Recent Metropolitan Migration Patterns in Texas

TEXAS DEMOGRAPHIC CENTER

Included in this Brief:

- Migration favors urban population growth over rural population growth.
- Rural migration flows are more linked to places within Texas.
- Migration from outside of Texas fuels urban population 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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Migration is key in the state's urban growth.

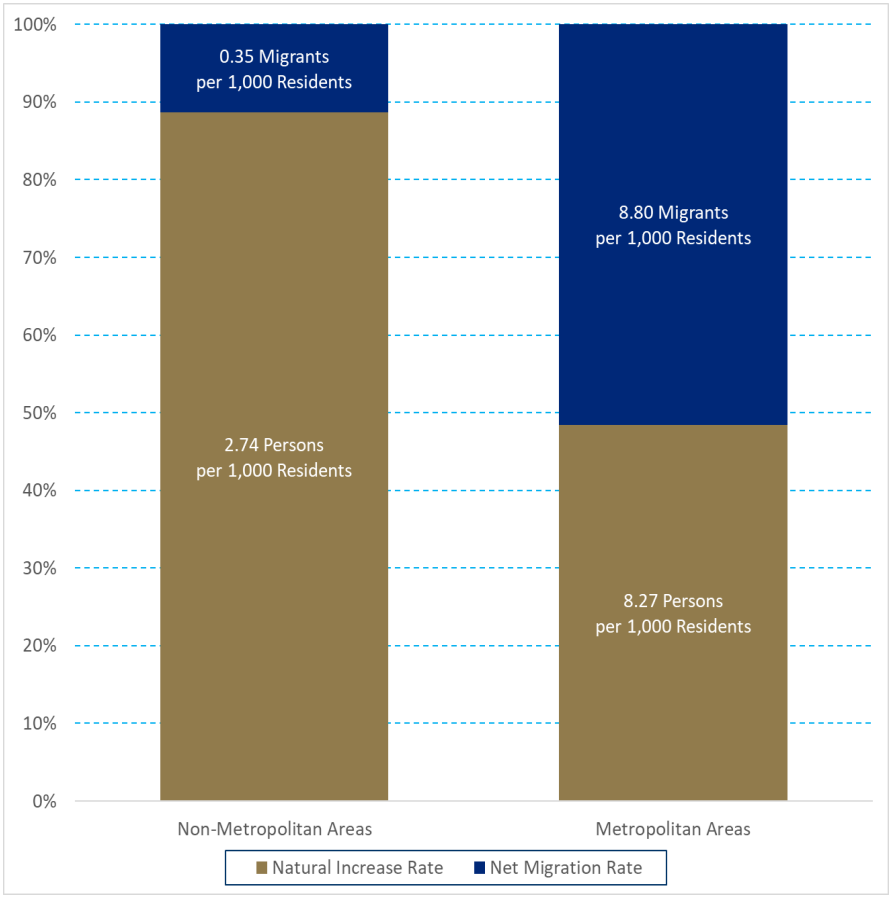
Today, migration is the primary source of population growth for metropolitan statistical areas (MSAs) in Texas. Figure 1 shows that for the state's MSAs, net migration accounted for more than half of their 2015-2016 population growth. By comparison, migration accounted for just over 10 percent of the growth in the non-MSAs in Texas [1]. Additionally, recent migration rates in the MSAs have been relatively high, at 8.80 migrants per 1,000 residents and this compares to 0.35 migrants per 1,000 residents in the non-MSAs. Thus, as discussed in our most recent brief (Components of Population Change in Urban Texas), both natural increase and net migration favor urban over rural growth in Texas.

In this brief, we focus on how different types of migration are shaping the urban landscape in Texas. We examine:

- The origins of Texas migrants,
- How migration streams differ in urban and rural area, and
- How migration from outside Texas is affecting urbanization.

We conclude that external migration is sharpening the existing demographic differences between the state's urban and rural areas.

Figure 1. Sources of Population Growth by Metro Status in Texas, 2015-2016



Source: U.S. Census Bureau, 2017a

Three kinds of migration affect growth.

A migrant is a current resident that lived in a different county or country one year ago. We discuss three types of Texas migration:

(1) *Internal Migration*: Migration from one Texas county to another Texas county.

(2) *Domestic Migration*: Migration between a Texas county and a U.S. county outside of Texas.

(3) *International Migration (Immigration)*: Migration to a Texas county from outside of the U.S.

The basic measures of migration are:

(1) *Net Migration*: The number of in-migrants minus the number of out-migrants. Net migration measures the amount of population growth or decline.

(2) *Gross Migration*: The number of in-migrants plus the number of out-migrants. Gross migration is a measure of overall population mobility.

Please note the available American Community Survey data do not estimate net immigration. That is, we do not know who is living in another country that lived in Texas a year ago. We only know who came to Texas from another country during the last year[2].

