



Section 4. Plano at a Glance

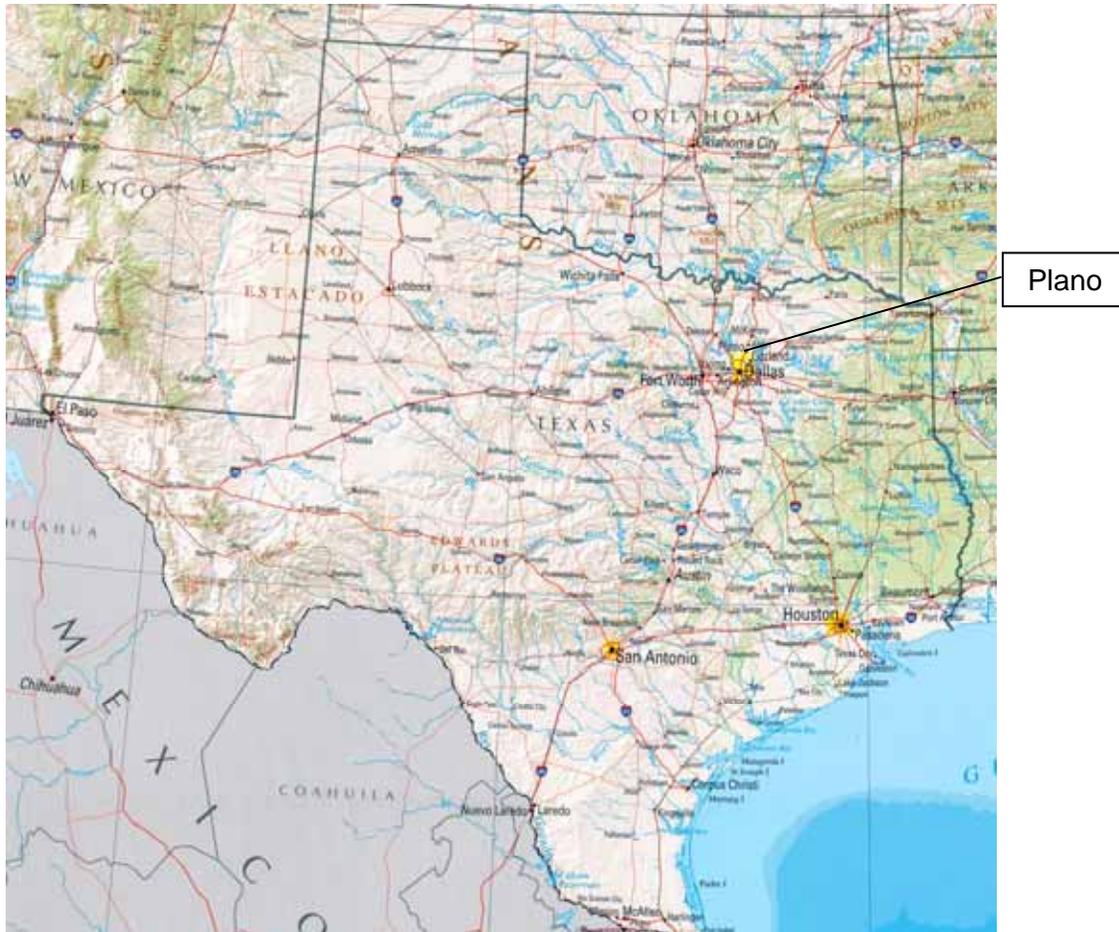
Contents

Contents	4-1
Geography.....	4-2
Watershed	4-6
Hydrography.....	4-8
Climate.....	4-9
Geology	4-10
Soil and Soil Erosion	4-13
History	4-15
Population.....	4-15
Demographic Characteristics	4-18
Social Characteristics	4-23
Prospects for the Metroplex Economic Region.....	4-25
Economic Circumstances	4-29
Land Use	4-33
Government.....	4-37
Disaster Declarations	4-37



Geography

Map 4-1. Shaded Relief Map of Texas

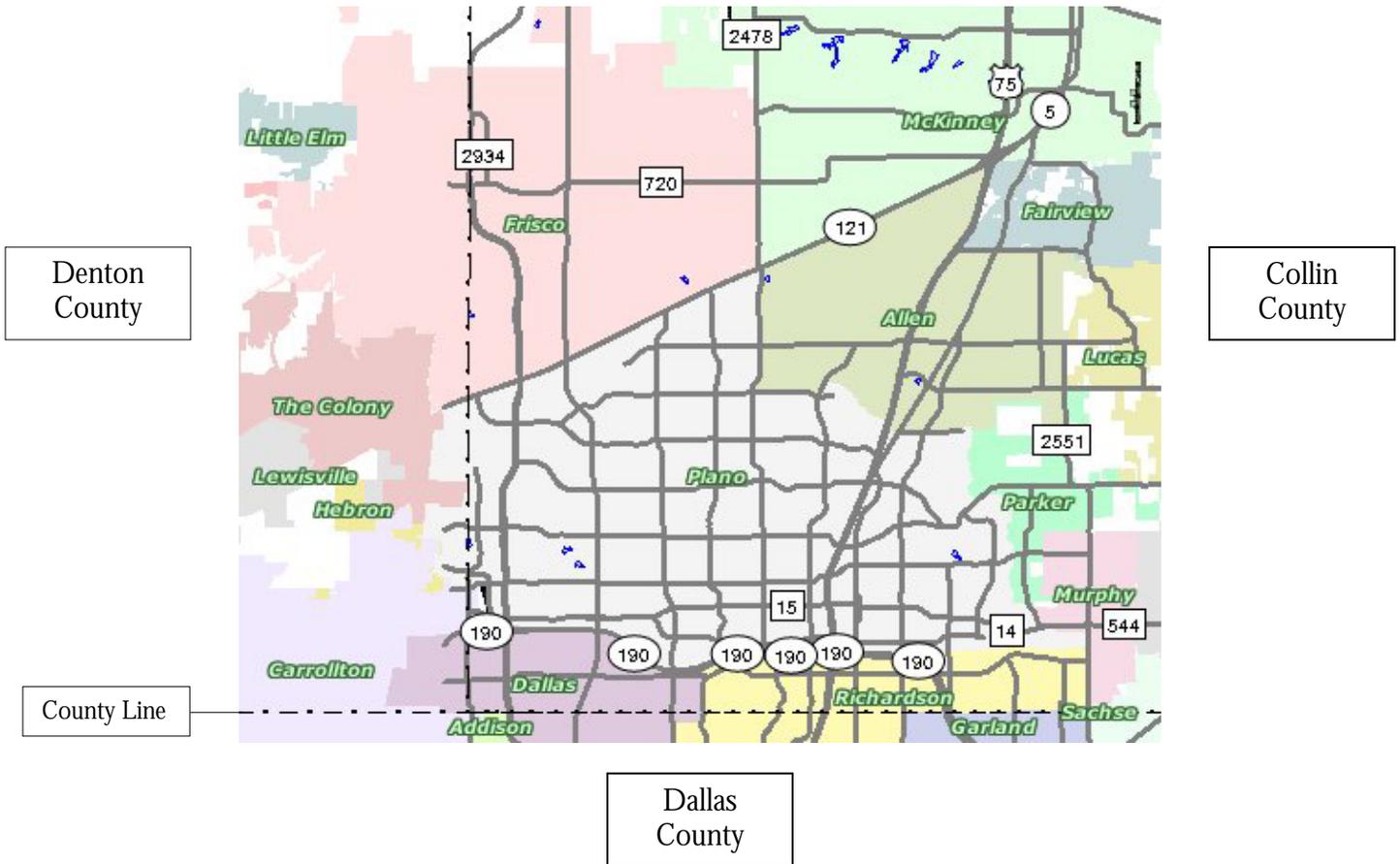


Source: University of Texas Map Collection

Plano is located on Highway 75 about twenty miles north of downtown Dallas and forty miles south of the Red River.



Map 4-2. City of Plano

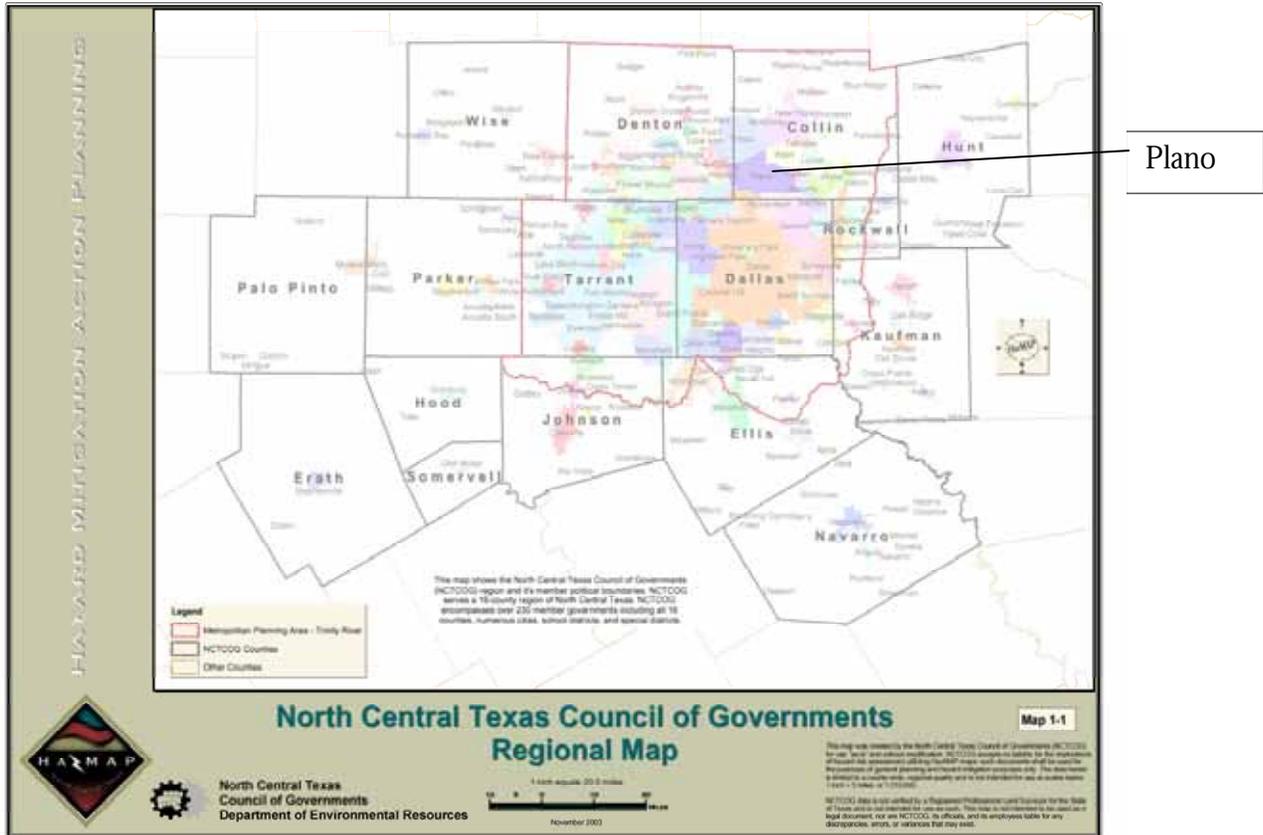


Source: City of Plano

Almost all of Plano is in Collin County, with just a small part across the county line in Denton County.



