



LEGISLATIVE
SERVICES AGENCY

Serving the Iowa Legislature
Timothy McDermott, Interim Director

Edwin G. Cook
Sr. Legal Counsel
State Capitol
Des Moines, IA 50319

September 16, 2021

FIRST REDISTRICTING PLAN

**FROM: TIMOTHY MCDERMOTT, INTERIM DIRECTOR
 ED COOK, SENIOR LEGAL COUNSEL
 IOWA LEGISLATIVE SERVICES AGENCY**

I. INTRODUCTION.

Pursuant to Iowa Code section 42.3, the Legislative Services Agency, on September 16, 2021, delivered to the Secretary of the Senate and the Chief Clerk of the House of Representatives identical bills embodying a plan of legislative and Congressional districting prepared in accordance with Iowa Code section 42.4.

Iowa Code section 42.3 further provides that upon delivery to the General Assembly of the identical bills, copies of the identical bills, maps illustrating the plan, a summary of the standards prescribed by Iowa Code section 42.4 for development of the plan, and a statement of the population of each district included in the plan and the relative deviation of each district population from the ideal district population shall be made available to the public at the earliest feasible time. To fulfill these requirements, this memorandum, the identical bills, as well as maps illustrating the plan, will be made available to the Iowa General Assembly and the public on the 2021 Iowa Redistricting Link on the Iowa General Assembly's website: www.legis.iowa.gov/.

II. GLOSSARY OF TERMS.

To assist in the understanding of this report and the attached statistical data, the following terms were used to describe various aspects of measuring compactness and the population equality between districts:

Absolute deviation: The difference, expressed as a positive number, between the actual population in a district and the ideal population for that district.

Absolute mean deviation: The sum of the absolute deviations of all districts in a plan divided by the number of districts.

Average length-width compactness: The total length-width compactness for all districts in a redistricting plan, divided by the number of districts to be created.

Ideal population: The total population of the state as reported in the federal decennial census divided by the number of districts to be created.

Length-width compactness: The absolute difference in miles between the width (east-west) and the height (north-south) of a district. A lower number indicates better length-width compactness.

Mean deviation percentage variance: The absolute mean deviation of a plan divided by the ideal population for districts in that plan, and expressed as a percentage.

Overall range: The difference between the most populous and least populous districts in a proposed redistricting plan.

Overall range percentage variance: The absolute overall range for a plan, divided by the ideal population for a district, and expressed as a percentage.

Overall range ratio: The ratio calculated by dividing the population of the most populous district by the least populous district.

Perimeter compactness: The distance, in miles, needed to traverse the perimeter of a district in a redistricting plan. A lower number indicates better perimeter compactness.

Total perimeter compactness: The distance, in miles, needed to traverse the perimeters of all districts in a redistricting plan.

III. 2020 DECENNIAL CENSUS INFORMATION.

In April 2021, the United States Census Bureau reported population totals for all states based upon the 2020 decennial census and further reported that Iowa would be apportioned four congressional districts beginning with the Congress convening in 2023. On August 12, 2021, the United States Census Bureau reported to Iowa the population data needed for congressional and legislative districting which the census bureau is required to provide this state under United States Public Law 94-171. The data indicated that the resident population of Iowa on April 1, 2020, was 3,190,369. Based on this total population figure, the ideal population for each of Iowa's four congressional districts is 797,592 persons. For the Iowa General Assembly, the ideal population size for each of Iowa's 50 Senate districts is 63,807 persons, and the ideal population size for each of Iowa's 100 House districts is 31,904 persons. Upon receipt of the population data on August 12, 2021, the Legislative Services Agency began the process of developing a proposed plan of congressional and legislative redistricting for delivery to the General Assembly as required by Iowa Code chapter 42.

IV. STANDARDS FOR REDISTRICTING.

The following is a summary of the standards applicable to congressional and legislative redistricting in Iowa as provided by the United States Constitution, the Iowa Constitution, and Iowa Code section 42.4. The plan prepared and submitted is in strict adherence to these standards as required by law.

A. Population Equality

Congressional districts:

Iowa Code section 42.4(1) provides that each congressional district in the plan shall have a population as nearly equal as practicable to the ideal population and each district shall not have a population which varies by more than 1 percent from the ideal district population. The U.S. Supreme Court has determined that, pursuant to the U.S. Constitution, the “as nearly equal as practicable” standard that is required for congressional districts means that the difference between the ideal population and the actual population of a proposed congressional district should be as close to zero as practicable.

Table I includes population statistics for the congressional districts proposed in Plan I.

Senate and House districts:

Iowa Code section 42.4(1) provides that the mean deviation percentage variance for a proposed state senatorial or state representative redistricting plan shall not exceed 1 percent. In addition, a Senate or House district shall not have a population which exceeds that of any other Senate or House district by more than 5 percent. Finally, the most restrictive requirement in Iowa Code section 42.4(1) provides that the General Assembly has the burden of proof to justify any Senate or House district that deviates from the ideal population for that district by more than 1 percent.

Tables 2 and 3 include population statistics for the Senate and House districts proposed in Plan I.

B. Respect for Political Subdivisions:

Congressional districts:

Article III, section 37, of the Constitution of the State of Iowa, provides, in part, that, “ ... no county shall be divided in forming a congressional district.”

Senate and House Districts:

Iowa Code section 42.4(2) provides that, to the extent consistent with the population equality standard, the number of counties and cities divided among more than one Senate or House district shall be as small as possible. When there is a choice between dividing local political subdivisions, the more populous subdivisions shall be divided before the less populous, except when a county line divides a city.

Tables 4 - 7 provide information relating to the number of cities and counties kept whole and divided for the Senate and House districts proposed in Plan I.

C. Contiguity:

Congressional districts:

Article III, section 37, of the Constitution of the State of Iowa, provides, in part, that, “When a congressional district is composed of two or more counties it shall not be entirely separated by a county belonging to another district ...” In addition, Iowa Code section 42.4(3) provides that all districts shall be composed of convenient contiguous territory and areas of a district which meet only at the points of adjoining corners are not contiguous.

Senate and House districts:

Article III, section 35, of the Constitution of the State of Iowa provides that districts for Senators and Representatives "... shall be of compact and contiguous territory." In addition, Iowa Code section 42.4(3) provides that all districts shall be composed of convenient contiguous territory and areas of a district which meet only at the points of adjoining corners are not contiguous.

D. Compactness:

Congressional districts:

Iowa Code section 42.4(4) provides that all districts shall be reasonably compact in form, to the extent consistent with the population equality, respect for political subdivisions, and contiguity standards. In general, reasonably compact districts are those which are square, rectangular, or hexagonal in shape, and not irregularly shaped, to the extent permitted by natural or political boundaries. Methods for determining compactness are provided by law and include a length-width compactness test and a perimeter compactness test.

Table 1 provides statistical information relating to the length-width compactness test and the perimeter compactness test for the congressional districts proposed in Plan I.

Senate and House districts:

Article III, section 35, of the Constitution of the State of Iowa provides that districts for Senators and Representatives "... shall be of compact and contiguous territory." In addition, Iowa Code section 42.4(4) provides that all districts shall be reasonably compact in form, to the extent consistent with the population equality, respect for political subdivisions, and contiguity standards. In general, reasonably compact districts are those which are square, rectangular, or hexagonal in shape, and not irregularly shaped, to the extent permitted by natural or political boundaries. Methods for determining compactness are provided by law and include a length-width compactness test and a perimeter compactness test.

Tables 2 - 3 provide statistical information relating to the length-width compactness test and the perimeter compactness test for the Senate and House districts proposed in Plan I.

E. Prohibited Factors:

Congressional, Senate, and House districts:

Iowa Code section 42.4(5) provides that a district shall not be drawn for the purpose of favoring a political party, incumbent legislator or member of Congress, or other person or group, or for the purpose of augmenting or diluting the voting strength of a language or racial minority group. Data that shall not be used in establishing districts include addresses of incumbent legislators or members of Congress, political affiliations of registered voters, previous election results, and any demographic information, other than population head counts, except as required by the Constitution and the laws of the United States.

The Legislative Services Agency did not consider the addresses of incumbents, the political affiliations of registered voters, previous election results, or demographic information other than population

headcounts in the development of congressional, senatorial, and representative districts. Following the development of proposed Senate and House districts, the Legislative Services Agency reviewed information indicating which districts in the proposed plan incumbent Senators elected from an even-numbered or odd-numbered district resided for purposes of numbering Senate districts in accordance with Iowa law.

F. District Nesting:

Senate and House districts:

Iowa Code section 42.4(6) provides that each state representative district shall be wholly included within a single state senatorial district and, so far as possible, each representative and each senatorial district shall be included within a single congressional district. All other standards take precedence where a conflict arises between those standards and the requirement, so far as possible, of including a senatorial or representative district within a single congressional district.

Proposed Plan I contains 12 Senate and 25 House districts within each congressional district, and two Senate districts, districts 7 and 47, contained within two congressional districts.

G. Numbering of Senate Districts and Incumbent Senators:

Article III, section 6, of the Constitution of the State of Iowa provides that “as nearly as possible, one-half of the members of the Senate shall be elected every two years.” Iowa Code section 42.4(8) provides that each bill embodying a plan shall include provisions for election of senators to the General Assemblies which take office in 2023 and 2025, which shall be in conformity with Article III, section 6, of the Constitution of the State of Iowa. The Iowa Code section further provides that if an incumbent senator was elected from an even-numbered district and resides in a newly created even-numbered district with no other incumbent senator residing in that district, that incumbent senator can serve until January 2025 without an election in 2022.

Following the development of proposed Senate and House districts, the Legislative Services Agency reviewed information concerning the location of senators in the proposed state Senatorial district plan for purposes of numbering Senate districts. The information reviewed indicated only which districts in the proposed plan incumbent senators elected from an even-numbered or odd-numbered district resided. If an incumbent senator resided in a new district without another incumbent senator, that new Senate district was given an odd or even number based upon whether that senator’s current district was an odd or even number. If an incumbent senator from a current even-numbered district resided in a new district with or without another incumbent senator, that new Senate district was given an even number.

V. ATTACHMENTS.

Attached to this Report are the following:

MAPS

Map 1 — Map of proposed congressional districts.

Map 2 — Map of proposed Senate districts.

- Map 3** — Map of proposed House districts.
- Map 4** — Map of Ames Area
- Map 5** — Map of Cedar Rapids Area
- Map 6** — Map of Council Bluffs Area
- Map 7** — Map of Davenport-Bettendorf Area
- Map 8** — Map of Dubuque Area
- Map 9** — Map of Iowa City Area
- Map 10** — Map of Sioux City Area
- Map 11** — Map of Waterloo-Cedar Falls Area
- Map 12** — Map of Polk County Area
- Map 13** — Map of Ankeny Area
- Map 14** — Map of Des Moines Area

TABLES

Table 1 — Populations, population variance, and compactness statistics for each congressional district.

Table 2 — Populations, population variance, and compactness statistics for each Senate district.

Table 3 — Populations, population variance, and compactness statistics for each House district.

Table 4 — Counties kept whole in Senate and House districts.

Table 5 — Dividable precincted cities over 20,000 persons located within a single county kept whole in Senate and House districts.

