Manual A. BENAVIDES, Plaintiff, v.
THE CITY OF IRVING, Texas, et. al., Defendants.

No. 3-07-CV-1850-P.
United States District Court, N.D. Texas

Date of Report: August 7, 2008.
Expert: John R. Alford

I have been retained as an expert to provide an analysis of the three prongs of the *Gingles* test as they apply to elections in the city of Irving. My rate of compensation is $200 per hour. I am a tenured associate professor of political science at Rice University. At Rice, I have taught courses on redistricting, elections, political representation, voting behavior, and statistical methods at both the undergraduate and graduate level. Over the last twenty years, I have worked with numerous local governments on districting plans and on Voting Rights Act issues. I have previously provided expert reports and/or testified as an expert witness in voting rights and statistical issues in a variety of court cases, working for the U.S. Attorney in Houston, the Texas Attorney General, a U.S. Congressman, and various cities and school districts. In the most recent round of redistricting, I was retained as an expert to provide advice to the Texas Attorney General in his role as Chair of the Legislative Redistricting Board. I subsequently served as the expert for the State of Texas in the state and federal litigation involving the 2001 redistricting for
U.S. Congress, the Texas Senate, the Texas House of Representatives, and the Texas Board of Education. I also have worked as an expert in redistricting and voting rights cases in New Mexico, Mississippi, Wisconsin, Florida, and Alabama. The details of my academic background, including all publication in the last ten years, and work as an expert, including all cases in which I have testified by deposition or at trial in the last four years, are covered in the attached vita (Exhibit 1). In preparing this report I have relied on population data from the 2000 Census, election and voter registration data supplied by Dallas County, data included in exhibits attached to my deposition in *Chen v. City of Houston,* and the expert reports of Professor Engstrom and David Ely filed in this case.

The three prongs of the *Gingles* test are the factual basis for establishing a claim of minority vote dilution under the Voting Rights Act. My data analysis for this case focuses primarily on the second and third prongs, but I will first discuss issues related to the first prong of the *Gingles* test - the potential for creating a district in which minorities would constitute a political majority.

***Gingles* One**

The plaintiff's expert states that he has provided a district that meets the first prong of *Gingles.* By his calculations for the proposed district, adult Hispanics are 37.16 percent of the adult citizen population based on the 2000 census. Using a growth rate estimated from the 2006 American Community Survey and assuming equal estimated growth forward to 2008, the proposed district is projected by Mr. Ely to have a current adult Hispanic citizen proportion of 50.06 percent.

My conclusion, however, is that plaintiff's proposed district does not meet the standard set by the first prong of *Gingles.* The district is not anywhere near a Hispanic adult citizen majority based on the most recent actual census redistricting data. The projection forward to 2008 is based on calculations made across different data sources, different measurement and sampling techniques, and different geographic levels of analysis. All of these introduce their own contribution of error variance to the final 2008 estimate made by Mr. Ely. This means that even if we accepted all these assumptions (and there are strong reasons not to as discussed in detail by Dr. Rives in his report in this case), standard social science practice would not lead us to conclude that the district met the *Gingles* standard.

The last census enumeration establishes the known baseline (what in statistical terms would be called the ‘null hypothesis'), which in this case is that the district has a very substantial non-Hispanic adult citizen majority. The projection forward provides the alternative hypothesis to be accepted only if we have sufficient statistical confidence that the baseline is no longer true. If we knew only that the estimate for 2008 was 50.06 percent, we would know, given that all estimates have some error associated with them, the true value for 2008 lies in a plus-or-minus distribution around that point. Since 50.06 percent is located almost exactly at the 50/50 dividing line between alternative majorities, the best we could conclude is that even if all of the estimation assumptions were valid there essentially a 50/50 chance that the district has an adult citizen Hispanic majority (and in fact we know that, since use of tract level estimates for citizenship produce an upward bias, there is a greater chance that it is below 50 percent than that it is above 50 percent). This falls far short of the practice in the social sciences of using a 95 percent, or at the most liberal, a 90 percent confidence interval for establishing statistical confidence. Put another way, in the

social sciences we would not conclude that the facts establish that “Hispanics currently comprise a majority of the voting age citizens” in a district, based on an essentially equal probability that the district was majority Hispanic or majority Anglo.

