

Section 3

Reversing the Net Out-Migration of College-Educated Nebraskans

Priority 3. Reducing, eliminating, and then reversing the net out-migration of Nebraskans with high levels of educational attainment.

The third priority recommended by the 2003 LR 174 Task Force is to reduce, eliminate and then reverse the net out-migration of Nebraskans with high levels of educational attainment. This priority was advised because data from the 2000 U.S. Census showed that Nebraska lost more college-educated adults than the state attracted between 1995 and 2000. Furthermore, during the same period, Nebraska attracted a significant net in-migration of adults with less than a high school education.

Based on the most recent data collected by the U.S. Census Bureau, it is impossible to draw firm conclusions about the overall migration patterns of the adults who moved to or from Nebraska since 2000 and particularly about those with higher levels of education. Consequently, this section reviews currently available migration estimates and explains why these estimates do not clearly indicate whether Nebraska is gaining or losing more college-educated adults than it has in the past.

Previous and New Estimates of Adult Migration

An analysis of data collected through the 2000 U.S. Census revealed that, between 1995 and 2000, Nebraska experienced a net out-migration of college graduates that was more than offset by a net in-migration of adults with less than a high school education. The results of this analysis were reported in the *2004 Baseline Report for the LR 174 Higher Education Task Force* and repeated in the *2005 Nebraska Higher Education Progress Report for the LR 75 Legislative Evaluation Task Force* to underscore the importance of developing more employment opportunities for individuals who are educated at Nebraska's colleges and universities. (Table A13.1 in Appendix 13 provides a summary of the 2000 migration data.)

The migration analysis presented in the *2004 Baseline Report* was based on the U.S. Census Bureau's estimates of the numbers of *adults aged 22 to 64* who left and entered the state during the five-year period preceding the 2000 census. These estimates and the resulting estimates of net migration were based on responses to questions asked on the 2000 Census long-form, completed by a one-in-six sample of U.S. households.

Migration estimates based on 2000 census data were included in the *2004 Baseline Report* with the intention that they would later be compared to data collected through the 2010 decennial census. However, the U.S. Census Bureau no longer collects migration data comparable to the data collected in 2000. Instead, the Census Bureau replaced the long-form of the decennial census with the annual American Community Survey (ACS).

The decennial long-form asked each respondent whether household members had lived in their current home five years ago, and, if not, to report the location of their previous residence. In comparison, the ACS form asks if members of a household lived in a different residence one year ago.

Unlike the decennial census, which counts the U.S. population as of April 1st of the census year, the ACS is conducted monthly over the course of the survey year. As a result, the

migrations reported by survey respondents actually can occur within a time frame that ranges from almost a year before the first wave of the survey is conducted in January to shortly before the last wave of the survey is conducted in December. Consequently, the ACS migration data for any given survey year represents a possible migration period that is almost two years long. Furthermore, the second year of this two-year period is almost the same as the first migration year represented in the next survey. Since the ACS migration data are based on overlapping time frames that are each almost two years long, rather than a clearly defined five-year period, ACS migration data are not directly comparable to the decennial census data collected in 2000.

Compared to the decennial census, the major advantage of the ACS is that it provides new estimates of interstate migration every year, rather than only once every ten years. For the purposes of this report, the major disadvantage of the annual ACS is that it provides estimates of the numbers of 22- to 64-year-olds who migrated to and from Nebraska based on small samples of individuals who entered or left the state. As a result, the migration estimates for 22- to 64-year-olds developed from ACS data can vary dramatically from one year to another, not because any significant changes in migration patterns have occurred, but because estimates based on small samples commonly fluctuate as a result of sampling error. In contrast, the migration data collected through the long-form of the decennial census in 2000 were from large samples of respondents, thus resulting in estimates with small margins of error.

First conducted in 2005, the annual nationwide ACS obtains detailed data from a sample of more than three million households, representing up to 2.5% of all households. Using the total ACS sample, the U.S. Census Bureau develops and publishes estimates of the number of adults 25 years of age or older that move into or out of each state. However, the only way to obtain migration estimates for 22- to 64-year-olds is to develop them based on a smaller sample of ACS data that is available for public use.

The ACS data files that are available for public use include the survey responses obtained from an annual sample of about 1% of Nebraska's households. However, only a small fraction of the individuals surveyed report that they lived in Nebraska for less than a year, and even smaller samples of respondents from other states say that they moved out of Nebraska within one year of the survey. When these groups of respondents are classified by level of education, sample sizes are further reduced, thereby decreasing the reliability of the migration estimates by education level.

