

**PROJECTING DIVERSITY:
THE METHODS, RESULTS, ASSUMPTIONS AND LIMITATIONS OF
THE U.S. CENSUS BUREAU'S POPULATION PROJECTIONS**

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ABSTRACT

The U.S. Census Bureau projects the national population by age, race, sex and Hispanic origin. The most recent projections go to 2060. These

* This paper is released to inform interested parties of ongoing research and to encourage discussion of work in progress. Any views expressed on statistical, methodological, or technical issues are those of the Authors and not necessarily those of the U.S. Census Bureau.

projections show that the total population will become less than 50 percent non-Hispanic White around 2044. The “crossover” date varies by age. This paper reviews these projections, discusses the demographic assumptions behind them, and concludes with a discussion of the issues and limitations in interpreting these projections with respect to issues of diversity and inclusion.

I. INTRODUCTION

This paper offers perspective on how the racial and ethnic composition of the U.S. population could change in the decades to come. We begin by using results of the U.S. Census Bureau’s 2014 National Projections to highlight key findings related to the projected composition of the population by race and Hispanic origin.¹ We then address the limitations of the findings, including the underlying assumptions used to create these projections, as well as challenges associated with defining and measuring the concepts of race and Hispanic origin. Concluding remarks link projected trends with past projections to show, not only how the make-up of the U.S. population has changed and will continue to change, but also to demonstrate the fluidity with which race and ethnicity are conceptualized in the United States.

This report is based on the 2014 National Projections of the resident population by age, sex, race, Hispanic origin, and country of birth (nativity), and include demographic components of change—births, deaths, and net international migration.²

The projections are produced using 31 race categories. These are consistent with the 1997 Office of Management and Budget (OMB) revised standards for the classification of federal data on race and ethnicity.³ The five primary race categories are:

- (1) White: A person having origins in any of the original peoples of Europe, the Middle East, or North Africa.
- (2) Black: A person having origins in any of the black racial groups of Africa. Terms such as “Haitian” or “Negro” can be used in addition to “Black or African American.”
- (3) American Indian and Alaska Native (AIAN): A person having origins in any of the original peoples of North and

¹ 2014 National Projections, U.S. CENSUS BUREAU, <http://www.census.gov/population/projections/data/national/2014.html> (last visited Feb. 23, 2015) [hereinafter *2014 National Projections*].

² *Id.*

³ Revisions to the Standards for the Classification of Federal Data on Race and Ethnicity, 62 Fed. Reg. 58782 (Oct. 30, 1997), available at <http://www.gpo.gov/fdsys/pkg/FR-1997-10-30/pdf/97-28653.pdf>.

South America (including Central America), and who maintains tribal affiliation or community attachment.

(4) Asian: A person having origins in any of the original peoples of the Far East, Southeast Asia, or the Indian subcontinent including, for example Cambodia, China, India, Japan, Korea, Malaysia, Pakistan, the Philippine Islands, Thailand, and Vietnam.

(5) Native Hawaiian and Other Pacific Islanders (NHPI): A person having origins in any of the original peoples of Hawaii, Guam, Samoa, or other Pacific Islands.

Because individuals can identify as more than one race, estimates are produced for the 31 combinations of races:

- 5 single-race groups (e.g., White alone)
- 10 two-race categories (e.g., Black and White)
- 10 three-race categories (e.g., Black, White, and Asian)
- 5 four-race categories (e.g., Black, White, Asian, and AIAN)
- 1 five-race category.

The population projections are produced for two ethnic categories (Hispanic and not Hispanic). Hispanic origin is defined by OMB as “a person of Cuban, Mexican, Puerto Rican, South or Central American, or other Spanish culture or origin regardless of race.”⁴ Hispanic origin is an ethnicity and not a race; Hispanics can be of any race.

When taken together this makes for a total of 62 racial and ethnic categories (31 races multiplied by 2 Hispanic origin categories).

Projections for each of the five single-race categories are reported for those choosing only one race (e.g., “White alone”) and for all those who choose that race category alone or in combination with another race category (e.g., “White alone or in combination”).

- White alone
- Black alone
- Asian alone
- AIAN alone
- NHPI alone
- Two or More Races
 - White alone or in combination
 - Black alone or in combination

⁴ Brazil is not included as its culture is Portuguese and not Spanish.

- Asian alone or in combination
- AIAN alone or in combination
- NHPI alone or in combination

The first six categories sum to the total population. The remaining five sum to more than the population as individuals of more than one race are included in multiple categories.

II. KEY FINDINGS FROM THE 2014 NATIONAL PROJECTIONS

A. *Trends for the Total Population*

Between 2014 and 2060, the United States population is projected to increase by 98.1 million, from 318.7 million in 2014 to 416.8 million in 2060. Those who identify as something other than non-Hispanic White alone drive growth of the total population in these projections. As a result, the United States is projected to become more racially and ethnically diverse in the coming years.

Table 1 presents projections of the future size and distribution of the population by race and Hispanic origin in 2014, 2044, and 2060. The top panel shows the race of those reporting to have a single race (97.5 percent in 2014) as well as those reporting two or more races (2.5 percent in 2014). The middle panel shows all those reporting to have each race, either alone or in combination with others. Including those who report their race in combination has the largest impact on the AIAN and NHPI populations. The AIAN population alone or in combination with other races (6.5 million) is projected to be 65 percent larger than those reporting that race alone (4.0 million) in 2014. The NHPI population alone or in combination with other races (1.5 million) is projected to be 99 percent larger than those reporting that race alone (734 thousand) in 2014. The lower panel shows those who are Hispanic (17.4 percent) and non-Hispanic (82.6 percent) in 2014. Minority is defined in this paper as any group other than non-Hispanic White alone.

