Analysis of Irving Independent School District and Illustrative Trustee Districts.

Expert Report of David Ely

Pursuant to 28 U.S.C. sec. 1746, I declare the following:

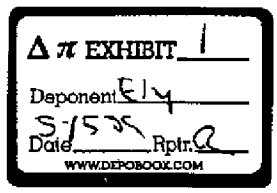
I. Introduction

1. I, David Ely, am the founder of Compass Demographics, a consulting and database management firm specializing in projects involving Census and Election Data. I have extensive experience in the management of redistricting projects, the analysis of voting behavior, and demographic analysis. I received a Bachelor of Science in Mechanical Engineering and Social Sciences from the California Institute of Technology in 1987. A copy of my CV is attached to this report.

2. I served as an expert and testified on behalf of the United States in Garza v. County of Los Angeles, 756 F. Supp. 1298, 1328-37 (C. D. Cal.), aff'd, 918 F.2d 763 (9th Cir. 1990), cert. denied, 498 U.S. 1028 (1991), where I constructed databases and designed remedial plans for the Los Angeles County Supervisorial Districts.

3. I served as an expert and filed a report on behalf of the United States in United States v. City of Lawrence (Massachusetts) in 1999, where I performed Spanish surname matching and geocoding of registered voter lists and constructed illustrative districting plans.

4. I served as an expert and filed a report on behalf of the United States in United States v. City of Passaic (New Jersey) in 2000, where I performed surname matching and geocoding of



registered voter and other lists and constructed illustrative districting plans.

5. I served as an expert and filed a report on behalf of the United States in United States v. Upper San Gabriel Valley Municipal Water District in 2000, where I constructed election data sets and illustrative districting plans.

6. I served as an expert and filed a report on behalf of the United States in United States v. City of Santa Paula (California) in 2001, where I performed Spanish surname matching and geocoding of registered voter and actual voter lists and constructed illustrative districting plans.

7. I have also served as a consultant and expert in voting rights litigation challenging at-large election systems in the Cities of Santa Maria, California and Modesto, California, and the Tulare Health Care District, and the legality of a city council ward plan in the City of Chicago, Illinois. I was deposed and testified in court in the Santa Maria case.

8. I served as an expert and filed reports on behalf of Plaintiff in Benavidez v. City of Irving (Texas) in 2008, where I performed Spanish surname matching of registered voter and actual voter lists and constructed illustrative districts.

9. I have also served as a consultant to construct databases, draw district lines, or prepare presentation maps and reports for the following reapportionments: City of Boston, 1987; California Congressional and State Assembly Districts, 1991; Los Angeles County Board of Supervisors, 1991; Los Angeles City Council, 1992; Los Angeles Unified School District, 1992; Pasadena City Council, 1992; Oakland City Council, 1993; Rancho Mirage City Council, 1993; California Legislative Districts, 2001; Los Angeles County Board of Supervisors, 2001; Bay Area Rapid Transit Board Member Districts, 2001; Los Angeles City Council, 2002; Los Angeles Unified School District, 2002; Pasadena City Council, 2002; and Oakland City Council, 2003.

10. I was asked to perform the following analyses related to the Irving Independent School District ("Irving ISD") in Irving, Texas:

A. Identify Spanish surname voters from a list of voters for the Irving ISD Trustee elections in 2006 and 2008;[1]

B. Combine counts of voters and Spanish surname voters by precinct with election returns for Irving ISD Trustee elections;

C. Construct an illustrative single member trustee district with one seventh of the population of the Irving ISD; and

D. Estimate current citizenship status based on census data for the illustrative district.

11. For purposes of this report, I reviewed and relied upon the following:

2000 Census Block, Block Group, and Tract Geographic Files
2000 Census 100% count data from Summary File 1 ("SF1")
2000 Census survey data from Summary File 4 ("SF4")
2000 Census survey data from Special Tabulation ("STP76")
2007 Census Bureau's American Community Survey ("ACS")
2008 Dallas County Elections Department List of Irving ISD Election Voters
2008 Dallas County Elections Department List of Irving ISD Registered Voters
2008 Dallas County Elections Department Precinct Geography Shape Files
2006 Dallas County Elections Department Trustee election returns
2008 Dallas County Elections Department Trustee elections returns

1. Elections for this analysis were selected by Dr. Engstrom.

This report may be supplemented or revised in response to the discovery of additional issues and information.