Map 4-3. North Central Texas Council of Governments



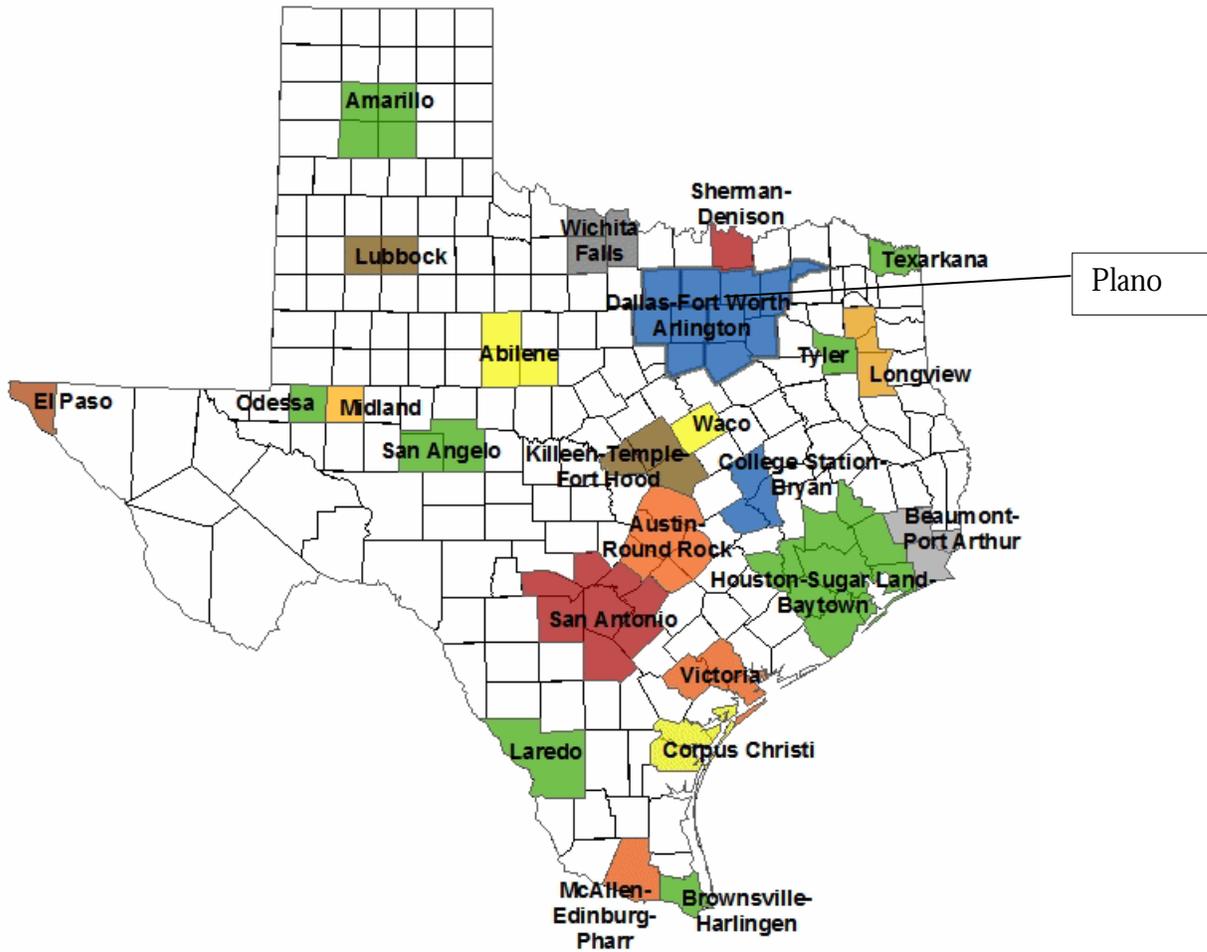
Source: North Central Texas Council of Governments, February 2004

Plano is a member of the North Central Texas Council of Governments (NCTCOG), which is a voluntary association of, by and for local governments, and was established to assist local governments in planning for common needs, cooperating for mutual benefit, and coordinating for sound regional development. NCTCOG's purpose is to strengthen both the individual and collective power of local governments and to help them recognize regional opportunities, eliminate unnecessary duplication, and make joint decisions.





Map 4-4. Metropolitan Statistical Areas of Texas

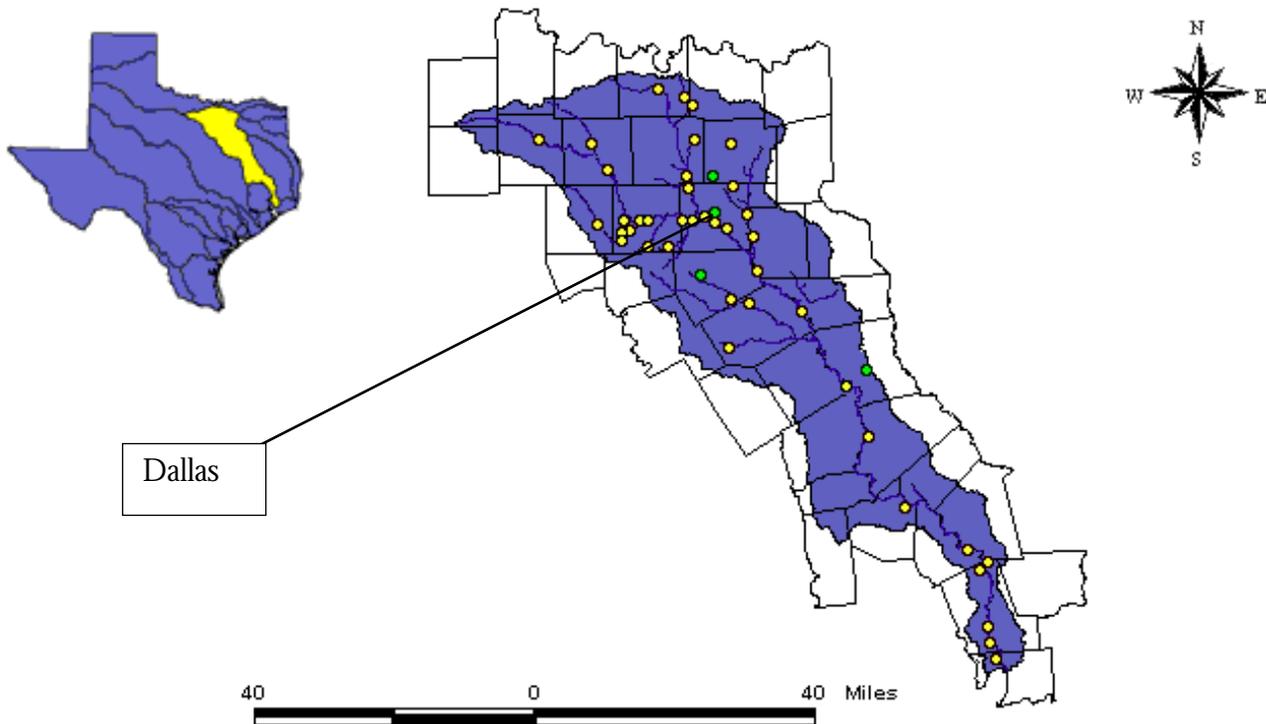


Source: Texas State Data Center and Office of the State Demographer

Plano is part of the Dallas-Fort Worth-Arlington Metropolitan Statistical Area, which is the largest inland metropolitan area in the nation, situated approximately 250 miles (400 km) north of the Gulf of Mexico.

Watershed

Map 4-5. Trinity River Basin

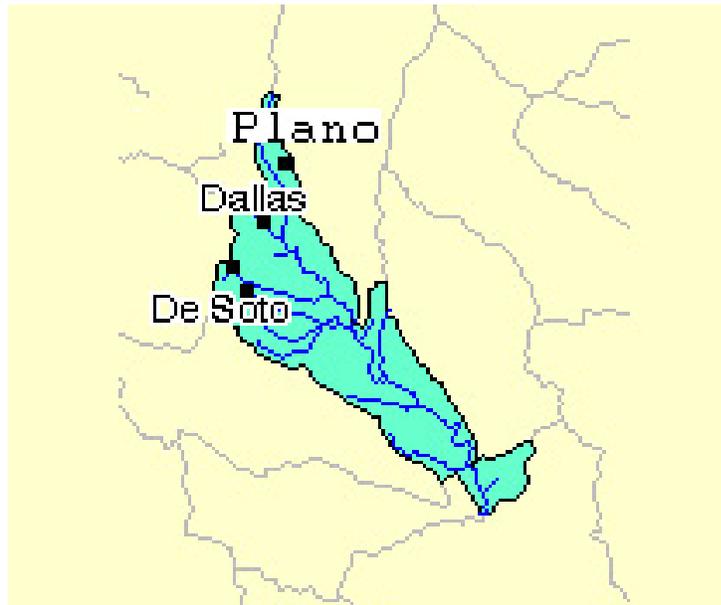


Source: Texas Parks and Wildlife

Plano is in the upper reaches of the Trinity River Basin, which extends from within a few miles of the Red River border with Oklahoma to Trinity Bay on the Gulf Coast north of Texas City and Galveston and east of Houston. Draining 17,969 well-watered square miles, the Trinity River is navigable in its lower reaches.



Map 4-6. Upper Trinity Watershed

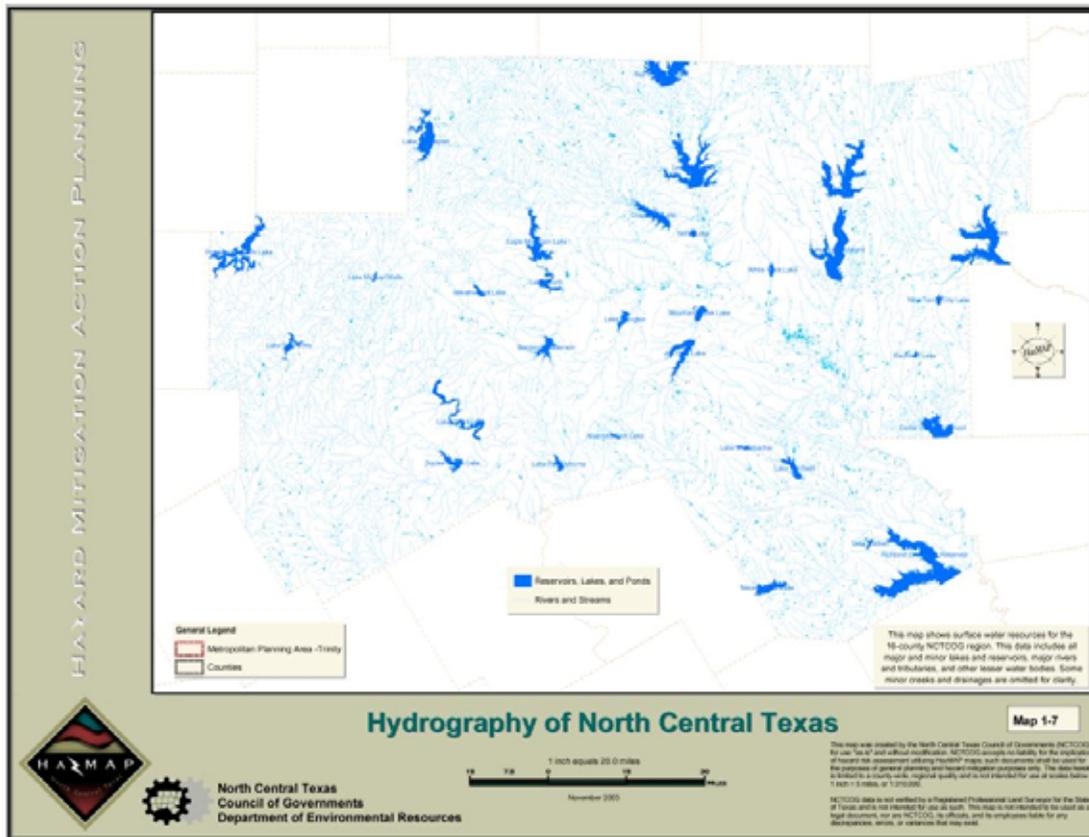


Source: Environmental Protection Agency

Water from Plano drains into the Trinity below the junction of the West Fork and the Elm Fork in Dallas.

Hydrography

Map 4-7. Hydrography of Plano Area



Source: North Central Texas Council of Governments, February 2004

The North Central Texas region represents the largest urban metropolitan area in the nation located on an inland waterway. This area depends on a number of reservoirs in the upper Trinity River basin, which impound water on several forks of the Trinity primarily for flood prevention or water supply purposes. At present, there are 38 major water reservoirs in the sixteen county North Central Texas region. These areas account for over 233,400 surface acres of water.

The region faces the challenges of water quality impacts resulting from urban activities, storm water discharges, and the discharge of treated wastewater from a large metropolitan center. The prairie waterways in North Central Texas, including the Trinity River, experience widely variable flow



scenarios. These conditions range from critical low flow situations during drought periods to periodic severe flooding events.

Climate

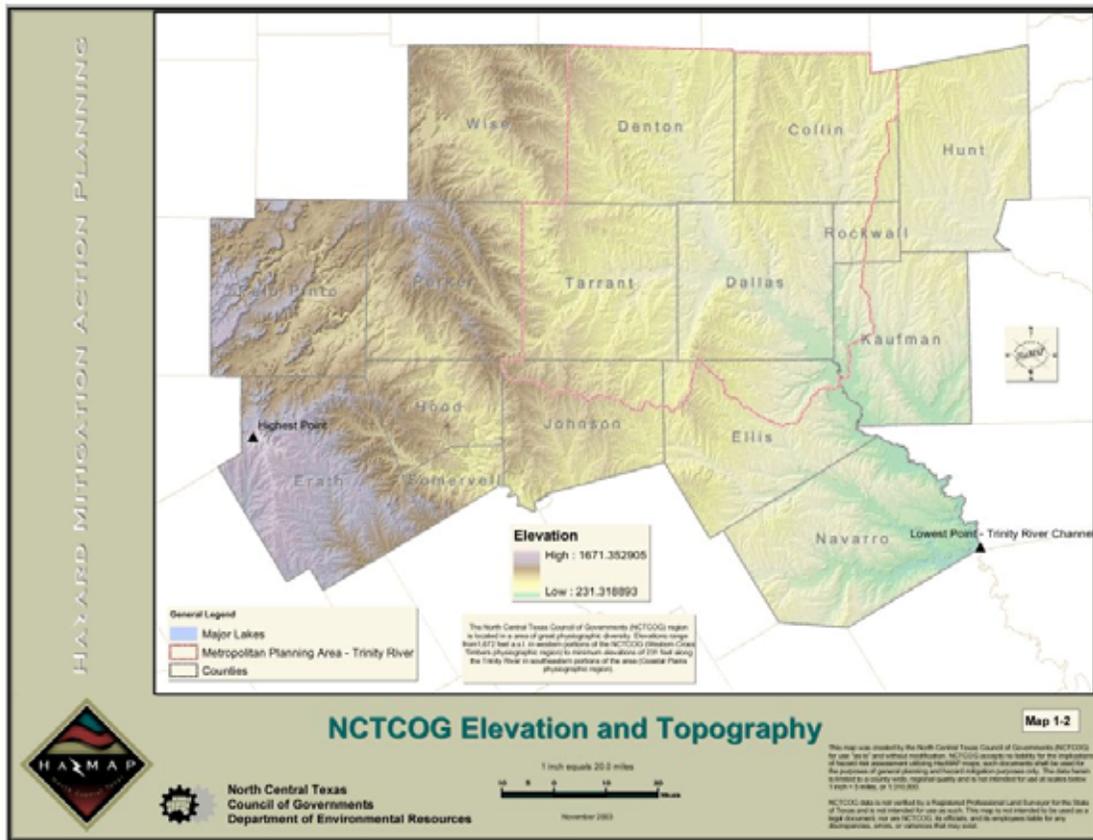
According to the National Weather Service, the climate in Plano is humid subtropical with hot summers. It is also continental, characterized by a wide annual temperature range. Precipitation also varies considerably, ranging from less than 20" to more than 50". Winters are mild, but "blue northers" occur about three times each month, and often are accompanied by sudden drops in temperature. Average low temperatures drop to 33°F in early to mid January. Periods of extreme cold that occasionally occur are short-lived, so that even in January mild weather occurs frequently.