The majority of MSAs lost population through migration within Texas.

In Table 1, the column for internal net migration shows that 13 of the 25 MSAs lost population from migration to other Texas counties. That is, for these 13 MSAs, there were more internal migrants moving out of these MSAs than there were moving into them. Consequently, the MSAs as a group had a flat internal migration rate of 0.26 net migrants per 1,000 residents. (Please refer to Appendix A for a map of Texas metropolitan and non-metropolitan counties.)

Four major metro areas lost population through migration within Texas.

Four of the MSAs that lost population through internal migration were among the state's six most populous – having populations of 500,000 or greater (Dallas-Fort Worth-Arlington, El Paso, Houston-The Woodlands-Sugar Land, and McAllen-Edinburg-Mission).

Table 1. Migration Rates per 1,000 Residents in Texas MSAs, 2010-2014

		Internal			Domestic				
Name	Number of Counties	In Migration	Out Migration	Net Migration	In Migration	Out Migration	Net Migration	Immigration	Overall
Abilene	3	59.91	48.36	11.55	22.34	23.39	-1.05	6.03	16.53
Amarillo	5	30.91	39.86	-8.95	20.25	18.47	1.78	5.33	-1.84
Austin-Round Rock	5	35.39	25.74	9.65	28.82	18.02	10.80	8.05	28.49
Beaumont-Port Arthur	4	32.89	28.22	4.67	15.85	12.74	3.10	2.63	10.41
Brownsville-Harlingen	1	11.52	20.72	-9.19	7.33	9.29	-1.96	7.16	-4.00
College Station-Bryan	3	94.71	62.58	32.13	21.09	19.57	1.52	15.22	48.87
Corpus Christi	3	39.95	32.97	6.99	20.71	19.58	1.13	3.07	11.19
Dallas-Fort Worth-Arlington	13	12.52	15.04	-2.52	19.88	16.30	3.58	6.55	7.61
El Paso	2	8.44	14.04	-5.60	30.30	33.17	-2.87	14.88	6.41
Houston-The Woodlands-Sugar Land	9	13.08	13.98	-0.90	18.13	13.05	5.08	8.92	13.11
Killeen-Temple	3	29.23	38.84	-9.61	65.27	53.52	11.75	18.35	20.49
Laredo	1	15.14	17.27	-2.13	6.71	5.49	1.22	12.39	11.49
Longview	3	54.40	44.44	9.97	15.46	14.67	0.79	3.29	14.05
Lubbock	3	67.69	45.92	21.77	20.64	15.65	5.00	4.64	31.41
McAllen-Edinburg-Mission	1	13.04	17.71	-4.67	8.97	8.00	0.98	8.61	4.91
Midland	2	47.48	52.86	-5.38	25.28	14.00	11.29	3.62	9.53
Odessa	1	46.38	42.19	4.18	21.55	13.79	7.76	8.27	20.21
San Angelo	2	56.61	45.95	10.66	54.98	30.76	24.22	5.40	40.28
San Antonio-New Braunfels	8	22.77	20.53	2.24	22.43	18.41	4.02	6.38	12.64
Sherman-Denison	1	37.50	41.54	-4.03	21.34	12.81	8.53	2.45	6.94
Texarkana	1	23.81	32.62	-8.80	40.76	42.21	-1.45	1.63	-8.63
Tyler	1	51.39	41.63	9.76	19.86	10.83	9.02	3.53	22.31
Victoria	2	43.42	46.31	-2.89	16.70	5.22	11.48	1.64	10.23
Waco	2	46.35	45.14	1.21	16.60	14.88	1.72	2.90	5.83
Wichita Falls	3	35.24	36.25	-1.01	47.88	32.76	15.12	6.24	20.36
All Metros	*82*	*20.90*	*20.64*	*0.26*	*21.21*	*16.72*	*4.49*	*7.68*	*12.43*
All Non-Metros	*172*	*57.14*	*59.14*	*-1.99*	*13.77*	*11.55*	*2.22*	*4.05*	*4.28*
State of Texas Total	*254*	*25.11*	*25.11*	*0.00*	*20.34*	*16.12*	*4.23*	*7.26*	*11.49*

Source: U.S. Census Bureau, 2016. ACS County-to-County Migration Flows, 2010-2014

Almost all MSAs gained from domestic migration.

Domestic migration involves movements between other U.S. states and Texas. Only four MSAs lost population due to migration between Texas and other U.S. states (Abilene, Brownsville-Harlingen, El Paso, and Texarkana). As a group, the MSAs had a domestic migration rate of 4.49 net domestic migrants per 1,000 residents. This compares to a rate of 2.22 for the non-metro areas.

All MSAs grew from immigration.

As noted earlier, the American Community Survey data include only in-migration for immigrants. As such, all 25 MSAs gained population from immigration. In-migration rates for immigration ranged from 18.35 per 1,000 in the Killeen-Temple MSA down to 1.63 per 1,000 in the Texarkana MSA.

