

Components of Population Change in Urban Texas



Recent population growth in Texas has been strong and sustained.

Texas has a long history of population growth. In the 100 years between 1910 and 2010, the state added more than 21 million people. However, the majority of this growth occurred between 1980 and 2010 – a span of thirty years. The most recent growth has been especially robust. Texas added 4.3 million people during the 2000-2010 decade, which accounted for one-fifth of the state’s total 1910-2010 population increase. If the estimated 2010-2016 trends continue, the 2010-2020 decade will have the largest growth yet, adding more than 4.5 million additional people. Current U.S. Census annual population estimates indicate that Texas grew more than any other U.S. state between 2015 and 2016, adding some 433,000 people.

In this brief, we describe:

- The two sources of Texas population growth 1) natural increase and 2) migration.
- How natural increase and migration vary across the state; and
- How these two factors favor urban growth over rural growth.

We conclude that migration is transforming the state’s largest metropolitan areas into urban growth hubs while many rural areas are experiencing flat or negative population growth.

Included in this Brief:

- Texas grew more than any other U.S. state between 2015 and 2016, adding some 433,000 persons.
- Population growth in Texas increasingly is linked to urbanization.
- Recent growth is from a balanced blend of natural increase and migration.
- Both natural increase and migration selectively favor urban growth over rural growth.

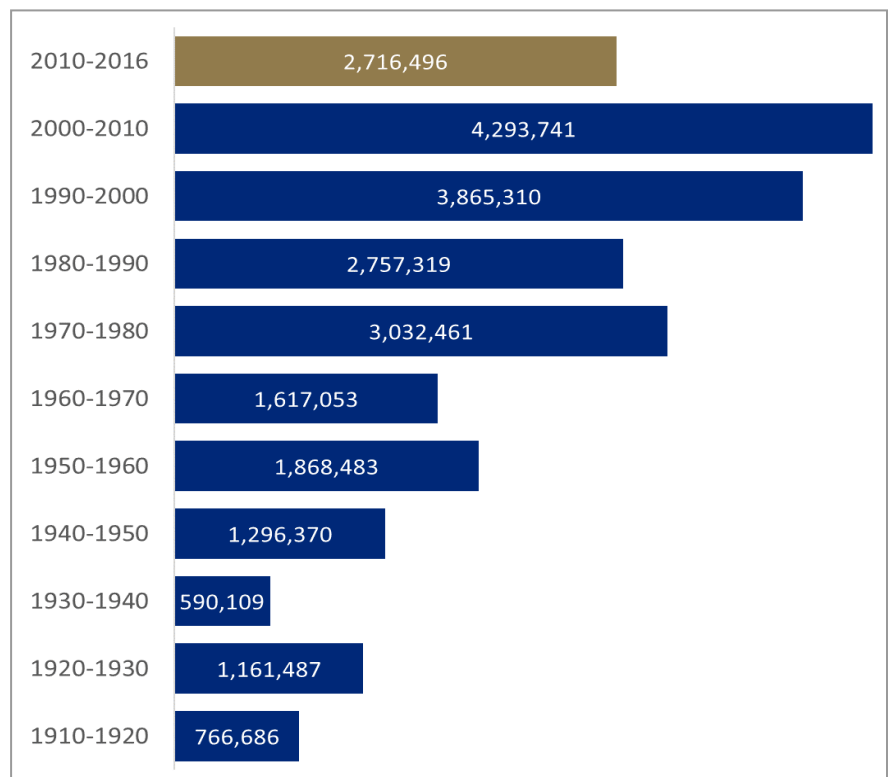
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The Texas Demographic Center is responsible for interpreting and communicating information on demographic and socioeconomic issues for the State of Texas to the public and the legislature.

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Figure 1. Texas Population Growth by Decade, 1910 to 2016



Source: U.S. Census Bureau, Decennial Census, 1910-2010 and 2016 Population Estimates

Births, deaths, and migration determine changes in population size.

The population of an area grows in two ways:

- (1) Natural increase, and
- (2) Positive net migration.

Growth from natural increase occurs when there are more births than deaths in an area. Growth from positive net migration occurs when there are more people moving into an area than there are people moving out of this area. Conversely, a population decreases when there is natural decrease (more deaths than births) or negative net migration (more people moving out than moving in). The balance between births, deaths, and migration determines the overall amount of population change.

Beginning in 1950, Texas population growth has been a balanced blend of natural increase and net migration.