Table 6 — Number of Senate and House districts contained wholly or partially within each county.

Table 7 — Number of Senate and House districts contained wholly or partially within each dividable precincted city over 20,000 persons.

MAPS

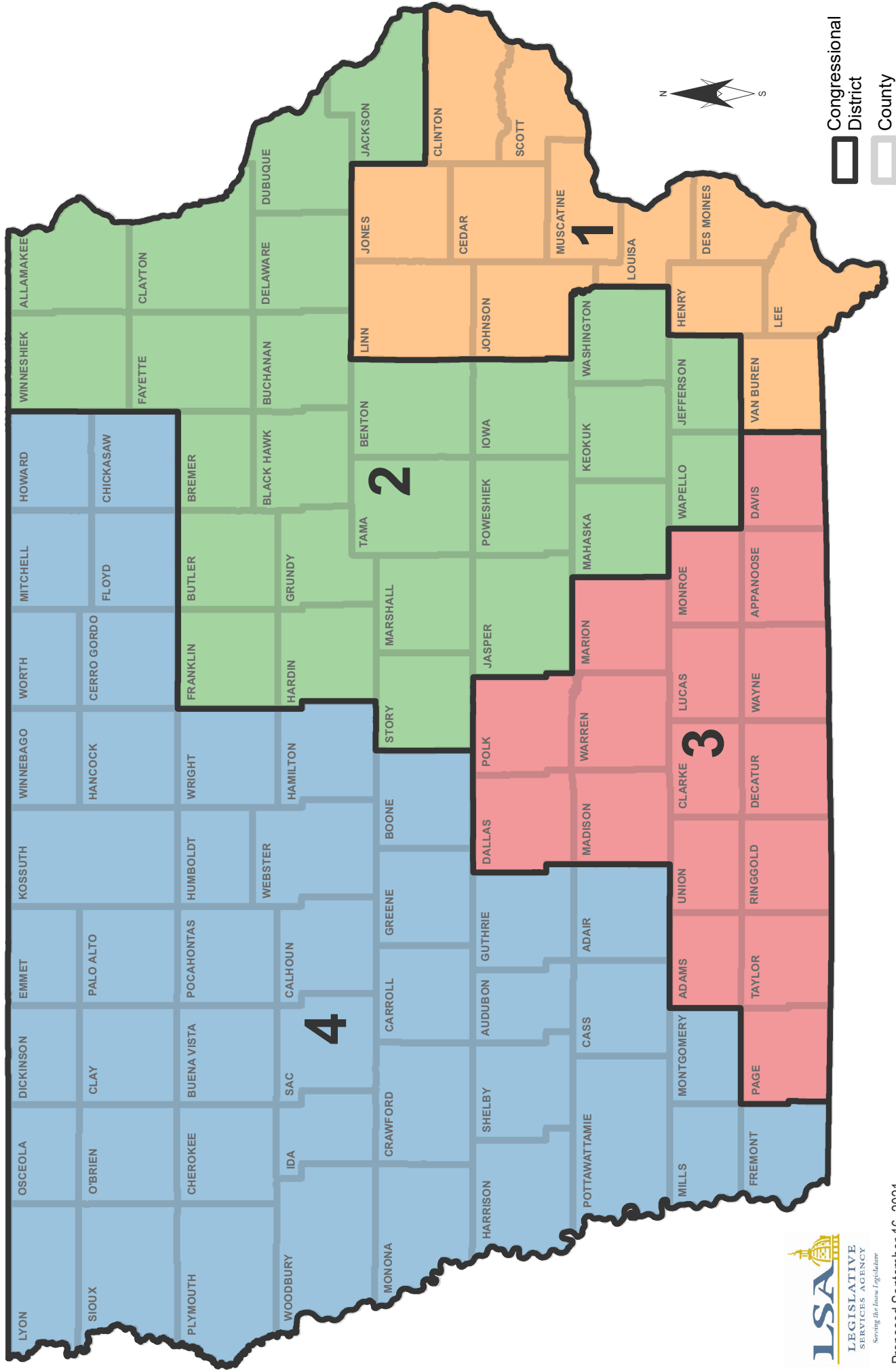
FIRST REDISTRICTING PLAN

Legislative Services Agency

September 16, 2021

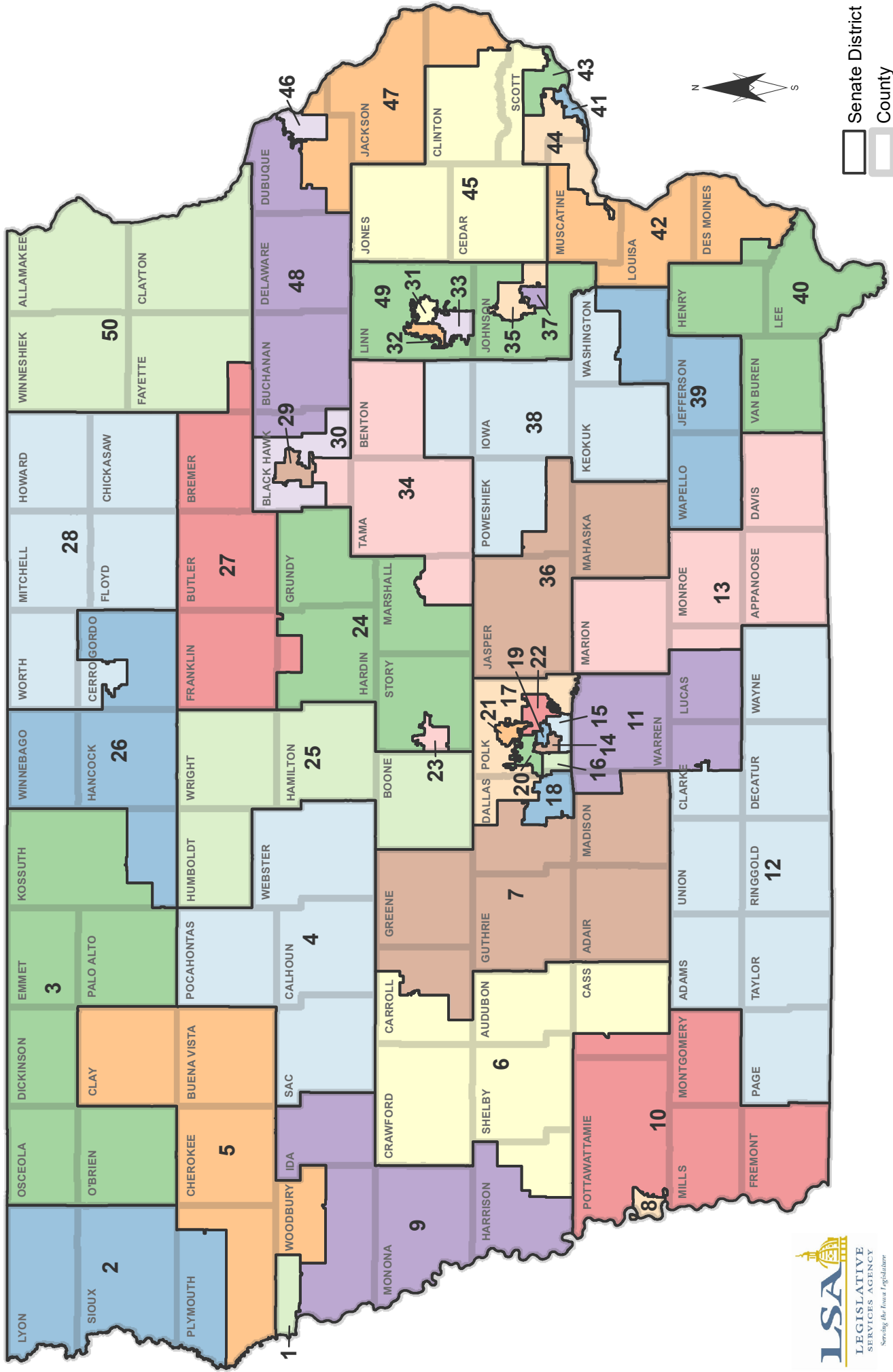
PROPOSED PLAN 1: IOWA CONGRESSIONAL DISTRICTS

To Be Effective Beginning with the Elections in 2022 for the 118th General Assembly



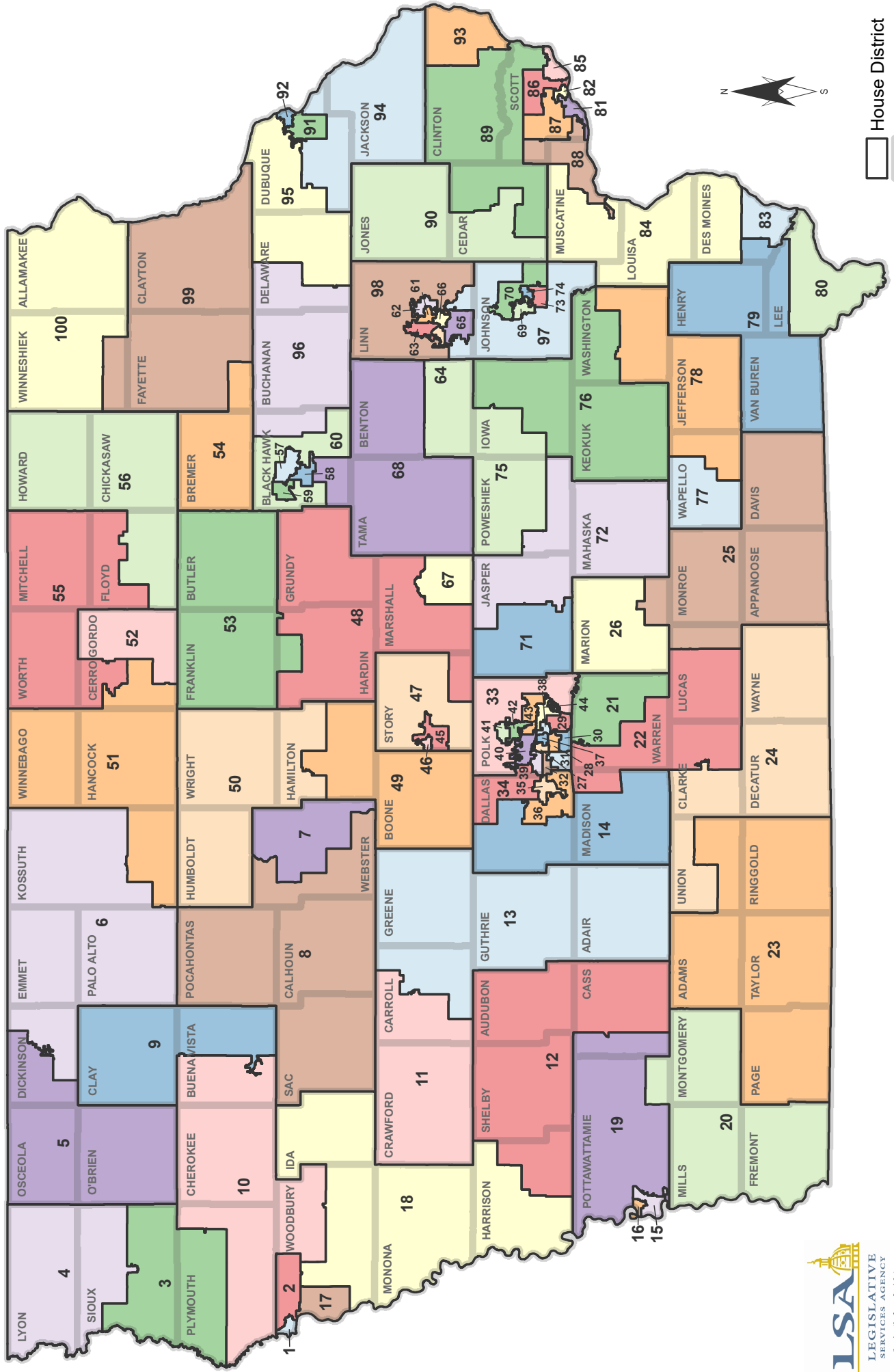
PROPOSED PLAN 1: IOWA SENATE DISTRICTS

To Be Effective Beginning with the Elections in 2022 for the 90th General Assembly