Even though migration estimates based on ACS data can be expected to vary quite dramatically from one year to another, they are the *only* available statistics for monitoring Nebraska migration patterns since the 2000 U.S. Census. Consequently, the Coordinating Commission has reported the estimates for 22- to 64-year-olds by education level since ACS data first became available for public use.

This section of the 2015 report summarizes the migration estimates based on 2013 ACS data collected from samples of 22- to 64-year olds who migrated to and from the state in 2012 or 2013, and compares these estimates to those based on data from previous surveys. In addition, average annual net migration estimates for 22- to 64-year-olds are presented, based on three years of ACS data collected in 2011, 2012, and 2013.

Migration Estimates for 22- to 64-Year Olds Based on the American Community Survey

Figure 3.1 summarizes the net-migration estimates for Nebraska by education level, based on the results of the ACS conducted annually from 2005 to 2013.³⁶ As shown in this chart, the estimates of net migration based on one year of ACS data vary significantly from one year to another.

When the estimates based on the nine years of ACS data are compared, as shown in Figure 3.1, an overall migration pattern is not clearly revealed. Based on these estimates, it is impossible to draw conclusions about the migration trends of Nebraska.

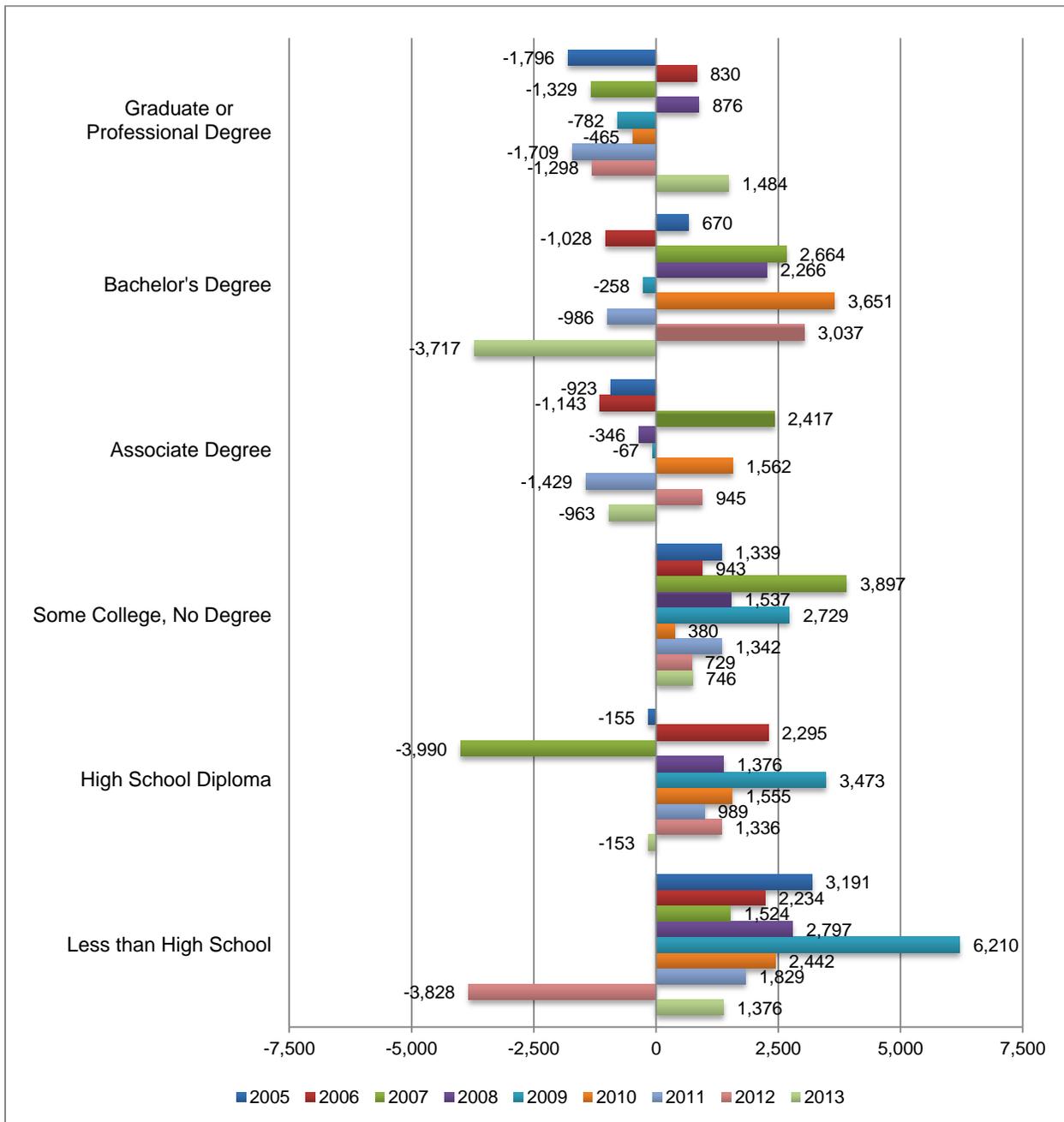
The primary reason for the inconsistent net-migration estimates shown in Figure 3.1 is that they are based on very small samples. For example, based on the 2013 ACS data available for public use, 1,484 more individuals with graduate or professional degrees moved into Nebraska than moved out of the state. This estimate is based on survey responses from 39 individuals who moved to Nebraska and 31 respondents who moved from Nebraska to other states, or a total of 70 individuals who were surveyed in 2013.