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Table 1. Population by Race and Hispanic Origin: 2014, 2044, and 2060⁵

Race and Hispanic origin	2014		2044		2060		Percent change, 2014 to 2060
	Number	%	Number	%	Number	%	
Total population	318,748	100	387,593	100	416,795	100	30.8
One Race	310,753	97.5	369,336	95.3	390,772	93.8	25.8
White	246,940	77.5	277,653	71.6	285,314	68.5	15.5
Non-Hispanic							
White	198,103	62.2	192,606	49.7	181,930	43.6	-8.2
Black	42,039	13.2	53,894	13.9	59,693	14.3	42.0
American Indian and Alaska Native	3,957	1.2	5,202	1.3	5,607	1.3	41.7
Asian	17,083	5.4	31,521	8.1	38,965	9.3	128.1
Native Hawaiian and Other Pacific Islander	734	0.2	1,066	0.3	1,194	0.3	62.6
Two or More Races	7,995	2.5	18,257	4.7	26,022	6.2	225.5
Race alone or in combination							
White	254,009	79.7	294,443	76.0	309,567	74.3	21.9
Black	45,562	14.3	63,631	16.4	74,530	17.9	63.6
American Indian and Alaska Native	6,528	2.0	9,074	2.3	10,169	2.4	55.8
Asian	19,983	6.3	38,253	9.9	48,575	11.7	143.1
Native Hawaiian and Other Pacific Islander	1,458	0.5	2,388	0.6	2,929	0.7	100.8

⁵ Population in thousands. Hispanic origin is considered an ethnicity, not a race. Hispanics may be of any race. Responses of "Some Other Race" from the 2010 Census are modified. For more information, see U.S. CENSUS BUREAU, MODIFIED RACE SUMMARY FILE METHODOLOGY (2014) [hereinafter FILE METHODOLOGY], available at <http://www.census.gov/popest/data/historical/files/MRSF-01-US1.pdf>. In combination means in combination with one or more other races. The sum of the five race groups adds to more than the total population, and 100 percent, because individuals may report more than one race. 2014 National Projections, *supra* note 1.

Hispanic	55,410	17.4	97,249	25.1	119,044	28.6	114.8
Not Hispanic	263,338	82.6	290,344	74.9	297,750	71.4	13.1

The non-Hispanic White alone population is currently the “majority” group, representing 62 percent of the total population in 2014. However, by 2060, the share of this group is projected to be just 44 percent, as its population falls from 198 million in 2014 to 182 million in 2060 (see Table 1). The point at which the non-Hispanic White alone population will comprise less than 50 percent of the nation’s total population has been described as the point at which we become a “majority-minority” nation. According to these projections, the majority-minority crossover will occur in 2044. While the non-Hispanic White alone population is projected to remain the largest single group, no group will have a majority share of the total.

The Two or More Races population is projected to be the fastest growing over the next 46 years (see Table 1), with its population expected to triple in size (an increase of 226 percent). This group is projected to increase from 8 million to 26 million between 2014 and 2060. Its share of the total population is projected to increase from 2.5 percent in 2014 to 6.2 percent in 2060.

The Asian population is projected to be the second fastest-growing group, with an increase of 128 percent projected for the Asian alone population (see Table 1). In 2014, the Asian alone group is projected to account for 5.4 percent of the total population. This group is projected to see its share of the total nearly double, accounting for 9.3 percent of the total population in 2060.

The Hispanic population is projected to be the third fastest growing (see Table 1). The Hispanic population is projected to increase from 55 million in 2014 to 119 million in 2060, an increase of 115 percent. In 2014, Hispanics are projected to account for 17 percent of the U.S. population. By 2060, 29 percent of the United States is projected to be Hispanic—more than one-quarter of the total U.S. population.

The NHPI population is projected to increase 63 percent for this race group alone, and increase 101 percent when the group is considered alone or in combination with other races (see Table 1). Such large differences in growth rates highlight the impact that accounting for race in combination with other races can have, particularly for some of the less populous race groups. The NHPI population (either alone or in combination with other races) is projected to represent less than one percent of the nation’s total population in both 2014 and 2060.

The remaining two groups, Black and AIAN, are projected to see modest growth in their populations over the next 46 years (see Table 1). Between 2014 and 2060, the Black alone population is projected to increase from 42 million to 60 million—an increase of 42 percent. Its share of the total population is projected to increase slightly from 13 percent in 2014 to 14 percent in 2060. The AIAN alone population is projected to increase from 4

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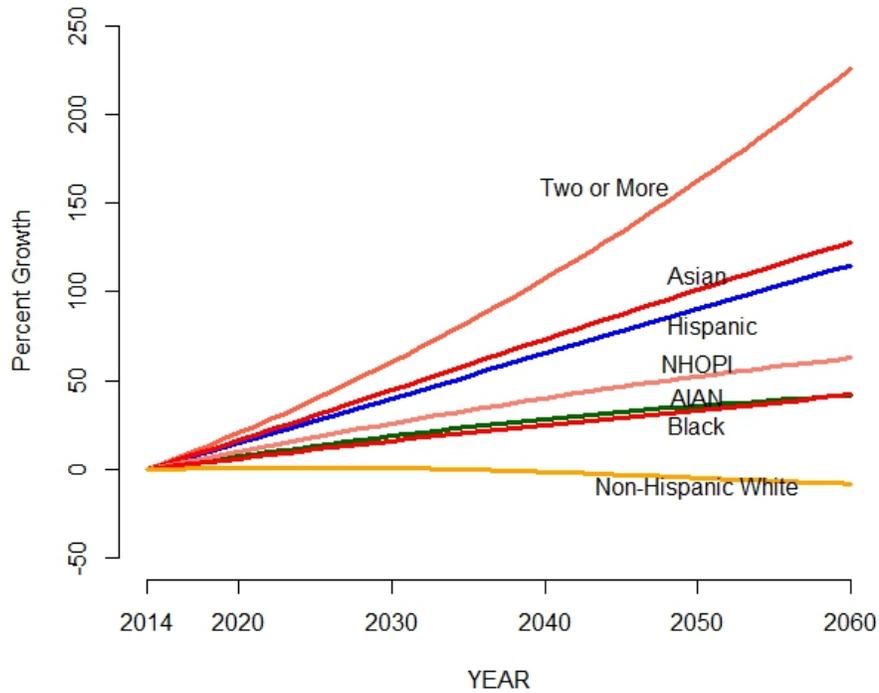
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million in 2014 to 5.6 million in 2060. Its share of the total population is projected to remain stable at just over one percent.

Figure 1 presents the same projection graphically. Remember that these groups are not mutually exclusive: Hispanics can be of any race. However, the rapid percentage growth of the Two-or-more race population is evident, as is the relatively rapid growth of the Hispanic and Asian populations. Only the non-Hispanic White alone population is projected to decline in absolute terms.

Figure 1. Projected Population Growth by selected Racial and Ethnic Groups: 2014 to 2060 (in Percent)⁶



⁶ 2014 National Projections, *supra* note 1.