PROPOSED PLAN 1: IOWA HOUSE DISTRICTS

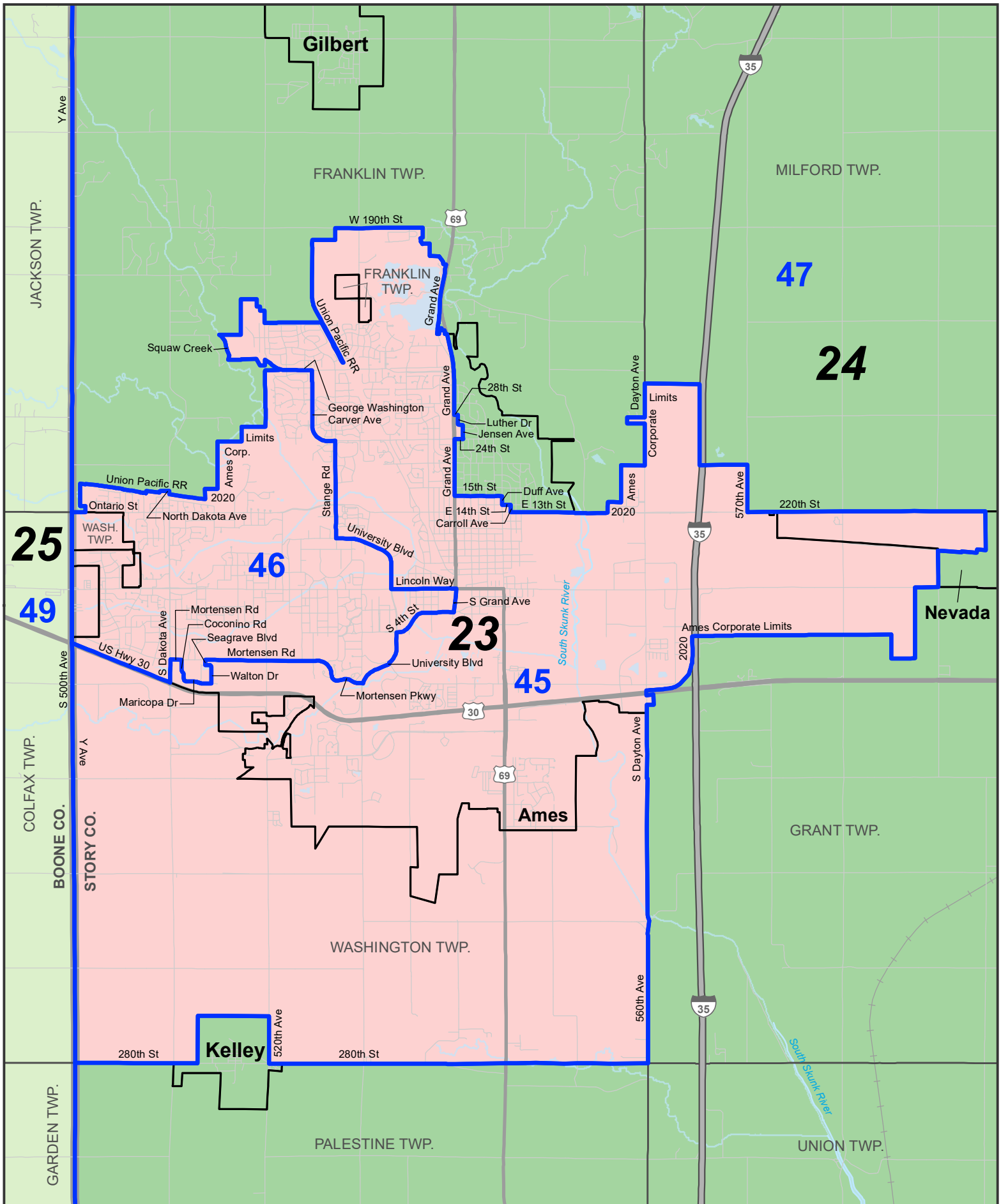
To Be Effective Beginning with the Elections in 2022 for the 90th General Assembly



PROPOSED PLAN 1: AMES AREA

To Be Effective Beginning with the Elections in 2022 for the 90th General Assembly
Proposed September 16, 2021 - Prepared by the Iowa Legislative Services Agency

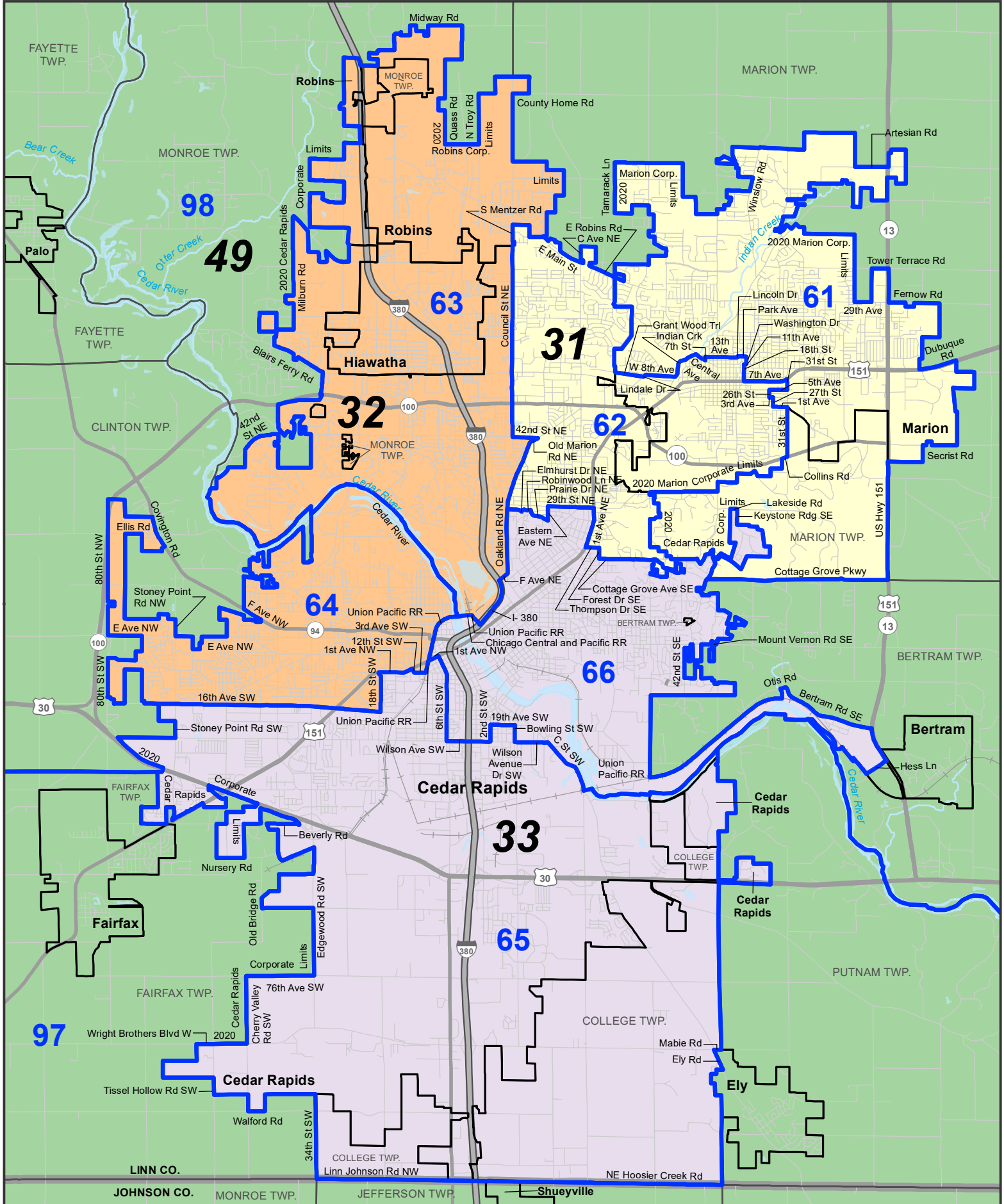
-  City Boundary
-  House District
-  Senate District (color-fill areas)



PROPOSED PLAN 1: CEDAR RAPIDS AREA

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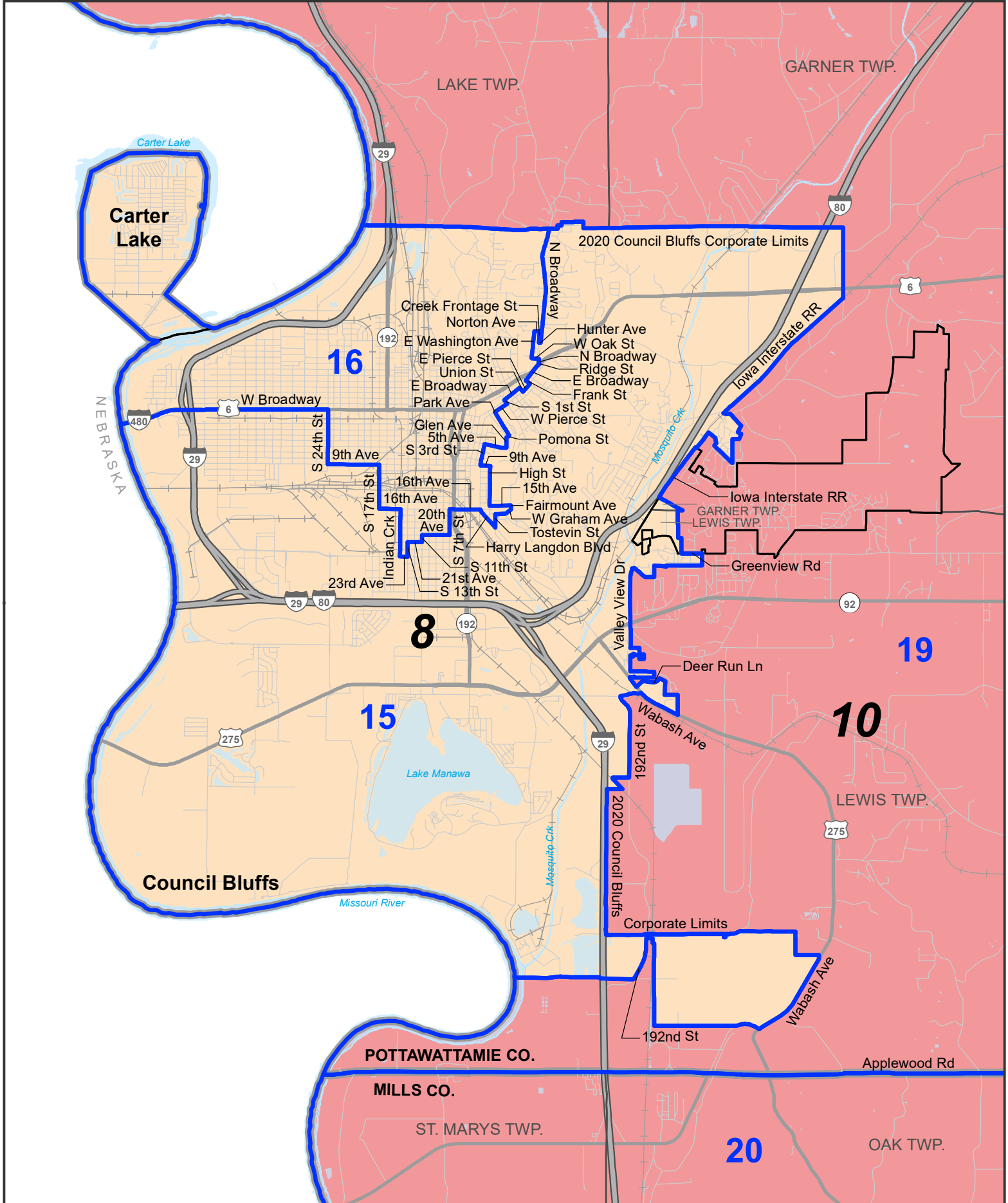
 City Boundary
 House District
 Senate District (color-fill areas)