Between 1950 and 1990, natural increase accounted for about two-thirds of Texas' population growth. Beginning in 1990, population growth in Texas has been relatively balanced between natural increase and net migration, with each contributing around 50 percent. More recently, migration has exceeded natural increase. Between 2010 and 2016, the state's annual average natural increase was 214,933 while the average net migration was 217,690 (U.S. Census Bureau 2017). However, the state-level relationships between natural increase and migration are not always present at the Metropolitan Statistical Area (MSA) level [1]. Please refer to Appendix A for a map of Texas metropolitan and non-metropolitan counties.

Table 1. Components of Population Change for Texas MSAs, 2015-2016

Name of Metropolitan Statistical Area	2015-2016 Mean Population	2015-2016 Natural Increase Rate per 1,000	2015-2016 Net Migration Rate per 1,000	2015-2016 Population Growth Rate
Abilene	170,129	4.06	-1.28	0.3%
Amarillo	262,478	5.58	0.97	0.7%
Austin-Round Rock	2,027,255	8.42	19.87	2.9%
Beaumont-Port Arthur	409,115	3.62	0.81	0.4%
Brownsville-Harlingen	421,014	10.53	-5.32	0.5%
College Station-Bryan	252,484	7.74	11.60	2.0%
Corpus Christi	453,731	5.62	-0.81	0.4%
Dallas-Fort Worth-Arlington	7,161,606	7.84	11.99	2.0%
El Paso	839,590	9.44	-3.62	0.6%
Houston-The Woodlands-Sugar Land	6,709,968	9.18	9.40	1.9%
Killeen-Temple	433,323	10.83	0.31	1.2%
Laredo	270,061	14.98	-6.29	0.8%
Longview	217,344	3.20	-2.31	0.1%
Lubbock	312,764	5.66	7.31	1.3%
McAllen-Edinburg-Mission	844,579	13.91	-1.65	1.3%
Midland	167,642	12.01	-4.35	0.8%
Odessa	158,576	11.97	-26.01	-1.4%
San Angelo	119,716	5.67	-2.21	0.4%
San Antonio-New Braunfels	2,405,656	6.94	12.72	2.0%
Sherman-Denison	126,886	1.42	19.24	2.1%
Texarkana	93,682	2.03	2.53	0.4%
Tyler	223,884	4.69	7.65	1.3%
Victoria	99,874	5.10	-2.55	0.2%
Waco	263,784	5.68	4.99	1.1%
Wichita Falls	150,646	2.36	-1.08	0.1%
<i>All Metropolitan Areas</i>	<i>24,595,787</i>	<i>8.27</i>	<i>8.80</i>	<i>1.7%</i>
<i>All Non-Metropolitan Areas</i>	<i>3,050,339</i>	<i>2.74</i>	<i>0.35</i>	<i>0.3%</i>
<i>State of Texas</i>	<i>27,646,118</i>	<i>7.66</i>	<i>7.87</i>	<i>1.6%</i>

Source: U.S. Census Bureau, 2016 Population Estimates

Sources of population change vary among the MSAs.

Table 1 includes the 2015-2016 components of population change for the 25 Texas MSAs. All 25 MSAs had positive rates of natural increase. There were 16 MSAs with rates of natural increase that exceeded their net migration rates and in the other 9 MSAs, migration was the predominant source of population growth. Twelve MSAs experienced negative net migration so that natural increase was the only source of population growth.