B. Trends for the Population Under 18

The racial and ethnic composition of the United States is markedly different when looking at just children, those under 18 years of age. Table 2 presents projections of the future size and distribution of the child population by race and Hispanic origin in 2014, 2044, and 2060. This table can be compared to Table 1 to illustrate how diverse the child population is compared with the total.

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Table 2. Population Under 18 by Race and Hispanic Origin: 2014, 2044, and 2060⁷

Race and Hispanic origin	2014		2044		2060		Percent change, 2014 to 2060
	Number	%	Number	%	Number	%	
Total population	73,591	100	78,750	100	82,309	100	11.8
One Race	69,857	94.9	71,578	90.9	72,887	88.6	4.3
White	53,737	73.0	52,828	67.1	52,422	63.7	-2.4
Non-Hispanic							
White	38,265	52.0	32,234	40.9	29,323	35.6	-23.4
Black	11,074	15.0	11,619	14.8	12,330	15.0	11.3
American Indian and Alaska Native	1,164	1.6	1,150	1.5	1,132	1.4	-2.7
Asian	3,674	5.0	5,765	7.3	6,778	8.2	84.5
Native Hawaiian and Other Pacific Islander	208	0.3	215	0.3	226	0.3	8.6
Two or More Races	3,733	5.1	7,172	9.1	9,422	11.4	152.4
Race alone or in combination							
White	57,157	77.7	59,581	75.7	61,369	74.6	7.4
Black	13,044	17.7	15,927	20.2	18,259	22.2	40.0
American Indian and Alaska Native	1,985	2.7	2,226	2.8	2,323	2.8	17.0
Asian	5,026	6.8	8,364	10.6	10,208	12.4	103.1
Native Hawaiian and Other Pacific Islander	481	0.7	658	0.8	784	1.0	62.9
Hispanic	17,943	24.4	24,239	30.8	27,553	33.5	53.6
Not Hispanic	55,648	75.6	54,511	69.2	54,756	66.5	-1.6

⁷ Population in thousands. Hispanic origin is considered an ethnicity, not a race. Hispanics may be of any race. Responses of "Some Other Race" from the 2010 Census are modified. For more information, see FILE METHODOLOGY, *supra* note 5. In combination means in combination with one or more other races. The sum of the five race groups adds to more than the total population, and 100 percent, because individuals may report more than one race. *2014 National Projections, supra* note 1.

A much smaller percentage of the child population is non-Hispanic White alone, as compared with the total population. In 2014, 52 percent of children are projected to be non-Hispanic White alone (see Table 2), compared with 62 percent of the total population (see Table 1). Thus, among those under age 18, the United States is already nearly a majority-minority nation. The percentage of the population in this group is projected to decrease to only 36 percent by 2060. Put another way, by 2060, 64 percent of children will belong to racial and ethnic minorities, compared with 56 percent for the total population.

The percentages of the population in the Two or More Races and the Hispanic groups are higher for children than for the total population, again reflecting the greater diversity of the child population relative to the total population. In 2014, 2.5 percent of the total population is non-Hispanic Two or More Races, compared with just over 5 percent of the child population. The total population is projected to be 17 percent Hispanic in 2014 and 29 percent Hispanic in 2060 (see Table 1). In contrast, nearly one-quarter (24 percent) of the child population is projected to be Hispanic in 2014, and their share is projected to increase to 34 percent in 2060 (see Table 2).

The pattern of change from 2014 to 2060 is similar for the total population and for children in most race and ethnic groups. However, the child population is projected to experience smaller overall growth than the total population across all race and ethnic groups. Between 2014 and 2060, the child population is projected to increase by 12 percent whereas the total population is projected to experience an increase of 31 percent. Projected declines in fertility rates are expected to result in slower growth for the child population in the coming years. The total population maintains a higher rate of growth due to the dual impact of projected increases in net international migration and life expectancy.

Most race and ethnic groups are projected to experience growth between 2014 and 2060, with the largest rates of growth projected for the Two or More Races, Asian, and Hispanic groups. The exceptions to this trend are for White children, particularly non-Hispanic White, and AIAN. The total White alone population is projected to increase by 16 percent, while the White alone child population is projected to decrease by just over 2 percent. The total non-Hispanic White alone population is projected to decrease by 8 percent, while the number of non-Hispanic White alone children is projected to decrease by 23 percent. The number of single-race AIAN children is projected to decrease by nearly 3 percent compared to a projected increase of 42 percent for the total AIAN population.

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C. Trends for the Voting Age Population

The population over 18 plays a unique role in civil rights law, especially with respect to voting rights and Congressional redistricting. Table 3 presents projections of the future size and distribution of this population by race and Hispanic origin in 2014, 2044, and 2060.

Table 3. Voting-Age Population (18 and Over) by Race and Hispanic Origin: 2014, 2044, and 2060⁸

Race and Hispanic origin	2014		2044		2060		Percent change, 2014 to 2060
	Number	%	Number	%	Number	%	
Total population	245,157	100	308,843	100	334,486	100	36.4
One Race	240,895	98.3	297,758	96.4	317,885	95.0	32.0
White	193,203	78.8	224,824	72.8	232,892	69.6	20.5
Non-Hispanic							
White	159,838	65.2	160,372	51.9	152,607	45.6	-4.5
Black	30,964	12.6	42,275	13.7	47,363	14.2	53.0
American Indian and Alaska Native	2,794	1.1	4,052	1.3	4,475	1.3	60.2
Asian	13,409	5.5	25,756	8.3	32,187	9.6	140.0
Native Hawaiian and Other Pacific Islander	526	0.2	851	0.3	968	0.3	84.0
Two or More Races	4,262	1.7	11,085	3.6	16,601	5.0	289.5
Race alone or in combination							
White	196,853	80.3	234,862	76.0	248,198	74.2	26.1
Black	32,518	13.3	47,704	15.4	56,270	16.8	73.0
American Indian and Alaska Native	4,544	1.9	6,848	2.2	7,846	2.3	72.7
Asian	14,957	6.1	29,889	9.7	38,367	11.5	156.5
Native Hawaiian and Other Pacific Islander	977	0.4	1,729	0.6	2,145	0.6	119.5
Hispanic	37,467	15.3	73,010	23.6	91,492	27.4	144.2
Not Hispanic	207,690	84.7	235,833	76.4	242,994	72.6	17.0

⁸ Population in thousands. Hispanic origin is considered an ethnicity, not a race. Hispanics may be of any race. Responses of "Some Other Race" from the 2010 Census are modified. For more information, see FILE METHODOLOGY, *supra* note 5. In combination means in combination with one or more other races. The sum of the five race groups adds to more than the total population, and 100 percent, because individuals may report more than one race. *2014 National Projections*, *supra* note 1.