PROPOSED PLAN 1: COUNCIL BLUFFS

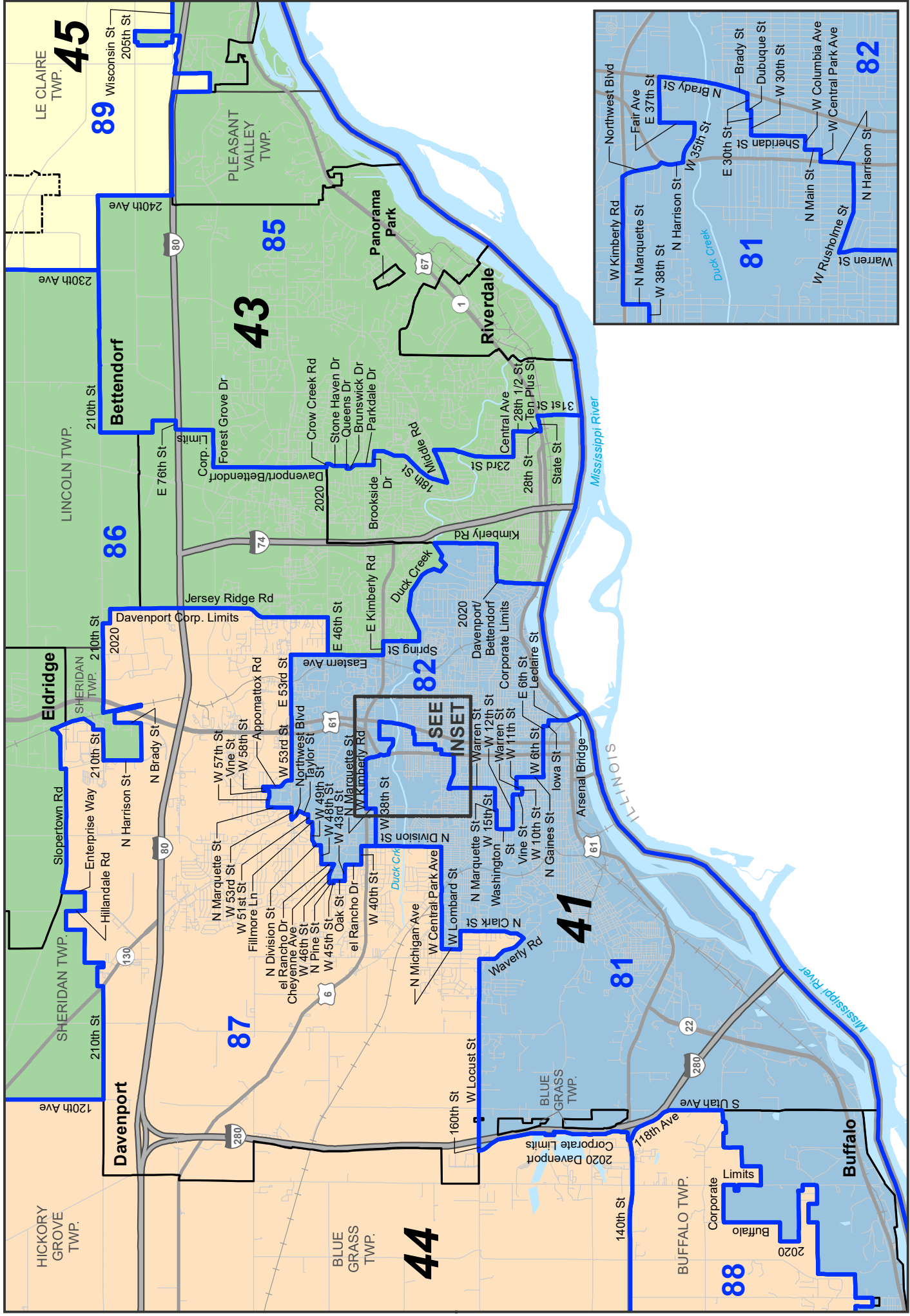
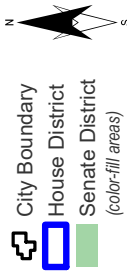
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 City Boundary
 House District
 Senate District (color-fill areas)

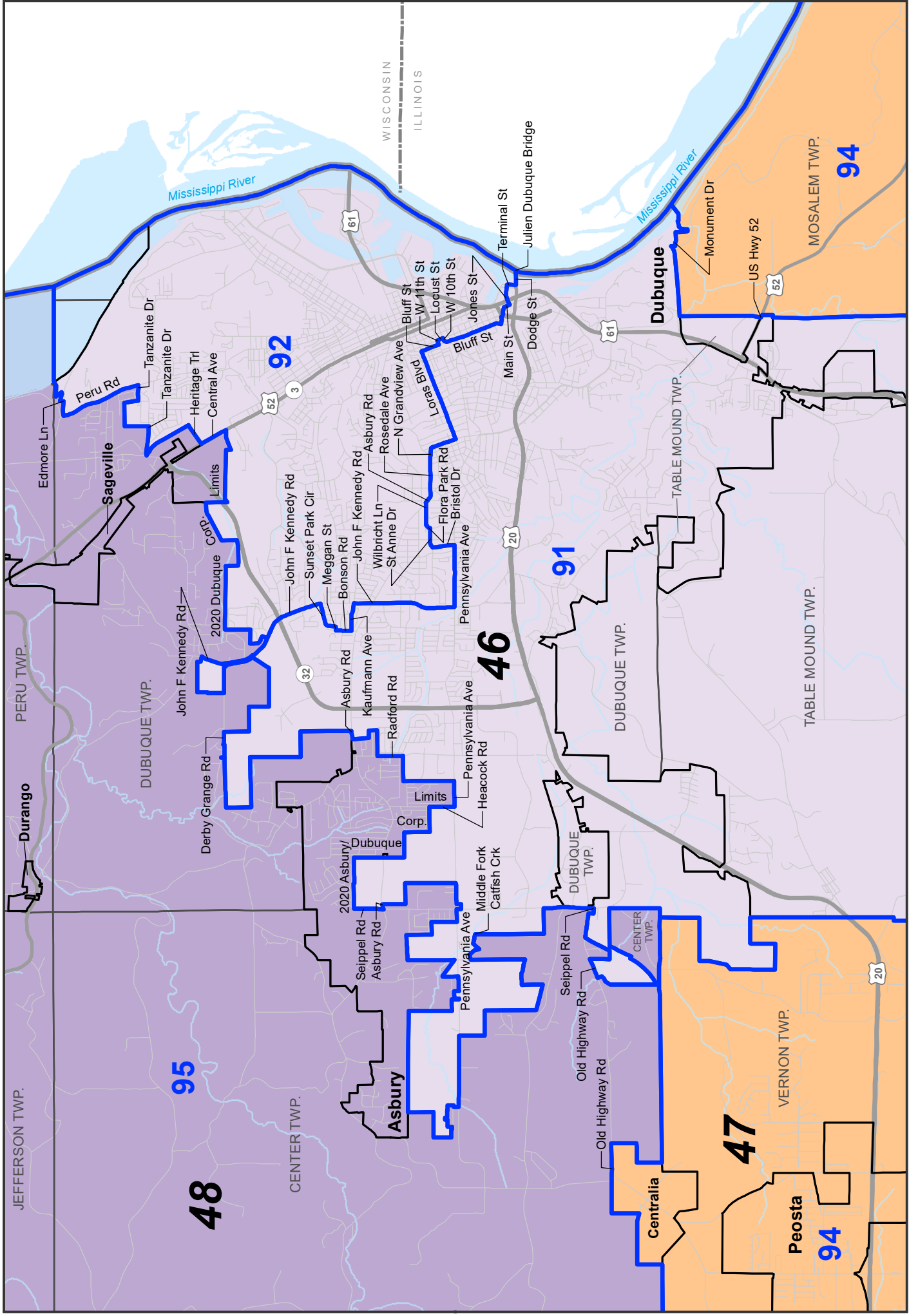
PROPOSED PLAN 1: DAVENPORT-BETTENDORF AREA

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PROPOSED PLAN 1: DUBUQUE AREA

