottman, Sarah Troupis re: Experts and Bernard Grofman, dated June 21, 2011 (from 11-CV-562 DISC 2012-02-17 Legislature Released Docs_MBF 000202.pdf)	
	349		Email from Tad Ottman to Jim Troupis, Eric McLeod re: the "redistricting team," dated May 16, 2011 (from 11-CV-562 DISC 2012-02-17 Legislature Released Docs_MBF 000202.pdf)	
	350		Email from Tad Ottman to Eric McLeod, Jim Troupis, Raymond Taffora, Sarah Troupis, Adam Foltz re: Revised Timeline, dated July 8, 2011 (from 11-CV-562 DISC 2012-02-17 Legislature Released Docs_MBF 000202.pdf)	
	351		Email from Jim Troupis to Tad Ottman, Adam Foltz, Eric McLeod, Sarah Troupis re: "Gaddie & Hispanic," dated June 13, 2011 (from 11-CV-562 DISC 2012-02-17 Legislature Released Docs_MBF 000202.pdf)	
	352		Email chain between Tad Ottman, Eric McLeod, Jim Troupis, Adam Foltz re: Meeting with Joe Handrick, dated February 15, 2011 (from 11-CV-562 DISC 2012-02-17 Legislature Released Docs_MBF 000202.pdf)	
	353		Transcript of Proceedings, Joint Public Hearing on Wisconsin Redistricting Plan, dated July 13, 2011	Objection: hearsay
	354		June 20-24, 2011 Adam Foltz Legislator Meetings Schedule (ADAMFOLTZSUPPPROD000431.pdf)	

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| Date | Identification | | Description | Offers, Objections, Rulings, Exceptions |
	No.	Witness		
	355		Senate Motion to Hire Michael, Best & Friedrich and Troupis Law, dated January 3, 2011 (part of the record in *Baldus*, 11-cv-562, docket 81-2)	
	356		Assembly Motion to Hire Michael, Best & Friedrich dated January 4, 2011 (part of the record in *Baldus*, 11-cv-562, docket 81-3)	
	357		Letter from Democratic Leadership Protesting Hiring of Michael Best, & Friedrich, dated January 5, 2011 (part of the record in *Baldus*, 11-cv-562, docket 81-4)	Objection: hearsay
	358		Cartographic Boundary Shapefiles State Legislative Districts – Lower 2006	
	359		Cartographic Boundary Shapefiles State Legislative Districts – Census 2000	
	360		Email from Tad Ottman to Jim Troupis, Eric McLeod, Ray Taffora, Adam Foltz re drawing of districts, dated July 13, 2011	
	361		Email from Tad Ottman to Jim Troupis, Eric McLeod, Adam Foltz re: redistricting timeline, dated February 25, 2011	
	362		Email from Tad Ottman to Jim Troupis, Eric McLeod, Ray Taffora, Adam Foltz re: Hearing Memos, dated July 12, 2011	
	363		Foltz Population Deviation by Party Chart – Foltz00195	
	364		Tad MayQandD Chart – TADOTTMANSUPPPROD000094	
	365		Ottman MayQandD_base2 Chart – TADOTTMANSUPPPROD000095	
	366		Ottman Joe Assertive Chart - TADOTTMANSUPPPROD000097	

| Date | Identification | | Description | Offers, Objections, |
	No.	Witness		Rulings, Exceptions
	367		Ottman MayQandD_NE Chart - TADOTTMANSUPPPROD000102.pdf	
	368		Demonstrative Exhibit – Act 43 Showing District by District Maps	Reserve right to object pending verification

Defendants' Exhibits

EXHIBIT (S) OF DEFENDANTS			WILLIAM WHITFORD, et al.,
			        Plaintiffs,
			
			V. Case No. 15-cv-0421-bbc
			
			GERALD NICHOL, et al.,
			        Defendants.	

