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# Gerrymandering in Redlands, California

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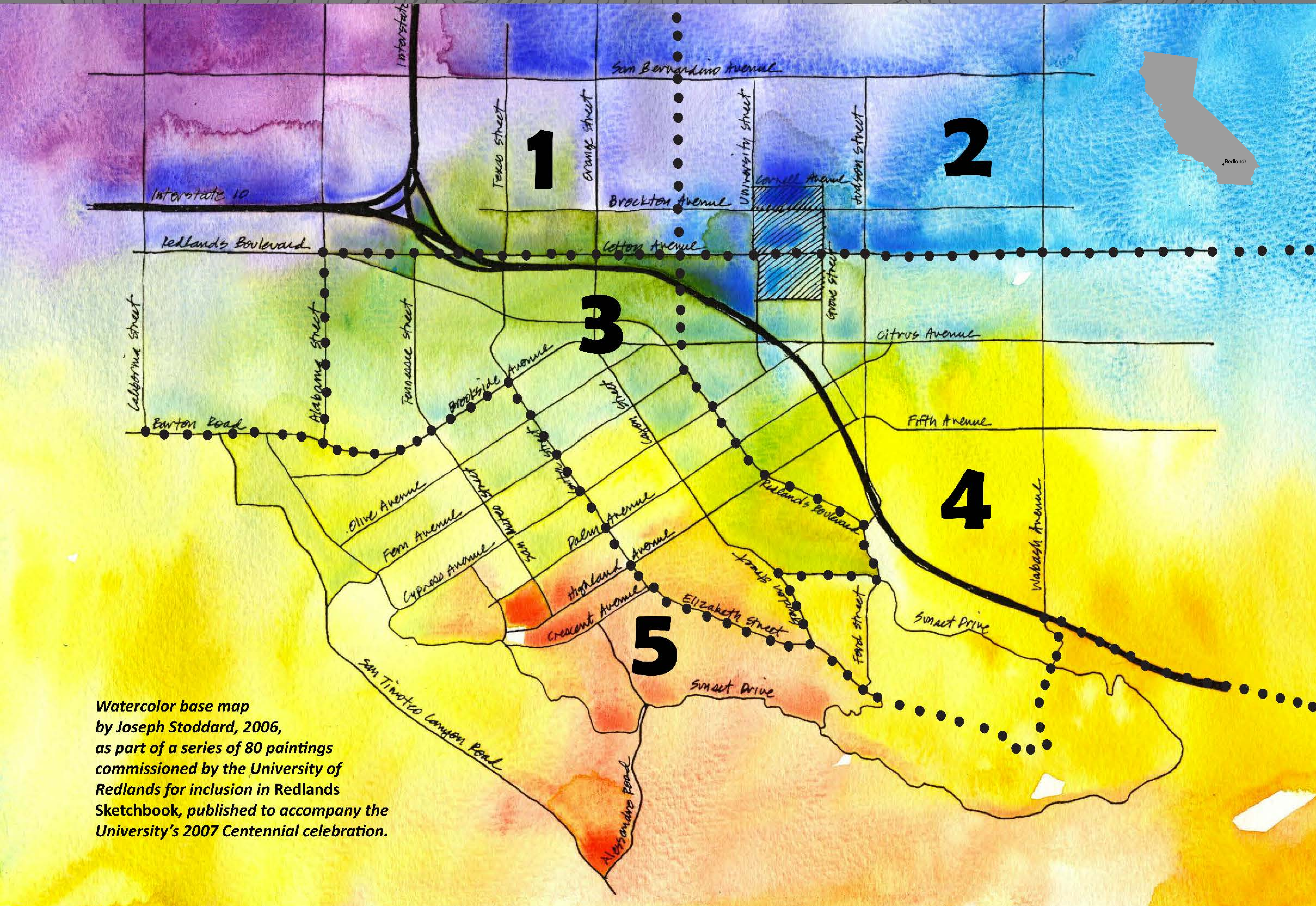


