Presentation of Draft Maps

HAYSTAQ DNA

At the request of
The City of San Diego Redistricting Commission

October 21, 2021

About Haystaq

Data Analytics Firm - Founded in 2003

❖ Redistricting experience

- Tens of thousands of maps created
    - State, Congressional, state senate, state assembly/house, municipality. county, precinct, school district maps
- Expertise in plan evaluation methodology:
    - Measures of compactness (Reock, Polsby-Popper, Convex Hull, Perimeter, etc.),
    - County and community splits,
    - Communities of Interest,
    - Racial and ethnic demographic makeup (Voting Age Population (VAP), CVAP, etc.),
    - Client specific needs/data

Data and Tools

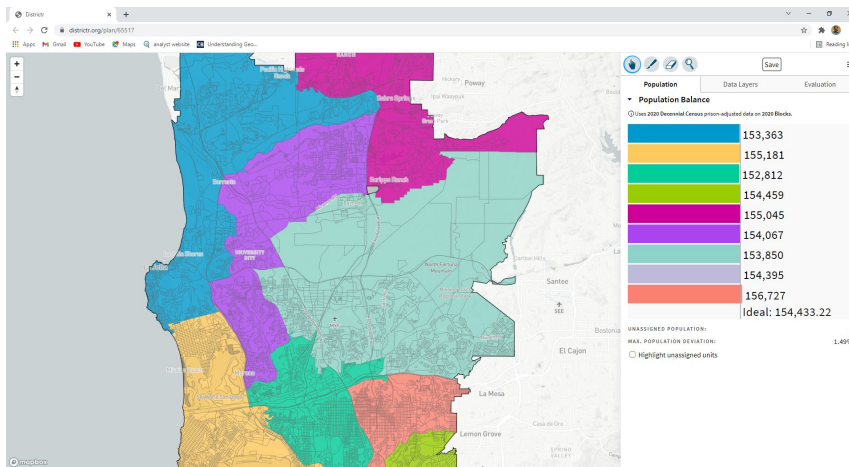**Data:**

Census P.L. 94-171 File

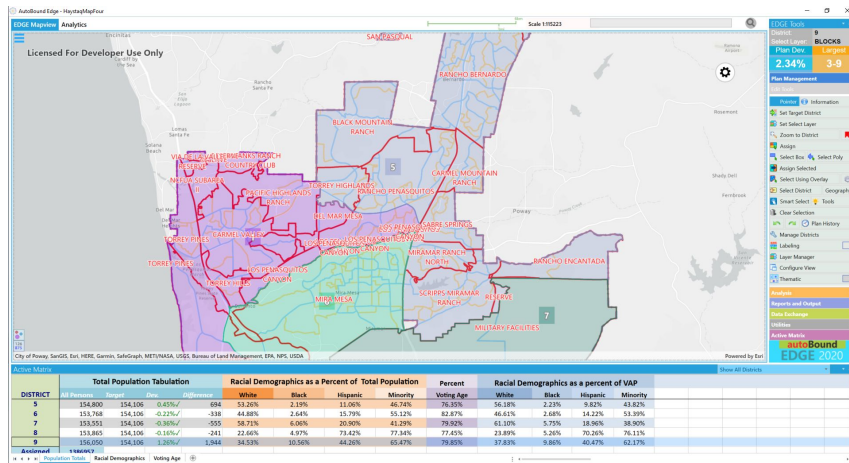California Statewide Database PL File

(https://statewidedatabase.org/)

