

Arkansas Board of Apportionment - Compactness Report

Governor Asa Hutchinson, Chairman

Secretary of State, John Thurston

Attorney General, Leslie Rutledge

Plan Name: State Senate:Arkansas Senate -2021123 -
FINAL



Compactness measure: Polsby–Popper

District	District Area (SQM)	Perimeter (Miles)	Area of Circle with Same Perimeter	Perimeter of Circle with Same Area	Compactness Value
1	4,242	486	18,786	231	0.23
2	3,393	419	13,946	207	0.24
3	3,748	422	14,147	217	0.26
4	2,620	361	10,354	181	0.25
5	4,832	456	16,527	246	0.29
6	869	159	2,006	105	0.43
7	1,140	247	4,849	120	0.24
8	2,903	391	12,194	191	0.24
9	1,999	431	14,764	158	0.14
10	4,610	540	23,203	241	0.20
11	433	126	1,266	74	0.34
12	203	97	754	50	0.27
13	114	66	343	38	0.33
14	38	36	103	22	0.37
15	57	36	103	27	0.56
16	158	71	399	45	0.40
17	320	137	1,486	63	0.22
18	1,276	243	4,686	127	0.27
19	2,092	296	6,983	162	0.30
20	146	65	331	43	0.44

Arkansas Board of Apportionment - Compactness Report

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Plan Name: State Senate:Arkansas Senate -2021123 - FINAL



21	2,009	240	4,572	159	0.44
22	2,382	340	9,175	173	0.26
23	2,439	326	8,434	175	0.29
24	2,748	398	12,630	186	0.22
25	1,333	199	3,142	129	0.42
26	1,534	251	5,013	139	0.31
27	67	44	153	29	0.44
28	3,048	345	9,450	196	0.32
29	1,078	197	3,083	116	0.35
30	52	46	165	25	0.31
31	67	44	151	29	0.45
32	364	106	901	68	0.40
33	186	74	438	48	0.42
34	125	55	237	40	0.53
35	571	160	2,033	85	0.28

Most Compact: 0.56 For District: 15

Least Compact: 0.14 For District: 9

Compactness measure: Schwartzberg

District	District Area (SQM)	Perimeter (Miles)	Area of Circle with Same Perimeter	Perimeter of Circle with Same Area	Compactness Value
1	4,242	486	18,786	231	0.48
2	3,393	419	13,946	207	0.49
3	3,748	422	14,147	217	0.51
4	2,620	361	10,354	181	0.50

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Plan Name: State Senate:Arkansas Senate -2021123 -
FINAL



5	4,832	456	16,527	246	0.54
6	869	159	2,006	105	0.66
7	1,140	247	4,849	120	0.48
8	2,903	391	12,194	191	0.49
9	1,999	431	14,764	158	0.37
10	4,610	540	23,203	241	0.45
11	433	126	1,266	74	0.58
12	203	97	754	50	0.52
13	114	66	343	38	0.58
14	38	36	103	22	0.61
15	57	36	103	27	0.75
16	158	71	399	45	0.63
17	320	137	1,486	63	0.46
18	1,276	243	4,686	127	0.52
19	2,092	296	6,983	162	0.55
20	146	65	331	43	0.66
21	2,009	240	4,572	159	0.66
22	2,382	340	9,175	173	0.51
23	2,439	326	8,434	175	0.54
24	2,748	398	12,630	186	0.47
25	1,333	199	3,142	129	0.65
26	1,534	251	5,013	139	0.55

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27	67	44	153	29	0.66
28	3,048	345	9,450	196	0.57
29	1,078	197	3,083	116	0.59
30	52	46	165	25	0.56
31	67	44	151	29	0.67
32	364	106	901	68	0.64
33	186	74	438	48	0.65
34	125	55	237	40	0.73
35	571	160	2,033	85	0.53

Most Compact: 0.75 For District: 15

Least Compact: 0.37 For District: 9

Compactness measure: Reock Score

District	District Area (SQM)	Perimeter (Miles)	Area of Circle with Same Perimeter	Perimeter of Circle with Same Area	Compactness Value
1	4,242	486	18,786	231	0.41
2	3,393	419	13,946	207	0.41
3	3,748	422	14,147	217	0.45
4	2,620	361	10,354	181	0.36
5	4,832	456	16,527	246	0.38
6	869	159	2,006	105	0.39
7	1,140	247	4,849	120	0.41
8	2,903	391	12,194	191	0.41
9	1,999	431	14,764	158	0.22
10	4,610	540	23,203	241	0.39

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Plan Name: State Senate:Arkansas Senate -2021123 -
FINAL



