THE MIGRATION OF YOUNG ADULTS TO AND FROM ARIZONA

A Report From the Office of the University Economist

November 2022

Dennis Hoffman, Ph.D.
Professor, Department of Economics; Director, L. William Seidman Research Institute;
and Director, Office of the University Economist

Tom Rex, M.B.A.
Associate Director, Center for Competitiveness and Prosperity Research;
and Manager of Research Initiatives, Office of the University Economist

Center for Competitiveness and Prosperity Research
L. William Seidman Research Institute
W. P. Carey School of Business
Arizona State University
Box 874011
Tempe, Arizona 85287-4011

(480) 965-5362
EMAIL: Tom.Rex@asu.edu
ccpr.wpcarey.asu.edu
economist.asu.edu

TABLE OF CONTENTS

LIST OF TABLES

LIST OF CHARTS

SUMMARY

The migration efficiency — the ratio of the number of in-migrants to the number of out-migrants — of individuals between the ages of 16 and 26 who moved between commuting zones (CZs: aggregations of counties) during the 2000-to-2018 time period was the highest among the nation's 26 most-populous CZs in the Denver CZ at 2.52. The Seattle CZ ranked second with an efficiency of 1.83 and the Phoenix CZ (Maricopa, Pinal, and Gila counties) ranked third at 1.78.

Among moderately populous CZs in the western and southeastern parts of the country, the Austin CZ ranked first with a migration efficiency of 3.17. With an efficiency of 1.30, the Tucson CZ (Pima, Cochise, and Santa Cruz counties) ranked in the middle. The young-adult migration efficiency of selected CZs is shown in Chart S-1.

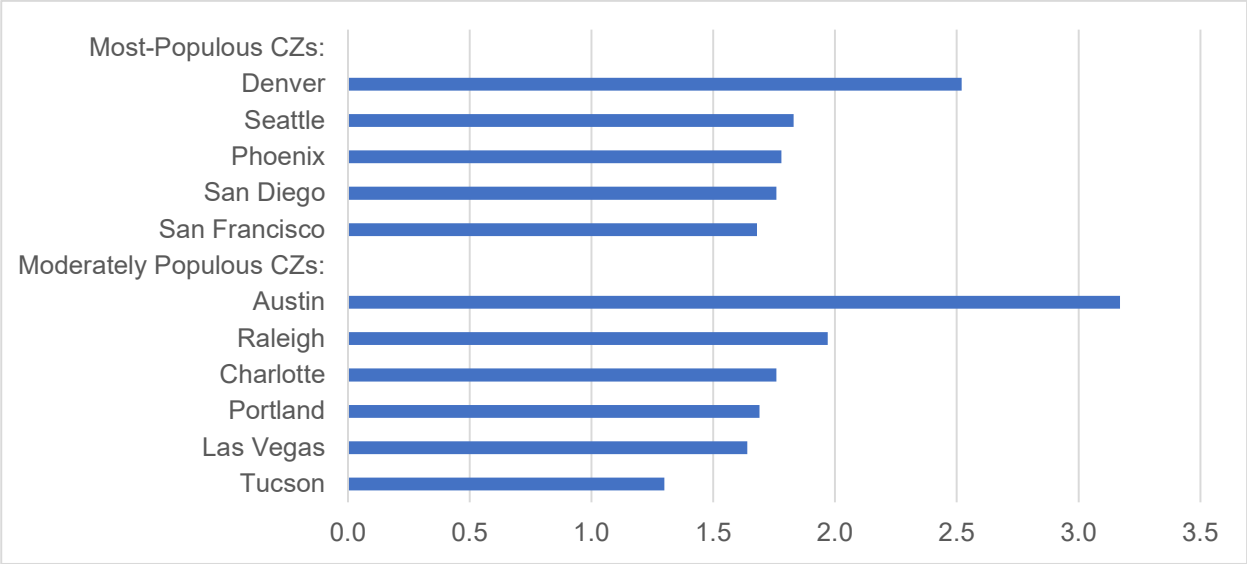
In some CZs, including New York, Austin, Los Angeles, and Denver, migration efficiencies were much stronger in the higher income quintiles than in the lower income quintiles. In other CZs, including Fort Worth, Atlanta, Houston, and Seattle, migration efficiencies were stronger in the lower income quintiles than in the higher income quintiles. In the Phoenix CZ, migration efficiency was highest in the lowest income quintile and lowest in the highest quintile. In contrast, the migration efficiency in the Tucson CZ was slightly higher in the two highest quintiles than in the other three quintiles. A measure of the variation in migration efficiency across the income quintiles is displayed in Chart S-2 for selected CZs.

In Phoenix and Tucson commuting zones, young-adult migration efficiencies generally were highest with states in the East North Central, Northeast, and Middle Atlantic regions of the country. The weakest efficiencies were generally with states in the Pacific, Mountain, and West South Central regions. Though its overall young-adult migration efficiency was quite strong, the Phoenix CZ experienced net out-migration to six states: Colorado, Oklahoma, Texas, the District of Columbia, North Carolina, and Tennessee. Young-adult migration efficiency was lower in the Tucson CZ than the Phoenix CZ in 40 states, with southern states accounting for most of the exceptions. The Tucson CZ had net out-migration of young adults to 10, mostly western, states.

The Phoenix commuting zone's in-migration, out-migration, and net migration flows of young adults were dominated by the Los Angeles CZ, though the migration rates and migration efficiency were not particularly high with the Los Angeles CZ. For both in-migration and net migration to the Phoenix CZ, the Chicago CZ ranked second, the Detroit CZ third, and the Las Vegas CZ fourth, though the efficiency was much lower with the Las Vegas CZ than the other two CZs. The Phoenix CZ's efficiency was less than 1 with some CZs, with the net outflow greatest, and the efficiency least, with the Austin and Provo CZs.

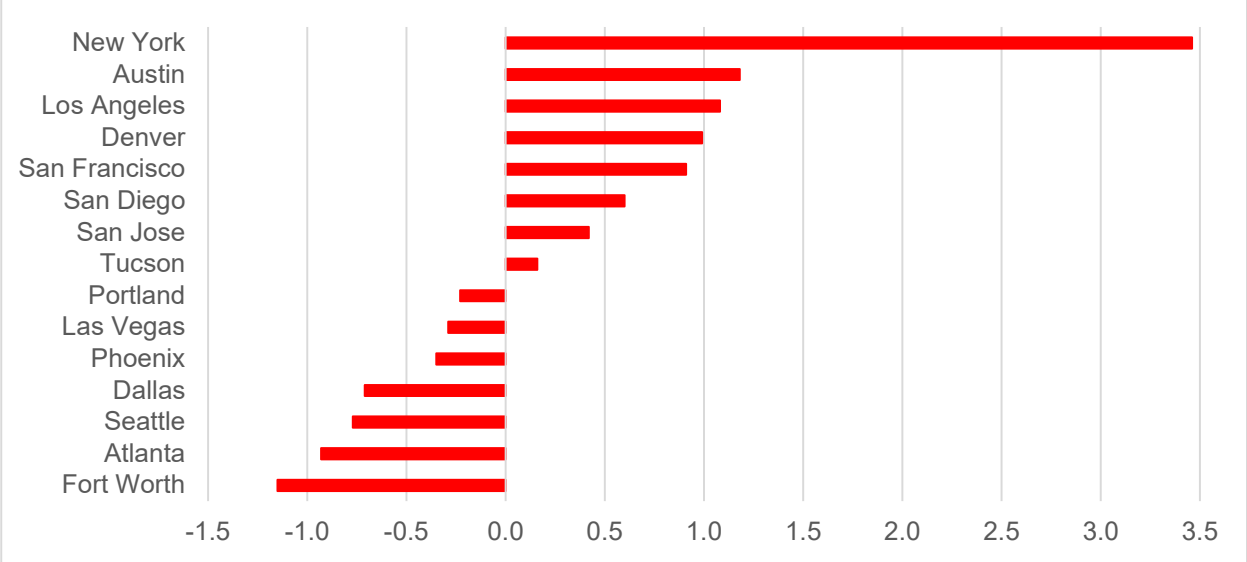
The Tucson commuting zone's greatest in-migration, out-migration, and net migration flows of young adults were with the Los Angeles CZ. For both in-migration and net migration to the Tucson CZ, the Chicago and Detroit CZs ranked near the top. The Tucson CZ's efficiency was less than 1 with more than half of its largest migration partners.