School District Shapefile

Community Planning Association Shapefile

San Diego Neighborhood Shapefile
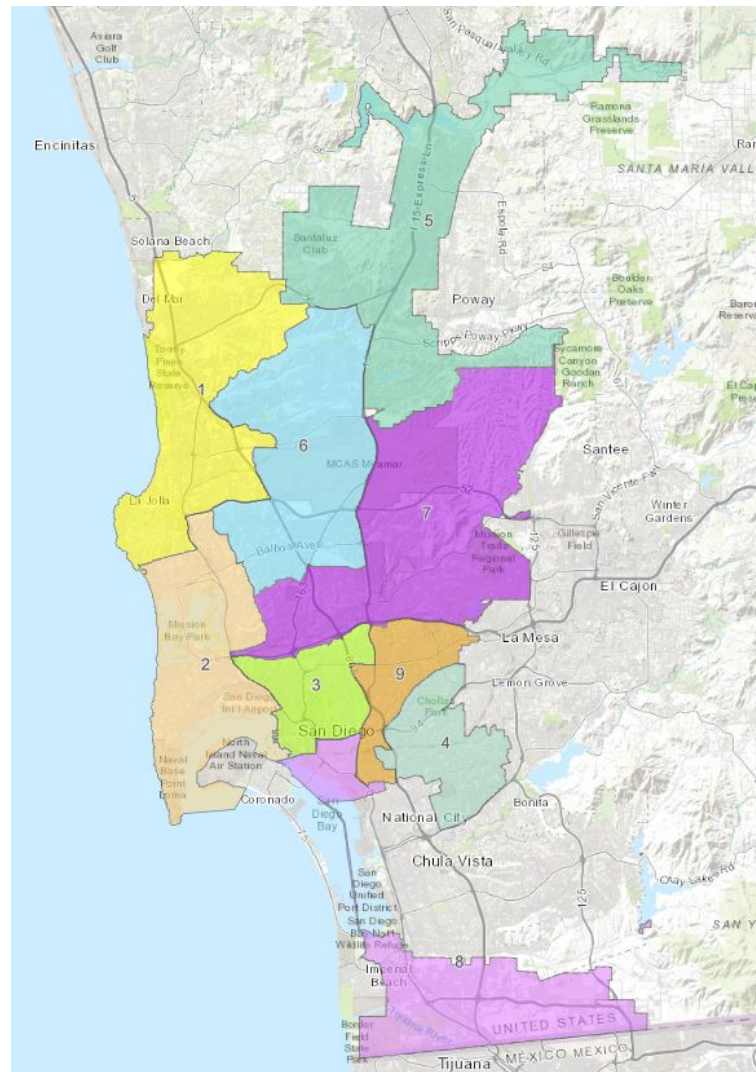
Tools:

CityGate AutoBound

Districtr mapping tool

Haystaq Proprietary Python Code

Existing Districts

Why do districts need to be redrawn?

- Citywide deviation

- Accommodate growing and changing populations

- Redistricting mandated by local and federal law

Existing Districts

Population

District	Total Population	%Latino	%Asian	%Black	CVAP %Latino	CVAP %Asian	CVAP %Black
1	166,656	11.01%	26.08%	1.41%	9.64%	17.77%	1.68%
2	149,952	16.82%	5.37%	2.72%	13.55%	4.50%	2.84%
3	161,448	24.66%	6.63%	5.57%	19.70%	5.69%	6.93%
4	145,708	44.74%	23.05%	15.80%	34.91%	23.36%	21.50%
5	158,760	11.14%	28.49%	2.13%	9.83%	21.70%	2.49%
6	152,358	17.76%	34.58%	3.52%	14.53%	29.90%	4.28%
7	159,500	22.42%	12.50%	6.01%	17.88%	11.69%	6.03%
8	149,313	75.42%	7.49%	4.56%	66.74%	9.85%	6.26%
9	146,204	48.22%	12.80%	10.37%	35.00%	13.21%	11.92%
Totals	1,389,899						
Ideal	154433.2222						

Compactness

District	Perimeter	Area Sq_Mi	Polsby Popper	Schwartz-berg	Convex Hull	Reock
1	50.4	47	0.2307	0.4803	0.6626	0.3531
2	47.8	38	0.2073	0.4553	0.7459	0.3124
3	23.4	15	0.3427	0.5854	0.7594	0.4794
4	26.8	17	0.3028	0.5503	0.7931	0.5298
5	101.3	64	0.0779	0.2791	0.4012	0.2414
6	39.1	46	0.3812	0.6174	0.7855	0.4163
7	58.1	65	0.2416	0.4916	0.705	0.2985
8	62.4	38	0.1219	0.3491	0.2944	0.1541
9	24.6	13	0.2629	0.5128	0.6048	0.3076
Avg			0.2410	0.4801	0.6391	0.3436

Existing Districts

Population deviation

Community Planning Association Splits

split across number of districts	number of CPA
1	32
2	21
3	5
5	1

Neighborhood splits

split across number of districts	number of neighborhoods
1	98
2	22
3	5
7	1

District	Total Population	Raw Deviation	% Deviation	
1	166,656	12,223	7.91%	
2	149,952	-4,481	-2.90%	
3	161,448	7,015	4.54%	
4	145,708	-8,725	-5.65%	
5	158,760	4,327	2.80%	
6	152,358	-2,075	-1.34%	
7	159,500	5,067	3.28%	
8	149,313	-5,120	-3.32%	
9	146,204	-8,229	-5.33%	
Totals	1,389,899			
Ideal	154433.2222	Deviation		13.56%

Map 1

Some of the Themes:

    Keeping Downtown Whole and Part of District Three

    Creating a Student/AAPI Empowerment District

    Retaining District One's Coastal Element

    Keeping Scripps Ranch in District 5

    Keeping Linda Vista Whole

https://portal.sandiego-mapping.org/submission/p5743

Map 1

Population   Data Layers   Evaluation

Population Balance

ⓘ Uses 2020 Decennial Census prison-adjusted data on 2020 Blocks.