The racial and ethnic composition of the United States is markedly different when looking at the voting age population, those 18 years of age and older. In 2014, this population is nearly 79 percent White alone, and 65 percent non-Hispanic White alone. In 2044, when the total population is projected to become “majority-minority,” the voting-age population will still be majority non-Hispanic White alone (52 percent). The crossover for this population is projected to occur in 2049, just five years later than the total population. By the end of the projection period in 2060, the non-Hispanic White alone population is expected to constitute just over 45 percent of the voting age population.

The proportion of the voting age population identifying as Asian alone is expected to grow rapidly over the projection period, increasing from just over 5 percent in 2014, to just over 8 percent in 2044, and rising to nearly 10 percent by 2060. Hispanics, who can be of any race, are also projected to increase rapidly as a proportion of the voting age population with an increase from 15 percent in 2014 to 27 percent in 2060.

The voting age population in the other race groups are expected to grow proportionally, but not so rapidly. The population in the Two or More Races group is projected to increase from almost 2 percent in 2014 to 5 percent in 2060. While it will still be a relatively small proportion of the voting age population, this group is projected to see its voting age population nearly triple over the period.

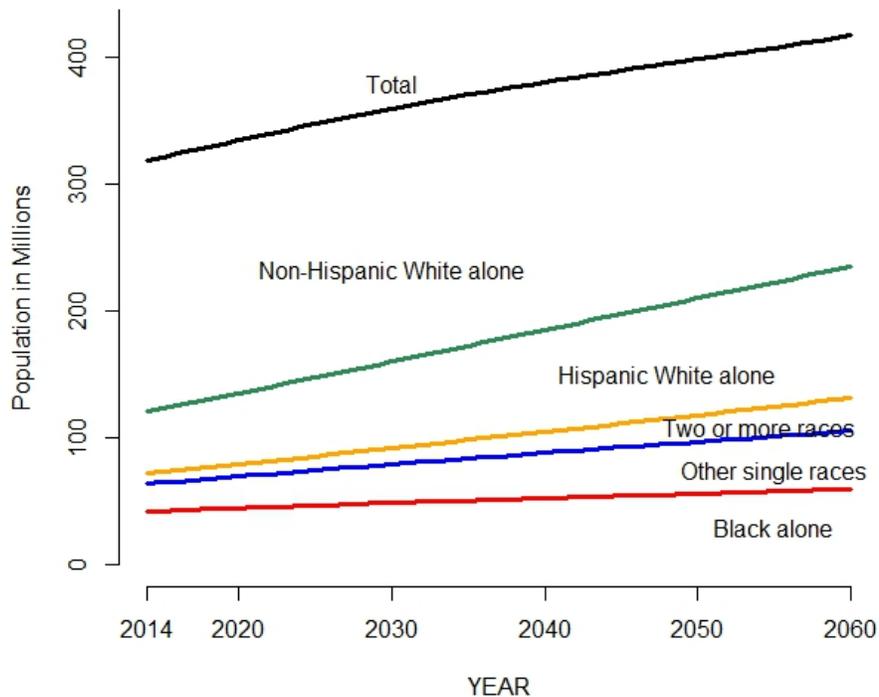
D. Evaluating Projected Changes Through Cumulative Totals

Another way to evaluate the projected changes in the racial and ethnic make-up of the future population is to look at figures that illustrate the patterns of growth for each group. For purposes of exposition in this section, we combine the detailed categories into five non-overlapping groups: (1) Black alone, (2) other single races (this group includes AIAN, Asian, and NHPI), (3) Two or More Races, (4) Hispanic White alone, and (5) non-Hispanic White alone. No special importance should be attributed to these groupings; other equally valid groupings are possible. These groupings allow us to discuss a few general trends without getting bogged down in detail.

Figure 2 presents the projections for the total population. The bottom portion of the figure represents the projections for the Black alone population, including both Hispanic and non-Hispanic Blacks. The next line represents the projections for Black alone plus the AIAN alone, NHPI alone and Asian alone populations. The space between the bottom two lines, obviously, represents the contributions of these other groups. The next area, represented by the space under the third line from the bottom, adds in the contribution of the population choosing Two or More Races population. The next segment adds in the Hispanic White alone population. The area under this line represents what might be termed the total “minority” population. When the non-Hispanic White

alone population is added in, up to the line at the top, we have the projected total population.

Figure 2. **Projected Population Growth by selected Groups: 2014 to 2060 (in Millions)**⁹



Since racial and ethnic diversity is the focus of this paper, Figure 3 presents the same data expressed as a percent of the total population. It is easy to see that according to these projections, the United States as a whole is expected to become “majority-minority” around 2044. It is also easy to see that the proportion Black alone remains relatively stable throughout the period. Proportionate growth in the other “non-white” groups is evident. However, the largest growth is in the proportion classified as “Hispanic White.”

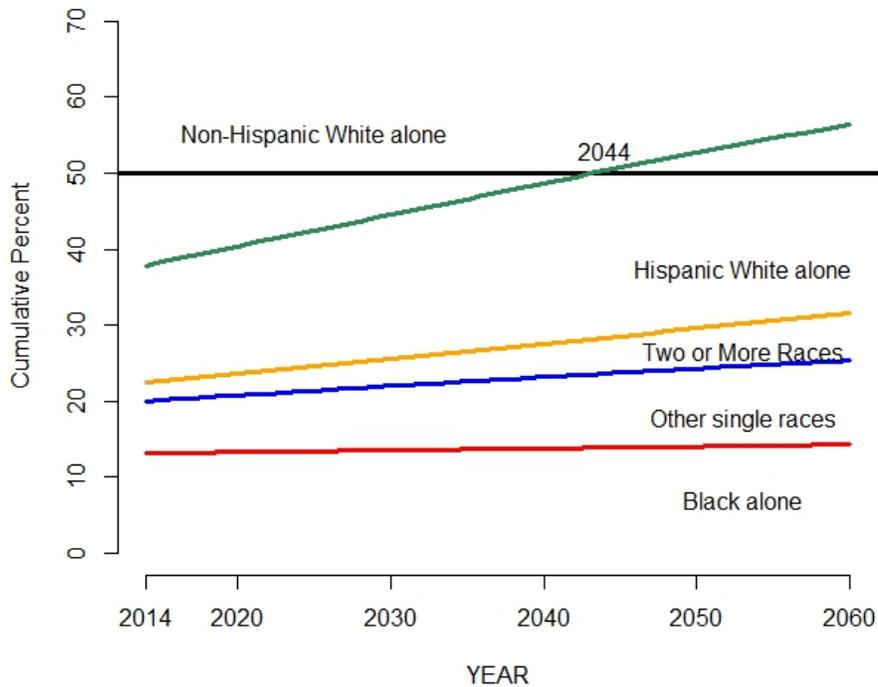
⁹ Other single races includes Asian, AIAN, and NHPI. *2014 National Projections, supra* note 1.