12. I am being compensated at a rate of $150 per hour by Plaintiff's law firm for my analysis in this case.

II. Spanish Surname Matching

13. A Spanish surname is a commonly used proxy for Hispanic ethnicity in determining the ethnic composition of a group of people identified by name, when ethnic self identification is not practical. I have used this type of analysis extensively to build databases for use in the analysis of voting behavior as well as to measure potential voting strength in districts. I and others have used Spanish surname databases as the foundation for numerous expert reports in voting rights litigations, as well as to provide important criteria to guide decisions by jurisdictions in the redistricting process.

14. A Spanish surname list and rules for matching the list were developed by the Census Bureau for use in the 1980 Census. I have utilized this list and set of rules in my surname matching analysis. Studies by the Census Bureau have shown that surname matching tends to slightly underestimate Hispanic ethnicity, except in groups with significant Filipino populations.[2] 2000 Census data for the City of Irving indicate that there is a minimal Filipino population in the city, so Spanish surname results may be accepted as a reliable, if somewhat conservative, indication of Hispanic ethnicity.

15. Each of the names on the list of voters in Irving ISD Trustee elections provided by the Dallas County Elections Department was coded to indicate whether it was a Spanish surname according to Census Bureau rules. This information was then aggregated to the precinct level in order to produce a count for each precinct of total voters and Spanish surname voters for each election.

16. I carried out the surname matching procedure on a voter list that indicated voting participation in several Trustee elections. It is my understanding that this list had all voters who voted in these elections, assigned to current precincts. In order to produce a data file for election analysis, I combined counts of 2006 and 2008 voters with precinct by precinct election results downloaded from the Dallas County Elections Website (http://www.dalcoelections.org/). The

2 Jeffrey S. Passel and David R. Word, "Constructing the List of Spanish Surnames for the 1980 Census: An Application of Bayes' Theorem," presented at the Annual Meeting of the Population Association of America, 1980.

results were aggregated by voting precinct. This aggregation was necessary because, although both the election returns and the voter list show a subdivision of voting precincts, the Dallas County Elections Department did not provide sufficient information in its election results to allow me to maintain the subdivisions. If I am subsequently able to obtain additional information, these data sets will be recreated and this report updated.

17. The Irving ISD-wide results from the Spanish surname analyses of the lists of actual voters are shown below in Table 1:

Table 1. Total Voters By Year

	Total	Spanish Surname
2008	8791	913
2006	3822	256

III. Illustrative District Analysis

18. I was asked to draw an illustrative district for the Irving ISD's seven member Board of Trustees with a single member district configuration. An illustrative district is intended to demonstrate that a geographically compact district in which Hispanics make up a majority of the eligible voters can be drawn in the Irving ISD that will maintain the integrity of areas of Hispanic population concentration.

19. In drawing an illustrative district, I examined data from the 2000 Census including 100% count data from SF1 on population by age and Hispanic origin, and survey data from SF4 and STP 76 on citizenship by age and Hispanic origin. I also examined total and Spanish surname registration data provided by the Dallas County Elections Department current as of November 11, 2008.

20. To include registration data in an illustrative district analysis, it is necessary to geocode the registered voters. Geocoding is the process of matching an address to a street reference file in order to add geographic information to a set of data. In this case, I used a software package called Maptitude, and the street reference file that came with the program, to obtain latitude and longitude coordinates for each address on the list of registered voters within the Irving ISD as of November 11, 2008. These coordinates were then used to identify the census block that contains each registered voter. Each registered voter was coded to indicate if the voter had a Spanish surname, as described above. The results of this analysis were then aggregated to the census block level in order to create a database with counts of total registered voters and Spanish surname registered voters for each census block.

21. The Census Bureau provides a block group level estimate of citizen and non-citizen population by age and Hispanic origin in special tabulation STP 76. I calculated citizenship rates

at the block group level and applied them to the appropriate categories[3] of census block data in order to produce block level estimates of overall and Hispanic citizen voting age population ("CVAP") and citizen under-18 population ("CU18").

22. I have created an illustrative district ("Illustrative District A"), using easily recognizable boundaries, such as streets. I have used undivided census blocks as the basic units to form Illustrative District A, thus permitting the use of the 2000 Census SF1 block level data as the population reference. Illustrative District A is within 1% of the ideal population for a trustee district, based on 2000 Census data.

23. A map of Illustrative District A is attached as Appendix A.

24. Table 2 shows demographic characteristics for the Irving ISD and Illustrative District A, including total 2000 population, voting age population ("VAP"), and CVAP, and the Hispanic share of each, as well as the 2008 total and Spanish surname registered voters. Table 2 makes clear that it was possible for Hispanics to comprise a super-majority of overall population and voting age population in one of seven Irving ISD Trustee districts as early as 2000.