CHART S-1
YOUNG-ADULT MIGRATION EFFICIENCY, SELECTED COMMUTING ZONES



Source: Calculated from data from https://migrationpatterns.org/.

CHART S-2
YOUNG-ADULT EFFICIENCY SCORE, SELECTED COMMUTING ZONES



The efficiency score is calculated as the sum of (the difference in the efficiency between the highest income quintile and the lowest quintile) and (the difference in the efficiency between the second-highest income quintile and the second-lowest quintile). The higher the value of the efficiency score, the stronger the efficiencies in the higher income quintiles relative to the lower quintiles.

Source: Calculated from data from https://migrationpatterns.org/.

INTRODUCTION

This report analyzes data for Arizona on the migration of young adults from a new dataset, available at https://migrationpatterns.org/. Researchers from Harvard University and the U.S. Census Bureau worked on this project, which utilized de-identified data from census records and from tax records on individuals born from 1984 through 1992.[1] The dataset compares the location of an individual at age 16 to the place of residence of the same individual at age 26. Thus, for those born in 1984, the migration occurred at some point between 2000 and 2010; for those born in 1992, the migration occurred at some point between 2008 and 2018. For those individuals who migrated more than once between the ages of 16 and 26, only the beginning and ending locations are recorded.

The race/ethnicity of each young adult is available, but is not examined in this paper. The parental income when each individual was 16 also is available, grouped into quintiles, and is analyzed in this paper. Unfortunately, the educational attainment of individuals at age 26 is not available.

The geographic locations are defined by commuting zones (CZs) — aggregations of counties that may cross state lines. These CZs are not consistent with the definitions of metropolitan and micropolitan areas and vary widely by geographic and population size. The CZs were created by the Economic Research Service of the U.S. Department of Agriculture. There were 709 CZs in the United States based on 2000 census data, the latest delineation.

Arizona's 15 counties are spread across eight commuting zones:

- Phoenix CZ: Maricopa and Pinal counties (Metro Phoenix-Mesa-Chandler) plus Gila County. The 2010 decennial census population of the CZ was 4.25 million.[2]
- Tucson CZ: Pima County (Metro Tucson), Cochise County (Metro Sierra Vista-Douglas), and Santa Cruz County (Micro Nogales). The 2010 population of the CZ was 1.16 million.
- Flagstaff CZ: Coconino County (Metro Flagstaff), Yavapai County (Metro Prescott Valley-Prescott), and Kane County, Utah. Of the 2010 population of 353,000, all but 2 percent of the CZ's residents lived in Arizona.
- Gallup CZ: Apache County, Navajo County (Micro Show Low), and McKinley County, New Mexico (Micro Gallup). Arizona residents accounted for 71.5 percent of the CZ's population of 250,000 in 2010.
- Safford CZ: Graham County (Micro Safford) and Greenlee County. The 2010 population of the CZ was only 46,000.
- Yuma CZ: Yuma County (Metro Yuma) and Imperial County, California (Metro El Centro). Yuma County accounted for 53 percent of the CZ's 370,000 residents in 2010.
- Mohave County is part of the Las Vegas CZ, which includes four Nevada counties that accounted for 91 percent of the CZ's population of 2.2 million in 2010.

---

[1] Ben Sprung-Keyser, Nathaniel Hendren, and Sonya Porter, "The Radius of Economic Opportunity: Evidence From Migration and Local Labor Markets," July 2022, https://www2.census.gov/ces/wp/2022/CES-WP-22-27.pdf.

[2] The population is expressed as of 2010 since that falls with the range of years in which all of the young adults migrated.

- La Paz County is part of the Los Angeles CZ, which includes five California counties that accounted for 99.9 percent of the CZ's population of 17.9 million in 2010.

The number of individuals moving in each direction between each pair of CZs is included in the dataset. From these data, net migration (in-migration minus out-migration) and the migration efficiency (the ratio of the number of in-migrants to the number of out-migrants) have been calculated. A migration efficiency of more than 1 signifies net in-migration; a value of less than 1 indicates net out-migration. Since the number of migrants varies widely across the pairs of CZs (largely due to the population of each CZ) and also varies across the income quintiles, migration efficiency is the primary metric used in this analysis.

Migration rates also are examined. The rates are calculated as the number of young-adult migrants divided by the total number of young adults. The latter figure is included in the dataset.

The dataset is not subject to sampling error, but the number of migrating young adults is so small for many pairs of CZs that drawing conclusions is not warranted. For example, when the number of migrants between the Phoenix CZ and another CZ are small, migration efficiencies are erratic across the income quintiles, while the pattern is much smoother when the number of migrants is larger. Among the six CZs in which the majority of the population lives in Arizona, even the total number of migrants is small for the Safford CZ, while the migration flows for the Flagstaff, Gallup, and Yuma CZs are large enough to analyze for only a limited number of CZ pairs. Because of the small numbers, CZs outside of Arizona also are aggregated into "states," but since so many CZs cross state lines, it is impossible to create true state totals.

Migration during any of the 10-year periods ranging from 2000-to-2010 to 2008-to-2018 may not be representative of broader time periods due to economic events that occurred during the 10-year periods. For example, oil fracking in North Dakota caused a surge in in-migration from 2010 through 2014 but was followed by an increase in out-migration in 2015 and 2016. The severe 2008-09 recession affected migration patterns across the country.

For the last several decades, some migration patterns have been relatively constant. First, a minority of individuals make a move to another labor market. According to the project's researchers, 69 percent of individuals lived in the same CZ at age 26 as at age 16. Second, migrants generally move the shortest distance possible in order to satisfy their desires. Of those individuals who lived in a different CZ at age 26 than at age 16, more than one-third lived in a CZ less than 100 miles away and less than one-third lived in a CZ more than 500 miles away. Third, migration from the northern and eastern portions of the country to the southern and western regions has been dominant. Fourth, mobility greatly increases with income. For example, only 15 percent of the young-adult migrants who left the Phoenix CZ came from the lowest income quintile, while 28 percent came from the highest quintile. The average distance moved also increases with income.

In the remainder of this paper, migration flows are examined for each of the six commuting zones in which the majority of the population lives in Arizona. Given the limited number of young-adult migrants, the greatest detail is presented for the Phoenix CZ. In addition, overall migration metrics for the Phoenix and Tucson CZs are compared to those of selected other CZs.

YOUNG-ADULT MIGRATION IN ARIZONA COMMUTING ZONES BY STATE

As noted earlier, the tallies of migration between the Arizona commuting zones and "states" is not a true figure due to commuting zones that cross state lines. The total number of young adults moving to and from each Arizona CZ is summarized in Table 1. While the Phoenix, Tucson, and Flagstaff CZs received a net inflow of young adults from other states, only the Phoenix CZ received a net inflow from other CZs that are primarily in Arizona.

Based on the young-adult population of each Arizona CZ, the young-adult in-migration rate from the other 50 states was highest at 635 per 1,000 residents to the Flagstaff CZ. The figure was 499 for the Phoenix CZ and 409 for the Tucson CZ. The rates were lower to the Yuma CZ (310), the Safford CZ (298), and the Gallup CZ (232). The out-migration rate was highest from the Flagstaff CZ at 602, followed by the Gallup (529), Yuma (432), Safford (336), Tucson (315), and Phoenix (281) CZs. The difference between the in-migration and out-migration rates was highest in the Phoenix CZ at 218, followed by the Tucson (94), Flagstaff (33), Safford (-38), Yuma (-122), and Gallup (-297) CZs.

Number of Migrants by State

Due to its size and proximity, California dominated the young-adult migration flows to and from the Flagstaff, Phoenix, Tucson, and Yuma CZs. The Flagstaff, Phoenix, and Tucson CZs received strong net in-migration of young adults from California, but the Yuma CZ experienced a net outflow to California.

In contrast, the greatest young-adult migration flows to and from the Gallup and Safford CZs were with neighboring New Mexico; California ranked second. The Safford CZ received net in-migration from New Mexico and from California, though the latter number was small. The Gallup CZ had a net outflow to each state.

