Utahns on the Move:
State and County Migration Age Patterns

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Analysis in Brief

Utahns are on the move. Approximately one in every six Utahns changed residences in 2016, mirroring a national trend of high mobility. As the Utah economy has grown, diversified, and become more globally integrated, the state has emerged as a net in-migration destination.

Utah migration patterns vary over time and by geography (counties). Migration is also impacted by economic performance and structure, natural resources (including recreational), and major events (such as the Olympics).

In this report, we provide analysis of Utah's migration history, signature migration characteristics for the 2000-2010 decade, and county migration trends by county typology and stages of life.

Key Findings

Utah's migration history

- **Cyclical migration: 1940 to about 1970** –States in the Inter-mountain West, including Utah, remained relatively small, geographically isolated, economically specialized, and vulnerable to boom and bust cycles.
- **In-migration emergence: 1970-2000** – The 1970s marked a new era of economic growth and diversification for Utah. Cumulative net in-migration contributed to 37 percent of the state's population growth during the decade. After a recession and net out-migration in the 1980s, the state experienced robust population growth in the 1990s with net in-migration contributing 42 percent of the increase during the decade.

- **Major events: 2000-2010** – Three events left a major imprint on the migration patterns of the 2000s: the 2002 Olympic Winter Games, 9-11/dot.com recession, and the Great Recession.

Signature migration characteristics: 2000-2010

- **Net in-migration destination-especially for young adults and retirees** –Utah has emerged as a net in-migration destination, and especially attracts young adults and retirees on a net in-migration basis. Utah is also trending with the nation towards a more diverse and older population.

County migration trends: 2000-2010

- **Urban shift south** – Population growth shifted southward from Salt Lake to Utah County. Utah County experienced strong net in-migration and natural increase over the decade, adding more residents than the more populous Salt Lake County.
- **Southwestern growth** – Washington and Iron counties experienced significant net in-migration, attracting young adults, families, and especially retirees.
- **Migration typologies** – Utah county-level migration typologies include Coal, College, Large Metro, Oil and Gas, Ring, Rural, Tourism/Recreation, and Composite.
- **Life stage migration** – Utah counties experience varying life-stage migration from emerging adults, young adults, family age, and older adults.

Summary of County Migration Typologies and Life Stage Migration

Typology	Counties	Life Stage Migration	
		In-Migration	Out-Migration
Coal	Carbon, Emery	Retirement	Emerging Adult, Young Adult
College	Cache, Iron, Sanpete	Emerging Adult	Young Adult
Oil and Gas	Duchesne, Uintah	Family	Emerging Adult, Young Adult
Large Metro	Salt Lake	Young Adult	Family
Ring	Box Elder, Davis, Juab, Morgan, Tooele, Summit, Wasatch	Family	Emerging Adult, Young Adult
Rural	Beaver, Daggett, Millard, San Juan, Sevier, Wayne	Family, Retirement	Emerging Adult, Young Adult
Tourism/ Recreation	Garfield, Grand, Kane, Rich	Family, Retirement	Emerging Adult, Young Adult
Composite	Utah, Washington, Weber		

Source: Kem C. Gardner Policy Institute

Utah Population Components of Change Contributions, 1940-2010

Period	Natural Increase	Net Migration
2000-2010	72%	28%
1990-2000	58%	42%
1980-1990	100%	0%
1970-1980	63%	37%
1960-1970	100%	0%
1950-1960	94%	6%
1940-1950	93%	7%

Component Share of Population Increase

■ Natural Increase ■ Net Migration
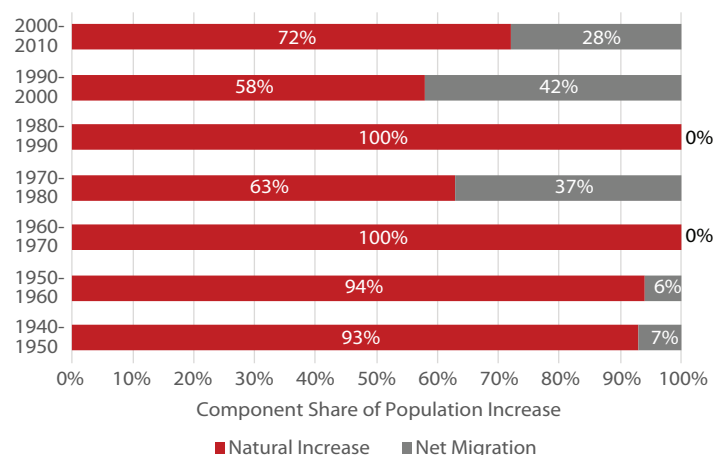
Source: Utah Population Estimates Committee

Introduction

Migration: a Demographic Force

Americans move an average of 11 times over their lives, the highest mobility rate among developed countries.[1] Utahns are also on the move, with about one in every six changing residences in 2016, and over half those moving within the same county.[2] Regardless of distance, residential mobility influences real estate markets, population dynamics, and regional economies.

Compared to births and deaths, migration is often the major contributor to short term demographic change[3]. The in and outflows of individuals directly alters the age and sex composition of an area, especially in smaller geographies. Migration can also reshape the ethnic, cultural, and socioeconomic characteristics of a region, and often influences local economic conditions.[4] Since 1990, Utah's economic growth and diversification have attracted sustained net in-migration to the state as the population surpassed 3 million. From 1990 to 2010, the state gained roughly one million new residents. One-half of that growth has come from new people migrating to Utah and the children they have had once settled in the state.[5]

Migration within the state -- between communities, counties, and regions -- is complicated and shifting dynamically. Further, the reasons for and likelihood that people move residences evolve throughout their lives. Finally, economic conditions, social change, and generational shifts interact with these forces and factors that influence migration patterns across time and geography. When age-specific migration patterns persist for decades, the cumulative demographic and economic impacts are significant. Communities may have the opportunity to sustain or reshape these historical migration patterns.

This research provides historical context for state and county level migration patterns for Utah. We identify migration trends from 1950 to 2010 for Utah, then compare Utah's migration rates for 2000–2010 to those of other states. Next, we group Utah counties with similar overall migration patterns into seven typologies and relate these to ongoing economic and demographic transformations. Then we analyze individual life stages of migration (rather than their entire migration pattern) to recognize which counties have the strongest in/out net migration of the various life-stage groups. Together, these separate but interrelated analyses create a multifaceted and nuanced view of the economic and demographic impacts of migration in Utah. Lastly, we compiled age-specific migration signatures that detail historical migration rates (1950-2010) and context for all of Utah's counties (Appendix 1). These migration patterns provide unique insights into how local economic and institutional dynamics have influenced the size and shifting age structure of their respective populations.

Why Do People Move?

People change residential locations for a wide variety of reasons. These can include life transitions, changing economic circumstances, and relative educational and recreational opportunities. All of these relocation decisions occur within the dynamic contexts of real estate markets, transportation options and costs, and neighborhood characteristics. Life events and ties to relatives and communities further complicate decisions about exactly which place to call home.

An extensive literature documents migration motives, characteristics of migrants, geographic migration patterns, and shifts over time .[6] Housing issues have long been the most common reason for moving. Housing affordability drives much of the inter-county and city migration, but also is an important determinant of long-distance retirement migration. Family considerations, such as a change in marital status or the establishment of an independent household, are also common reasons people move. Employment-related reasons include moving to a new job, locating closer to a current job, and retirement. Higher skilled and more lucrative jobs draw applicants from national and even international labor pools. In Utah, religious service is a significant reason for migration, especially among young adults. Other common reasons for moving are to attend college or university, changes in health, and the consequences of natural disasters.[7]

How Do We Measure Migration?

Migration is challenging to estimate, but it is of great importance due to its effects on different geographic areas. There is no comprehensive data set that tracks individual moves to and from all areas. Migration data is notoriously incomplete, inconsistent, and unreliable. All of these factors complicate migration research and limit the measurement precision of migration.

There are three standard measures of migration flows: in-migration, out-migration, and net-migration; all estimated over a specified time (see Table 1). In-migration is a gross flow of the number of people who moved into an area, out-migration is the gross flow of the number who moved out of an area, and net migration is the difference between in- and out-migration. Net migration is positive (net in-migration) when the number of in-migrants exceeds the number of out-migrants, and negative (net out-migration) when the number of out-migrants exceeds the number of in-migrants. Net migrants are not directly observable – we cannot identify and enumerate them, but net migration is by far the most commonly used measure of migration. Appendix 2 presents further detail on migration measurement and methodologies.

Table 1: Migration Defined

In-Migration	The number of individuals that moved into an area
Out-Migration	The number of individuals that moved out of an area
Net Migration	The number of in-migrants minus the number of out-migrants. • A positive number indicates *net in-migration* • A negative number indicates *net out-migration*

Source: Kem C. Gardner Policy Institute

Our study focuses on age-specific net migration rates for Utah and its counties from 2000 to 2010. We also include an analysis of decadal data from 1950-2010 (Appendix 1).

Life Stages Influence Migration Decisions

Individuals have different propensities to migrate throughout their lives. These life stage patterns vary by geography depending upon the differential characteristics of regions and communities. People come and go from areas based on their life circumstances and community contexts as well as the location, opportunities, and features of potential destinations.

We analyze migration patterns that correspond to four particular life stages: emerging adults, young adults, family age, and older adults. These stages are one of many established analytical frameworks for demographic research.

Emerging adults, ages 15-24

These newly independent individuals are transitioning into adulthood. They may be leaving home to form an independent household, attend college, join the military, serve a religious mission, or pursue employment. Regardless of the reasons, this age group is quite mobile and more likely to move long distance, including international destinations. In Utah, missionary migration (predominantly for The Church of Jesus Christ of Latter-day Saints) significantly influences the state's global migration patterns and university student migration.

Young adults, ages 25-29

Once individuals have become independent, the next migration stage is often to establish in a household with secure employment. If they have completed higher education, they generally move from the university community for employment, unless the higher education institution is in a large metro area. This highly mobile age group tends to migrate to the core of large urban areas.

Family age, ages 5-14 and 30-49

Once young adults transition to full adulthood, they establish families and/or have different lifestyles. Family age migration is typically bimodal, meaning there is a peak in the middle adulthood ages (the parents) and a corresponding peak in the early childhood ages (their children). The desire for affordable housing, larger homes and lots, and family-friendly amenities tends to attract young families to the suburbs and can result in lengthy commutes to jobs in the urban core.

Older adults, ages 50-74

Many older adults eventually receive retirement benefits, including income and medical insurance. Independent income enables many to leave the labor market and change residential locations. Older persons generally "age in place," but retirement migration is a reality for many communities. Typically, retirement destinations are places with scenic beauty, recreation opportunities, favorable tax policies, and places that have established retirement communities and amenities.

How to Interpret the Migration Rates in this Study

Our research utilizes decadal net migration rates by age and sex made publicly available by the Applied Population Lab at the University of Wisconsin, Madison. Net migration rates, rather than raw numbers of net migrants, are useful for making comparisons across populations of all sizes. These rates are the estimated number of net-migrants per 100 total residents of a given age group. For example, Utah's net-migration rate for the decade of the 2000s for those ages 15 to 19 is 11.75 per 100. For every 100 people in Utah age 15-19 in 2000, there were 11.75 net in-migrants aged 15-19 in Utah in 2010. If that number were negative, the interpretation would instead indicate net-out migration of that age group. Gross in and out-migration flows are larger magnitudes compared to the net difference of the two, but are not available nor explored in this study.

Utah's Migration History

From 1940 to about 1970, states in the Intermountain West, including Utah, remained relatively small, geographically isolated, and economically specialized in classic western economic sectors such as mining and agriculture that were vulnerable to boom and bust cycles. Utah experienced in and out migrations as the state's relatively specialized economy experienced these cyclical fluctuations. The population continued to grow during this period as cumulative decadal natural increase drove population growth while net migration was much more volatile and on average contributed far less growth. Over the 20th Century, natural increase fueled population growth with Utah's consistently high fertility rates and a young population. The state reached the 1 million resident milestone in 1966.

Figure 1: Utah Population Components of Change Contributions, 1940-2010
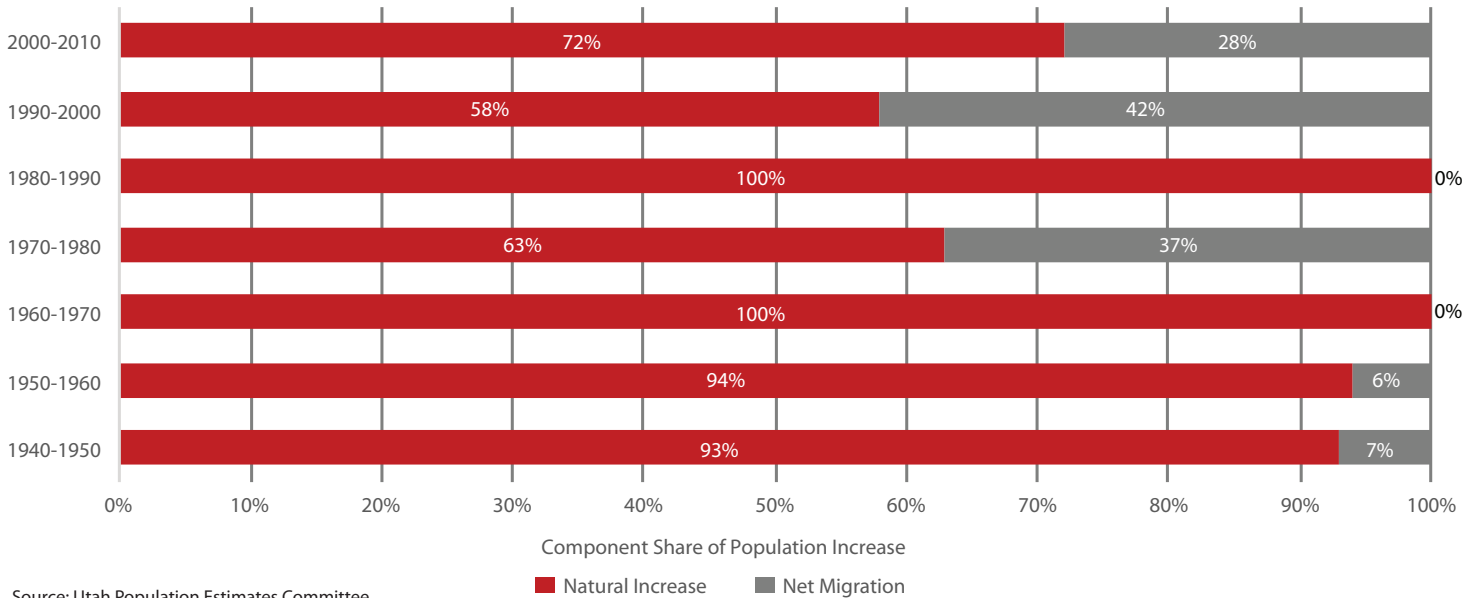

Component Share of Population Increase

■ Natural Increase ■ Net Migration

Source: Utah Population Estimates Committee

Figure 2: Utah Annual Absolute and Percent Population Growth, 2000-2010

■ Absolute Growth — Percent growth

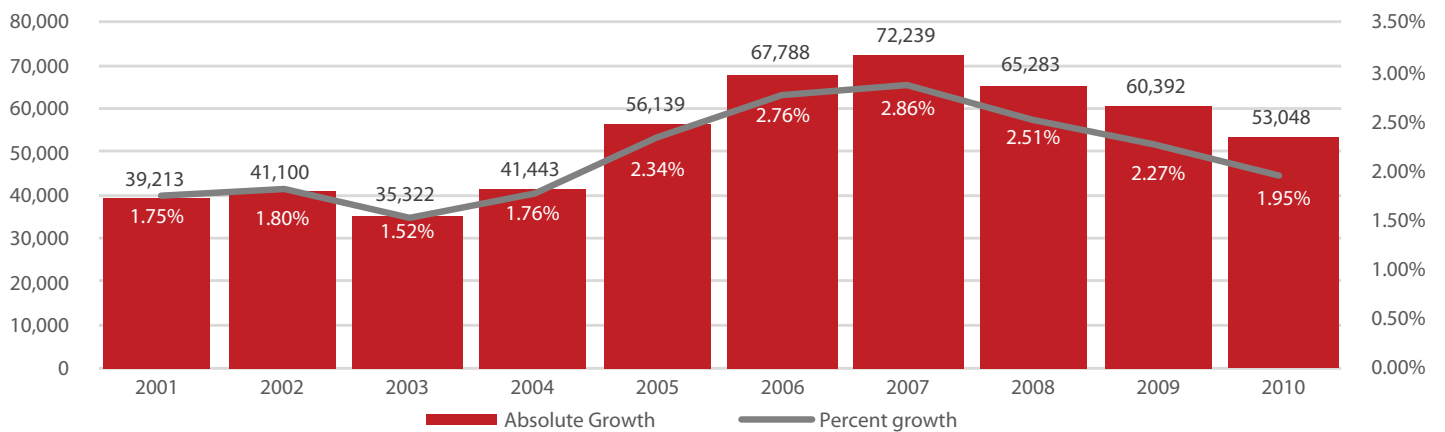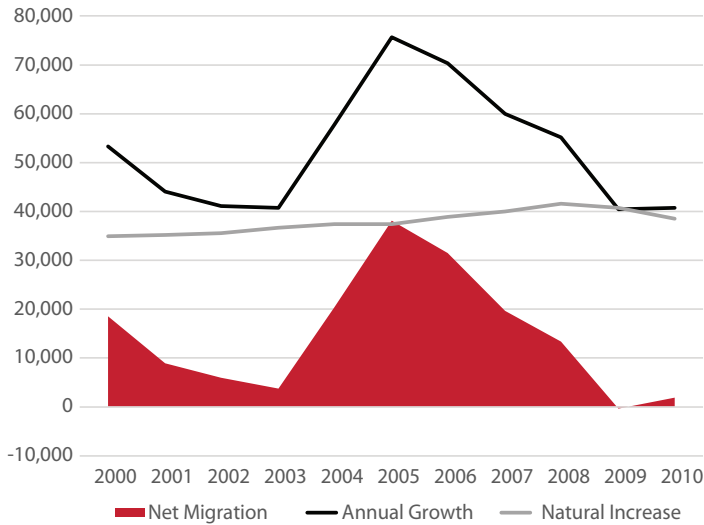Source: U.S. Census Bureau, Population Division: Intercensal Estimates

Table 2: Utah Decadal Population Growth, 2000-2010

	2000 Population	2010 Population	Absolute Difference	Percent Difference
State of Utah	2,233,169	2,763,885	530,716	23.8%

Source: U.S. Census Bureau, Decennial Census

Figure 3: Utah Components of Population Change, 2000-2010

Source: Utah Population Estimates Committee

Utah Emerges as an In-Migration State: 1970-2000

The 1970s marked a new era of economic growth and diversification for Utah. Among these many emerging industries was the development of a dynamic technology sector. Utah entrepreneurs and innovators, often collaborating with researchers at the University of Utah and Brigham Young University, created software and hardware firms supporting a growing scientific and technical labor force. The state's population surpassed one million, and cumulative net in-migration contributed 37 percent of the state's ten-year population growth.

The 1980s began with a severe recession accompanied by high unemployment and significant net-out migration. Mass layoffs occurred in mainstay industries, such as energy and mining. Major employers, including Kennecott Copper and Geneva Steel, suspended operations. This recession of the early 1980s was the

last to result in a significant net out-migration from Utah. Utah's young population, high fertility rate, and a historic peak in births in 1982 (which far exceeded the number of deaths) combined to contribute 100% of state population growth in the 1980s.

The 1990s were a period of accelerated economic growth and development across a wider range of industries, and intensification of global interconnections. Firms in the greater Wasatch Front metropolitan region produced a greater share of goods and services purchased by Utah residents. The tourism sector attracted increasing visitation and employed a growing labor force, both in urban and rural locations. Preparations for the 2002 winter Olympic games accelerated and induced investment in a wide range of facilities and infrastructure. The state experienced robust population growth in the 1990s with strong net in-migration that contributed 42 percent of that increase. Migrants came increasingly from international source regions contributing to its ethnic, linguistic, and cultural diversity. Utah achieved its 2 million resident population milestone in 1995.

Before and During the Great Recession: 2000-2010

Three defining events shaped migration patterns over the 2000s: the 2001 recession caused by the Dot-Com bubble crash and 9-11 attacks, the 2002 Winter Olympic Games, and the Great Recession. Once past the 9-11/Dot-Com recession, Utah resumed its economic growth and diversification as it also expanded and intensified global connections. For much of the 2000s, a series of favorable events and conditions elevated Utah's status as a desirable destination. The 2002 Winter Olympics increased Utah's global profile and accelerated and induced major construction projects and infrastructure development. This growth was concentrated on or along the Wasatch Front, but also extended to the southwest corner of the state.

The state experienced strong growth (Figure 2) and net in-migration until the 2007 global financial crisis and onset of the

Figure 4: Utah Historical Age-Specific Migration Rates, 1950-2010
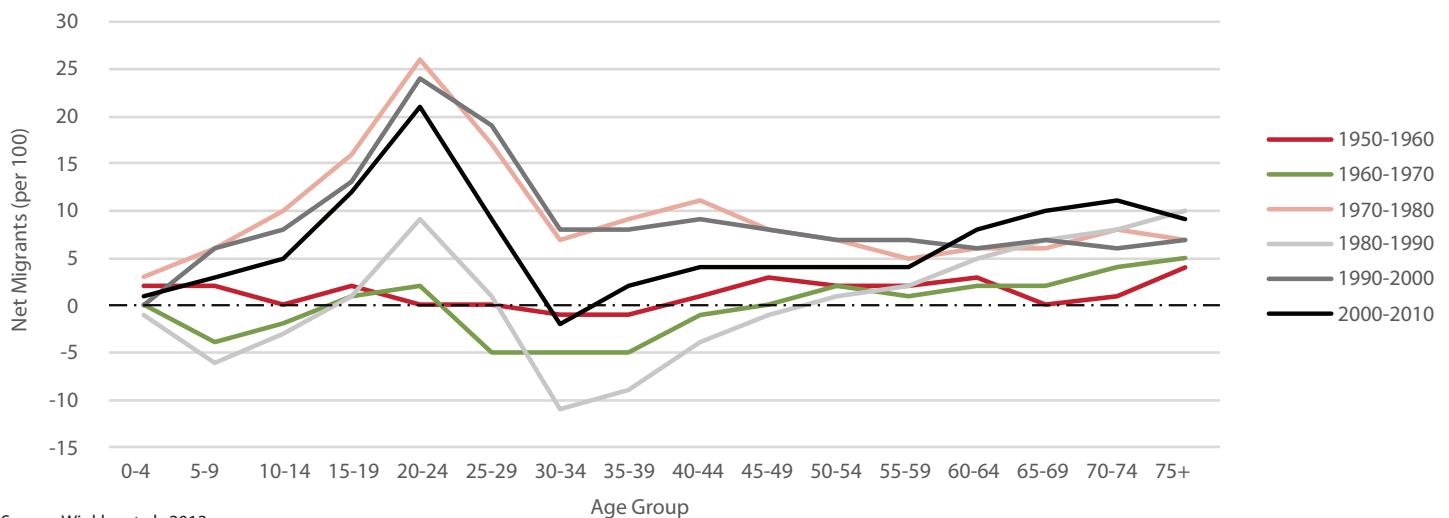
Source: Winkler et al., 2013

Great Recession, which reached its trough in 2010. From 2008 through 2010, migration came to a near standstill in Utah and across the nation (see Figure 3). Net migration contributed 28 percent of the population growth in the 2000s, even as net in-migration stopped by 2009. The initial recession, economic expansion, and subsequent reversal coincide with the rise and fall of net migration over the decade.

Since 2010, the Utah economy has rebounded as it attracts migrants, both domestic and international. Utah surpassed the 3 million resident milestone in 2015, and the growth dynamic remains strong. Births and fertility peaked at the onset of the Great Recession and continue to decline. As births have fallen and deaths increased, natural increase remains positive, but

declining. Although the economic expansion and population growth are currently well established, the demographic imprint of the Great Recession remains today.

The decadal migration rates examined in this study do not fully capture the economic fluctuations over the intervening decade. The rates are changes between the beginning and end of the decade. All decadal comparisons presented in this study have this limitation, so it is important to historically contextualize each decadal rate with intervening events and conditions. Figure 4 illustrates how this migration history of Utah has shaped the decadal age-specific migration rates for the State of Utah from 1950-2010.

## Utah's Signature Migration Demographics: 2000-2010

State-level results for the 2000 to 2010 decade reveal that Utah especially attracts young adults and retirees on a net in-migration basis. During this decade, net migration rates were low or slightly negative for those in the family stage. Overall, these patterns show that Utah has almost no net out-migration across age groups, and on balance attracts and retains its residents.

Over time, as the Utah economy has grown, diversified, and become more globally integrated, the state has emerged as a net in-migration destination. This migration continues to become increasingly international in scope, introducing and contributing to the state's cultural, linguistic, and ethnic diversity. While Utah maintains its signature demographics of youthfulness and larger household sizes, it is also trending with the nation towards a more diverse and older population. Cumulatively, migration is responsible for much of Utah's ongoing demographic transformation.[8] In contrast to patterns before 1970, Utah has established a strong dynamic of growth and net in-migration.