When the margin of error exceeds the absolute value of the point estimate, no conclusions should be drawn about the estimate. Since the estimated net migration of 1,484 individuals with graduate or professional degrees has a 90% margin of error of +/- 2,265, no conclusions can be drawn. In fact, for the 2013 ACS, every level of education, *except for bachelor's*, has a margin of error larger than the estimate itself. The estimated net migration of -3,717 for those with a bachelor's degree has a 90% margin of error of +/- 3,368. In other words, if one were to draw indefinite samples of the population, the point estimate for those with a bachelor's degree would fall between -7,085 and -349 90% of the time. Obviously, such a conclusion provides no help in determining whether the goal of Priority 3 is being achieved. See Table A13.3 and Table A13.5 in Appendix 13 for more information on confidence intervals for ACS data.

³⁶ Net migration is the difference between the estimated numbers of individuals who moved to or from Nebraska. If net migration is positive, the number of people who moved to the state is higher than the number who left Nebraska. If net-migration is negative, the number of people who left the state exceeded the number who moved to Nebraska.

Figure 3.1

**Estimated Nebraska Net-Migration of 22- to 64-Year-Olds by Education,
Based on the 2005 Through 2013
American Community Surveys Conducted by the U.S. Census Bureau**

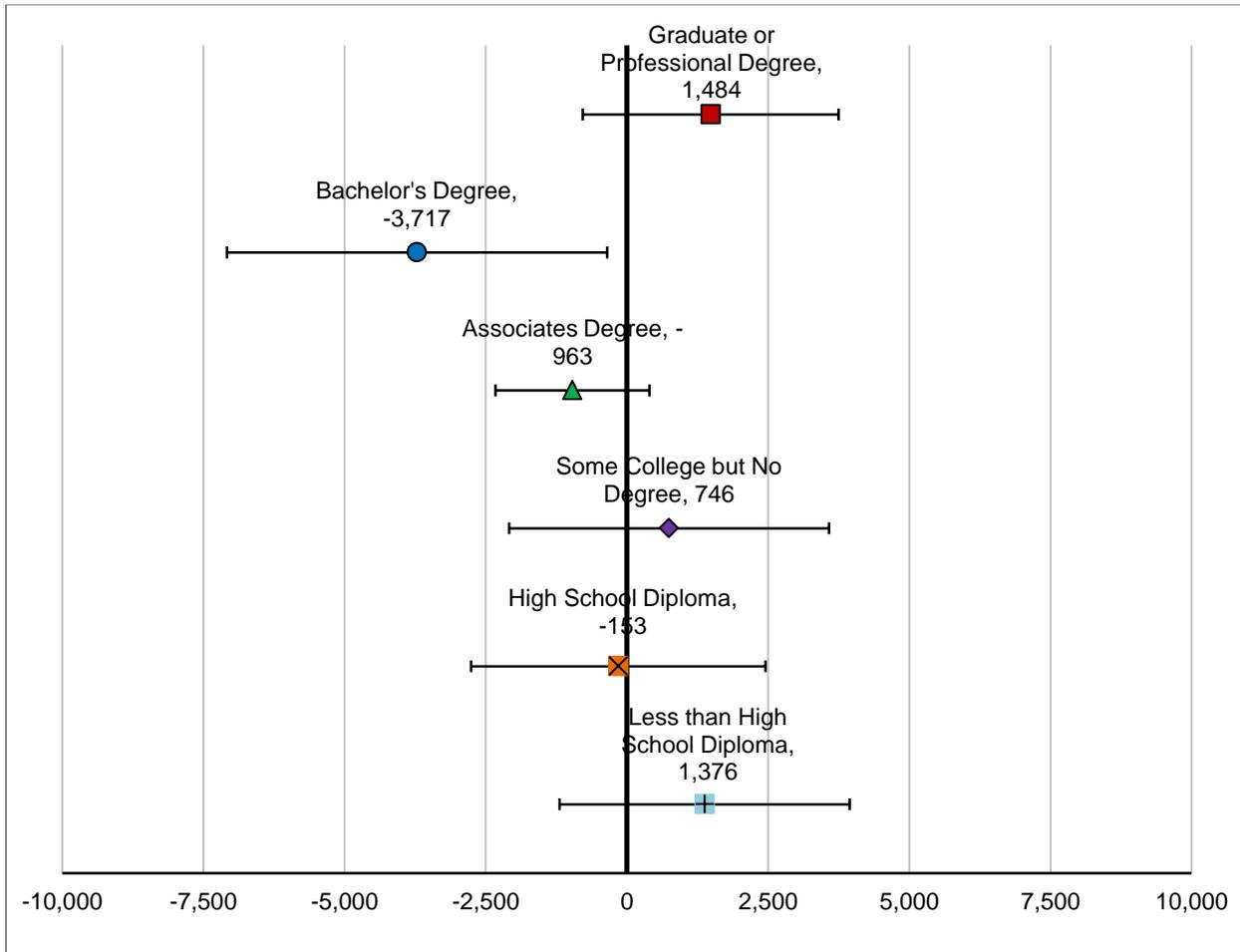


Note. See [Table A13.2](#) in [Appendix 13](#) for supporting data. Data source: Estimates based on the 2005 through 2013 American Community Surveys, conducted by the U.S. Census Bureau, obtained from the National Center for Higher Education Management Systems (NCHEMS).

