



UNIVERSITY OF NEBRASKA AT OMAHA

NEBRASKA POPULATION PROJECTIONS TO 2050 AND IMPLICATIONS

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Center for Public Affairs Research



Session Agenda

- How the projections were done
 - Data sources, assumptions
- What the projections show
 - Findings, data of interest
- Limitations, potential issues
 - Past trends are no guarantee of future results
- Implications from these projections
 - Aging, diversity, etc.





How these Nebraska projections were done...

- 2 Main Models
 - One is not race specific but has varying migration scenarios (high migration like 1990s, low like 80s, etc.)
 - One is for the 4 specific main racial groups, with the sum of those 4 equaling the total Nebraska population
 - Racial groups are Hispanic, White non Hispanic (NH), Black NH, and Other races NH
 - Other NH is mostly Asian, but also includes American Indian, and the fast growing multi-race category (all non Hispanic)
 - The 4 race sum model is believed to best capture what is likely to occur in the future
 - Better reflects the impacts as NE becomes increasingly minority
 - Most data presented (e.g. age) will come from the 4 race sum model
 - The varying migration models not done by race provide a range for what 'could happen' with different levels of migration (migration hard to predict; can change quickly)
- All data are for Nebraska, no figures for counties, cities, metro/nonmetro areas, etc.



“Population Flow”

- The models are based upon “flowing” the population through over time
 - Start with the 2010 Census population by single year of age by gender (and race/ethnicity in those models)
 - Population a year later for any given age subtracts out deaths that occur for that specific age and factors in a net migration rate
 - $P_{\text{year2011}} = P_{\text{year2010}} - \text{Deaths} \pm \text{Net Migration}$
 - Births that occur during the year are added as the age under 1 total population
 - Births were allocated 51% to Male and 49% to Female based upon national and Nebraska births by gender data
 - Everything in our models is based upon single year of age by gender flow through
 - More accurate, but must then have associated single year of age fertility, survival, and migration rates (and by race/ethnicity for those models)



Fertility rates



- Nebraska fertility rates were calculated using the average births by single year of age (and race) from 2008-2012 divided by the 2010 census count of women for those ages (birth data provided by NE DHHS)
 - Smoothed by taking average of year above and year below that specific year (reduced volatile swings)
- Ran the ratio of Nebraska rates by age vs. the U.S. average
 - NE fertility rates are 10% higher for White NH and 20% higher for both Black NH and Hispanic
- Utilized the Census Bureau's national projections for how fertility will change over time by age & race
 - Census was reducing Hispanic fertility, reducing Black NH somewhat/slightly, and holding White NH steady
 - Multiplied the ratio for NE to U.S. by the U.S. projected rates to obtain NE projected fertility rates



Survival rates

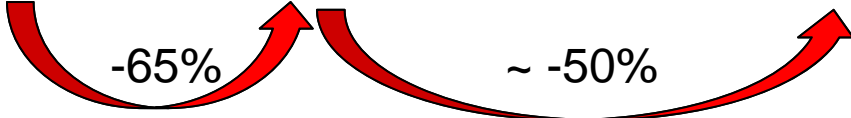


- Used a two-step process, by gender & age and by race & age, rather than having DHHS get us deaths by gender AND race AND age simultaneously
 - The latter would cut NE data too fine: e.g. few deaths to 8 yr old Black females
- Gender specific Nebraska survival rates were calculated using the average deaths for the total population by single year of age from 2009-2011 divided by the 2010 census count for those ages
- Then ran the survival rates by race for NE based upon average deaths from 2007-2011 by single yr age and race
 - Calculated the ratio of the survival rate by race versus the Nebraska total population survival rate
- Utilized the Census Bureau's national projections for how survival by gender will change over time by age & race
 - Multiplied the NE gender specific survival rates to the U.S. projections
 - Also multiplied the ratio for NE survival by race to the NE total to the U.S. projected rates by race to obtain NE specific projected survival rates (by age, race, and gender)



Migration Rates: Historic and Projected

<u>Group</u>	<u>1990s</u>	<u>2000s</u>	<u>Decline</u>	<u>2010s target</u>
White NH	-1.4	-3.4	- 2.0	-3.0
Black NH	4.7	4.1	- 0.6	4.0
Hispanic	114.9	40.9	-74.0	20.0



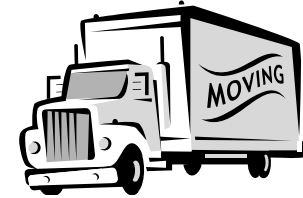
So White NH and Black NH migration rates were based upon what occurred in the 2000s, and those target rates were applied to all decades.

The 20% migration rate target for Hispanic was about a 50% reduction versus the 2000s (note that the 2000s had about a 65% reduction versus the 1990s). As a small population base increases in size the rate will decline. Reductions of 30%, 20%, and 10% were applied to Hispanic rates for the remaining decades.

Rates for Other NH were reduced by half of what Hispanic was given that roughly half their population is more mobile (Asian) while half is more stable (Am. Indian). Migration analysis is not as clear for this group given the addition of the 2+ race category on Census 2000, and births/deaths typically being listed for or recoded into 1 race, not 2+.



Migration notes



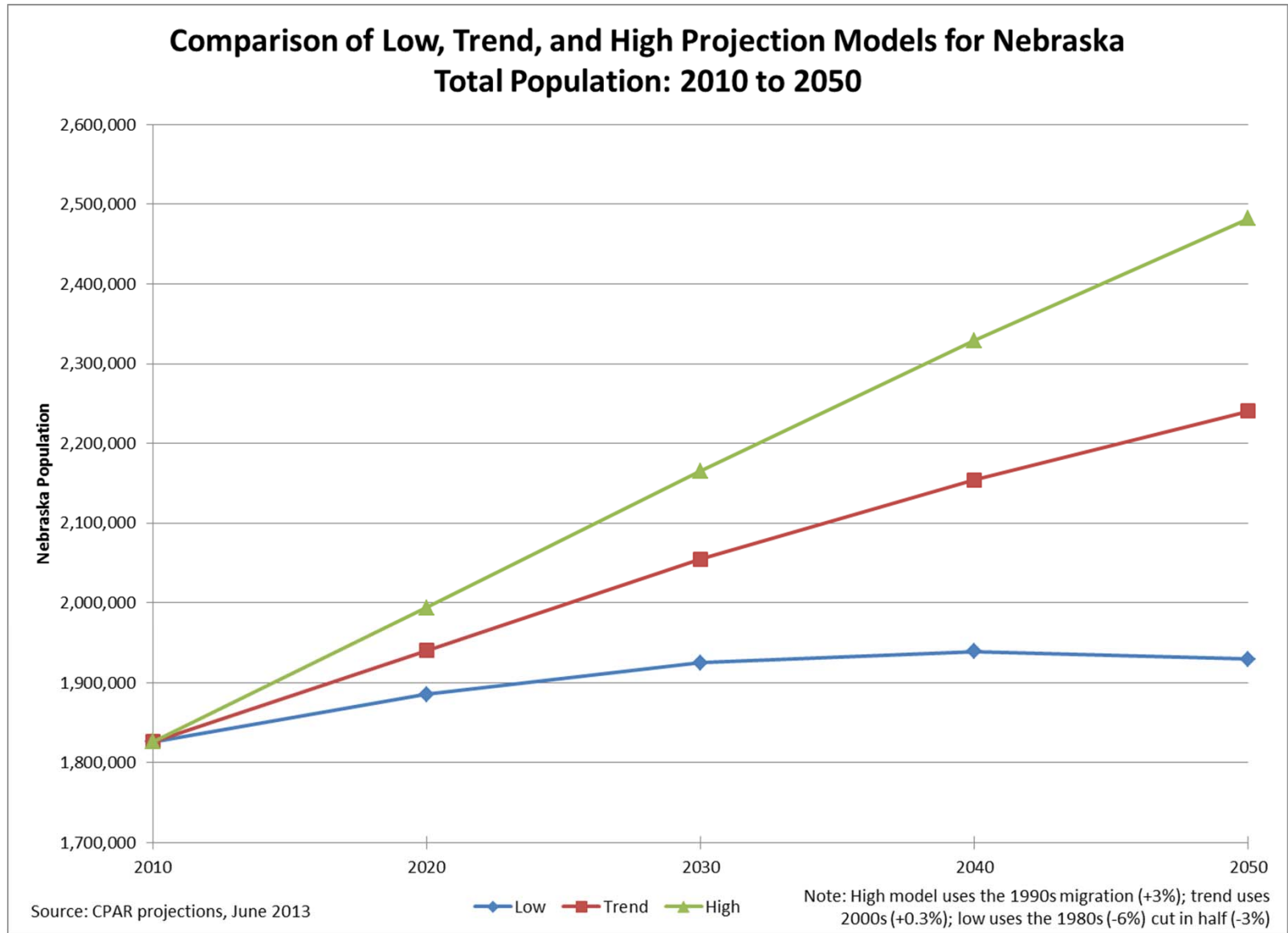
- CPAR calculated migration rates using a cohort method, taking decennial census data adding births and subtracting age-specific deaths over 10 years
 - Comparing these “flowed” figures versus the next decennial census count gave the migration and the rate was calculated by dividing by the original cohort
 - 50-54 year olds in 2010 vs. 40-44 year olds in 2000
 - 5-year rates were adjusted into single year rates using a linear mid-point of age category approach
 - Calculated migration rates based upon decades and changes between decennial censuses were $\div 10$ to turn them into annual rates
 - Note: this approach assumes that the decennial census counts by race and age were accurate in all timeframes
 - Assumed that net migration would be 0 for all ages 90+