Age-specific migration patterns from 2000 to 2010 illustrate Utah's signature demographics. The unique migration patterns of young adults are evidence of the dominance of the Mormon Culture Region.[9] Universities and the Missionary Training Center (MTC) bring in thousands of emerging adults. Thousands leave Utah to serve religious missions then return. Single-year data best demonstrates this, but the 5-year data is also illustrative. Beyond college and mission years, there is a deceleration of net in-migration or even net out-migration. Migration rates then accelerate into net in-migration and gradually increase over middle and late adulthood and into the retirement migration years.

The migration rate patterns across sexes reveal an almost identical migration schedule. The emerging adult age group shows female migration rates as only slightly higher than male migration rates in Utah. These patterns may illustrate the differential religious service timing and participation rates of males and females, although single-year data is required to

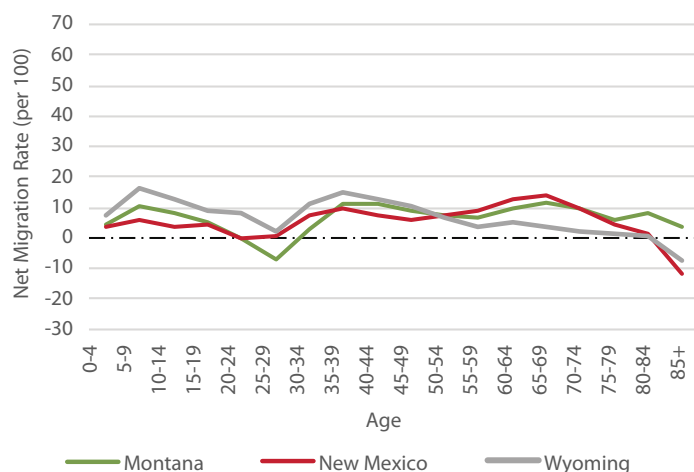**Figure 5: Utah Age and Sex-Specific Migration Rates, 2000-2010**
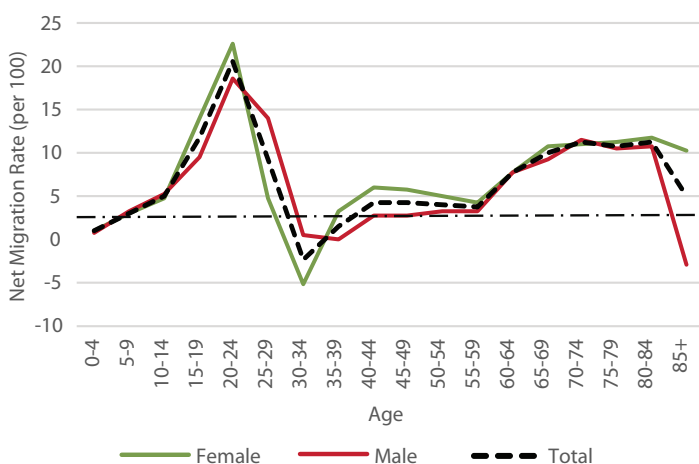
Source: Winkler et al., 2013

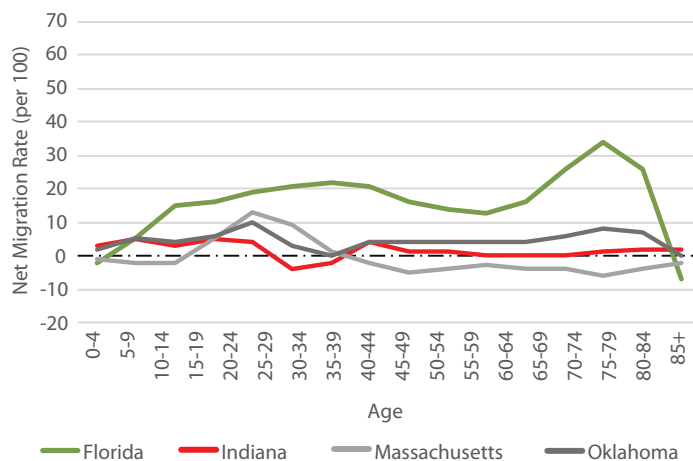**Figure 6: Age-Specific Migration Rates in High Growth Intermountain States, 2000-2010**
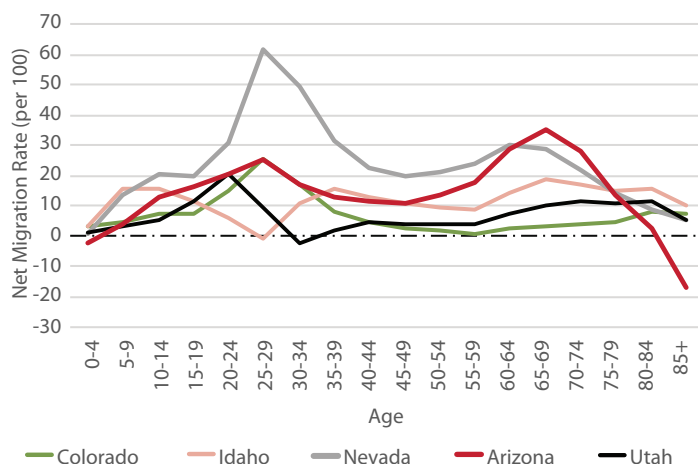
Source: Winkler et al., 2013

Figure 7: Age-Specific Migration Rates in Low Growth Intermountain States, 2000-2010

Source: Winkler et al., 2013

Figure 8: Age-Specific Migration Rates in Selected Other States, 2000-2010

Source: Winkler et al., 2013

make a more definitive determination. The migration differences between the sexes virtually disappear for individuals in the older adult age categories, though there is a sharp divergence in the 85+ age group that signals differential but quite low migration rates among the very elderly.

How Does Utah's Migration Compare to that of Other States from 2000 to 2010?

Migration patterns often correspond to relative economic opportunity and conditions. States and regions with the highest rates of economic growth generally attract migrants at the highest rates. The mean center of the nation's population has gradually shifted south and west. This persistent westward migration has contributed significantly to the population growth of intermountain states.[10] Since 1990, migration rates have been especially high in Nevada and Arizona. The other source of population change, natural increase, is less volatile from year to year. It changes according to age structure, fertility rates, and mortality rates. Below we examine a selection of state migration rates for 2000 to 2010 to illustrate similarities and differences in patterns.

Utah and the rest of the Intermountain West (defined as Arizona, Colorado, Idaho, Montana, Nevada, New Mexico, Utah, and Wyoming) have experienced similar growth dynamics. However, we identify two clear groups of states based on the intensity of the growth dynamic. Figure 6 shows the 2000 to 2010 migration rates for the more consistent and rapid growth states (Arizona, Colorado, Idaho, Nevada, and Utah). Their net migration rates illustrate that there is almost no net out-migration in any of the age groups for any of the five states (except for Utah at ages 30-34, Idaho at ages 25-29, and Arizona at 85+). However, Wyoming, Montana, and New Mexico have

had slower rates of growth as compared to the rest of the region, but still little net out-migration (see Figure 7).[11]

Among these five states, Nevada dominates the region with the highest net migration rates for the majority of the age groups (particularly in the young adult age group). Arizona, Colorado, Utah, and Idaho have slightly differing high points in net migration over the life course. Idaho shows higher net in-migration for the family age groups (young children and middle-aged adults) and the older adult age category, whereas Utah shows high net in-migration in the college-age category, and Colorado peaks in the young adult age group. There are well-established migration flows between the intermountain states, and these affect the migration signatures.[12]

In the figure above we examine migration rates for selected states outside of the Intermountain West to illustrate different migration signatures. Florida has high net in-migration across age groups, peaking in the retirement ages due to the significant retirement migration to the Sunshine State. Massachusetts imports students to its well-known higher education institutions and has its migration peak in the college years, but net out-migration in the family ages and beyond. Indiana has stable, albeit low, net in-migration except for the young adult population, while Oklahoma peaks in the college-age group and again towards the retirement ages. These diverse patterns map to economic conditions and amenities that correspond to overall and life-stage migration patterns.

State-level data is instructive, but most Utah migration occurs within the state. County-level patterns help illuminate age-specific dynamics and county conditions that create and perpetuate the local population characteristics within Utah. The following section highlights the migration patterns within Utah at the county level.

County Population Trends: 2000-2010

All counties in Utah experienced population increases from 2000 to 2010. However, growth rates and migration's contribution to overall population change varied widely between counties. Washington and Wasatch counties increased by more than 50 percent, with two-thirds of that growth contributed by net in-migration. At the other extreme, Carbon, Emery, Millard, and San Juan counties all experienced net out-migration and grew less than five percent with all increase coming from natural increase.

Counties such as Wasatch, Tooele, Morgan, and Davis experienced significant growth and residential development. These counties are home to many young families and individuals that often commute out-of-county to work in the Wasatch Front Region. These households often desire more space and more affordable living arrangements that are often not provided by the large metro county. Net migration contributed at least a third of the population growth of these counties.

Salt Lake County maintains its role as the economic heart of Utah and continues to draw the largest number of in-commuters. Its population increased by 15 percent and surpassed one million residents during this decade. This growth came completely from natural increase, with cumulative net out-migration for the decade.

Utah County added more residents than the much more populous Salt Lake County over this decade. It experienced both strong net in-migration and natural increase. The Wasatch Front metropolitan region growth dynamic shifted southward from Salt Lake to Utah County.

Southwestern Utah continued its run of robust population growth in this decade. Washington and Iron counties attracted young adults, families, and especially retirees. Both counties relied heavily on net in-migration for their population increase in the 2000s.

Table 3: County Population, Net Migration, and Growth, 2000-2010

County (ranked fastest growth to slowest)	2000 Population	2010 Population	Absolute Difference	Percent Difference	Total Net Migration	Net Migration Share of Population Growth
Wasatch County	15,215	23,530	8,315	54.7%	5,450	66%
Washington County	90,354	138,115	47,761	52.9%	32,635	68%
Tooele County	40,735	58,218	17,483	42.9%	9,448	54%
Utah County	368,536	516,564	148,028	40.2%	53,786	36%
Iron County	33,779	46,163	12,384	36.7%	5,993	48%
Morgan County	7,129	9,469	2,340	32.8%	1,506	64%
Duchesne County	14,371	18,607	4,236	29.5%	2,046	48%
Uintah County	25,224	32,588	7,364	29.2%	3,702	50%
Davis County	238,994	306,479	67,485	28.2%	23,750	35%
Juab County	8,238	10,246	2,008	24.4%	793	39%
Cache County	91,391	112,656	21,265	23.3%	1,875	9%
Sanpete County	22,763	27,822	5,059	22.2%	2,677	53%
Summit County	29,736	36,324	6,588	22.2%	2,464	37%
Kane County	6,046	7,125	1,079	17.8%	810	75%
Weber County	196,533	231,236	34,703	17.7%	8,235	24%
Box Elder County	42,745	49,975	7,230	16.9%	1,500	21%
Rich County	1,961	2,264	303	15.5%	116	38%
Daggett County	921	1,059	138	15.0%	74	54%
Salt Lake County	898,387	1,029,655	131,268	14.6%	-1,561	N/A
Wayne County	2,509	2,778	269	10.7%	69	26%
Sevier County	18,842	20,802	1,960	10.4%	276	14%
Beaver County	6,005	6,629	624	10.4%	3	0%
Garfield County	4,735	5,172	437	9.2%	166	38%
Grand County	8,485	9,225	740	8.7%	345	47%
Piute County	1,435	1,556	121	8.4%	103	85%
Carbon County	20,422	21,403	981	4.8%	-33	N/A
San Juan County	14,413	14,746	333	2.3%	-1,030	N/A
Emery County	10,860	10,976	116	1.1%	-897	N/A
Millard County	12,405	12,503	98	0.8%	-809	N/A
State of Utah	2,233,169	2,763,885	530,716	23.8%	153,598	29%

Source: U.S. Census Bureau, Decennial Census; Winkler et. Al, 2013

County Typologies

Migration within state boundaries is much more common than across states, so the county migration patterns are more pronounced than the state-level patterns.[13] Migration researchers have defined various county migration typologies that primarily relate to the rural-urban continuum.[14] We further refined these generalized approaches to develop seven migration typologies customized to capture the range of migration patterns among counties in Utah. These county typologies identify consistent age patterns of migration that shape the migration dynamics and age composition of the counties. Although every county is unique and has conditions that do not rigidly conform to these typologies, the categorizations provide a useful framework for understanding demographic trends and dynamics within Utah.

Figure 9: County Migration Typology Map

Typologies

- Coal Counties
- College Counties
- Large Metro County
- Oil and Gas Counties
- Ring Counties
- Rural Counties
- Tourism/Rec Counties
- Composite Counties

Source: Kem C. Gardner Policy Institute

We based our county typologies on the age-specific 2000 to 2010 migration signatures and the associated demographic patterns and economic characteristics. Three counties contain multiple typologies and are categorized as Composite. These are Utah, Washington, and Weber counties. Figure 9 maps the county typology groupings.

Large Metro

Large metros are the economic core and dominant downtown of the greater metropolitan region. The concentration of employment opportunities, urban amenities, and high-density housing attract young adults as residents. The daytime population swells as people commute in from surrounding residential Ring counties.

Salt Lake County, the Large Metro County in Utah, is the most populated county in the state, and the economic hub of both the Wasatch Front and Utah. Young adults migrate to Salt Lake County for employment and educational opportunities as well as access to a broad range of urban amenities not available elsewhere in Utah.

The migration signature and population pyramid of Salt Lake County show these migration dynamics (see Figures 10a and 10b). Population is concentrated in ages 25-29 and 30-34. In-migration rates are significant for the early adult years then out-migration dominates for family age populations. Higher housing prices in Salt Lake County and high-density living contribute to this family-age population net out-migration as many young families move to neighboring counties with more affordable housing and family-centered amenities such as parks, childcare, and youth-focused entertainment.

Ring

Seven counties constitute the Ring typology that surrounds the Large Metro area (Salt Lake County): Box Elder, Davis, Juab, Morgan, Summit, Tooele, and Wasatch counties. These counties attract many families who want more space and quieter living.

Wasatch, Tooele, and Morgan have been developing and rapidly growing over the last decade, while Davis and Summit have lower stable growth rates. Some of the Ring counties have sufficient employment to support their working residents, while others may rely on more out-of-county commuting to support the residential population.

The ring counties export many of their emerging adults and young adults to the college counties or other states, shown in the age migration patterns in Figure 11b. This migration pattern translates into a skinny "waist" in the population pyramid for the emerging and young adult ages, and larger populations in the family age groups (ages 5-14 and 30-49).
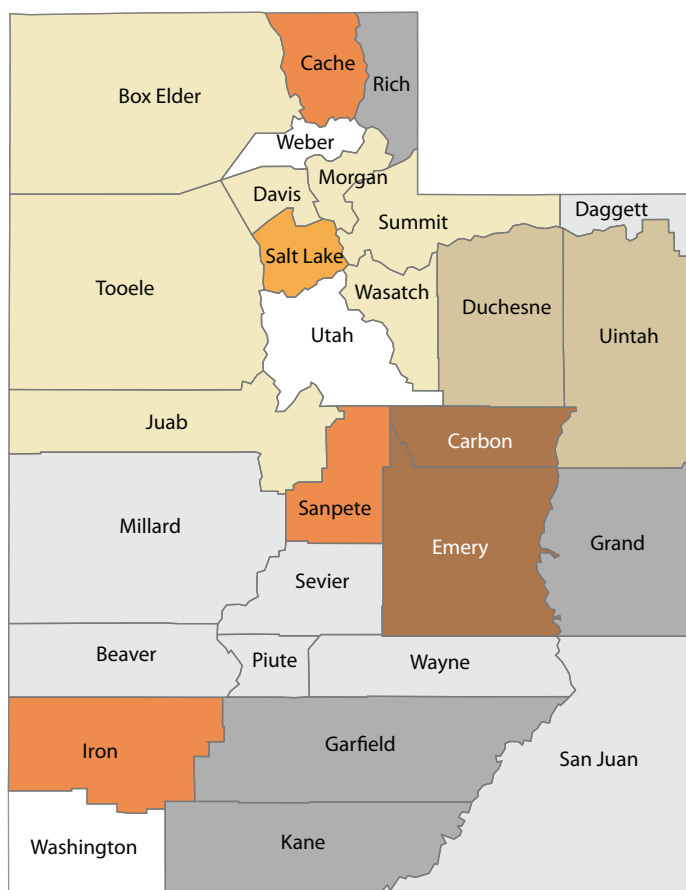
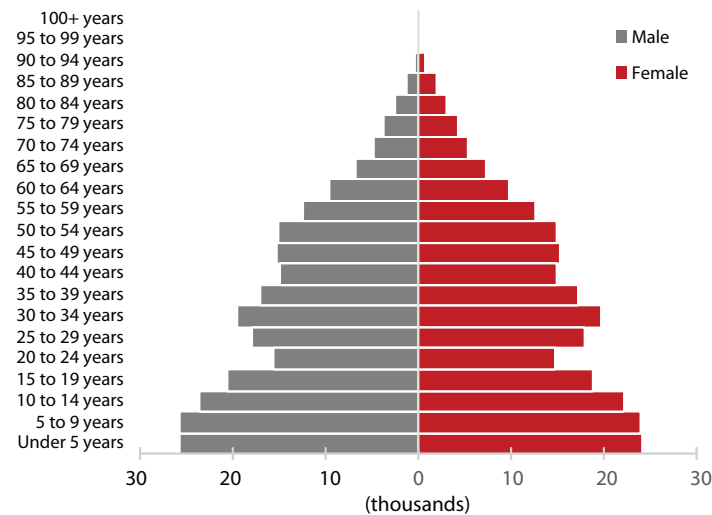## Figure 10a: Large Metro County: Census 2010 Population Pyramid
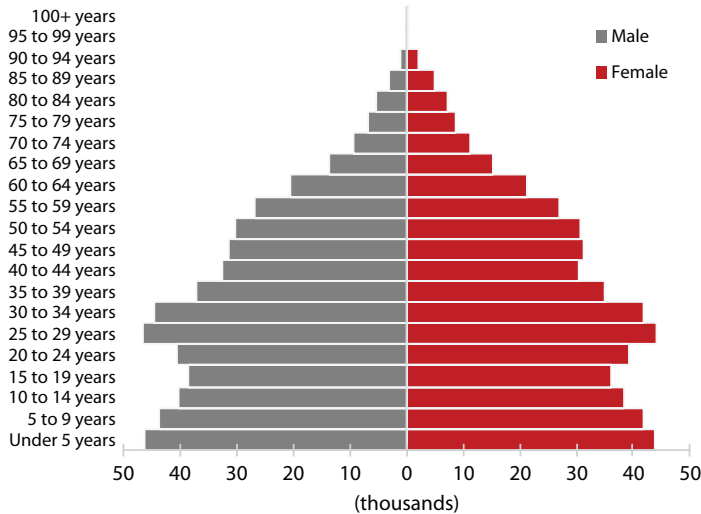
Source: U.S. Census Bureau

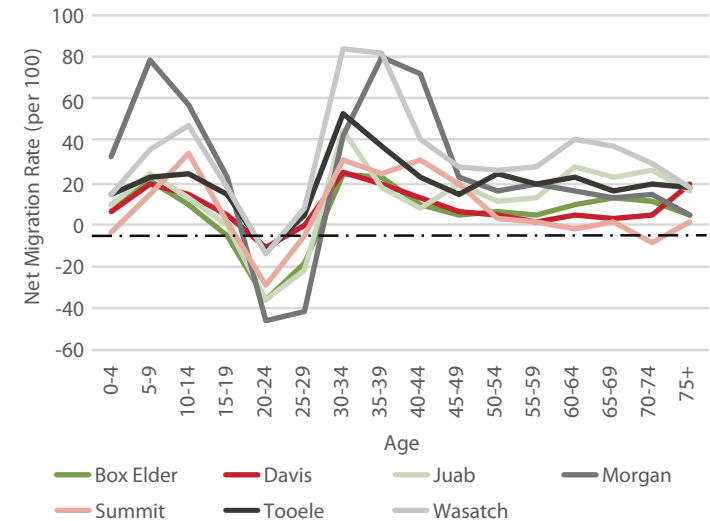## Figure 10b: Large Metro County Migration Rates, 2000-2010
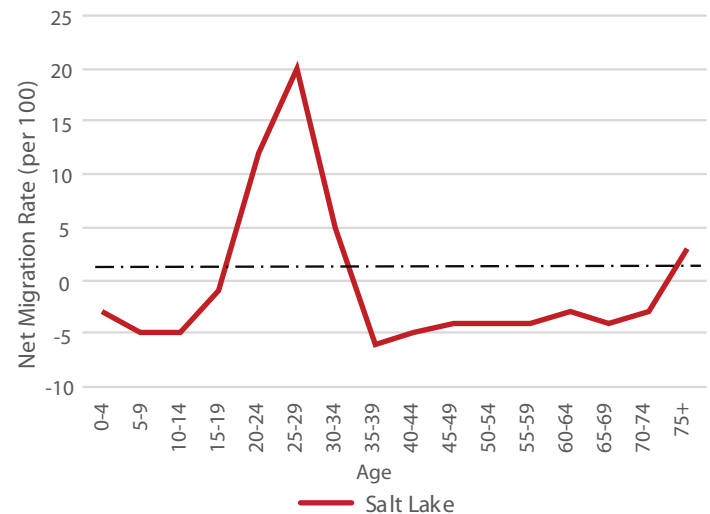
Source: Winkler et al., 2013

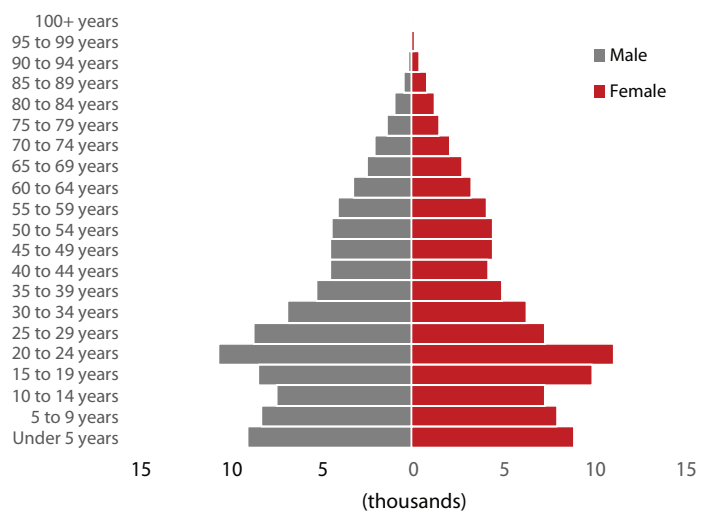## Figure 11a: Ring Counties: Census 2010 Population Pyramid

Source: U.S. Census Bureau

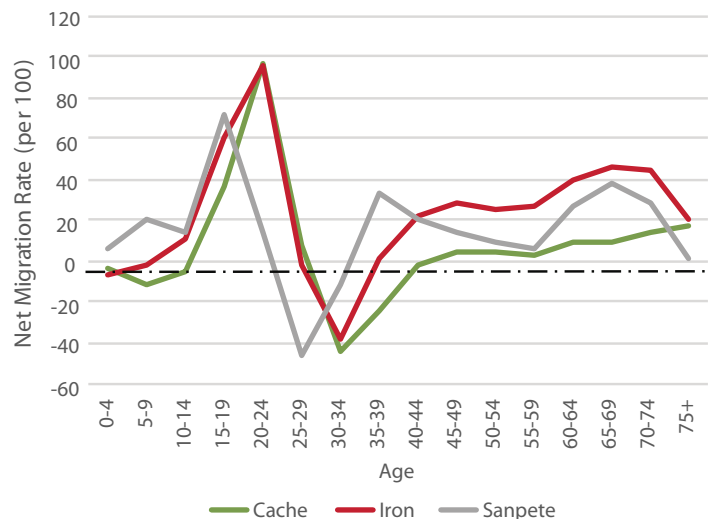## Figure 11b: Ring Counties Migration Rates, 2000-2010