Date	**Identification**		**Description**	**Offers, Objections, Rulings, Exceptions**
	No.	**Witness**		
	501		Map of Act 43 legislative districts from pages 20–98 of the 2015–2016 Wisconsin Blue Book	
	502		Electronic version of map of Act 43 from LTSB website	
	503		2011 Wisconsin Act 43	Plaintiffs request that Defendants add in exhibits reflecting the amendment/changes after *Baldus* for completeness.
	504		Appendix to 2011 Wisconsin Act 43	
	505		Map of 2002 Assembly Districts showing over- and under-population (*Baldus* Trial Ex. 1121)	
	506		Map of 2002 Senate Districts showing over- and under-population (*Baldus* Trial Ex. 1122)	
	507		Table 1 to the pretrial report filed on February 14, 2012 in *Baldus*	Ok subject to verification that numbers are consistent
	508		Table 2 to the pretrial report filed on February 14, 2012 in *Baldus*	Object – hearsay/not stipulated to in *Baldus*

Date	Identification		Description	Offers, Objections, Rulings, Exceptions
	No.	Witness		
	509		Table 4 to the pretrial report filed on February 14, 2012 in *Baldus*	Ok subject to verification that numbers are consistent
	510		Table 17 to the pretrial report filed on February 14, 2012 in *Baldus*	Object – hearsay/not stipulated to in *Baldus*
	511		Table 20 to the pretrial report filed on February 14, 2012 in *Baldus*	Object – hearsay/not stipulated to in *Baldus*
	512		Table 21 to the pretrial report filed on February 14, 2012 in *Baldus*	Ok subject to verification that numbers are consistent
	513		Table 22 to the pretrial report filed on February 14, 2012 in *Baldus*	Ok subject to verification that numbers are consistent
	514		Maps of Wisconsin legislative districts drawn by the court in *Baumgart v. Wendelberger* from pages 20–98 of the 2009–2010 Wisconsin Blue Book	
	515		Electronic version of map of legislative districts drawn by the court in *Baumgart v. Wendelberger* Act 43 from LTSB shape files	
	516		Maps of Wisconsin legislative districts drawn by the court in *Prosser v. Elections Board* from pages 22–98 of the 2001–2002 Wisconsin Blue Book	
	517		Maps of Wisconsin legislative districts enacted in 1983 from pages 22–98 of the 1991–1992 Wisconsin Blue Book	
	518		Maps of Wisconsin legislative districts enacted by the Eastern District of Wisconsin in 1982 from pages 22–98 of the 1983–1984 Wisconsin Blue Book	

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Date	Identification		Description	Offers, Objections, Rulings, Exceptions
	No.	Witness		
	519		Maps of Wisconsin legislative districts enacted in 1972 from pages 22–99 of the 1981–1982 Wisconsin Blue Book	
	520		Map of Demonstration Plan legislative districts from shape files produced by Kenneth Mayer	
	521		The section of the Wisconsin Blue Book containing the results of the November general elections in 1972	
	522		The section of the Wisconsin Blue Book containing the results of the November general elections in 1974	
	523		The section of the Wisconsin Blue Book containing the results of the November general elections in 1976	
	524		The section of the Wisconsin Blue Book containing the results of the November general elections in 1978	
	525		The section of the Wisconsin Blue Book containing the results of the November general elections in 1980	
	526		The section of the Wisconsin Blue Book containing the results of the November general elections in 1982	
	527		The section of the Wisconsin Blue Book containing the results of the November general elections in 1984	
	528		The section of the Wisconsin Blue Book containing the results of the November general elections in 1988	
	529		The section of the Wisconsin Blue Book containing the results of the November general elections in 1992	
	530		The section of the Wisconsin Blue Book containing the results of the November general elections in 1994	
	531		The section of the Wisconsin Blue Book containing the results of the November general elections in 1996	
	532		The section of the Wisconsin Blue Book containing the results of the November general elections in 1998	

