

Town of Cross Roads – March 2009

Population Inventory and Assessment

1. Population Element Introduction

The purpose of the population element is to inventory and assess selected population characteristics for the community. The information provided in the population element provides the foundation for other planning elements related to zoning mix, potential build-out of the Town. An analysis of existing and projected population characteristics is among the first issues normally evaluated in the update of a community's long range plan. The population characteristics evaluated in the population element include:

- Total Population – Historical and Projected Growth
- Age distribution
- Racial composition
- Person/Household income levels.

2. Historical Population Growth

In order to more completely understand the forces impacting growth in Cross Roads, it is important to evaluate past trends in population growth for the Dallas/Fort Worth Metropolitan Statistical Area (MSA) and Denton County. Growth along the US 380 corridor, the connections made to the Dallas North Tollway at the Denton/Collin county boundary, the bridge connection between the Lake Cities area and Little Elm greatly influence the future growth and the overall statistics of these areas. As a regional participant in growth, how the MSA develops at large affects future development pressures on individual communities such as Cross Roads.

Dallas / Fort Worth Region

Economic development and corresponding population growth within the Dallas Fort Worth (DFW) area and Denton County in particular is stimulated by the proximity of air service and the transportation corridors linking Cross Roads with the Denton, Frisco, Dallas, and Fort Worth employment centers. By its proximity (and its very name) to the major arterials connecting these areas, the community is well positioned to market the rural lifestyle its residents desire with the availability of developable land. Population growth in the DFW Region in the past fifty years has been remarkable. While not immune to the past year of shrinking credit and rising foreclosures, the region has not been hit with the depreciation of housing and land as other markets. Ranking as one of the fastest growing metropolitan areas in the country, in the decade between the 1990 and the 2000 US Census, the 16 county region contained within the North Central Texas Council of Governments has grown at an estimated 29%, adding almost 1.2 million new residents to the area.

Table 1: Dallas/Fort Worth Region Population by Decade

	1960	1970	1980	1990	2000	1990-2000 Absolute Change	1990-2000 Percent Change
NCTCOG REGION	1,851,111	2,506,973	3,116,152	4,111,750	5,309,277	1,197,527	29.12%

Source: US Bureau of Census, NCTCOG

In the intervening years since, the population of the region has increased by almost 1,230,000 to an estimated 6,538,850 in January, 2008. According to the North Central Texas Council of Governments (NCTCOG), approximately 131,000 people are entering the region on an annual basis.

Denton County

Of the sixteen counties in the NCTCOG Region, four (Tarrant, Dallas, Denton, Collin) are the most urbanized and garner the greatest development pressure and population growth.

Denton County has experienced rapid population growth from a percentage standpoint, the majority of the County's growth occurring in the recent decades along with the region.

Table 2. Urbanized County Population

County	1960	1970	1980	1990	2000	1990-2000 Absolute Growth	1990-2000 Percentage Growth	2008 Estimate
Collin	41,247	66,920	144,576	264,036	491,675	227,639	86.22%	748,050
Dallas	951,527	1,327,321	1,556,390	1,852,810	2,218,899	366,089	19.76%	2,451,880
Denton	47,432	75,633	143,126	273,525	432,976	159,451	58.29%	614,650
Tarrant	538,495	716,317	860,880	1,170,103	1,446,219	276,116	23.60%	1,780,150

Source: US Bureau of Census, NCTCOG

Trends of population movement have been observed in the decades of 1960-2000 to move further away from the traditional downtown city centers to the less dense suburban communities like Denton and Little Elm. Communities such as Cross Roads fulfill the “ex-urb” role of the metropolitan area. The community of Cross Roads enables those with a desire to live in a more rural tradition including homesteads with larger lots and agrarian uses. However, these homes are also within easy driving distance to larger cities and their resources.

Cross Roads and Surrounding Cities

As shown on Table 3, surrounding communities around Cross Roads have shown tremendous growth in the past two decades. Massive growth in communities such as Frisco, Denton and Little Elm have shown that infrastructure can be quickly overwhelmed by this growth.

Table 3. Cross Roads and Surrounding City Population Growth

CITY/TOWN NAME	1970	1980	1970-1980 % Growth	1990	1980-1990 % Growth	2000	1990-2000 % Growth	2008 Estimate	2000-2008 % Growth
Cross Roads	N/A	215	N/A	361	68%	602	67%	764	27%
Denton	39,874	48,063	21%	66,270	38%	80,537	22%	115,506	43%
Aubrey	731	948	30%	1,138	20%	1,500	32%	2,500	67%
Frisco	1,845	3,499	90%	6,141	76%	33,714	449%	97,600	189%
Little Elm	363	926	155%	1,255	36%	3,646	191%	22,650	521%

Source: US Bureau of Census, NCTCOG, Texas State Data Center

3. Cross Roads Population Projections

Future population growth in Cross Roads will be affected by external factors including growth rates within the region and state as well as internal regulations regarding zoning and land availability for future development. Population projections are educated guesses at population growth over time for a particular area. There are many ways these models may work:

- *Holding Capacity Model* – Projection of ultimate population based on a certain set of assumptions including ultimate land area and zoning practices. The population

prediction is the total amount of population a city may have without regard to a specific timeframe.