Source: Winkler et al., 2013

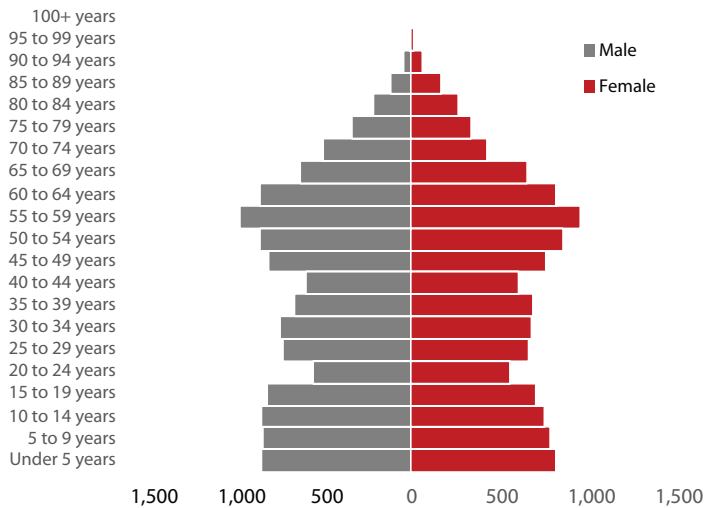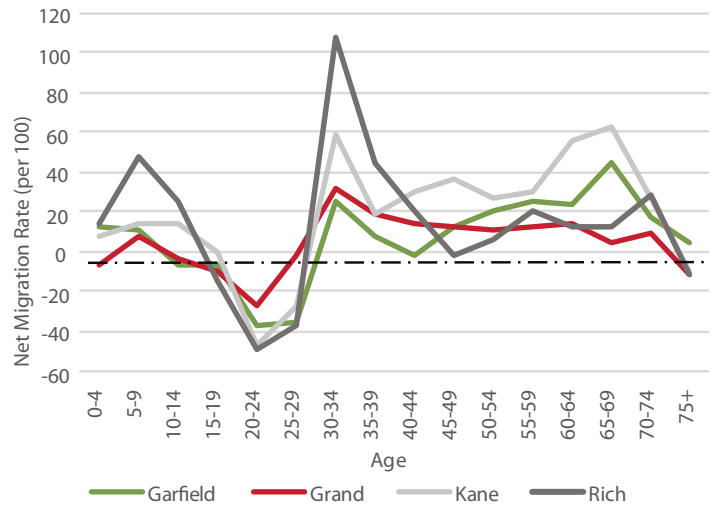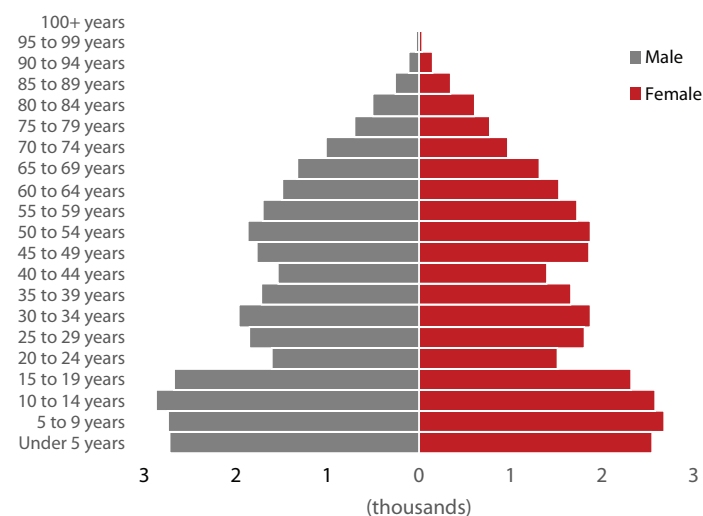## Figure 12a: College Counties: Census 2010 Population Pyramid

Source: U.S. Census Bureau

Figure 12b: College Counties Migration Rates, 2000-2010

Source: Winkler et al., 2013

Figure 13a: Tourism Counties: Census 2010 Population Pyramid

Source: U.S. Census Bureau

Figure 13b: Tourism Counties Migration Rates, 2000-2010

Source: Winkler et al., 2013

Figure 14a: Oil and Gas Counties: Census 2010 Population Pyramid
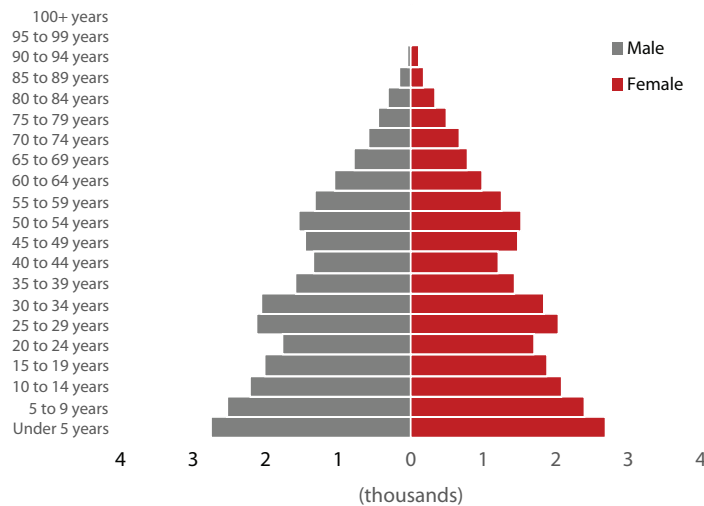
Source: U.S. Census Bureau

Figure 14b: Oil and Gas Counties Migration Rates, 2000-2010
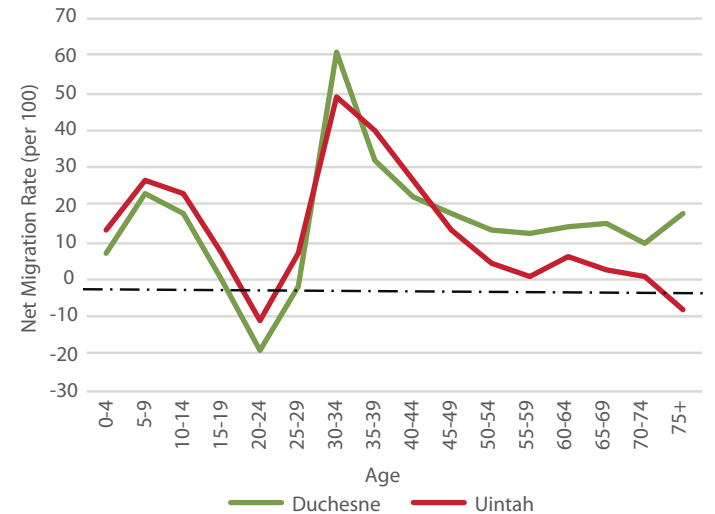
Source: Winkler et al., 2013

College

The College typology includes the counties with colleges and universities that are a mainstay of the economy and heavily impact the size and age structure of the population. Cache, Iron, and Sanpete counties have distinct demographics compared to other counties with colleges, such as Salt Lake, Weber, Utah, and Washington counties. These counties have a very large share of the college-age population, net in-migration of emerging adults, and net-out migration once that population ages into young adults and young families (see Figures 12a and 12b).

Tourism

Utah's natural wonders attract people from all over the world. Counties that fit into the Tourism typology are rural with econo-mies that are heavily dependent on tourism and recreation indus-tries: Garfield, Grand, Kane, and Rich counties. Rural landscapes

and less expensive housing make these counties particularly at-tractive for older age groups. However, the seasonal employment fluctuations and small-town life with limited employment and ed-ucational opportunities result in the out-migration of emerging and young adult populations. (see Figures 13a and 13b)

Oil and Gas

Duchesne and Uintah counties make up the Oil and Gas typology. The volatility of the energy sector drives the migration patterns and demographic landscapes of these counties. From 2000-2010, the oil and gas industries were thriving, and many families and working-age adults migrated into these areas for employment. If we examine the migration patterns above (see Figures 14a and 14b), we see a direct relationship between family age net in-migration and the corresponding age groups in the population pyramid.

Figure 15a: Coal Counties: Census 2010 Population Pyramid
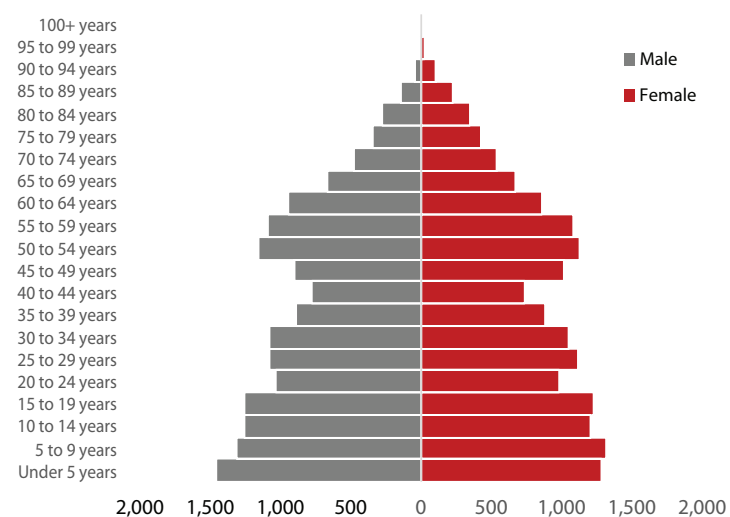
Source: U.S. Census Bureau

Figure 15b: Coal Counties Migration Rates, 2000-2010
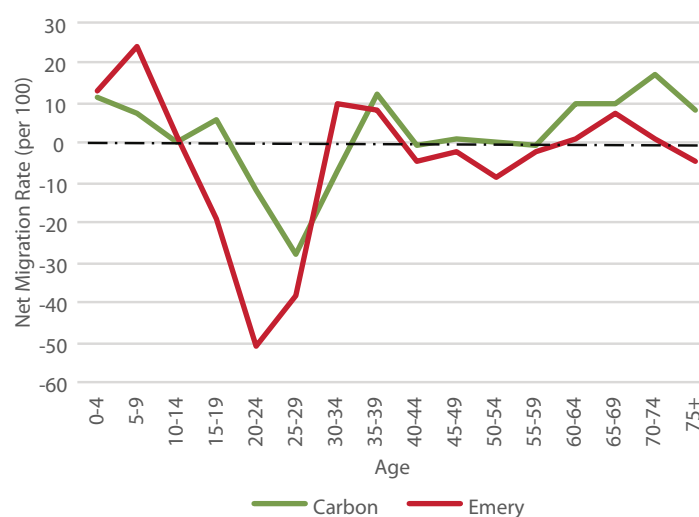
Source: Winkler et al., 2013

Figure 16a: Rural Counties: Census 2010 Population Pyramid

Source: U.S. Census Bureau

Figure 16b: Rural Counties Migration Rates, 2000-2010
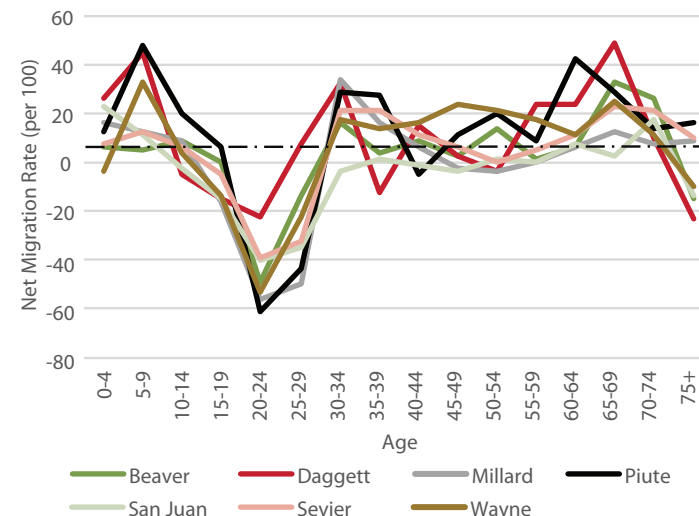
Source: Winkler et al., 2013

Coal

The once-dominant coal mining industry is in decline, resulting in net out-migration from the counties in the Coal typology. Carbon and Emery counties have not subsequently experienced an economic turnaround. The result is low migration rates for most age groups, and significant out-migration of emerging and young adults (see Figures 15a and 15b). The population pyramid demonstrates the larger share of older persons and a shortage of young adults. The presence of USU-Eastern mitigates some of the overall net out-migration of emerging adults.

Rural

The Rural typology includes Beaver, Daggett, Millard, Piute, San Juan, Sevier, and Wayne counties. These counties have classic rural migration and demographic signatures: net out-migration of their emerging and young adult populations, with an aging population pyramid (see Figures 16a and 16b). Families and older populations live in these rural counties, but many young people leave to find increased options for education or employment opportunities in other counties or states.

These county migration typologies present a birds-eye view of age-specific migration. They illustrate how the economy is partially a product of migration, but also how the economy drives migration (whether by bringing people in or forcing them to move away). Next, we take a closer look at specific migration life stages and discuss how they vary across counties.

Figure 17a: Composite Counties: Census 2010 Population Pyramid

Source: U.S. Census Bureau

Figure 17b: Composite Counties: Migration Rates, 2000-2010

Source: Winkler et al., 2013
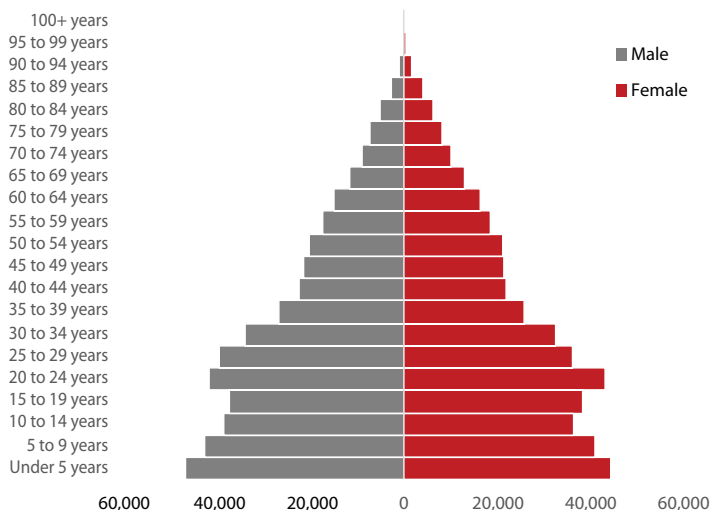
Composite Counties

The Composite counties have multiple typologies. Utah, Washington, and Weber counties each have unique combinations of institutions, economic drivers, and natural features that contribute to their migration patterns and demographic profiles.

From 2000 to 2010, Utah County grew by 148,028, accounting for 28% of the state's total population increase and 35% of total net in-migration. The population growth dynamic for the greater Wasatch Front metropolitan area has shifted from Salt Lake County into Utah County. Significant residential development accommodates a greater share of family age and also retirement age populations. These new residents find increasing economic opportunity within Utah County, including within the emerging employment center, Silicon Slopes. Residents also commute for employment opportunities in Salt Lake County.

Utah County's dominant and historic migratory draw is in the emerging and young adult age groups. This is the result of Brigham Young University (BYU), Utah Valley University (UVU), and the Missionary Training Center (MTC). BYU and the MTC draw many young people from out-of-state, and later export many once they have finished a degree or assignment. Although the population pyramid maintains a college county shape, the prominence of the college age population in the overall population has decreased over the past two decades. Utah County's net migration signature shows the classic college signature with college age in- and then out-migration. Slight net in-migration also occurs in the family ages and then somewhat increases into retirement ages, illustrating the significant residential population growth.
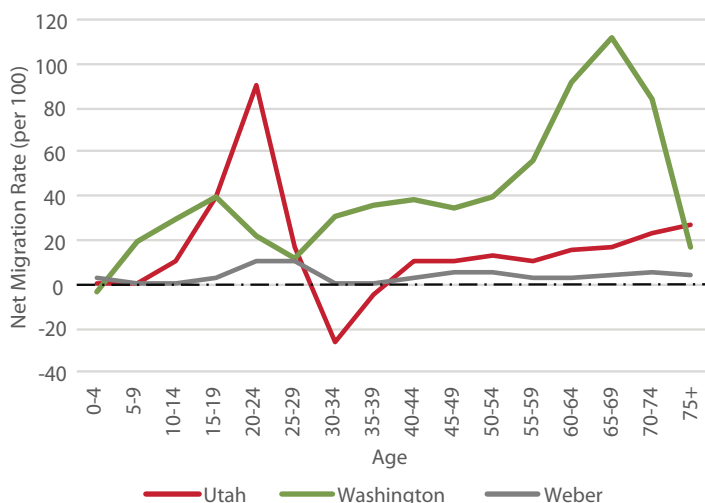
Washington County's rapid population growth rate is predominantly fueled by net in-migration. From 2000 to 2010, net in-migration contributed 68 percent of the county's population increase and 22% of the net migration to the state. Natural increase rates are lower because of its older population. The warm climate and natural beauty of the region has long been a draw for tourists and retirees. While it is remains a retirement destination, recent migration patterns indicate it is drawing people of all ages, though the highest net in-migration peak is in the retirement age groups. Regional economic growth and diversification provide increased capacity to support a greater number and share of family age populations.

Weber County has industry clusters in aerospace, transportation, and outdoor recreation as well as a range of local firms that cater to tourists and locals. Weber County's age migration signature reflects this mix of characteristics and conditions.

About one-quarter of the population growth in Weber County from 2000 to 2010 is from net in-migration. Its migration signature has the characteristics of at least two typologies. It has a net in-migration of young and emerging adults like a college county due to Weber State University. It also has a significant amount of out-commuting and net in-migration of ages 40-55, matching the ring county typology patterns. Hill Air Force Base, located in Davis County, continues to be a major employer and draws commuters from Weber County.

Life Stage Migration across Counties: 2000-2010

The overall migration patterns for individual counties provide an instructive view of net migration for a given geographic area. We can gain additional insight by considering migration of people through a life stage perspective, focusing on the specific life stages when individuals are more or less likely to change residential locations. We utilize the four particular life stages: emerging adults (ages 15-24), young adults (ages 25-29), family age (5-14, 30-49), and older adults (50-74). The exact life stage delineations correspond to our 5-year age group data set and provide a conceptual framework for understanding migration motivations and likelihoods across the life course of individuals.

Emerging Adults (age 15 through 24)

Examining this age group at the county level yields intuitive results: counties that have universities or colleges have the highest net in-migration rates in these ages. Only nine counties show net in-migration in this life stage, with 20 yielding net out-migration. Utah County, Iron County, Cache County, Sanpete County, and Washington County have the highest net in-migration rates of all counties in Utah.

Utah County has Brigham Young University (BYU), Utah Valley University (UVU), and the Missionary Training Center (MTC). BYU and the MTC, in particular, attract many people from around the state, nation, and world. The figure below demonstrates that much of this Utah County in-migration is occurring at ages 20 through 24.

The other four counties—Iron, Cache, Sanpete, and Washington—are popular destinations within Utah for postsecondary education outside of the Wasatch Front. Iron and Washington service the southern half of the state with Southern Utah University (SUU) and Dixie State University (DSU), while Utah State University (USU) in Cache attracts many students from out of state with their advanced degree programs and proximity to Southern Idaho. Snow College in Sanpete County has been rapidly growing, and offers a wide variety of degree programs, while also offering a central location for many of the counties

Figure 18: County Map of Emerging Adults Net Migration Rates (Ages 15-24), 2000-2010

Source: Winkler et al., 2013

Figure 19: Top Net In-Migration Counties- Emerging Adults (Ages 15-24), 2000-2010
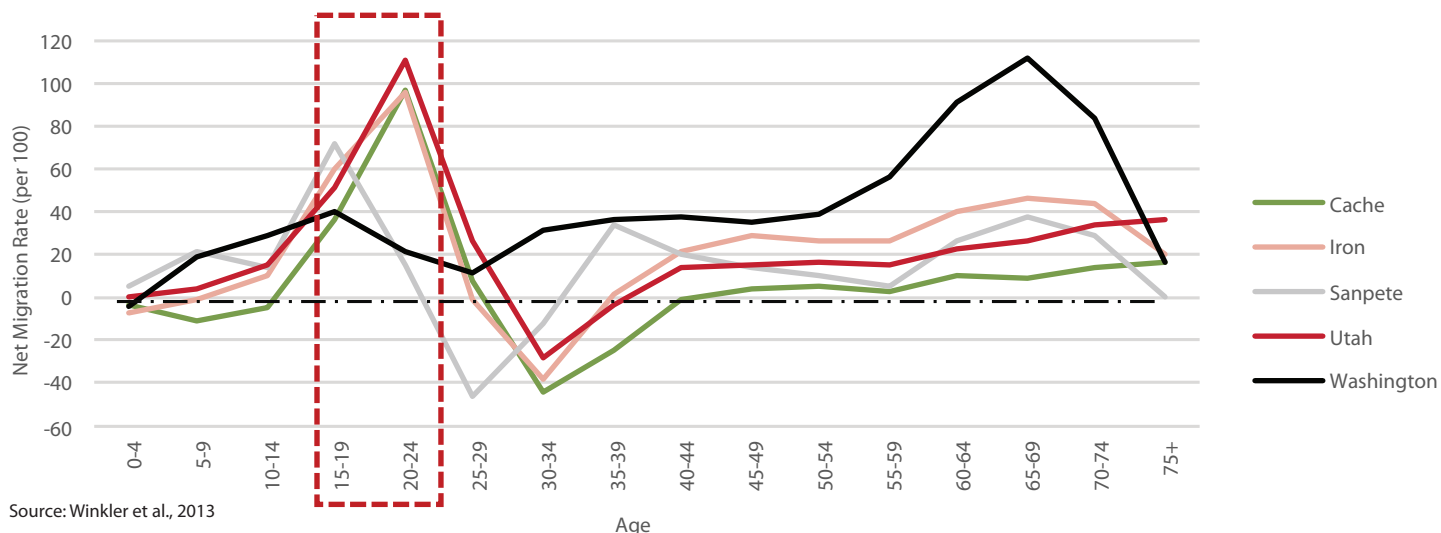
Source: Winkler et al., 2013

Figure 20: Top Net Out-Migration Counties- Emerging Adults (Ages 15-24), 2000-2010
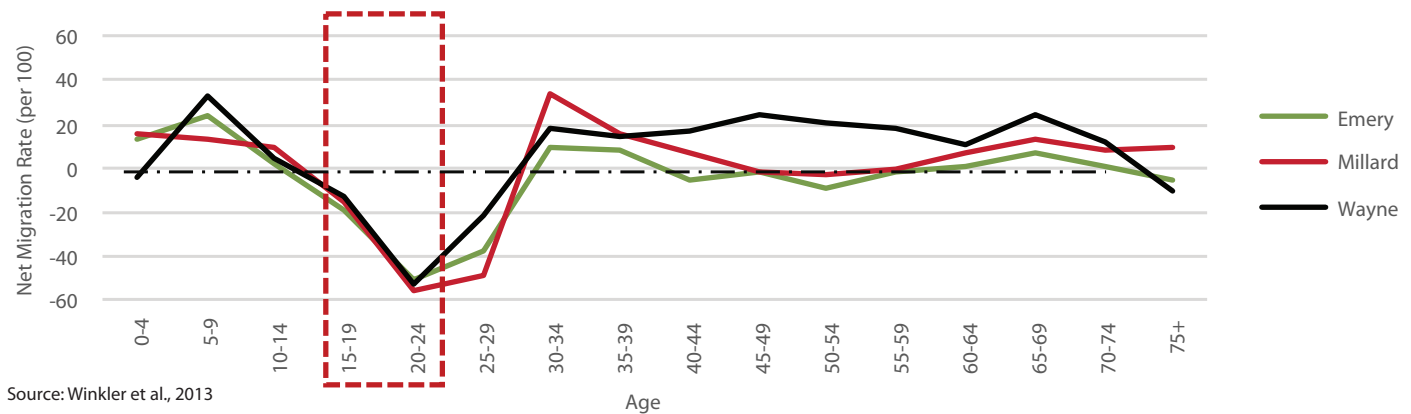
Source: Winkler et al., 2013

in the state. While Salt Lake County has the state's flagship university, the county's sheer size and economic conditions impact the migration rates more than just the presence of the University of Utah.

Many Utah counties export their young adults to these college counties. Rural counties without formal secondary education or many employment options will often lose their emerging adults to counties with more opportunities. This well-documented pattern manifests itself as rural to urban migration, even outside of this age group, and is a long-standing national trend.

The counties with the largest net out-migration of emerging adults are Millard, Emery, and Wayne (see Figure 20). These counties are located in the central, rural part of the state and have had slow or even stagnant economic growth. These specific counties are in the rural farming and extractive industry counties, but even the rural recreation counties struggle to keep their emerging adults. Lack of easy access to main highways and the highly cyclical mining and energy sectors are factors that encourage young residents to leave to find more opportunities, whether it be for education, a job, or more urban amenities.

Young Adults (age 25 through 29)

In Utah, this age group also has some overlap with the Emerging Adults category. Often, there is a delay in education completion when individuals leave for their religious missions. Individuals defer their education for 1.5 to 2 years; they will wait to start school once they return from their mission at around 21 years of age, or will attend for a year, leave for their mission, and then return to their education afterward. The result is delayed completion for a substantial share of Utah college students. Nonetheless, these age categories are reasonable for Utah and allow us to make national comparisons with other similar studies.