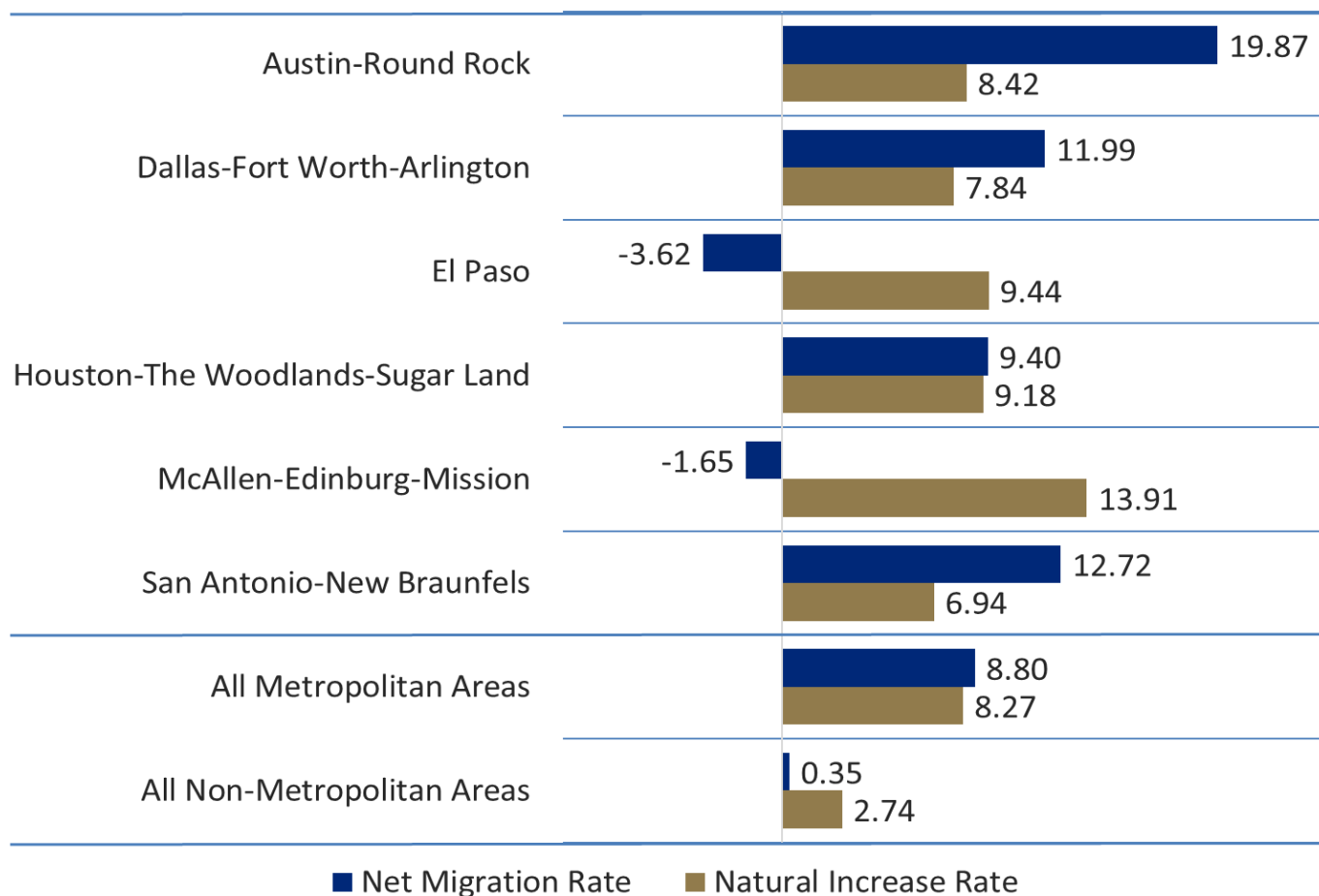
Table 1 shows that the greatest population growth is occurring where net migration is robust. For example, the five fastest growing MSAs in 2015-2016 were Austin-Round Rock, Sherman-Denison, Dallas-Fort Worth-Arlington, San Antonio-New Braunfels, and College Station-Bryan. These same MSAs also had the state's top five net migration rates.

MSAs with less balanced components of population growth tend to have lower growth rates. For example, among the 12 MSAs with negative net migration, all had 2015-2016 population growth rates below the overall Texas growth rate of 1.6 percent.

Migration fuels urban growth.

Table 1 indicates the importance of net migration as a metropolitan growth factor. For example, among the six MSAs with 2015-2016 population growth rates above the overall Texas rate of 1.6 percent (Austin-Round Rock, College Station-Bryan, Dallas-Fort Worth-Arlington, Houston -The Woodlands-Sugar Land, San Antonio-New Braunfels, and Sherman-Denison), all had net migration rates that exceeded the state rate of 7.87 net migrants per 1,000 residents. This occurred even though two MSAs (San Antonio-New Braunfels and Sherman-Denison) had natural increase rates that were less than state rate of 7.66 persons per 1,000 residents.

Figure 2. Net Migration and Natural Increase Rates per 1,000 Residents for the Six Largest MSAs, 2015-2016



Source: U.S. Census Bureau, 2016 Population Estimates

Both migration and natural increase selectively favor urban over rural growth.

A comparison of all metropolitan areas and all non-metropolitan areas in Table 1 reveals how migration favors urban population growth over rural population growth. For the metro areas, net migration accounts for more than half the growth (51.6 percent) but, in the non-metro areas, net migration accounts for just over one-tenth of the growth (11.4 percent). The metropolitan areas' net migration rate is 25.0 times larger than that for the non-metropolitan areas (8.80 versus 0.35).