	157,792
	154,053
	155,123
	151,487
	158,760
	150,969
	156,702
	155,311
	149,702
	Ideal: 154,433.22

UNASSIGNED POPULATION:

MAX. POPULATION DEVIATION: 3.06%

☐ Highlight unassigned units
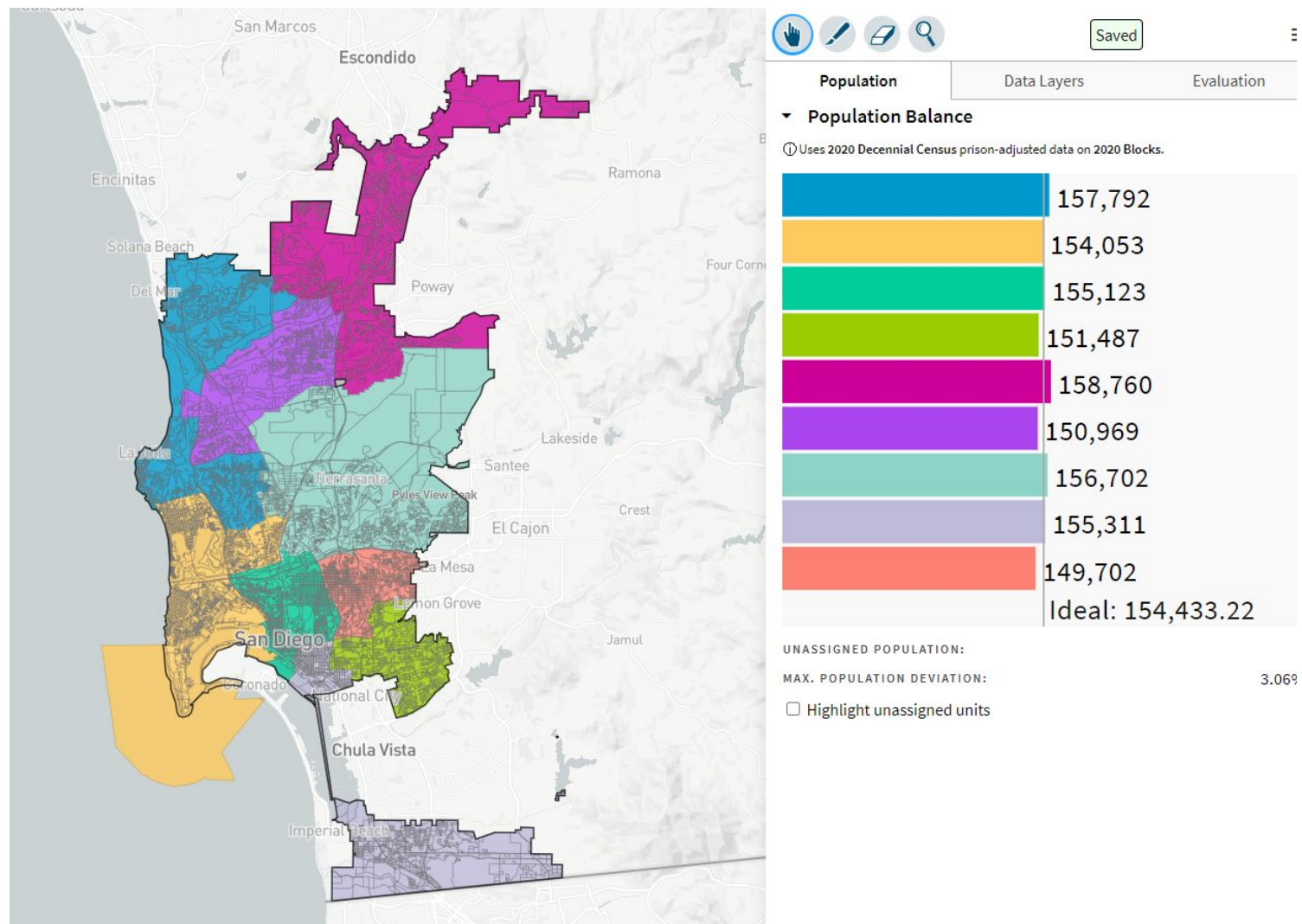
Map 1

Population

District	Total_Population	%Latino	%Asian	%Black	CVAP %Latino	CVAP %Asian	CVAP %Black
1	157,792	14.10%	18.28%	1.19%	11.29%	13.92%	1.77%
2	154,053	19.35%	8.03%	3.28%	14.87%	6.84%	3.68%
3	155,123	23.54%	7.08%	5.56%	19.67%	5.72%	6.36%
4	151,487	49.08%	21.52%	15.05%	37.99%	22.17%	21.35%
5	158,760	11.14%	28.49%	2.13%	9.83%	21.70%	2.49%
6	150,969	13.38%	41.87%	2.77%	11.99%	34.53%	3.34%
7	156,702	20.52%	11.84%	6.15%	16.88%	11.01%	6.09%
8	155,311	75.88%	7.31%	4.60%	67.32%	9.61%	6.32%
9	149,702	41.01%	13.63%	10.73%	29.06%	13.69%	12.13%

Compactness

District	Perimeter	Area Sq Mi	Polsby Popper	Schwartzberg	Convex Hull	Reock
1	59.1	46	0.1658	0.4072	0.5627	0.3105
2	49.4	37	0.1911	0.4371	0.6645	0.3588
3	24.9	17	0.3447	0.5871	0.7876	0.5169
4	27.5	17	0.2897	0.5382	0.751	0.6121
5	100.4	63	0.079	0.2811	0.3993	0.2403
6	31	30	0.3981	0.6309	0.7782	0.3551
7	55.9	80	0.32	0.5657	0.8275	0.4987
8	61.1	37	0.1256	0.3545	0.304	0.1642
9	19.9	14	0.4304	0.6561	0.7781	0.4768
Avg			0.2605	0.4953	0.6503	0.3926

Map 1

Community Planning Association Splits

split across number of districts	number of COMMUNITYs
1	47
2	8
3	4

Neighborhood Splits

split across number of districts	number of NEIGHBORHOODs
1	99
2	20
3	6
7	1

Deviation

District	Total Population	Raw Deviation	% Deviation
1	157,792	3,359	2.17%
2	154,053	-380	-0.25%
3	155,123	690	0.45%
4	151,487	-2,946	-1.91%
5	158,760	4,327	2.80%
6	150,969	-3,464	-2.24%
7	156,702	2,269	1.47%
8	155,311	878	0.57%
9	149,702	-4,731	-3.06%
Totals	1389899		
Ideal	154433.22	Deviation	5.87%

Map 2

Some of the Themes:

      Keeping Downtown Whole and Part of District Two

      Adding Northwestern Geographies to District Six

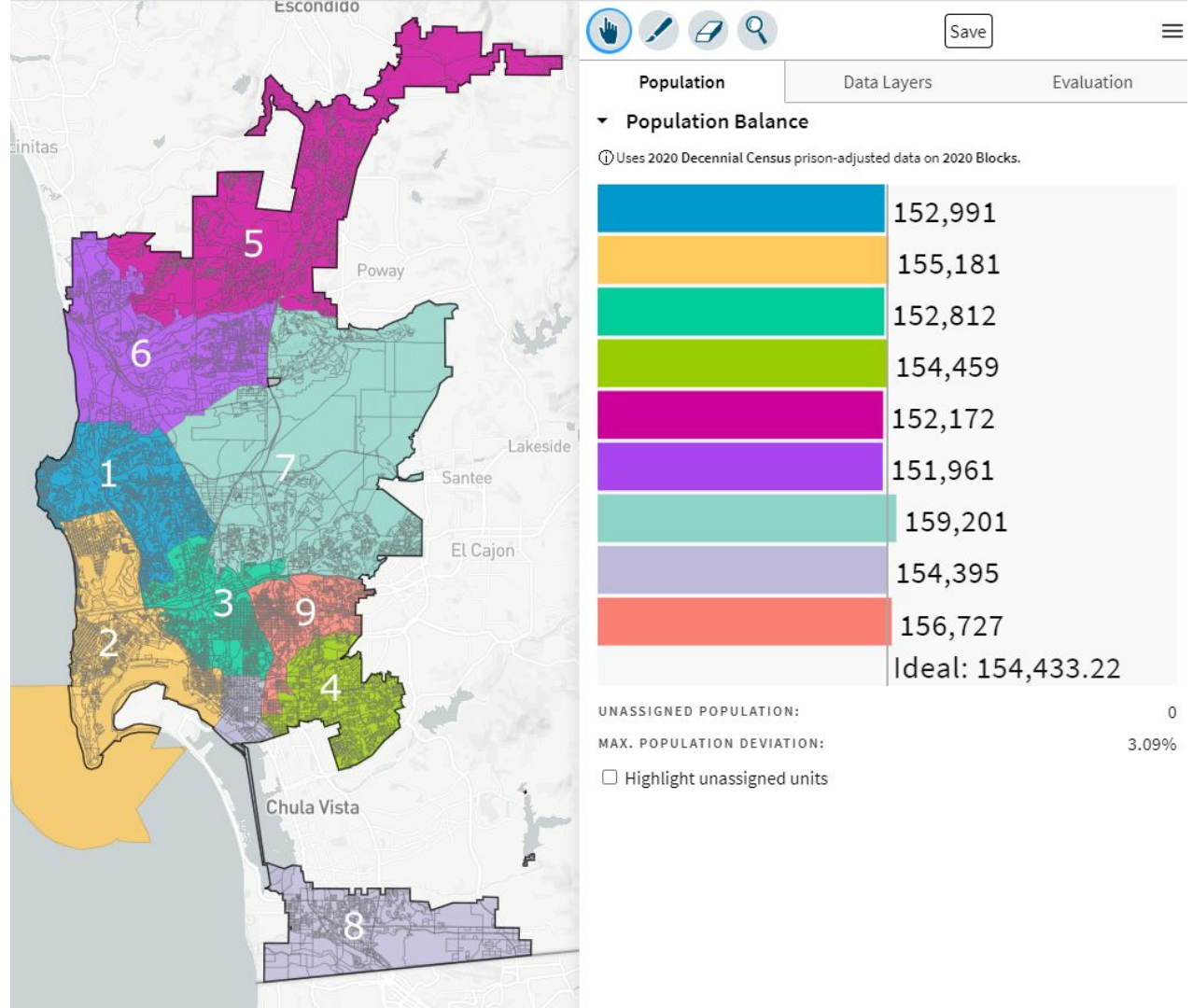   Putting Park Village in District Five

      Keeping Linda Vista Whole and in District Three

      Echoing Parts of Both the Unity Map and the Mid City Map

      Keeping Clairemont Whole

https://portal.sandiego-mapping.org/submission/p5731

Map 2

Map 2

Population

District	Total Population	%Latino	%Asian	%Black	CVAP %Latino	CVAP %Asian	CVAP %Black
1	152,991	16.86%	15.68%	1.89%	14.38%	12.67%	2.46%
2	155,181	17.46%	5.10%	4.32%	13.65%	4.82%	4.78%
3	152,812	24.59%	11.11%	5.01%	20.70%	8.53%	5.57%
4	154,459	48.56%	21.60%	15.16%	38.48%	22.07%	21.32%
5	152,172	11.10%	30.52%	1.98%	9.66%	23.03%	2.13%
6	151,961	12.54%	39.55%	2.55%	10.15%	33.26%	3.44%
7	159,201	17.72%	14.67%	5.16%	14.72%	12.74%	4.96%
8	154,395	73.35%	7.41%	4.57%	63.59%	9.44%	6.57%
9	156,727	44.23%	12.73%	10.17%	31.11%	13.07%	11.64%
Totals	1389899						