TABLE 1
NUMBER OF YOUNG-ADULT MIGRANTS, ARIZONA COMMUTING ZONES

Commuting Zone	In Migration	Out Migration	Net Migration	Efficiency
Total of Commuting Zones in Other States				
Phoenix	138,418	77,839	60,579	1.78
Tucson	29,949	23,050	6,899	1.30
Flagstaff	10,210	9,677	533	1.06
Gallup	4,452	10,141	-5,689	0.44
Safford	742	837	-95	0.89
Yuma	7,465	10,393	-2,928	0.72
Total From Other Arizona Commuting Zones				
Phoenix	21,555	10,828	10,727	1.99
Tucson	7,448	9,414	-1,966	0.79
Flagstaff	6,064	7,474	-1,410	0.81
Gallup	1,997	8,912	-6,915	0.22
Safford	1,015	1,451	-436	0.70
Yuma	880	4,318	-3,438	0.20

Source: Calculated from data from https://migrationpatterns.org/.

Illinois provided the second-greatest number of in-migrants, out-migrants, and net in-migrants of young adults to the Phoenix CZ. Michigan was third on net migration and fourth on in-migration; Ohio ranked fourth, and Pennsylvania fifth, on net in-migration. Though Texas was third on in-migration, it ranked second on out-migration and received the second-largest number of net out-migrants from the Phoenix CZ. Net out-migration from the Phoenix CZ was greatest to Colorado, with North Carolina, the District of Columbia, and Oklahoma also in the bottom five.

The leading states for in-migration and net migration of young adults to the Tucson CZ were similar to those of the Phoenix CZ. However, the states to which the Tucson CZ had the largest net out-migration are all western states: Colorado, Texas, Washington, Oregon, and Utah.

In-migration and out-migration in the Flagstaff and Yuma CZs were greatest with other western states. Net in-migration to the Flagstaff CZ was greatest from California, followed by Nevada, Illinois, Michigan, and Pennsylvania. The greatest net out-migration was to Utah, Colorado, Texas, Oregon, and Washington. Net in-migration to the Yuma CZ was greatest from Michigan, Ohio, Pennsylvania, Illinois, and New York. The greatest net out-migration was to California, followed by Texas, Nevada, Colorado, and Washington.

Migration flows of young adults to and from Arizona's two smaller CZs were primarily with other western states. In addition to California and New Mexico, Colorado, Nevada, Texas, and Utah were among the leaders. The Gallup CZ did not experience significant net in-migration from any state; net out-migration was greatest to New Mexico, Texas, Colorado, Utah, and California. The greatest net in-migration to the Safford CZ was from New Mexico; net out-migration was greatest to Texas and Utah.

Number of Migrants Per 1,000 Residents by State

Based on the young-adult population of the other states, young-adult migration rates to and from each of the Arizona CZs were highly correlated to distance from the other states. Nevada ranked between first and third on the in-migration rate, and between second and fifth on the out-migration rate, with each of the six Arizona CZs. New Mexico ranked first or second on both the in-migration and out-migration rates except with the Yuma CZ. In-migration rates from California were not particularly strong except with the Yuma CZ.

The lowest in-migration rates to the Phoenix, Tucson, and Flagstaff CZs were primarily from southern states, particularly Louisiana, Kentucky, West Virginia, Mississippi, Alabama, and South Carolina.[3] The lowest out-migration rates were to southern and northeastern states, including New Jersey, Pennsylvania, West Virginia, and Mississippi.

Migration Efficiency by State

Young-adult migration efficiencies between each Arizona CZ and each of the other states are displayed in Table 2, with the states organized into the Census Bureau's nine census divisions. In each of Arizona's CZs, efficiencies generally were highest with states in the East North Central, Northeast, and Middle Atlantic divisions. The weakest efficiencies in each of Arizona's CZs were generally with states in the Pacific, Mountain, and West South Central divisions.

[3] Rates by state in the other three Arizona CZs are too small to be meaningful.

TABLE 2
YOUNG-ADULT MIGRATION EFFICIENCY BETWEEN ARIZONA COMMUTING ZONES AND OTHER COMMUTING ZONES AGGREGATED BY STATE

	Phoenix	Tucson	Flagstaff	Gallup	Safford	Yuma
INTERSTATE TOTAL	1.78	1.30	1.06	0.44	0.89	0.72
PACIFIC						
Alaska	1.52	1.08	0.97	0.11	0.40	0.33
California	2.07	1.28	1.76	0.52	1.14	0.63
Hawaii	1.09	0.79	0.66	0.21	0.75	0.53
Oregon	1.19	0.85	0.42	0.38	0.79	0.64
Washington	1.23	0.81	0.54	0.19	0.58	0.62
MOUNTAIN						
Colorado	0.90	0.58	0.46	0.25	0.86	0.42
Idaho	1.44	1.27	0.68	0.22	0.69	0.51
Montana	1.62	1.42	0.84	0.30	0.62	0.92
Nevada	1.94	1.26	1.47	0.52	1.27	0.60
New Mexico	2.27	1.48	1.00	0.55	2.04	0.55
Utah	1.01	0.83	0.46	0.23	0.31	0.54
Wyoming	1.77	1.16	0.67	0.38	0.44	0.63
WEST SOUTH CENTRAL						
Arkansas	1.03	1.37	0.75	0.28	0.25	0.74
Louisiana	1.31	1.10	0.72	0.26	1.00	0.77
Oklahoma	0.86	0.80	0.45	0.23	1.20	0.54
Texas	0.95	0.85	0.55	0.16	0.50	0.53
WEST NORTH CENTRAL						
Iowa	2.89	1.77	1.61	0.34	0.71	0.66
Kansas	1.61	1.51	0.83	0.19	1.00	0.63
Minnesota	3.35	2.82	2.00	0.48	2.67	1.54
Missouri	2.07	1.63	0.97	0.45	0.61	0.99
Nebraska	2.49	1.50	1.14	0.29	0.50	0.64
North Dakota	1.29	0.68	0.33	0.08	1.00	0.27
South Dakota	2.66	1.71	1.28	0.50	1.20	0.57
EAST NORTH CENTRAL						
Illinois	3.51	2.12	3.02	0.74	2.83	1.88
Indiana	3.20	2.65	1.77	0.72	1.18	1.43
Michigan	5.77	4.33	2.90	1.31	3.78	2.84
Ohio	3.39	2.65	2.15	1.13	2.00	2.59
Wisconsin	3.73	2.76	2.95	0.70	0.71	2.13
NEW ENGLAND						
Connecticut	3.12	2.73	2.26	2.20	3.00	1.69
Maine	3.64	2.53	2.29	0.80	1.00	2.10
Massachusetts	1.55	1.43	1.22	0.52	1.00	1.59
New Hampshire	3.33	2.89	3.22	1.00	1.00	2.50
Rhode Island	2.96	3.07	1.06	*	1.00	3.00
Vermont	3.42	2.14	4.18	2.00	2.00	3.67
MIDDLE ATLANTIC						
New Jersey	4.65	3.58	3.96	1.67	*	5.38
New York	1.47	1.41	1.41	0.57	0.36	1.76
Pennsylvania	3.36	2.99	2.78	1.04	1.25	2.21

(continued)

TABLE 2 (continued)
YOUNG-ADULT MIGRATION EFFICIENCY BETWEEN ARIZONA COMMUTING ZONES AND OTHER COMMUTING ZONES AGGREGATED BY STATE

	Phoenix	Tucson	Flagstaff	Gallup	Safford	Yuma
SOUTH ATLANTIC						
Delaware	2.28	1.39	1.54	0.00	1.00	1.57
District of Columbia	0.87	0.98	0.77	0.38	1.12	0.62
Florida	1.35	1.39	1.02	0.39	0.54	1.10
Georgia	1.29	1.16	0.85	0.48	0.35	0.95
Maryland	1.86	1.54	1.35	0.42	1.00	1.48
North Carolina	0.89	0.91	0.65	0.23	1.00	0.88
South Carolina	1.05	1.34	1.13	0.38	0.20	1.15
Virginia	1.14	1.14	0.81	0.08	0.36	0.82
West Virginia	2.68	1.68	0.86	1.00	1.00	1.29
EAST SOUTH CENTRAL						
Alabama	1.68	1.49	1.35	0.25	0.17	1.22
Kentucky	1.31	1.45	0.70	0.37	1.00	0.69
Mississippi	2.41	2.48	1.12	0.47	0.67	1.00
Tennessee	0.95	1.12	0.55	0.23	0.33	0.62

* Cannot be calculated since out-migration was zero.