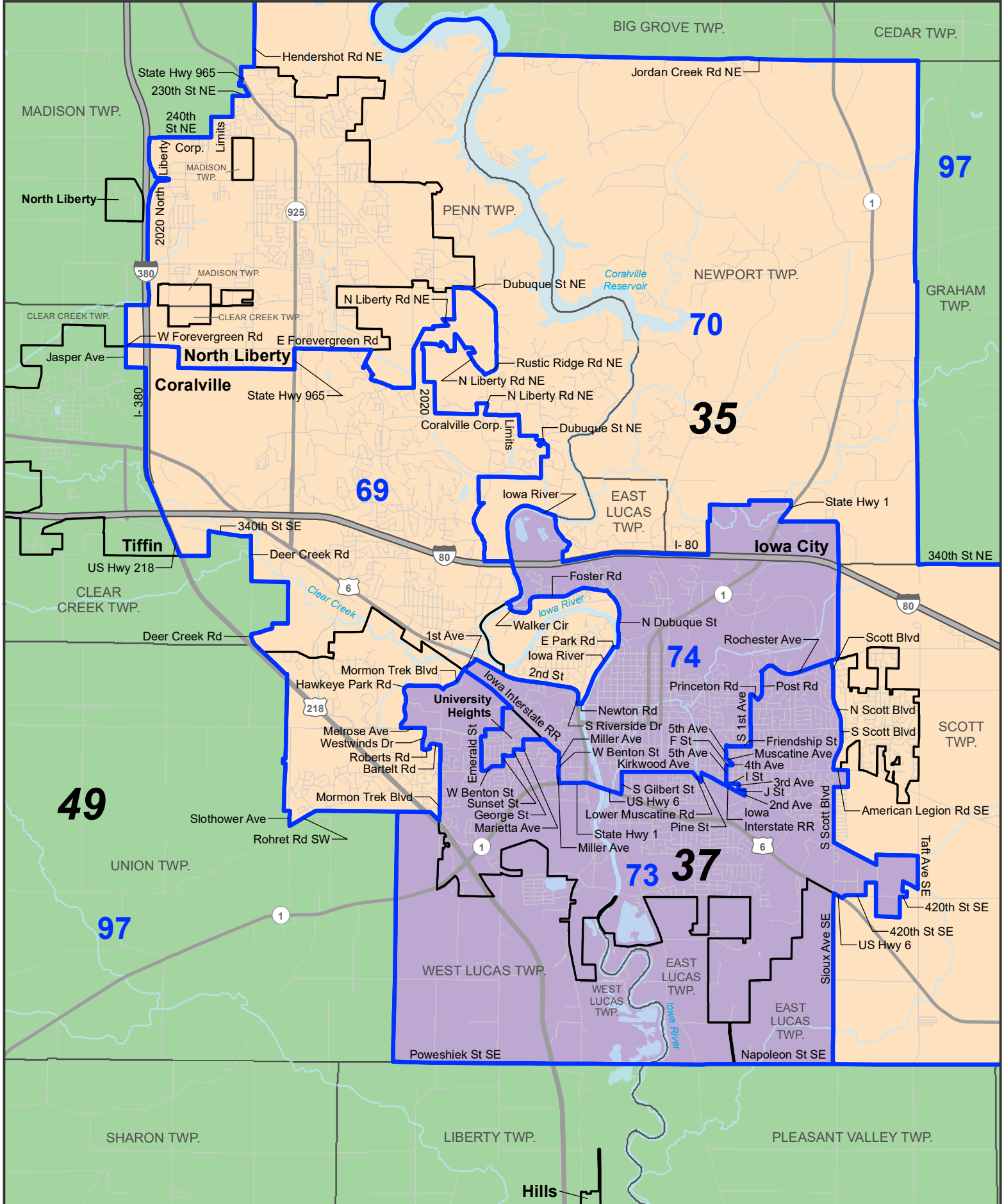
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Proposed September 16, 2021 - Prepared by the Iowa Legislative Services Agency



PROPOSED PLAN 1: IOWA CITY AREA




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Proposed September 17, 2021 - Prepared by the Iowa Legislative Services Agency

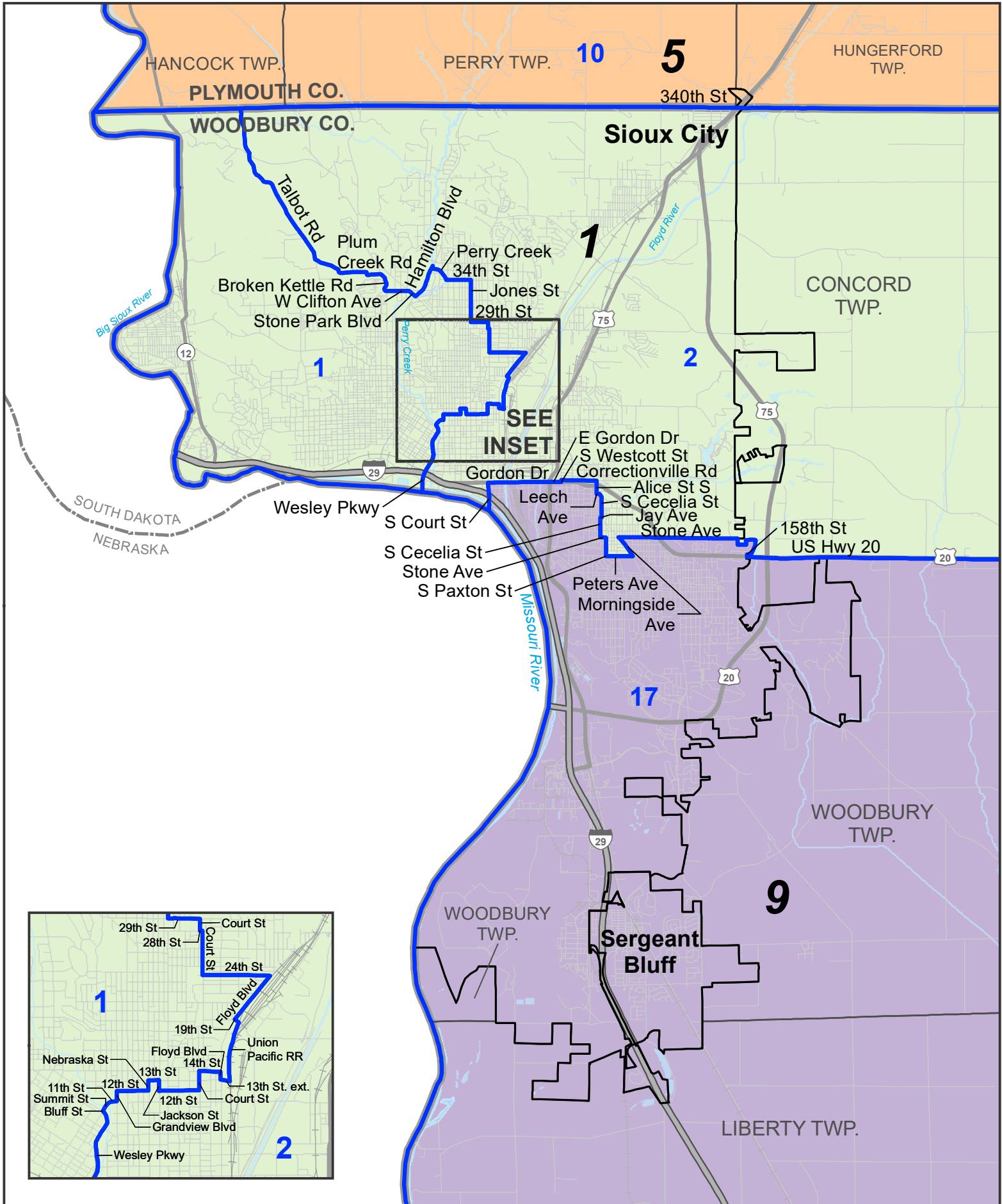
 City Boundary
 House District
 Senate District
(color-fill areas)



PROPOSED PLAN 1: SIOUX CITY AREA

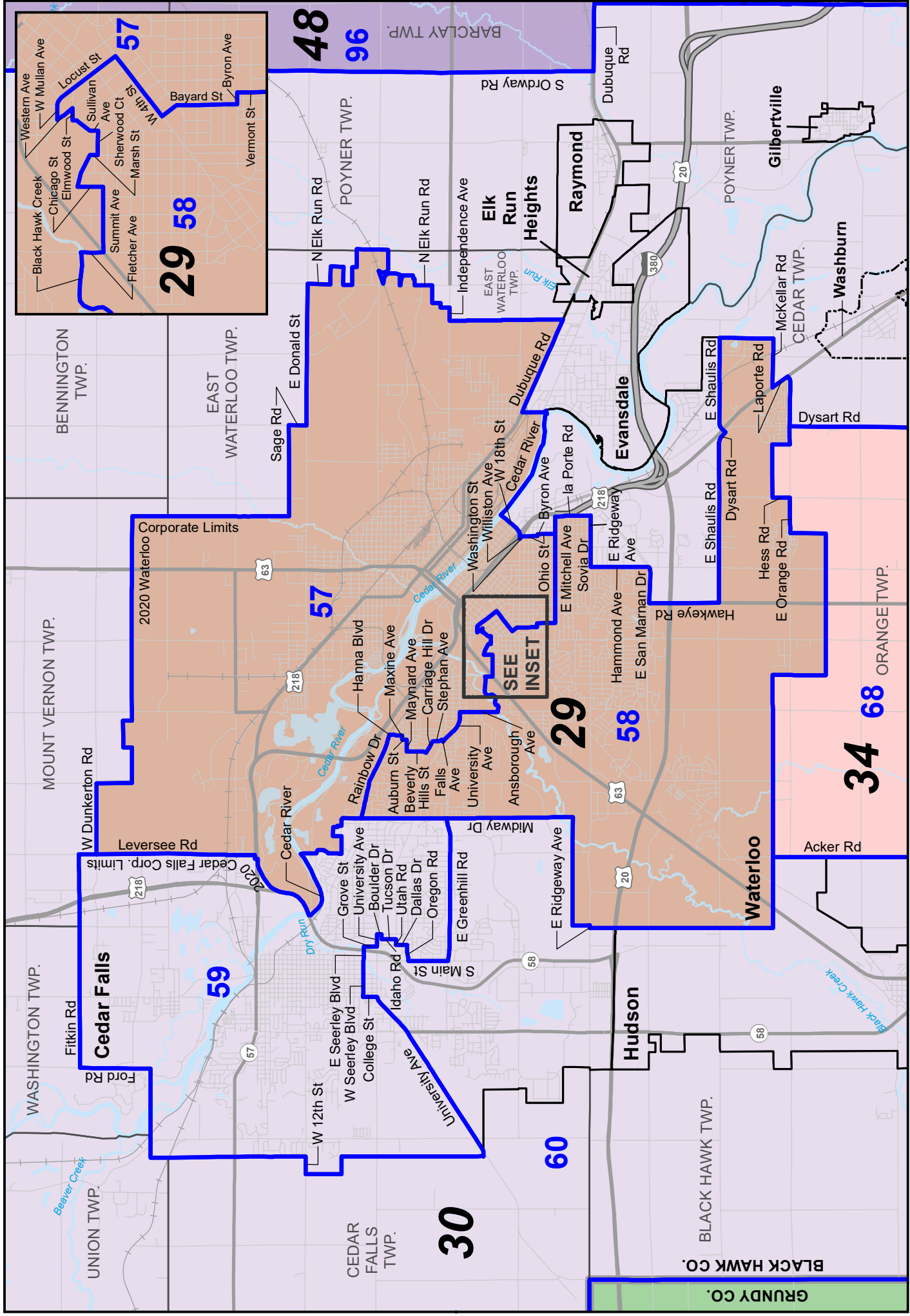
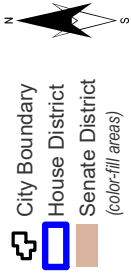
To Be Effective Beginning with the Elections in 2022 for the 90th General Assembly
 Proposed September 16, 2021 - Prepared by the Iowa Legislative Services Agency

-  House District
-  City Boundary
-  Senate District (color-fill areas)