Compactness

District	Perimeter	Area Sq_Mi	Polsby Popper	Schwartzberg	Convex Hull	Reock
1	31.1	27	0.3511	0.5926	0.7496	0.5669
2	43.1	35	0.2347	0.4844	0.7012	0.3554
3	32.4	20	0.2359	0.4857	0.7011	0.5202
4	28.3	18	0.2792	0.5284	0.7579	0.605
5	96	62	0.0839	0.2897	0.4555	0.1832
6	40.3	41	0.3195	0.5652	0.7441	0.4906
7	58.9	89	0.3223	0.5677	0.7905	0.5018
8	60.5	37	0.1275	0.3571	0.3009	0.1586
9	23.1	14	0.3257	0.5707	0.6697	0.3559
Avg			0.2533	0.4935	0.6523	0.4153

Map 2

Community Planning Area splits

Split across number of districts	number of CPA
1	48
2	9
3	1
4	1

Neighborhood splits

split across number of districts	number of neighborhoods
1	96
2	26
3	3
5	1

Deviations

District	Total Population	Raw Deviation	% Deviation	
1	152,991	-1,442	-0.93%	
2	155,181	748	0.48%	
3	152,812	-1,621	-1.05%	
4	154,459	26	0.02%	
5	152,172	-2,261	-1.46%	
6	151,961	-2,472	-1.60%	
7	159,201	4,768	3.09%	
8	154,395	-38	-0.02%	
9	156,727	2,294	1.49%	
Totals	1389899			
Ideal	154433.2222	Deviation	4.69%	