External migration is a key growth factor in the "Big Four".

Four of the MSAs in Table 1 have populations exceeding 1,000,000 persons (Austin-Round Rock, Dallas-Fort Worth-Arlington, Houston-The Woodlands-Sugar Land, and San Antonio-New Braunfels). Together, the Big Four are home to two out of three Texans.

In all four of the *one million plus* MSAs, net domestic migration rates exceeded net internal migration rates. In other words, larger shares of migrants moved to the Big Four metros from other states than from other Texas counties. Furthermore, immigration rates among the Big Four ranged from 6.55 immigrants per 1,000 residents (Dallas-Fort Worth-Arlington) up to 8.92 immigrants per 1,000 residents (Houston-The Woodlands-Sugar Land).

The two largest Big Four MSAs (Dallas-Fort Worth-Arlington and Houston-The Woodlands-Sugar Land) had negative net internal migration rates. Even though these two major MSAs lost 22,148 residents through internal migration, they gained 158,682 additional residents through domestic migration and immigration. Without this external migration, these two MSAs would have lost population from migration.

As a group, the net internal migration rate for the Big Four was 0.02 net migrants per 1,000 residents, whereas the net domestic rate was 4.97 net migrants per 1,000 residents. Thus, the Big Four had 315 net migrants from other states for each net migrant from within Texas. Additionally, the group's in-migration rate for immigrants was 7.55 immigrants per 1,000 residents. Consequently, internal migration had a minimal impact on the Big Four's population while external migration was a key population growth factor in the state's largest MSAs.

Austin-Round Rock's overall migration rate leads the Big Four.

Among the Big Four MSAs, Austin-Round Rock is unique in having large positive rates for both internal (9.65) and domestic (10.80) net migration – the highest such rates among the Big Four. When coupled with its immigration rate of 8.05, this gives the Austin-Round Rock MSA an overall 2010-2014 migration rate of 28.49 migrants per 1,000 residents - more than two times greater than that for any of the other Big Four MSAs. This broad-based migration is a key reason why the Austin-Round Rock MSA had the Big Four's highest 2010-2016 population growth rate – 19.0 percent. This compares to the Big Four's second place MSA, Houston-The Woodlands-Sugar Land, that had a 2010-2016 growth rate of 13.9 percent (U.S. Census Bureau, 2017b).

Migration favors urban over rural areas.

When we examine all 25 MSAs as a group, the urban areas have a small but positive rate of net internal migration (0.26). By contrast, the rural areas as a group have a negative net internal migration rate (-1.99). As for domestic migration, urban areas have a net migration rate of 4.49, which is about two times greater than the 2.22 rate for rural areas. With regard to immigration, urban areas have an overall immigration rate of 7.68, which is almost twice the rural rate of 4.05. Overall, when we combine internal migration, domestic migration, and immigration, the metropolitan rate of 12.43 is around three times greater than the 4.28 rate for non-metropolitan areas. This migration differential is a key reason why the state's recent urban growth rate has been 5.5 times larger than the rural growth rate (U.S. Census Bureau, 2017a).