- *Population Allocation Model* – Projection of population based on density trends and averages from existing build-out within the city and building trends throughout the surrounding region.
- *Regression-extrapolation Model* - Mathematical projections based on examining historical population estimates and fitting projections based on a curve. Calculations can be made on linear growth or logarithmic growth. Mathematical equation methods do not take into consideration changes in the economic, land use or political variables.
- *Cohort Survival Method* – Mathematical age progression of existing population with inputs of death/birth rates and migration rates of population.
- *Growth Rate Model* – Comparison made of Cross Roads to other cities with similar historical growth rates. This method extrapolates that as a region grows, its components will grow at significantly similar rates.

In gathering data for Cross Roads, various state agencies have utilized the above models in producing possible future populations for the Town.

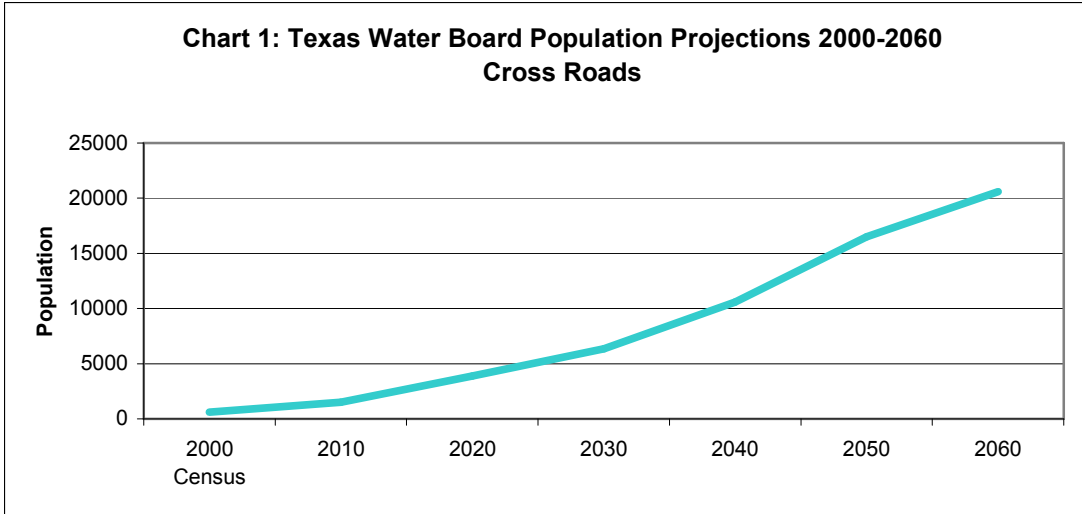
Texas Water Board

The Texas Water Board is charged with producing water consumption rates and demand need for the future population of Texas. The agency creates a county-by-county population projection through the cohort survival method, in which population by age group or cohort is aged progressively year-by-year and factors in the birth and death rates of each individual county and then factors in the emigration rate (movement into and out of the county). Each individual subgroup of the county (cities and municipal utility districts) are then parceled out a share-of-the-growth of the county as a whole usually based on historical growth trends as a percentage of the county growth as a whole. Table 4. illustrates the current population projections for Cross Roads and surrounding communities

Table 4. Texas Water Development Board Region C
2006 Regional Water Plan - Town Population Projections for 2000 - 2060

CITY/TOWN NAME	2000 Census	2010	2020	2030	2040	2050	2060
Cross Roads	603	1,500	3,899	6,351	10,594	16,500	20,600
Denton	80,537	145,000	199,000	250,000	295,000	363,586	498,488
Aubrey	1,500	3,300	5,375	8,755	11,7676	15,814	21,252
Frisco	33,714	137,115	200,000	244,000	269,000	290,000	300,000
Little Elm	3,646	27,600	40,000	47,477	47,477	47,477	47,477