Notes:
Shaded cells indicate that migration flows to and from the Arizona CZ were less than 100.
State totals are approximate since some CZs cross state lines.

Source: Calculated from data from https://migrationpatterns.org/.

The Phoenix CZ's young-adult migration efficiency exceeded 2 with 22 states, including values of more than 4 with Michigan and New Jersey, but was less than 1 — indicating net out-migration — with six states: Colorado, Oklahoma, Texas, the District of Columbia, North Carolina, and Tennessee.

Young-adult migration efficiency was lower in the Tucson CZ than the Phoenix CZ with 40 states, with southern states accounting for most of the exceptions. The Tucson CZ's young-adult migration efficiency exceeded 2 with 14 states, including values of more than 3.5 with Michigan and New Jersey, but its efficiency was less than 1 in 10, mostly western, states.

Young-adult in- and out-migration flows commonly were less than 100 in the other Arizona CZs: 23 states in the Flagstaff CZ, 37 in the Gallup CZ, 47 in the Safford CZ, and 33 in the Yuma CZ. The Flagstaff CZ's young-adult migration efficiency exceeded 2 with 11 states, including values of more than 3.5 with Vermont and New Jersey, but was 1 or less with 24 states. The Yuma CZ's young-adult migration efficiency was 1 or less with 29 states, including all of the states in the Pacific, Mountain, and West South Central divisions, but exceeded 2 with nine states in the East North Central, New England, and Middle Atlantic divisions, including values of more than 3.5 with New Jersey and Vermont. The Safford CZ's young-adult migration efficiency was 1 or less with 35 states, but exceeded 2 with nine states. The Gallup CZ's young-adult migration efficiency exceeded 1 with only seven states, all in the northeastern portion of the country.

YOUNG-ADULT MIGRATION IN ARIZONA COMMUTING ZONES BY COMMUTING ZONE IN OTHER STATES

For the Phoenix commuting zone, either in-migration or out-migration of young adults exceeded 1,000 with 29 out-of-state CZs. The various metrics for each of the 29 CZs are shown in Table 3. The Phoenix CZ's in-migration, out-migration, and net migration flows of young adults were dominated by the Los Angeles CZ, though the migration rates and migration efficiency were not particularly high. For both in-migration and net migration to the Phoenix CZ, the Chicago CZ ranked second, the Detroit CZ third, and the Las Vegas CZ fourth, though the efficiency was much lower with the Las Vegas CZ than the other two CZs. The Phoenix CZ's efficiency was less than 1 with eight of the 29 CZs, with the net outflow greatest, and the efficiency least, with the Austin and Provo CZs.

The Tucson CZ's in-migration or out-migration of young adults exceeded 300 with 22 out-of-state CZs (see Table 4). As with the Phoenix CZ, the Tucson CZ's greatest in-migration, out-migration, and net migration flows of young adults were with the Los Angeles CZ. For both in-migration and net migration to the Tucson CZ, the Chicago and Detroit CZs ranked high. The Tucson CZ's efficiency was less than 1 with 12 of the 22 CZs. Eight of these CZs ranked among the bottom eight on both net migration and efficiency; the New York CZ was the only one not located in the West.

The number of young-adult migrants to or from the Flagstaff CZ exceeded 100 with 21 out-of-state CZs (see Table 5). The Flagstaff CZ's greatest in-migration, out-migration, and net migration flows of young adults were with the Los Angeles CZ, which ranked fourth on efficiency. The Chicago and Detroit CZs ranked in the top four on both net migration and migration efficiency. The Flagstaff CZ's efficiency was less than 1 with 12 of the 21 CZs. Except for the New York CZ, each of these 12 CZs are located in the West.

The Gallup CZ's in-migration or out-migration of young adults exceeded 100 with 11 out-of-state CZs (see Table 6). The Gallup CZ's in-migration, out-migration, and net migration flows of young adults were dominated by two CZs in New Mexico — Albuquerque and Farmington. The Gallup CZ received net in-migration only from the Farmington CZ; the net outflow to the Albuquerque CZ was quite large.

For the Yuma CZ, either in-migration or out-migration of young adults exceeded 100 with 10 out-of-state CZs (see Table 7). The Yuma CZ's greatest in-migration and out-migration were with the Los Angeles CZ; the San Diego CZ ranked second on each measure. The Yuma CZ's efficiency was less than 1 with each of the 10 CZs, with an especially large net outflow to the San Diego CZ.

The Safford CZ had a migration flow of young adults exceeding 100 only with the neighboring Deming, New Mexico CZ. It received a net inflow from the Deming CZ.

TABLE 3
YOUNG-ADULT MIGRATION BETWEEN THE PHOENIX COMMUTING ZONE AND SELECTED OTHER COMMUTING ZONES

Commuting Zone	Number of Migrants			Effic-iency	Migration Rate		Rank Among the 29 Commuting Zones in This Table: Number of Migrants			Effic-iency	Migration Rate	
	In	Out	Net		In	Out	In	Out	Net		In	Out
Los Angeles	18,509	8,107	10,402	2.28	10.5	4.7	1	1	1	11	6	10
Chicago	6,134	1,917	4,217	3.20	6.9	2.3	2	7	2	6	12	17
Detroit	3,898	593	3,305	6.57	6.4	1.1	3	23	3	1	15	27
Las Vegas	3,663	1,906	1,757	1.92	21.0	9.1	4	8	4	14	1	2
San Diego	3,357	2,979	378	1.13	11.9	8.7	5	3	16	18	5	3
Seattle	3,340	3,285	55	1.02	8.3	6.9	6	2	21	21	9	8
San Francisco	2,293	2,097	196	1.09	5.6	4.6	7	6	20	20	17	11
Denver	2,142	2,872	-730	0.75	8.2	8.0	8	4	29	27	10	4
El Paso	2,018	745	1,273	2.71	17.7	6.9	9	19	6	9	2	8
Minneapolis	1,999	640	1,359	3.12	5.8	1.8	10	22	5	7	16	21
Sacramento	1,998	753	1,235	2.64	6.5	2.6	11	18	7	10	14	15
Salt Lake City	1,860	1,643	217	1.13	9.8	7.8	12	10	19	18	7	5
New York	1,839	2,215	-376	0.83	1.8	2.0	13	5	26	25	29	19
Portland	1,703	1,815	-112	0.94	8.7	7.6	14	9	22	22	8	7
San Jose	1,477	793	684	1.86	7.0	3.9	15	16	14	15	11	13
Philadelphia	1,371	474	897	2.89	2.1	0.8	16	25	11	8	26	28
Newark	1,360	317	1,043	4.29	2.4	0.7	17	27	8	4	23	29
Cleveland	1,343	310	1,033	4.33	4.5	1.2	18	28	9	3	19	26
Albuquerque	1,308	736	772	2.05	17.4	7.8	19	20	13	12	3	5
Milwaukee	1,286	270	1,016	4.76	6.6	1.4	20	29	10	2	13	23
Washington D.C.	1,159	1,396	-177	0.87	2.4	2.4	21	11	24	24	23	16
St. Louis	1,124	349	775	3.22	3.9	1.3	22	26	12	5	20	25
Boston	1,058	775	283	1.37	2.1	1.5	23	17	18	17	26	22
Kansas City	1,050	517	533	2.03	4.9	2.3	24	24	15	13	18	17
Atlanta	1,029	673	356	1.53	2.3	1.4	25	21	17	16	25	23
Houston	1,019	1,160	-141	0.88	1.9	2.0	26	14	23	23	28	19
Dallas	979	1,292	-313	0.76	2.5	2.9	27	12	25	26	22	14
Provo	698	1,284	-586	0.54	12.4	16.8	28	13	27	28	4	1
Austin	412	1,004	-592	0.41	2.9	4.4	29	15	28	29	21	12

Note: In order to be displayed, a migration flow either to or from the Phoenix CZ must have been at least 1,000.