11	433	126	1,266	74	0.52
12	203	97	754	50	0.40
13	114	66	343	38	0.43
14	38	36	103	22	0.27
15	57	36	103	27	0.59
16	158	71	399	45	0.51
17	320	137	1,486	63	0.43
18	1,276	243	4,686	127	0.60
19	2,092	296	6,983	162	0.42
20	146	65	331	43	0.59
21	2,009	240	4,572	159	0.44
22	2,382	340	9,175	173	0.47
23	2,439	326	8,434	175	0.35
24	2,748	398	12,630	186	0.34
25	1,333	199	3,142	129	0.55
26	1,534	251	5,013	139	0.36
27	67	44	153	29	0.39
28	3,048	345	9,450	196	0.50
29	1,078	197	3,083	116	0.40
30	52	46	165	25	0.57
31	67	44	151	29	0.40
32	364	106	901	68	0.56

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33	186	74	438	48	0.50
34	125	55	237	40	0.65
35	571	160	2,033	85	0.33

Most Compact: 0.65 For District: 34

Least Compact: 0.22 For District: 9

Compactness measure: Length-Width

District	District Area (SQM)	Perimeter (Miles)	Area of Circle with Same Perimeter	Perimeter of Circle with Same Area	Compactness Value
1	4,242	486	18,786	231	1.04
2	3,393	419	13,946	207	0.75
3	3,748	422	14,147	217	0.72
4	2,620	361	10,354	181	0.62
5	4,832	456	16,527	246	1.70
6	869	159	2,006	105	1.62
7	1,140	247	4,849	120	1.69
8	2,903	391	12,194	191	1.19
9	1,999	431	14,764	158	0.80
10	4,610	540	23,203	241	0.80
11	433	126	1,266	74	1.04
12	203	97	754	50	1.09
13	114	66	343	38	2.11
14	38	36	103	22	2.64
15	57	36	103	27	1.17
16	158	71	399	45	1.16

Arkansas Board of Apportionment - Compactness Report

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17	320	137	1,486	63	0.95
18	1,276	243	4,686	127	1.77
19	2,092	296	6,983	162	2.28
20	146	65	331	43	1.32
21	2,009	240	4,572	159	2.52
22	2,382	340	9,175	173	1.27
23	2,439	326	8,434	175	2.60
24	2,748	398	12,630	186	1.19
25	1,333	199	3,142	129	1.25
26	1,534	251	5,013	139	1.83
27	67	44	153	29	0.71
28	3,048	345	9,450	196	1.11
29	1,078	197	3,083	116	0.77
30	52	46	165	25	1.44
31	67	44	151	29	2.56
32	364	106	901	68	1.01
33	186	74	438	48	1.57
34	125	55	237	40	1.52
35	571	160	2,033	85	0.65

Most Compact: 2.64 For District: 14

Least Compact: 0.62 For District: 4

Compactness measure: Convex Hull

District	District Area (SQM)	Perimeter (Miles)	Area of Circle with Same Perimeter	Perimeter of Circle with Same Area	Compactness Value
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1	4,242	486	18,786	231	0.83
2	3,393	419	13,946	207	0.77
3	3,748	422	14,147	217	0.78
4	2,620	361	10,354	181	0.77
5	4,832	456	16,527	246	0.71
6	869	159	2,006	105	0.86
7	1,140	247	4,849	120	0.72
8	2,903	391	12,194	191	0.79
9	1,999	431	14,764	158	0.70
10	4,610	540	23,203	241	0.74
11	433	126	1,266	74	0.78
12	203	97	754	50	0.67
13	114	66	343	38	0.80
14	38	36	103	22	0.81
15	57	36	103	27	0.91
16	158	71	399	45	0.78
17	320	137	1,486	63	0.66
18	1,276	243	4,686	127	0.82
19	2,092	296	6,983	162	0.82
20	146	65	331	43	0.85
21	2,009	240	4,572	159	0.93
22	2,382	340	9,175	173	0.70

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23	2,439	326	8,434	175	0.80
24	2,748	398	12,630	186	0.67
25	1,333	199	3,142	129	0.82
26	1,534	251	5,013	139	0.76
27	67	44	153	29	0.79
28	3,048	345	9,450	196	0.83
29	1,078	197	3,083	116	0.81
30	52	46	165	25	0.77
31	67	44	151	29	0.87
32	364	106	901	68	0.86
33	186	74	438	48	0.80
34	125	55	237	40	0.89
35	571	160	2,033	85	0.78

Most Compact: 0.93 For District: 21

Least Compact: 0.66 For District: 17