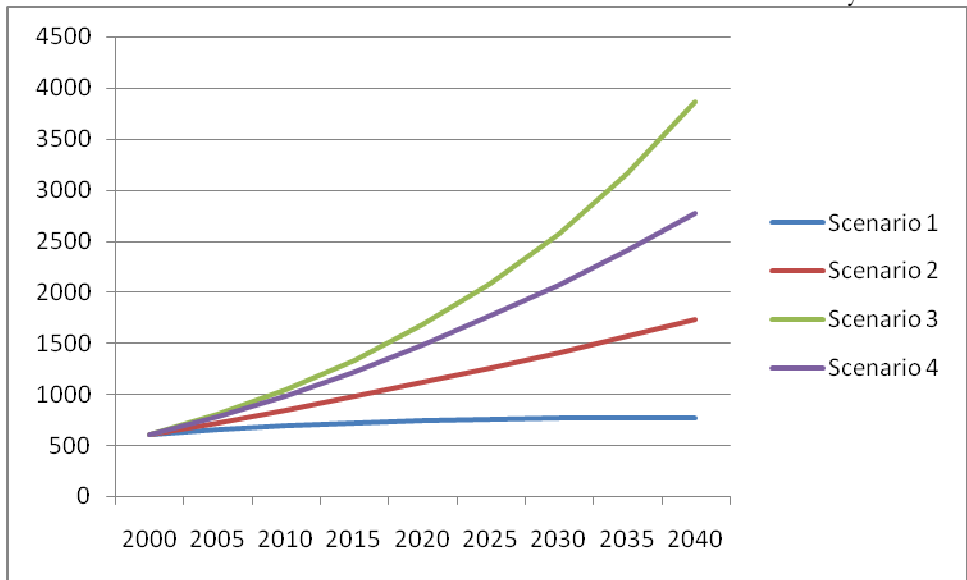
Source: Texas Water Development Board



Texas State Data Center Population Projections

The Texas State Data Center projects populations for Texas counties based on various scenarios of past growth trend analysis coupled with a baseline cohort survival methodology of aging the current population and natural increase/decrease of a population based on birth and death rates. The Center then runs their projections through several scenarios based on recorded trends of population increases including growth rates from previous decades, half percentage projections and growth rates from the previous five years. Basing a growth rate similar to the scenarios the Center proposed for Denton County as a whole, the Cross Roads projections look like the following:

Chart 2: Town of Cross Roads Population Projections
Based on Texas State Data Center Rates for Denton County



In this model, Scenario 1 represents growth of natural births and deaths with no migration to the Town. Scenario 2 represents growth based on one half (1/2) of the growth rate from 1990 to 2000, a period of rapid growth for the State. Scenario 3 is based on accounting of the total amount of growth rate from the 1990-2000 decade. Scenario 4 is based on the recorded growth rates observed from 2000 to 2007. The base numbers are shown below.

Table 5. Town of Cross Roads Population Projections Based on Texas State Data Center Scenarios for Denton County (*Growth Rate Model*)

	2000	2005	2010	2015	2020	2025	2030	2035	2040
Scenario 1	603	651	688	717	740	757	767	771	768
Scenario 2	603	721	846	977	1,116	1,260	1,410	1,568	1,734
Scenario 3	603	798	1,036	1,326	1,675	2,086	2,572	3,156	3,859
Scenario 4	603	779	983	1,217	1,480	1,767	2,075	2,409	2,776

Source: SpringBrook Planning Group extrapolated from Texas State Data Center methodology.

For the State and county models, the Center recommends Scenario 2 as the preferred model for future growth, as an indicator of positive growth in the area, with a more conservative indication of fluctuations in the housing market (as we have seen) and a beginning of a saturation of the market as a whole.

Holding Capacity Model

Calculations for the holding capacity model were created using a windshield survey and aerial images of Cross Roads data. Existing land use data from the Town that is assigned as vacant (potential to be developed) is compared with existing zoning and developed properties. A sum of the total vacant land area and properties which may be agricultural now, but could have the potentiality for redevelopment in the future is then created. For each area, a total potential number of housing units is assigned based on the maximum number of units (or minimum lot size) allowed within the Town. Cross Roads has indicated that the minimum lot size for new housing units was to be maintained at one unit per acre to preserve spacing, value and rural feel. Housing units are then multiplied by the observed average household size for owner-occupied units to indicate a population projection.

. Certain assumptions must be made based on the ultimate additional build-out number:

- All future and existing residential properties are assumed to be 100% occupied. This means that subdivisions such as Forest Hills and Village at Cross Roads (Las Colinas Ranch Estates) will be built-out and occupied.
- Existing areas zoned residential will remain static throughout build-out.
- Commercial areas of the Village at Cross Roads would be built-out.
- Large-tract residential properties (one single-family house with some agrarian uses) were labeled as Homestead Agricultural and were not included for potential future subdivision.
- All vacant and agricultural land potentially used for residential would build out at maximum density of one unit per acre.
- Areas labeled as vacant, but were dominated by floodplain greater than 50% of the parcel were eliminated from the study.
- Potential population on build-out utilized 2.6 persons per owner-occupied household as per the 2000 US Census numbers for the Town of Cross Roads.
- Zoning districts not zoned for residential and containing vacant land were eliminated from this calculation.