# Gerrymandering in Redlands, California

The fairest districting depends on your point of *hue*

Mark Kumler, PhD, Joseph Stoddard, and Melo King

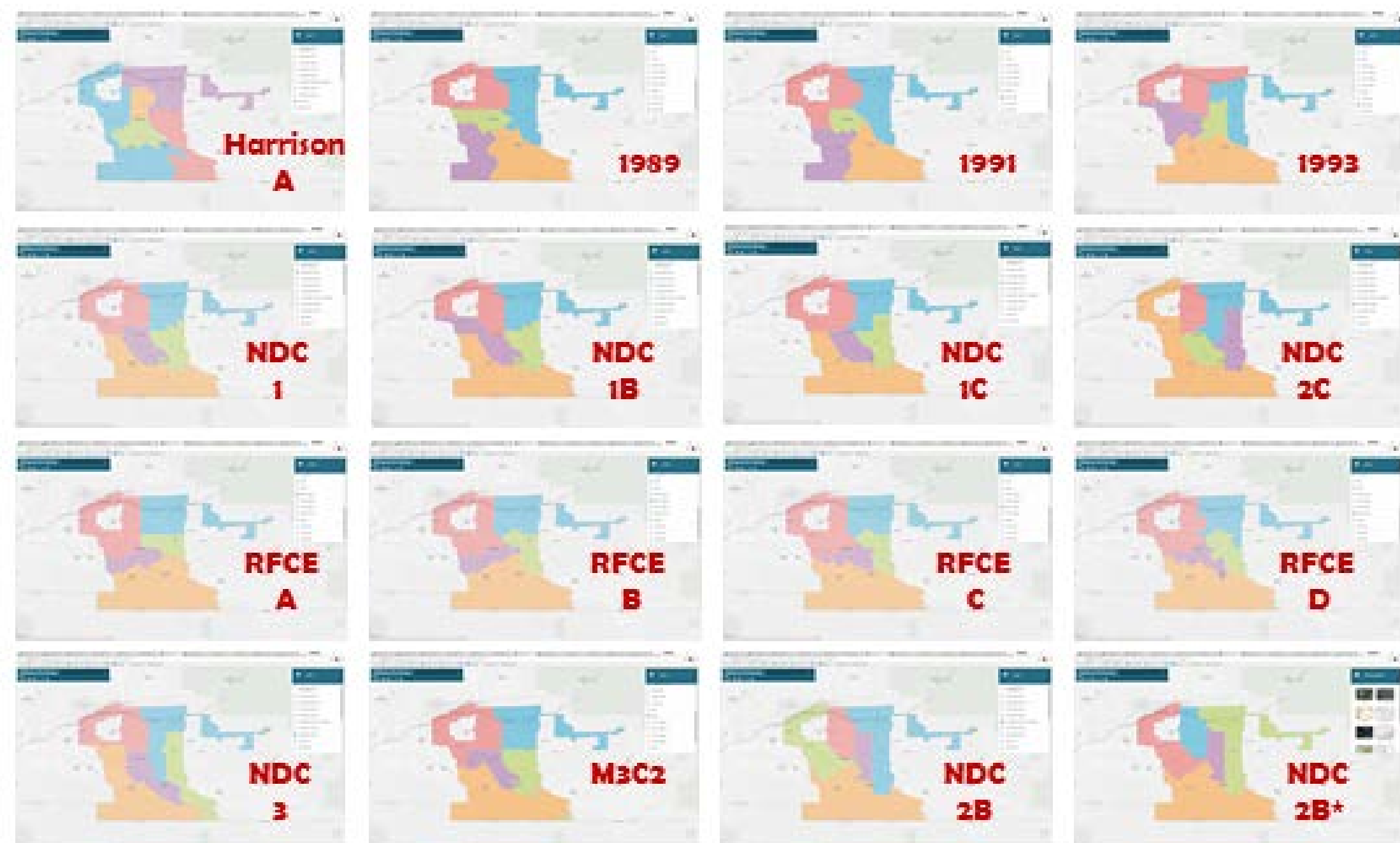
with Matthew Drutjons, Michelle Williams, Caid Scharry, Luis Gutierrez-Salinas, Abolade Afolabi, Reed Shoho, and Jon Quinn  
MS GIS Program, University of Redlands



Watercolor base map by Joseph Stoddard, 2006, as part of a series of 80 paintings commissioned by the University of Redlands for inclusion in Redlands Sketchbook, published to accompany the University's 2007 Centennial celebration.

**Background:** In April 2016, the City of Redlands began the process of switching from an “at large” system of electing council members to a “by district” system in order to comply with state and federal voting rights acts and avoid litigation. National Demographic Corporation (NDC), a Claremont-based consulting firm, was hired to facilitate the process, hold public forums to receive input, and draft several maps for consideration.