Date	Identification		Description	Offers, Objections, Rulings, Exceptions
	No.	Witness		
	533		The Government Accountability Board election results from the November general elections in 2000, including the results shown county-by-county	
	534		The Government Accountability Board election results from the November general elections in 2002, including the results shown county-by-county	
	535		The Government Accountability Board election results from the November general elections in 2004, including the results shown county-by-county	
	536		The Government Accountability Board election results from the November general elections in 2006, including the results shown county-by-county	
	537		The Government Accountability Board election results from the November general elections in 2008, including the results shown county-by-county	
	538		The Government Accountability Board election results from the November general elections in 2010, including the results shown county-by-county	
	539		The Government Accountability Board election results from the November general elections in 2012	
	540		The Government Accountability Board election results from the gubernatorial recall election in June 2012, including the results shown county-by-county	
	541		The Government Accountability Board election results from the November general elections in 2014, including the results shown county-by-county	
	542		The City of Milwaukee Election Commission results from the November general elections in 2000	
	543		The City of Milwaukee Election Commission results from the November general elections in 2004	

Date	Identification		Description	Offers, Objections, Rulings, Exceptions
	No.	**Witness**		
	544		The City of Milwaukee Election Commission results from the November general elections in 2008	
	545		The City of Milwaukee Election Commission results from the November general elections in 2012	
	546		Expert report of Nicholas Goedert including all tables, charts and maps therein	
	547		Expert report of Sean Trende including all tables, charts and maps therein	Note – Plaintiffs reserve their motion in limine against Sean Trende
	548		Nicholas Goedert, *Gerrymandering or Geography? How Democrats won the popular vote but lost the Congress in 2012*, Research and Politics, April–June 2014: 1–8	
	549		Nicholas Goedert, *The Case of the Disappearing Bias: A 2014 Update to the "Gerrymandering or Geography" Debate*, Research and Politics, 2015	
	550		Jowei Chen & Jonathan Rodden, *Unintentional Gerrymandering: Political Geography and Electoral Bias in Legislatures*, Quarterly Journal of Political Science, 2013, 8: 239–269	
	551		Spreadsheet entitled "WisCompact" on the drive produced by R. Keith Gaddie in *Baldus* and marked as Gaddie Dep. Ex. 57	
	552		June 19, 2011 memo from Adam Foltz to Rep. Gary Bies regarding new district (Dep. Ex. 100 from February 1, 2012 Foltz deposition in *Baldus*).	
	553		Spreadsheet entitled "Composite_Current_Curve" from computer WRK32586	
	554		Spreadsheet entitled "Team_Map_Curve" from computer WRK32586	

| Date | Identification | | Description | Offers, Objections, Rulings, Exceptions |
	No.	Witness		
	555		Spreadsheet entitled "Team_Map_Autobound_Matrix" from computer WRK32864	
	556		Spreadsheet entitled "Merged Matrix output" from computer WRK32586	
	557		Spreadsheet entitled "C_Users_tottman.WRK32587_Desktop_Incumbents_Assembly_2011_2012" from external hard drive for computer WRK52587	
	558		Deposition Exhibit 112 from the February 1, 2012 deposition of Adam Foltz in the *Baldus* case	
	559		Mayer Dep. Ex. 5 (spreadsheet containing efficiency gap calculation for Act 43 assuming no incumbents and every seat contested)	
	560		Mayer Dep. Ex. 8 (spreadsheet containing efficiency gap calculation for "Gaddie metric")	
	561		Mayer Dep. Ex. 10 (spreadsheet containing efficiency gap calculation for Demonstration Plan assuming no incumbents and every seat contested)	
	562		Mayer Dep. Ex. 67 (spreadsheet containing information on incumbents who ran for reelection in 2012 in Act 43 districts)	
	563		Mayer Dep. Ex. 68 (spreadsheet containing information on incumbency in districts in the Demonstration Plan)	
	564		Mayer Dep. Ex. 69 (spreadsheet containing efficiency gap calculation for Act 43 with incumbents)	
	565		Mayer Dep. Ex. 70 (spreadsheet containing efficiency gap calculation for Demonstration Plan with incumbents)	
	566		Mayer Dep. Ex. 71 (spreadsheet containing efficiency gap calculation for Demonstration Plan with incumbents)	
	567		Mayer spreadsheet entitled "Revised Act 43 Swing Rebuttal"	