DATA AND FINDINGS



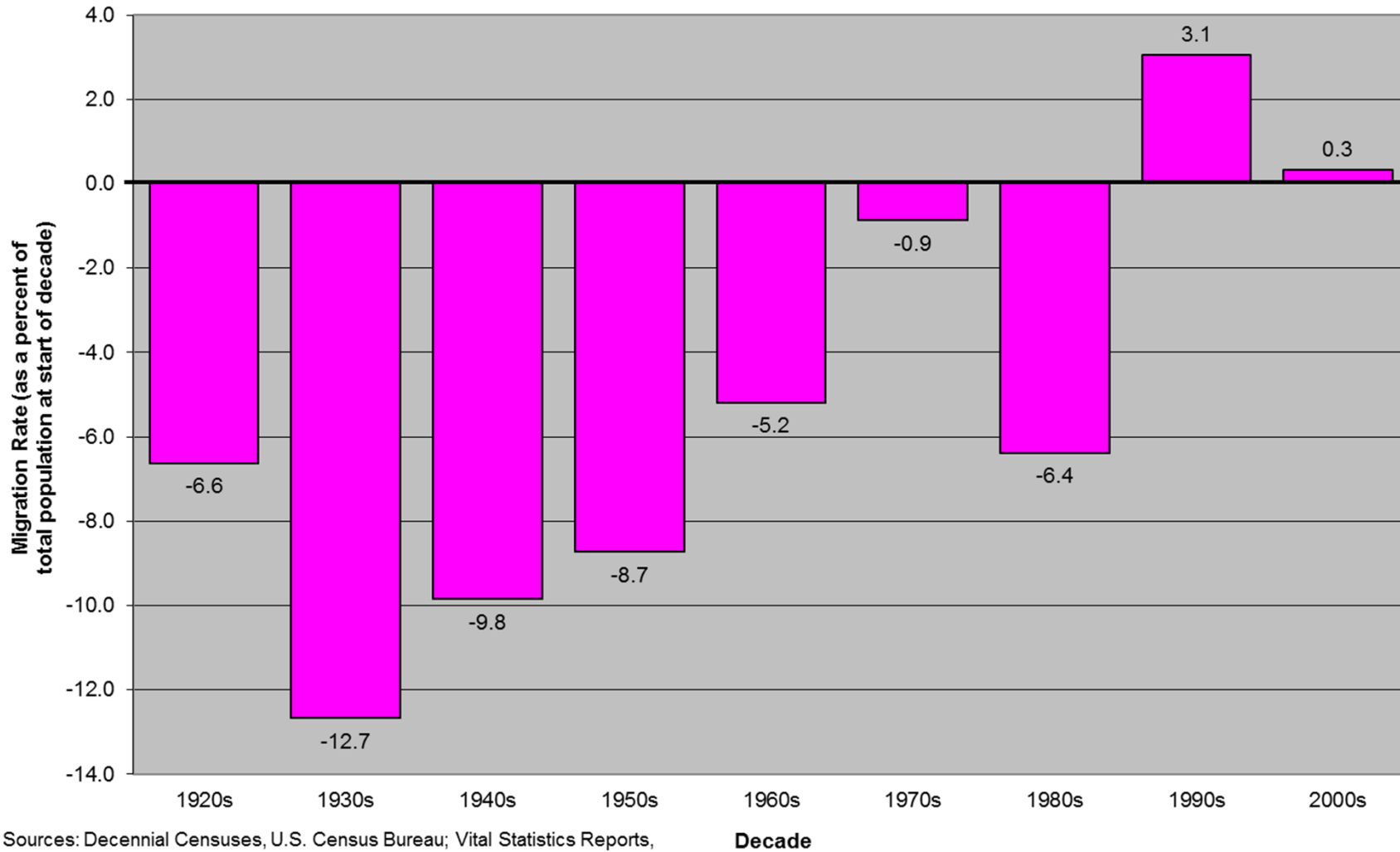
Trend model and high/low migration extremes





Historical Migration: Back to Back High or Low Decades Unlikely

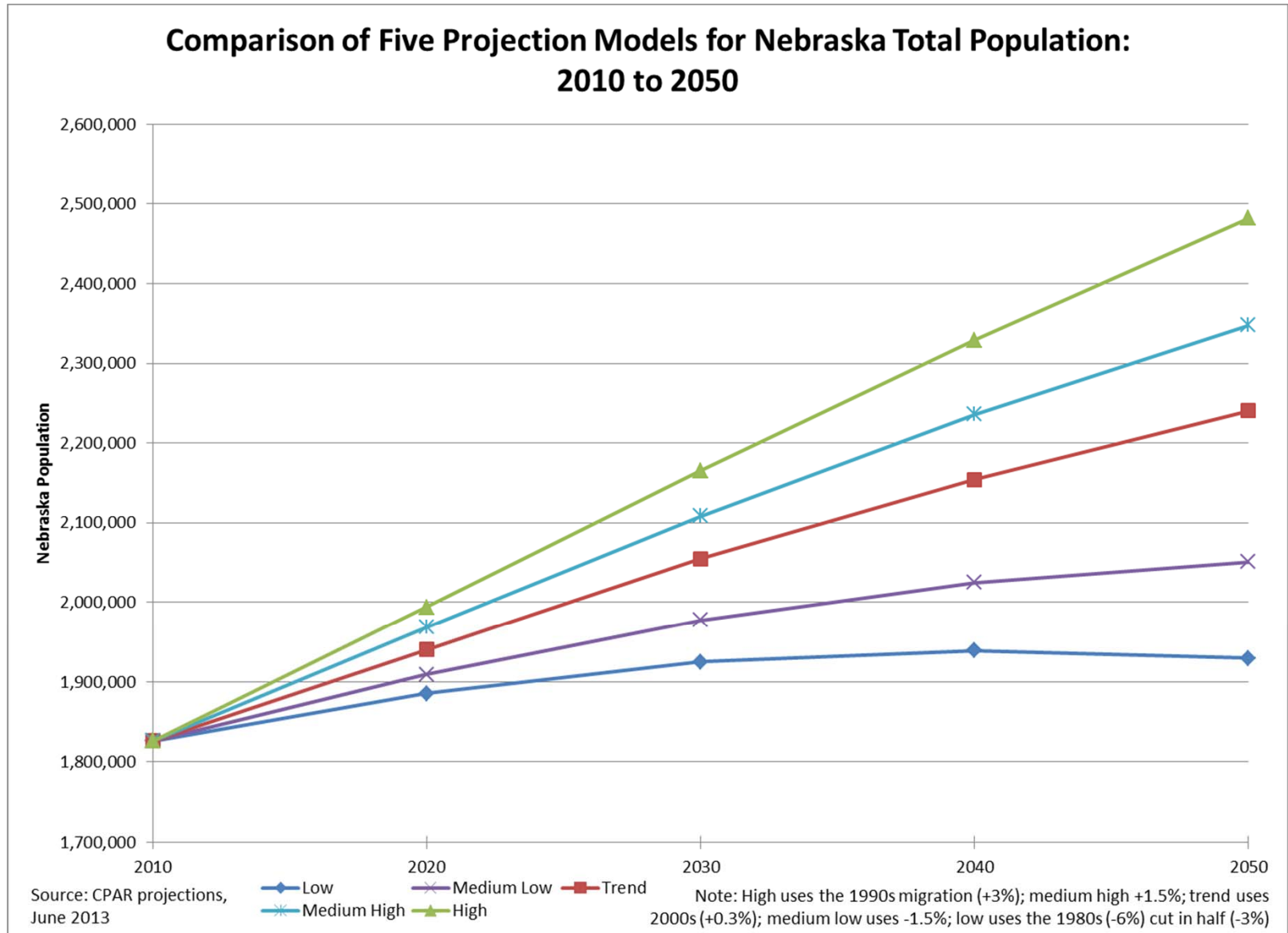
Nebraska Net Migration Rate by Decade: 1920s to 2000s



Sources: Decennial Censuses, U.S. Census Bureau; Vital Statistics Reports, Nebraska Department of Health and Human Services