[Figure 3.2](#) visually illustrates the margins of error for the net-migration estimates that are based on 2013 ACS data. Similar ranges of variability have been calculated for all of the other estimates for 2005 through 2012, as summarized in [Figure 3.1](#). Given that these ranges are relatively wide and the corresponding net-migration estimates at each education level vary from one year to the next, it is difficult to draw even tentative conclusions about the general migration pattern of working-age adults who moved to or from Nebraska between 2005 and 2013.

Figure 3.2

Estimated Nebraska Net-Migration of 22- to 64-Year-Olds by Education, Based on 2013 American Community Survey Data



Note. See [Table A13.2](#) and [Table A13.4](#) in [Appendix 13](#) for the margins of error and the number of cases on which each estimate is based. This chart shows each net-migration estimate as the mid-point of the range of values based on the margin of error at the 90% confidence level. Data source: Estimates based on the 2013 American Community Survey, conducted by the U.S. Census Bureau, obtained from the National Center for Higher Education Management Systems (NCHEMS).

As previously stated, no conclusion can be drawn about a net migration estimate when the margin of error exceeds the estimate at the stated confidence level, and especially when the margin of error is large, relative to the estimate. Conversely, a conclusion can be drawn about the direction of net migration at a given education level if the margin of error is less than the absolute value of the estimated migration.

In the case of individuals with a bachelor's degree, it can be concluded that Nebraska exported more 22- to 64-year-olds with bachelor's degrees than it imported in 2013. However, the available data are inadequate to precisely determine the magnitude of this negative net migration in 2013.

The annual estimates of net migration shown in [Figure 3.1](#) vary quite dramatically from one year to the next. Most importantly, they do not provide evidence that Nebraska has consistently gained or lost high school or college graduates as a result of migration.