Date	Identification		Description	Offers, Objections, Rulings, Exceptions
	No.	Witness		
	568		Mayer spreadsheet entitled "Revised Efficiency Gap – Incumbents in My Plan"	
	569		Mayer spreadsheet entitled "Revised Swing Ratio INCUMBENTS"	
	570		Demonstrative exhibit showing district-by-district Assembly election results from 2004 through 2010 along with the partisan scores from the legislative staff's average of statewide races	Plaintiffs reserve objections to this demonstrative exhibit
	571		Demonstrative exhibit showing district-by-district Assembly election results from 2012 and 2014 along with partisan scores from the legislative staff's composite model and Mayer's baseline partisanship model	Plaintiffs reserve objections to this demonstrative exhibit
	572		Demonstrative exhibit showing the 2010 Assembly election results for the seats shown in Mayer's illustrative maps, Dkt. 1-1	Plaintiffs reserve objections to this demonstrative exhibit
	573		Demonstrative exhibits showing Mayer's baseline partisanship scores for the Demonstration Plan districts included in Mayer's illustrative maps, Dkt. 1-1	Plaintiffs reserve objections to this demonstrative exhibit

STATEMENTS OF CONTESTED ISSUES OF LAW

407.   The Parties submit separate statements, as follows:

Plaintiffs

408.   Whether plaintiffs, all Democrats whose legislative representation has been worsened by Act 43 (the "Current Plan"), have Article III standing to challenge the Plan in its entirety as an unconstitutional partisan gerrymander.

409.   Whether the partisan intent prong of plaintiffs' proposed test for partisan gerrymandering—that is, whether a district plan "intentional[ly] discriminat[es] against an identifiable political group," *Davis v. Bandemer*, 478 U.S. 109, 127 (1986) (plurality opinion)— is judicially discernible and manageable.

410.   Whether the Current Plan intentionally discriminates against Democratic candidates and voters, and in favor of Republican ones.

411.   Whether the partisan effect prong of plaintiffs' proposed test for partisan gerrymandering—that is, whether a district plan has exhibited a high and durable level of partisan asymmetry relative to historical norms—is judicially discernible and manageable.

412.   Whether the Current Plan has exhibited a high and durable level of partisan asymmetry relative to historical norms in the 2012 and 2014 elections.

413.   Whether the justification prong of plaintiffs' proposed test for partisan gerrymandering—that is, whether a district plan's high and durable level of partisan asymmetry can be "justified by the State," *Brown v. Thomson*, 462 U.S. 835, 843 (1983)—is judicially discernible and manageable.

414.   Whether the Current Plan's high and durable level of partisan asymmetry can be justified by the State based on Wisconsin's political geography or legitimate redistricting objectives.

415.   Whether the Current Plan violates the First Amendment by "burdening or penalizing citizens because of their participation in the electoral process, their voting history, their association with a political party, or their expression of political views." *Vieth v. Jubelirer*, 541 U.S. 267, 314 (Kennedy, J., concurring in the judgment).

Defendants

416.   Whether the plaintiffs have Article III standing to bring this lawsuit.

417.   Whether there is any basis in the constitution for the purported right of political parties "to translate . . . popular support into legislative representation with approximately equal ease."

418.   Whether the efficiency gap can be part of a judicially discernible or judicially manageable standard for judging partisan gerrymanders.

419.   Whether the plaintiffs have offered a standard from which it can be determined how much partisanship is "too much" under the *Vieth* plurality opinion.

420.   Whether the plaintiffs' intent element is consistent with Supreme Court precedent

421.   Whether the plaintiffs' proposed standard meets Justice Kennedy's demand that a standard for judging partisan gerrymanders be "limited and precise."

422.   Whether the defendants have a burden to justify the plan and, if so, whether that burden is one of production or proof, and by what standard the defendants' evidence would be judged.

423.   Whether the plaintiffs must prove, as part of their case, that Act 43 was unrelated to neutral districting criteria, per Justice Kennedy's concurrence in *Vieth*; or the presence of "objective indicia of irregularity" per Justice Stevens' dissent in *Karcher*; or whether the legislature "paid little or no heed to those traditional districting principles whose disregard can be shown straightforwardly" per Justice Souter's dissent in *Vieth*; or whether there was "radical departure from traditional boundary-drawing criteria" per Justice Breyer's dissent in *LULAC*; or another standard for judging a map's compliance with traditional districting principles.