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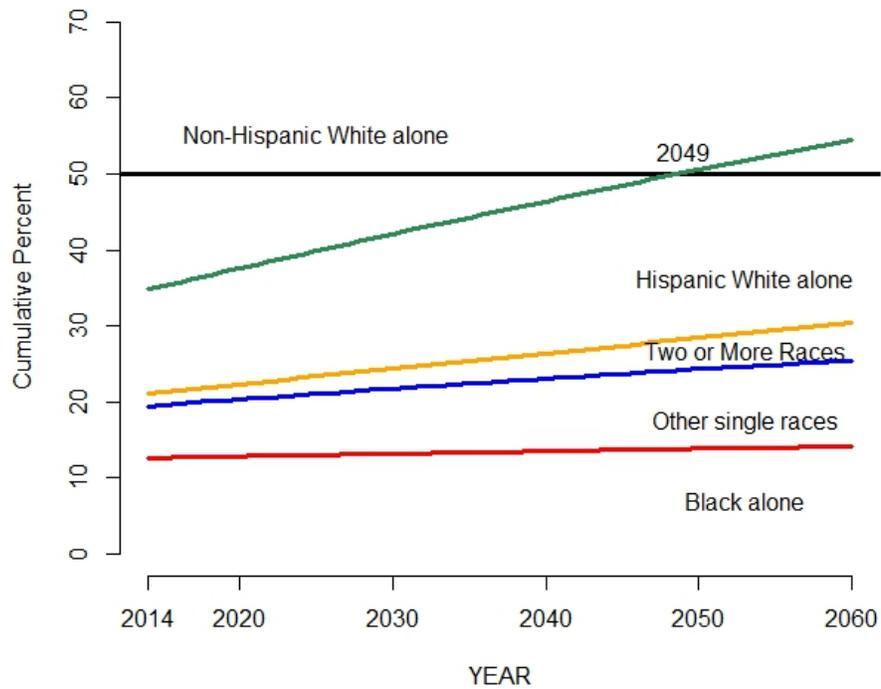
Figure 3. **Projected Population Proportion All Ages of selected Groups: 2014 to 2060 (in Percent)**¹⁰



Many legal issues arise not over the total population but for important sub-groups defined by age. For example, one might be interested in the voting age population (those 18 and over). Figure 4 presents the distribution of the population in this age group. The voting age population is projected to become “majority-minority” somewhat later, not until 2049. This is because the minority population is relatively young. Figure 5 looks at the prime working age population (those 18 to 64). For this group, the projected “crossover” is much sooner, in 2038. For the younger populations the “crossover” is projected to occur even sooner. For the school age population (those 5 to 17), the crossover is set at 2021 (see Figure 6). When we look at the pre-school population (the population under 5) in Figure 7, we see that the “crossover” is already upon us.

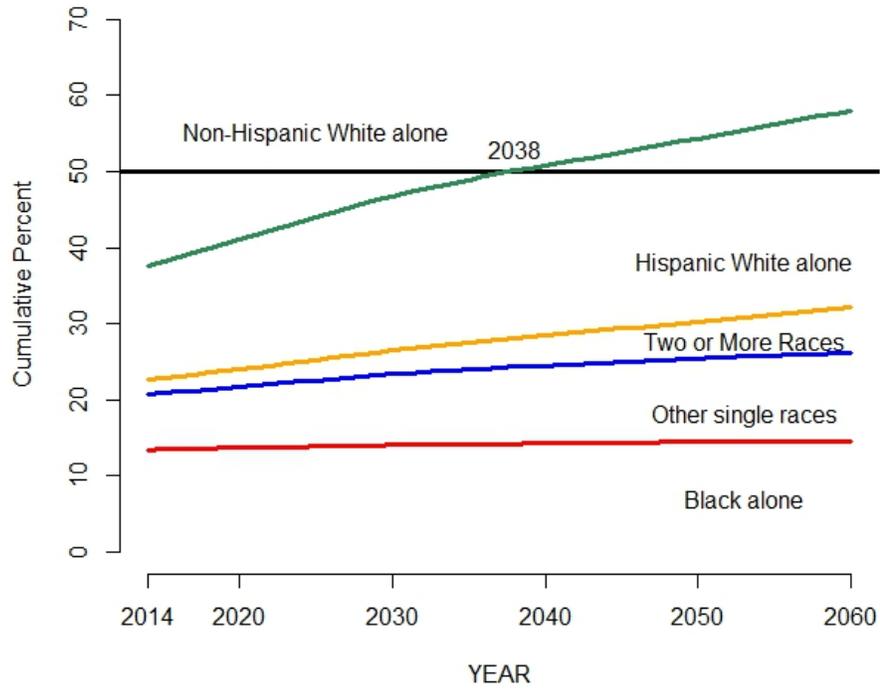
¹⁰ Other single races includes Asian, AIAN, and NHPI. 2014 National Projections, *supra* note 1.