The counties that draw high rates of young adults are Utah County, Salt Lake County, Washington County, Weber County, and Cache County. These counties have sufficient employment opportunities, residential capacity, and urban amenities to

Figure 21: County Map of Young Adults Net Migration Rates (Ages 25-29), 2000-2010
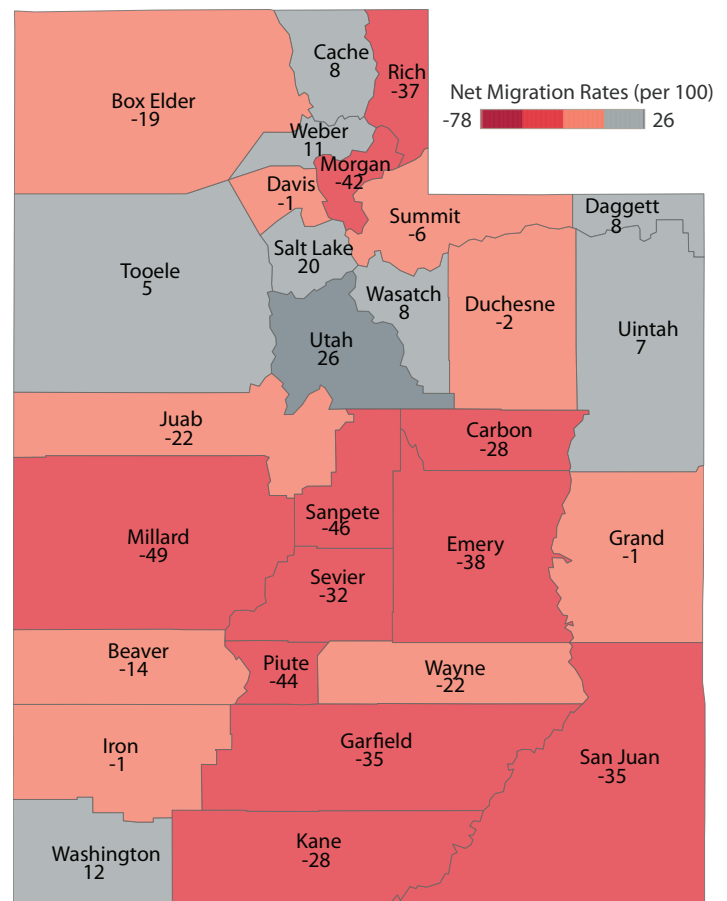
Source: Winkler et al., 2013

attract and retain young adults. They also have postsecondary educational institutions that accommodate nontraditional students. Large cities in these counties such as Provo/Orem, Salt Lake City, St. George, Ogden, and Logan are attractive to those who already live in Utah, but also to those outside the state. As Utah's urban areas continue to grow, individuals can acquire jobs while they are still young with early careers.

Figure 22: Top Net In-Migration Counties- Young Adults (Ages 25-29), 2000-2010
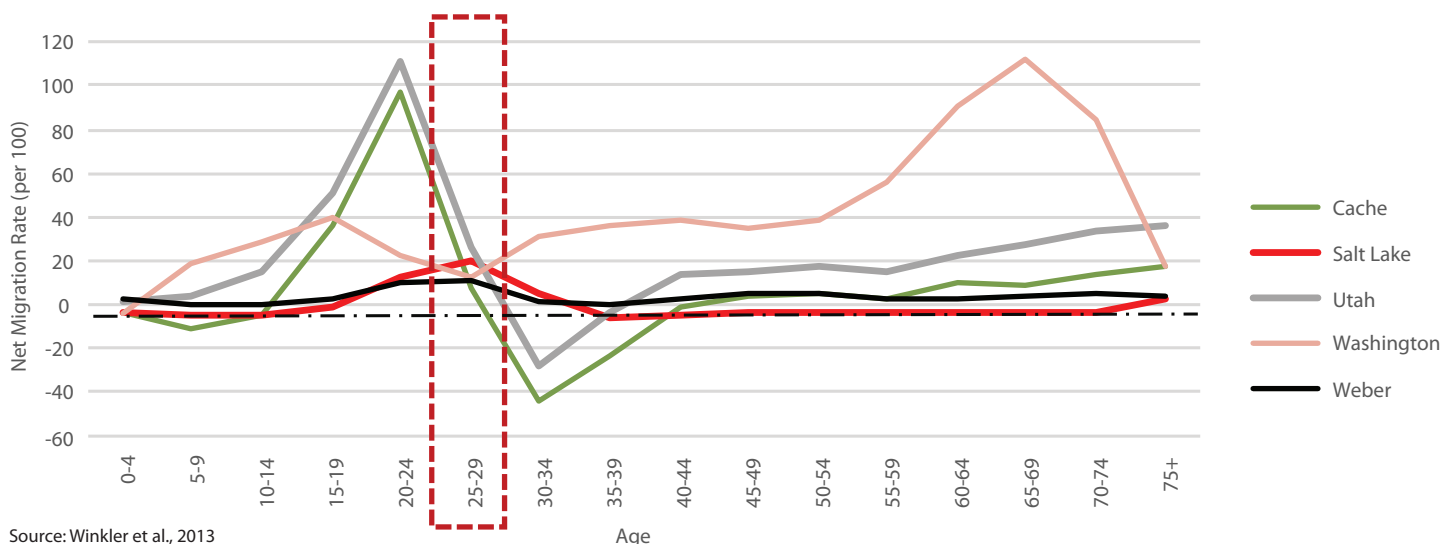
Source: Winkler et al., 2013

Figure 23: Top Net Out-Migration Counties- Young Adults (Ages 25-29), 2000-2010
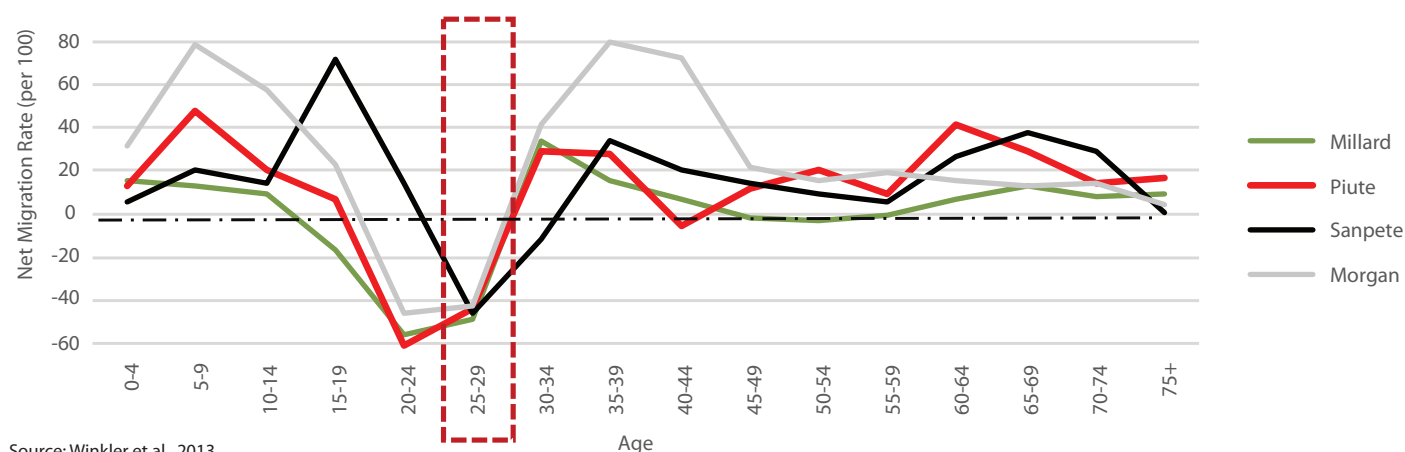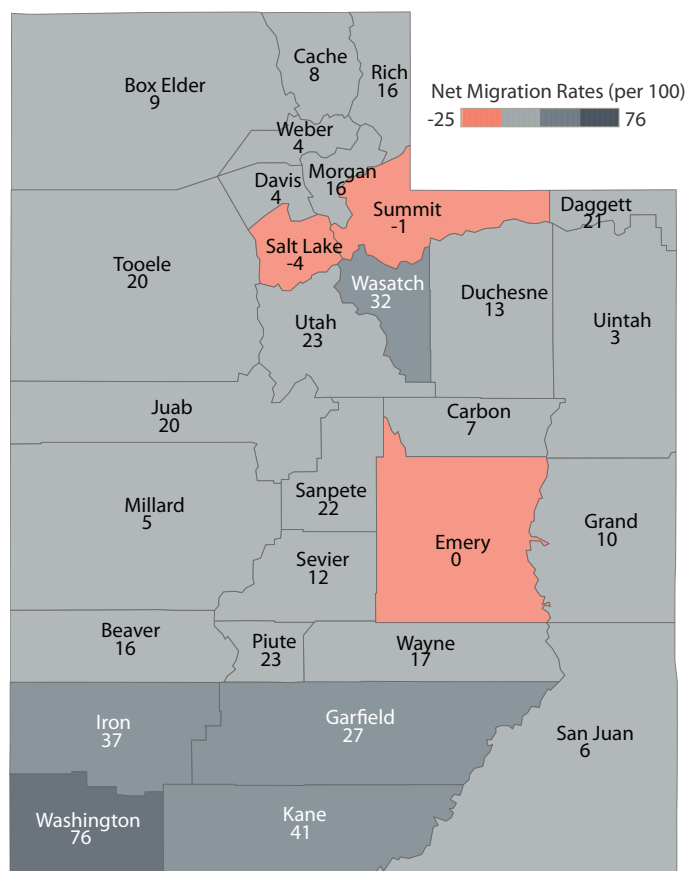

Source: Winkler et al., 2013

Employment opportunities are critical to drawing in the young adult population, which is especially the case for Salt Lake County. Conversely, this poses a problem for many areas with slow or no growth economies. Millard County, Sanpete County, Morgan County, and Piute County have the highest net out-migration in this age group (see Figure 23). However, 20 counties have net out-migration in this life stage. This age category has the highest number of net out-migration counties, and even the net in-migration counties are experiencing low rates. Utah struggled to keep this age group in the 2000 to 2010 decade.

The counties in Utah ranked with the highest net in-migration are all (except for Washington County) experiencing declining migration rates as age increases. This pattern is because of the life cycle progression of young adults forming households and then having children, which often results in a preference for a different lifestyle.

Family Age (children age 5 through 14, and adults age 30 through 49)

Much of the Family Age net in-migration in Utah is to urban ring counties in the Wasatch Front such as Morgan and Wasatch. These counties are considered suburban, commuter counties. They have an affordable cost of living with close access to growing employment opportunities in Salt Lake and Utah counties.
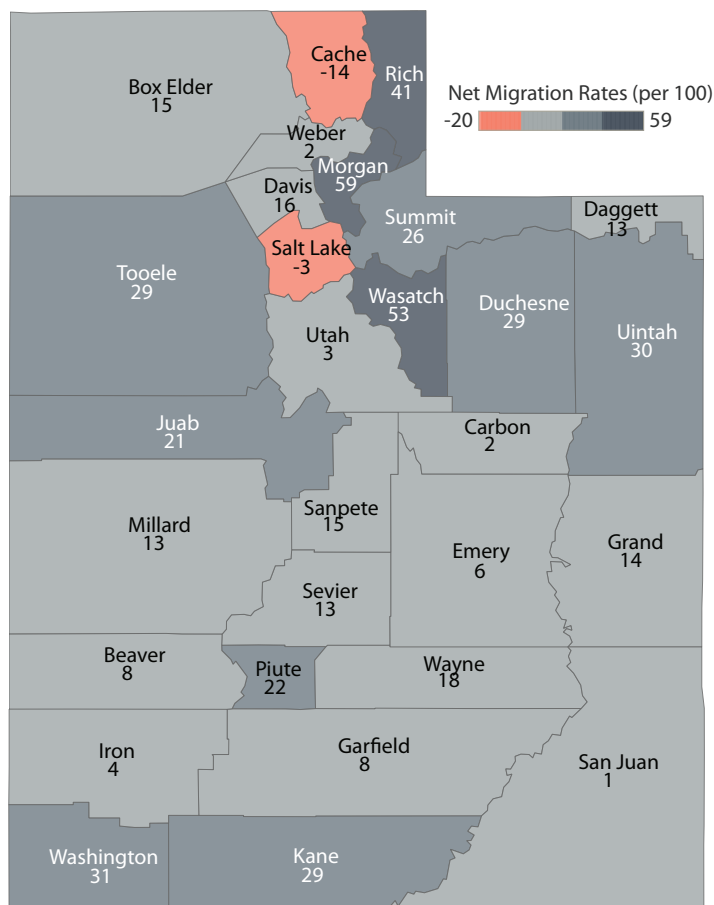
Rich County shows particularly high rates in the early 30s and 5-9 age group. Washington County shows moderate but steady in-migration in the family age groups throughout the entire period. Uintah County has moderate yet downward trending in-migration throughout the family age group, with the highest migration rate in the early 30s as adults moved there for jobs associated with the energy industry during the 2000-2010 decade. Wasatch and Morgan counties experienced some of the highest population growth rates over this decade (Table 3), and fast growth is usually an indicator of net in-migration.

Cache and Salt Lake counties are the only two counties that experienced family age net out-migration (see Figure 26). However, these two counties may be experiencing out-migration for different reasons. Salt Lake County, while having a robust economy and city amenities, has become increasingly expensive as compared to surrounding counties. Individuals can reside in a ring county with more affordable housing, commute to employment in Salt Lake County, and also take advantage of the urban amenities. Cache County, experiences out-migration of many of their advanced degree graduates who leave for jobs, often accompanied by other household members, including partners and young children.

While we cannot tell from this data, other data sets show that many people from all over Utah gravitate towards the Wasatch Front if they are moving for jobs. People may also leave Cache County and head towards the economic center of the state, to more populated areas in Idaho, or return to their rural Idaho homes after school. The out-migration of young families from college and urban core counties to the ring and tourism counties is well-documented.[15]

Figure 24: County Map of Family Age Net Migration Rates (Ages 5-14, and 30-49), 2000-2010

Source: Winkler et al., 2013

Figure 25: Top Net In-Migration Counties- Family Age (Ages 5-14, 30-49), 2000-2010
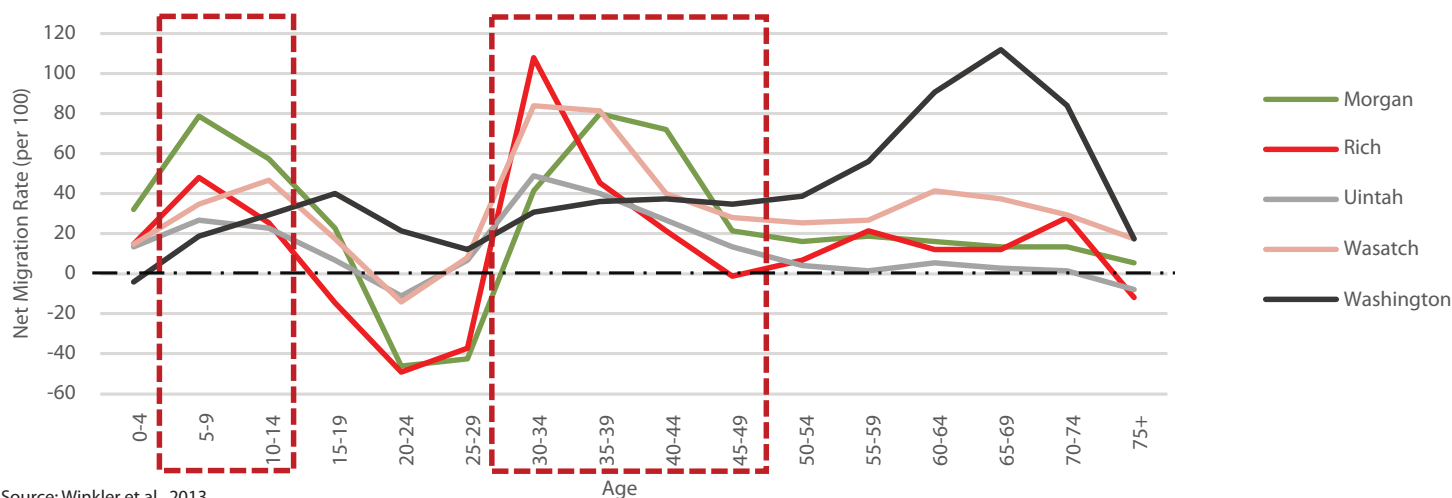
Source: Winkler et al., 2013

Figure 26: Top Net Out-Migration Counties- Family Age (Ages 5-14, 30-49), 2000-2010

Source: Winkler et al., 2013

Older Adults (age 50 through 74)

Washington County had the highest net in-migration of older adults in Utah. Southwest Utah's counties, Kane, Iron, and Garfield, are attractive to older adults because they have warm weather and close access to recreational opportunities. Wasatch County also experienced moderate net in-migration of this age group. It is an area of scenic beauty and recreation, with affordable housing, and proximity to Park City, Salt Lake City, and Provo (see Figure 28).

The only counties with net out-migration of older adults are Salt Lake County, Summit County, and Emery County, though they show only minimal net out-migration (see Figure 29). Because Salt Lake County is the economic hub of the state, it attracts job seekers. Once those who migrated for employment reasons retire, their residential location is not dependent on a place of work.

Retirement migration leads people out of metropolitan areas like Salt Lake County to less densely populated areas. The retirement age out-migration of Summit and Emery county residents have other less apparent drivers that we hope to discover in future research.

Figure 27: County Map of Older Adults Net Migration Rates (Ages 50-74), 2000-2010

Source: Winkler et al., 2013

Figure 28: Top Net In-Migration Counties- Older Adults (Ages 50-74), 2000-2010
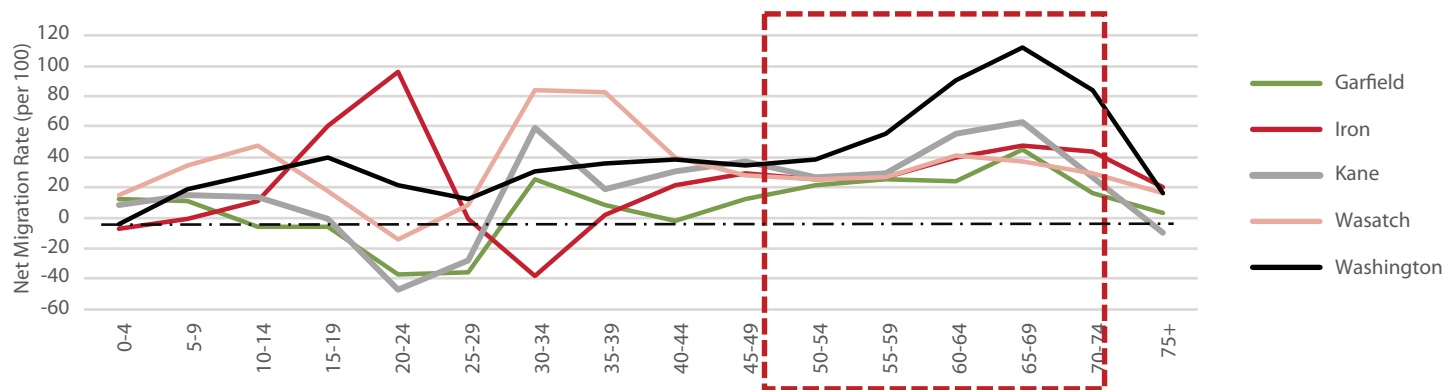
Source: Winkler et al., 2013

Figure 29: Top Net Out-Migration Counties- Older Adults (Ages 50-74), 2000-2010
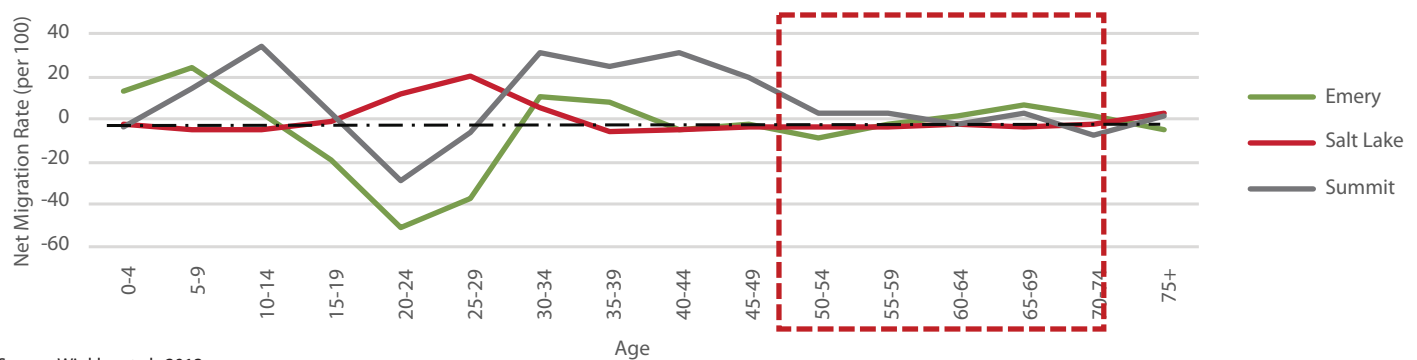
Source: Winkler et al., 2013

Implications and Conclusion

Migration is a defining demographic force. Age patterns of people moving to and from an area shape its demographic characteristics, especially age structure. Life circumstances evolve as people grow older, which affects age-specific migration patterns. People migrate based on their needs and desires as well as characteristics of neighborhoods and regions.

We have presented a state-level history of and context for Utah migration patterns. We then shifted our focus to counties and created seven migration typologies that reveal and interpret demographic patterns (migration and age structure) for counties in Utah. We next examined migration from the perspective of individuals and their life cycle migration behaviors. We applied this life cycle perspective to understand the migration patterns of individuals and how these impact counties. Both of these county analyses incorporate age-specific migration patterns, but the first emphasizes migration across all ages for each county while the second focuses on life stage of individuals as the unit of analysis. We have provided historical context for both of these analyses.

Regions develop and sustain migration patterns according to economic conditions, cultural and education institutions, recreational amenities, relative housing costs, accessibility of

housing to employment opportunities, and other factors. We created county typologies according to collections of common characteristics that result in similar age-specific migration patterns to and from areas.

We merge life stage migration patterns of individuals with county typologies to highlight that these two sets of analyses are two sides of the same coin. County typologies identify how overall life cycle migration decisions relate to evolving county conditions. Alternatively, analyzing individual life stage migration patterns allow us to identify the peak ages for in and out net-migration for counties, which in turn reflects particular county conditions. Table 4 synthesizes these two analyses.

This research presents information that has important implications that community leaders can use to develop policy. Concentrations of populations in specific age groups bring particular advantages and challenges to an area. Older populations heavily utilize health services, but also can provide more economic opportunity as they bring development and extra resources into the local economy. Family age populations can help make K-12 education a priority and bring jobs into a county, but they can also create conditions that are not attractive to young and emerging adults, making it challenging for service

Table 4: Summary of County Migration Typologies and Life Stage Migration

Typology	Counties	Life Stage Migration	
		In-Migration	**Out-Migration**
Coal	Carbon, Emery	Retirement	Emerging Adult, Young Adult
College	Cache, Iron, Sanpete	Emerging Adult	Young Adult
Oil and Gas	Duchesne, Uintah	Family	Emerging Adult, Young Adult
Large Metro	Salt Lake	Young Adult	Family
Ring	Box Elder, Davis, Juab, Morgan, Tooele, Summit, Wasatch	Family	Emerging Adult, Young Adult
Rural	Beaver, Daggett, Millard, San Juan, Sevier, Wayne	Family, Retirement	Emerging Adult, Young Adult
Tourism/Recreation	Garfield, Grand, Kane, Rich	Family, Retirement	Emerging Adult, Young Adult
Composite	Utah, Washington, Weber		

Source: Kem C. Gardner Policy Institute

industries to employ young people. Large metro areas that are attractive to young adults and have many employment opportunities can experience high turnover, high housing prices, and crime concentrations that result in out-migration of young families and older adults.

Importantly, regions can implement policies and investments designed to shift and shape their future migration typologies. Affordable housing, quality education, diverse employment opportunities, public transportation, and adequate income are important factors when individuals are deciding whether to stay or leave an area. While the reality of geography, economic viability, and financial capacity place limits on the success of such efforts, the future of any particular area can be potentially reshaped.

This report provides a foundation for additional research on Utah's migration trends. In future work we will explore many different facets of migration to provide a much fuller picture of Utah's migrants including characteristics of those that come to and leave Utah; source regions, states, and counties of Utah migrants; and historical Utah migration trends. The resulting information can assist Utah's thought leaders, policymakers, and community leaders make purposeful and informed decisions.

We also include three appendices of additional information and data at the end of this report:

Appendix 1: Population pyramids and migration patterns for each county for the decade of 2000-2010, and migration signatures from 1950-2010.

Appendix 2: A deeper and more technical discussion on migration, measuring and calculating migration, and challenges of migration data.

Appendix 3: County data tables with the number of decadal net migrants by life stage, and total county decadal net migration and natural increase.

The extra figures and rich historical data allow the reader to closely inspect each county. We can examine how the last decade of migration has impacted the age distribution of each county for 2000-2010, and we can also see how the migration patterns have changed for every decade since 1950. We also provide contextual comments for each county.
Full data sets are available upon request.

