This directory shows maps derived from four other sources. These provide further comparison with the N# maps I have drawn.

Chen1 is essentially a map that was presented as Figure 1 on p. 10 of Dr. Jowei Chen’s expert opinion in the League of Women Voters case in PA. (<https://www.brennancenter.org/sites/default/files/legal-work/LWV_v_PA_Expert_Report_JoweiChen_11.27.17.pdf> ). I do not have access to Chen’s precinct list, so I laboriously reconstructed his map from its image. While I am sure to have misallocated a few precincts in Philly and Pittsburgh, that will make an insignificant difference in my evaluations. Chen drew this map, along with 499 others, using a computer algorithm that adhered to the traditional redistricting principles of not splitting political boundaries, compactness, and having a VRA district. Interestingly, Chen’s figure described this map as giving 9 seats to both parties. He failed to emphasize that this estimation used a past election results data base that gave Democrats 52.5% and Republicans 47.5% of the two-party vote (p. 20). That is clearly biased against D’s. Using my data base that gives 50% D vote (see the Technical directory), Chen-1 only gives 6.7 D seats. Chen’s Figure 5 (p. 22) is far more pertinent. It shows the average median-mean bias of all 500 of his plans to be about 2%. That translates to 52% for my ‘%D@50%seats’ metric. Importantly, that suggests that this plan that was singled out in Chen’s expert opinion is one of the more biased ones in his collection of 500. The Table in Evaluations.docx indicates that Chen1 would give only 6.7 D seats at 50% vote and would require 53.3% of the vote to give 9 D seats. Although it is more responsive, it retains more than half the unfairness of the current PA plan. Curiously, a Democratic post-trial brief recommended this map for potential remediation. It would seem that a better choice would have been one of the other Chen plans that had almost no bias according to his Fig. 5.

Leach5 was drawn for state Senator Daylin Leach by a staffer who prefers not to be named. The precinct list was lost in a computer hacking, so I drew this map carefully following an image (<https://www.dailykos.com/stories/2014/01/06/1267555/-Gerrymandering-helps-me-but-it-s-killing-democracy-Here-s-why>.) As with the Chen1 map, I’m sure I must have swapped a few inner city precincts, but with insignificant differences in my evaluations. The table in Evaluations.docx reflects the assertion of the map drawer that the original map had been drawn with population deviation of one. Interestingly, Leach5 was advertised as giving 13 D seats to 5 R seats. However, the data base that gave that result had 54.78% D vote. My evaluation gives 8.2 D seats at 50% D vote and requires 50.8% D vote to get 9 D seats. Leach5 is a much fairer map than the current PA plan, but it is still biased in favor of Republicans, more so than N9 and N3.

Holt7 was kindly sent to me by Amanda Holt who is renowned as the star citizen map drawer in PA. She used the traditional criteria (<http://amandae.com>). Holt7 has a few tight corridors for some of the districts. I estimate that it has about the same bias as Chen1 but is less responsive. Amanda sent me a second congressional plan which has maps named HoltB. The second Holt plan is about as responsive as Chen1. Update: Amanda has a new map, named Holt2018 and again I thank her for sending it in the DRA format for easy analysis. This map achieves a very small population deviation before splitting counties. The map itself only shows 16 splits by the first metric for splits, but to achieve population deviation of one, it needs another split between the South East region and the rest of the state.

Murphy1 was drawn by Dr. Fred Murphy (Temple University) starting with Holt7 and rearranging Philly with the result that some tight corridors were eliminated and the VRA district dropped below 50%. Responsiveness and fairness also dropped.

Kimbrough1 was drawn by computer by Dr. Steve Kimbrough (University of Pennsylvania). I do not have a map image to evaluate the county split metric. The algorithm did not attempt to minimize splits. Without that constraint, it has increased responsiveness and fairness compared to Chen1, Holt7 and Murphy1 that used that constraint, but not as much as Leach5 that focused on obtaining Democratic advantage.