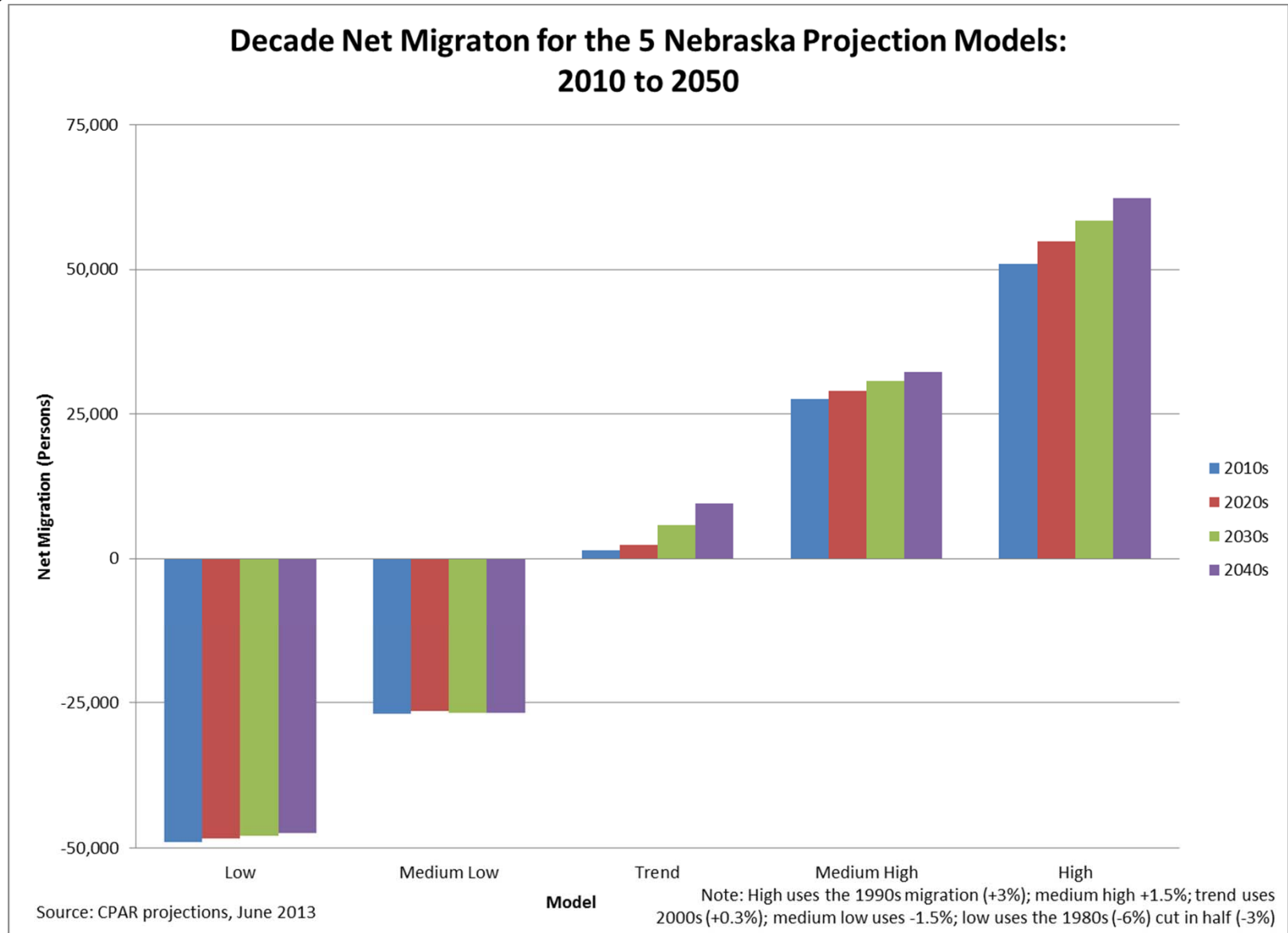


What might happen under varying migration scenarios



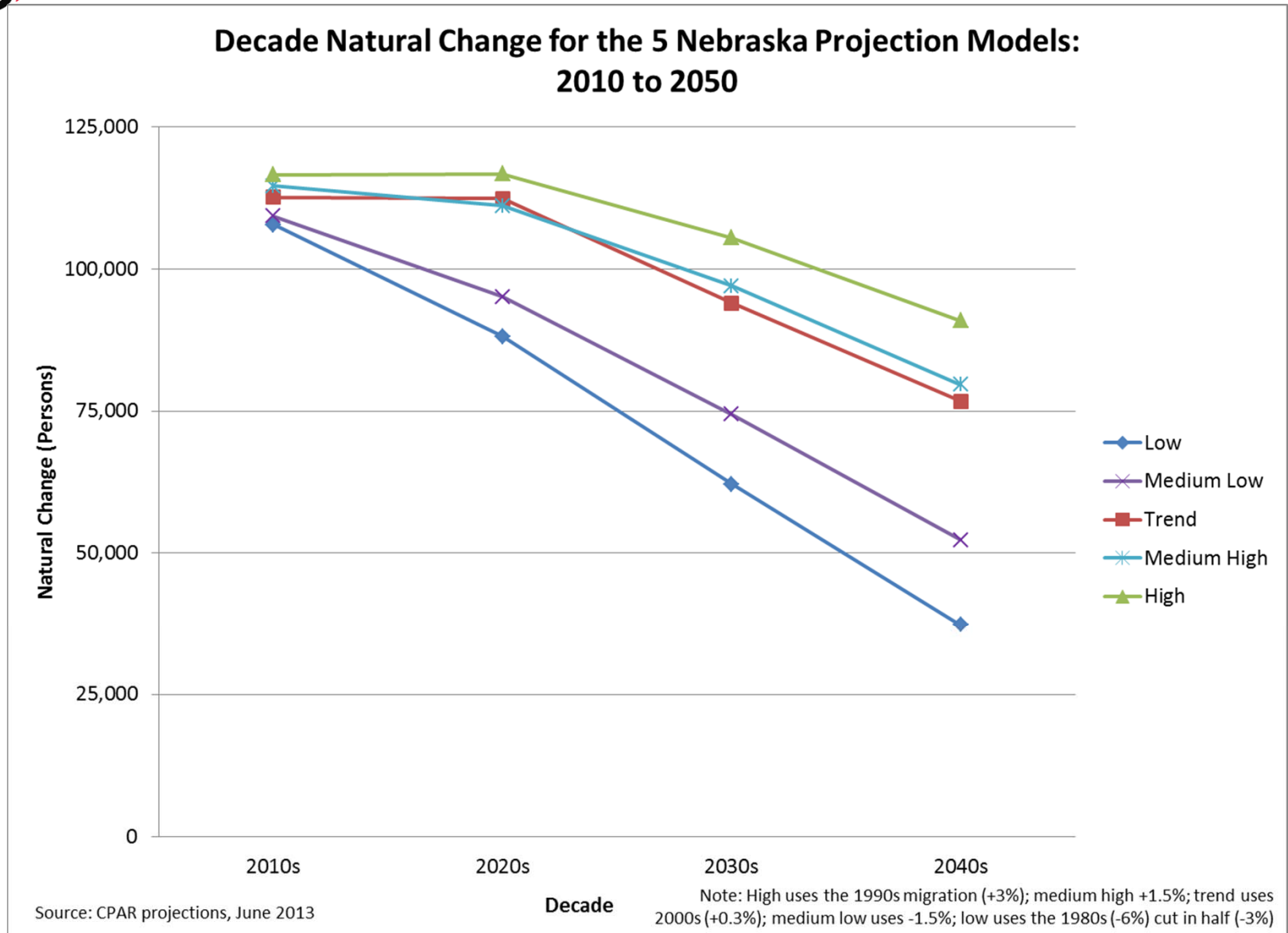


Net migration differences – it's a wildcard that can change quickly given national/international events





Under All Scenarios Natural Change will Decline: a matter of how quickly and how much