Endnotes

1   World Bank: http://siteresources.worldbank.org/ECAEXT/Resources/258598-1284061150155/7383639-1323888814015/8319788-1324485944855/10_us.pdf
2   2017 1-year American Community Survey, S0701: GEOGRAPHIC MOBILITY BY SELECTED CHARACTERISTICS IN THE UNITED STATES
3   Rogers, A. 1979. Migration Patterns and population redistribution. *Regional Science and Urban Economics* 9:275-310.
4   Johnson, K, Winkler, R, Rogers, L. 2013. Age and Lifecycle Patterns Driving U.S. Migration Shifts. *Carsey Institute* Issue Brief No. 62.
5   Hollingshaus, M., & Perlich, P. S. (2016). Migrant Today, Parent Tomorrow: A Zero Migration Simulation. Salt Lake City, UT: Kem C. Gardner Policy Institute, University of Utah.
6   Rowland, D. 2014. Demographic Methods and Concepts. Oxford University Press.
7   U.S. Census Bureau, Current Population Survey, Annual Social and Economic Supplement 1999-2018, Table A-5.
8   Perlich, P.S. 2008. Utah's Demographic Transformation: A View into the Future. *Utah Economic and Business Review*, Volume 68, Number 3.
9   Meinig, D.W. 2004. The Shaping of America: A Geographical Perspective on 500 years of History. Vol 4: pp 270.
10   Li, W.L. 1976. A Note on Migration and Employment. *Demography* 13(4): 565-570.
11   Perlich, P.S. and Downen, J. 2011. Census 2010: A First Look at Utah Results, *Utah Economic and Business Review,* Volume 71, Number 2.
12   We will explore these in a follow-up study.
13   Perlich, P.S. and Downen, J. 2011. Census 2010: A First Look at Utah Results, *Utah Economic and Business Review,* Volume 71, Number 2.
14   Johnson, K, Winkler, R, Rogers, L. 2013. Age and Lifecycle Patterns Driving U.S. Migration Shifts. *Carsey Institute* Issue Brief No. 62.
15   Johnson, K, and Stewart, S. 2003. Amenity Migration to Urban Proximate Counties. *Amenities and Rural Development: Theory, Methods, and Public Policy*, Edward Elgar Publishing, 177-196.
16   Winkler, Richelle, Kenneth M. Johnson, Cheng Cheng, Jim Beaudoin, Paul R. Voss, and Katherine J. Curtis. Age-Specific Net Migration Estimates for US Counties, 1950-2010. Applied Population Laboratory, University of Wisconsin - Madison, 2013. Web. https://netmigration.wisc.edu/

Appendix 1

Much of the data referenced below (besides migration signatures) come from "Census 2010: A First Look at Utah Results" (2011), "Commuting Patterns in Utah: County Trends for 1980, 1990, and 2000" (Perlich 2003), and a forthcoming commuting paper (2019).

Beaver County

- Rural county
- Net out-migration from 1950s through 1980s
- 1980s and on: Both in and out-migration patterns consistent with rural typology
- Economic expansion in 1990s brought new migrants
- Maintains classic rural population pyramid and migration signature through the 2000s

Population Pyramids, 2000 and 2010
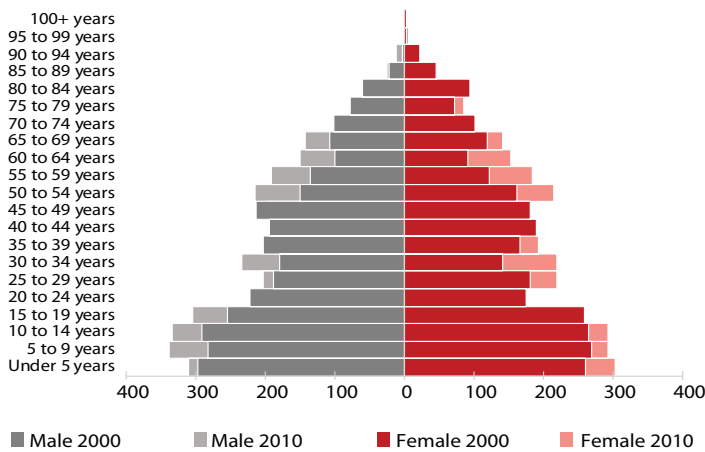
Source: U.S. Census Bureau

Historical Net Migration Rates, 1950-2010

Legend: 1950-1960, 1960-1970, 1970-1980, 1980-1990, 1990-2000, 2000-2010
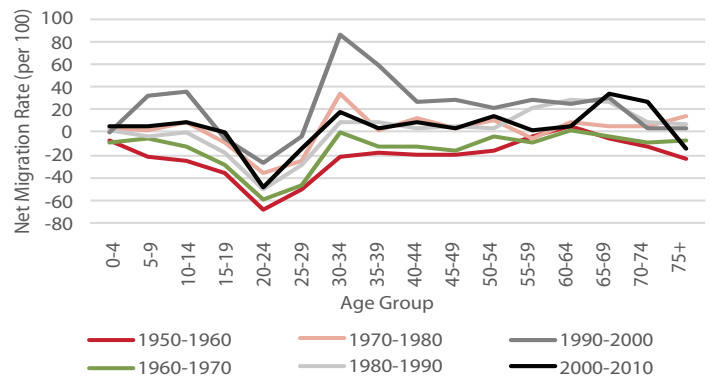
Current Net Migration Rates, 2000-2010
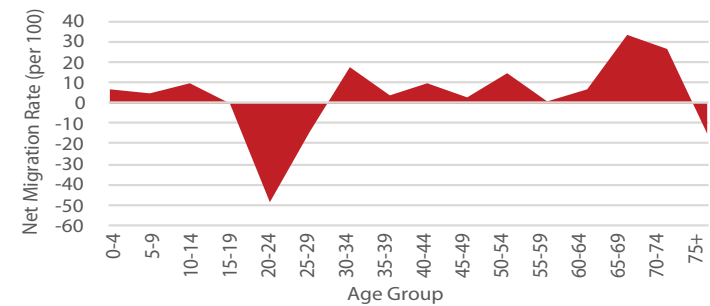
Source: Winkler et al., 2013

Box Elder County

- Ring county
- Net out-migration for all decades from 1960s through 1980s
- Sustained young adult out-migration and family age in-migration consistent with ring county typology
- Acceleration of in-migration in 1990s

Population Pyramids, 2000 and 2010
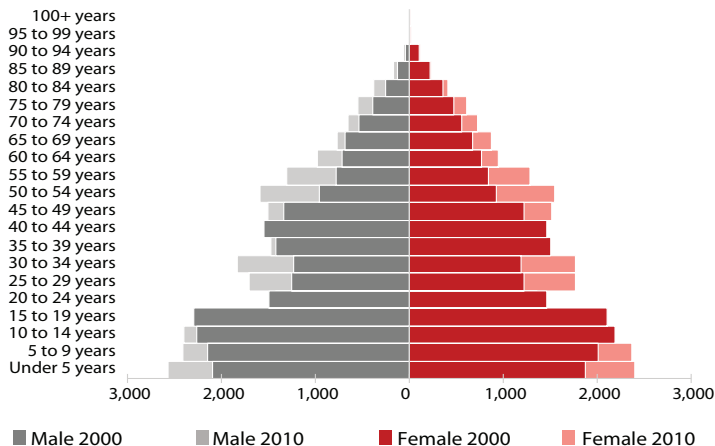
Source: U.S. Census Bureau

Historical Net Migration Rates, 1950-2010

Legend: 1950-1960, 1960-1970, 1970-1980, 1980-1990, 1990-2000, 2000-2010
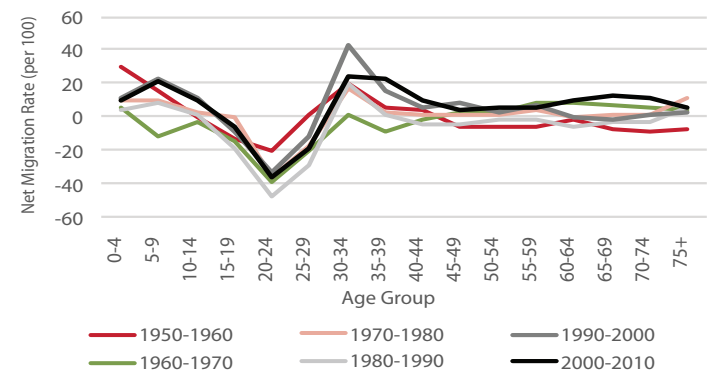
Current Net Migration Rates, 2000-2010
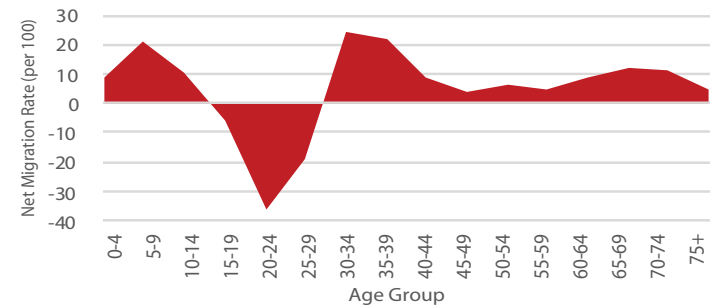
Source: Winkler et al., 2013

Cache County

- Classic college county pyramid and migration signature
- Amazingly consistent signature over 60 years
- Acceleration in growth rates from 1950s to subsequent decades as Utah State University grew

Population Pyramids, 2000 and 2010
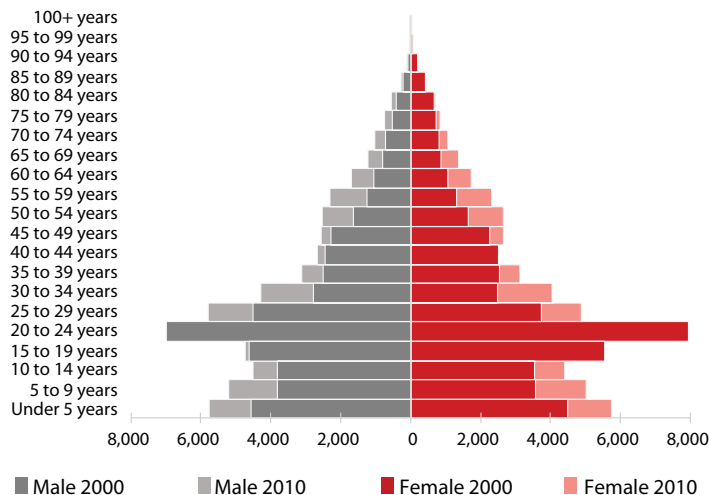
Source: U.S. Census Bureau

Historical Net Migration Rates, 1950-2010

Legend: 1950-1960, 1960-1970, 1970-1980, 1980-1990, 1990-2000, 2000-2010
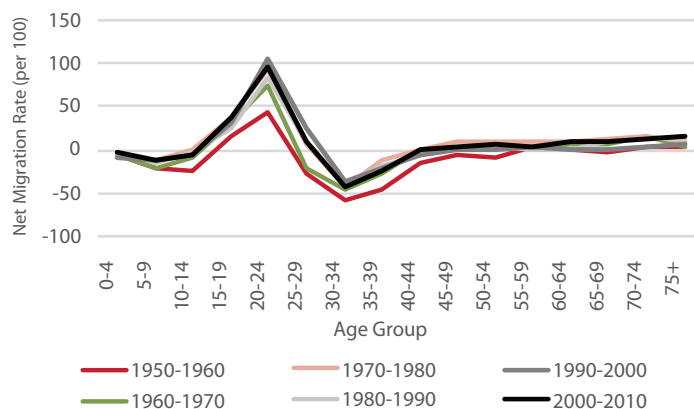
Current Net Migration Rates, 2000-2010
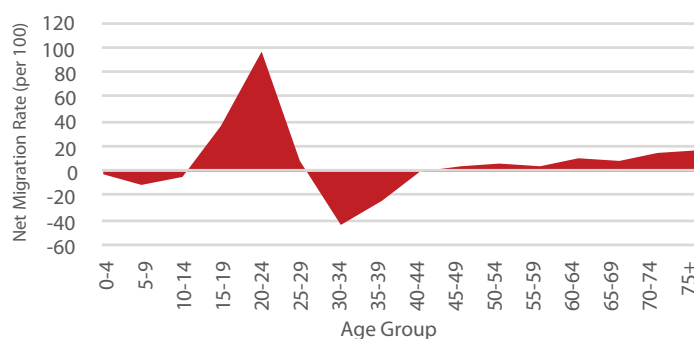
Source: Winkler et al., 2013

Carbon County

- Coal County subject to wide swings in migration driven by coal booms (1970s) and busts (1950s, 1960s, 1980s)
- Out-migration in 1980s, 1990s, and 2000s as coal industry declines
- Out-migration of young adults except during boom years. Even then, the net in-migration of young adults was relatively small compared to family ages and prime working age population

Population Pyramids, 2000 and 2010

Source: U.S. Census Bureau

Historical Net Migration Rates, 1950-2010

Legend: 1950-1960, 1960-1970, 1970-1980, 1980-1990, 1990-2000, 2000-2010
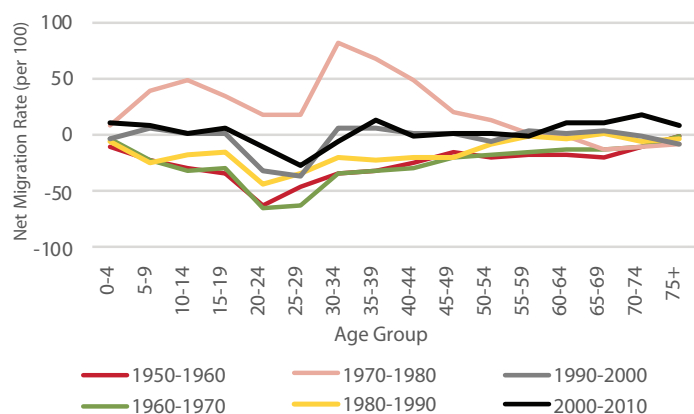
Current Net Migration Rates, 2000-2010
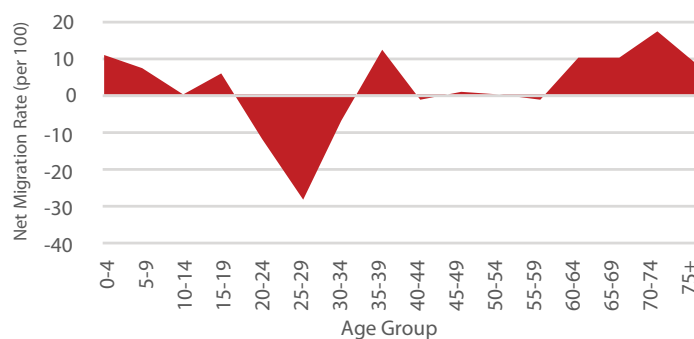
Source: Winkler et al., 2013

Daggett County

- Rural county
- Very large in-migration (1950s) to construct Flaming Gorge Dam followed by large out-migration when completed (1960s)

Population Pyramids, 2000 and 2010
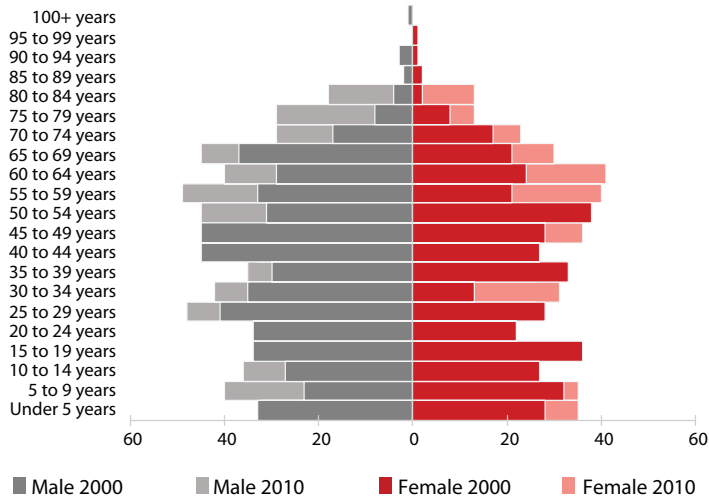
■ Male 2000 ■ Male 2010 ■ Female 2000 ■ Female 2010

Source: U.S. Census Bureau

Historical Net Migration Rates, 1950-2010

—— 1950-1960   —— 1970-1980   —— 1990-2000
—— 1960-1970   —— 1980-1990   —— 2000-2010
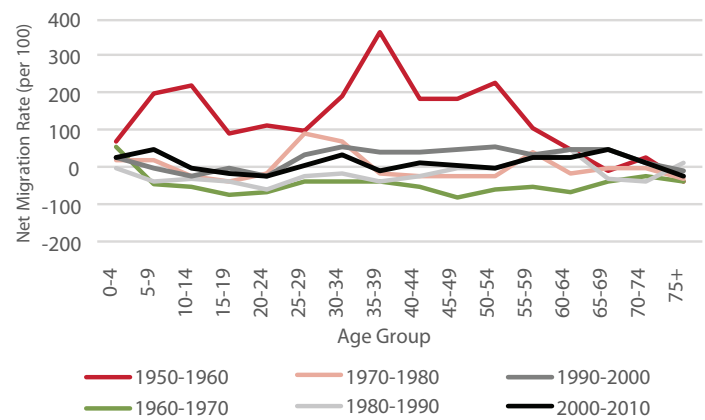
Current Net Migration Rates, 2000-2010
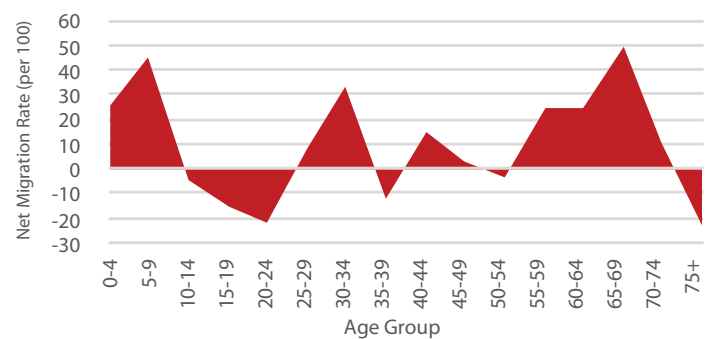
Source: Winkler et al., 2013

Davis County

- Ring County
- Consistent net in-migration across all decades (only county to have this)
- Suburbanization increased sharply in favor of Davis county in the 1950s, 1960s, and 1970s
- Second highest out-commuting rate in state (behind Morgan County at #1)

Population Pyramids, 2000 and 2010
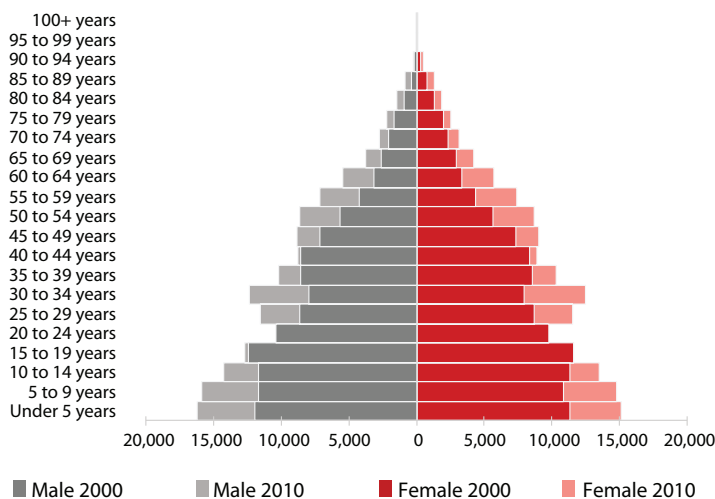
■ Male 2000 ■ Male 2010 ■ Female 2000 ■ Female 2010

Source: U.S. Census Bureau

Historical Net Migration Rates, 1950-2010

—— 1950-1960   —— 1970-1980   —— 1990-2000
—— 1960-1970   —— 1980-1990   —— 2000-2010
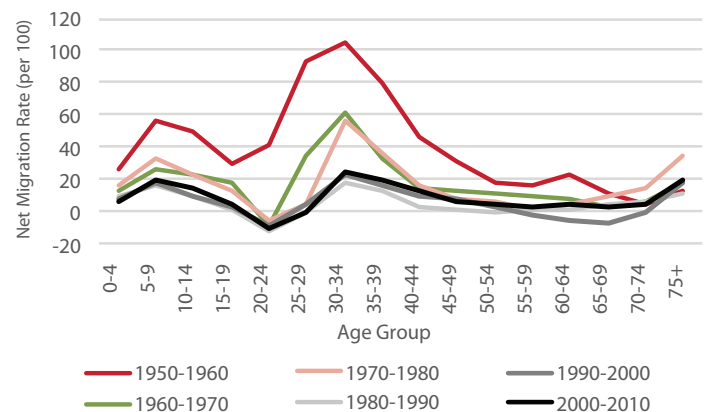
Current Net Migration Rates, 2000-2010
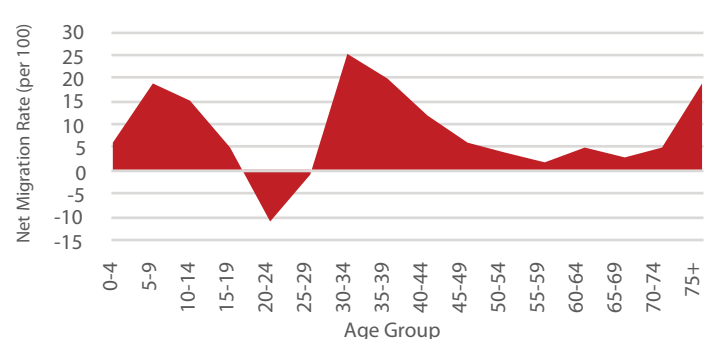
Source: Winkler et al., 2013

Duchesne County

- Oil and Gas County
- In and out-migration follow booms (1970s, 2000s) and busts (1950s, 1960s, 1980s)
- Migration schedule (signature) maintains same shape but shifts according to booms/busts
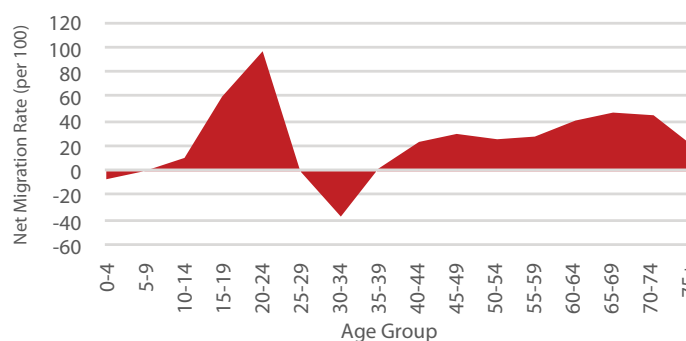
Population Pyramids, 2000 and 2010
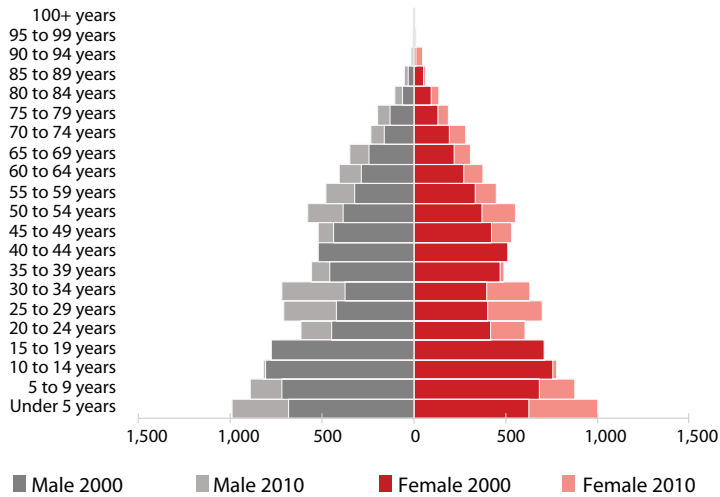
Source: U.S. Census Bureau

Historical Net Migration Rates, 1950-2010
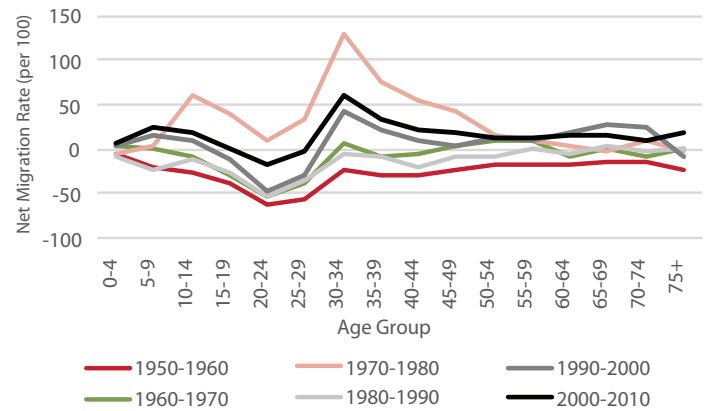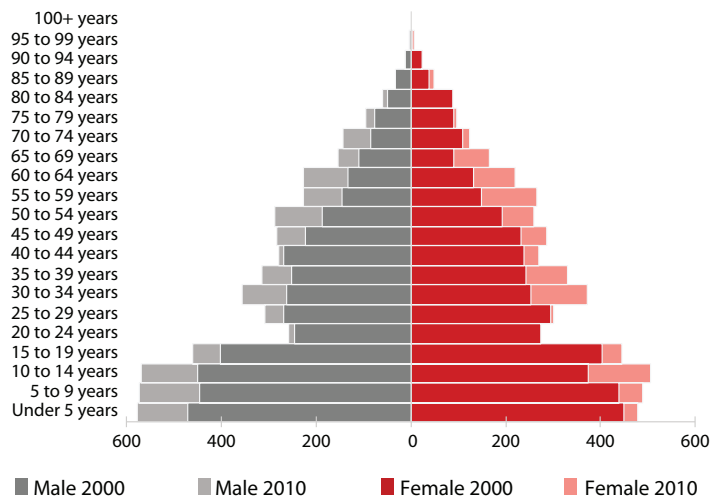