The highest temperatures of summer are associated with fair skies, westerly winds, and low humidity. Characteristically, hot spells in summer are broken into three-to-five day periods by thunderstorm activity. There are only a few nights each summer when the low temperature exceeds 80°F. Summer daytime temperatures occasionally exceed 100°F. For over three weeks from late July to mid August, average high temperatures are at their peak of 96°F.

Throughout the year, rainfall occurs more frequently during the night. Usually, periods of rainy weather last for only a day or two, and are followed by several days with fair skies. A large part of the annual precipitation results from thunderstorm activity, with occasional heavy rainfall over brief periods of time. Thunderstorms occur throughout the year, but are most frequent in the spring. Hail falls on about 20 to 25 days a year, ordinarily with only slight and scattered damage. Windstorms occurring during thunderstorm activity are usually destructive. Snowfall is rare.

Geology

Map 4-8. Topography



Source: North Central Texas Council of Governments, February 2004

The rolling hills of Collin County range from 434 to 792 feet in elevation.



buried fold belt (about 8,000 feet below sea level), underlying parts of Ellis, Kaufman, Dallas, Navarro and Collin Counties. Several significant tectonic structures may be found in the eastern and western portions of north central Texas and are typically linked to the Ouachita front.

The eastern region includes the East Texas Embayment, a Mesozoic-aged graben (around 100 mybp) that is part of the greater Mesozoic/Tertiary-aged Gulf Basin, which extends southeast towards the modern Gulf of Mexico. The structure contains several petroleum-producing regions, including the Corsicana Oil Field, significant as the first major oil and natural gas field in Texas. Minor faults associated with the Luling-Mexia-Talco fault system parallel this graben feature but are generally inactive, subsidence-related normal faults with little appreciable throw.

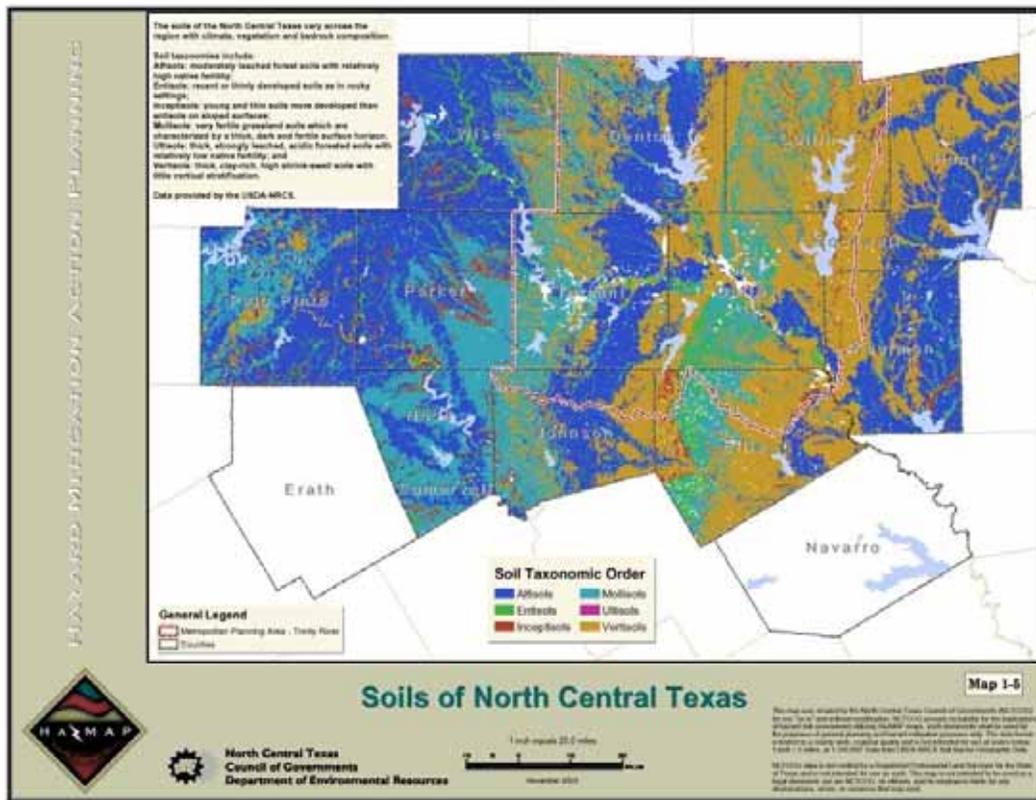
West-central portions of the region are underlain by the Fort Worth basin, a large synclinal feature. Portions of Tarrant, Denton, Wise and Parker counties are areas of active exploration and drilling as a result of recent gas discoveries related to the Barnett Shale formation found throughout this region. The Newark East field of Denton County contains the largest active natural gas producing region in the State of Texas.

The northwestern quarter of the region is a surface exposure of the area's oldest rocks, due to uplift on the east margin of an arch feature related to the Fort Worth Basin and Ouachita Front formation. Uplift here has removed younger Cretaceous rocks, allowing the older westward-dipping strata to be exposed in Palo Pinto and western Wise and Parker Counties.

North Central Texas is generally characterized as having minor seismic activity. Several minor fault zones are present within the region but are not considered active. Microquakes have occurred along several faults within the region, which may be initiated by drilling and well injection activities. Other faults may be found in association with other regional structural features. In the North Central Texas area, the last indication of significant fault movement is about 11 million years ago, and no evidence of later faulting has been found in younger rocks. Other major regional fault systems are more active, such as in Oklahoma, Missouri and West Texas.

Soil and Soil Erosion

Map 4-10. Soils



Source: North Central Texas Council of Governments, February 2004

The soils in the region surrounding Plano are varied in texture, composition and character, and due to the size of the region, change widely among the various physiographic regions of North Central Texas.

East of Plano is the Eastern Cross Timbers region which is characterized by well drained, rolling hills with sandy soils in the uplands, and narrow clay-rich river bottoms. Soils range from alfisols on uplands, to mollisols and entisols in flood bottoms.

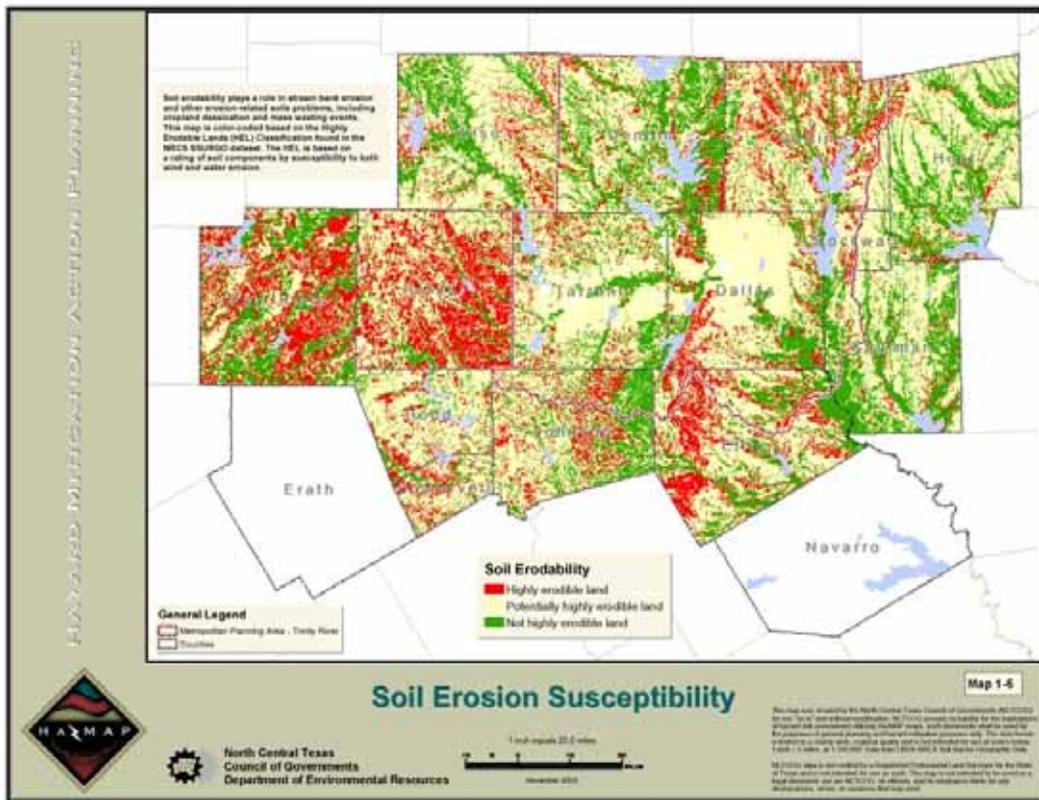
The majority of the central and east-central portions of the North Central Texas region are comprised of uniform dark carbonate-rich alkaline soils, developed on a gently sloping to level area underlain by limestones, shales and marlstones. Clays may include montmorillonite and may be

carbonatic. Soils in this region typically do contain high amounts of expansive clay minerals. Soil classes are primarily vertisols, alfisols on terraces and in uplands, and mollisols in flood bottoms.

In the center of the North Central Texas region, a thin standout portion of Eastern Cross Timbers soils types coexists with the surface exposures of the Eagle Ford Shale formation. West of this region, the topography and soil composition are that of the Grand Prairie region. This region is primarily an area of gently rolling to hilly, dissected limestone plateaus, which are relatively resistant to erosion. Carbonatic or montmorillonitic vertisols dominate, with lesser alfisols and mollisols and entisols.

West of Plano is a region typified by the widely ranging alfisols of the Western Cross Timbers region. These range from somewhat stoney, sandy or clayey argillaceous, acidic soils to more limited alkaline soils. The rocks underlying this region are varied, from limestones, to sandstones and shales of varying composition, and the topography is rugged to hilly.

Map 4-11. Soil Erosion



Source: North Central Texas Council of Governments, February 2004



History

Initially settled in the 1840s, Plano was incorporated on June 2, 1873, six months after the Houston and Texas Central Railroad began service, making the city the trading center of agriculturally rich southwest Collin County. Additional transportation improvements further secured the city's position. The Cotton Belt Railroad opened in 1887, connecting Plano to Fort Worth, and in 1908 the Texas Traction Company (interurban electric railway) began service between Plano and Dallas. The wagon road connecting Plano to Dallas (approximately 20 miles south) would evolve into a State highway (State Highway 5). Plano prospered, attaining a population of 1,304 people by 1900. Throughout the first half of the 20th century, downtown Plano consisted of a single block of one and two-story commercial buildings (approximately 110,000 sq. ft.) surrounded by a cotton gin and oil press mill and other scattered heavy commercial and service uses. Downtown businesses included grocery, drug, variety, furniture and appliance stores, banks and other services. The small train and interurban depots were located on the west and south sides of downtown. Churches and neighborhoods adjoined downtown, completing the small town.

Plano's population was 2,126 in 1950, when expansion of the greater Dallas metropolitan area began to affect the city. Development of North Central Expressway (1950-1956) greatly improved access to northern Dallas and Collin counties and stimulated suburban development. City leaders prepared for growth. By 1950, eight area school districts completed consolidation and established the 114 square mile jurisdiction of the Plano Independent School District. In 1951, Plano and nine other cities created the North Texas Municipal Water District to provide for their common water and wastewater treatment and solid waste disposal needs. The City of Plano was granted a home rule charter on June 10, 1961, which increased the city's governance authority and its ability to annex. During the following years, city leaders aggressively developed infrastructure and facilities to serve growth. Today, after four decades of rapid expansion, the City of Plano occupies approximately 72 square miles, with an estimated population of 247,000. Plano is a major employment center with more than 120,000 local jobs. The city's diverse economy includes international and national corporate headquarters, high-tech manufacturing, warehousing and distribution centers, hospitals and over 14 million square feet of retailing.