Figure 4. Projected Population Proportion Ages 18 and over of selected Groups: 2014 to 2060 (in Percent)¹¹



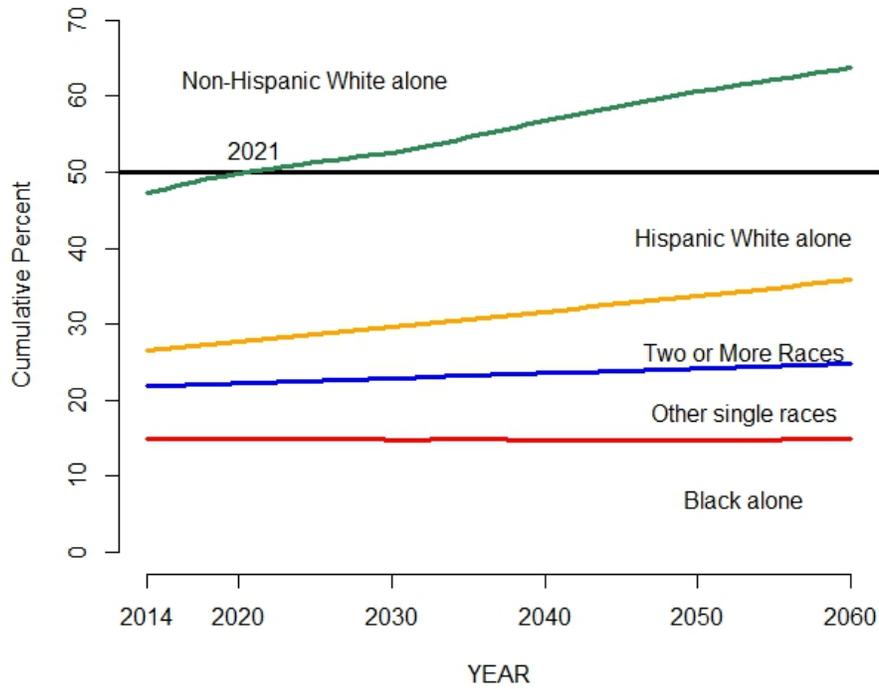
¹¹ Other Single Races includes Asian, AIAN, and NHPI. 2014 National Projections, *supra* note 1.

Figure 5. Projected Population Proportion Ages 18 to 64 of selected Groups: 2014 to 2060 (in Percent)¹²



¹² Other Single Races includes Asian, AIAN, and NHPI. 2014 National Projections, supra note 1.

Figure 6. **Projected Population Proportion Ages 5 to 17 of selected Groups: 2014 to 2060 (in Percent)**¹³



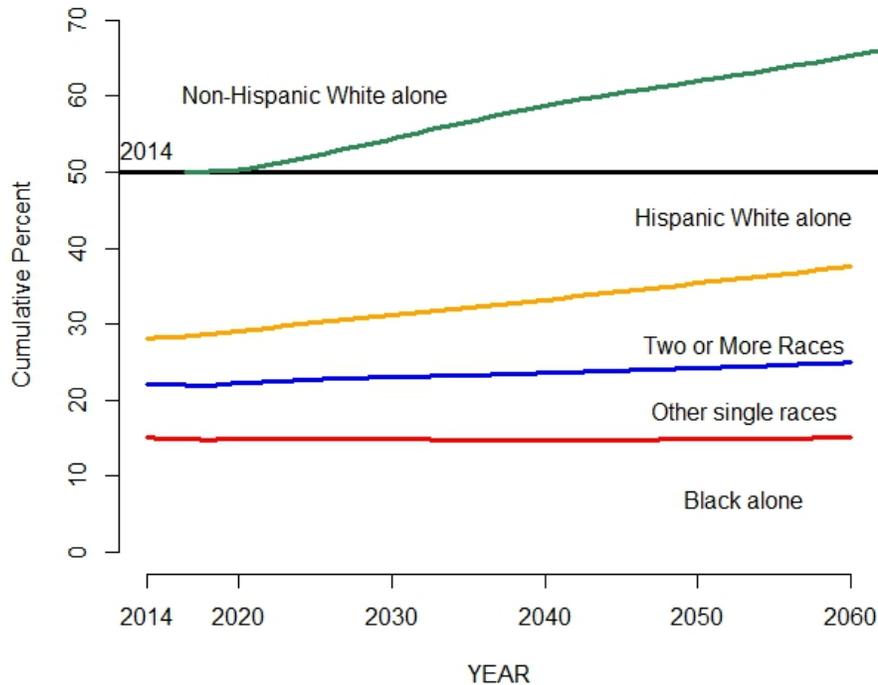
¹³ Other Single Races includes Asian, AIAN, and NHPI. *2014 National Projections, supra note 1.*

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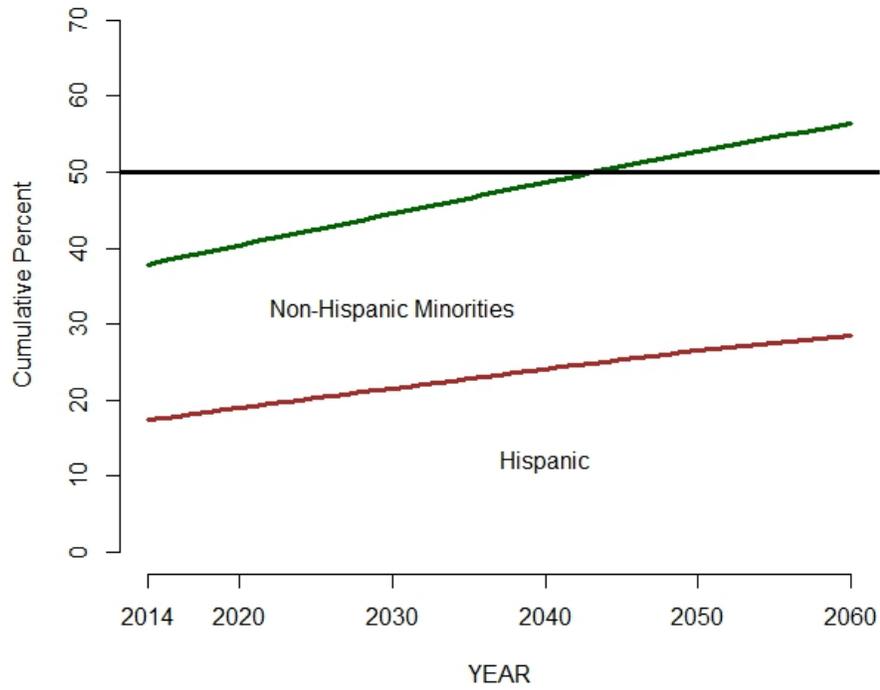
Figure 7. Projected Population Proportion Ages 0 to 4 of selected Groups: 2014 to 2060 (in Percent)¹⁴