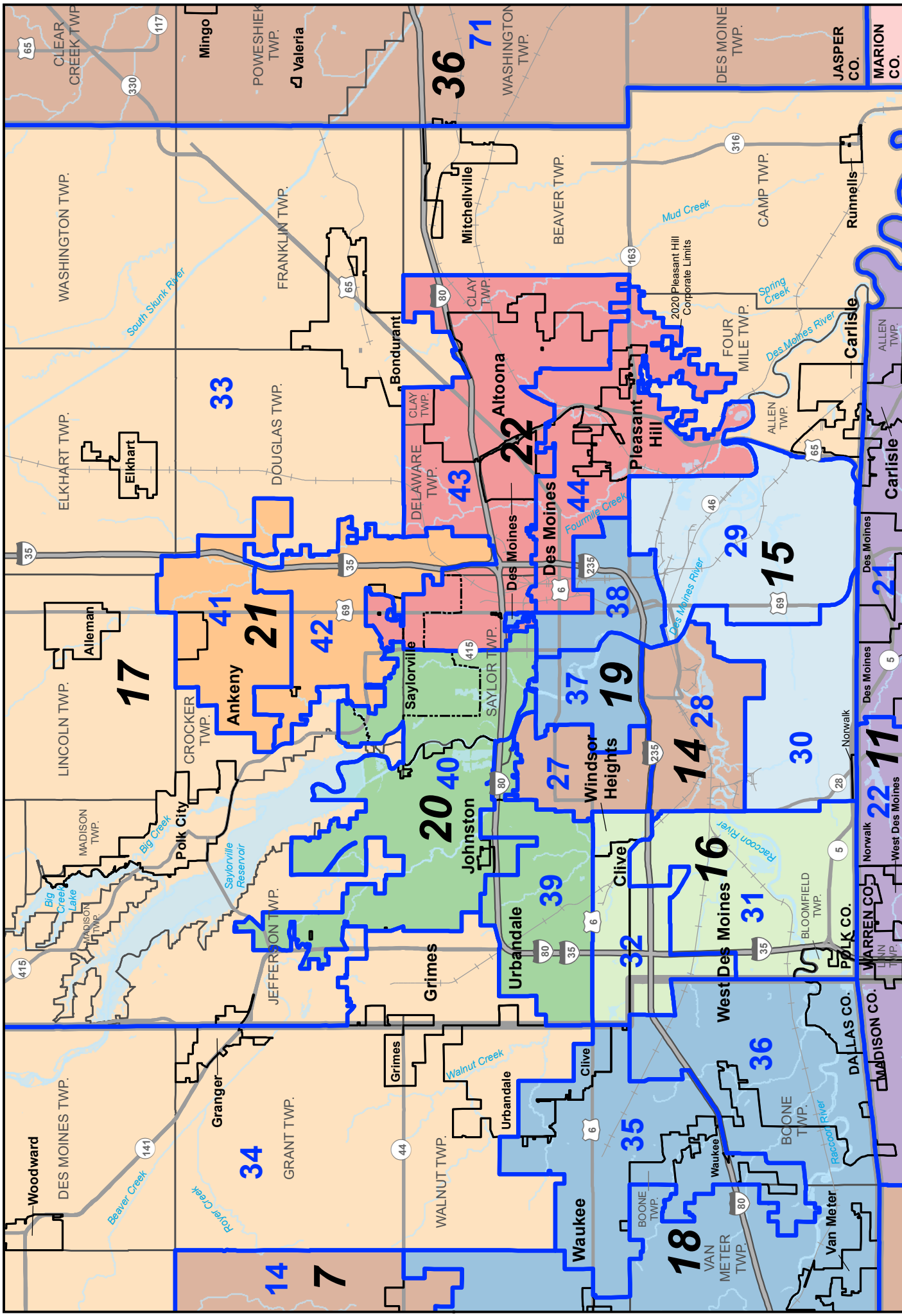
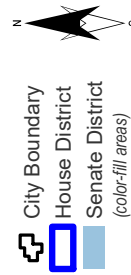
PROPOSED PLAN 1: WATERLOO-CEDAR FALLS AREA

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 Proposed September 16, 2021 - Prepared by the Iowa Legislative Services Agency






PROPOSED PLAN 1: POLK COUNTY AREA

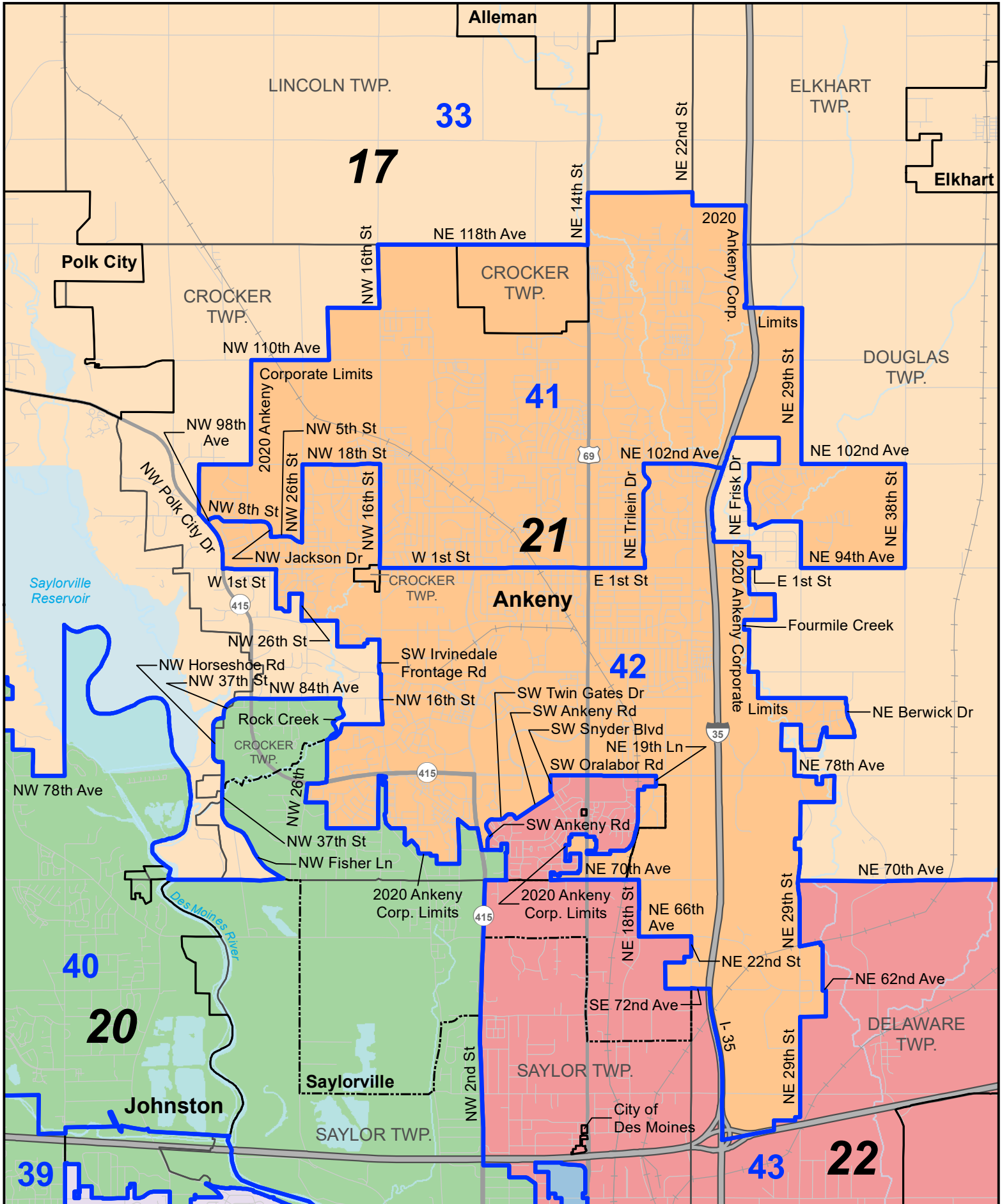

To Be Effective Beginning with the Elections in 2022 for the 90th General Assembly
 Proposed September 16, 2021 - Prepared by the Iowa Legislative Services Agency



PROPOSED PLAN 1: ANKENY AREA

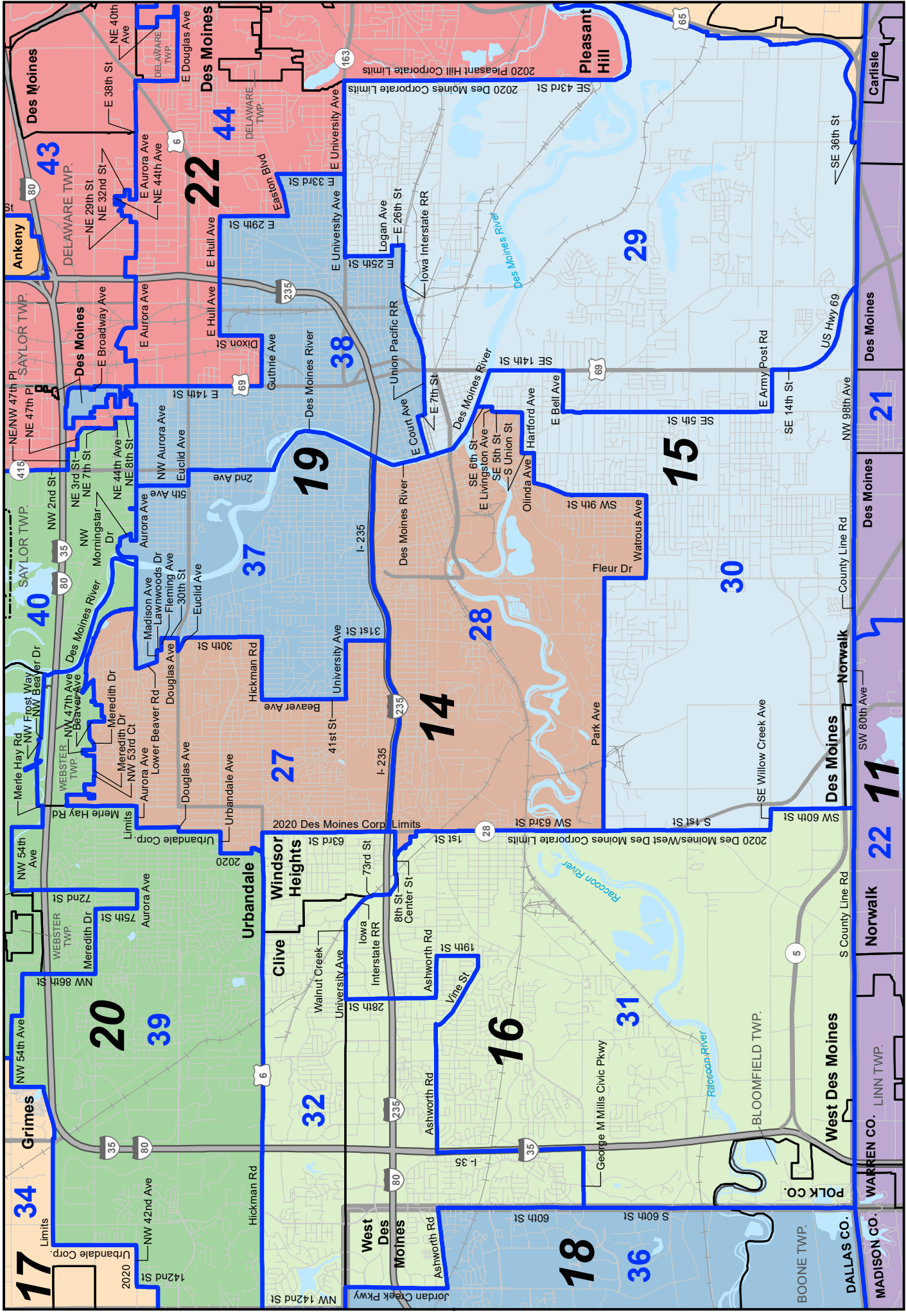
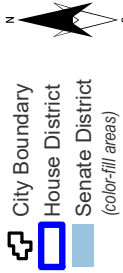
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Proposed September 16, 2021 - Prepared by the Iowa Legislative Services Agency