Population

Population in 2000 Census

According to the 2000 Census, Plano had a population of 222,030, an increase of 72.5% over the 128,713 in the 1990 Census. The most recent available figure is 247,000 in April 2005.



Projected Population

The Texas State Data Center, the Texas A&M University System, and the State Demographer project the population of Texas counties, Councils of Governments (COGs), Metropolitan Statistical Areas (MSAs) and the state as a whole until the year 2040. They do not project the population of Texas cities.

Table 4-1. and Figures 4.1 and 4.2 give the projected growth in Collin County, Denton County, the Dallas-Fort Worth-Arlington Metropolitan Statistical Area (MSA), and Texas. Note that Collin County and Denton County are projected to increase at a very rapid rate, much more rapidly than the MSA and Texas as a whole.

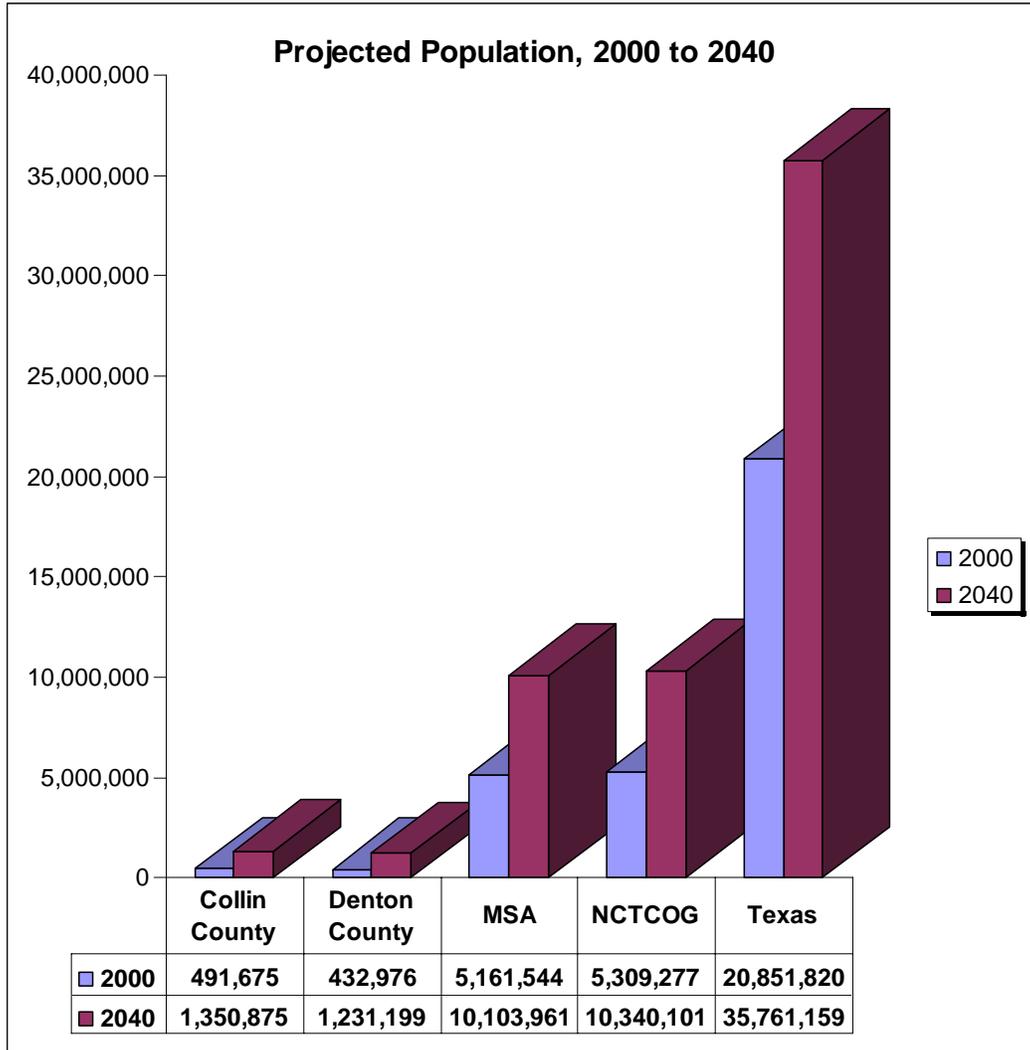
Table 4-1. Projected Population

County	2000	2010	2020	2030	2040	Increase
Collin County	491,675	669,533	864,105	1,098,390	1,350,875	174.7%
Denton County	432,976	603,269	793,227	1,002,361	1,231,199	184.4%
MSA	5,161,544	6,197,537	7,338,736	8,646,776	10,103,961	95.8%
Texas	20,851,820	24,330,643	28,005,792	31,830,579	35,761,159	71.5%

Source: Texas State Data Center, the Texas A&M University System, and the State Demographer, June 2004



Figure 4-1. Projected Population



Source: Texas State Data Center, the Texas A&M University System, and the State Demographer, June 2004

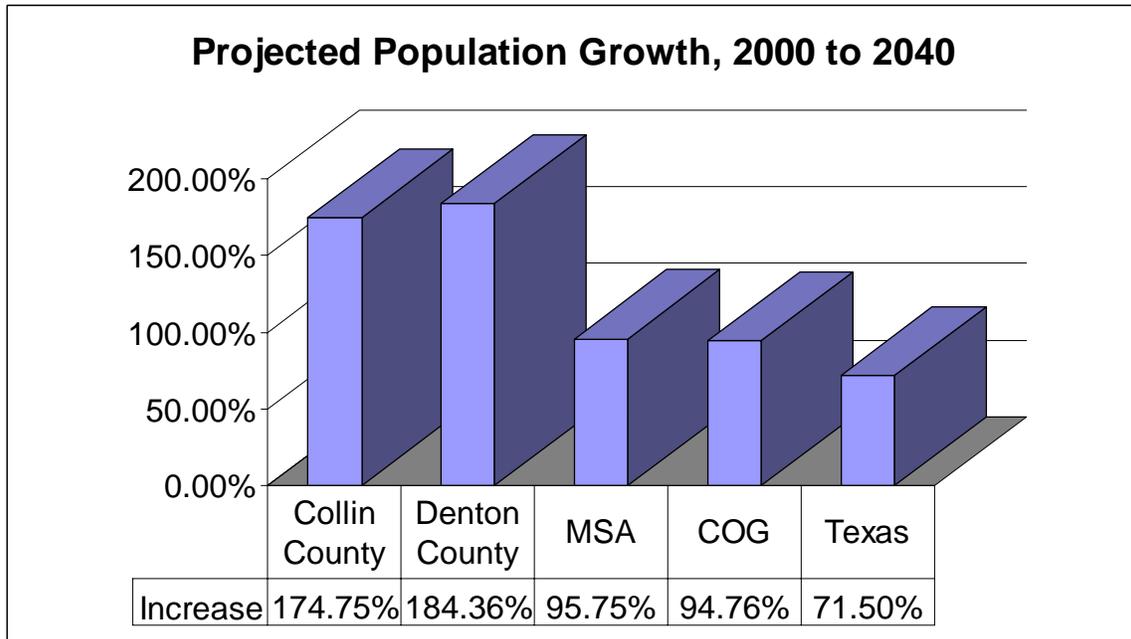


Figure 4-2. Projected Population Growth

Source: Texas State Data Center, Texas A&M University System, and State Demographer, June 2004

Demographic Characteristics

The Hispanic population of Collin County is projected to increase by an amazing 505% by the year 2040. The Black population and the population of other races and ethnicities are projected to increase by 234% and 315%, respectively. Whites are expected to increase at the comparatively slow rate of 113%, but will remain the largest group at 60% of the total population. Figures for Plano through 2020 are given in Figure 4-6.

The average age of Plano residents is 34.1 years. Women make up 50.2 percent of the population and men 49.8 percent.

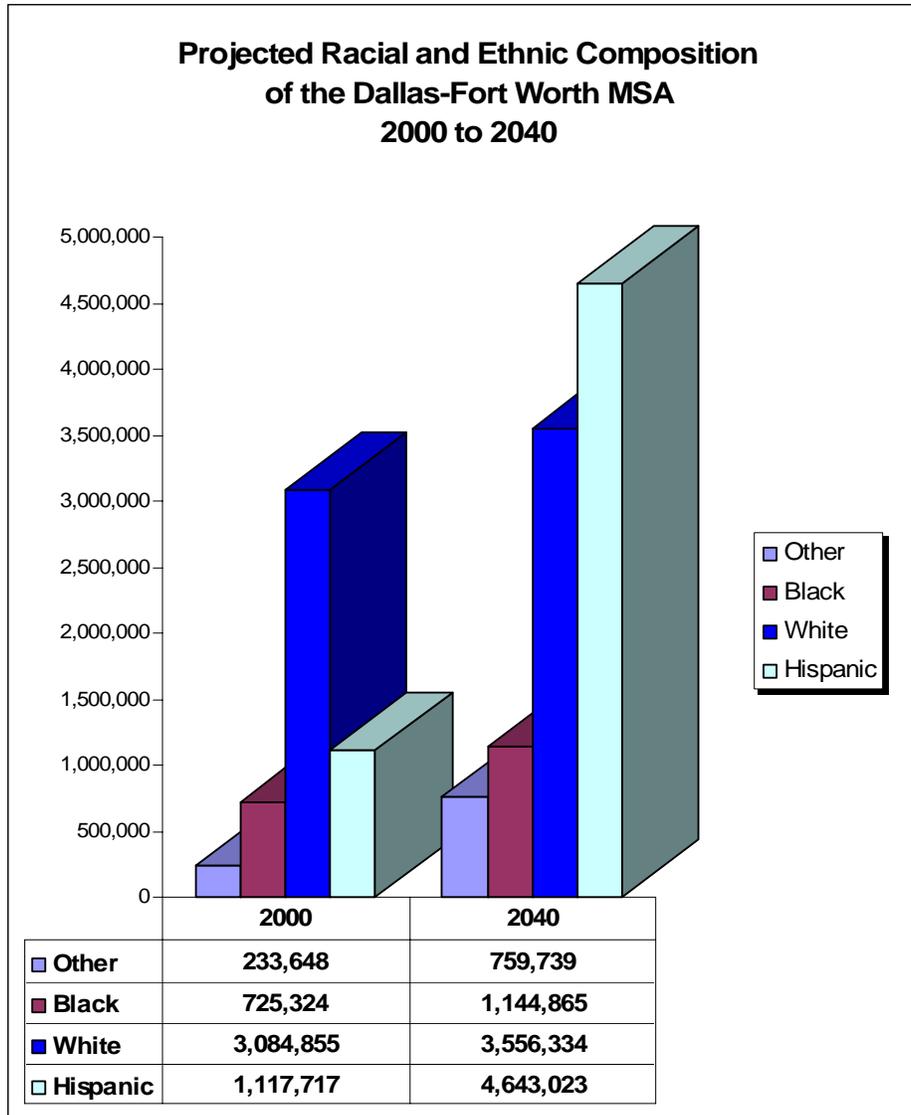


Figure 4-3. Racial and Ethnic Composition

Source: Texas State Data Center, the Texas A&M University System, and the State Demographer, June 2004