Table 6. Total Land Use (Estimated) With Potential Build-out at 1 Unit Per Acre

Land Use	Acreage (est)	Percent of Total	Potential New Units if Developed	Potential New Residents
Agricultural	1223.01	29.40%	1223	3180
Vacant Other	565.34	13.59%	565	1470
Single Family	1163.29	27.97%		
Church	4.88	0.12%		
Commercial	225.63	5.42%		
Government	5.84	0.14%		
Homestead Agricultural	713.85	17.16%		
Mining	77.90	1.87%		
Transportation/Lake Area	179.86	4.32%		
Total	4159.60		1788	4650

Source: SpringBrook Planning Group

Therefore, if all land that is utilized for visibly agricultural land and property that is either vacant or under utilized were to develop at a maximum of one unit per acre, the Town of Cross Roads could potentially add an additional 1,788 housing units over time at the Town’s current size. Additionally, if those housing units were occupied at an average of 2.6 persons per unit the Town could potentially add an additional 4,650 new residents to the community. However, it is important to understand these numbers are generalities in which to frame potential growth of the community. Not all land identified in the land use survey may be developed. Additional land area will be taken up by utilities and new roadways accessing these properties. Plus, if current building rates of the Town are an indicator (as shown with the Village at Cross Roads and Forest Hills subdivisions), it may take an additional 60 to 80 years to realize any full build-out of the community.

The Texas Water Development Board population projection does not take into consideration Cross Roads preference for future residential land development at one acre tract minimums. Therefore, the TWDB population projection is much greater than the potential build-out that has been outlined here.

When the five most active subdivisions in Cross Roads are built-out they will have the potential of adding the following population:

Table 7. Potential Population Build-out of Current Active Subdivisions

Subdivision Name	Number of Lots	Potential Population
Bridle Ridge Ranch	14	17
Spring Mountain Ranch	27	70
Village at Cross Roads (Las Colinas Ranch Estates)	99	257
Forest Hills	77	80
Oak Shores	133	346
Totals	350	770

3. Cross Roads Base Demographics

The following datasets are for the Town of Cross Roads as per the 2000 Census from the US Bureau of Census. The decennial Census estimates certain population based on both statistical sampling and full population count.

Age

The most important aspects of the characteristics of age cohorts is the fact that the generation labeled as the “baby boom” generation born 1946 to 1964 will be aging into the traditional retirement years. This cohort has shown to have significantly more stability in remaining in communities in which they raised their children rather than migrating to other locales as they retire. The NCTCOG estimates that by 2020, one quarter of the Dallas /Fort Worth Region will be age 65 or older.

Cross Roads has a relatively young population. Over 70% of the population is older than 18 and less than 65 years of age and still active in the workforce. As the population tends towards aging, the community will need to address the impact this cohort will have on Town services.

Table 8. Age Breakdown – Town of Cross Roads 2000 Census

Total population	603	100.00%
SEX AND AGE		
Male	303	50.2%
Female	300	49.8%
Under 5 years	31	5.1%
5 to 9 years	31	5.1%
10 to 14 years	42	7.0%
15 to 19 years	38	6.3%
20 to 24 years	22	3.6%
25 to 34 years	50	8.3%
35 to 44 years	132	21.9%
45 to 54 years	120	19.9%
55 to 59 years	44	7.3%
60 to 64 years	24	4.0%
65 to 74 years	40	6.6%
75 to 84 years	26	4.3%
85 years +	3	0.5%

18 years and over	476	78.9%	65 years and over	69	11.4%
Male	232	38.5%	Male	31	5.1%
Female	244	40.5%	Female	38	6.3%

Source: US Bureau of Census

Race

In evaluating race/ethnicity trends, the 2000 Census showed that 92% of residents of Cross Roads identified themselves as White/Caucasian while 0.7% identified themselves as Black or African-American. 6.8% identified themselves as other races. Hispanic ethnicity may be applied to any race. 8.3% of the total population of Cross Roads have identified themselves as belonging to a Hispanic ethnicity, regardless of race.

Table 9. Race and Ethnicity Breakdown – Town of Cross Roads 2000 Census

RACE		
White	558	92.5%
Black or African American	4	0.7%
American Indian and Alaska Native	7	1.2%
Asian	2	0.3%
Native Hawaiian and Other Pacific Islander	0	0.0%
Some other race	29	4.8%
Two or more races	3	0.5%
Hispanic Ethnicity		
Hispanic or Latino	50	8.3%

Source: US Bureau of Census

Income Levels

The following statistics are from the last income survey of the US Bureau of Census completed in 2007.

Table 10. Income Characteristics 2007

MEDIAN EARNINGS FOR FULL-TIME, YEAR-ROUND WORKERS	
Median earnings in 2007	\$87,984
POVERTY STATUS IN 2007	
Total population with income below poverty level	4

Source: Town-Data.com