Source: Calculated from data from https://migrationpatterns.org/.

TABLE 4
YOUNG-ADULT MIGRATION BETWEEN THE TUCSON COMMUTING ZONE AND SELECTED OTHER COMMUTING ZONES

Commuting Zone	Number of Migrants			Effic-iency	Migration Rate		Rank Among the 22 Commuting Zones in This Table: Number of Migrants			Effic-iency	Migration Rate	
	In	Out	Net		In	Out	In	Out	Net		In	Out
Los Angeles	2,738	2,087	651	1.31	1.6	1.2	1	1	1	7	6	11
Chicago	768	420	348	1.83	0.9	0.5	2	10	3	5	13	16
San Diego	732	1,073	-341	0.68	2.6	3.1	3	2	20	15	4	3
Las Vegas	722	575	147	1.26	4.1	2.7	4	7	7	9	2	4
Seattle	692	1,049	-357	0.66	1.7	2.2	5	3	21	16	5	6
Detroit	553	141	412	3.92	0.9	0.3	6	20	2	1	13	20
El Paso	491	365	126	1.35	4.3	3.4	7	13	8	6	1	2
Washington D.C.	455	466	-11	0.98	0.9	0.9	8	9	11	11	13	13
San Francisco	430	660	-230	0.65	1.1	1.4	9	5	19	17	11	10
Denver	410	859	-449	0.48	1.6	2.4	10	4	22	21	6	5
New York	366	583	-217	0.63	0.4	0.5	11	6	17	18	22	16
Sacramento	354	186	168	1.90	1.2	0.7	12	19	6	4	10	15
Philadelphia	345	136	209	2.54	0.5	0.2	13	21	4	3	21	22
Houston	324	291	33	1.11	0.6	0.5	14	17	10	10	19	16
Boston	319	247	72	1.29	0.6	0.5	15	18	9	8	19	16
Portland	313	536	-223	0.58	1.6	2.2	16	8	18	20	6	6
Minneapolis	302	111	191	2.72	0.9	0.3	17	22	5	2	13	20
Salt Lake City	297	326	-29	0.91	1.6	1.6	18	15	12	12	6	9
Dallas	256	373	-117	0.69	0.7	0.8	19	12	14	14	18	14
San Antonio	217	308	-91	0.70	1.0	1.2	20	16	13	13	12	11
Colorado Springs	210	349	-139	0.60	3.0	3.9	21	14	15	19	3	1
Austin	129	383	-154	0.34	0.9	1.7	22	11	16	22	13	8

Note: In order to be displayed, a migration flow either to or from the Tucson CZ must have been at least 300.

Source: Calculated from data from https://migrationpatterns.org/.

TABLE 5
YOUNG-ADULT MIGRATION BETWEEN THE FLAGSTAFF COMMUTING ZONE AND SELECTED OTHER COMMUTING ZONES

Commuting Zone	Number of Migrants			Effic-iency	Migration Rate		Rank Among the 21 Commuting Zones in This Table: Number of Migrants			Effic-iency	Migration Rate	
	In	Out	Net		In	Out	In	Out	Net		In	Out
Los Angeles	1,488	676	812	2.20	0.8	0.4	1	1	1	4	8	15
Las Vegas	718	466	252	1.54	4.1	2.2	2	2	2	7	3	4
San Diego	302	300	2	1.01	1.1	0.9	3	7	9	9	5	11
Chicago	234	76	158	3.08	0.3	0.1	4	18	3	1	16	18
Seattle	209	402	-193	0.52	0.5	0.8	5	3	19	13	11	12
Farmington (NM)	187	153	34	1.22	7.2	7.2	6	11	8	8	2	2
Sacramento	164	105	59	1.56	0.5	0.3	7	17	5	6	11	16
Salt Lake City	162	320	-158	0.51	0.9	1.5	8	6	17	14	7	6
Denver	147	392	-245	0.38	0.6	1.1	9	4	21	17	10	9
St. George (UT)	144	348	-204	0.41	7.4	17.1	10	5	20	15	1	1
San Francisco	132	168	-36	0.79	0.3	0.5	11	10	11	10	16	13
Detroit	122	47	75	2.60	0.2	0.1	12	20	4	2	19	18
Albuquerque	110	149	-39	0.74	1.3	1.6	13	12	12	12	4	5
San Jose	108	59	49	1.83	0.5	0.2	14	19	7	5	11	17
New York	105	140	-35	0.75	0.1	0.1	15	13	10	11	21	18
Minneapolis	100	45	55	2.22	0.3	0.1	15	21	6	3	16	18
Portland	89	271	-182	0.33	0.5	1.1	17	8	18	19	11	9
Provo	60	185	-125	0.32	1.1	2.4	18	9	16	20	5	3
Eugene	53	128	-75	0.41	0.5	1.2	19	15	13	15	11	8
Colorado Springs	49	132	-83	0.37	0.7	1.5	20	14	15	18	9	6
Austin	28	107	-79	0.26	0.2	0.5	21	16	14	21	19	13

Note: In order to be displayed, a migration flow either to or from the Flagstaff CZ must have been at least 100.

Source: Calculated from data from https://migrationpatterns.org/.

TABLE 6
YOUNG-ADULT MIGRATION BETWEEN THE GALLUP COMMUTING ZONE AND SELECTED OTHER COMMUTING ZONES

Commuting Zone	Number of Migrants			Effic-iency	Migration Rate		Rank Among the 11 Commuting Zones in This Table: Number of Migrants			Effic-iency	Migration Rate	
	In	Out	Net		In	Out	In	Out	Net		In	Out
Farmington (NM)	2,053	1,587	466	1.29	79.6	75.1	1	2	1	1	1	1
Albuquerque	403	2,796	-2,393	0.14	4.6	29.8	2	1	11	9	3	3
Los Angeles	169	205	-36	0.82	0.1	0.1	3	6	2	2	10	11
Las Vegas	129	244	-115	0.53	0.7	1.2	4	4	6	3	5	7
Cortez (CO)	91	197	-106	0.46	20.0	51.7	5	7	5	4	2	2
Salt Lake City	71	290	-219	0.24	0.4	1.4	6	3	10	6	6	5
Denver	35	224	-189	0.16	0.1	0.6	7	5	9	7	8	8
Santa Fe	35	103	-68	0.34	1.5	5.6	7	11	3	5	4	4
San Diego	30	186	-156	0.16	0.1	0.5	9	9	7	7	9	9
Seattle	25	187	-162	0.13	0.1	0.4	10	8	8	11	11	10
Colorado Springs	16	113	-97	0.14	0.2	1.3	11	10	4	9	7	6

Note: In order to be displayed, a migration flow either to or from the Gallup CZ must have been at least 100.

Source: Calculated from data from https://migrationpatterns.org/.

TABLE 7
YOUNG-ADULT MIGRATION BETWEEN THE YUMA COMMUTING ZONE AND SELECTED OTHER COMMUTING ZONES

Commuting Zone	Number of Migrants			Effic-iency	Migration Rate		Rank Among the 10 Commuting Zones in This Table: Number of Migrants			Effic-iency	Migration Rate	
	In	Out	Net		In	Out	In	Out	Net		In	Out
Los Angeles	2,110	2,463	-353	0.86	1.2	1.4	1	1	9	3	4	5
San Diego	729	2,266	-1,537	0.32	2.6	6.6	2	2	10	10	1	1
San Jose	298	318	-20	0.94	1.4	1.6	3	4	2	1	2	4
Las Vegas	213	362	-149	0.59	1.2	1.7	4	3	7	6	3	3
Fresno	185	196	-11	0.94	1.1	1.3	5	7	1	1	6	6
Sacramento	138	171	-33	0.81	0.5	0.6	6	8	3	4	7	7
Seattle	103	221	-118	0.47	0.3	0.5	7	6	6	7	8	9
Bakersfield	102	151	-49	0.68	1.2	1.9	8	9	4	5	5	2
San Francisco	86	235	-149	0.37	0.2	0.5	9	5	7	9	9	8
Denver	47	115	-68	0.41	0.2	0.3	10	10	5	8	10	10

Note: In order to be displayed, a migration flow either to or from the Yuma CZ must have been at least 100.