3 I performed citizenship calculations on 4 categories: Hispanic voting age population, Hispanic under 18 population, Non-Hispanic voting age population, and Non-Hispanic under 18 population.

Table 2. Illustrative District A Demographics

	Irving ISD Total		Illustrative District A	
2000 Population	163058		23335	
2000 Hispanic Population	58105	35.63%	17223	73.81%
2000 VAP	119348		15375	
2000 Hispanic VAP	37535	31.45%	10897	70.87%
2000 CVAP	89941		7488	
2000 Hispanic CVAP	15407	17.13%	3355	44.81%
2000 CU18	38955		6482	
2000 Hispanic CU18	16682	42.82%	4965	76.59%
2008 Registered Voters	73092		4515	
2008 Span. Surname Regist. Voters	13683	18.72%	1854	41.06%

25. Although the 2000 Census reports contain the most recent source of block group level citizenship data, the Census Bureau has released in recent years updated demographic data in the form of its annual American Community Survey, which includes data for the Irving ISD. This data gives a more accurate representation of current demographics in the Irving ISD than that found in the 2000 Census or any other data source that I am aware of. The most recent data for the Irving ISD can be found in the 2007 American Community Survey. The citizenship data found in Tables B05003 and B05003I of the 2007 American Community Survey can be compared to that shown in Table 2 above. Table 3 shows 2007 citizenship rates for the Irving ISD drawn from the 2007 American Community Survey.

Table 3. 2007 Citizenship in Irving ISD

	TOTAL	SHARE OF TOTAL	CITIZEN	SHARE OF TOTAL	CITIZENSHIP RATE
Total population					
Total:	160,897		123,600		76.82%
Under 18 years:	43,881		40,967		93.36%
18 years and over:	117,016		82,633		70.62%
Hispanic or Latino population					
Total:	73,177	45.48%	42,554	34.43%	58.15%
Under 18 years:	25,905	59.03%	23,483	57.32%	90.65%
18 years and over:	47,272	40.40%	19,071	23.08%	40.34%
Not Hispanic					
Total:	87,720	54.52%	81,046	65.57%	92.39%
Under 18 years:	17,976	40.97%	17,484	42.68%	97.26%
18 years and over:	69,744	59.60%	63,562	76.92%	91.14%

26. A comparison of Table 2 and Table 3 shows a dramatic increase in both the number and share of Hispanic voting age citizens between 2000 and 2007. Comparing these tables, I have calculated an annual growth rate for Hispanic voting age citizens of 3.05 percent, while non-Hispanic voting age citizens have actually *declined* at the rate of 2.28 percent.

27. I have applied the annual growth rates calculated above to estimate the 2007 and 2008 voting age citizenship in Illustrative District A. Table 4 shows the estimate of 2008 voting age citizens in Illustrative District A.

Table 4. 2007 and 2008 Citizenship Estimate in Illustrative District A

Voting Age Citizens	2000	2007		2008	
Hispanic	3355	4153	54.10%	4282	55.42%
Non-Hispanic	4132	3524		3445	
Total[4]	7488	7678		7727	

4 Due to rounding, the estimates for Hispanic and Non-Hispanic CVAP may not add exactly to the total CVAP.

28. I have used the same procedure described above to create Illustrative District A to create two additional illustrative districts as examples of alternative configurations. These districts have been labeled Illustrative District B and Illustrative District C. A map of Illustrative District B is attached at Appendix B. A map of Illustrative District C is attached at Appendix C.

29. Table 5 shows the demographic characteristics of Illustrative Districts A, B, and C.

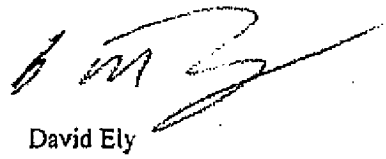
Table 5. Demographic Characteristics of the Three Illustrative Districts.

	Illustrative District A		Illustrative District B		Illustrative District C	
2000 Population	23335		23339		23261	
2000 Hispanic Population	17223	73.81%	16477	70.60%	16236	69.80%
2000 VAP	15375		15451		15455	
2000 Hispanic VAP	10897	70.87%	10404	67.34%	10243	66.28%
2000 CVAP	7488		8070		8132	
2000 Hispanic CVAP	3355	44.81%	3359	41.62%	3359	41.31%
					4772	
2000 CU18	6482		6471		6368	
2000 Hispanic CU18	4965	76.59%	4782	73.89%	4726	74.22%
2008 Registered Voters	4515		5013		4992	
2008 Span. Surname Regist. Voters	1854	41.06%	1904	37.98%	1972	39.50%
2008 CVAP	7727		8214		8265	
2008 Hispanic CVAP	4282	55.42%	4287	52.19%	4287	51.87%