 City Boundary
 House District
 Senate District
(color-fill areas)



PROPOSED PLAN 1: DES MOINES AREA

To Be Effective Beginning with the Elections in 2022 for the 90th General Assembly
 Proposed September 16, 2021 - Prepared by the Iowa Legislative Services Agency



TABLES

FIRST REDISTRICTING PLAN

Legislative Services Agency

September 16, 2021

TABLE 1
CONGRESSIONAL PLAN SUMMARY

DISTRICT NUMBER	TOTAL POPULATION	% DEVIATION FROM IDEAL DISTRICT POP.	DEVIATION FROM IDEAL DISTRICT POP.	PERIMETER DISTANCE IN MILES	LENGTH-WIDTH COMPACTNESS IN MILES
1	797,655	0.008%	63	503.03	26.66
2	797,556	-0.005%	-36	786.27	2.29
3	797,584	-0.001%	-8	515.54	77.91
4	797,574	-0.002%	-18	967.18	32.99

Ideal Congressional District Population: 797,592

Lowest Population: District 2 Highest Population: District 1

Absolute Mean Deviation: 31.25 persons

Mean Deviation Percentage Variance: 0.00392%

Total Perimeter Score: 2,772.02 miles

Average Length-Width Compactness: 34.96 miles

Overall Range

	LOWEST DISTRICT POP.	HIGHEST DISTRICT POP.	OVERALL
ABSOLUTE	-36	63	99
% VARIANCE	-0.0045%	0.008%	0.01%
RATIO	1.0001241		

TABLE 2
SENATE PLAN SUMMARY

DISTRICT NUMBER	TOTAL POPULATION	% DEVIATION FROM IDEAL DISTRICT POP.	DEVIATION FROM IDEAL DISTRICT POP.	PERIMETER DISTANCE IN MILES	LENGTH-WIDTH COMPACTNESS IN MILES
1	63,991	0.29%	184	56.53	14.22
2	63,527	-0.44%	-280	234.57	13.54
3	63,638	-0.26%	-169	321.84	54.6
4	63,818	0.02%	11	245.44	25.96
5	63,666	-0.22%	-141	318.49	27.59
6	64,217	0.64%	410	304.41	14.6
7	63,991	0.29%	184	294.53	11.26
8	63,666	-0.22%	-141	44.97	1.21
9	63,692	-0.18%	-115	307.12	16.46
10	63,645	-0.25%	-162	268.08	6.88
11	63,757	-0.08%	-50	171.15	6.66
12	63,453	-0.55%	-354	329.64	79.06
13	63,566	-0.38%	-241	246.64	3.69
14	64,095	0.45%	288	29.36	1.55
15	63,743	-0.10%	-64	35.16	3.8
16	64,223	0.65%	416	26.92	1.09
17	63,308	-0.78%	-499	241.72	10.9
18	63,822	0.02%	15	63.61	0.78
19	63,873	0.10%	66	25.83	1.95
20	63,809	0.00%	2	73.87	1.08
21	63,965	0.25%	158	48.86	2.32
22	64,031	0.35%	224	78.36	0.39
23	64,083	0.43%	276	44.98	0.81
24	64,102	0.46%	295	273.69	11.81
25	64,294	0.76%	487	268.16	22
26	63,692	-0.18%	-115	259.72	30.82
27	64,170	0.57%	363	231.67	54.09
28	63,676	-0.21%	-131	257.61	30.61
29	63,769	-0.06%	-38	54.56	0.7
30	63,655	-0.24%	-152	144.72	1.23

DISTRICT NUMBER	TOTAL POPULATION	% DEVIATION FROM IDEAL DISTRICT POP.	DEVIATION FROM IDEAL DISTRICT POP.	PERIMETER DISTANCE IN MILES	LENGTH-WIDTH COMPACTNESS IN MILES
31	63,393	-0.65%	-414	48.43	0.27
32	64,145	0.53%	338	63.73	3.41
33	63,936	0.20%	129	73.37	1.33
34	63,933	0.20%	126	206.74	20.7
35	63,868	0.10%	61	78.39	0.03
36	63,747	-0.09%	-60	206.76	6.08
37	64,020	0.33%	213	33.68	0.47
38	63,716	-0.14%	-91	270.82	6.06
39	63,494	-0.49%	-313	195.31	24
40	63,319	-0.76%	-488	220.58	1.61
41	63,988	0.28%	181	49.7	4.69
42	63,765	-0.07%	-42	210.91	31.67
43	63,863	0.09%	56	64.79	5.43
44	64,000	0.30%	193	122.13	9.79
45	63,560	-0.39%	-247	220.28	5.57
46	63,395	-0.65%	-412	60.21	2.53
47	63,900	0.15%	93	207.49	0.79
48	64,093	0.45%	286	228.71	52.54
49	63,791	-0.03%	-16	360.35	36.1
50	63,506	-0.47%	-301	238.53	0.74

Ideal Senate District Population: 63,807

Lowest Population: District 17 Highest Population: District 25

Absolute Mean Deviation: 201.82 persons

Mean Deviation Percentage Variance: 0.316298%

Total Perimeter Score: 8,463.12 miles

Average Length-Width Compactness: 13.31 miles

Overall Range

	LOWEST DISTRICT POP.	HIGHEST DISTRICT POP.	OVERALL
ABSOLUTE	-499	487	986
% VARIANCE	-0.78%	0.76%	1.54%
RATIO	1.01557		

TABLE 3
HOUSE PLAN SUMMARY

DISTRICT NUMBER	TOTAL POPULATION	% DEVIATION FROM IDEAL DISTRICT POP.	DEVIATION FROM IDEAL DISTRICT POP.	PERIMETER DISTANCE IN MILES	LENGTH-WIDTH COMPACTNESS IN MILES
1	32,022	0.37%	118	22.38	0.65
2	31,969	0.20%	65	53.97	12.27
3	31,794	-0.34%	-110	166.63	9.32
4	31,733	-0.54%	-171	155.48	5.97
5	31,862	-0.13%	-42	183.28	1.04
6	31,776	-0.40%	-128	232.66	24.66
7	31,874	-0.09%	-30	101.37	9.89
8	31,944	0.13%	40	255.27	23.67
9	31,805	-0.31%	-99	167.92	23.88
10	31,861	-0.13%	-43	270.77	40.1
11	32,123	0.69%	219	149.34	23.69
12	32,094	0.60%	190	215.04	9.52
13	32,052	0.46%	148	239	30.62
14	31,939	0.11%	35	168.93	23.28
15	31,784	-0.38%	-120	45.11	0.56
16	31,882	-0.07%	-22	21.58	0.68
17	31,893	-0.03%	-11	42.47	4.53
18	31,799	-0.33%	-105	300.74	19
19	31,876	-0.09%	-28	183.17	26.88
20	31,769	-0.42%	-135	196.19	4.43
21	31,807	-0.30%	-97	95.83	6.24
22	31,950	0.14%	46	173.12	6.66
23	31,682	-0.70%	-222	236.06	31.26
24	31,771	-0.42%	-133	245.66	31.39
25	31,692	-0.66%	-212	202.96	6.33
26	31,874	-0.09%	-30	99.59	0.17
27	32,132	0.71%	228	17.24	1.05
28	31,963	0.18%	59	16.77	2.11
29	31,865	-0.12%	-39	24.63	0.69
30	31,878	-0.08%	-26	23.52	1.98

DISTRICT NUMBER	TOTAL POPULATION	% DEVIATION FROM IDEAL DISTRICT POP.	DEVIATION FROM IDEAL DISTRICT POP.	PERIMETER DISTANCE IN MILES	LENGTH-WIDTH COMPACTNESS IN MILES
31	32,010	0.33%	106	23.27	1.31
32	32,213	0.97%	309	22.06	1.88
33	31,630	-0.86%	-274	201.94	1.12
34	31,678	-0.71%	-226	69.36	2.06
35	31,685	-0.69%	-219	39.31	1.29
36	32,137	0.73%	233	79.51	0.78
37	31,769	-0.42%	-135	13.48	0.03
38	32,104	0.63%	200	19.06	0.61
39	31,757	-0.46%	-147	29.95	5.99
40	32,052	0.46%	148	65.03	1.07
41	32,170	0.83%	266	25.43	3.18
42	31,795	-0.34%	-109	39.28	0.28
43	32,036	0.41%	132	56.77	3.02
44	31,995	0.29%	91	56.82	2.49
45	31,952	0.15%	48	49.22	0.81
46	32,131	0.71%	227	15.23	0.71
47	32,098	0.61%	194	129.14	0.13
48	32,004	0.31%	100	239.96	1.59
49	32,116	0.66%	212	158.5	5.94
50	32,178	0.86%	274	186.8	13.7
51	31,875	-0.09%	-29	210.48	18.83
52	31,817	-0.27%	-87	86.43	5.98
53	32,005	0.32%	101	159.42	17.91
54	32,165	0.82%	261	108.81	17.84
55	31,794	-0.34%	-110	203.59	13.73
56	31,882	-0.07%	-22	185.4	6.74
57	31,936	0.10%	32	36.18	2.82
58	31,833	-0.22%	-71	34.23	1.79
59	31,757	-0.46%	-147	25.48	0.68
60	31,898	-0.02%	-6	155.45	1.23
61	31,680	-0.70%	-224	49.27	1.3