Similarly, natural increase favors urban population growth over rural population growth. The metropolitan areas' natural increase rate is around 3.0 times greater than that for the non-metropolitan areas (8.27 versus 2.74). Because of these differences in natural increase and migration, the urban growth rate is 5.5 times larger than the rural growth rate (1.7 percent versus 0.3 percent).

Not all major MSAs had net in-migration.

Figure 2 highlights the natural increase and net migration rates for the six largest Texas MSAs. This figure shows that not all of the top six benefitted from migration. Two of the six most populous MSAs, El Paso and McAllen-Edinburg-Mission, experienced negative net migration rates. Even so, these two MSAs had among the state's highest rates of natural increase and, consequently, experienced population growth in spite of negative migration.

The fastest growing MSAs have the highest net migration rates.

From Table 1 and Figure 2, we see that recent metropolitan growth in Texas has involved varying levels of natural increase and net migration. Higher growth rates are present in MSAs with higher levels of natural increase and net migration. For the largest and fastest growing MSAs, net migration has been a key factor. For example, with a 2016 population of 2.1 million residents, the Austin-Round Rock MSA led the top six MSAs with a growth rate of 2.9 percent. The Austin-Round Rock MSA also had the highest net migration rate at 19.87 net migrants per 1,000 residents and this was more than two times the overall metropolitan rate of 8.80.

Migration's impacts are unique.

In terms of the quantity of growth, there is little difference whether a particular population increase occurs from natural increase or net migration. That is, if a place gains 1,000 people in a year, its population grows by 1,000 irrespective of the blend of natural increase and net migration. However, the two sources of growth have several qualitative differences.

Natural increase occurs when births exceed deaths. Consequently, each year's growth from natural increase begins with newborns – new native Texans in our case. As such, the impacts of natural increase are gradual, unfolding during the life-course of a particular cohort. By contrast, migration can involve all age groups and this can lead to sudden spikes in the demand for education, housing, employment, transportation, medical care, and other goods and services. Also, in natural increase, birth and death rates are reasonably stable and predictable over time. Conversely, migration can be quite volatile and it is difficult to anticipate the timing or the volumes of migration flows. Additionally, migrants can have diverse origins with different cultures and customs. Given these characteristics, the impacts of population growth from migration can be more immediate and wide-ranging than those from natural increase.

Migration is re-shaping population geography.

Contemporary population growth in Texas is increasingly linked to urbanization. For some metropolitan areas, such as Brownsville-Harlingen, El Paso, McAllen-Edinburg-Mission, and Laredo that are located along the Texas-Mexico border, urban growth is almost exclusively due to natural increase. For the state's major metropolitan areas, such as Austin-Round Rock, Dallas-Fort Worth-Arlington, Houston-The Woodlands-Sugar Land, and San Antonio-New Braunfels, migration is the predominant source of growth. Still other metropolitan areas, such as Longview, Odessa, and Wichita Falls, are having flat or negative growth, most often because of negative net migration combined with low rates of natural increase.

Current trends suggest migration is transforming the state's largest metropolitan areas into urban growth hubs. At the same time, some less populated urban areas are losing population through migration and many rural areas have low or negative growth rates. A continuation of this growth divide could leave large areas of Texas with limited access to employment, medical care, educational opportunities, and other goods and services.

About This Report

Components of Population Change in Urban Texas

is the second in a series of reports that examine the relationships between population change and urban development in Texas. This second report describes how population growth is increasingly linked to urbanization in Texas. It discusses the two components of population change - natural increase and migration - and shows how these factors vary across the state. The report concludes that migration is transforming the state's largest metropolitan areas into urban growth hubs while many rural areas are experiencing flat or negative population growth.

Subsequent urbanization reports in the series include; Recent Metropolitan Migration Patterns in Texas; Metropolitan Immigration in Texas; Migration within Texas MSAs; and, Urban Futures in Texas.

Previous urbanization reports in this series include: [Urban Texas](#).

The Texas Demographic Center produced this report. The report's authors are Steve White, Lloyd B. Potter, Helen You, Lila Valencia, Jeffrey A. Jordan, Beverly Pecotte, and Sara Robinson.