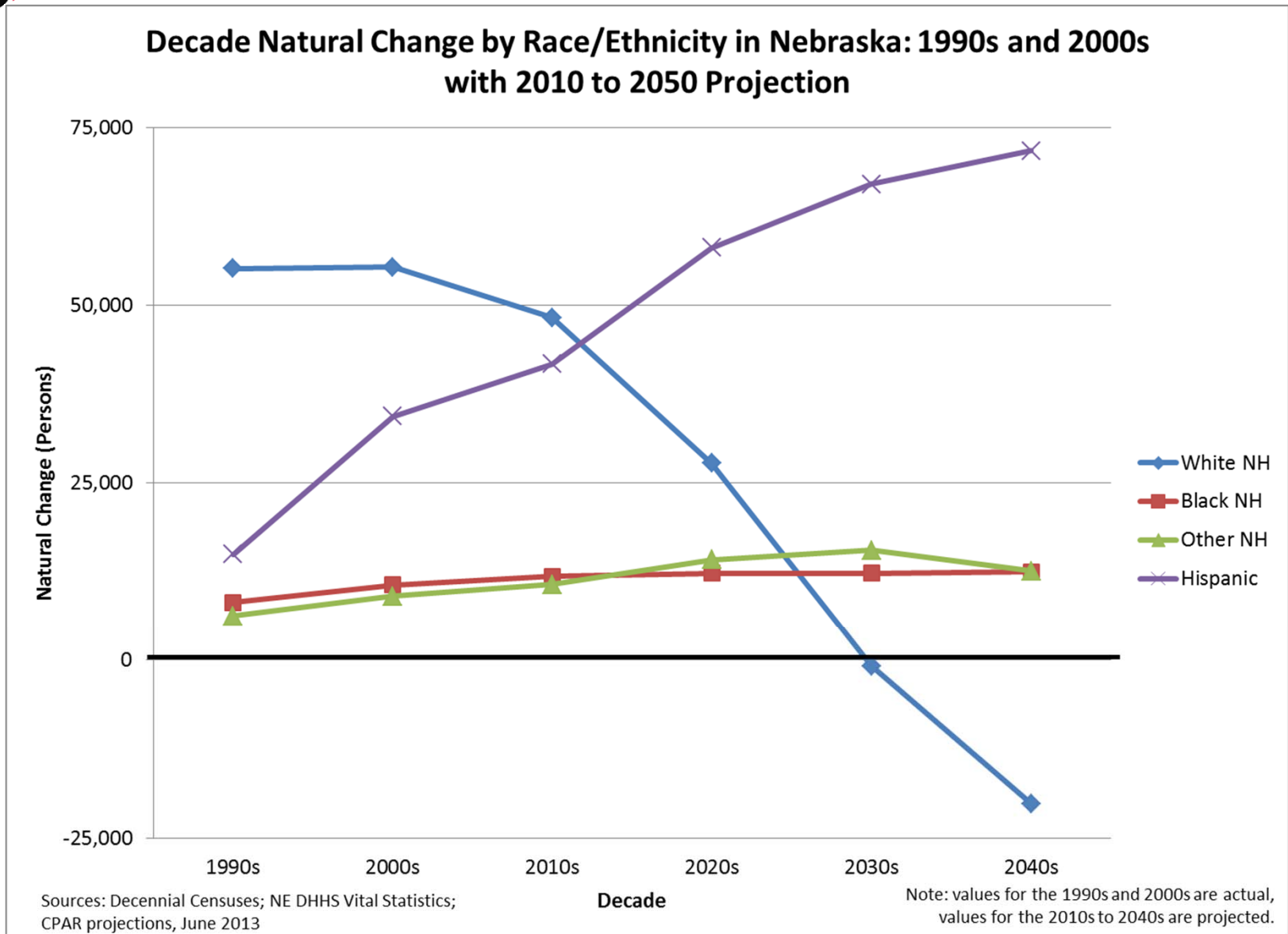




RACE/ETHNICITY INFORMATION

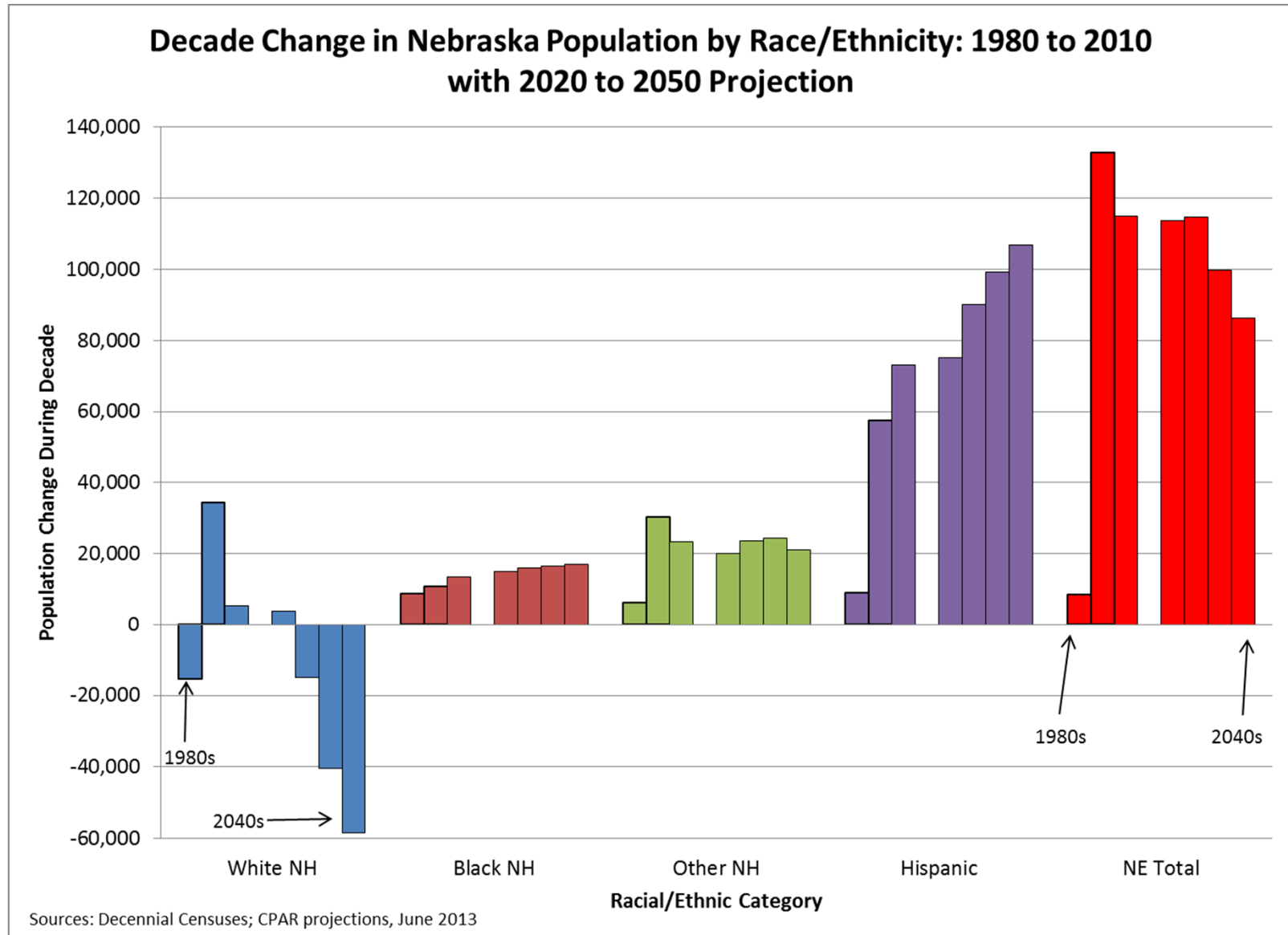


Natural Change will differ by Race/Ethnicity



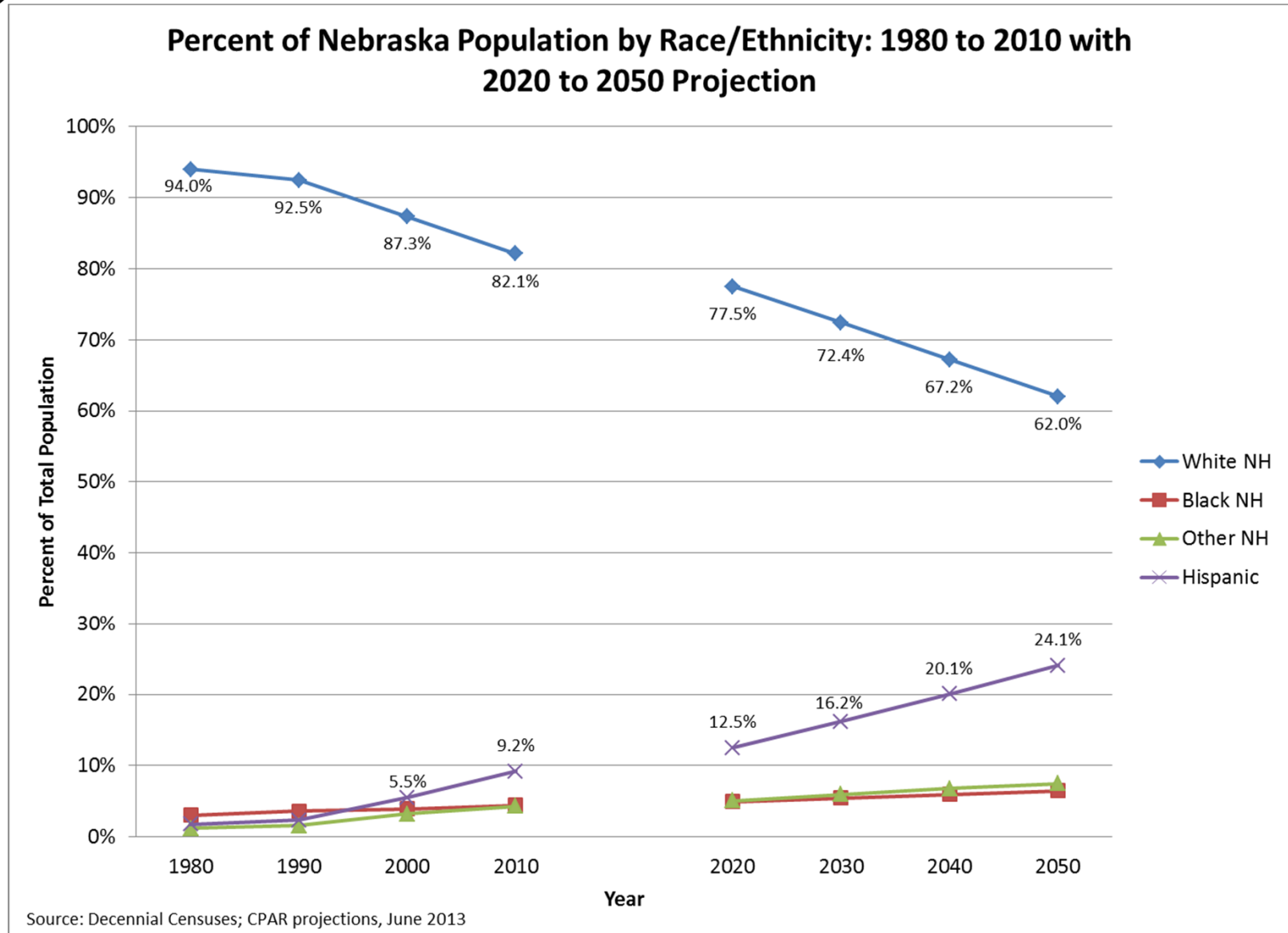


Minority Population Increases, White NH will decline





White NH share declines, but NE not likely “majority minority” by 2050





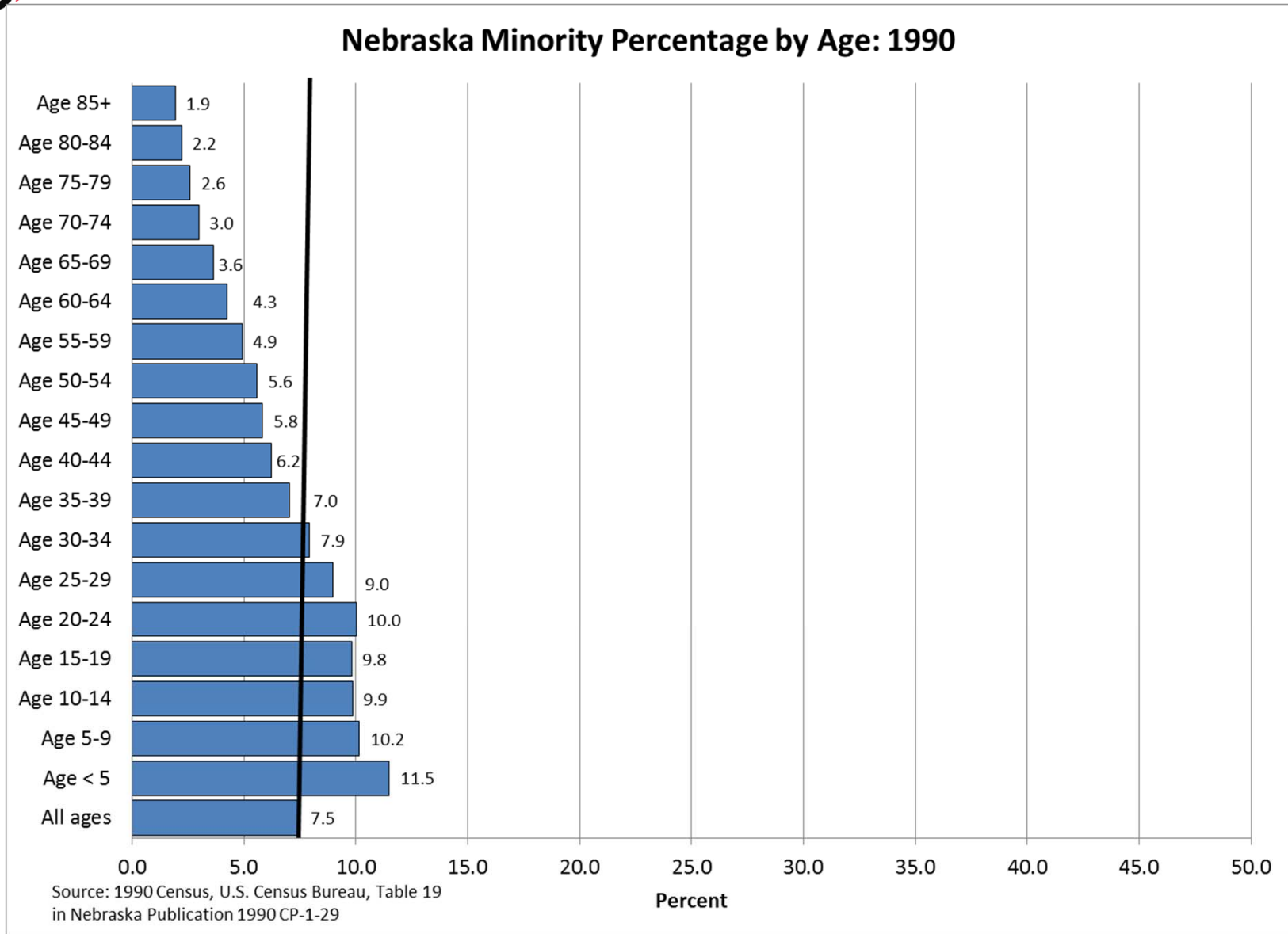
An incomplete picture...