In this case we also know that the established makeup of the district based on the pervious census was, according to Mr. Ely, far from majority Hispanic with only 37.16 percent adult citizen Hispanic. We know that the projection forward to the 2008 estimate of 50.06 percent adult citizen Hispanic is based on numerous assumptions and data less reliable than the 2000 enumeration. We also know that even Mr. Ely characterized the estimated growth rates needed to reach a 50/50 chance of Hispanic voting age citizen majority in 2008 as “astonishingly rapid.” Applying well established social science practices, the data simply do not permit reaching the conclusion that the proposed district meets the threshold standard of the first prong of *Gingles.*

The failure to meet the first prong of the *Gingles* test is also evident in the difficulty in assessing evidence related to the second and third prongs. As Professor Engstrom notes with regard to extreme precinct analysis “there are no homogeneous Latino precincts in any of these elections in Irving so this methodology cannot be applied to derive estimates of Latino voter's candidate preferences.” And later in reference to his other two approaches for estimating minority cohesion he notes that “the largest percentage of Latinos among those voting in any precinct in these elections is 33.3 percent for the 2008 elections and
25.0 percent for the 2005 election.” He goes on to state that “It would be preferable, for analytic purposes, to have precincts with higher Latino percentages when performing the EI and ER analyses, but they did not exist in Irving.” Having a minority population that is sufficiently large and compact to form a majority in a district is a threshold of both legal and analytical implications for moving on prongs two and three of the *Gingles* test, and the analytical difficulties that Professor Engstrom correctly observes here are both the result of, and additional evidence of, the failure to meet the first prong in this case.

If there were a sufficiently large and compact Hispanic population in Irving to form a district of over 23,000 persons in which Hispanics would be able to elect candidates of choice, one would expect that there would be several precincts in which Hispanics constituted a majority of the voters. This is not the case, and not because the precincts are too large or oddly configured. Two precincts, 4614 and 4616, are located near the center of the plaintiff's proposed district and are located almost entirely within the district. Despite this fact, the proportion of Hispanic voters in 2008 in precinct 4614 is, as Professor Engstrom notes, only
33.3 percent, and in precinct 4616 the proportion is even lower at only 20.6 percent. As low as these concentrations are, they are nonetheless the two highest precincts in the city in terms of Hispanic voter proportions in 2008. In the 2005 election precinct 4614 was also the most Hispanic, but with only 25.0 percent, and the second most Hispanic precinct was 4646 at only 13.7 percent, which lies outside the plaintiff's district.

Even more striking is the fact that in the 2008 election these two most Hispanic precincts located in the geographic center of the plaintiff's proposed district recorded together a total of only 42 Hispanic voters (16 in precinct 4614 and 26 in precinct 4616), out of a total citywide Hispanic turnout of 954 voters. In 2005 the two most Hispanic precincts recorded together a total of only 15 Hispanic voters (8 in precinct 4614 and 7 in precinct 4646), out of a total Hispanic turnout of 497 voters.

This lack of concentration is also evident when voters in these two elections are allocated by physical address to the actual geography of the plaintiff's proposed district. In 2008 the proposed district turned out only 91 Hispanic voters compared to 390 non-Hispanic voters (see Table 1 for details). Thus the district that is projected by Mr. Ely to be 50.1 percent voting age Hispanic by 2008 is only 18.9 percent Hispanic based on actual voters in 2008. This is a difference that is far too stark to be accounted for by any existing estimates of registration or turnout disparities between Hispanic and non-Hispanic voting age citizens in Texas.

It is also striking that the 91 Hispanic voters for 2008 in the proposed district make up only 9.5 percent of the 954 Hispanic voters participating in the election across the whole city. If we drew eight districts at random for the City of Irving with no regard for Hispanic concentration we would expect to get an average of 119 Hispanic voters in each district in 2008. In fact the plaintiff's proposed district, purported to be drawn from the area of highest Hispanic concentration, actually contains fewer Hispanic voters than we would expect by chance. Put another way, each of the remaining seven districts that would have to be drawn outside the plaintiff's proposed district produced an average of 123 Hispanic voters in the 2008 election, fully a third more than the plaintiff's supposedly Hispanic majority district. The same pattern is evident in the 2005 election, where the 40 Hispanic voters in the proposed district make up only 8.0 percent of the 497 Hispanic voters participating in the election across the whole city. The remaining seven districts that would have to be drawn outside the plaintiff's proposed district produced an average of 65 Hispanic voters in the 2005 election, more than 50 percent above the plaintiff's supposedly Hispanic majority district. Both the 2005 and the 2008 election results suggest that the plaintiff's proposed district does not in fact encompass an area of unusually high Hispanic voter concentration.