Endnotes

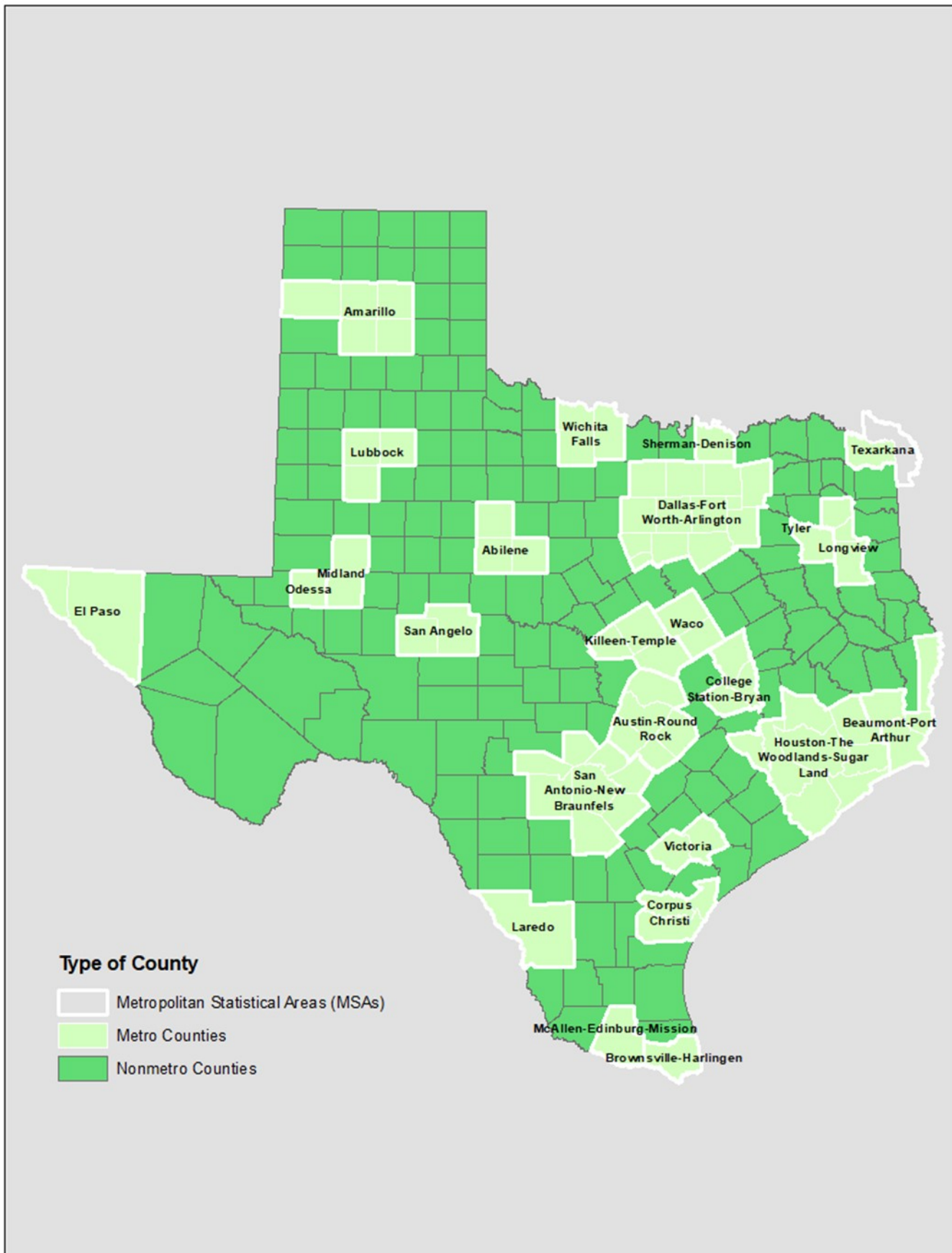
[1] This report uses the terms urban and metropolitan interchangeably. Technically, these are similar but distinct concepts. While both are based on population size thresholds, urban areas also have density thresholds. In this report, metropolitan refers to Metropolitan Statistical Areas (MSAs). MSAs have at least one urbanized area of 50,000 or more people. In terms of geography, urban areas are based on Census tracts and Census blocks. For MSAs, the primary geography is the county.

This report also uses rural and non-metropolitan interchangeably. Again, these are similar but distinct. Rural refers to all territory that is not in an urban area (as defined above) and non-metropolitan refers to all counties not classified as MSAs.

References

U.S. Census Bureau. 2017. Estimates of the Components of Resident Population Change: April 1, 2010 to July 1, 2016 - PEPTCOMP. Generated using American FactFinder. (Available: <https://factfinder.census.gov/> 08/14/2017).

Appendix A: Metropolitan and Non-Metropolitan Counties in Texas



Source: Texas Demographic Center



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