Source: The Economist. Illustration by KAL

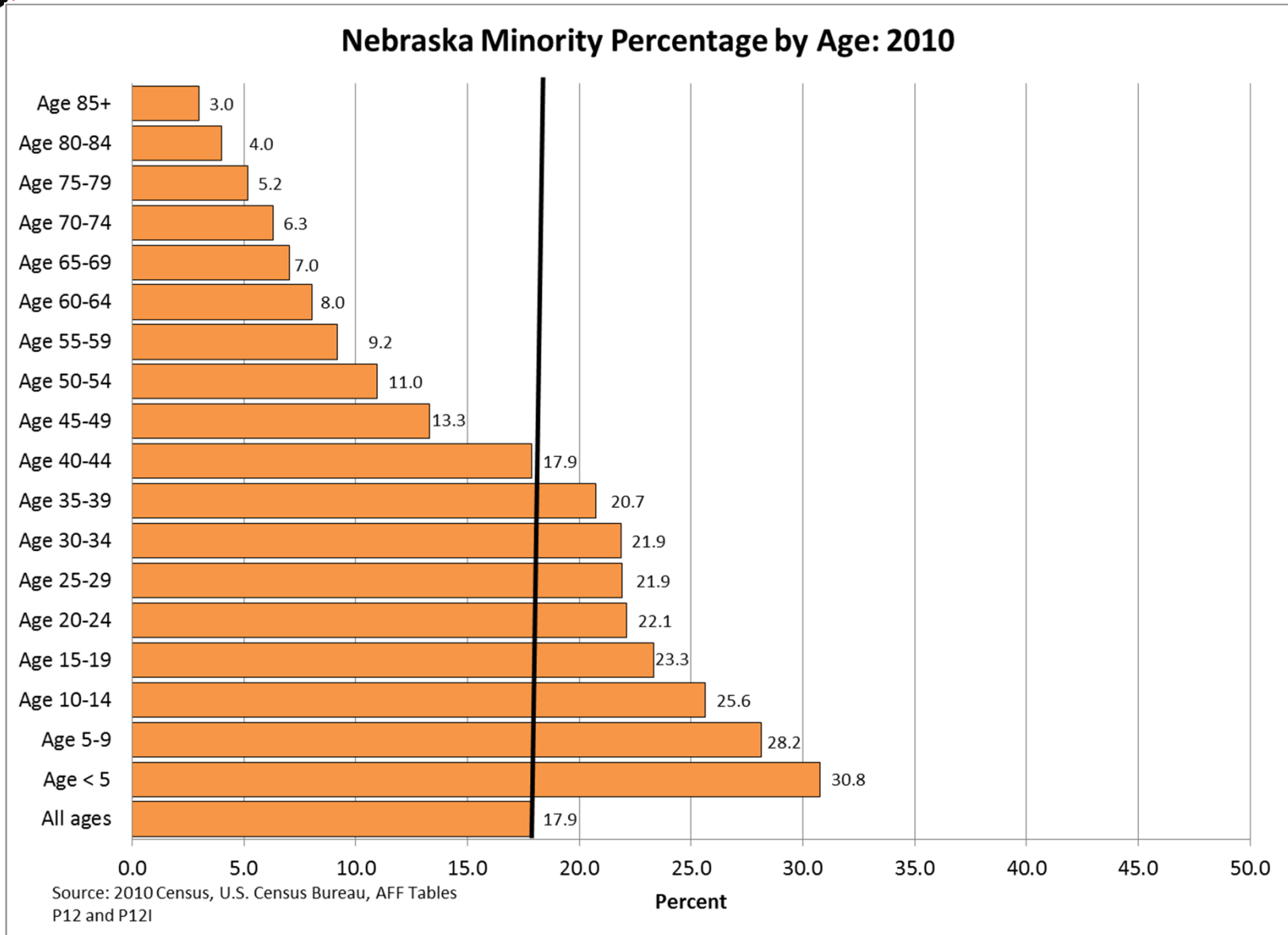


Minority Percentages were small prior to immigration increases



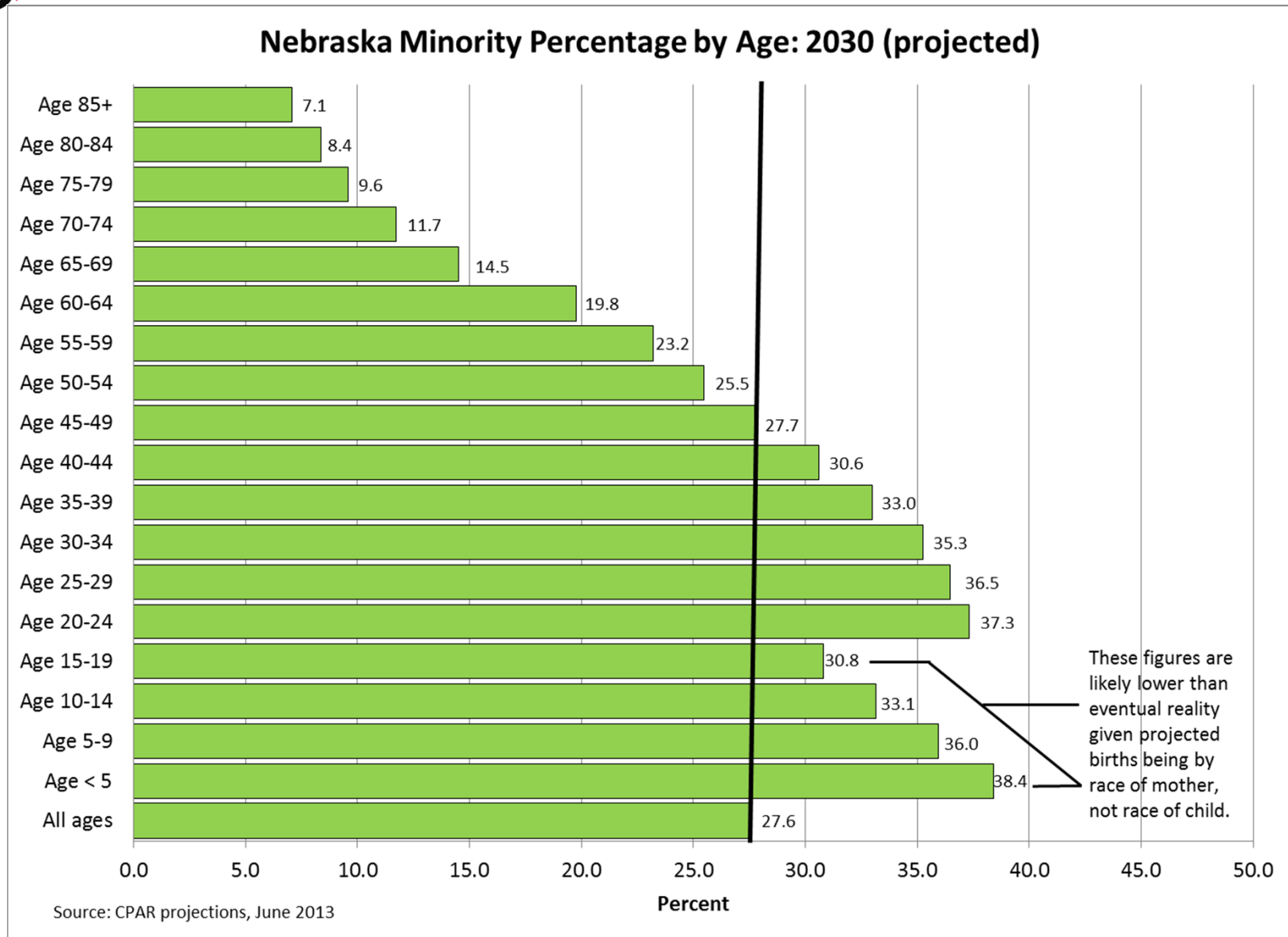


Minority percentage doubled or tripled by 2010



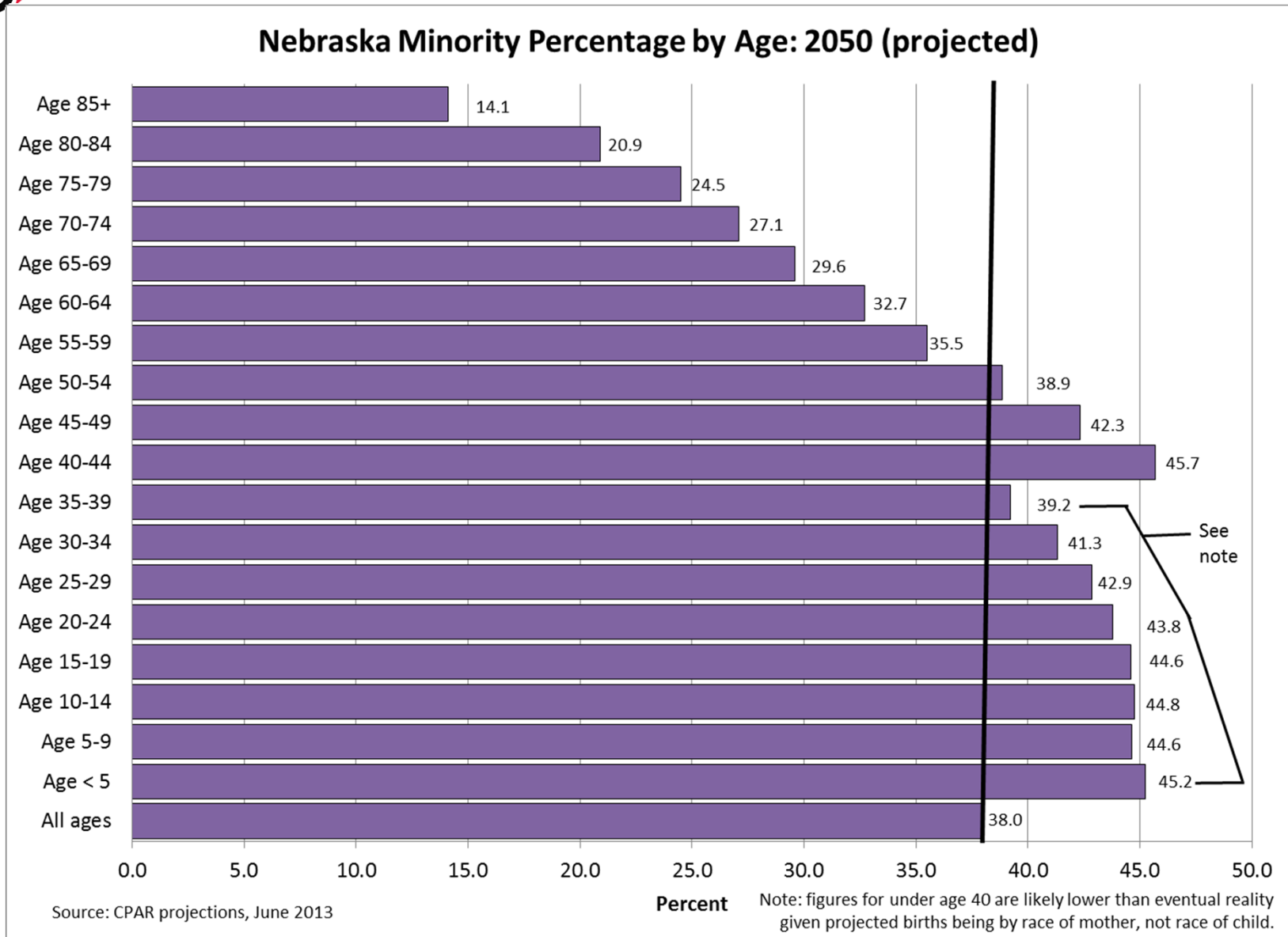


Minority Percentage Continues to Increase for all Ages to 2030





Many age groups near 50% minority by 2050