Source: Calculated from data from https://migrationpatterns.org/.

YOUNG-ADULT MIGRATION IN ARIZONA COMMUTING ZONES BY INCOME QUINTILE

Table 8 presents overall young-adult migration efficiency by income quintile for each of Arizona's commuting zones. In the Phoenix CZ, migration efficiency was highest in the lowest income quintile and lowest in the highest quintile. In contrast, the migration efficiency in the Flagstaff CZ was much higher in the highest quintile than the lowest quintile. In the Tucson CZ, migration efficiencies were slightly higher in the two highest quintiles than in the other three quintiles.

The share of the total number of young-adult migrants contributed by each of the income quintiles is shown in Table 9 for each Arizona CZ. Across the nation, the shares generally are lowest in the bottom income quintile and highest in the top income quintile, reflecting the increase in mobility with income. This is the pattern in the Phoenix and Tucson CZs, as well as for in-migration to the Flagstaff CZ. In contrast, the relationship was reversed in the Gallup and Yuma CZs.

TABLE 8
YOUNG-ADULT MIGRATION EFFICIENCY BY INCOME QUINTILE, ARIZONA COMMUTING ZONES

Commuting Zone	Total	Lowest Quintile	Second Quintile	Middle Quintile	Fourth Quintile	Highest Quintile
Phoenix	1.78	1.95	1.80	1.89	1.85	1.55
Tucson	1.30	1.26	1.27	1.25	1.38	1.31
Flagstaff	1.06	0.82	0.92	0.98	1.02	1.66
Gallup	0.44	0.48	0.44	0.42	0.36	0.47
Safford*	0.89	1.11	1.03	0.83	0.60	1.20
Yuma	0.72	0.77	0.77	0.66	0.70	0.64

* The migration efficiencies by income quintile are based on small numbers of migrants.

TABLE 9
SHARE OF TOTAL YOUNG-ADULT MIGRATION BY INCOME QUINTILE, ARIZONA COMMUTING ZONES

Commuting Zone	Lowest Quintile		Second Quintile		Middle Quintile		Fourth Quintile		Highest Quintile	
	In	Out	In	Out	In	Out	In	Out	In	Out
Phoenix	17%	15%	18%	18%	20%	19%	21%	20%	24%	28%
Tucson	15	16	18	18	20	21	22	21	24	24
Flagstaff	15	19	17	19	22	24	21	22	25	16
Gallup	34	32	27	27	20	20	12	14	7	7
Safford*	20	16	21	18	24	27	19	28	16	11
Yuma	28	27	23	21	21	23	17	17	11	12

Note (Tables 8 and 9): Intrastate migration between Arizona's six commuting zones is not included.

* The shares are based on small numbers of migrants by income quintile.

Source (Tables 8 and 9): Calculated from data from https://migrationpatterns.org/.

YOUNG-ADULT MIGRATION IN THE PHOENIX COMMUTING ZONE BY INCOME QUINTILE AND STATE

This analysis is limited to the Phoenix CZ since the number of young-adult migrants is generally quite small for the other Arizona CZs when divided into both income quintiles and states.

As noted in the previous section, young-adult migration efficiencies in the Phoenix CZ were higher in the lowest income quintile than in the highest quintile. This overall pattern results from higher efficiencies in the lowest income quintile than in the highest quintile with a minority of states, but this list includes each of the four most-populous states: California, Texas, New York, and Florida. Nearly all of the other states displaying this pattern are located in the southern portion of the country. In contrast, young-adult migration efficiency in the Phoenix CZ was much stronger in the higher income quintiles than the lower quintiles with most of the states in the two North Central divisions. The Phoenix CZ's migration efficiencies by income quintile and state are provided in Table 10.

Migration flows between the Phoenix CZ and other populous commuting zones are large enough to examine the pattern of migration efficiency across income quintiles. In California, the San Diego CZ followed the pattern of the state, with the Phoenix CZ having higher migration efficiencies in the lower income quintiles than the higher quintiles. Some California CZs displayed a unique pattern of very little migration, particularly in-migration to the Phoenix CZ, in the lowest quintile, along with extremely low efficiencies. Otherwise, efficiencies with the Los Angeles, San Jose, and San Francisco CZs were lower in the two highest quintiles than in the second and middle quintiles.

TABLE 10
YOUNG-ADULT MIGRATION EFFICIENCY BETWEEN THE PHOENIX COMMUTING ZONE AND OTHER COMMUTING ZONES AGGREGATED BY STATE, BY INCOME QUINTILE

		Income Quintile				
	Total	**Lowest**	**Second**	**Middle**	**Fourth**	**Highest**
INTERSTATE TOTAL	1.78	1.95	1.80	1.89	1.85	1.55
PACIFIC						
Alaska	1.52	0.77	1.20	1.44	1.79	2.32
California	2.07	2.90	2.40	2.49	1.86	1.35
Hawaii	1.09	1.32	1.00	1.34	1.13	0.79
Oregon	1.19	1.20	1.05	1.21	1.37	1.12
Washington	1.23	0.97	1.01	1.31	1.45	1.27
MOUNTAIN						
Colorado	0.90	0.87	0.91	0.95	0.95	0.85
Idaho	1.44	1.11	1.19	1.64	1.66	1.41
Montana	1.62	1.71	1.40	1.67	1.96	1.40
Nevada	1.94	1.72	1.87	2.16	2.12	1.86
New Mexico	2.27	2.10	2.17	2.47	2.42	2.28
Utah	1.01	1.15	0.88	1.27	1.20	0.78
Wyoming	1.77	0.73	1.22	1.99	2.84	2.15
WEST SOUTH CENTRAL						
Arkansas	1.03	1.30	1.09	0.89	0.93	0.94
Louisiana	1.31	2.20	1.38	1.36	0.90	0.79
Oklahoma	0.86	1.14	0.87	0.71	0.88	0.74
Texas	0.95	1.21	1.08	0.93	0.79	0.81
WEST NORTH CENTRAL						
Iowa	2.89	1.53	2.25	2.98	3.70	3.66
Kansas	1.61	1.29	1.26	1.68	1.89	2.00
Minnesota	3.35	1.97	2.56	2.72	4.69	4.23
Missouri	2.07	1.96	2.02	1.96	1.93	2.42
Nebraska	2.49	1.15	2.42	2.88	3.05	3.02
North Dakota	1.29	0.65	0.79	1.27	1.84	1.78
South Dakota	2.66	1.63	1.84	2.32	4.25	3.54
EAST NORTH CENTRAL						
Illinois	3.51	3.32	3.28	3.64	3.89	3.43
Indiana	3.20	2.36	2.85	3.22	3.80	3.68
Michigan	5.77	5.27	5.40	5.09	5.86	7.10
Ohio	3.39	2.87	3.10	3.52	4.04	3.37
Wisconsin	3.73	2.48	2.53	3.54	5.65	4.58
NEW ENGLAND						
Connecticut	3.12	2.47	2.71	2.87	3.61	3.36
Maine	3.64	3.00	3.59	3.96	4.83	2.83
Massachusetts	1.55	2.21	1.61	1.72	1.78	1.25
New Hampshire	3.33	2.13	3.92	2.89	3.55	3.86
Rhode Island	2.96	2.47	4.36	3.33	2.78	2.57
Vermont	3.42	2.75	3.00	5.09	1.88	1.59
MIDDLE ATLANTIC						
New Jersey	4.65	3.35	3.67	4.97	4.50	5.64
New York	1.47	2.12	2.01	1.60	1.72	0.94
Pennsylvania	3.36	2.72	2.89	3.27	4.11	3.62

(continued)

TABLE 10 (continued)
YOUNG-ADULT MIGRATION EFFICIENCY BETWEEN THE PHOENIX COMMUTING ZONE AND OTHER COMMUTING ZONES AGGREGATED BY STATE, BY INCOME QUINTILE

		Income Quintile				
	Total	**Lowest**	**Second**	**Middle**	**Fourth**	**Highest**
SOUTH ATLANTIC						
Delaware	2.28	2.61	2.94	1.84	2.63	1.95
District of Columbia	0.87	0.86	0.82	1.02	0.73	0.90
Florida	1.35	1.78	1.41	1.48	1.26	1.02
Georgia	1.29	1.71	1.44	1.19	0.93	1.30
Maryland	1.86	2.32	1.92	1.75	1.31	2.10
North Carolina	0.89	1.19	0.98	1.03	0.85	0.63
South Carolina	1.05	1.48	1.45	0.89	1.07	0.68
Virginia	1.14	1.32	1.00	1.07	1.26	1.12
West Virginia	2.68	2.25	2.44	3.36	3.82	1.92
EAST SOUTH CENTRAL						
Alabama	1.68	2.15	1.95	1.70	1.38	1.29
Kentucky	1.31	1.26	1.27	1.16	1.35	1.51
Mississippi	2.41	3.27	2.88	1.63	1.70	2.29
Tennessee	0.95	1.31	1.06	1.06	0.85	0.67

Notes:
Shaded cells indicate that migration flows to and from the Phoenix CZ were less than 100.
State totals are approximate since some CZs cross state lines.