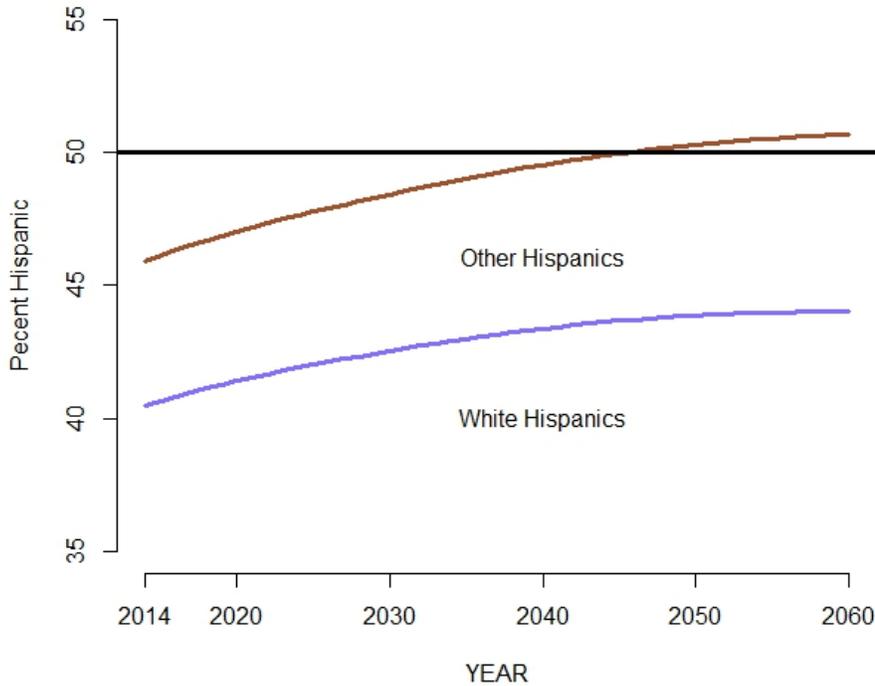
People of Hispanic origin or culture are of different races. In some litigation, Hispanics are considered a separate class, regardless of race. In Figure 8, all Hispanics are grouped together regardless of race and the figure presents the proportions relative to the total population. Figure 9 presents the Hispanic population as a percent of the minority population. As one can see from these two graphs, the Hispanic population, taken as a whole, is projected to represent a large part of the U.S. population and a very large part of the minority population.

¹⁴ Other Single Races includes Asian, AIAN, and NHPI. *2014 National Projections, supra note 1.*

Figure 8. Projected Population Proportion All Ages of Hispanic and Non-Hispanic Minorities as a Percentage of Total: 2014 to 2060¹⁵



¹⁵ 2014 National Projections, *supra* note 1.

Figure 9. **Hispanics as a Percentage of All Minority: 2014 to 2060**¹⁶

The remaining sections seek to set out the methods, assumptions and limitations of these and other projections.

III. DEMOGRAPHIC ASSUMPTIONS OF THE 2014 NATIONAL PROJECTIONS

The 2014 National Projections are based on the 2010 Census and official estimates through 2013 and were produced using the cohort-component method.¹⁷ The cohort-component method projects the components of population change separately for each birth cohort (persons born in a given year) based on past trends. The base population is advanced each year by using projected survival rates and net international migration. A new birth cohort is

¹⁶ The scale begins at 35 percent, rather than zero. *2014 National Projections*, *supra* note 1.

¹⁷ *2014 National Projections*, *supra* note 1; *2013 Monthly National Population Estimates*, U.S. CENSUS BUREAU, <http://www.census.gov/popest/data/national/asrh/2013/2013-nat-detail.html> (last visited Feb. 23, 2015).

added to the population by applying the annual projected fertility rates to the female population.

A. Births

The number of births each year, by race and Hispanic origin, are calculated by applying projected age-specific fertility rates to each year's projected female population. These fertility rates are projected to continue their historic decline to around two births, over a lifetime, per woman. For the purposes of these projections, rates were produced for five race and Hispanic origin groups: (1) foreign-born Hispanic, (2) foreign-born non-Hispanic Asian or Pacific Islander (API), (3) foreign-born non-Hispanic other [includes foreign-born non-Hispanic White, Black, and AIAN], (4) native-born API, and (5) native-born other [includes all native-born except for API, regardless of Hispanic origin].¹⁸

A major difficulty is the assignment of a race and ethnic origin to the births, since this depends not only on the race and origin of the mother, but that of the father. A complex set of assumptions is employed. This can be an important factor. As an example, Table 4 presents data on currently married Hispanic women (with a spouse present), who are the householder or spouse of the householder. A substantial proportion of U.S.-born Hispanic women are married to non-Hispanic men. Of course, Hispanic men also marry non-Hispanic women. It is difficult to predict how ethnic identification will be transmitted from generation to generation.

To estimate these projected proportions, the Census Bureau analyzed the racial and ethnic distribution of women and men with children less than 18 years of age in the household from the 2010 Census. Distributions of race and Hispanic origin for children aged 0 to 17 are derived from a series of cross-tabulations of the reported race of the child for every race and Hispanic origin combination of parents. The result is a series of child race and Hispanic origin proportions for every combination of parents' race and Hispanic origin. In these projections, the proportion of "interracial/inter-ethnic" parenting is projected to remain constant at the proportions estimated using the 2010 Census, as is the proportion of children of these couples to identify with each particular race, ethnic combination.

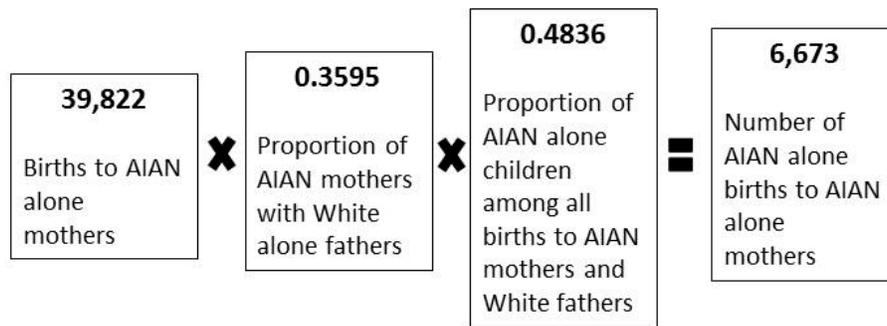
Race and Hispanic origin are assigned to projected births based on a three-step process. This process is most easily understood via an example.¹⁹

¹⁸ The superseded Asian and Pacific Islander combined category is used due to the lack of historical data for the current categories of: (1) Asian and (2) Native Hawaiian and Other Pacific Islander.