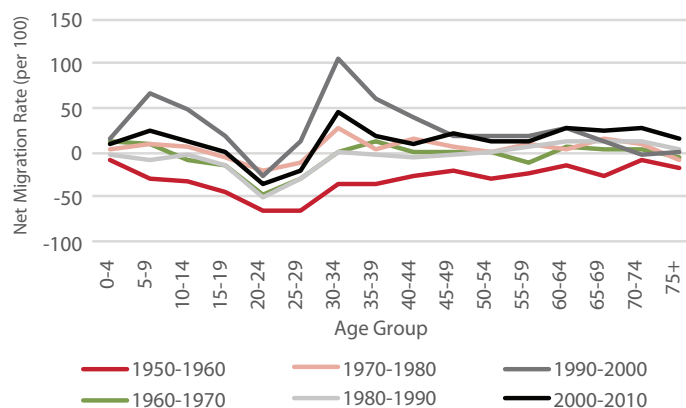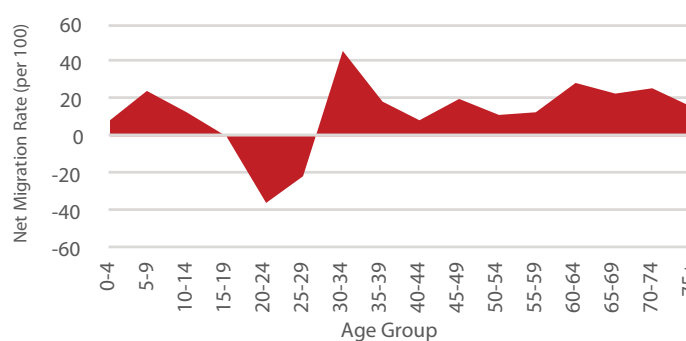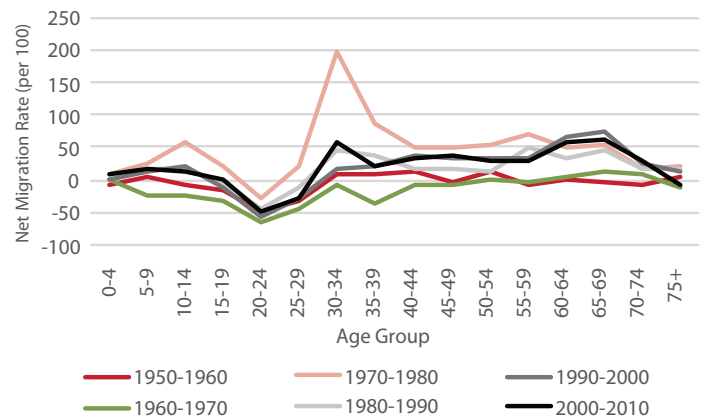## Current Net Migration Rates, 2000-2010
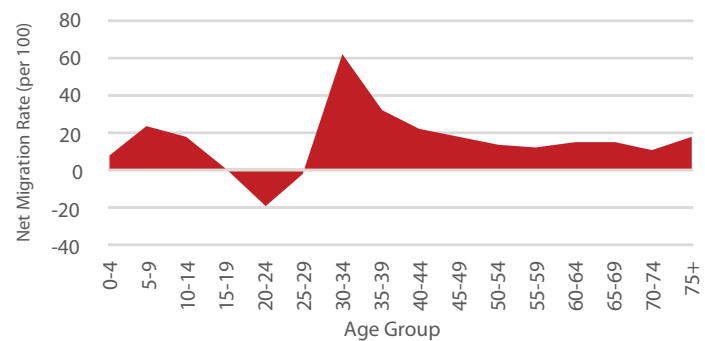
Source: Winkler et al., 2013

Emery County

- Coal county subject to wide swings in migration driven by coal booms (1970s) and busts (1950s, 1960s, 1980s)
- Out-migration in 1990s and 2000s as coal industry declines
- Out-migration of young adults except during boom years. Even then, the net in-migration of young adults was relatively small compared to family ages and prime working age population

Population Pyramids, 2000 and 2010
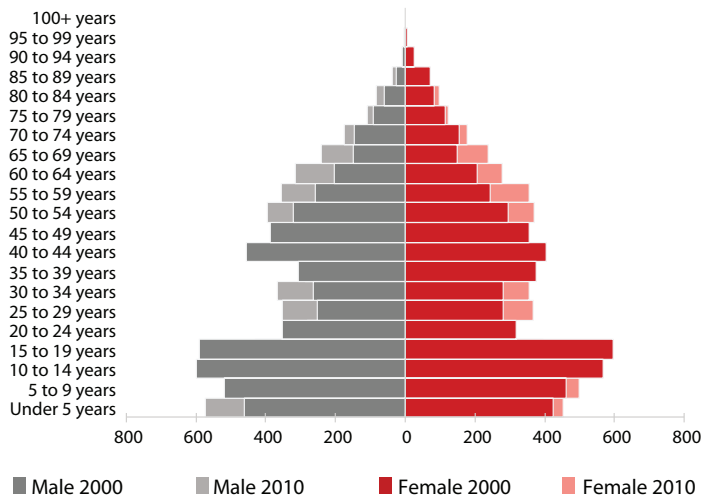
Source: U.S. Census Bureau

Historical Net Migration Rates, 1950-2010
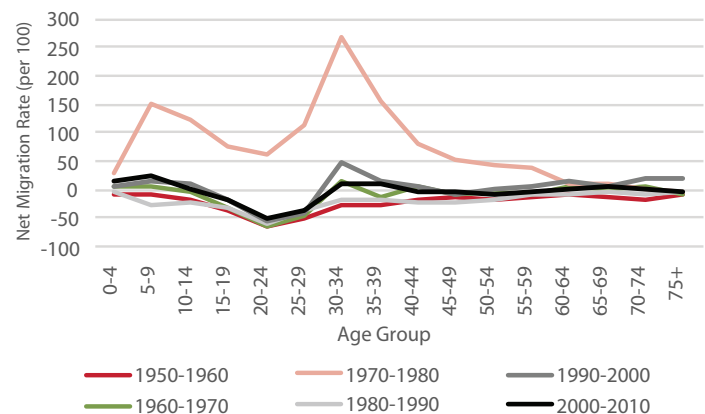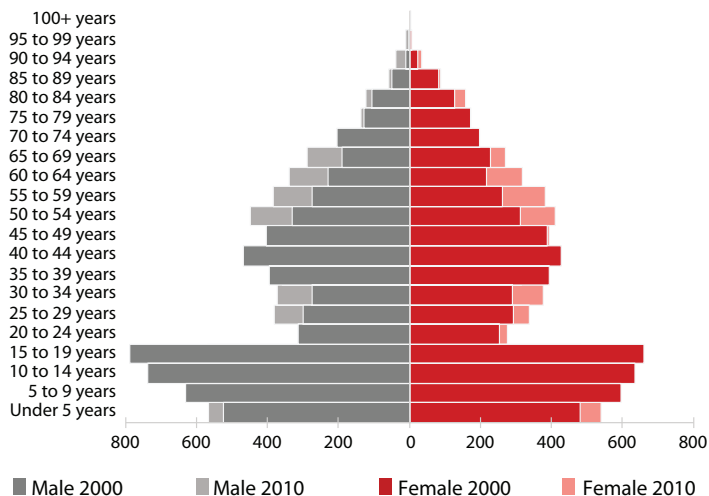

Current Net Migration Rates, 2000-2010
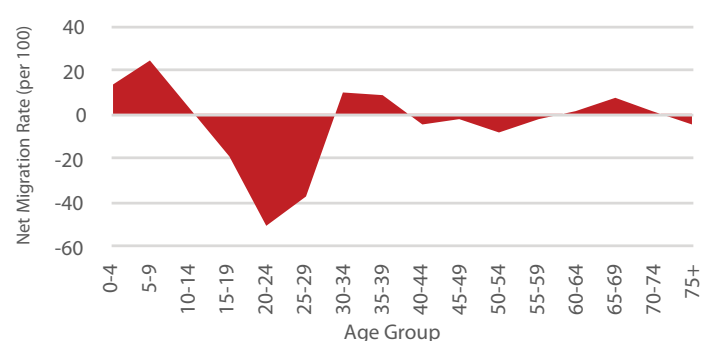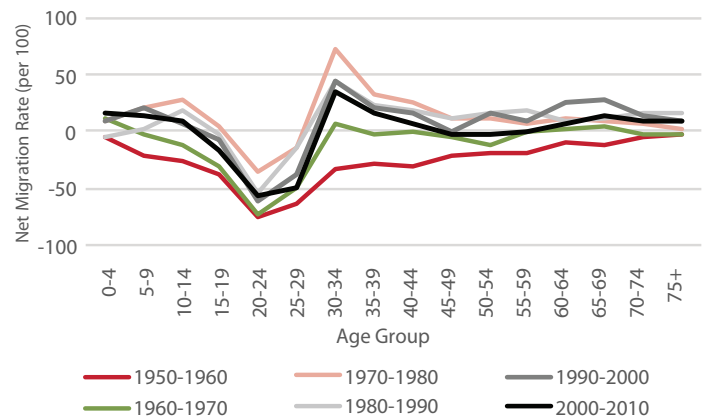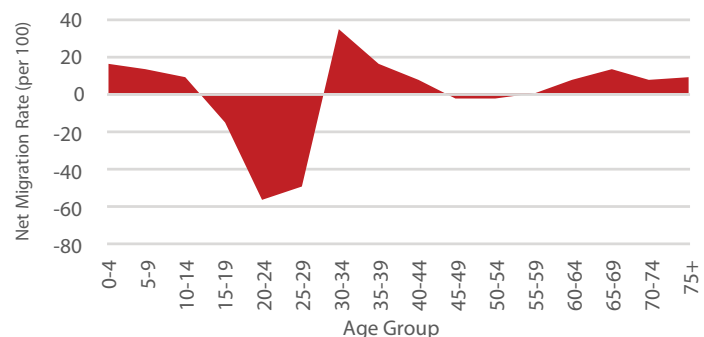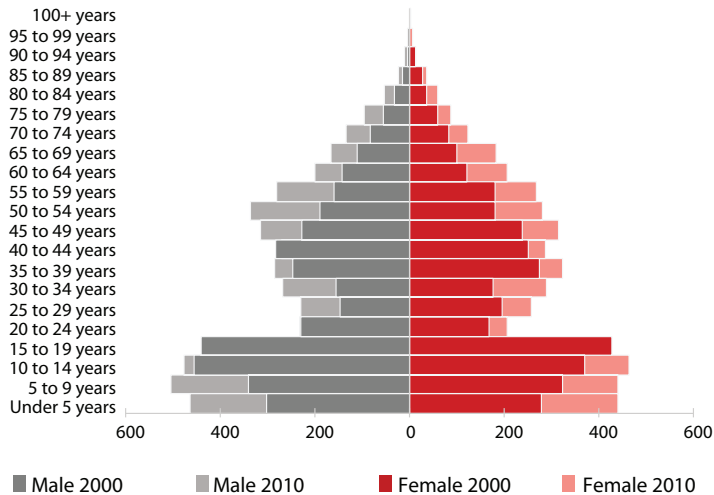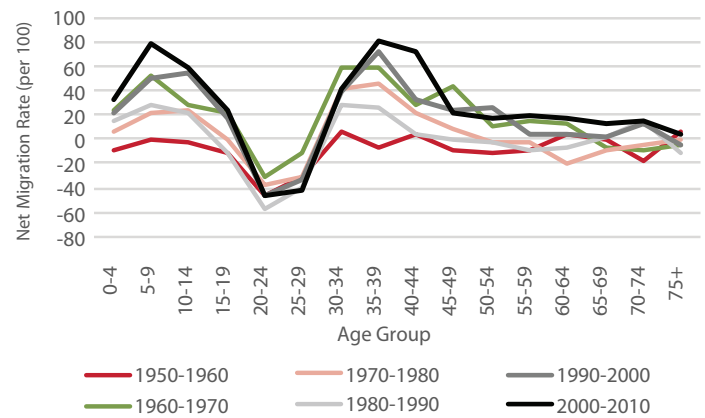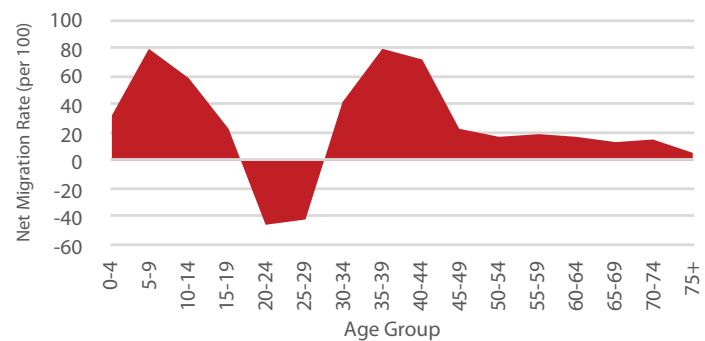

Source: Winkler et al., 2013

Garfield County

- Tourism county since 1990s
- Strong out-migration pre-1970s – was a rural county
- Tourism economy becomes established in the 1980s and on
- Migration peaks at young adult and older adult ages

Population Pyramids, 2000 and 2010
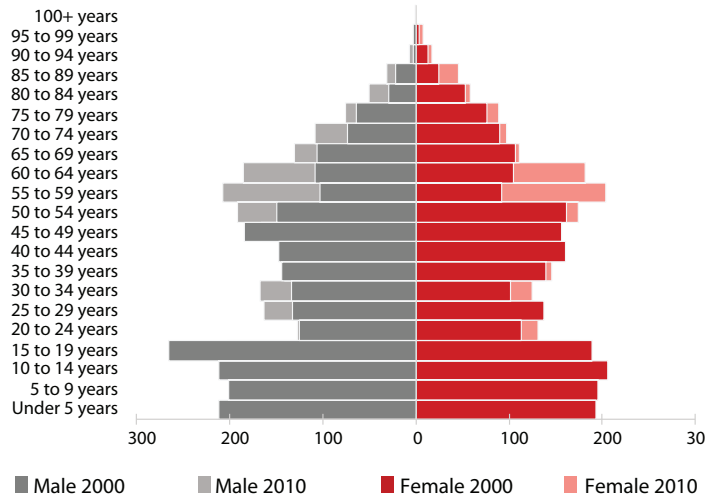
■ Male 2000 ■ Male 2010 ■ Female 2000 ■ Female 2010

Source: U.S. Census Bureau

Historical Net Migration Rates, 1950-2010

— 1950-1960 — 1970-1980 — 1990-2000
— 1960-1970 — 1980-1990 — 2000-2010
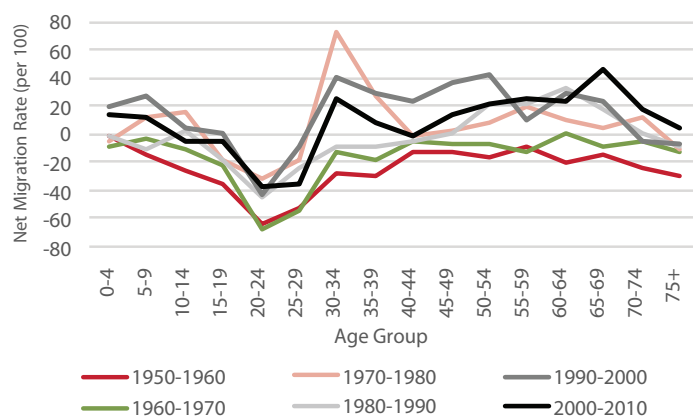
Current Net Migration Rates, 2000-2010
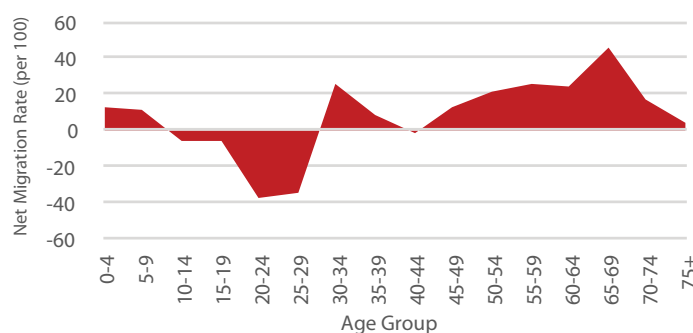
Source: Winkler et al., 2013

Grand County

- Transitioned from rural to tourism county
- Uranium boom (1950s) and bust (1960s) along with San Juan County
- Tourism becomes well established in the 1990s and beyond

Population Pyramids, 2000 and 2010
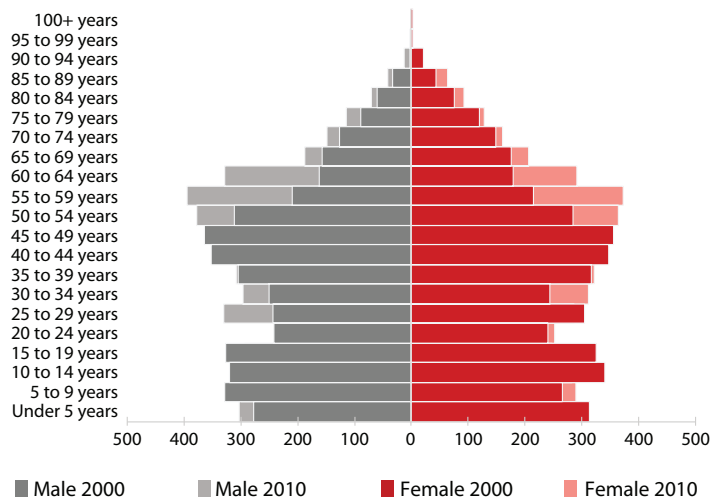
■ Male 2000 ■ Male 2010 ■ Female 2000 ■ Female 2010

Source: U.S. Census Bureau

Historical Net Migration Rates, 1950-2010

— 1950-1960 — 1970-1980 — 1990-2000
— 1960-1970 — 1980-1990 — 2000-2010
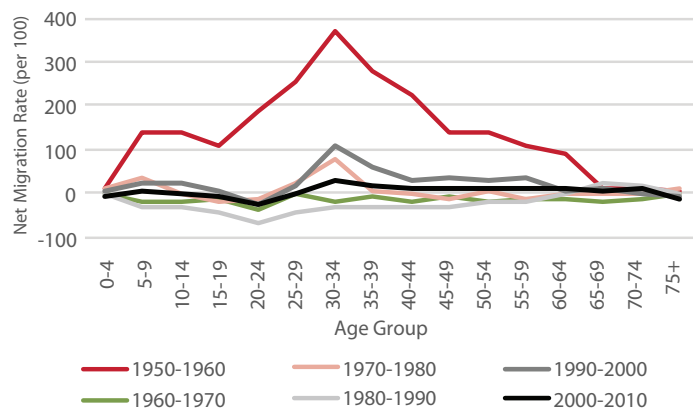
Current Net Migration Rates, 2000-2010
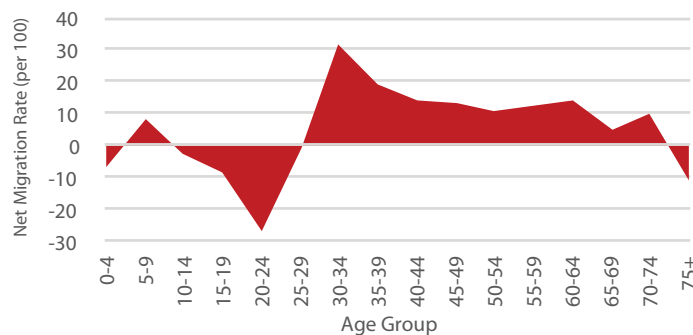
Source: Winkler et al., 2013

Iron County

- College County – This migration signature becomes especially well established by the 1990s and 2000s
- Out-migration and much more rural in the 1950s and 1960s
- Recent strong population growth and migration in the 1990s and 2000s, some of which is retirement age
- Recent development of tourism is contributing to net-in migration of family age populations

Population Pyramids, 2000 and 2010
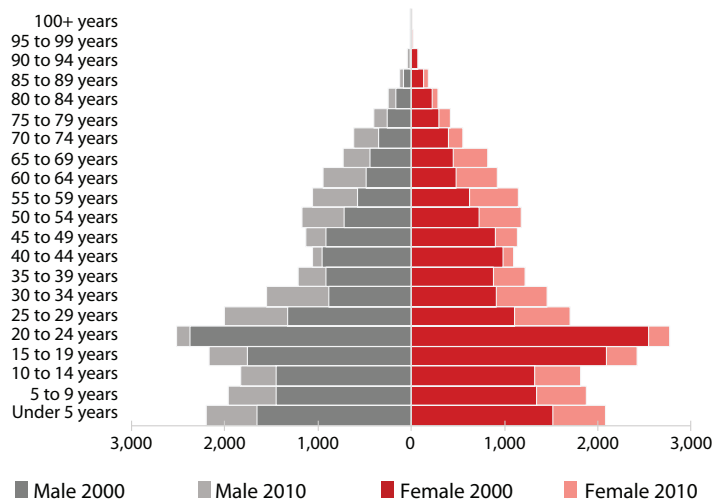
■ Male 2000 ■ Male 2010 ■ Female 2000 ■ Female 2010

Source: U.S. Census Bureau

Historical Net Migration Rates, 1950-2010

— 1950-1960 — 1970-1980 — 1990-2000
— 1960-1970 — 1980-1990 — 2000-2010
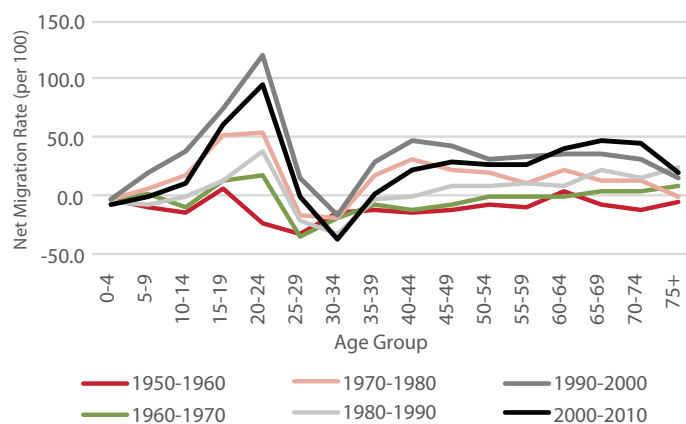
Current Net Migration Rates, 2000-2010

Source: Winkler et al., 2013

Juab County

- Transitioned from rural county to ring county
- Out-migration and rural migration signature from 1950s-1980s
- Ring county net in-migration and signatures in 1990s and 2000s
- Out-commuting rates went from 16.4% in 1980 to 41.5% in 2010

Population Pyramids, 2000 and 2010

■ Male 2000 ■ Male 2010 ■ Female 2000 ■ Female 2010

Source: U.S. Census Bureau

Historical Net Migration Rates, 1950-2010

— 1950-1960 — 1970-1980 — 1990-2000
— 1960-1970 — 1980-1990 — 2000-2010

Current Net Migration Rates, 2000-2010

Source: Winkler et al., 2013

Kane County

- Transitioned from rural county to tourism county
- Subject to booms (1970s) and busts of rural economy (Out-migration 1950s-1960s) and rural migration signature from 1950s-1980s
- Tourism and amenity migration signatures and in-migration in 1980s, 1990s, and 2000s

Population Pyramids, 2000 and 2010

Source: U.S. Census Bureau

Historical Net Migration Rates, 1950-2010

Legend: 1950-1960, 1970-1980, 1990-2000, 1960-1970, 1980-1990, 2000-2010

Current Net Migration Rates, 2000-2010
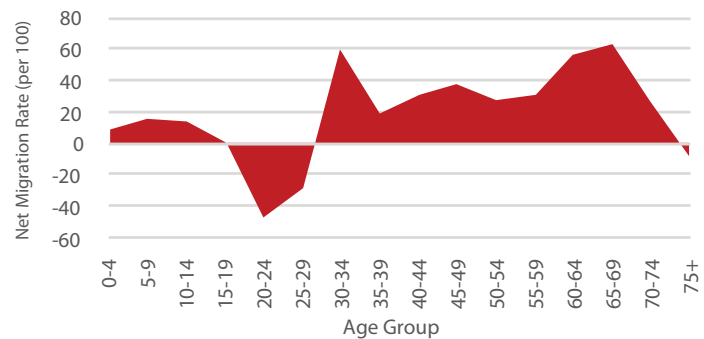
Source: Winkler et al., 2013

Millard County

- Rural county
- Out-migration through 1960s
- Interstate completion, then slow economic growth, then some diversification brings moderate population growth

Population Pyramids, 2000 and 2010

Source: U.S. Census Bureau

Historical Net Migration Rates, 1950-2010

Legend: 1950-1960, 1970-1980, 1990-2000, 1960-1970, 1980-1990, 2000-2010

Current Net Migration Rates, 2000-2010

Source: Winkler et al., 2013

Morgan County

- Transitioned from rural county to ring county
- Ring county status is well established, especially in the 1990s and 2000s when the net in-migration of family age populations (and total) turn decidedly positive
- Has long had the highest out-commuting rate in the state, increasing from 52.8% in 1980 to 61.3% in 2010

Population Pyramids, 2000 and 2010

Source: U.S. Census Bureau

Historical Net Migration Rates, 1950-2010

Legend: 1950-1960, 1960-1970, 1970-1980, 1980-1990, 1990-2000, 2000-2010

Current Net Migration Rates, 2000-2010

Source: Winkler et al., 2013

Piute County

- Small rural county, mostly with total out-migration
- Young adult out-migration is a classic rural migration signature