DEPOSITIONS AND PORTIONS OF DEPOSITIONS TO BE OFFERED IN EVIDENCE

Name of Deponent	Date of Deposition	Beginning Page/Line	Ending Page/Line
Ronald Keith Gaddie	January 20, 2012	20:1	20:11
		40:1	45:17
		52:9	54:20
		59:17	60:1
		79:9	79:22
		117:19	118:6
		122:25	123:11
		139:10	139:16
		147:5	148:14
		167:21	183:13
		186:1	192:14
		193:3	194:19
		195:9	206:25
		208:5	208:25
		210:11	210:25
		218:8	219:18
		232:1	232:21
		253:8	259:22
		265:21	267:23
		279:17	280:6
Ronald Keith Gaddie	March 9, 2016	5:1	17:2
		17:12	29:2
		29:5	31:25
		32:7	36:19
		37:3	38:8
		38:20	65:4
		65:24	93:11
		94:13	102:9
		102:13	109:18
		109:20	109:23
		111:1	118:3
		118:6	118:13
		119:8	125:3
		125:13	125:18
		125:25	132:23
		133:2	133:15
		133:22	134:7
		134:9	135:14
		135:22	137:20

		137:22	141:20
		141:23	143:5
		143:8	143:13
		144:14	146:17
		146:21	148:9
		148:24	152:1
		152:14	152:25
		153:2	154:1
		154:10	159:5
		159:13	161:8
		161:16	163:18
		163:23	165:1
		165:6	166:6
		166:12	169:11
		169:19	172:1
		172:5	173:6
		173:10	173:14
		173:16	174:1
		174:6	174:11
		174:15	187:9
		187:12	193:22
		193:24	206:2
		206:11	207:8
		207:11	207:14
		207:21	211:9
		211:13	216:9
		216:11	223:22
		224:3	231:4
		231:14	231:25
		232:2	242:15
		242:21	244:12
		244:15	248:12
Jeffrey Ylvisaker	April 29, 2013	6:1	7:9
		19:8	19:18
		20:17	29:21
		42:6	43:22
		67:17	68:7
		69:3	71:21
		82:1	83:21
		86:18	90:10
		91:19	93:15
		94:15	95:23
		97:23	110:2
		110:11	112:25

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		115:21	116:19
		119:9	121:19
		122:9	124:13
		124:24	126:13
		126:24	127:21
		143:6	149:7
		163:16	165:4
		170:4	170:12
		179:15	180:2
		181:5	182:13
		183:3	185:3
		188:5	189:15
Jeffrey Ylvisaker	March 11, 2016	4:1	39:19

COMPLETE COPIES OF ALL DEPOSITION TRANSCRIPTS TO BE USED AT TRIAL

424.   The following deposition transcripts have been filed and are available in the

docket:

Deponent	Date	Docket Number
Adam Foltz	December 21, 2011	109
Adam Foltz	February 1, 2012	110
Adam Foltz (30(b)(6) deposition)	April 30, 2013	111
Adam Foltz	April 30, 2013	112
Adam Foltz	March 31, 2016	113
Ronald Keith Gaddie	January 20, 2012	107
Ronald Keith Gaddie	March 9, 2016	108
Nicholas Goedert	December 15, 2015	65
Joseph Handrick	December 20, 2011	119
Joseph Handrick	February 1, 2012	120
Joseph Handrick	April 30, 2013	121
Simon Jackman	November 20, 2015	53
Simon Jackman	March 16, 2016	97
Kenneth Mayer	November 9, 2015	52
Kenneth Mayer	March 30, 2016	99
Tad Ottman	December 22, 2011	114
Tad Ottman	February 2, 2012	115
Tad Ottman	April 29-30, 2013	116

Tad Ottman (30(b)(6) deposition)	April 30, 2013	117
Tad Ottman	March 31, 2016	118
Sean P. Trende	December 14, 2015	66
Jeffrey Ylvisaker	April 29, 2013	105
Jeffrey Ylvisaker	March 11, 2016	106

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