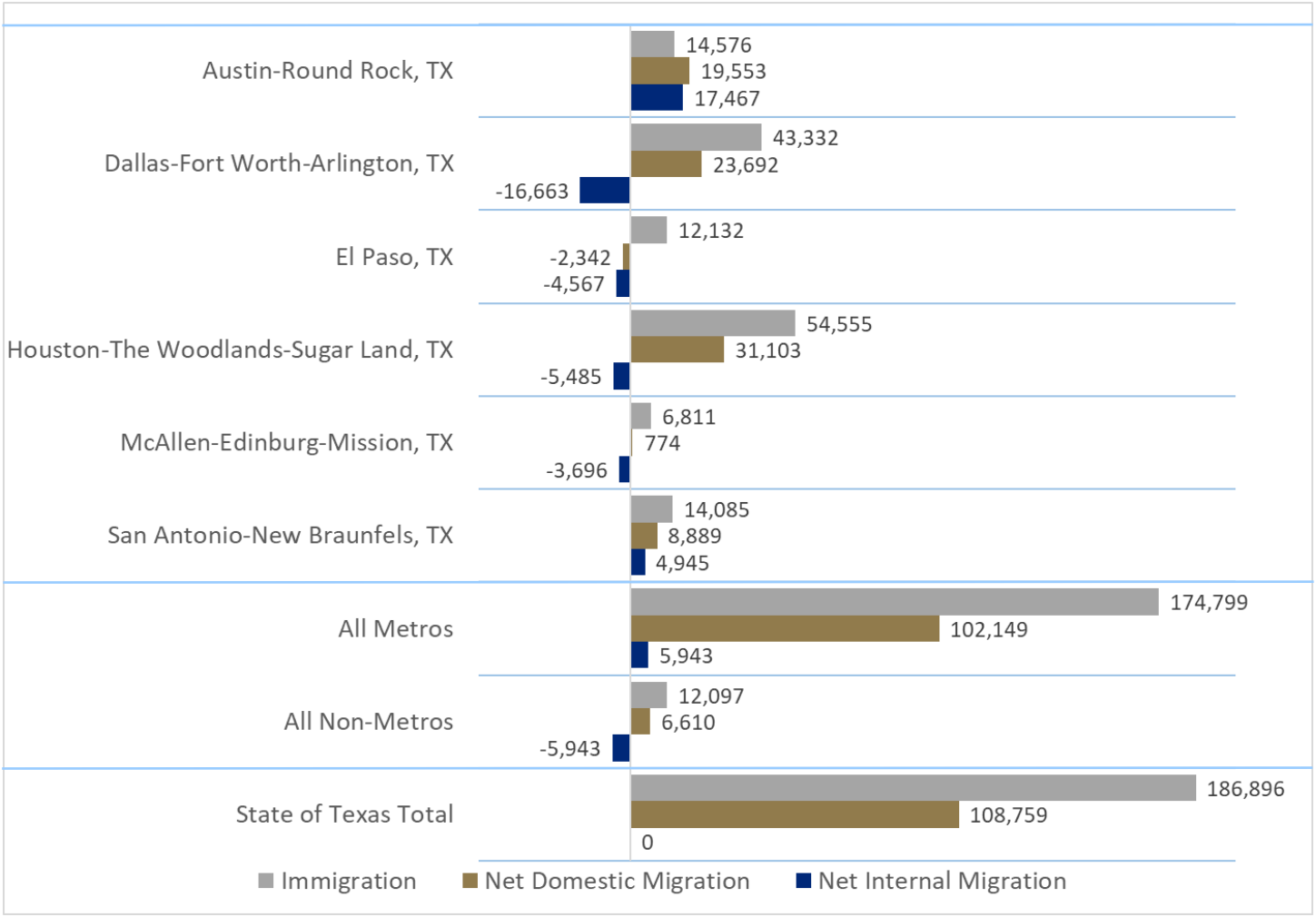
Border MSAs gain mainly through immigration.

Figure 2 shows the sizes of the internal migration, domestic migration, and immigration flows for the Texas MSAs with populations more than 500,000. Two of these, El Paso and McAllen-Edinburg-Mission, had negative or flat internal and domestic net migration. Without immigration, these two MSAs would have had population losses from migration. The El Paso and McAllen MSAs are located on the Texas border with Mexico and this pattern of negative internal migration, flat net domestic migration, and high immigration is typical for the state's border areas (see White et al., 2017 for a more detailed discussion of migration in Texas border counties).

MSAs dominate non-MSAs in migration volume.

When comparing all metropolitan areas to all non-metropolitan areas in Figure 2, differences in

Figure 2. Net Internal and Domestic Migration Flows for Texas MSAs,* 2010-2014



Source: U.S. Census Bureau, 2016. ACS County-to-County Migration Flows, 2010-2014

Note: *MSAs with 2010 populations of 500,000 or more.

the scale of migration are apparent. The MSAs gained 102,149 persons from domestic migration compared to 6,610 for the non-MSAs, or at a ratio of more than 15:1. Similarly, for immigration the MSA total of 174,799 compares to the 12,097 non-MSA total which is a ratio of around 14:1. Finally, with internal migration, the non-MSAs had a net loss of 5,943 residents, resulting in a net gain of 5,943 residents for the MSAs.

Urban areas capture almost all external migrants.

Taken together, Table 1 and Figure 2 reiterate the idea that migration from outside of Texas is fueling urbanization in Texas. The state's MSAs had 102,149 or 94 percent of the total 108,759 net domestic migrants to Texas. Similarly, these urban areas received slightly more than 94 percent of all immigrants moving to Texas. As a group, the MSAs had a net gain of 5,943 residents from internal migration within Texas and this is substantially smaller than the 276,948 gained from net domestic migration and immigration. This means the MSAs gained 47 external migrants for each internal migrant.