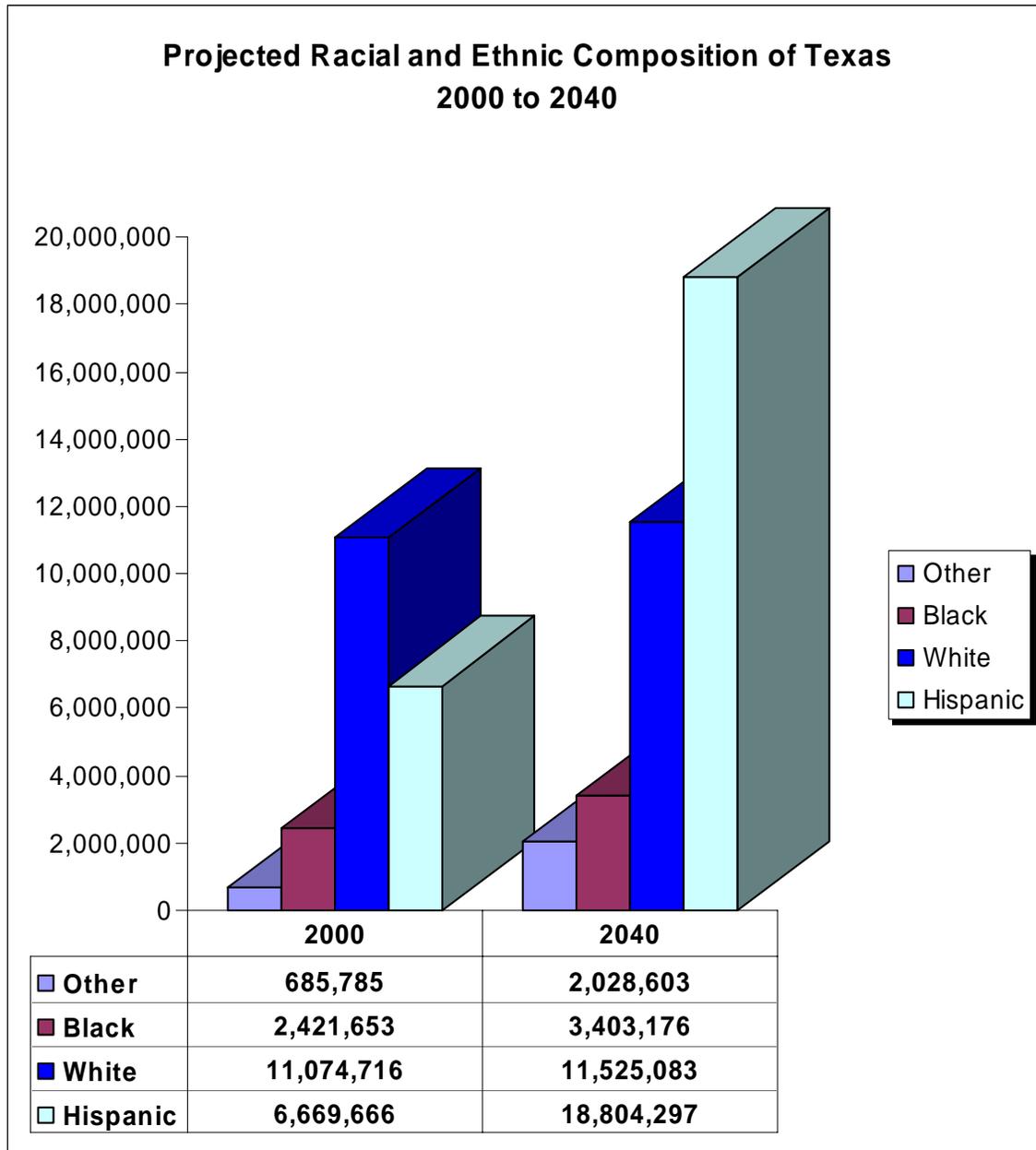


Figure 4-4. Racial and Ethnic Composition of Texas

Source: Texas State Data Center, the Texas A&M University System, and the State Demographer, June 2004

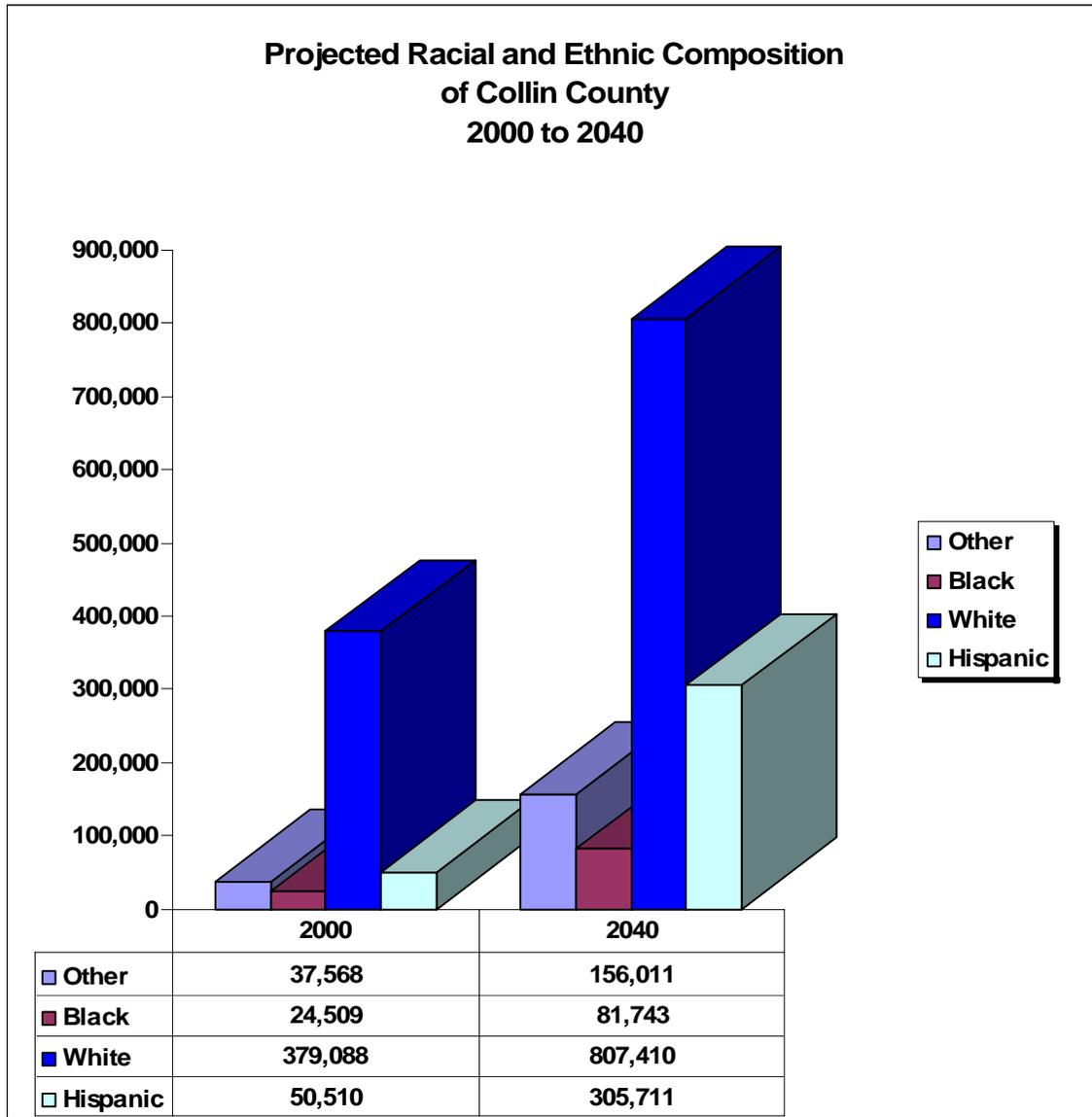


Figure 4-5. Racial and Ethnic Composition of Collin County

Source: Texas State Data Center, the Texas A&M University System, and the State Demographer, June 2004

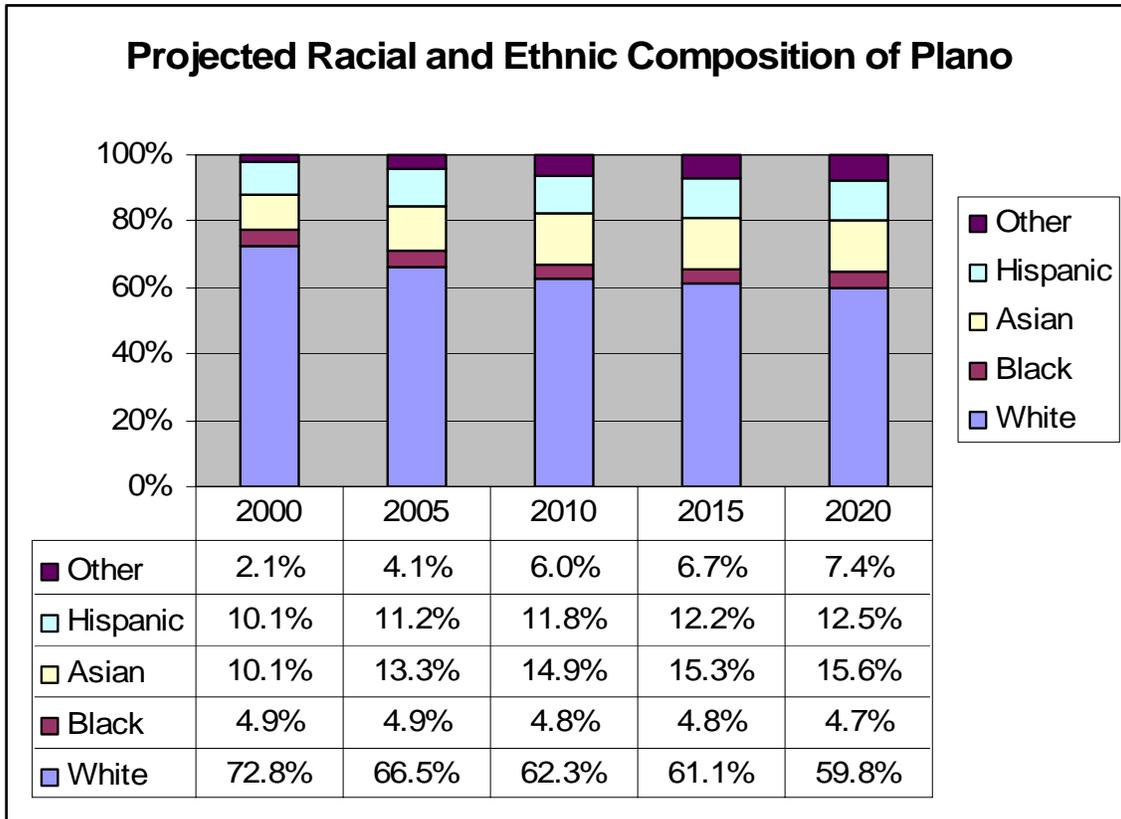


Figure 4-6. Racial and Ethnic Composition of Plano

Source: Office of Homeland Security, City of Plano, December 2005

Social Characteristics

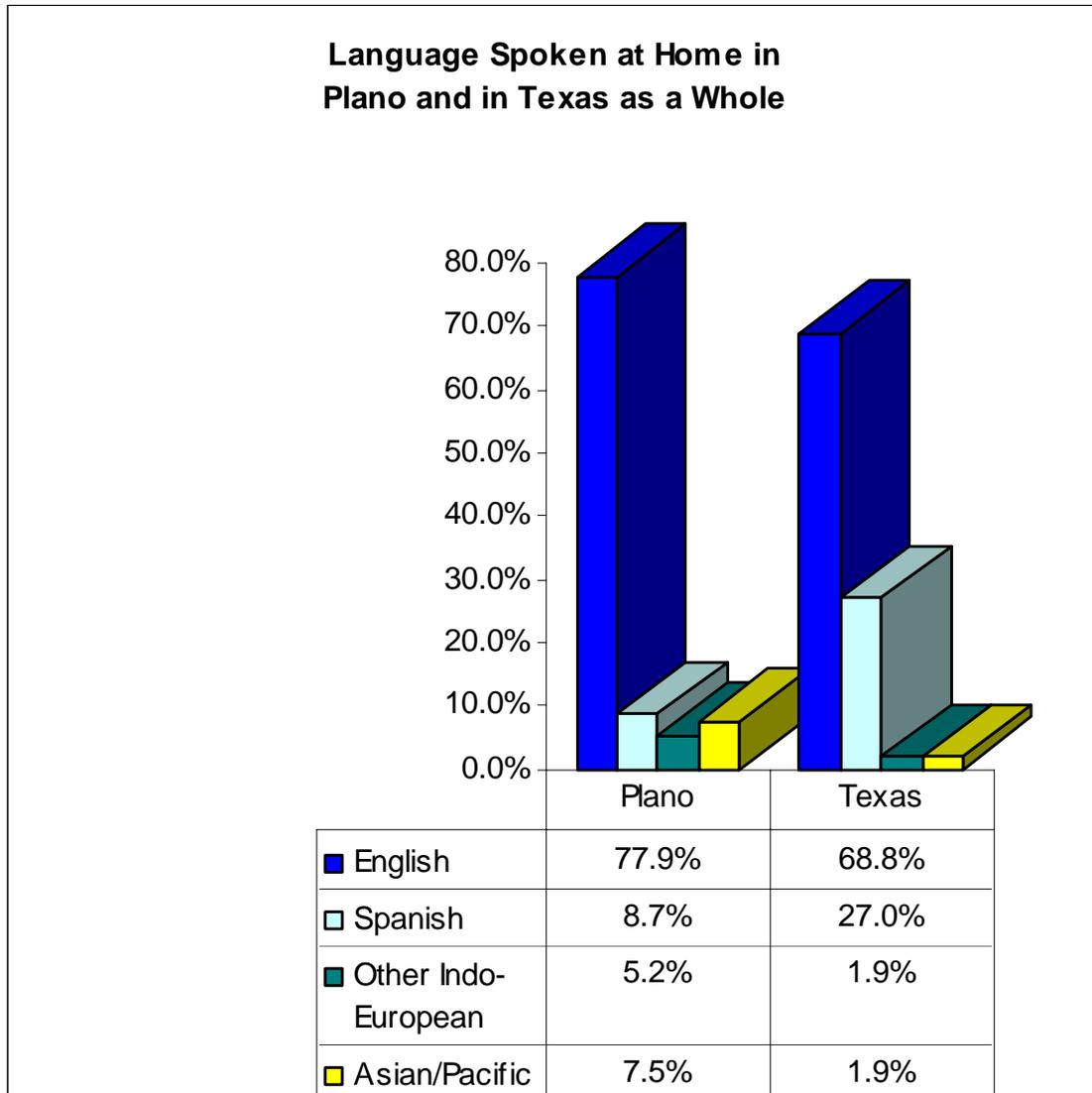


Figure 4-7. Language Spoken at Home

Source: 2000 Census

Compared to Texas as a whole, people in Plano speak somewhat more English, much less Spanish, and much more other Indo-European and Asian/Pacific languages.