Map 3A

Some of the Themes:
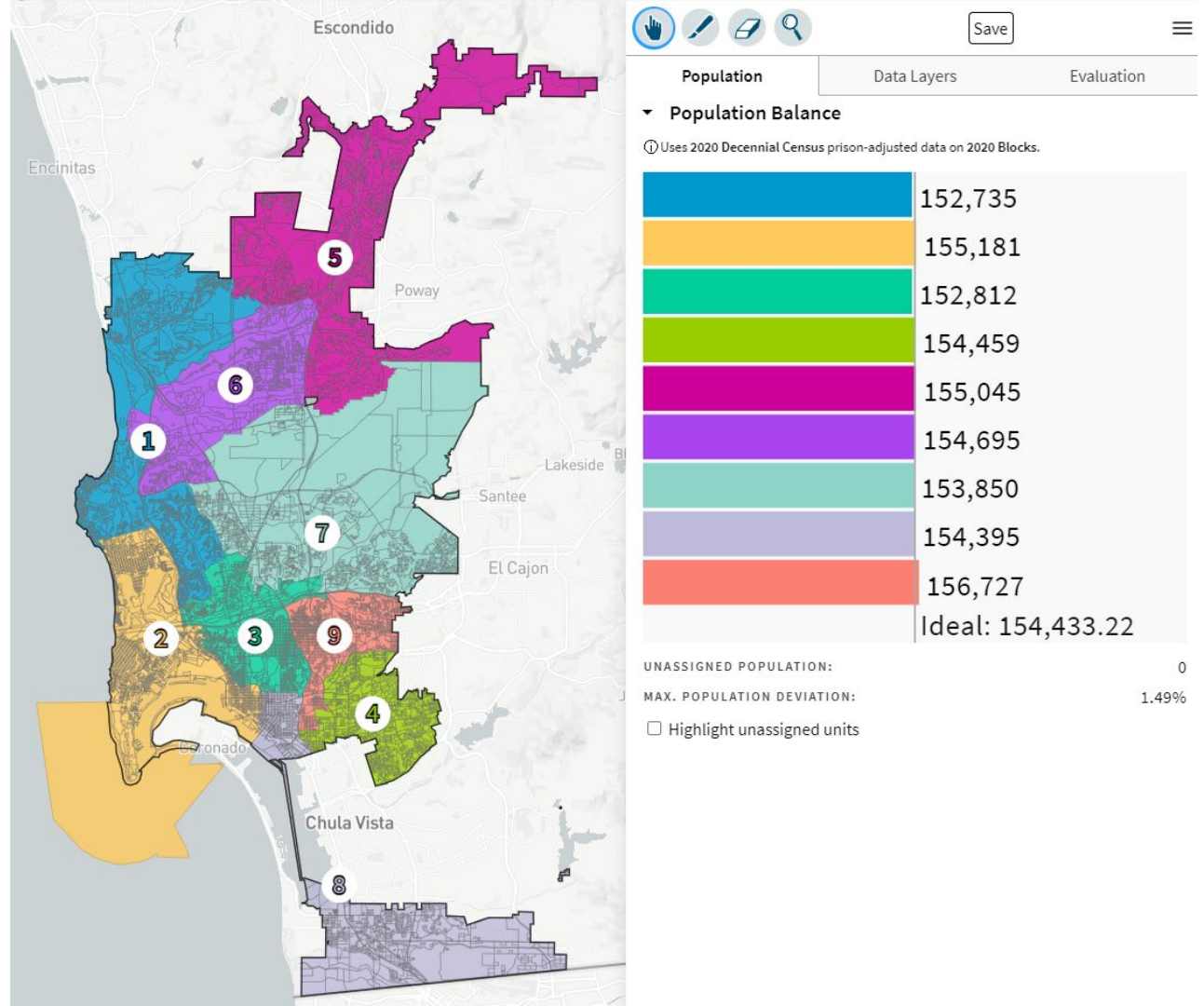
This is Not a Distinct Map