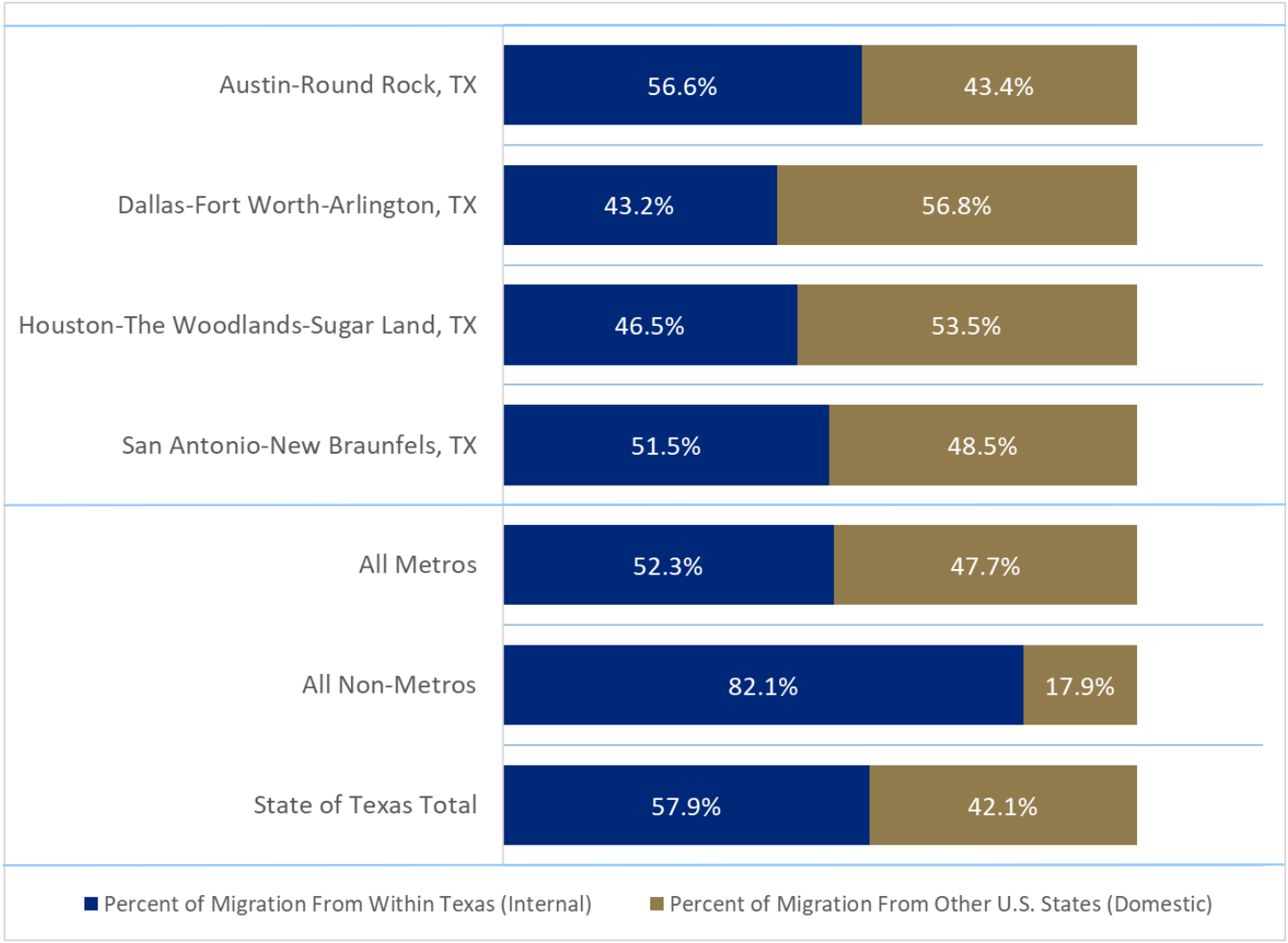
Dallas and Houston MSAs domestic flows are larger than internal flows.

Figure 3 compares internal and domestic migration flows for the state's Big Four MSAs – Texas' one million plus MSAs. Flows in this figure represent gross migration. Gross migration is the sum of in-migration plus out-migration and, therefore, measures the total flow of migrants between two areas.

In the Dallas-Fort Worth-Arlington MSA, the majority of gross migration (56.8 percent) involved domestic flows that originated or ended outside of Texas. For Houston-The Woodlands-Sugar Land, domestic flows also were the majority at 53.5 percent of all gross migration.

The Austin-Round Rock MSA had a majority of internal flows (56.6 percent), a reflection of its

Figure 3. Shares of Internal and Domestic Gross Migration for the Big Four MSAs in Texas, 2010-2014



Source: U.S. Census Bureau, 2016. ACS County-to-County Migration Flows, 2010-2014

broad based migration described earlier. For the San Antonio- New Braunfels MSA, the internal-domestic split was close to 50-50. For all 25 MSAs, a little less than 50 percent of all gross migration originated or ended outside of Texas.

In non-metros, 80 percent of gross migration began and ended in Texas.