30. My analysis demonstrates that it is possible to create a single member district in the Irving ISD in which Hispanics currently comprise a majority of eligible voters. In 2000, each of Illustrative Districts A, B, and C had a Hispanic super-majority of population and voting age population, as well as a Hispanic majority of the citizen population. A comparison of the 2000 and 2007 figures for Hispanic citizen voting age population for the Irving ISD shows a rapid rise in the Hispanic share of the citizen voting age population. Analysis of this trend, when applied to the Illustrative Districts, indicates that Hispanics currently comprise a majority of voting age citizens in each of the Illustrative Districts with a strong majority (over 55%) of the voting age citizens in Illustrative District A. An estimate this far in excess of 50% indicates a very high probability that Illustrative District A does indeed presently have a Hispanic CVAP majority.

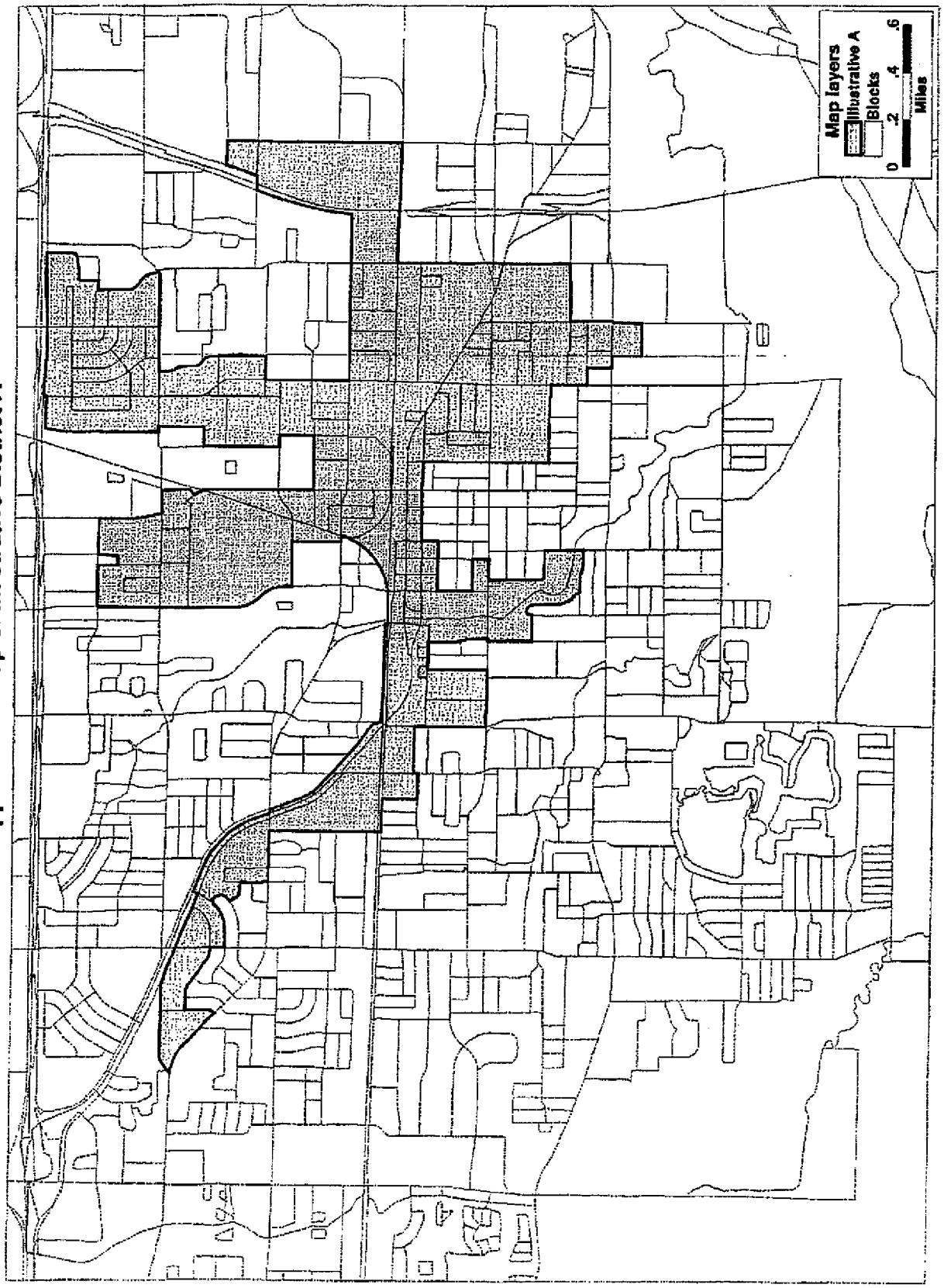
28. Pursuant to 28 U.S.C. 1746, I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge.