Combines Districts Five and Six from Map 1

Combines Districts Two, Three, Four, Eight and Nine from Map 2

Clairemont Split Between Districts One and Seven

https://portal.sandiego-mapping.org/submission/p5732

Map 3A

Map 3A

Population

District	Total Population	%Latino	%Asian	%Black	CVAP %Latino	CVAP %Asian	CVAP %Black
1	152,735	13.02%	17.85%	1.08%	10.89%	12.51%	1.44%
2	155,181	17.46%	5.10%	4.32%	13.65%	4.82%	4.78%
3	152,812	24.59%	11.11%	5.01%	20.70%	8.53%	5.57%
4	154,459	48.56%	21.60%	15.16%	38.48%	22.07%	21.32%
5	155,045	11.09%	28.53%	2.12%	9.59%	21.74%	2.47%
6	154,695	13.37%	41.50%	2.76%	12.20%	34.16%	3.34%
7	153,850	20.92%	11.82%	5.71%	16.63%	11.99%	5.62%
8	154,395	73.35%	7.41%	4.57%	63.59%	9.44%	6.57%
9	156,727	44.23%	12.73%	10.17%	31.11%	13.07%	11.64%
Totals	1,389,899.0						

Compactness

District	Perimeter	Area Sq_Mi	Polsby Popper	Schwartz-berg	Convex Hull	Reock
1	58.8	46	0.1662	0.4077	0.5311	0.2559
2	43.1	35	0.2347	0.4844	0.7012	0.3554
3	32.4	20	0.2359	0.4857	0.7011	0.5202
4	28.3	18	0.2792	0.5284	0.7579	0.605
5	101.5	63	0.0769	0.2773	0.3972	0.239
6	31.3	31	0.3987	0.6314	0.7746	0.3341
7	57.3	79	0.3014	0.549	0.8263	0.5343
8	60.5	37	0.1275	0.3571	0.3009	0.1586
9	23.1	14	0.3257	0.5707	0.6697	0.3559
Avg			0.2385	0.4769	0.6289	0.3732

Map 3A

Community Planning Area splits

split across number of districts	number of CPAs
1	46
2	10
3	2
4	1

Neighborhood splits

split across number of districts	number of Neighborhoods
1	95
2	24
3	6
6	1

Deviations

District	Total Population	Raw Deviation	% Deviation
1	152,735	-1,698	-1.10%
2	155,181	748	0.48%
3	152,812	-1,621	-1.05%
4	154,459	26	0.02%
5	155,045	612	0.40%
6	154,695	262	0.17%
7	153,850	-583	-0.38%
8	154,395	-38	-0.02%
9	156,727	2,294	1.49%
Totals	1,389,899.0		
Ideal	154433.2222	Deviation	2.58%

Map 3B

Some of the Themes:
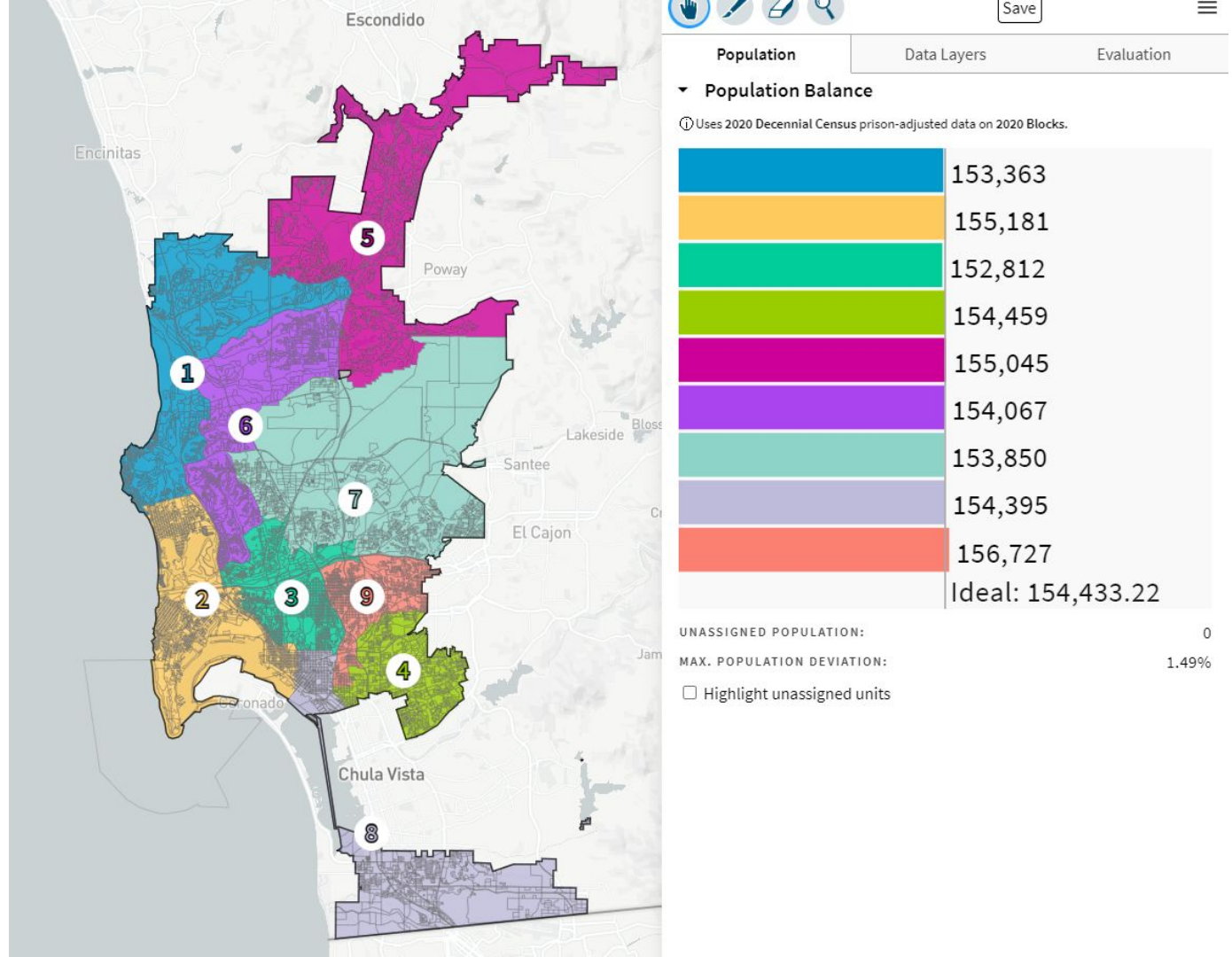
    This is Not a Distinct Map