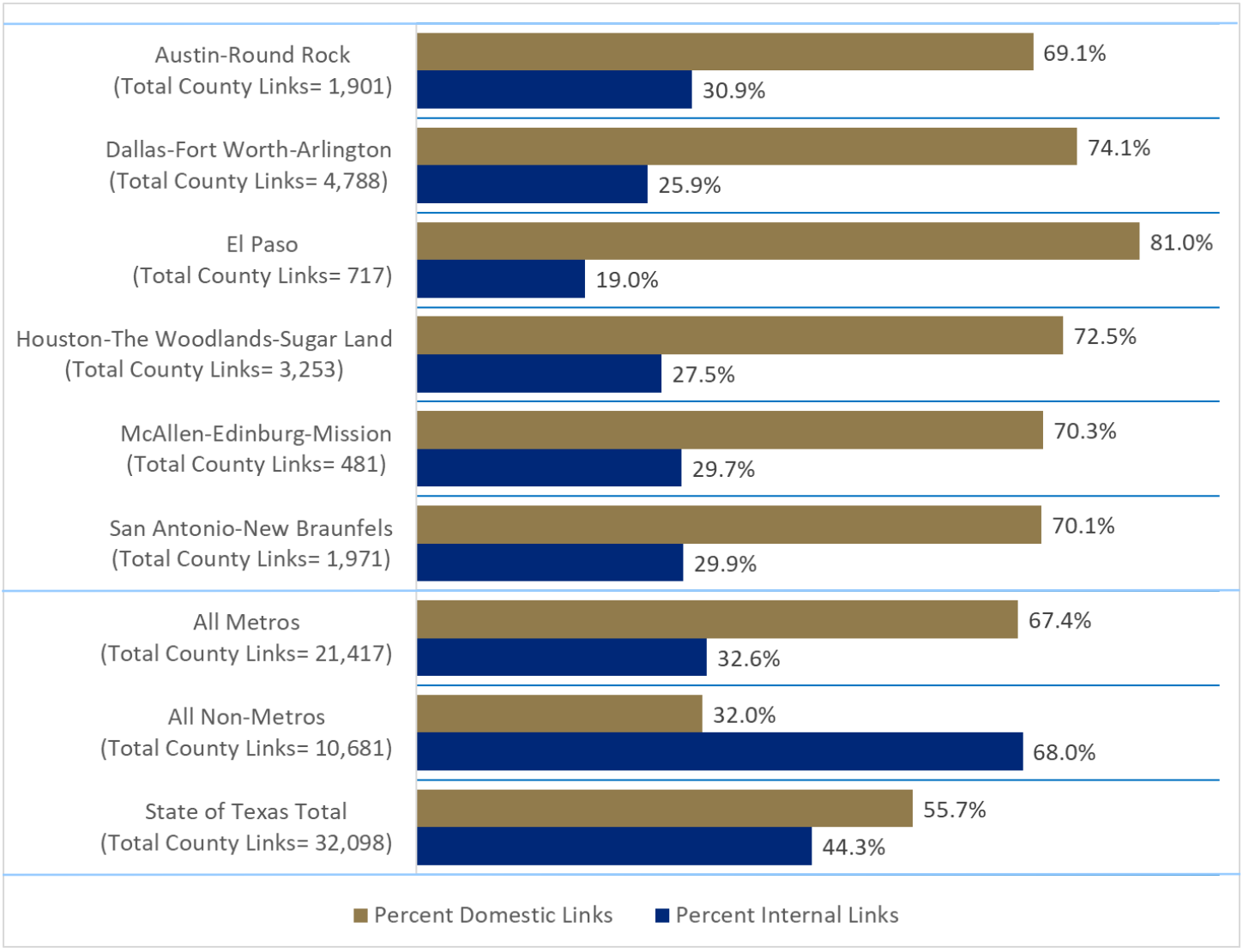
Figure 3 indicates the non-MSA migration pattern is in sharp contrast to the MSA pattern. For non-metropolitan areas, more than 80 percent of all gross migration originated and ended within Texas.

When compared to the state's urban areas, the rural areas of Texas have smaller migration volumes and lower migration rates. Their gross migration pattern also suggests that rural areas have a more limited geography of population mobility. That is, with 80 percent of all non-metropolitan gross migration involving movement within Texas, the geographic extent of rural migration is more restricted than it is in the urban areas.

County-to-county migration links measure connectivity.

Another way to characterize migration flows is by origin-destination links. Using county-to-county flows, every move involves a pair of counties: an origin county and a destination county. For example, in Figure 4, Austin-Round Rock has 1,901 county links. This means that internal and domestic migration to and from the Austin-Round Rock MSA involved 1,901 other Texas and U.S. counties. Each of these links represents at least one in-migrant or out-migrant between the subject area and the other counties. Thus, where gross migration measures the volume of migration flows, county-to-county links represent the number of connections in an area's migration flows. In addition, more links indicate greater geographic heterogeneity in the

Figure 4. County-to-County Links by Internal and Domestic Percentages for Texas MSAs,* 2010-2014



Source: U.S. Census Bureau, 2016. ACS County-to-County Migration Flows, 2010-2014

Note: *MSAs with 2010 populations of 500,000 or more.

migration flows and this increases the likelihood of contact between people with diverse origins and cultures.