Source: Calculated from data from https://migrationpatterns.org/.

INTRASTATE MIGRATION OF YOUNG ADULTS IN ARIZONA

The Phoenix CZ received a net inflow of young adults from each of the other five Arizona CZs. The Tucson CZ had a net inflow except from the Phoenix CZ. In contrast, the Gallup CZ had a net outflow to each of the other Arizona CZs and the Yuma CZ received a net inflow only from the Gallup CZ. The migration efficiencies between each pair of Arizona CZs are shown in Table 11.

In the Phoenix CZ, young-adult migration efficiency with the Flagstaff and Tucson CZs was strongest in the lowest income quintile and weakest in the highest quintile. The Phoenix CZ had slight net out-migration to the Flagstaff CZ in the top income quintile. The Tucson CZ also experienced a slight net outflow to the Flagstaff CZ in the top income quintile.

TABLE 11
INTRASTATE MIGRATION EFFICIENCY OF YOUNG ADULTS, ARIZONA COMMUTING ZONES

	Phoenix	Tucson	Flagstaff	Gallup	Safford	Yuma
Phoenix	-	1.50	1.63	5.96	1.58	5.49
Tucson	0.67	-	1.14	4.10	2.00	4.42
Flagstaff	0.62	0.88	-	2.34	0.89	3.81
Gallup	0.17	0.24	0.43	-	0.26	0.70
Safford	0.63	0.50	1.12	3.81	-	2.00
Yuma	0.18	0.23	0.26	1.43	0.33	-

Note: Shaded cells indicate that the number of migrants was less than 100 in at least one direction.

Source: Calculated from data from https://migrationpatterns.org/.

TOTALS FOR SELECTED COMMUTING ZONES

In 26 of the nation's 709 commuting zones, the young-adult population exceeded 175,000. A summary of interstate migration totals for each of these 26 CZs is provided in Table 12, with the CZs listed in order of migration efficiency.

The Denver CZ stands out with by far the highest young-adult migration efficiency among the 26 populous CZs. It also had the highest in-migration rate and the highest net migration rate. The Seattle CZ ranked second on migration efficiency and the net migration rate, and fourth on the in-migration rate. The Phoenix CZ ranked third on migration efficiency and the net migration rate, and fifth on the in-migration rate.

In general, the ranks on efficiency and the net migration rate are highly correlated. Less correlation is present between the efficiency and the in- and out-migration rates. For example, the Houston CZ ranks seventh on efficiency but only 19th on the in-migration rate. However, it has the lowest out-migration rate. In contrast, the Washington D.C. CZ, which ranks ninth on efficiency, ranked second on the in-migration rate but had the fourth-highest out-migration rate.

Ten of the 13 populous CZs in the Pacific, Mountain, West South Central, and South Atlantic divisions had migration efficiencies of young adults greater than 1; the exceptions were Los Angeles, Miami, and Sacramento. In the rest of the country, 10 of the 13 populous CZs had efficiencies of less than 1, but New York, Boston, and Minneapolis were exceptions.

Table 13 provides a migration summary for those commuting zones with between 75,000 and 174,999 young adults located in 10 western states (Arizona, California, Colorado, Idaho, Nevada, New Mexico, Oregon, Texas, Utah, and Washington) and five South Atlantic states (Florida, Georgia, North Carolina, South Carolina, and Virginia). In addition, three less-populous western CZs are included: Boise, Colorado Springs, and Provo. The total number of selected CZs in Table 13 is 29.

Among these 29 CZs, the Austin CZ had the highest migration efficiency, due largely to the lowest out-migration rate. The Provo CZ ranked second on both efficiency and the net migration rate. Colorado Springs ranked third on efficiency despite having one of the highest out-migration rates; it had the highest in-migration rate. The Tucson CZ ranked in the middle of the selected CZs: 15th on efficiency and 13th on the net migration rate.

Among the 55 commuting zones listed in Tables 12 and 13, several are geographically adjacent to another. In some of the neighboring CZs, the migration metrics (efficiency, in-, out-, and net migration rates) are similar, but in other cases the metrics are considerably different:

- Phoenix and Tucson: Phoenix ranked high on each metric, with figures superior to those in Tucson.
- San Diego and Los Angeles: Though the out-migration rates were similar, San Diego had a much higher in-migration rate, and thus a much higher efficiency and net migration rate, ranking among the leaders on each metric.
- San Jose and San Francisco: San Francisco compared more favorably than San Jose on each measure, ranking among the leaders on each.

TABLE 12
INTERSTATE MIGRATION OF YOUNG ADULTS, MOST-POPULOUS COMMUTING ZONES*

Commuting Zone	Migration Efficiency	Migration Per 1,000 Young Adults			Rank Migration Per 1,000 Young Adults			
		In	Out	Net	Migr Effic	In	Out^	Net
Denver	2.52	410	163	247	1	1	6	1
Seattle	1.83	322	176	146	2	4	8	2
Phoenix	1.78	316	178	138	3	5	10	3
San Diego	1.76	256	146	110	4	8	5	5
San Francisco	1.68	201	120	81	5	11	2	7
Dallas	1.59	198	125	73	6	12	3	9
Houston	1.49	163	109	54	7	19	1	10
New York	1.47	260	177	83	8	7	9	6
Washington DC	1.42	400	282	118	9	2	23	4
Atlanta	1.38	288	208	80	10	6	14	8
Boston	1.18	253	214	39	11	9	15	11
Baltimore	1.08	372	343	28	12	3	25	12
Minneapolis	1.02	193	190	3	13	13	11	13
Los Angeles	0.90	127	142	-15	14	22	4	14
Miami	0.84	166	199	-33	15	18	12	15
Chicago	0.81	183	225	-42	16	14	16	16
St. Louis	0.78	208	267	-59	17	10	21	17
Pittsburgh	0.69	177	257	-80	18	15	20	20
Cincinnati	0.68	175	256	-82	19	17	19	21
Philadelphia	0.66	138	207	-69	20	21	13	18
Sacramento	0.54	93	171	-78	21	25	7	19
Bridgeport	0.50	177	354	-177	22	15	26	25
Newark	0.44	150	340	-190	23	20	24	26
Cleveland	0.43	117	270	-153	24	23	22	24
Buffalo	0.40	102	254	-152	25	24	18	22
Detroit	0.36	84	236	-152	26	26	17	22

* The 26 commuting zones in the nation with a young-adult population of at least 175,000, listed in order of migration efficiency.
^ Ranked in inverse order.

Source: Calculated from data from https://migrationpatterns.org/.