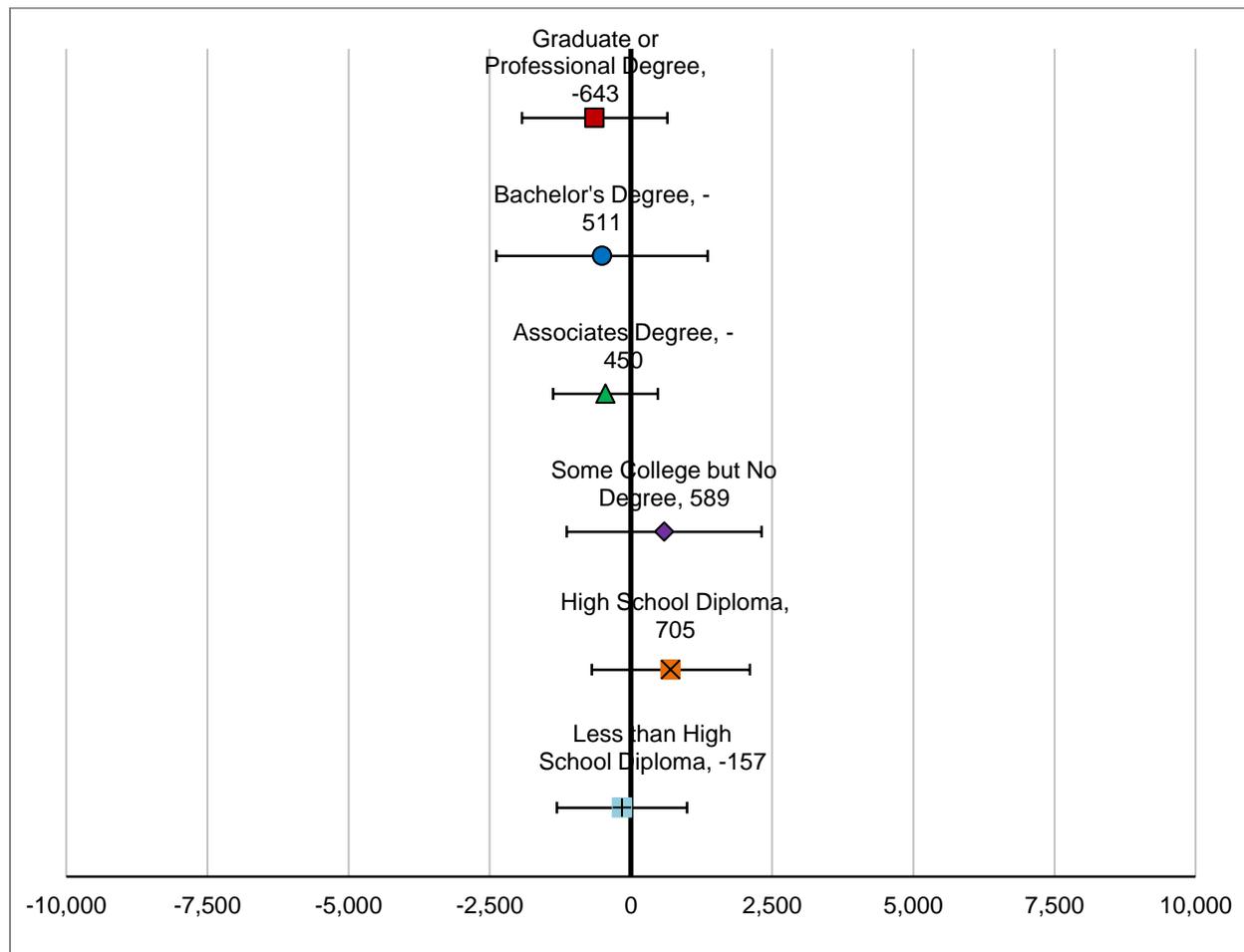
Only limited conclusions can be drawn from one-year net migration estimates, due to the small samples on which the estimates are based each year and the relatively high margin of error associated with each estimate. Theoretically, by calculating annual net migration estimates based on the combined data collected through three or more consecutive surveys, as shown in [Figure 3.3](#), these limitations may be reduced.

The annual net migration estimates by education level shown in [Figure 3.3](#) are based on ACS data collected in 2011, 2012, and 2013. The margins of error associated with these annual estimates are still relatively high, ranging from +/- 928 for the estimate for individuals with associate's degrees to +/- 1,872 for the estimate for individuals with bachelor's degrees.

Unfortunately, even with larger samples collected over three years, the margins of error are higher than the estimated net migration for all levels of education. Based on the estimates shown in [Figure 3.3](#), it is not possible to draw any conclusion about the annual net migration of individuals to or from Nebraska.