Larger metros have more links.

In Figure 4, the two largest metropolitan areas, Dallas-Fort Worth-Arlington and Houston-The Woodlands-Sugarland, have the greatest numbers of county-to-county links. The Dallas MSA has close to 4,800 county-to-county links. In the Houston MSA, there were around 3,200 links. Based on the number of county-to-county links, then, the Dallas MSA is 1.5 times more connected to other areas than the Houston MSA.

Two-thirds of metro links are domestic and two-thirds of non-metro links are internal.

Figure 4 provides another indication that differences in migration patterns distinguish the state's urban and rural areas. In terms of migration connectivity, the metro and non-metro areas have divergent patterns. When we compare all metropolitan areas to all non-metropolitan areas in Figure 4, the sources of migration are distinct. Metro areas have around 67 percent domestic links and 33 percent internal links. For the non-metro areas, the link pattern is the opposite with 32 percent domestic and 68 percent internal. Thus, based on county-to-county migration flows, metro areas are more linked to places outside of Texas while the non-metro areas are more linked to places within Texas.

Metro areas have greater migration connectivity.

Overall, the metropolitan counties have greater migration connectivity than their non-

metropolitan counterparts. With 21,417 total county links, the 82 metro counties have an average of 261 links per county. That is, each metro county shares a migration link with 261 other counties. For the 172 non-metro counties, there are 10,681 total links, giving an average of 62 links per county. Based on these averages, the typical metro county is about 4.2 times more connected through migration links than the typical non-metro county.

Greater connectivity indicates that metro areas have more geographic heterogeneity in their migration flows. With a greater geographic extent of migration, the metro areas are also more likely to have a greater diversity in their mixture of migrants than the non-metro areas.

Metro areas have greater migration efficiency.

County-to-county links also provide a gauge of migration efficiency. That is, the more moves per migration link, the more efficient the migration connectivity between the county pairs. Together, the metro counties had total gross migration of 1,808,038 persons. With 21,417 county-to-county links, this means there were 84 gross migrants per county-to-county link. For the non-metro counties, total gross migration was 422,463 persons with 10,681 links that produced 40 gross migrants per county pair. As such, the metro areas have twice as many migrants per link.

Metro and non-metro areas have distinct migration linkages.

Compared to non-metropolitan areas, metropolitan areas have:

- More county-to-county links,
- More external links,
- Greater link connectivity,
- Greater geographic heterogeneity in the links, and
- More migrants per link.

Taken together, these distinctions suggest that migration streams in metropolitan Texas are more highly developed than are those in non-metropolitan areas. In contemporary Texas, these more developed migration streams have distinguished urban and rural areas in two fundamental ways:

1. Migration has favored urban population growth over rural population growth.

2. Migration has facilitated a greater diversity of origin-destination contacts in urban areas.

With this, the migration streams of urban and rural areas differ not only in their numbers of migrants but also in the characteristics of these migrants.

There is a growing population divide.

There is a general pattern where migration, mostly originating outside of Texas, is adding substantially to the populations of the state's largest MSAs. Although the state's non-metropolitan areas also have positive overall migration rates, these rates are much smaller than those for the MSAs. The non-metropolitan areas also have rates of natural increase that are much lower than those of the MSAs. These differences between the metropolitan and non-metropolitan areas suggest a future where the state's population becomes increasingly urbanized and regional patterns of population growth become more disparate. This could leave large areas of Texas with more limited access to employment, medical care, educational opportunities, and other goods and services.

External migration is shaping Texas' population geography.

Urban growth and rural decline are not new phenomena in Texas. Historically, though, these were mainly due to the movement from the farm to the city – a process of internal migration. Today, migration from outside of Texas is fueling unprecedented urbanization. Recent trends show the MSAs gaining over 100,000 residents per year through domestic migration while the gain from internal migration is close to 6,000 per year – an external-to-internal ratio of almost 17:1. The MSAs also capture 94 percent of all immigrants. Thus, today's urban-rural demographic divide is not fueled so much by internal migration as it is by external migration. With overwhelming preferences for metropolitan living, domestic migrants and immigrants are rapidly shifting the shares of urban versus rural populations. In this sense, external migration is sharpening the existing demographic differences between the urban and rural areas of Texas.

About This Report

Recent Metropolitan Migration Patterns in Texas is the third in a series of reports that examine the relationships between population change and urban development in Texas. This third report describes how migration from outside of Texas is a major factor in the state's metropolitan growth. It examines the relative impacts of internal, domestic, and international migration on the state's urban and rural areas. The report concludes that external migration is sharpening the existing demographic differences between the urban and rural areas of Texas.

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

Previous urbanization reports in this series include: Urban Texas, and Components of Population Change in 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, 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.