A multigenerational minority

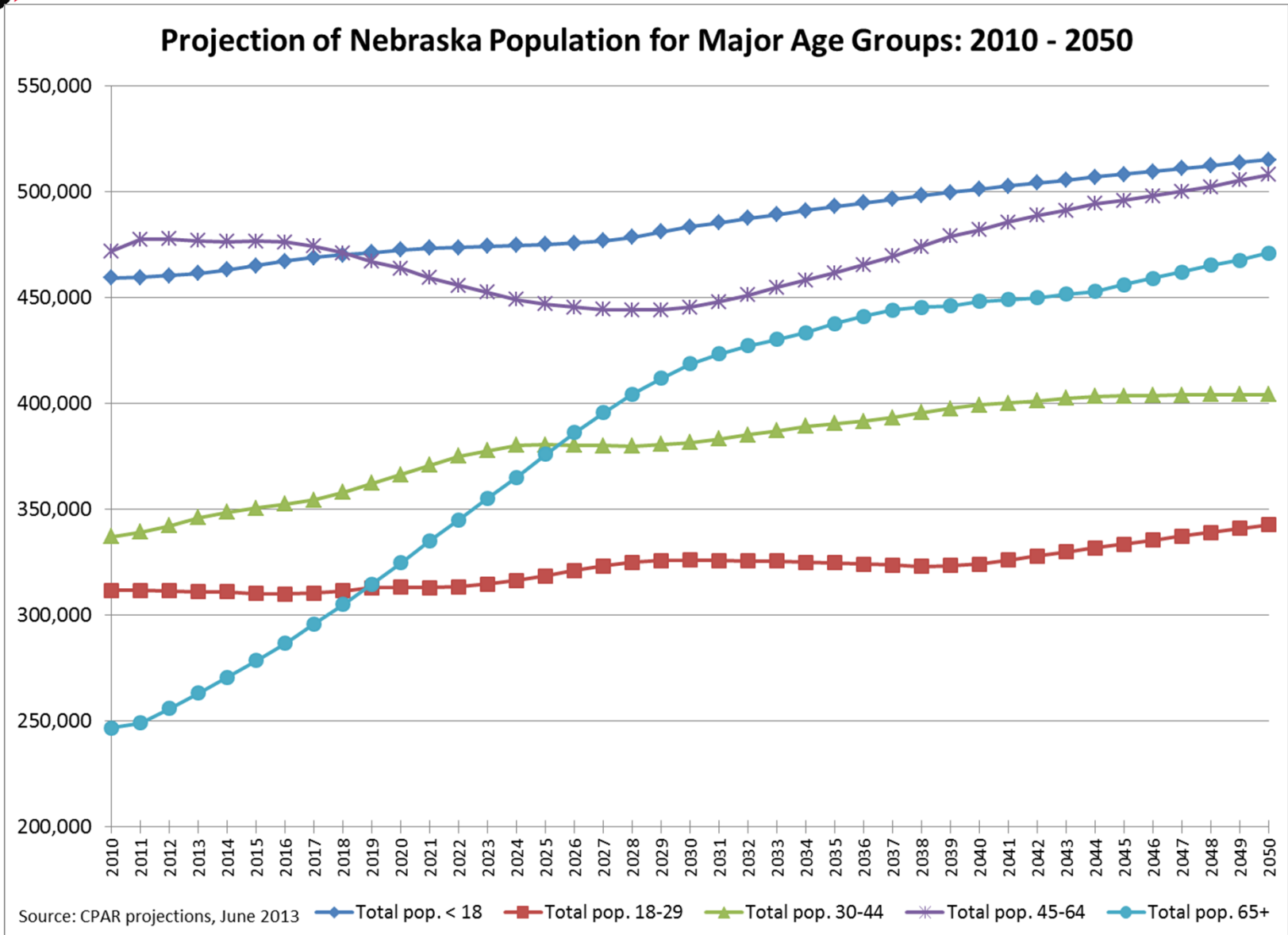




AN AGING POPULATION

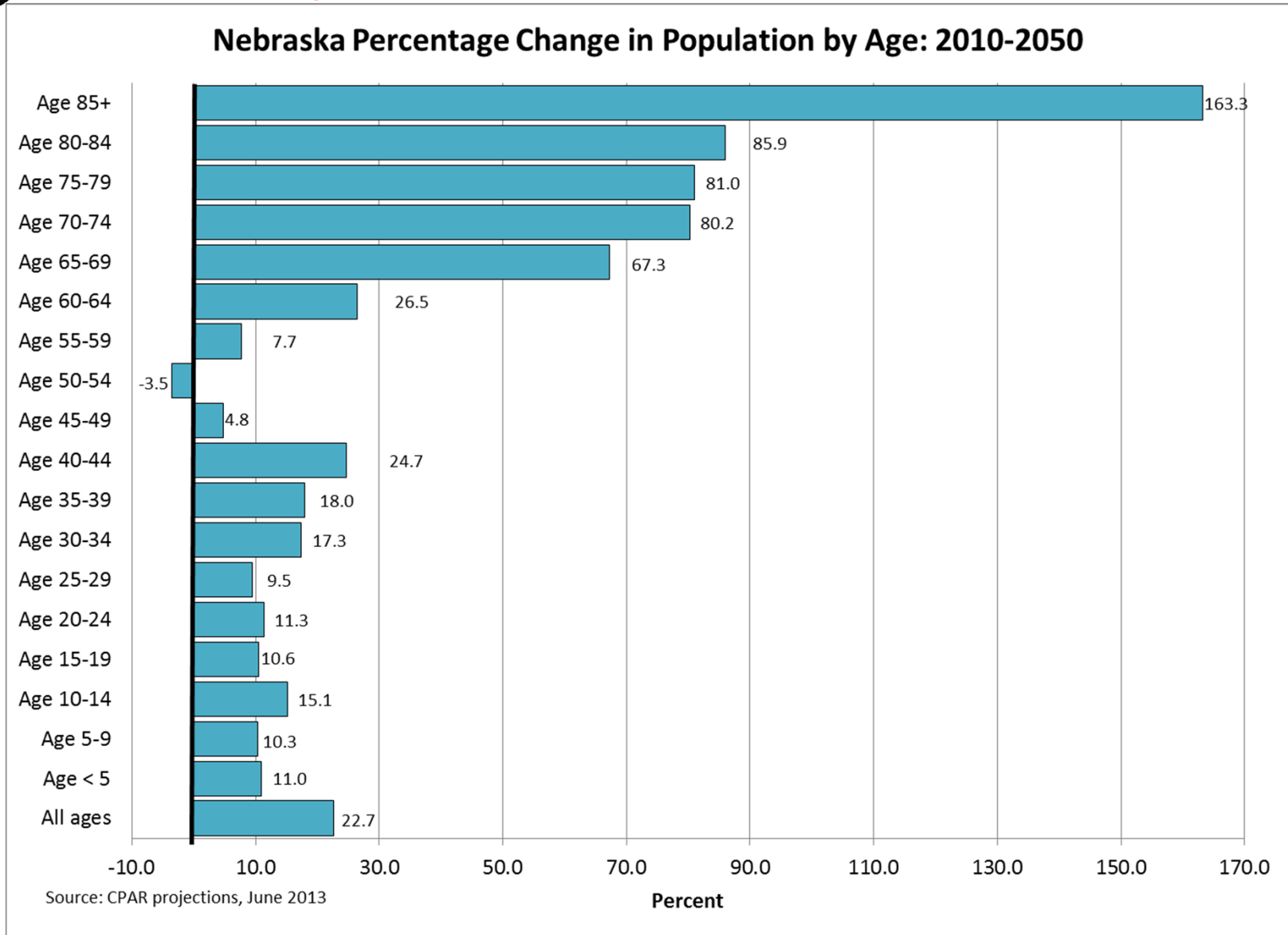


All ages increase, but the big growth is in 65+





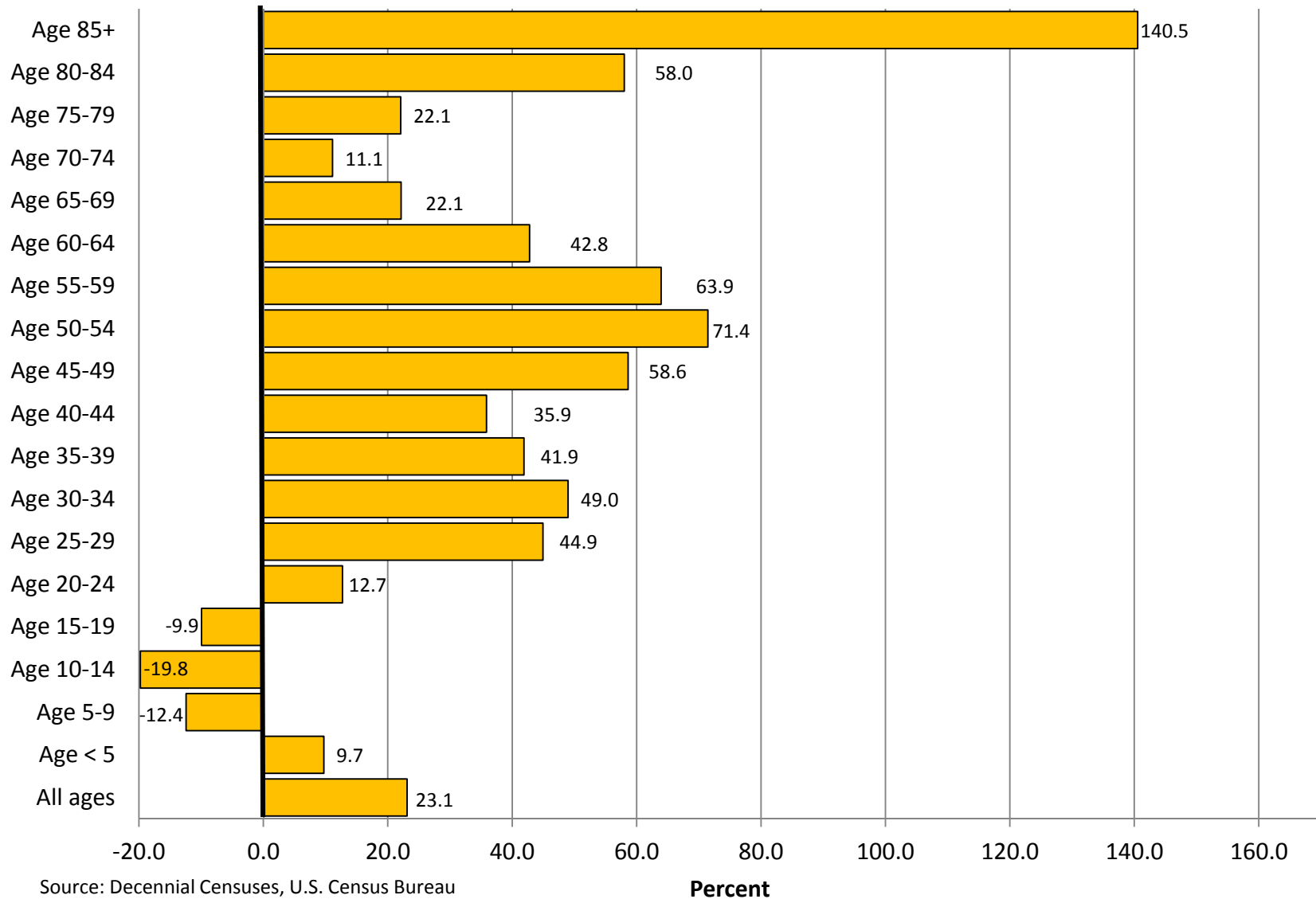
Those under 30 increase by half the state average;
age 70+ by 4 times the Nebraska rate





What happened in the last 40 years for comparison...