DISTRICT NUMBER	TOTAL POPULATION	% DEVIATION FROM IDEAL DISTRICT POP.	DEVIATION FROM IDEAL DISTRICT POP.	PERIMETER DISTANCE IN MILES	LENGTH-WIDTH COMPACTNESS IN MILES
62	31,713	-0.60%	-191	22.57	0.97
63	32,079	0.55%	175	42.74	3.59
64	32,066	0.51%	162	27.84	1.81
65	31,963	0.18%	59	50.55	1.83
66	31,973	0.22%	69	36.31	2.48
67	32,012	0.34%	108	54.4	2.33
68	31,921	0.05%	17	176.18	8.78
69	32,070	0.52%	166	33.93	0.53
70	31,798	-0.33%	-106	74.43	0.03
71	31,750	-0.48%	-154	94.03	4.8
72	31,997	0.29%	93	188.25	5.95
73	32,044	0.44%	140	29.92	1.46
74	31,976	0.23%	72	22.93	0.96
75	31,851	-0.17%	-53	159.66	18.21
76	31,865	-0.12%	-39	199.93	0.23
77	31,804	-0.31%	-100	72.24	0.15
78	31,690	-0.67%	-214	171.33	11.99
79	31,684	-0.69%	-220	179.33	9.48
80	31,635	-0.84%	-269	111.11	5.91
81	31,957	0.17%	53	44.6	3.79
82	32,031	0.40%	127	21.18	0.28
83	31,772	-0.41%	-132	55.14	0.85
84	31,993	0.28%	89	181.4	17.78
85	31,949	0.14%	45	32.47	2.07
86	31,914	0.03%	10	54.58	0.38
87	31,896	-0.03%	-8	61.9	1.03
88	32,104	0.63%	200	101.67	3.06
89	31,831	-0.23%	-73	189.09	17.83
90	31,729	-0.55%	-175	161.19	24.06
91	31,716	-0.59%	-188	54.62	1.49
92	31,679	-0.71%	-225	19.82	0.15

DISTRICT NUMBER	TOTAL POPULATION	% DEVIATION FROM IDEAL DISTRICT POP.	DEVIATION FROM IDEAL DISTRICT POP.	PERIMETER DISTANCE IN MILES	LENGTH-WIDTH COMPACTNESS IN MILES
93	32,007	0.32%	103	68.92	5.94
94	31,893	-0.03%	-11	167.22	19.33
95	31,936	0.10%	32	157.74	16.29
96	32,157	0.79%	253	135.03	18.39
97	32,122	0.68%	218	200.48	12.97
98	31,669	-0.74%	-235	200.85	6.06
99	31,726	-0.56%	-178	187.67	23.81
100	31,780	-0.39%	-124	154.96	22.55

Ideal House District Population: 31,904

Lowest Population: District 33 Highest Population: District 32

Absolute Mean Deviation: 125.77 persons

Mean Deviation Percentage Variance: 0.394214%

Total Perimeter Score: 11,079.75 miles

Average Length-Width Compactness: 7.99 miles

Overall Range

	LOWEST DISTRICT POP.	HIGHEST DISTRICT POP.	OVERALL
ABSOLUTE	-274	309	583
% VARIANCE	-0.86%	0.97%	1.83%
RATIO	1.01843187		

TABLE 4
COUNTIES KEPT WHOLE IN A SENATE DISTRICT
(Total: 71)

Adair	Decatur	Jasper	Pocahontas
Adams	Delaware	Jefferson	Ringgold
Allamakee	Dickinson	Jones	Sac
Appanoose	Emmet	Keokuk	Shelby
Audubon	Floyd	Lee	Sioux
Boone	Franklin	Louisa	Tama
Bremer	Fremont	Lyon	Taylor
Buchanan	Greene	Mahaska	Union
Buena Vista	Grundy	Marion	Van Buren
Butler	Guthrie	Mills	Wapello
Calhoun	Hamilton	Mitchell	Warren
Cedar	Hancock	Monona	Wayne
Cherokee	Henry	Monroe	Webster
Chickasaw	Howard	Montgomery	Winnebago
Clay	Humboldt	O'Brien	Winneshiek
Clayton	Ida	Osceola	Worth
Crawford	Iowa	Page	Wright
Davis	Jackson	Palo Alto	

COUNTIES KEPT WHOLE IN A HOUSE DISTRICT
(Total: 55)

Adair	Crawford	Jackson	Page
Adams	Davis	Jefferson	Palo Alto
Allamakee	Decatur	Jones	Pocahontas
Appanoose	Emmet	Keokuk	Ringgold
Audubon	Franklin	Louisa	Sac
Boone	Fremont	Lyon	Shelby
Bremer	Greene	Mahaska	Tama
Buchanan	Grundy	Mills	Taylor
Butler	Guthrie	Mitchell	Van Buren
Calhoun	Hancock	Monona	Wayne
Cherokee	Henry	Monroe	Winnebago
Chickasaw	Howard	Montgomery	Worth
Clay	Humboldt	O'Brien	Wright
Clayton	Ida	Osceola	

TABLE 5
DIVIDABLE PRECINCTED CITIES ABOVE 20,000 PERSONS LOCATED WITHIN A
SINGLE COUNTY AND KEPT WHOLE IN SENATE AND HOUSE DISTRICTS
(21 cities)

CITIES KEPT WHOLE IN SENATE DISTRICTS

Bettendorf	Johnston
Burlington	Marion
Cedar Falls	Marshalltown
Clinton	Mason City
Coralville	Muscatine
Dubuque	Ottumwa
Fort Dodge	Waukee

CITIES KEPT WHOLE IN HOUSE DISTRICTS

Burlington
Clinton
Coralville
Fort Dodge
Johnston
Marshalltown
Mason City
Muscatine
Ottumwa
Waukee

TABLE 6

LEGISLATIVE DISTRICTS PER COUNTY

	4/1/2020	Senate	Senate	House	House
	Census	Districts	Districts in	Districts	Districts in
County	Population	Required	Plan 1	Required	Plan 1
Adair	7,496	1	1	1	1
Adams	3,704	1	1	1	1
Allamakee	14,061	1	1	1	1
Appanoose	12,317	1	1	1	1
Audubon	5,674	1	1	1	1
Benton	25,575	1	2	1	2
Black Hawk	131,144	3	4	5	6
Boone	26,715	1	1	1	1
Bremer	24,988	1	1	1	1
Buchanan	20,565	1	1	1	1
Buena Vista	20,823	1	1	1	2
Butler	14,334	1	1	1	1
Calhoun	9,927	1	1	1	1
Carroll	20,760	1	2	1	2
Cass	13,127	1	2	1	2
Cedar	18,505	1	1	1	2
Cerro Gordo	43,127	1	2	2	3
Cherokee	11,658	1	1	1	1
Chickasaw	12,012	1	1	1	1
Clarke	9,748	1	2	1	2
Clay	16,384	1	1	1	1
Clayton	17,043	1	1	1	1
Clinton	46,460	1	2	2	2
Crawford	16,525	1	1	1	1
Dallas	99,678	2	4	4	5
Davis	9,110	1	1	1	1
Decatur	7,645	1	1	1	1
Delaware	17,488	1	1	1	2
Des Moines	38,910	1	2	2	3
Dickinson	17,703	1	1	1	2
Dubuque	99,266	2	3	4	4
Emmet	9,388	1	1	1	1
Fayette	19,509	1	2	1	2
Floyd	15,627	1	1	1	2
Franklin	10,019	1	1	1	1
Fremont	6,605	1	1	1	1
Greene	8,771	1	1	1	1
Grundy	12,329	1	1	1	1

	4/1/2020	Senate	Senate	House	House
	Census	Districts	Districts in	Districts	Districts in
County	Population	Required	Plan 1	Required	Plan 1
Guthrie	10,623	1	1	1	1
Hamilton	15,039	1	1	1	2
Hancock	10,795	1	1	1	1
Hardin	16,878	1	2	1	2
Harrison	14,582	1	2	1	2
Henry	20,482	1	1	1	1
Howard	9,469	1	1	1	1
Humboldt	9,597	1	1	1	1
Ida	7,005	1	1	1	1
Iowa	16,662	1	1	1	2
Jackson	19,485	1	1	1	1
Jasper	37,813	1	1	2	2
Jefferson	15,663	1	1	1	1
Johnson	152,854	3	3	5	5
Jones	20,646	1	1	1	1
Keokuk	10,033	1	1	1	1
Kossuth	14,828	1	2	1	2
Lee	33,555	1	1	2	2
Linn	230,299	4	4	8	8
Louisa	10,837	1	1	1	1
Lucas	8,634	1	2	1	2
Lyon	11,934	1	1	1	1
Madison	16,548	1	2	1	2
Mahaska	22,190	1	1	1	1
Marion	33,414	1	1	2	2
Marshall	40,105	1	2	2	2
Mills	14,484	1	1	1	1
Mitchell	10,565	1	1	1	1
Monona	8,751	1	1	1	1
Monroe	7,577	1	1	1	1
Montgomery	10,330	1	1	1	1
Muscatine	43,235	1	2	2	2
O'Brien	14,182	1	1	1	1
Osceola	6,192	1	1	1	1
Page	15,211	1	1	1	1
Palo Alto	8,996	1	1	1	1
Plymouth	25,698	1	2	1	2
Pocahontas	7,078	1	1	1	1
Polk	492,401	8	8	16	16
Pottawattamie	93,667	2	2	3	4
Poweshiek	18,662	1	2	1	2
Ringgold	4,663	1	1	1	1

	4/1/2020	Senate	Senate	House	House
	Census	Districts	Districts in	Districts	Districts in
County	Population	Required	Plan 1	Required	Plan 1
Sac	9,814	1	1	1	1
Scott	174,669	3	4	6	7
Shelby	11,746	1	1	1	1
Sioux	35,872	1	1	2	2
Story	98,537	2	2	4	4
Tama	17,135	1	1	1	1
Taylor	5,896	1	1	1	1
Union	12,138	1	1	1	2
Van Buren	7,203	1	1	1	1
Wapello	35,437	1	1	2	2
Warren	52,403	1	1	2	2
Washington	22,565	1	2	1	2
Wayne	6,497	1	1	1	1
Webster	36,999	1	1	2	2
Winnebago	10,679	1	1	1	1
Winneshiek	20,070	1	1	1	2
Woodbury	105,941	2	3	4	5
Worth	7,443	1	1	1	1
Wright	12,943	1	1	1	1

TABLE 7

LEGISLATIVE DISTRICTS PER DIVIDABLE PRECINCTED CITY ABOVE 20,000 PERSONS

	4/1/2020	Senate	Senate	House	House
	Census	Districts	Districts in	Districts	Districts in
City	Population	Required	Plan 1	Required	Plan 1
Ames	66,427	2	2	3	3
Ankeny	67,887	2	2	3	3
Bettendorf/Riverdale/Panorama Park	39,620	1	1	2	2
Burlington	23,982	1	1	1	1
Cedar Falls	40,713	1	1	2	2
Cedar Rapids	137,710	3	3	5	5
Clinton	24,469	1	1	1	1
Coralville	22,318	1	1	1	1
Council Bluffs/Carter Lake	66,590	2	2	3	3
Davenport	101,724	2	3	4	4
Des Moines (Polk Co)	213,921	4	4	7	8
Dubuque	59,667	1	1	2	2
Fort Dodge	24,871	1	1	1	1
Iowa City/University Heights	76,056	2	2	3	4
Johnston	24,064	1	1	1	1
Marion	41,535	1	1	2	2
Marshalltown	27,591	1	1	1	1
Mason City	27,338	1	1	1	1
Muscatine	23,797	1	1	1	1
Sioux City (Woodbury Co)	85,791	2	2	3	3
Urbandale (Polk Co)	33,804	1	1	2	2
Urbandale (Polk and Dallas Co)	45,580	1	2	2	3
Waterloo	67,314	2	2	3	3
Waukee	23,940	1	1	1	1
West Des Moines (Polk Co)	45,582	1	1	2	2
West Des Moines (Polk and Dallas Co)	68,494	2	2	3	3