Population Pyramids, 2000 and 2010

Source: U.S. Census Bureau

Historical Net Migration Rates, 1950-2010

Legend: 1950-1960, 1960-1970, 1970-1980, 1980-1990, 1990-2000, 2000-2010
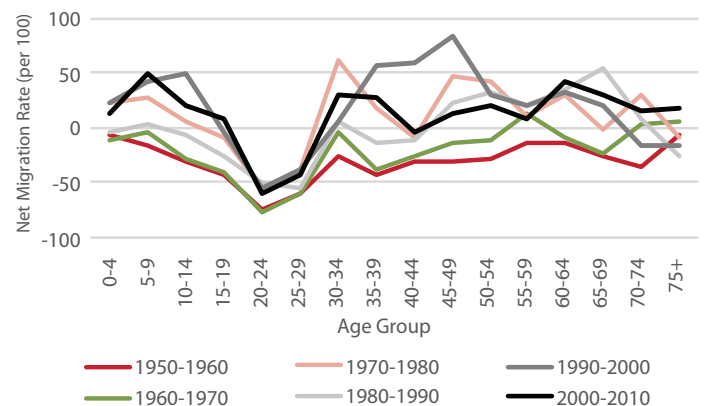
Current Net Migration Rates, 2000-2010
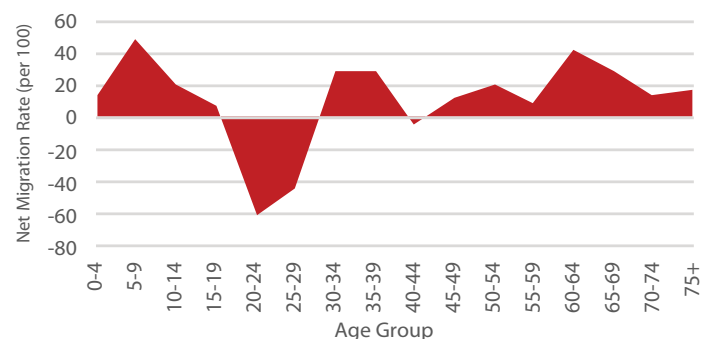
Source: Winkler et al., 2013

Rich County

- A small county transitioning from rural county to tourism county, especially from the 1990s and on
- Amenity in-migration by older age groups
- Slow population growth
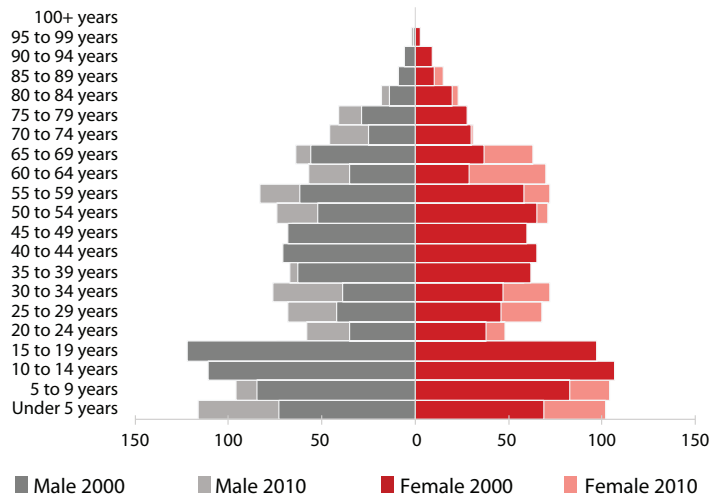
Population Pyramids, 2000 and 2010

Male 2000 ■ Male 2010 ■ Female 2000 ■ Female 2010

Source: U.S. Census Bureau

Historical Net Migration Rates, 1950-2010

— 1950-1960 — 1970-1980 — 1990-2000
— 1960-1970 — 1980-1990 — 2000-2010
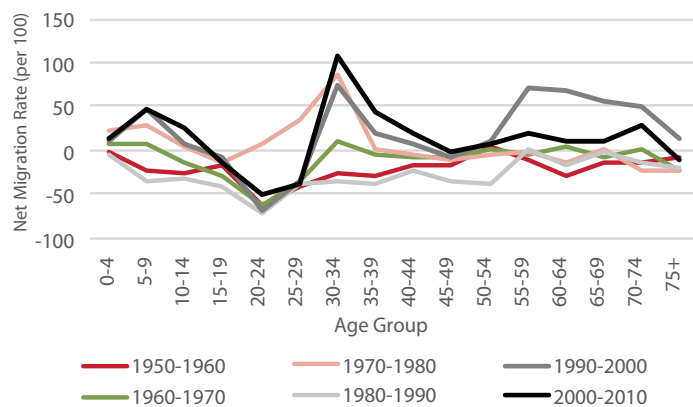
Current Net Migration Rates, 2000-2010

Source: Winkler et al., 2013

Salt Lake County

- Urban metro county with 40% of total state employment
- Economic heart of the state, with migration signature becoming more positive and pronounced over time
- Strong net in-commuting county

Population Pyramids, 2000 and 2010
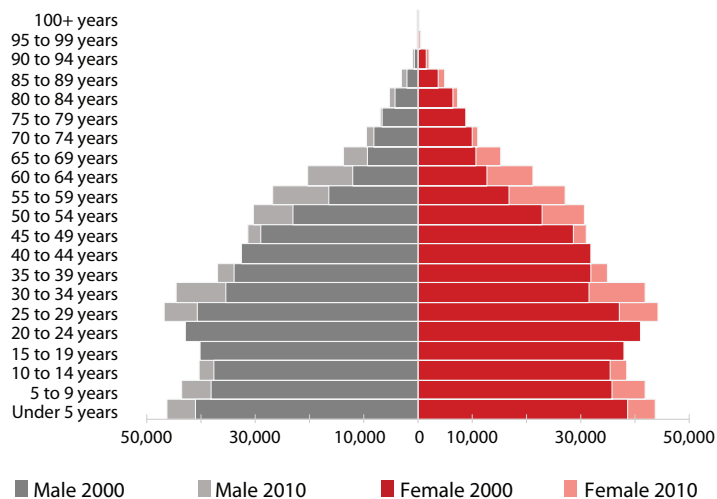
■ Male 2000 ■ Male 2010 ■ Female 2000 ■ Female 2010

Source: U.S. Census Bureau

Historical Net Migration Rates, 1950-2010

— 1950-1960 — 1970-1980 — 1990-2000
— 1960-1970 — 1980-1990 — 2000-2010
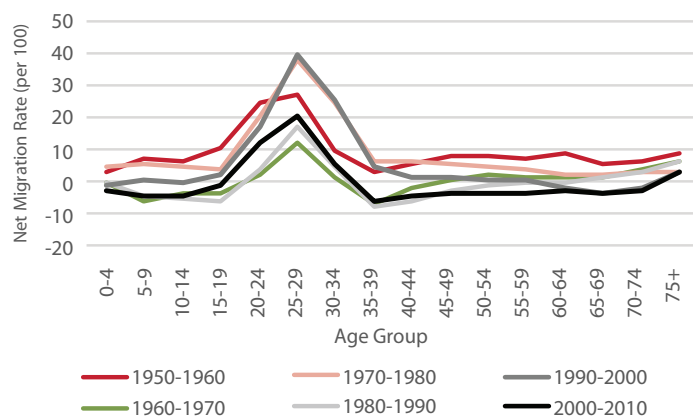
Current Net Migration Rates, 2000-2010
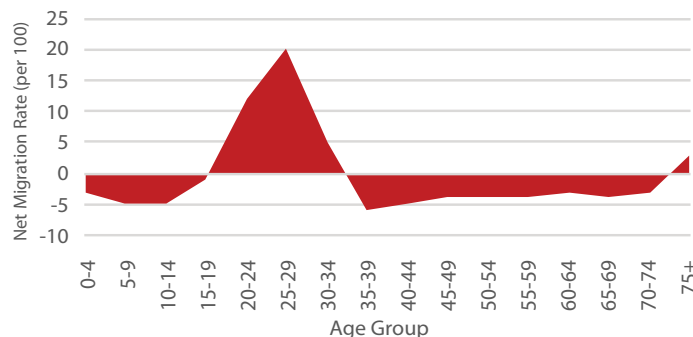
Source: Winkler et al., 2013

San Juan County

- Rural county
- Sustained net out-migration
- Subject to boom/bust of uranium (like Grand County)

Population Pyramids, 2000 and 2010
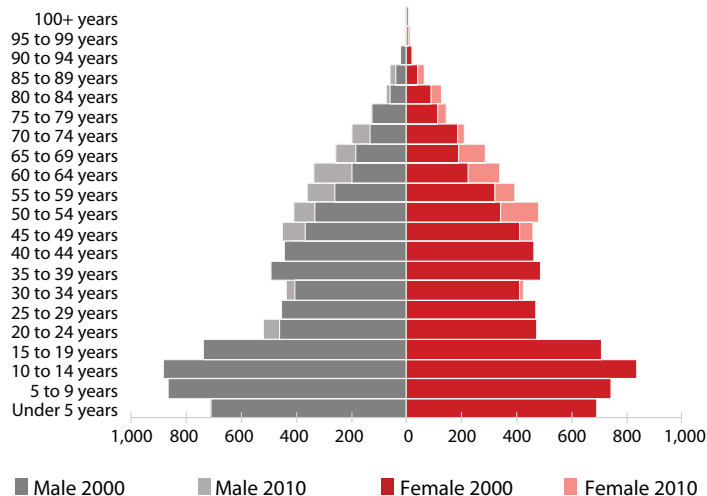
Source: U.S. Census Bureau

Historical Net Migration Rates, 1950-2010

Legend: 1950-1960, 1960-1970, 1970-1980, 1980-1990, 1990-2000, 2000-2010
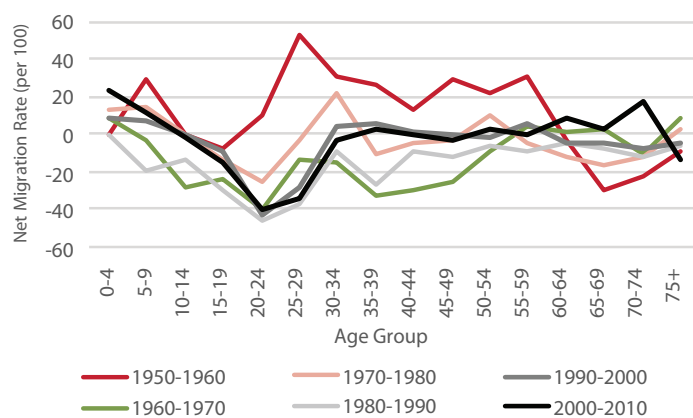
Current Net Migration Rates, 2000-2010
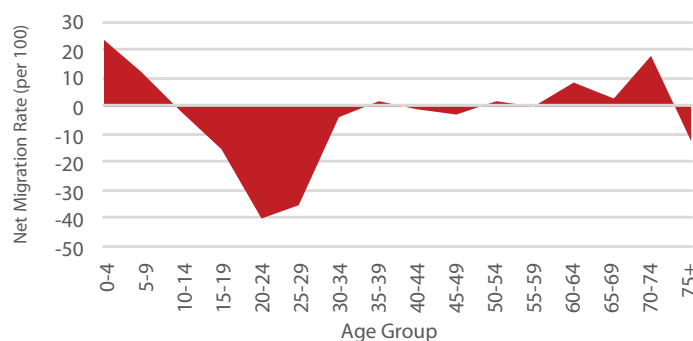
Source: Winkler et al., 2013

Sanpete County

- Transitioned from rural county to college county
- Out-migration prior to 1970s
- College county migration signature is established by 1970s and becomes more pronounced afterwards

Population Pyramids, 2000 and 2010
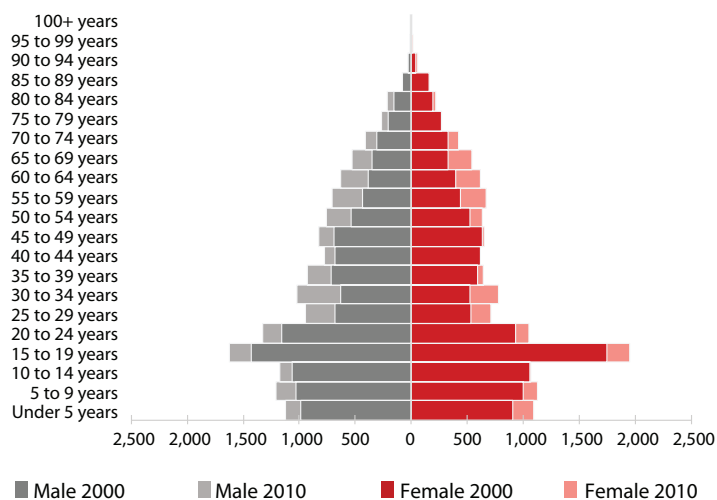
Source: U.S. Census Bureau

Historical Net Migration Rates, 1950-2010

Legend: 1950-1960, 1960-1970, 1970-1980, 1980-1990, 1990-2000, 2000-2010
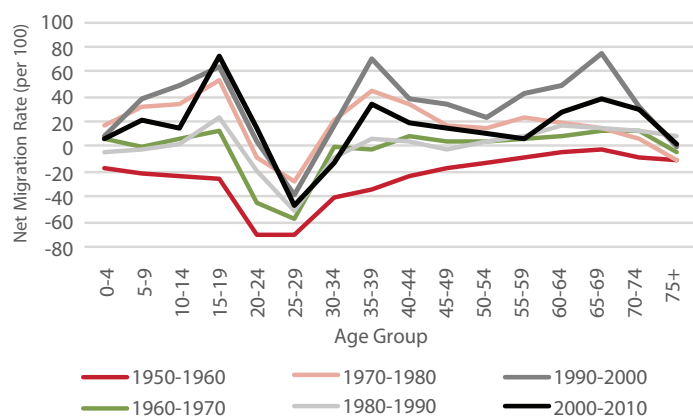
Current Net Migration Rates, 2000-2010
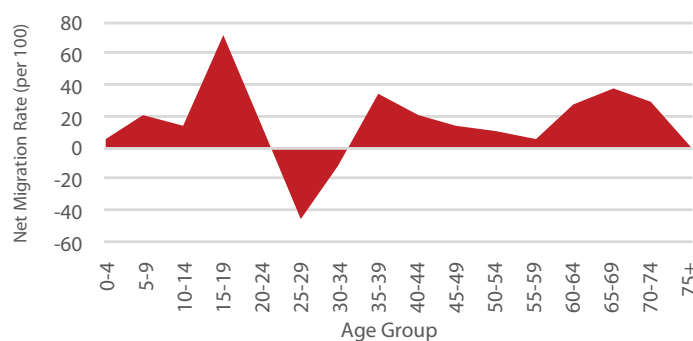
Source: Winkler et al., 2013

Sevier County

- Rural county
- Out-migration until 1970s, with "boom-bust" fluctuations
- Very slow population growth
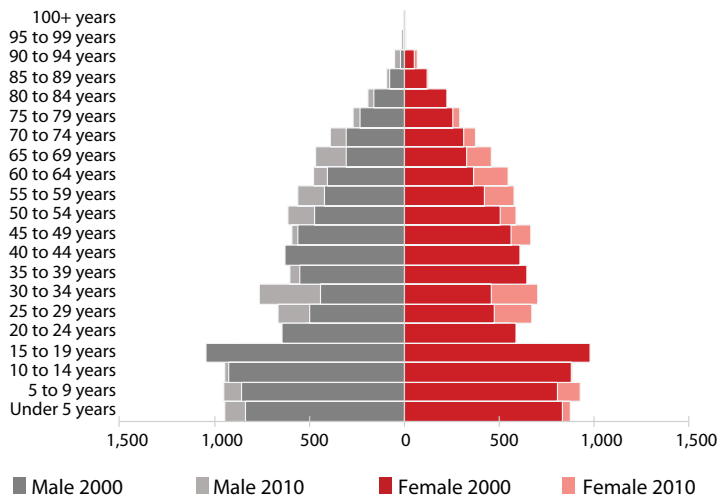
Population Pyramids, 2000 and 2010

Source: U.S. Census Bureau

Historical Net Migration Rates, 1950-2010

- 1950-1960
- 1960-1970
- 1970-1980
- 1980-1990
- 1990-2000
- 2000-2010
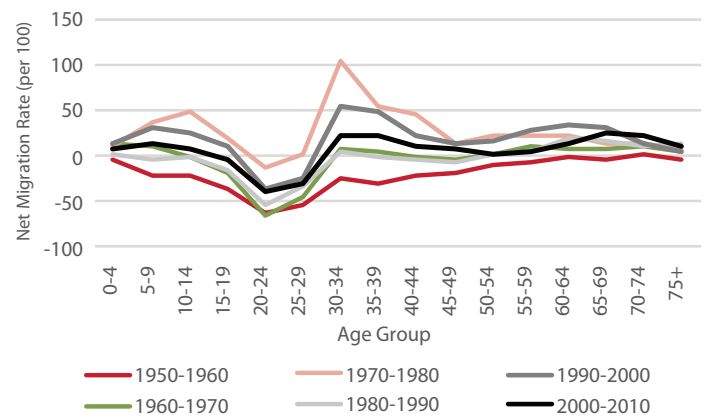
Current Net Migration Rates, 2000-2010
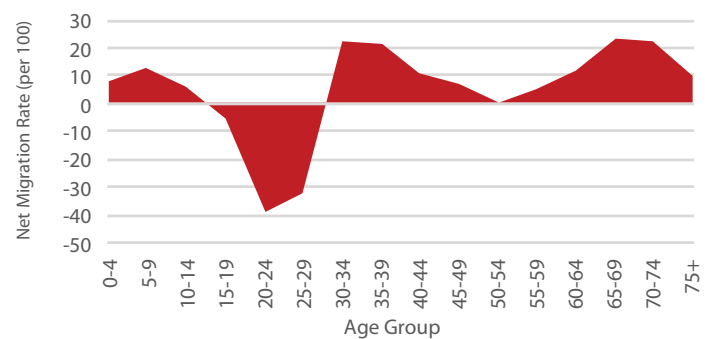
Source: Winkler et al., 2013

Summit County

- Transitioned from rural county to ring county by 1980s
- Population growth accelerated in the 1990s in the build-up to the 2002 Winter Olympic Games
- Strong commuting ties with Salt Lake and Wasatch counties
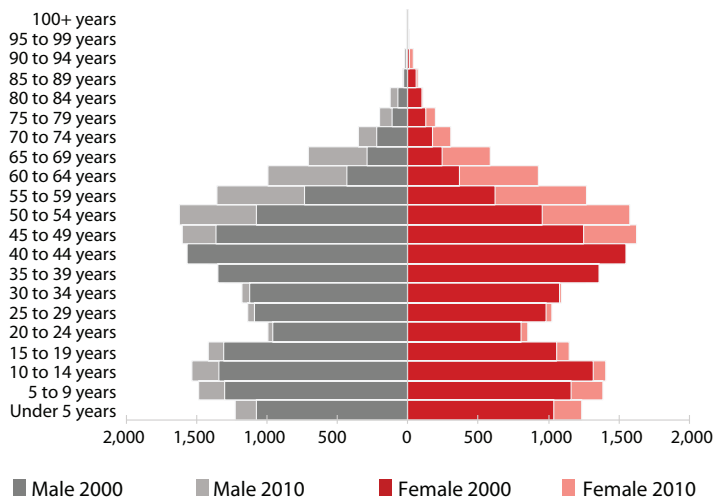
Population Pyramids, 2000 and 2010

Source: U.S. Census Bureau

Historical Net Migration Rates, 1950-2010

- 1950-1960
- 1960-1970
- 1970-1980
- 1980-1990
- 1990-2000
- 2000-2010
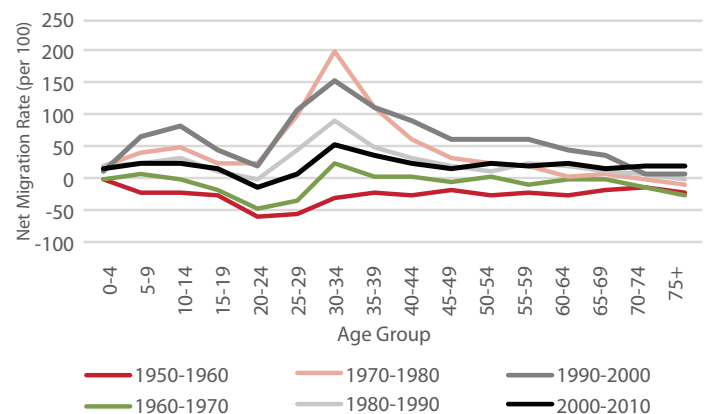
Current Net Migration Rates, 2000-2010
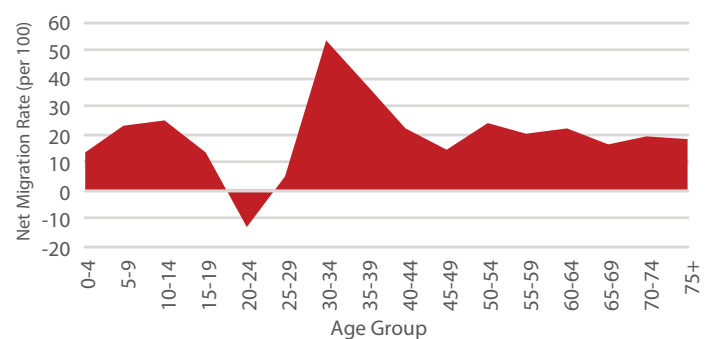
Source: Winkler et al., 2013

Tooele County

- · Transitioned from rural county to ring county
- · Out-commuting rates have changed drastically: 1980= 15.8% and 2010= 44.6% (#3 in the state)
- · Defense installation closure saw a change in migration patterns
- · In and out- migration fluctuations prior to 1990s
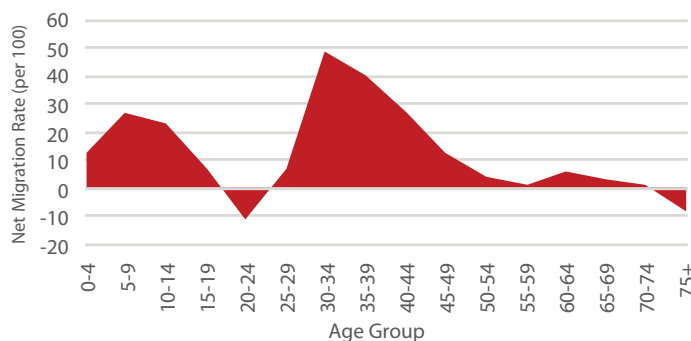- · Ring county status solidified beginning in 1990s

Population Pyramids, 2000 and 2010

Legend: ■ Male 2000 ■ Male 2010 ■ Female 2000 ■ Female 2010

Source: U.S. Census Bureau

Historical Net Migration Rates, 1950-2010

Legend: 1950-1960, 1960-1970, 1970-1980, 1980-1990, 1990-2000, 2000-2010

Current Net Migration Rates, 2000-2010

Source: Winkler et al., 2013

Uintah County

- · Oil and Gas County
- · In and out-migration follow booms (1970s, 2000s) and busts (1950s, 1960s, 1980s)
- · Migration signature maintains same shape but shifts according to booms/busts