A related problem with the proposed district is that even the modest level of minority concentration that is reached is achieved largely due to the high concentration of non-citizens in the illustrative district. This has the effect of reducing the raw number of minority voting age citizens needed for the district as it reduces the total number of all voting age citizens in the district. That is, the reduction in the total number of voting age citizens in the denominator that results from the concentration of non- citizen residents in the district reduces the number of minority voting age citizens required in the numerator to reach majority status inside the district. This in turn dilutes the voting strength of all citizens in Irving by raising the relative number of citizens into the remaining non-minority districts.

This can be illustrated using the 2000 census data. The proposed district appears to be nearly ideal in size at 23,760 persons if total population is used (ideal is 23,952), with the district falling only 192 persons below ideal. While districts are typically drawn on total population, in instances like this where there is a significant difference between the total population and the citizen population, it is helpful to look at citizen voting age population (CVAP) to determine how the configuration of districts affects the weight of the votes cast by the residents of the various districts. For CVAP the ideal population is 13,610 adult citizens, and here the proposed district is clearly undersized with only 8154 adult citizens (see Table 1 for details). Even assuming a perfectly even distribution, the remaining seven districts would each have 14,390 adult citizens. Expressed in terms of voting power, an adult citizen in the proposed district would have 1.76 times the voting power of an adult citizen outside the proposed district (see Figure 1 for a graphic representation of this difference). This is a minimum estimate for the reduction in voting power outside the district, as it is unlikely that in an actual plan the remaining seven districts would be drawn to exact population equality. In an actual plan, variation would only increase the distortion in voting beyond the multiple of 1.76 times [1] . This point is illustrated in Figure 1 where the graph of City of Houston districts shows how actual district deviations further distort voting power beyond the minimum distortion estimated for equal size remaining districts. This figure also illustrates that the voting power distortion here is substantially greater than was the distortion that was commented on in the *Chen* case.

This reduction in voting power would impact everyone outside the proposed district, including Hispanics. This is not insignificant for Hispanic citizens since over 80 percent of all Hispanic adult citizens in Irving, and over 90 percent of Hispanic voters in the most recent elections, live outside of the proposed district. In other words, in order to create this alleged Hispanic majority district-although in fact it is a district in which less than 20 percent of the actual voters are Hispanic---it is necessary to devalue the vote of the Hispanic citizens who reside outside the plaintiff's district---a group that includes more than 90 percent of the City's Hispanic voters.

This same point can be addressed in terms of deviation from ideal district size. In terms of adult citizens, the proposed district deviates from the ideal by a minus 40 percent. Even if the remaining seven districts were exactly equal in adult citizen population, they would each deviate by more than a plus five percentage points. The resulting top-to-bottom deviation would be 46 percent, a figure far exceeding the ten percent top-to-bottom deviation that is often applied to total population as a threshold for prima facie voter inequality. The Voting Rights Act specifically seeks to protect the right of citizens to equal representation. The dramatic degree to which this proposed district reduces the protected representation of citizens to provide virtual representation to non-citizens seems inconsistent with the stated purpose of the VRA.

None of this is to suggest that Mr. Ely was remiss in choosing the location or the boundaries for the proposed district. The simple fact is that what the census data and the actual election data from the proposed district illustrates is that the Hispanic citizen voting age population in Irving is not sufficiently geographically compact to create a majority Hispanic district. Mr. Ely's speculative projection to a possible narrow Hispanic majority voting age citizen population within a single district is simply not supported by the data.