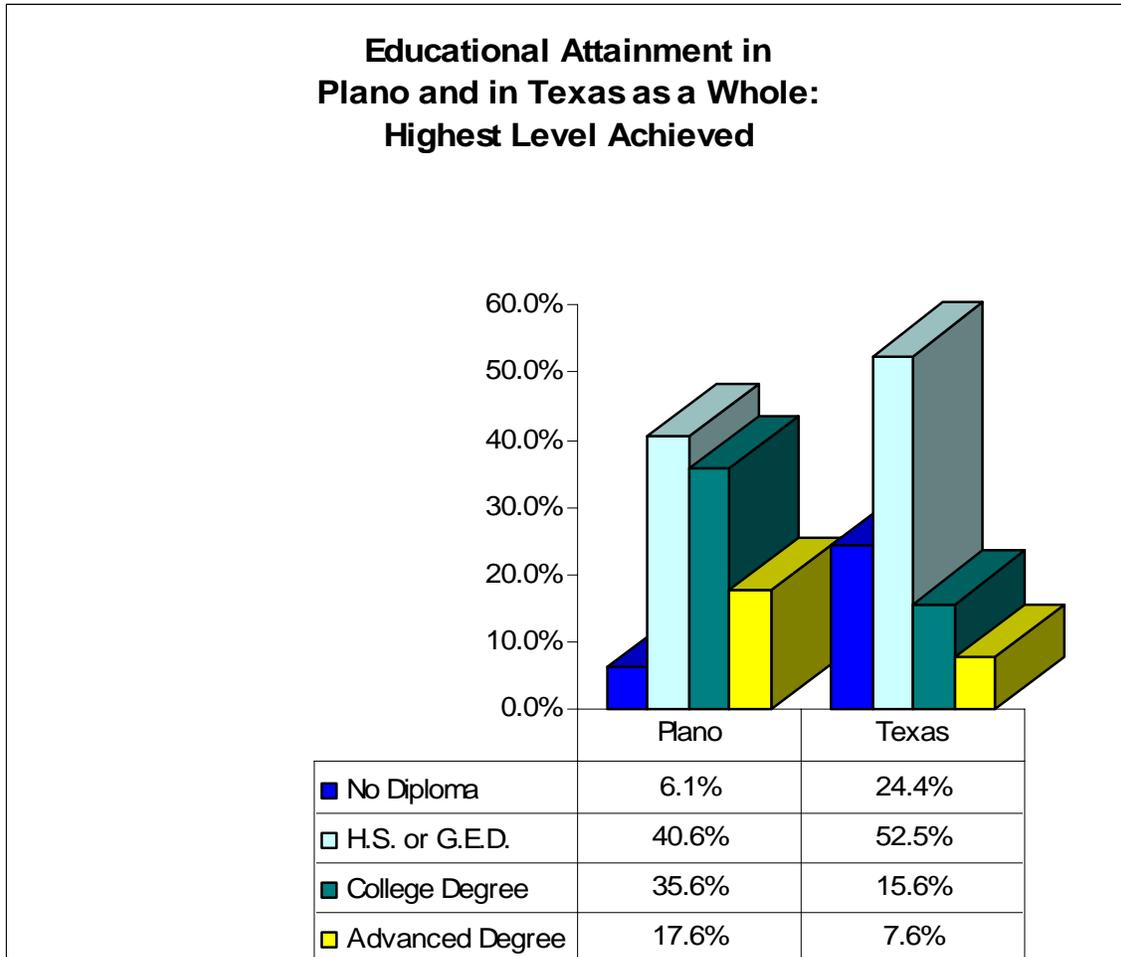


Figure 4-8. Educational Attainment

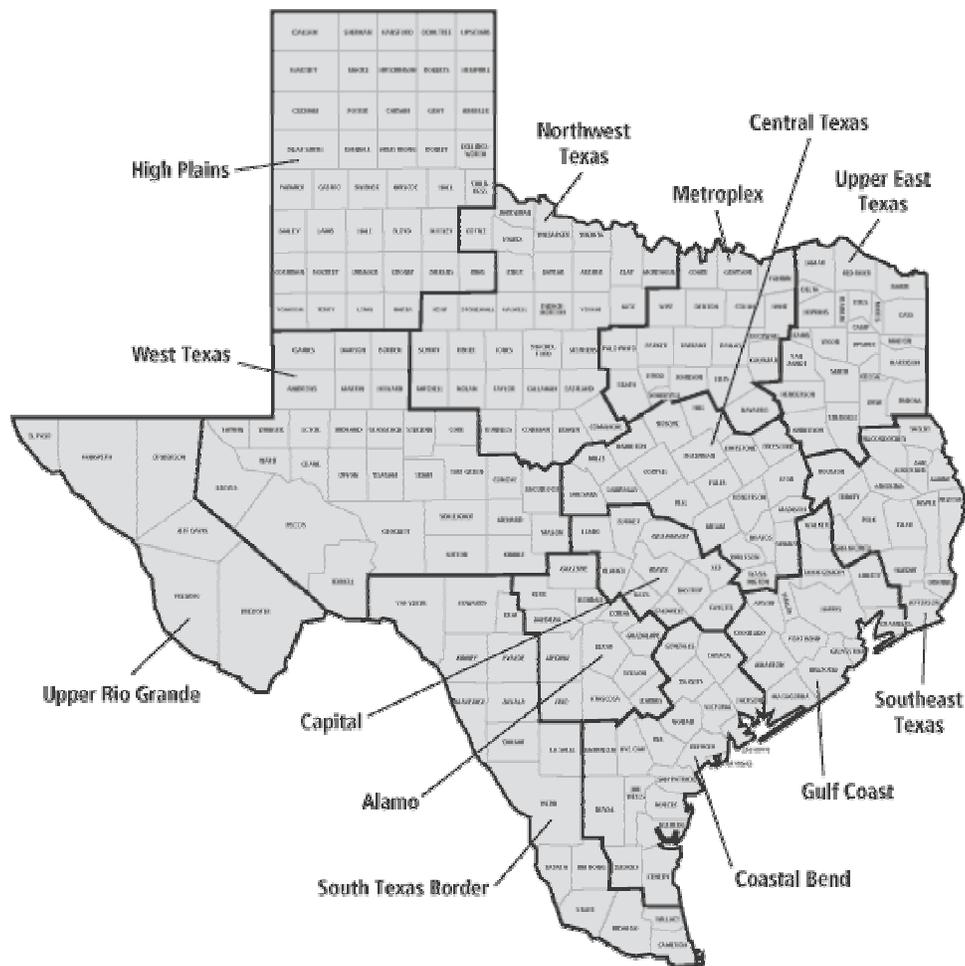
Source: 2000 Census

The people of Plano are highly educated. Of the population 25 years or older in 2000, 93.9% were high school graduates, and 53.3% were college graduates, with 17.6% having advanced degrees. This compares with 75.7% high school graduates, 23.2% college graduates, and 7.6% with advanced degrees in Texas as a whole.



Prospects for the Metroplex Economic Region

Map 4-12. Economic Regions of Texas



Source: Texas Comptroller of Public Accounts





The Texas Comptroller of Public Accounts divides Texas into thirteen economic regions for purposes of analyzing economic growth prospects. Plano falls within the Metroplex Economic Region, which contains nineteen counties: Collin, Cooke, Dallas, Denton, Ellis, Erath, Fannin, Grayson, Hood, Hunt, Johnson, Kaufman, Navarro, Palo Pinto, Parker, Rockwall, Somervell, Tarrant, and Wise.

The economic models used by the Comptroller's Office indicate about 1.7% annual growth in employment in the Metroplex Economic Region for the period 2000 to 2005. By contrast, the Comptroller's Office expects statewide employment to climb 1.9% a year between 2000 and 2005.

During 1980 to 2000, the fastest percentage rate of employment growth for Texas industries was found among firms supplying services to other businesses, reflecting the outsourcing of functions formerly performed by businesses' own employees. Tourism and entertainment had the second fastest percentage growth rate, followed by personal services, health care, and local government. The Comptroller's Office models project that the industries adding the most new employees through 2005 will be state government, local government, eating and drinking places, health services, and retail trade. The most rapid expansion in percentage terms is indicated for computer and data processing, water and sanitation, health services, and residential care.

Occupations projected to expand by the largest numbers, according to the Comptroller's Office, are food preparation and service, teachers/librarians/counselors, protective service, managerial/administrative, clerical and administrative support and computer programmers/mathematicians/operations researchers. The last occupation is also expected to show the fastest percentage rate of growth followed by social/recreational/religious workers, metal and plastic process machine operators, health service and personal service. According to the City of Plano, health care is expected to be an area of high growth.

During the thirty years ending in 2000, the value of all the goods and services produced in the Metroplex Economic Region (its Gross Regional Product or GRP) expanded 4.7% a year, from \$49.3 billion in 1970 to \$193.2 billion in 2000, a growth rate the Comptroller's Office characterized as "astounding." This increase was nearly twice the rate of population growth, resulting in a climb in per-capita disposable income (income left after paying federal taxes) from \$12,600 in 1970 to \$23,800 in 2000 in constant (1992) dollars.

Table 4-2 gives the twenty-five fastest growing industries in the Metroplex Economic Region according to projections of the Comptroller's Office in September 2002.



Table 4-2. Fastest Growing Industries in the Metroplex Economic Region

Ranking	Industry	Employment in 2000	Employment in 2005	Increase (Number)	Increase (Percentage)
1	Residential Care	5,570	7,755	2,185	6.8%
2	Health Services	33,679	46,067	12,388	6.5%
3	Computer and Data Processing Services	81,196	110,772	29,576	6.4%
4	Water and Sanitation	2,548	3,399	851	5.9%
5	Miscellaneous Transportation Services	5,332	7,060	1,728	5.8%
6	Museums, Botanical, Zoological Gardens	890	1,152	262	5.3%
7	Passenger Transportation Arrangement	6,556	8,485	1,929	5.3%
8	Local and Interurban Passenger Transit	7,836	9,860	2,024	4.7%
9	Individual and Miscellaneous Social Services	7,849	9,836	1,987	4.6%
10	Automobile Parking, Repair, and Services	34,313	41,782	7,469	4.0%
11	Child Day Care Services	26,329	31,931	5,602	3.9%
12	Amusement and Recreation Services	38,049	46,022	7,973	3.9%
13	Agricultural Services	35,672	42,957	7,285	3.8%
14	Research and Testing Services	10,559	12,677	2,118	3.7%
15	Educational Services	44,409	53,190	8,781	3.7%





Ranking	Industry	Employment in 2000	Employment in 2005	Increase (Number)	Increase (Percentage)
16	Job Training and Related Services	1,904	2,269	365	3.6%
17	Offices of Health Practitioners	65,891	78,464	12,573	3.6%
18	Commercial Sports	5,239	6,238	999	3.6%
19	Medical Equipment, Instruments and Supplies	3,212	3,813	601	3.5%
20	Ophthalmic Goods	364	430	66	3.4%
21	Management and Public Relations	60,468	71,180	10,712	3.3%
22	Books	2,263	2,648	385	3.2%
23	Water Transportation	1,713	1,987	274	3.0%
24	Jewelry, Silverware, and Plated Ware	958	1,111	153	3.0%
25	Toys and Sporting Goods	1,579	1,823	244	2.9%

Source: Texas Comptroller of Public Accounts, September 2002

Future growth prospects for the Metroplex Economic Region will depend in part on how well it responds to the challenge seen by the Comptroller's Office:

The primary challenge for this region is providing the educational skills needed to train the work force to meet the changing needs of business in an Internet economy.



Economic Circumstances

The economic circumstances of the people of Plano compare favorably with economic circumstances in Collin County, Denton County, the Dallas-Fort Worth MSA and Texas.