**The Problem:** Four of the five current councilmembers live in the southern half of the city. NDC produced seven draft district maps that were presented for public review. Many individuals and citizen groups felt the maps didn't follow neighborhood boundaries, and they seemed to be gerrymandered to leave most council members as the single incumbent in one of the new districts. Several alternative maps were proposed by the public, including four by the Redlands for Civic Engagement (RFCE) group. The four RFCE maps were eliminated by the council because they were not sufficiently population balanced or did not contain a district that was at least 50% Hispanic.



**Map M3C2:** In March 2017, when the Council was on the verge of selecting NDC Map 2B, the problem was brought to the attention of a class of graduate students in the MS GIS Program at the University of Redlands. Over the next three weeks the university students produced a map, named M3C2, using ArcGIS and census block level data. M3C2 is extremely well balanced in population (better than all of the NDC maps), follows neighborhood boundaries, has one district that is 53% Hispanic, and has districts that are more compact.

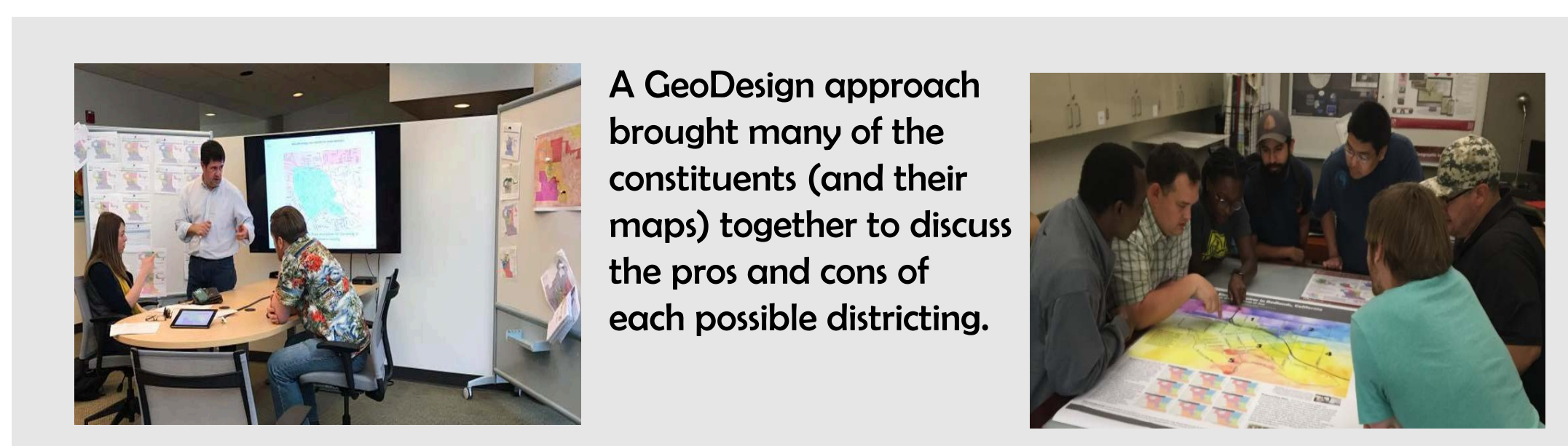
**The Council Response:** Map M3C2 was presented to the Redlands City Council and received broad support from many citizens. One councilmember stated that there was no question that M3C2 was a superior map. But, it was simply too late. Mayor Paul Foster stated that they could not consider Map M3C2 without re-starting the public hearing process, and the several month delay would likely prevent the districts from being in place before the 2018 election. On April 18, 2017, the council voted 4-1 to adopt the consultant's Map 2B.

**Why focus on M3C2?** Why does this poster focus on M3C2, when the city adopted 2B? There are 3 good reasons:

1. M3C2 is a better map, *quantitatively*. It has a better balance population-wise, and is similar in all other measures. We are GIS experts (or soon will be). We know how to add a block to this district, take two away from that district, etc. Even the shapes are better, quantitatively. We know how to test the “compactness” of the shapes—how to compute indices of compactness that compare the shapes to the most compact shape possible (a circle). M3C2 districts are more compact—we have the numbers to prove it. We are *GISers*.