***Gingles* Two and Three**

My analysis for this section focuses on voter cohesion and relies on the two most widely used methodologies, ecological regression analysis and homogeneous precinct analysis. I did not replicate or rely on the ecological inference analysis reported by Professor Engstrom. I will focus for this report on the same three recent elections, the 2008 mayoral and council place 3 elections, and the 2005 council place 5 election, that are analyzed and discussed in Professor Engstrom's report in this case. Since we are using the same techniques and analyzing data from the same elections, one would hope that we would at least agree on a basic set of numerical results, and that is for the most part the case here. My own analysis as reported in Table 2 differs only slightly from that reported by Professor Engstrom, and the substantive conclusions that I reach here are not a function of those modest differences.

The analysis here is, as Professor Engstrom noted, constrained by the very low levels of Hispanic concentration evident in the precinct level data. This leads to difficulty in estimating with any certainty Hispanic cohesion (the second prong of *Gingles*). Homogeneous

precinct analysis of Hispanic cohesion is impossible by definition, as there are no homogeneous Hispanic precincts. Nor are there any precincts that could be analyzed even by stretching the definition of homogeneous down to 80 or even 70 percent.

As mentioned above, this difficulty is not independent of the failure to meet the first *Gingles* prong in this case, nor is the impact on assessing Hispanic cohesion limited to the inability to utilize homogeneous precinct analysis. As we can see in Table 2, the quality of the ecological regression estimates suffers as well. This is evident for both of the council elections (the actual elections in dispute here). The R-squares for each estimate are low, indicating that variation in the proportion of Hispanic voters across precincts accounts for only 18.1 percent of the variation in votes cast for Rivera in the 2008 Place 3 contest, and an even lower
13.6 percent of the variation in votes cast for Medina in the 2005 Place 5 contest. More directly, the confidence that we can place in the regression estimates for Hispanic cohesion are also low. The regression estimates gives us 95 percent confidence (standard for social science analysis) that the actual proportion of Hispanic voters casting their votes for Rivera in the 2008 Place 3 contest is somewhere between 38.7 percent and the upper limit of 100 percent. Similarly, the regression estimates gives us 95 percent confidence that the actual proportion of Hispanic voters casting their votes for Medina in the 2005 Place 5 contest is somewhere between 27.3 percent and the upper limit of 100 percent. Clearly the confidence interval for both estimates includes levels far too low to be considered cohesive minority voting. This can also be expressed in terms of statistical significance. The question here would be whether the estimates of Hispanic cohesion are sufficiently stable to allow us to retain the hypothesis that the majority of Hispanic voters supported the Hispanic candidate, and reject the hypothesis that the majority of Hispanic voters support the same candidate as the majority of non-Hispanic voters. The answer for these two council races is no.

This instability in our estimation of the level of Hispanic cohesion is also evident if we look at the impact of fairly small changes in the estimated levels of non-Hispanic voters' support for Hispanic candidates. The figures reported in Table 3 are the result of using the estimates produced by the homogeneous precinct analysis to calculate the resulting predicted votes cast by non-Hispanic voters in support of Hispanic candidates and then calculating what the effective rate of Hispanic voter support would need to be to produce the actual recorded vote totals citywide. In the 2008 Place 3 contest if we assume that 23.2 of the non-Hispanic voters cast their votes for Rivera (the level suggested by the homogeneous precinct estimate), then the share of votes cast by Hispanic voters for Rivera would have to have been only 41 percent, given the total number of votes cast for Rivera. The same analysis applied to the 2005 Place 5 contest and to the mayoral contest in 2008 produces a similar result, with both showing estimates of sub-majority support among Hispanic voters for the Hispanic candidate.The ecological regression analysis of 2008 mayoral contest contrasts with the council results. Here the R-square of .813 indicates that variation in the proportion of Hispanic voters across precincts accounts for over 80 percent of the variation in votes cast for Reza in 2008. Both the ecological regression and the homogeneous precinct analysis indicated low (under 5 percent) non-Hispanic support for Reza. The 95 percent confidence interval for the estimate of Hispanic support for Reza ranges from a low of 74.3 percent support to a high of 100 percent support. This range does not include levels of support at or below 50 percent, and so, for this mayoral contest, we can reject the hypothesis that Hispanic voters are giving less than majority support to the Hispanic candidate. This pattern of results in the one mayoral contest is a clear contrast to what we saw above for the two council contests, but even these results require a caution. As the ecological inference results in Professor Engstrom's report indicate, the regression estimate for Reza's Hispanic support is simply too high, and the regression estimate of Reza's support from non-Hispanic voters too low, to be true given the actual precinct results. In numerous precincts Reza actually receives more votes than there are Hispanic voters, indicating that he must be drawing at least some non-Hispanic support. Likewise, in numerous precincts Reza receives substantially fewer votes than there are Hispanic voters, indicating that the estimate of 87.6 percent Hispanic support must be too high. While the ecological inference estimates still support the conclusion that Hispanic and non-Hispanic voters gave a majority of their support to different candidates, the estimated degree of Hispanic cohesion, at 63.6 percent, is substantially lower than the ecological regression results suggest. Likewise, the previously discussed calculations reported in Table 3 suggest that even the modestly higher estimate of non-Hispanic support for Reza produced by the homogeneous precinct analysis implies far less cohesion among Hispanic voters than does the ecological regression result.