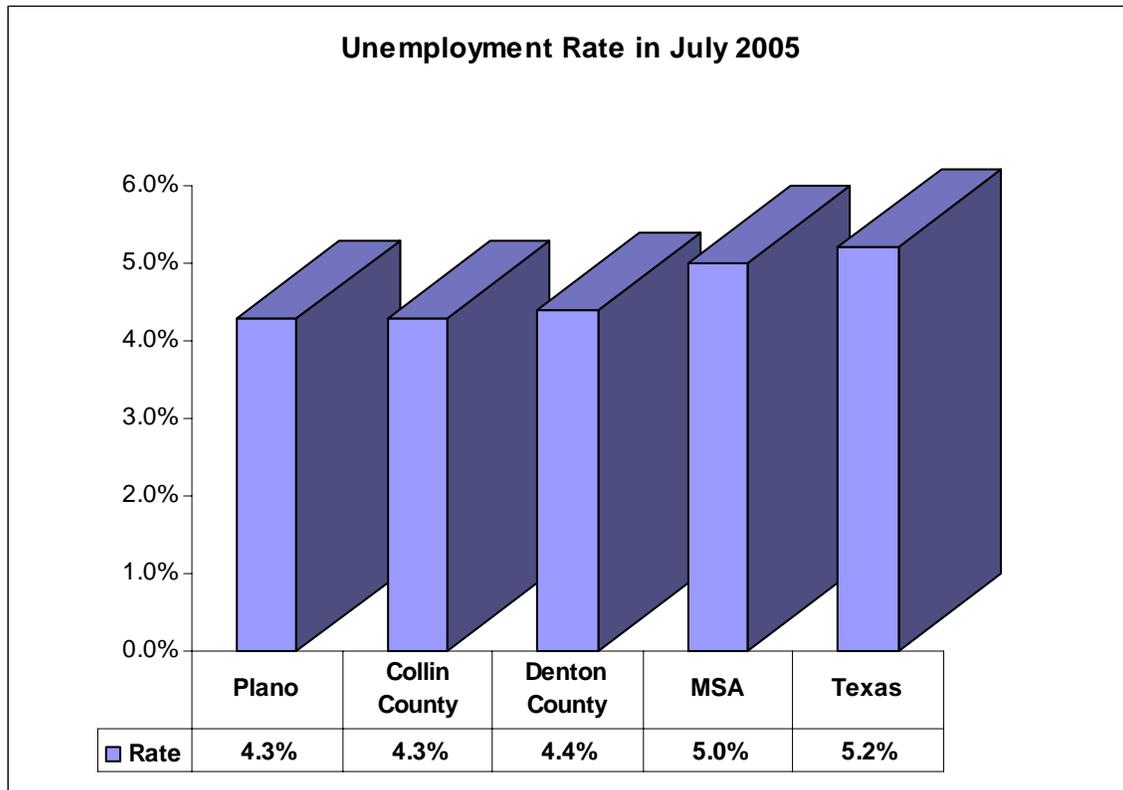


Figure 4-9. Unemployment

Source: Texas Workforce Commission, September 2005

Plano's unemployment rate of 4.3% in July 2005 equals the rate for Collin County and is below the rate for Denton County, the Dallas-Fort Worth MSA and Texas.

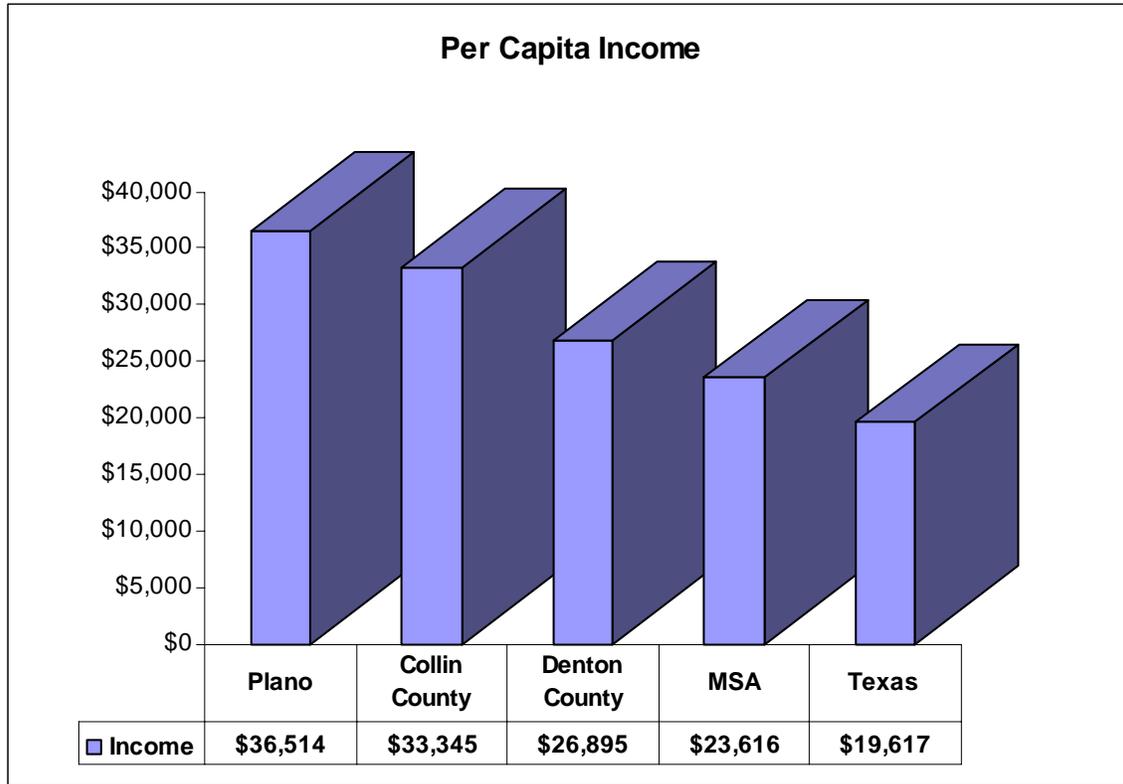


Figure 4-10. Per Capita Income

Source: 2000 Census

Plano's per capita income of \$36,514 is above the level of Collin County, Denton County, the Dallas-Fort Worth MSA and Texas.

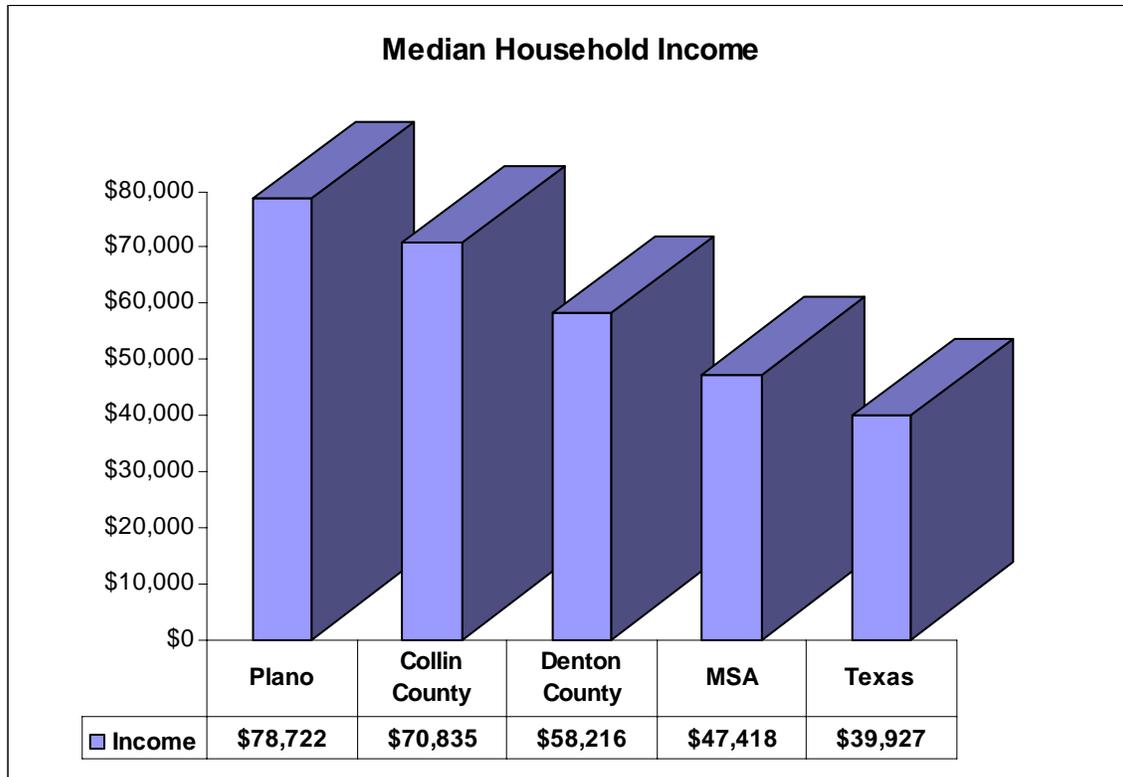


Figure 4-11. Median Household Income

Source: 2000 Census

Plano's median household income of \$78,722 is above the level of Collin County, Denton County, the Dallas-Fort Worth MSA and Texas.

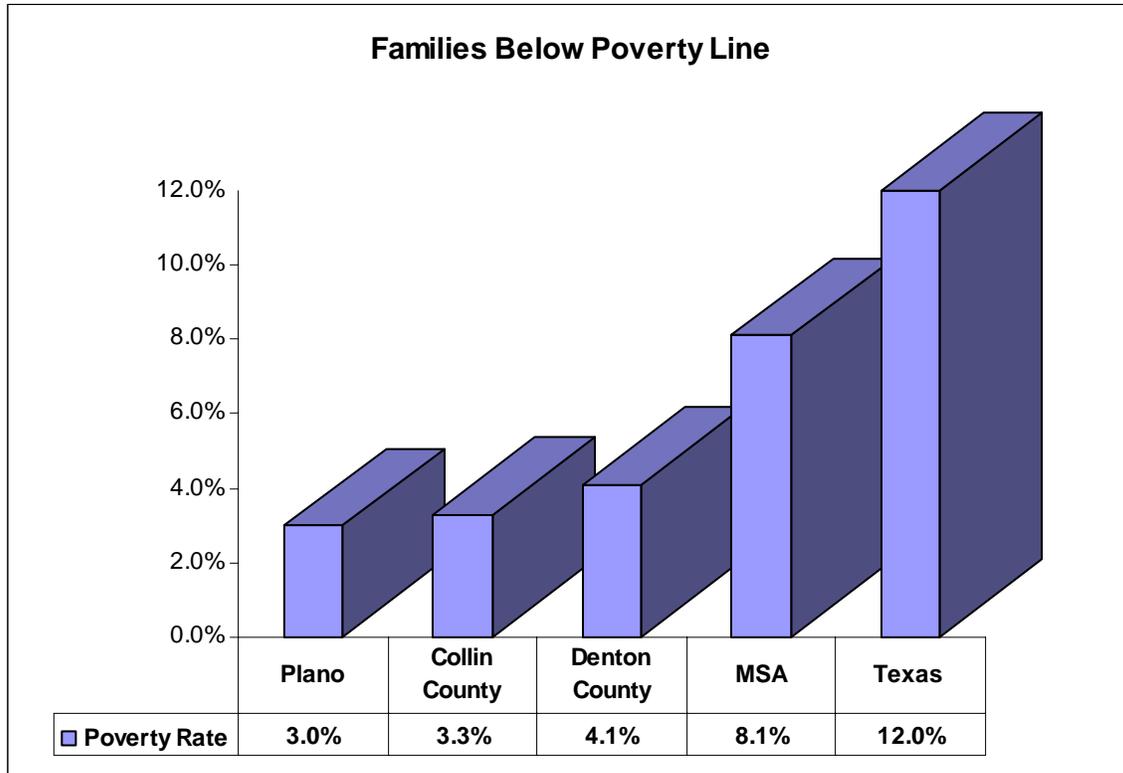


Figure 4-12. Poverty Rate

Source: 2000 Census

Note: Poverty is measured by using 48 thresholds that vary by family size and number of children within the family and age of the householder. The Office of Management and Budget (OMB) mandates that all federal agencies (including the Census Bureau) use this poverty definition for statistical purposes (OMB Statistical Policy Directive 14, May 1978).

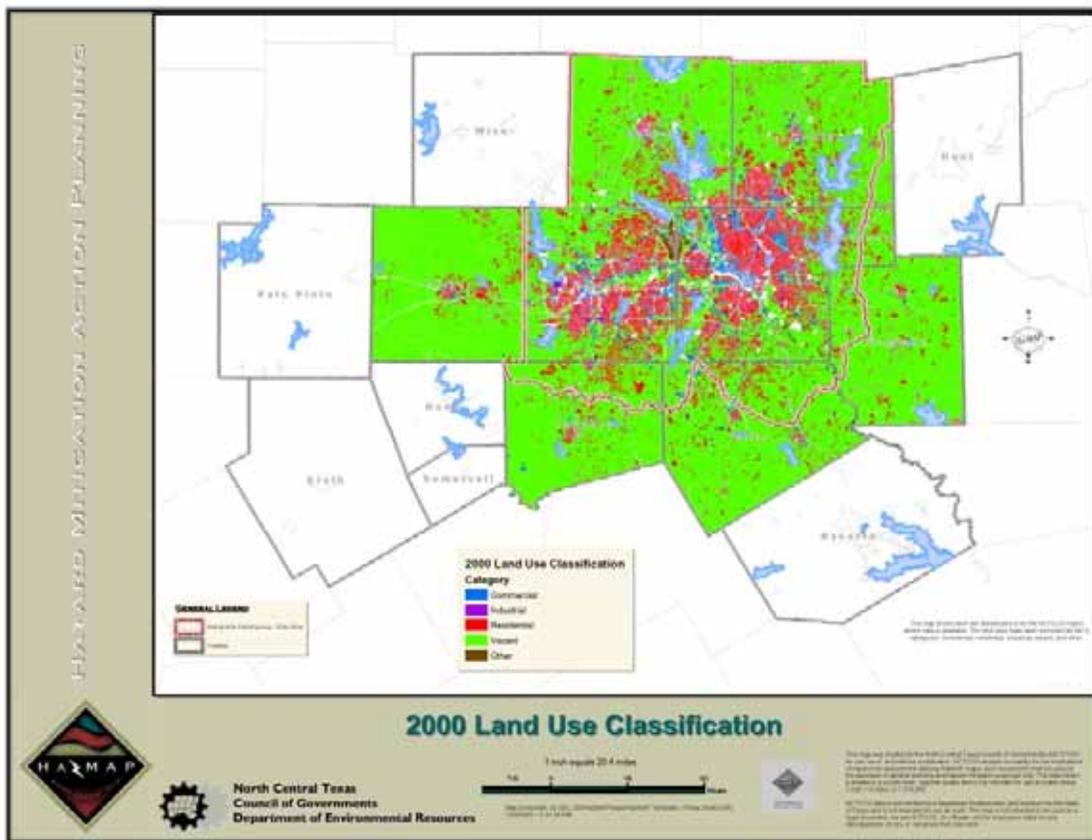
Only 3.0% of Plano’s families are below the poverty line, according to the U.S. Census.