Population Pyramids, 2000 and 2010

Legend: ■ Male 2000 ■ Male 2010 ■ Female 2000 ■ Female 2010

Source: U.S. Census Bureau

Historical Net Migration Rates, 1950-2010

Legend: 1950-1960, 1960-1970, 1970-1980, 1980-1990, 1990-2000, 2000-2010
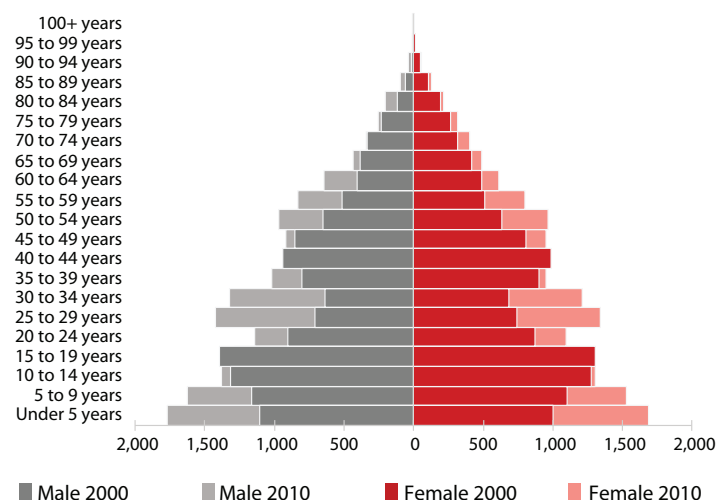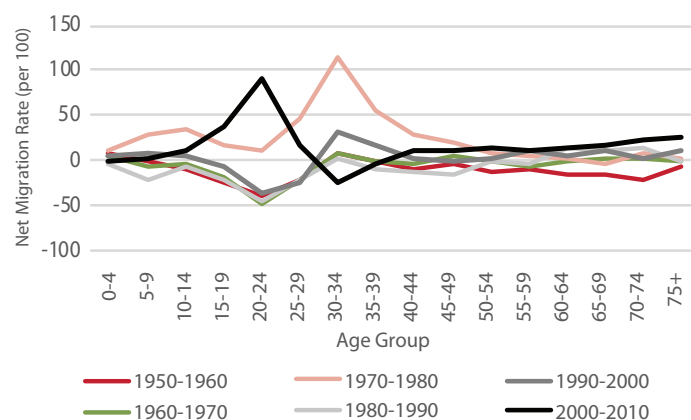
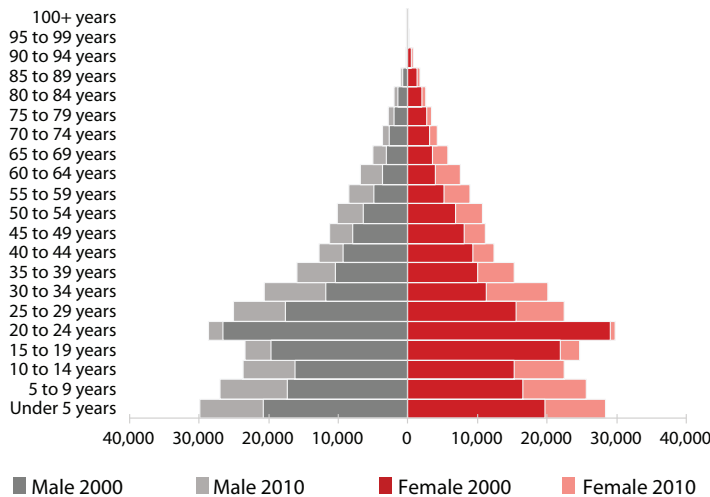## Current Net Migration Rates, 2000-2010
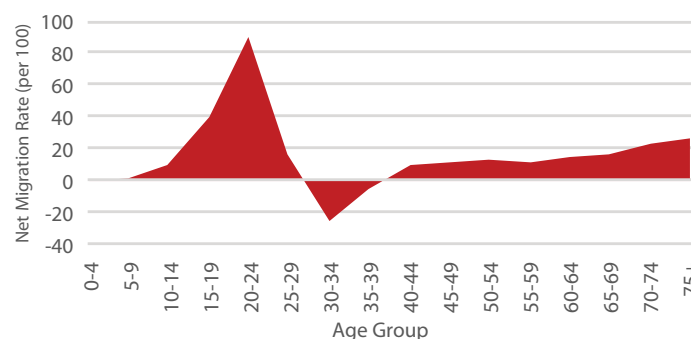
Source: Winkler et al., 2013
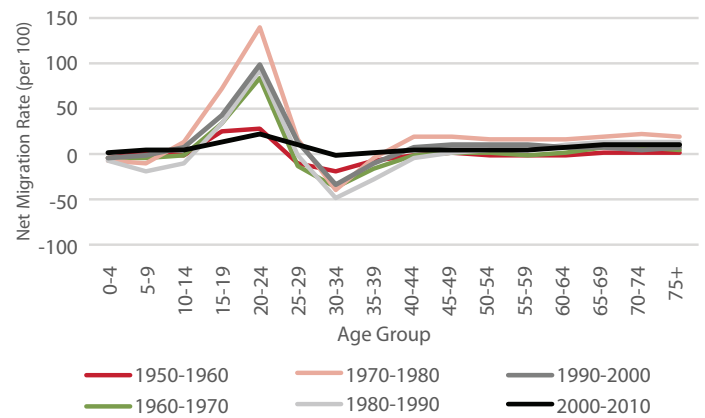
Utah County

- Composite – has characteristics of college, ring, and urban metro counties
- Maintains much of the college county migration pattern. But this is much diminished compared to earlier decades. Formerly a rural county with a college population age structure. Out-commuting has increased from 9.7% in 1980 to 17.4% in 2010
- Still a net out-commuting county, especially to Salt Lake County
- Strong household population growth, especially since 1980
- Recently developing employment centers that bring commuters from Juab, Sanpete, and Wasatch counties

Population Pyramids, 2000 and 2010

- Male 2000
- Male 2010
- Female 2000
- Female 2010

Source: U.S. Census Bureau

Historical Net Migration Rates, 1950-2010

- 1950-1960
- 1960-1970
- 1970-1980
- 1980-1990
- 1990-2000
- 2000-2010

Current Net Migration Rates, 2000-2010
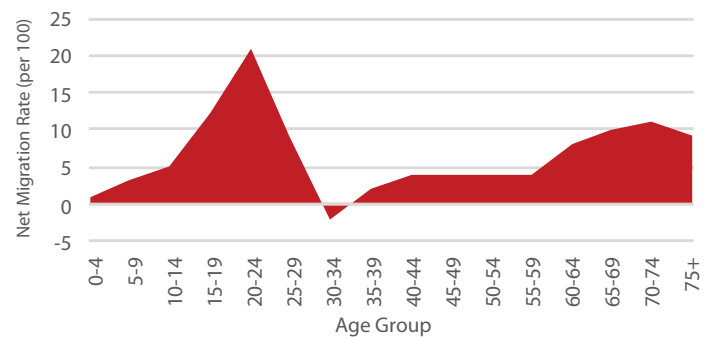
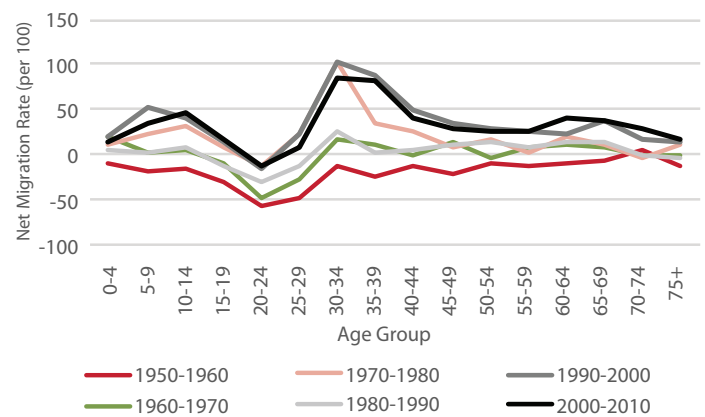Source: Winkler et al., 2013

Wasatch County

- Transitioned from rural county to ring county, especially from 1990s and on
- Out-commuting rates have gone from 35.3 % in 1980 to 42.3% in 2010 (ranked # 4 in the state in 2010)
- Accelerated growth of households and population from 1990s and on
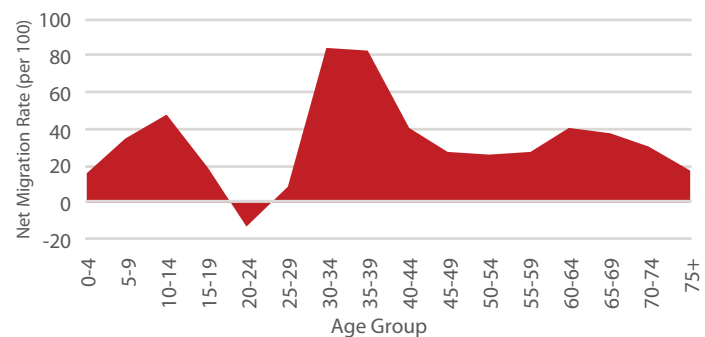
Population Pyramids, 2000 and 2010
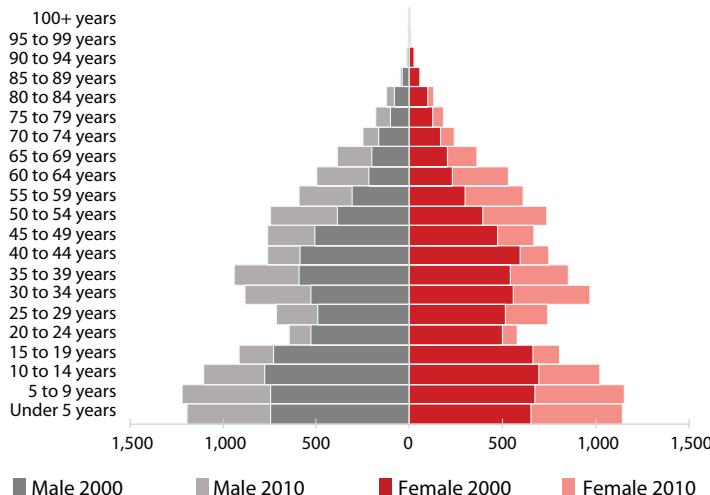
- Male 2000
- Male 2010
- Female 2000
- Female 2010

Source: U.S. Census Bureau

Historical Net Migration Rates, 1950-2010

- 1950-1960
- 1960-1970
- 1970-1980
- 1980-1990
- 1990-2000
- 2000-2010

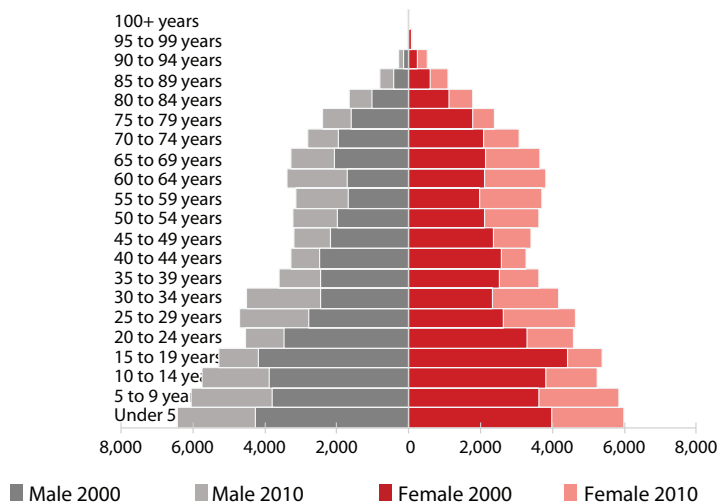## Current Net Migration Rates, 2000-2010

Source: Winkler et al., 2013
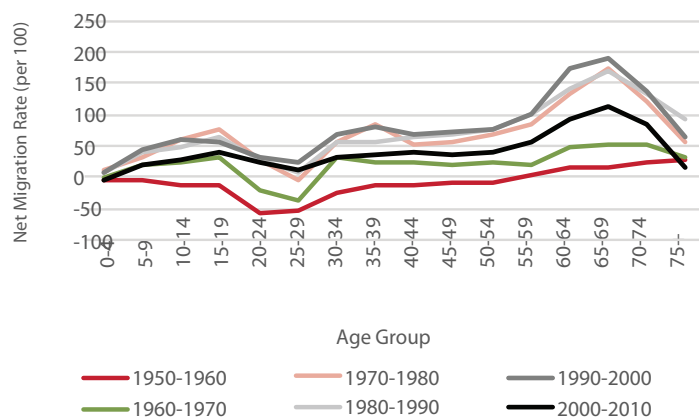
Washington County

- Composite – county has steady in-migration across all age groups, though has a slight dip in the college and early employment years
- Retirement age destination, especially from 1970s on
- Net out-migration until turning positive in the 1960s – net in-migration since
- Among the most self-contained on commuting
- Rapid population growth, especially from 1980s and on
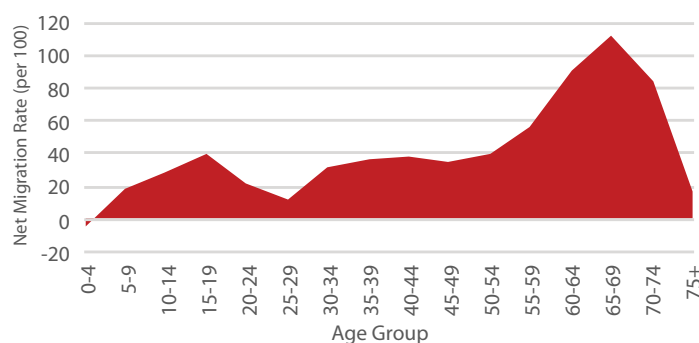- Classified as a Metropolitan Statistical Area by the Census Bureau

Population Pyramids, 2000 and 2010

Male 2000   Male 2010   Female 2000   Female 2010

Source: U.S. Census Bureau

Historical Net Migration Rates, 1950-2010

1950-1960   1970-1980   1990-2000
1960-1970   1980-1990   2000-2010

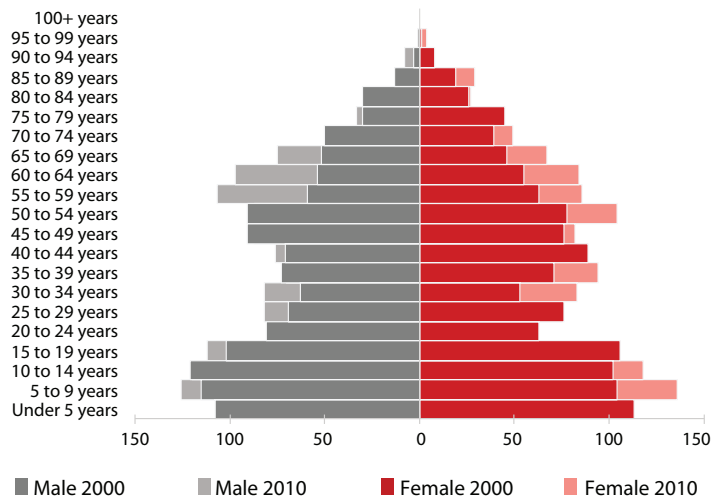## Current Net Migration Rates, 2000-2010
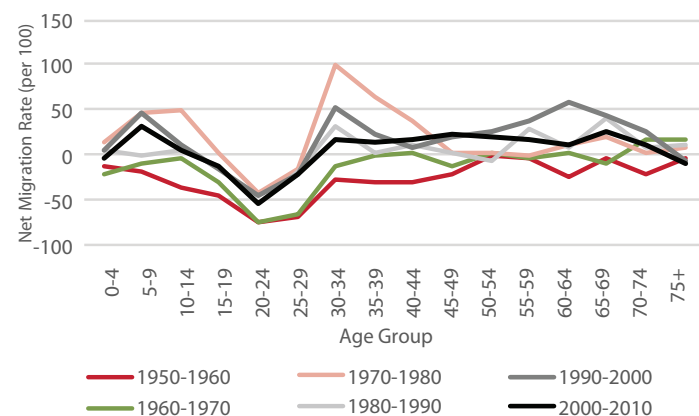

Source: Winkler et al., 2013

Wayne County

- Rural county
- Sustained population decline and out-migration in the 1950s and 1960s.
- Slow population growth with minimal in-migration from the 1970s and on
- Classic rural migration signature
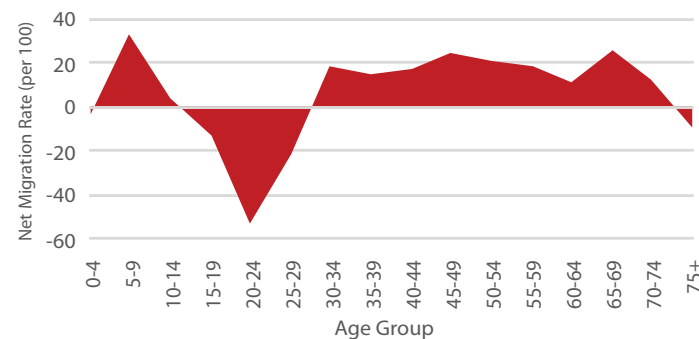
Population Pyramids, 2000 and 2010

Male 2000   Male 2010   Female 2000   Female 2010

Source: U.S. Census Bureau

Historical Net Migration Rates, 1950-2010

1950-1960   1970-1980   1990-2000
1960-1970   1980-1990   2000-2010
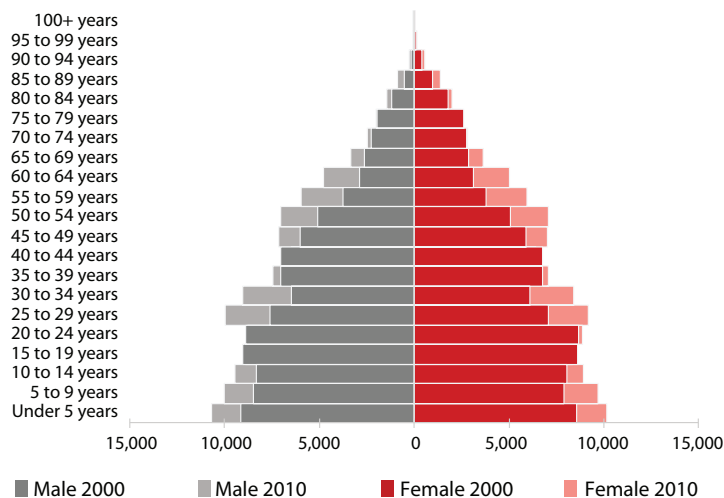
Current Net Migration Rates, 2000-2010

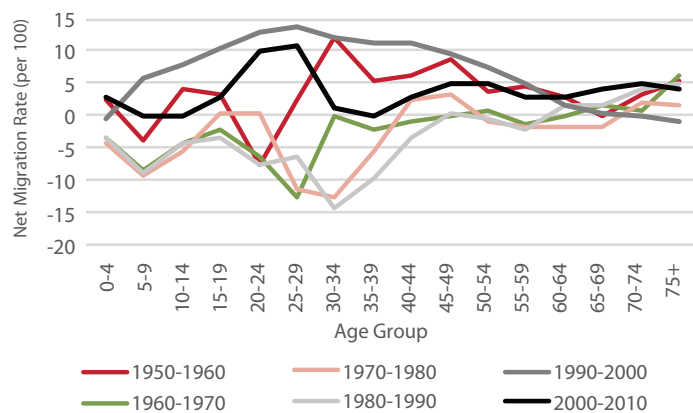Source: Winkler et al., 2013

Weber County

- Composite
- Transitioned from a county economically dominated by Hill Air Force Base to one that has grown and diversified.
- Large out-migration with downsizing of Hill at the end of the Cold War (1980s)
- Weber State University growth contributes to the net in-migration of the 1990s – college county migration signature pattern is visible
- Has ring county characteristics –total net out-commuting (for all of Weber), with greatest out commuting to Davis and Salt Lake counties.
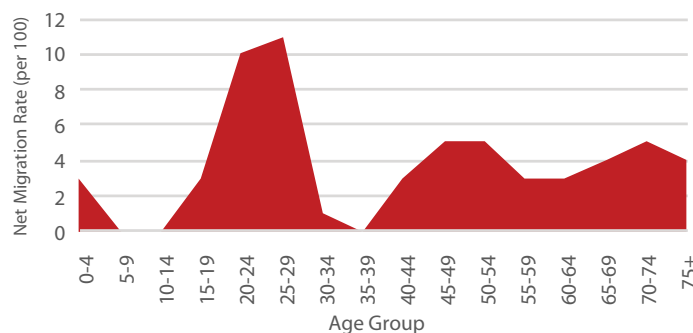
Historical Net Migration Rates, 1950-2010

Population Pyramids, 2000 and 2010

Source: U.S. Census Bureau

Current Net Migration Rates, 2000-2010

Source: Winkler et al., 2013

Appendix 2

Migration Definitions and Concepts

People are much more likely to move short distances within the same community or metropolitan region than across state lines. Very long distance moves, such as across the country or internationally, are far less common. Residential mobility refers to short distance moves while the term migration refers to longer distance moves. The precise geographic delineation varies and most often depends upon the purpose of particular research and the availability of data. In this research, we define migration as any change in county of residence and residential mobility as within county moves. We also examine patterns for the state as a whole, considering migration to and from Utah.

These age-specific historical migration rates, or migration signatures, are fundamental indicators of local characteristics and conditions. During periods of rapid economic and population growth, an understanding of these patterns can provide vital information for planning of facilities and services. Population growth or decline that is concentrated in a specific age group will result in a corresponding set of advantages and challenges to an area.

The Challenges of Migration Data

People join or leave populations over time through three processes or components of change: births, deaths, and migration. Births and deaths are well-tracked across the United States, while there is no formal system for tracking people's movement. Local governments are required to register all births and deaths that occur in their jurisdictions. The National Center for Health Statistics compiles these into the National Vital Statistics System. This consistent and comprehensive data set is publically available. No such registration system exists for people who move.

Migration is complicated to measure and not documented consistently across all types of movement. Migration is estimated in multiple ways from administrative data (e.g., post office changes of address, tax returns, drivers licenses, etc.) to surveys (e.g., the decennial census, American Community Survey, etc.). Each data source differs in coverage and timeframe and are often inconsistent with each other.

For example, the U.S. Postal Service tracks changes of address for individuals and maintains the National Change of Address File, a secure data set not available to most researchers. The Internal Revenue Service (IRS) has data that tracks the residential location of individuals based on tax filings, but not everyone files taxes or reports the correct address. The IRS makes tabulated data publically available; however, the detailed microdata is secured and not available to most researchers. The Census Bureau can measure migration through the American Community Survey (ACS), a sample survey. Similar to all survey research, results are less reliable for smaller populations or geographic areas.

The decennial census provides the most comprehensive counts of population, and we can estimate migration by comparing detailed population counts of a region from one decennial census to the next. This method infers net migration only between these two time points and does not capture gross in or out-migration or moves in the intervening years. This study uses decennial data and infers net migration.

Calculating Migration Rates

For this study, we utilize existing county-level migration rates for Utah from detailed counts of the population from each decennial Census beginning in 1950.[16] Specifically, we analyze counts of the population by 5-year age groups and sex for all seven enumerations from 1950 through 2010 by county. This technique relies on the simple observation that, if there were no deaths and everybody stayed living in the same county from one enumeration to the next, the population ages ten years and from that we can infer net migration. This accounts for the number of births and deaths that occurred for each ten-year interval by age group, sex, and county. Researchers applied demographic techniques to estimate the net-migration rates for each county by 5-year age groups and sex for each decade.

Appendix 3

Table 5: County Population and Growth, 2000-2010

County	2000 Population	2010 Population	Absolute Change	Percent Change	County	2000 Population	2010 Population	Absolute Change	Percent Change
Beaver County	6,005	6,629	624	10.4%	Piute County	1,435	1,556	121	8.4%
Box Elder County	42,745	49,975	7,230	16.9%	Rich County	1,961	2,264	303	15.5%
Cache County	91,391	112,656	21,265	23.3%	Salt Lake County	898,387	1,029,655	131,268	14.6%
Carbon County	20,422	21,403	981	4.8%	San Juan County	14,413	14,746	333	2.3%
Daggett County	921	1,059	138	15.0%	Sanpete County	22,763	27,822	5,059	22.2%
Davis County	238,994	306,479	67,485	28.2%	Sevier County	18,842	20,802	1,960	10.4%
Duchesne County	14,371	18,607	4,236	29.5%	Summit County	29,736	36,324	6,588	22.2%
Emery County	10,860	10,976	116	1.1%	Tooele County	40,735	58,218	17,483	42.9%
Garfield County	4,735	5,172	437	9.2%	Uintah County	25,224	32,588	7,364	29.2%
Grand County	8,485	9,225	740	8.7%	Utah County	368,536	516,564	148,028	40.2%
Iron County	33,779	46,163	12,384	36.7%	Wasatch County	15,215	23,530	8,315	54.7%
Juab County	8,238	10,246	2,008	24.4%	Washington County	90,354	138,115	47,761	52.9%
Kane County	6,046	7,125	1,079	17.8%	Wayne County	2,509	2,778	269	10.7%
Millard County	12,405	12,503	98	0.8%	Weber County	196,533	231,236	34,703	17.7%
Morgan County	7,129	9,469	2,340	32.8%	State of Utah	2,233,169	2,763,885	530,716	23.8%

Source: U.S. Census Bureau, Decennial Census

Table 6: County Net Migrants by Life Stage and Components of Population Change, 2000-2010

County	Emerging Adults Net Migration	Young Adults Net Migration	Family Age Net Migration	Older Adults Net Migration	Total Net Migration	Total Natural Increase
Beaver County	-265	-72	194	176	3	621
Box Elder County	-1,826	-810	2,818	745	1,500	5,730
Cache County	9,679	751	-9,952	1,190	1,875	19,390
Carbon County	-115	-587	112	271	-33	1,014
Daggett County	-19	5	39	57	74	64
Davis County	-1,339	-299	19,763	1,956	23,750	43,735
Duchesne County	-298	-36	1,668	448	2,046	2,190
Emery County	-781	-439	277	-49	-897	1,013
Garfield County	-177	-155	122	318	166	271
Grand County	-221	-5	411	273	345	395
Iron County	4,287	-28	-569	2,316	5,993	6,391
Juab County	-288	-177	789	316	793	1,215
Kane County	-263	-141	513	714	810	269
Millard County	-955	-690	516	102	-809	907
Morgan County	-216	-357	1,542	296	1,506	834
Piute County	-66	-56	105	89	103	18
Rich County	-125	-79	233	77	116	187
Salt Lake County	7,593	15,155	-15,476	-7,470	-1,561	132,829
San Juan County	-914	-492	69	141	-1,030	1,363
Sanpete County	1,788	-1,433	1,249	942	2,677	2,382
Sevier County	-771	-635	955	468	276	1,684
Summit County	-708	-130	3,348	46	2,464	4,124
Tooele County	118	196	6,321	1,801	9,448	8,035
Uintah County	-135	178	3,159	190	3,702	3,662
Utah County	40,950	7,082	-6,436	8,920	53,786	94,242
Wasatch County	52	108	3,696	1,160	5,450	2,865
Washington County	4,666	1,010	11,891	13,964	32,635	15,126
Wayne County	-141	-43	168	113	69	200
Weber County	2,142	1,968	1,305	1,817	8,235	26,468
State of Utah	61,643	19,782	28,883	31,443	153,598	377,118

Source: Winkler et al., 2013; Utah Population Estimates Committee

Note: Individual life-stage migration groups do not sum to total net migration due to omitted age groups (0-4 and 75+)