District	M3C2			NDC 2B		
	Total Population	Deviation from perfect balance of 13,749	Percent Hispanic	Total Population	Deviation from perfect balance of 13,749	Percent Hispanic
1	13,845	96	.70%	13,845	-290	53%
2	13,787	48	.13%	13,767	168	22%
3	13,718	-31	-.23%	13,718	-83	22%
4	13,667	-82	-.60%	13,667	119	21%
5	13,750	1	-.01%	13,750	88	17%
Total/avg	69,767	178	1.29%	69,747	458	3.33%

2. M3C2 is a better map, *politically*. It isn't biased towards sitting councilmembers. It couldn't be, because we don't even know where they live! We used a process known as Geodesign. We brought together residents who will be impacted by the map and we listened. We spoke with the current councilmembers. We spoke to long-time residents who know the neighborhoods. We spoke with experts on gerrymandering. We are *geodesigners*.

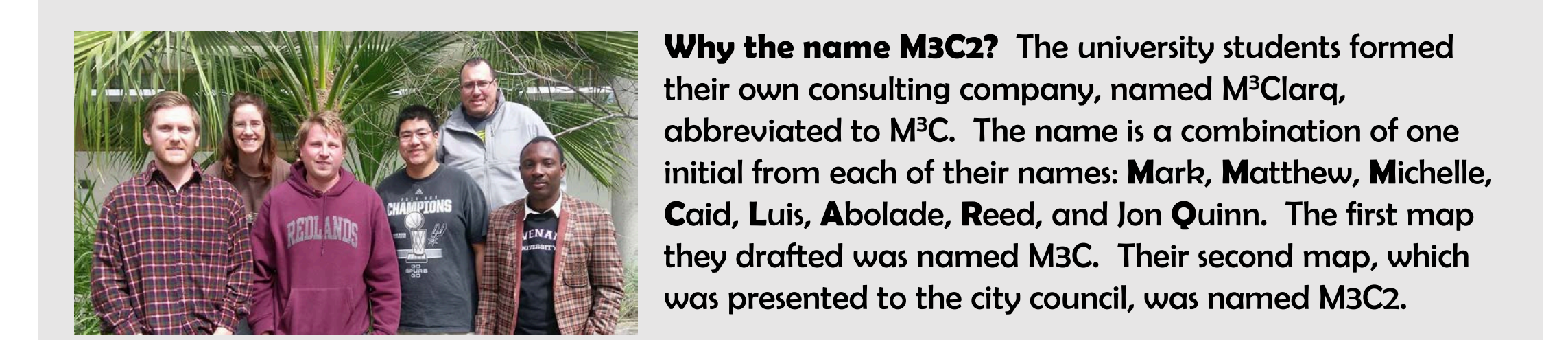


A GeoDesign approach brought many of the constituents (and their maps) together to discuss the pros and cons of each possible districting.

3. M3C2 is a better map, *cartographically*. We are a bunch of cartographers who make maps. We take (and teach) courses in map design. Sometimes it makes sense to produce “hand drawn” maps. Cartographically, it's very difficult to show two sets of boundaries on the above basemap without taking away from the beauty of the map. We know—we tried. We tried so many things that we decided to produce a *second* poster, one that focuses on the cartographic challenges. And we're going to display it at a cartography conference -- the annual meeting of the North American Cartographic Information Society. We are *cartographers*.

**Summary.** In summary, M3C2 is a better map, *quantitatively, politically, and cartographically*. We are *geographers*. We are geographers who “do” GIS, Geodesign, and Cartography. We are all geographers, but we (the three lead authors) are cartographers at heart. Thanks for reading this far. If you agree with all of the above, please vote for us. The whole reason we produced this poster is because we wanted to win “The People's Choice Award”!

**Map 2B?!?** Yep, that's what they picked. It's that little homely one in the corner down there. It looks kind of like a long-eared bunny, with a yellow nose and a pink ear. We printed it really small because it's not ours and we don't like it. You don't need to read it because you'll see it plenty of times over the next few years, so we figured we'd use all the good space on this poster for our really good, really beautiful map, M3C2, which you'll probably never see again.



**Why the name M3C2?** The university students formed their own consulting company, named M<sup>3</sup>C, abbreviated to M<sup>3</sup>C. The name is a combination of one initial from each of their names: Mark, Matthew, Michelle, Caid, Luis, Abolade, Reed, and Jon Quinn. The first map they drafted was named M3C. Their second map, which was presented to the city council, was named M3C2.

**What's next?**  
The 2018 election.  
The 2020 census.  
We'll be back.

Many thanks to Ana McNaughton, Kathryn Hagerman, Steve Benzek, Anthony Fuentes, Laura Busolo, Trevor Hook, and Ricky Brincat