To qualify for special consideration by the State of Texas as “Small and Impoverished Communities,” communities must have populations less than 3,000; must not be located within the boundaries of larger cities; and must be economically disadvantaged, with residents having a per capita annual income not exceeding 80% of the national per capita income and a local unemployment rate that exceeds by one percentage point or more the national unemployment rate. Plano meets none of these criteria.

Land Use

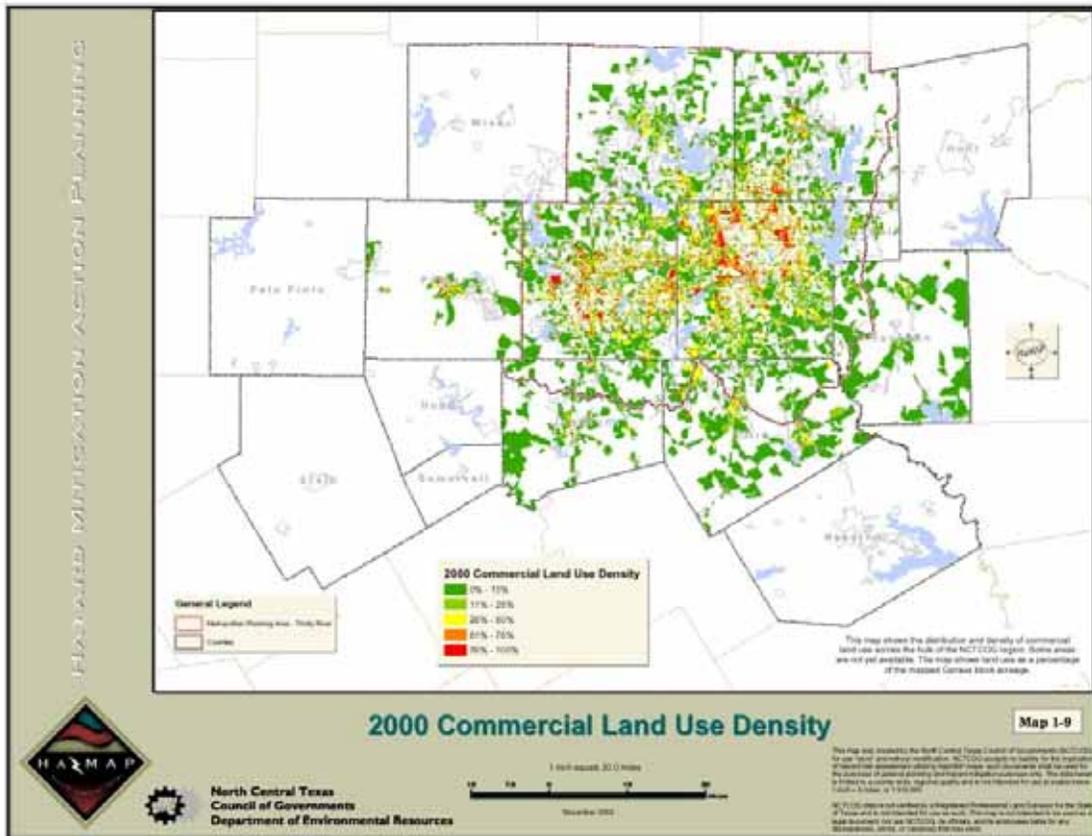
See Map 4-13. for Regional Land Use, Map 4-14. for Commercial Land Use Density, Map 4-15. for Residential Land Use Density, Map 4-16. for Vacant Land Use Density, and Table 4-3. for Land Use and Land Use Density of a typical acre in Plano.

Map 4-13. Regional Land Use



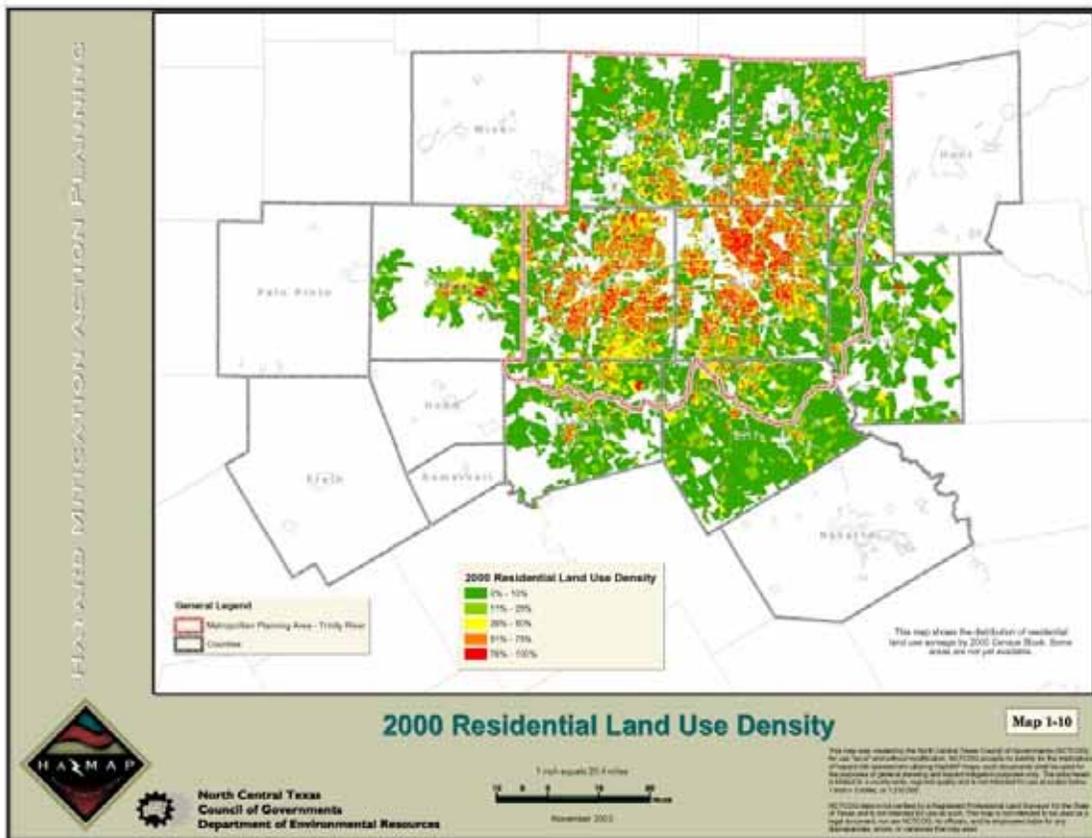
Source: North Central Texas Council of Governments, February 2004

Map 4-14. Commercial Land Use Density



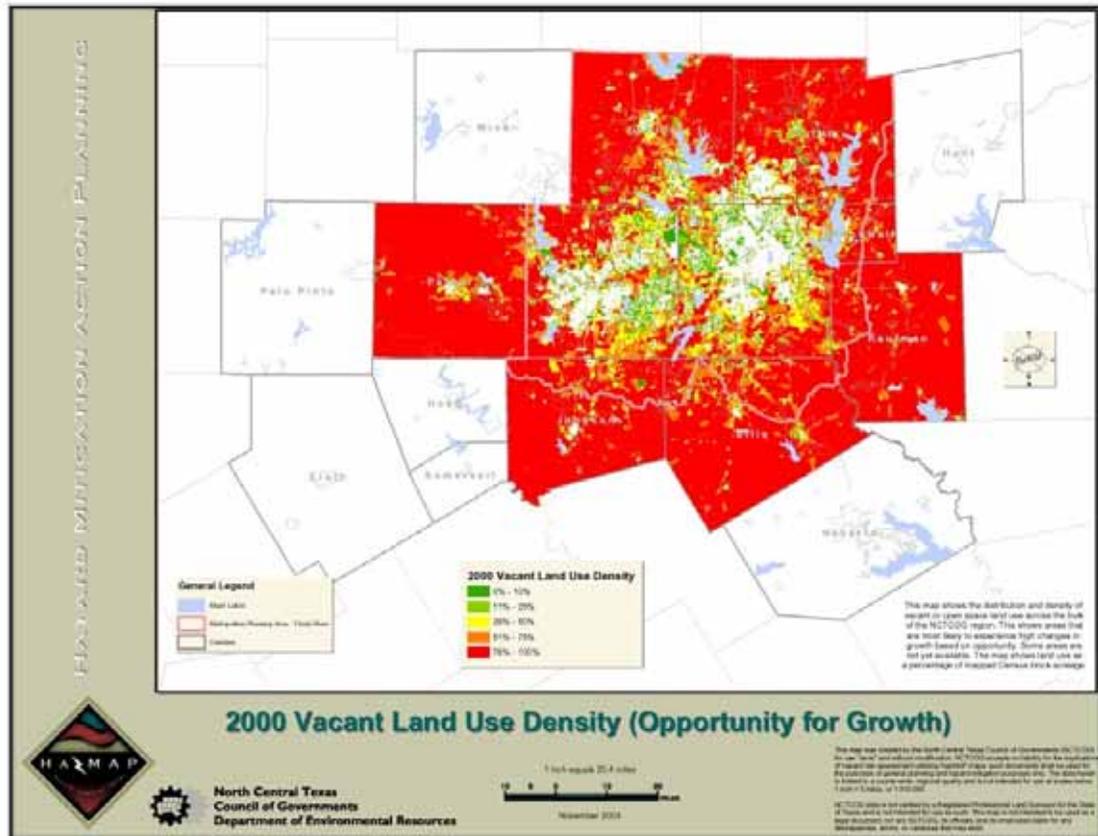
Source: North Central Texas Council of Governments, February 2004

Map 4-15. Residential Land Use Density



Source: North Central Texas Council of Governments, February 2004

Map 4-16. Vacant Land Use Density



Source: North Central Texas Council of Governments, February 2004



Table 4-3. Land Use and Density for a “Typical” (Average) Acre in Plano

Category	Percentage of Total Acreage	Average # of Structures or Apartment Units Per Acre
Single Family	(23,952 acres) 51.6%	4 Units Per Acre
Multi-Family	(2,021 acres) 4.4%	18 Units (Apartment) Per Acre
Commercial/Industrial	(9,833 acres) 21.2%	X Commercial Structures Per Acre
Vacant	(6,968 acres) 15.0%	-
Roadway	(3,375 acres) 7.3%	-
Other	(236 acres) 0.5%	-

Date: City of Plano Office of Homeland Security, January 2004

Government

Texas cities of more than 5,000 citizens adopt home-rule charters and are governed by city councils and either city managers or mayors. Cities having fewer than 5,000 residents, or “general law” cities, have powers and duties specifically granted by the Texas Constitution and State law. A city manager plan can be adopted in any general law city.

Counties’ powers and duties are specifically granted and limited by the Texas Constitution and state law. Each county has a commissioner’s court, which consists of four commissioners, each elected from a commissioner's precinct, and a county judge elected from the entire county. In smaller counties, the county judge retains judicial responsibilities in probate and insanity cases. Plano is a home-rule city with a city manager.

Disaster Declarations

Table 4-4. shows that in the years between 1972 and 2000, Texas has had more major disasters than any other state.



Table 4-4. Number of Major Disaster Declarations by State, 1972-2000

State	Disaster Declarations
Texas	51
California	45
Florida	35
Alabama	34
Louisiana	33
New York	31
Oklahoma	30
Illinois	28
Washington	28
Minnesota	26

Source: Federal Emergency Management Agency, 2002

Table 4-5. gives federal disaster declarations for Collin and Denton counties from 1961 to 2002.

Table 4-5. Federal Disaster Declarations for Collin and Denton Counties

Date	Counties	Event	Type of Assistance	Declaration Number
1966	Collin	Flood	Presidential, SBA ¹	OEP 213 DR
1969	Collin	Tornado	SBA	705
1974	Denton	Flood	Presidential, SBA	DAA 454 DR
1989	Denton	Flood	Presidential, SBA	828 DR
1990	Denton	Flood	Presidential, SBA	863 DR
1993	Collin	Tornado	SBA	7914

Source: Federal Emergency Management Agency, February 2003

¹ Small Business Administration