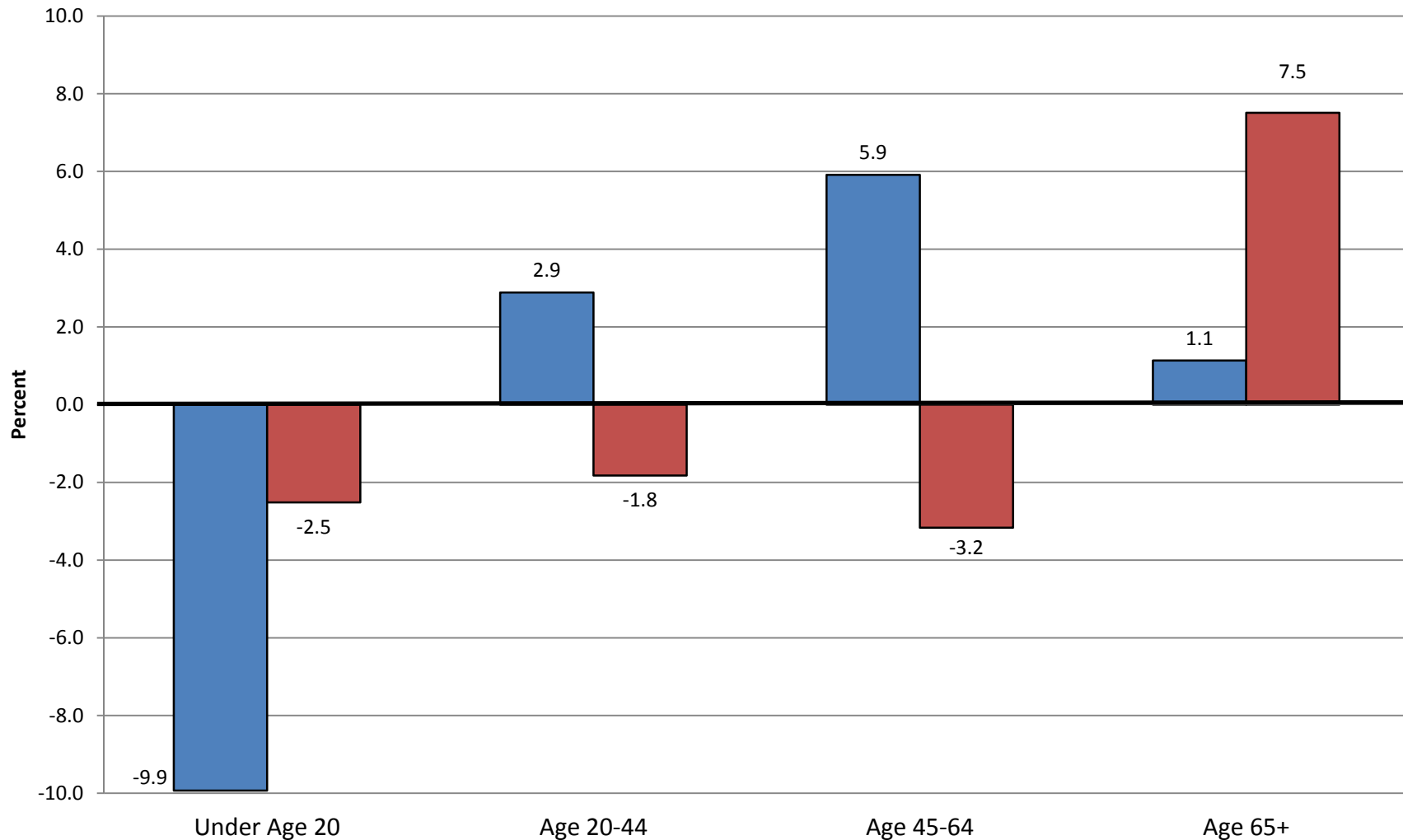
Nebraska Percentage Change in Population by Age: 1970-2010





The older population will become a larger “piece of the pie”

Shift in the Share of the Nebraska Population by Age Group: 1970 to 2010 and Projection for 2010 to 2050



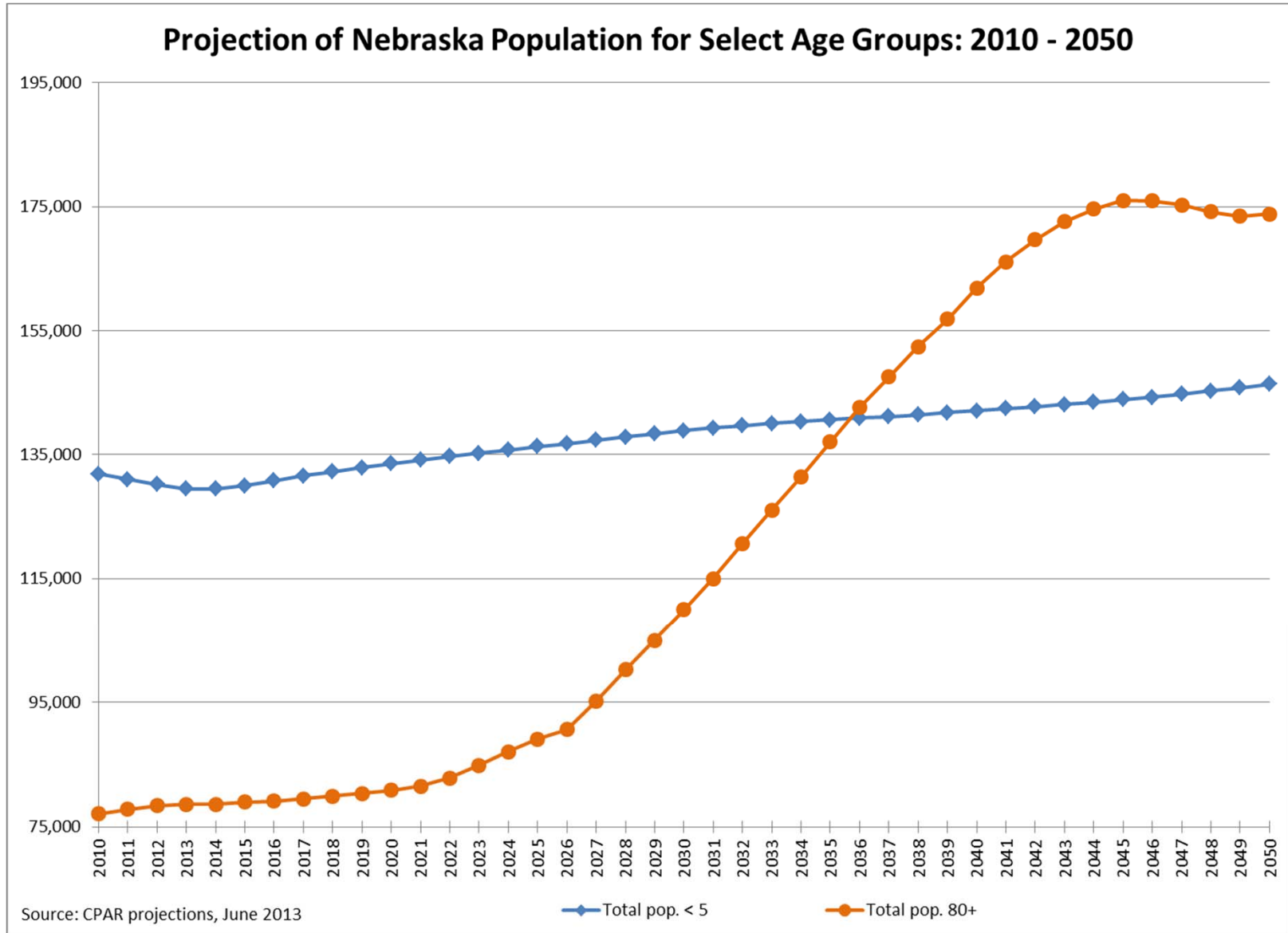
Sources: Decennial Censuses, U.S. Census Bureau;
June 2013 Population Projections, CPAR @ UNO

■ 1970-2010 ■ 2010-2050

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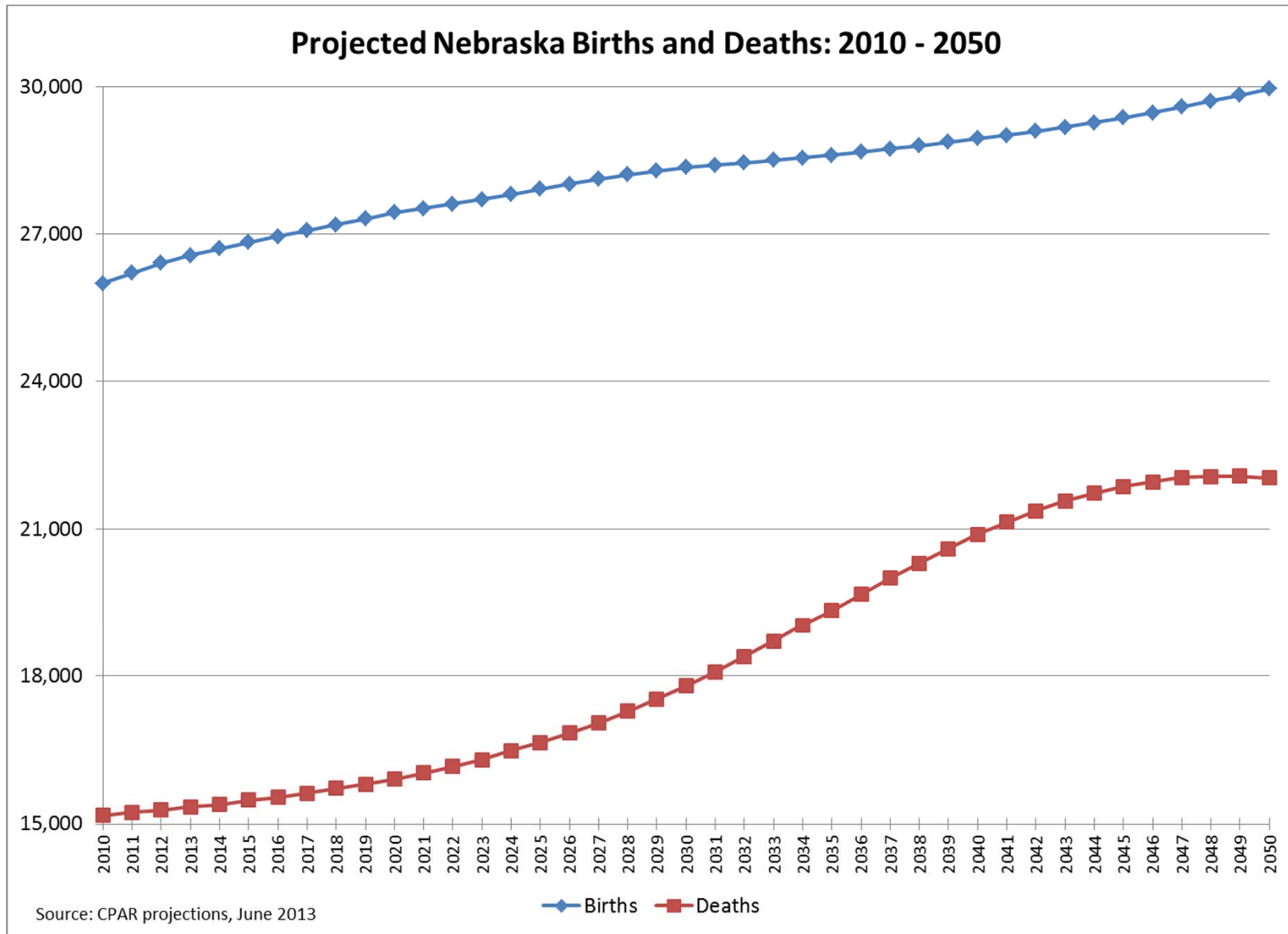


Daycare or Elder Care?