TABLE 13
INTERSTATE MIGRATION OF YOUNG ADULTS, SELECTED COMMUTING ZONES*

Commuting Zone	Migration Efficiency	Migration Per 1,000 Young Adults In	Out	Net	Migr Effic	Rank Migration Per 1,000 Young Adults In	Out^	Net
Austin	3.17	265	84	181	1	12	1	3
Provo	2.73	345	126	219	2	5	4	2
Colorado Springs	2.01	509	254	256	3	1	26	1
Raleigh	1.97	316	160	156	4	8	9	5
Charlotte	1.76	314	178	136	5	9	13	7
Portland	1.69	338	200	138	6	6	20	6
Las Vegas	1.64	434	264	170	7	2	28	4
San Antonio	1.62	163	101	62	8	24	2	14
Salt Lake City	1.61	248	154	94	9	15	8	9
Virginia Beach	1.50	375	249	126	10	4	25	8
Jacksonville FL	1.43	267	187	80	11	11	14	10
Fort Worth	1.37	175	128	47	12	22	5	17
Orlando	1.37	264	193	71	13	13	16	11
Tampa	1.33	254	192	62	14	14	15	14
Tucson	1.30	271	208	63	15	10	21	13
Greenville SC	1.26	223	177	46	16	20	12	18
Boise	1.25	330	263	67	17	7	27	12
Eugene	1.24	240	194	46	18	16	17	18
Columbia SC	1.18	381	324	58	19	3	29	16
El Paso	1.14	226	198	28	20	19	18	20
Richmond	1.09	216	198	18	21	21	18	21
Port St. Lucie FL	1.02	235	230	5	22	17	24	22
Albuquerque	1.02	228	223	5	23	18	23	23
Greensboro NC	0.99	166	168	-2	24	23	11	24
San Jose	0.97	137	140	-3	25	25	7	25
Brownsville	0.51	57	113	-56	26	29	3	26
Bakersfield	0.48	79	163	-84	27	26	10	28
Fresno	0.47	61	129	-68	28	28	6	27
Modesto	0.29	63	216	-153	29	27	22	29

* The 26 commuting zones in 15 Western and South Atlantic states with a young-adult population of between 75,000 and 174,999, plus three less-populous CZs (Boise, Colorado Springs, and Provo), listed in order of migration efficiency.
^ Ranked in inverse order.

Source: Calculated from data from https://migrationpatterns.org/.

- Bakersfield, Fresno, Modesto, and Sacramento: Each of these CZs ranked near the bottom on efficiency, in-migration rate, and net migration rate; Modesto also had a high out-migration rate.
- Eugene and Portland: Though the out-migration rates were similar, Portland had a higher in-migration rate, and thus a higher efficiency and net migration rate, ranking among the leaders on each of these three metrics.
- Provo and Salt Lake City: Though Salt Lake City ranked above the middle of the CZs on each measure, Provo ranked near the top.
- Colorado Springs and Denver: Denver and Colorado Springs ranked near the top on efficiency, in-migration rate, and net migration, but on the out-migration rate, Denver ranked near the top and Colorado Springs near the bottom.
- Fort Worth and Dallas: Dallas's figures, which were above the middle of the CZs, were a little higher than those of Fort Worth on each measure.
- San Antonio and Austin: The two CZs had low out-migration rates, but the in-migration rate, and therefore net migration rate and efficiency, were considerably higher in Austin, which ranked near the top except on the in-migration rate.
- Tampa and Orlando: each CZ ranked near the middle on each measure.
- Miami and Port St. Lucie: Except for the out-migration rate, Port St. Lucie had somewhat higher figures than Miami.
- Columbia and Greenville: The efficiency and net migration rates were similar, but Columbia had much higher in-migration and out-migration rates.
- Greensboro and Raleigh: The out-migration rates were similar, but the in-migration rate, and therefore net migration rate and efficiency, were considerably higher in Raleigh, which ranked among the leaders on each measure.
- Washington D.C. and Baltimore: The figures for Washington were better than those for Baltimore on each measure; Washington ranked among the leaders except on the out-migration rate.
- Newark, New York, and Bridgeport: New York compared much more favorably on each metric; the figures were similar for Newark and Bridgeport.

TOTALS BY INCOME QUINTILE FOR SELECTED COMMUTING ZONES

The 55 commuting zones identified in the prior section are examined in this section by income quintile. In order to evaluate the pattern of migration efficiencies across the income quintiles, a single "efficiency score" was calculated as the sum of (the difference in the efficiency between the highest quintile and the lowest quintile) and (the difference in the efficiency between the second-highest quintile and the second-lowest quintile). The higher the value of the efficiency score, the stronger the efficiencies in the higher quintiles relative to the lower quintiles. These scores, and the rank among the 55 CZs, are presented in Table 14 with the CZs organized by division of the country. However, a strong relationship is not present between the efficiency scores and divisions.

In the Pacific division, efficiency scores were high in the four coastal CZs but were negative in the remaining CZs. In the Mountain division, most of the CZs had a negative efficiency score, but Provo and Denver ranked in the top five. The Tucson CZ had a slightly positive score, ranking 21st among the 55 CZs, but the Phoenix CZ's score was negative, ranking 39th. In Texas, in the West South Central division, the efficiency score ranked in the top 10 in the Austin and El Paso CZs, but in the bottom 10 in the Dallas, Fort Worth, and Houston CZs.

In the South Atlantic division, the efficiency score was positive in most of the CZs, but the Atlanta CZ had the third lowest value. In the country's northern divisions, most of the CZs had a negative efficiency score, but the New York CZ had the highest score, and Boston and Chicago also had positive scores.

The efficiency score was positive in 24 of the 55 CZs, with the score by far the highest in the New York CZ. Its efficiency was only 0.61 in the lowest quintile but was 2.88 in the highest quintile, the third-highest value among the 55 CZs; New York's overall efficiency was 1.47.

Over the 55 CZs, there was a weak relationship between overall migration efficiency and the efficiency score (a correlation coefficient of 0.29). Provo, Austin, Denver, and San Francisco had high efficiency scores and high overall efficiencies, but Los Angeles and Chicago had high efficiency scores but overall efficiencies of less than 1. Colorado Springs and Seattle had high overall efficiencies but among the lowest efficiency scores.

Essentially no correlation exists between the efficiency score and measures of prosperity or between the efficiency score and measures of STEM (science, technology, engineering, and mathematics) intensity. However, some correlation exists between the overall migration efficiency of young adults and measures of STEM intensity (correlations of around 0.35).

TABLE 14
INTERSTATE MIGRATION OF YOUNG ADULTS BY INCOME QUINTILE, SELECTED COMMUTING ZONES BY REGION

	Efficiency Score*	Rank
PACIFIC		
Seattle	-0.77	51
Portland	-0.23	33
Eugene	-0.13	29
San Francisco	0.91	6
San Jose	0.42	17
Los Angeles	1.08	4
San Diego	0.60	11
Sacramento	-0.24	34
Modesto	-0.24	34
Fresno	-0.03	26
Bakersfield	-0.11	28
MOUNTAIN		
Boise	-0.36	40
Salt Lake City	-0.21	32
Provo	2.07	2
Las Vegas	-0.29	37
Phoenix	-0.35	39
Tucson	0.16	21
Denver	0.99	5
Colorado Springs	-1.58	55
Albuquerque	-0.62	46
WEST SOUTH CENTRAL		
El Paso	0.87	8
Austin	1.18	3
San Antonio	-0.03	26
Brownsville	0.50	15
Dallas	-0.71	49
Fort Worth	-1.15	54
Houston	-0.84	52
WEST NORTH CENTRAL		
Minneapolis	-0.68	48
St. Louis	-0.01	25
EAST NORTH CENTRAL		
Chicago	0.88	7
Detroit	-0.15	30
Cleveland	-0.32	38
Cincinnati	-0.65	47
NEW ENGLAND		
Boston	0.48	16
Bridgeport	-0.72	50
MIDDLE ATLANTIC		
Pittsburgh	-0.53	43
Buffalo	-0.59	45
New York	3.46	1
Newark	-0.50	42
Philadelphia	-0.28	36
SOUTH ATLANTIC		
Baltimore	0.04	24
Washington D.C.	0.41	18
Richmond	-0.54	44
Virginia Beach	-0.15	30
Raleigh	0.56	12
Greensboro	-0.36	40
Charlotte	0.13	22
Greenville SC	0.33	19
Columbia SC	0.32	20
Atlanta	-0.93	53
Jacksonville	0.08	23
Tampa	0.56	12
Orlando	0.81	9
Port St. Lucie	0.81	9
Miami	0.56	12

* The efficiency score is calculated as the sum of (the difference in the efficiency between the highest quintile and the lowest quintile) and (the difference in the efficiency between the second-highest quintile and the second-lowest quintile). The higher the value of the efficiency score, the stronger the efficiencies in the higher quintiles relative to the lower quintiles.

Source: Calculated from data from https://migrationpatterns.org/.