Figure 3.3

Estimated Nebraska Annual Net-Migration of 22- to 64-Year-Olds by Education, 3-Year Estimates Based on 2011, 2012, and 2013 American Community Survey Data

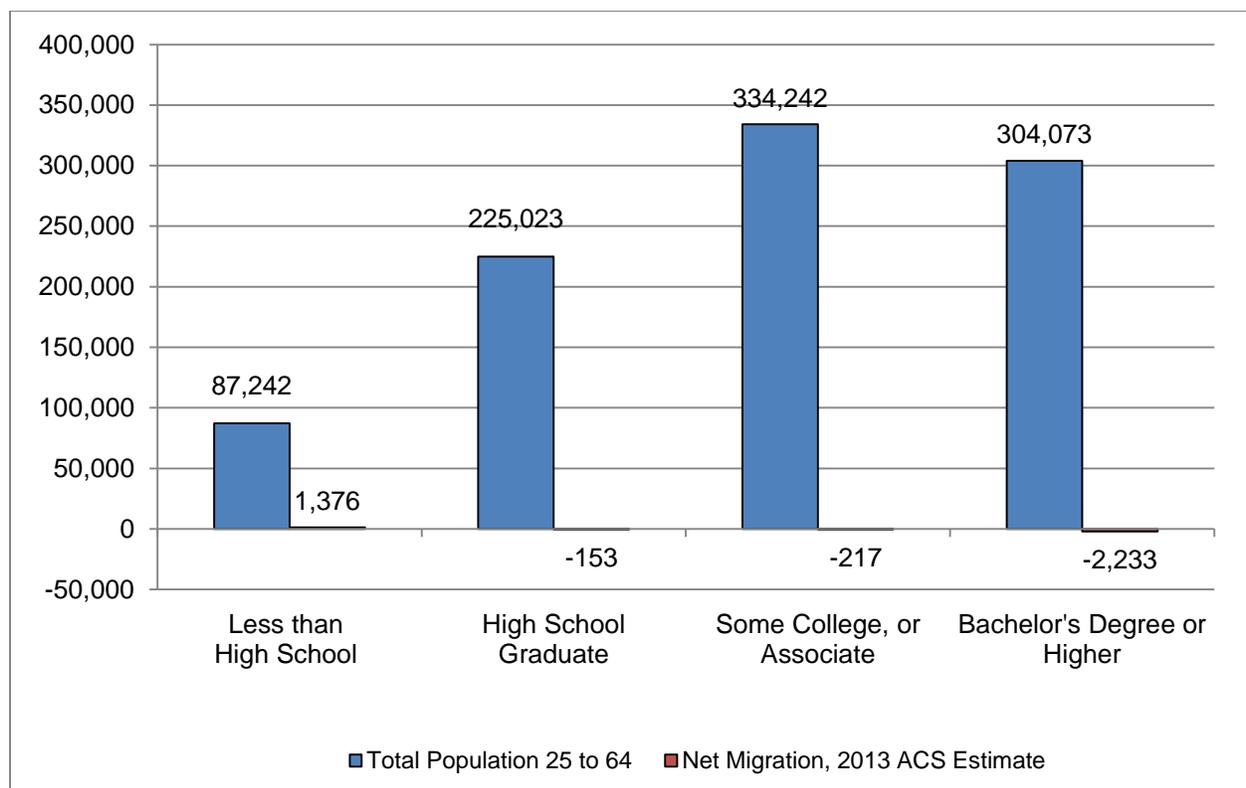


Note. This chart shows each net-migration estimate as the mid-point of the range of values based on the margin of error at the 90% confidence level. See [Table A13.3](#) and [Table A13.5](#) in [Appendix 13](#) for the margins of error and the number of cases on which each estimate is based. Data source: Estimates based on the 2011, 2012, and 2013 American Community Surveys, conducted by the U.S. Census Bureau, obtained from the National Center for Higher Education Management Systems (NCHEMS).

Additional Information Related to Migration

Although currently available estimates from the U.S. Census Bureau do not reveal a clear picture of overall Nebraska migration patterns, there is still reason to be concerned about the net-migration of working-age adults. As illustrated in [Figure 3.4](#) below, the latest available net-migration estimate at each education level is small, relative to the corresponding total estimated working-age population of the state. Nevertheless, repeated positive or negative net migration will have a corresponding positive or negative effect on the size and quality of the state’s labor force over the long run. Consequently, the Coordinating Commission will continue to monitor annual and three-year estimates of the numbers of working-age adults who migrate to and from Nebraska to determine if a clearer, more solidly evidenced picture of Nebraska’s net migration pattern emerges from the analysis of ACS data.

Figure 3.4
Estimated Total Nebraska Population of 25-to-64-Year Olds Compared to the
Estimated Nebraska Net-Migration of 22-to-64-Year Olds by Education,
Based on the 2013 American Community Survey



Data source: 2013 American Community Survey (ACS), conducted by the U.S. Census Bureau.

This page left blank intentionally.