Executed on December 10, 2008, by

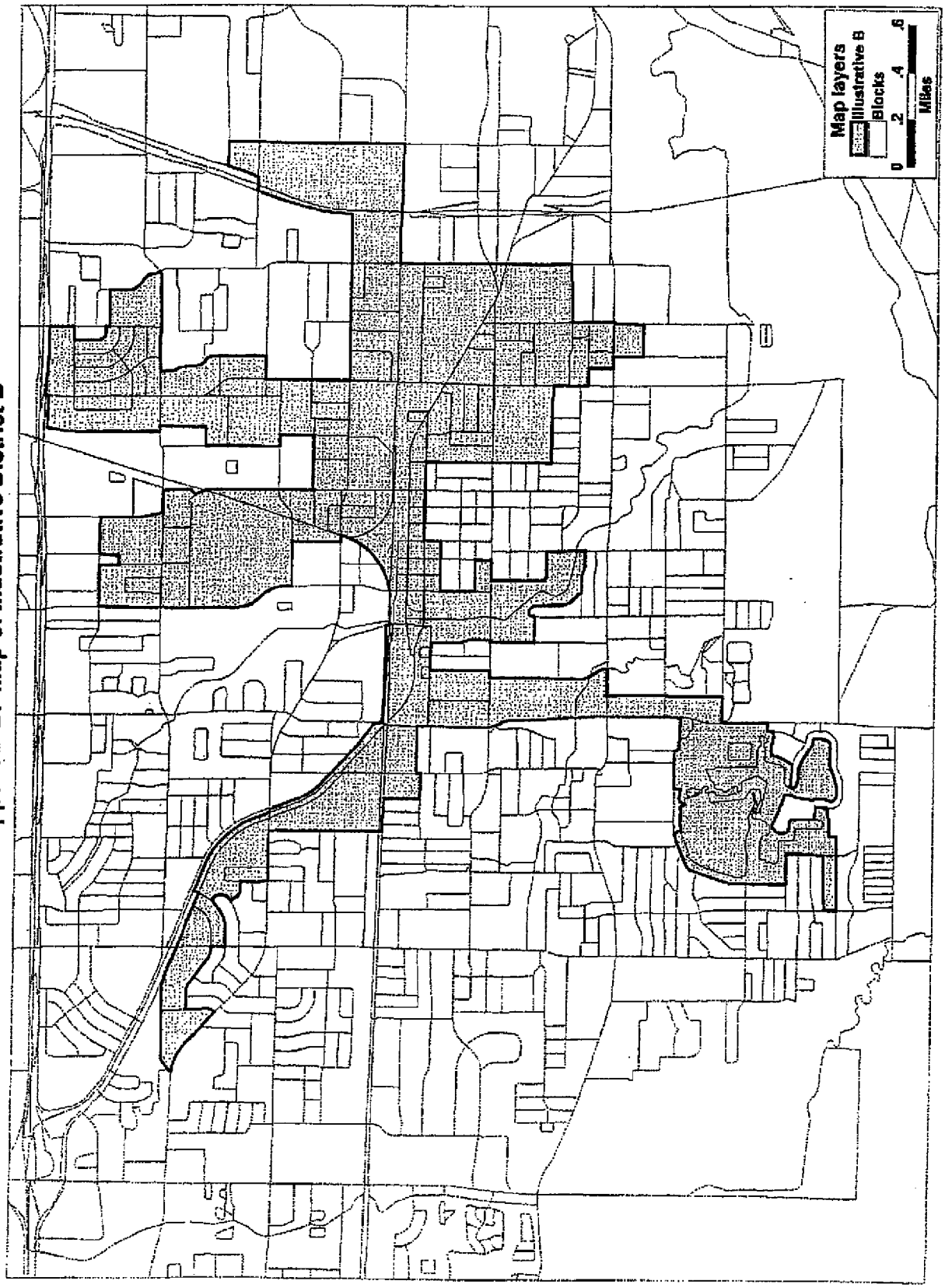


David Ely

Appendix A. Map of Illustrative District A



Appendix B. Map of Illustrative District B



Appendix C. Map of Illustrative District C