In the final analysis the key question to be answered by all of the analysis for *Gingles* prongs two and three here is whether there is reliable evidence of sufficiently cohesive Hispanic support to allow the election of the preferred Hispanic candidate in a single member district despite the presence of cohesive non-Hispanic support for other candidates that has proved sufficient to usually defeat such preferred candidates in the existing at large system. That question can be addressed directly here by simply applying the various estimates of Hispanic and non-Hispanic support to the single member district alternative proposed here. If we apply these estimates to the voter proportions from the 2008 election, the results, reported in Table 4a, are instructive. If we assume that Reza gets no support from the 390 non-Hispanic voters that turned out in the district (the appropriate value from the ecological regression estimate of -.5), and that Reza was supported by 87.3 percent of the Hispanic voters in the district (based again on the ecological regression estimate), then we can compute the estimated vote for Reza in the plaintiff's proposed district as 0 *390 * .873 * 91 = 79. With an estimated 79 votes out of a total of 481 voters, Reza would be expected to get only

16.5 percent of the vote in what is intended to be a district that can successfully elect Hispanic candidates of choice.

The same procedure applied to the 2008 Council Place 3 contest yields an estimated vote share for Rivera in the plaintiff's proposed district of 30.1 percent, and for Medina in the 2005 Council place 5 contest of 18.5 percent. When this procedure is used in the same way with any of the estimates from any of the models report here in Table 2, or in Professor Engstrom's Table 1, the result is the same. No reported parameter estimates would yield a prediction of a victory in the proposed district for any of these three candidates. Moreover, even if we assume that the number of Hispanic voters would double under a single member system, the result is the same - no parameter estimates from either my estimations or those of Professor Engstrom would yield a prediction of a victory in the proposed district for any of these three candidates (see Table 4b). Likewise, assuming that turnout for Hispanics would rise to equal that of non-Hispanics also fails to yield any predicted victories (see Table 4c). All of this is in line with what the actual precinct level results from the election suggest, as the precincts that are located in the geographic area of the proposed district yield support for these candidates in the same range as these estimates would suggest and no single precinct reports a majority vote for any of these candidates.

Professor Engstrom states that “under the at-large election system used to conduct these elections, the lack of non-Latino support for the Latino candidates functioned, in every case, as a veto over the Latino candidates.” He does not say whether the same would be true under a single member district election system. But the application of these estimates of cohesion does speak to that crucial question. Even if we fully accept both the mayoral and the much less stable council regression results, the fact remains that given the lack of a sufficiently numerous and compact Hispanic voter concentration in Irving, the same would be true in a single member district election system.

To the extent that there is a problem with electing Hispanic candidates of choice in Irving, the problem is the fact that the Hispanic population has not achieved the size and geographic concentration necessary to secure election, and not that the at large system is functioning to preclude their election.

Appendix not available.

Footnotes

1 The conclusions are the same when Mr. Ely's numbers are used to produce the calculations. Using his figures for CVAP the ideal population is 13,582 adult citizens, and the proposed district is clearly undersized with only 8484 adult citizens. Assuming a perfectly even distribution, the remaining seven districts would each have 14,310 adult citizens. Expressed in terms of voting power, an adult citizen in the proposed district would have 1.69 times the voting power of an adult citizen outside the proposed district, and the minimum top-to-bottom CVAP deviation for the plan would be 43 percent.