Deaths Rise but Natural Increase Intact





LIMITATIONS AND CAUTIONS



Limitations

- No projection model will ever be perfect
 - They are to be used as a guide
 - The focus is on getting the total population as close to expected as possible
 - Sub-group projections (age, race, etc.) will have a degree of variability; anomalies can occur and cannot always be accounted for or corrected
- Disconnect for births being summarized by race of the mother vs. 2+ races being marked on Census forms
 - Could not account for these differences this time but hope to in future models
 - Will require a detailed cross-tabulation by DHHS – we already owe them a gift basket; this may require a gold bar 😊
 - The projection is spot-on regarding having early year births reflect DHHS totals by race; the issue is that people have more flexibility in response options on the Census form versus birth certificates



Limitations continued

- The model will only be as good as the assumptions that underlie it – will past figures hold true in the future?
 - Births are based on the last 5 years from 2008-12 – that was a unique time both nationally and NE given the recession
 - Will relatively lowered fertility rates continue or will they return to 2005-07 levels? Will NE continue to have a much higher fertility rate vs. the U.S. average?
 - Migration is always a wildcard; late 2000s in NE positively influenced by recession – no one saw that or other impactful events (Hurricane Katrina) coming
 - What are the baby boomers going to do – retire here or elsewhere? Current tax policy changes currently being debated will have an impact – what impact depends on what is decided/passed.
 - Can we reverse young person outmigration? Jobs and economic development important; will arena in Lincoln help?



IMPLICATIONS



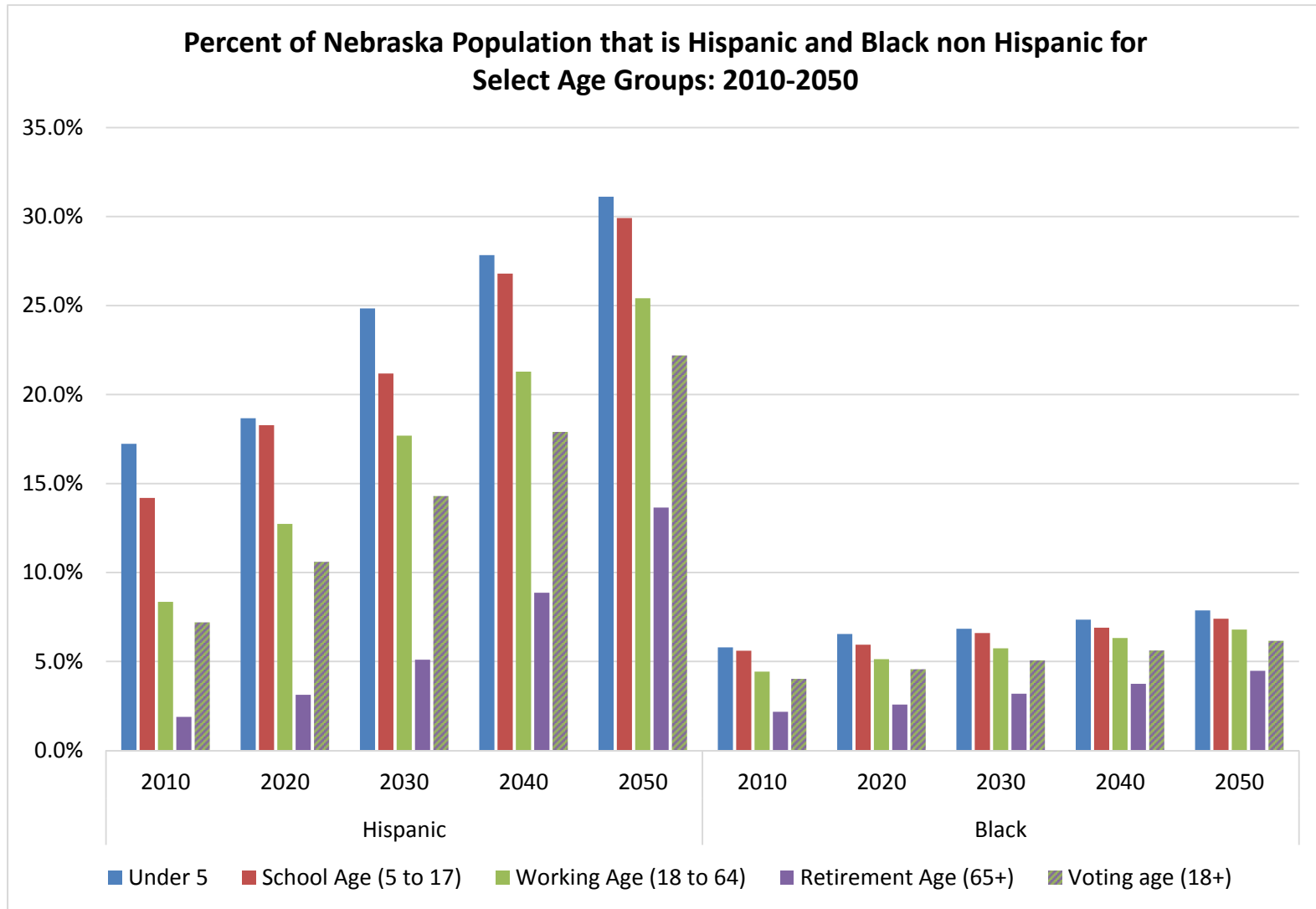
Nebraska: from new destination to home



- Across the country Hispanic/Latinos have dispersed
 - Moving beyond the so-called “Gateway cities”
 - No longer seasonal/temporal migration
 - Metropolitan areas in the Midwest provide a more diversified labor market where immigrants are more likely to stay.



Hispanic/Latino increasing as a policy-relevant population

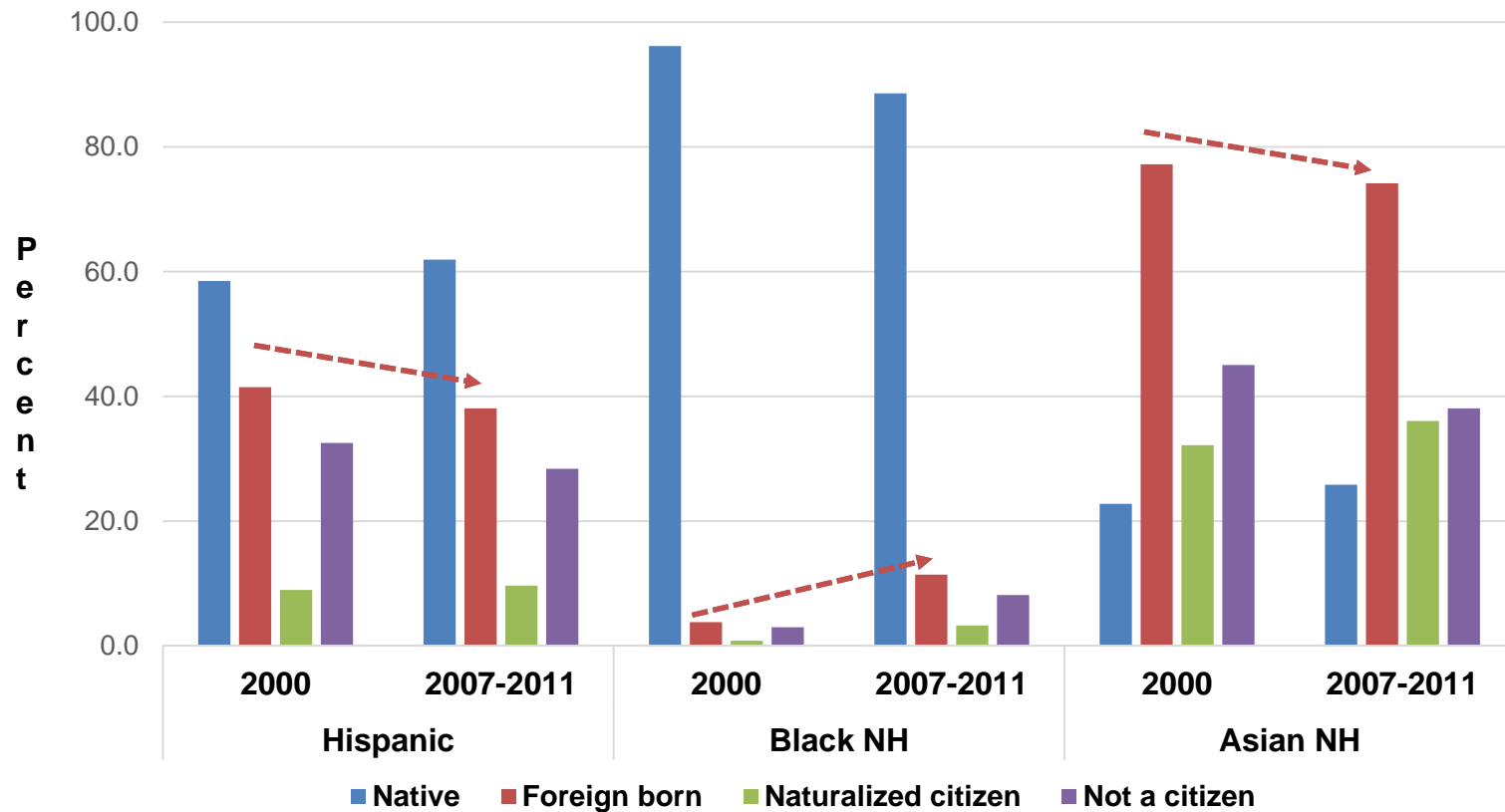


Sources: 2010 Census,
CPAR Projections June 2013



Will immigration still be important?

Citizenship & Migration Status for Select Races/Ethnicities: Nebraska 2000 to 2007-2011



Source: CPAR Calculations 2013 from Census 2000, ACS 2007-2011



Item worth watching: Will Hispanic high school graduates move out of Nebraska like their White counterparts?

Latinas Attend College in Record Numbers, But Stay Close to Home

By Soni Sangha / Published November 13, 2012 / Fox News Latino



Link to article: <http://tinyurl.com/meoover>



Nebraska Policy challenges: Focus on integration

Based on OLLAS calculations from the 2011 ACS for Hispanic/Latino:

- 22% native born and 68% foreign born over 25 have less than a high school diploma
- 74.6% native and 31.5% foreign born over 5 declares speaking English “very well”
- 13% under 18 years, 43% age 18-64 and 10% age 65 and over do not have health insurance
 - Health insurance by age figures are from 2009-11 ACS for better accuracy
- 28.5% below poverty



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