    The only Difference between this and 3A is Districts One and Six

    Create a District One that shares 90% of its population with the existing District One

    Clairemont Split between Districts Six and Seven

    Demonstrate the Trade-off between Keeping District One the Same and Creating an AAPI Empowerment District

https://portal.sandiego-mapping.org/submission/p5733

Map 3B

Map 3B

Population

District	Total Population	%Latino	%Asian	%Black	CVAP %Latino	CVAP %Asian	CVAP %Black
1	153,363	10.56%	26.99%	1.36%	8.83%	19.12%	1.41%
2	155,181	17.46%	5.10%	4.32%	13.65%	4.82%	4.78%
3	152,812	24.59%	11.11%	5.01%	20.70%	8.53%	5.57%
4	154,459	48.56%	21.60%	15.16%	38.48%	22.07%	21.32%
5	155,045	11.09%	28.53%	2.12%	9.59%	21.74%	2.47%
6	154,067	15.82%	32.49%	2.49%	13.61%	25.98%	3.10%
7	153,850	20.92%	11.82%	5.71%	16.63%	11.99%	5.62%
8	154,395	73.35%	7.41%	4.57%	63.59%	9.44%	6.57%
9	156,727	44.23%	12.73%	10.17%	31.11%	13.07%	11.64%
total	1,389,899						

Compactness

District	Perimeter	Area Sq_Mi	Polsby Popper	Schwartz-berg	Convex Hull	Reock
1	49.9	43	0.2187	0.4677	0.5834	0.2855
2	43.1	35	0.2347	0.4844	0.7012	0.3554
3	32.4	20	0.2359	0.4857	0.7011	0.5202
4	28.3	18	0.2792	0.5284	0.7579	0.605
5	101.5	63	0.0769	0.2773	0.3972	0.239
6	40.2	33	0.2604	0.5103	0.6347	0.2403
7	57.3	79	0.3014	0.549	0.8263	0.5343
8	60.5	37	0.1275	0.3571	0.3009	0.1586
9	23.1	14	0.3257	0.5707	0.6697	0.3559
Avg			0.2289	0.4701	0.6192	0.3660

Map 3B

Community Planning Area splits

split across number of districts	number of CPAs
1	47
2	9
3	2
4	1

Neighborhood splits

split across number of districts	number of neighborhoods
1	95
2	28
3	2
6	1

Deviations

District	Total Population	Raw Deviation	% Deviation
1	153,363	-1,070	-0.69%
2	155,181	748	0.48%
3	152,812	-1,621	-1.05%
4	154,459	26	0.02%
5	155,045	612	0.40%
6	154,067	-366	-0.24%
7	153,850	-583	-0.38%
8	154,395	-38	-0.02%
9	156,727	2,294	1.49%
total	1,389,899		
Ideal	154433.2222	Deviation	2.54%