Eighteen of the state's 25 metropolitan statistical areas (MSAs) are comprised of two or more counties. In this report, we treat multi-county MSAs as single entities. Consequently, statistics on internal migration do not capture county-to-county movements within the MSAs.

[2]Here we use the terms international migration and immigration interchangeably. The American Community Survey (ACS) is the primary Census source that links migration origins and destinations. However, ACS does not have data on net international migration. The U.S. Census Bureau produces several annual reports that include the mobility patterns of Americans. Two of the primary sources are surveys: The American Community Survey and the annual supplement to the Current Population Survey. The other primary source, Population Estimates, is not a survey. The Population Estimates Program uses various data sources to produce annual estimates of the population and components of population change. Using various estimation techniques, the Population Estimates are able to calculate Net International Migration as well as Net Domestic Migration. By contrast, the surveys are based on respondents' answers. Because these surveys are administered only in the United States and its territories, they do not provide information on persons who emigrate from the U.S. to other countries.

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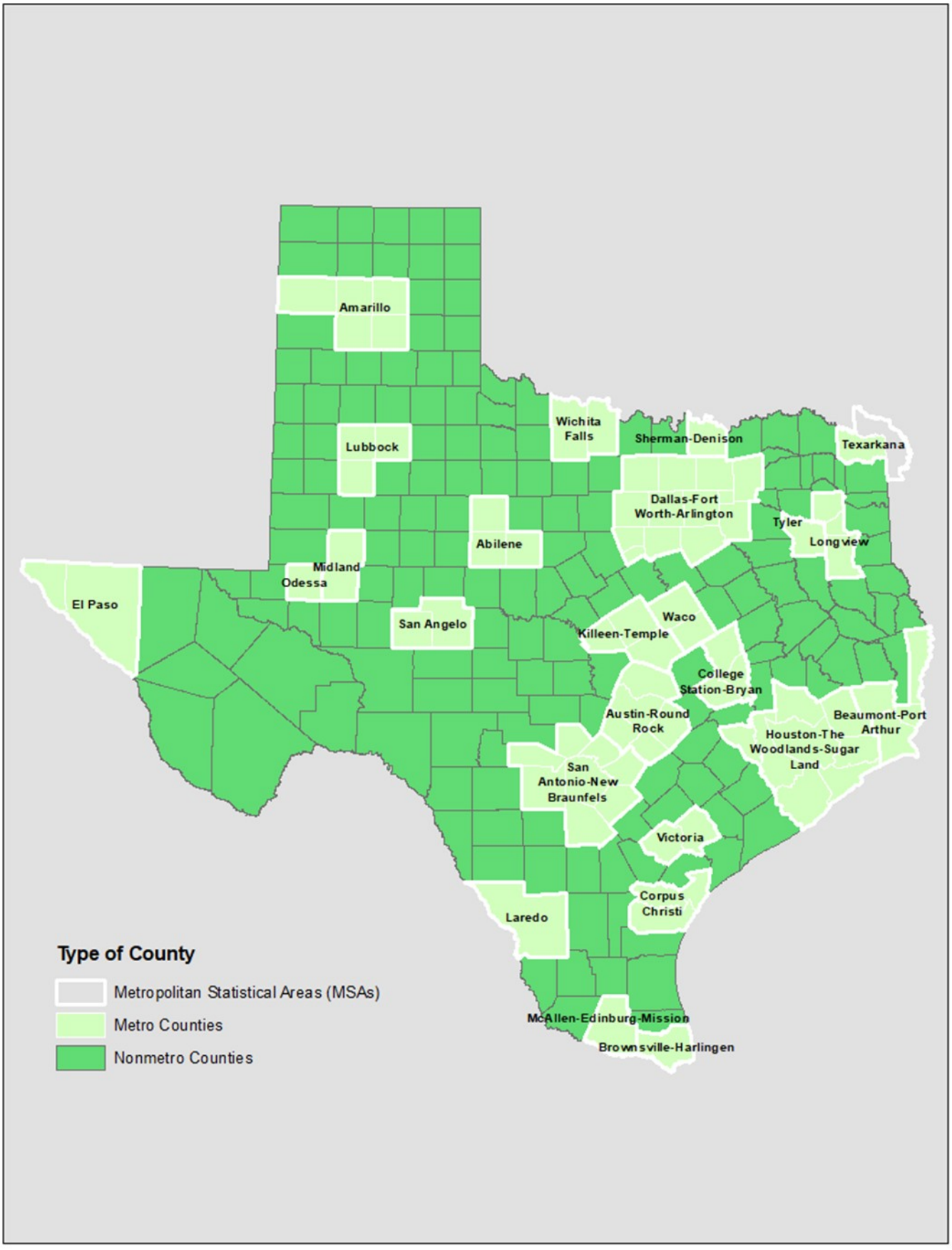
Appendix A: Metropolitan and Non-Metropolitan Counties in Texas



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