¹⁹ Christine E. Guarneri & Christopher Dick, U.S. Census Bureau, *Methods of Assigning Race and Hispanic Origin to Births from Vital Statistics Data*, Presentation to the Federal

Applying the age-specific fertility rates, assume that there are 39,822 births projected for AIAN alone women in 2044. If one assumes that 35.65 percent of AIAN mothers have White-alone fathers, one could project the number of births to this AIAN-White race of parent combination. Then if one assumes that 48.36 percent of children born to this AIAN-White combination will identify as AIAN-alone, one can project this part of the new AIAN birth cohort.

Figure 10. **Example of 3-Step Process for Assigning Race and Hispanic Origin to Births**²⁰



This procedure is repeated for all race groups and the parts summed to project the new AIAN-alone birth cohort. The process is also applied to all other race and origin groups.

Table 4 gives an indication of how important these assumptions are in projecting the future racial and ethnic composition, looking at only one group. Over 20 percent of married Hispanic women are married to a non-Hispanic man. The proportion is low for those born outside the United States, but many of these would have been married before arriving. Of those married Hispanic women born in the United States, over a third marry a non-Hispanic man. Of course, Hispanic men are also marrying non-Hispanic women. It is hard to predict the effect on ethnic identification of this process over the course of several generations.

Committee on Statistical Methodology Annual Meeting 1–2 (Jan. 12, 2012), *available at* http://www.globalchange.gov/sites/globalchange/files/Guarneri_2012FCSM_X-B.PDF.

²⁰ Merarys Rios et al., *Race Reporting Among Hispanics: 2010* (Population Division, U.S. Census Bureau Working Paper No. 102, 2014), *available at* www.census.gov/population/www/documentation/twps0102/twps0102.pdf.

Table 4. Currently Married Hispanic Women by Nativity and Hispanic Origin of Husband²¹

Nativity	All	Hispanic husband	Non-Hispanic husband	Percent with non-Hispanic husband	Measure of error
All	6,820,315	5,402,656	1,417,659	20.8	0.3
Born stateside	2,619,718	1,657,248	962,470	36.7	0.7
Born elsewhere	4,200,597	3,745,408	455,189	10.8	0.3

B. Deaths

Deaths are projected by applying age, sex, race, and Hispanic origin specific mortality rates to the projected population. Rates were projected for three groups based on similarities in life expectancy. These groups are: (1) non-Hispanic White and API, (2) non-Hispanic Black and AIAN, and (3) Hispanic. The racial and ethnic distribution of deaths is the product of the racial and ethnic composition of the population and the mortality rates in a given year.

C. International Migration

The net international migration component is the sum of foreign-born immigration, foreign-born emigration, and net native-born migration. Race and Hispanic origin are assigned within each of these components.

For foreign-born immigrants, projected immigrants to the United States are calculated by multiplying the projected rates of emigration from the sending countries by the projected population in the sending countries within each of the six regions for which rates were calculated: Mexico, Latin America/Caribbean/South America, Asia, Sub-Saharan Africa, Near East/North Africa, and Europe/Canada/Oceania.

The foreign-born immigration projections were distributed by age, sex, race, and Hispanic origin using the distributions of characteristics of immigrants within each of the six country-of-birth regions from the 2008 to 2012 American Community Survey (ACS). These distributions were held constant in all years of the projections, meaning that the projections of foreign-born immigration do not account for potential variations in the composition of the population within the sending countries. Because of this, changes in the

²¹ Only couples that include the householder are shown here. Same-sex couples are not included. Elsewhere includes foreign born and born in Puerto Rico. *See American Community Survey*, U.S. CENSUS BUREAU, <http://www.census.gov/acs/www/> (last visited Apr. 3, 2015).

projected demographic characteristics of foreign-born immigrants to the United States over time are the result of shifts in the sending countries from which the immigrants originate.

For the second component of net international migration, foreign-born emigration, rates are calculated by Hispanic origin, sex, and tenure in the United States and applied to the foreign-born population. The resulting foreign-born emigrants have a racial and ethnic distribution that is the product of the rates and the population to which they are applied.

Projections of net native-born migration hold constant the Census Bureau's 2013 Population Estimates of native-born net migration by age, sex, race, and Hispanic origin. Projections of the net migration from Puerto Rico to the United States, by age and sex, are obtained from the Census Bureau's International Data Base.²² Race and Hispanic origin is assigned to this component using the distribution of net migration from the 2013 Population Estimates.

IV. EFFECTS OF DIFFERENT DEMOGRAPHIC ASSUMPTIONS: LOOK AT SOME EARLIER PROJECTIONS

One way to assess the uncertainty in a set of projections is to vary the demographic assumptions upon which they are based. Traditionally, this is done by producing a "High" and "Low" series, in addition to the "Middle" series. The "High" and "Low" series are based on assumptions of higher and lower, respectively, levels of net international migration. The alternatives provide insight into how population growth and shifts in the demographic composition, including race and ethnicity, might be impacted by shifts in the level of net international migration. In order to assess the effects of alternative assumptions on the "crossover" date, we can look at recent Census Bureau projections.²³

In 2009, the Census Bureau released projections series based on alternative assumptions about the future level of net international migration. These series started from the 2000 Census. A similar series of alternatives was released in 2013, but based on the 2012 Population estimates, which start from the 2010 Census. Thus, using the "High" and "Low" series from the 2009 and 2012 series, we have four different projection series, based on different assumptions and different base populations (e.g., base censuses). These results are given in Table 5. It is easy to see that the range of projected crossover dates

²² *International Programs: International Database*, U.S. CENSUS BUREAU, <http://www.census.gov/population/international/data/idb/informationGateway.php> (last visited Apr. 3, 2015).

²³ U.S. CENSUS BUREAU, *METHODOLOGY STATEMENT FOR THE 2009 NATIONAL PROJECTIONS* (2009); U.S. CENSUS BUREAU, *METHODOLOGY AND ASSUMPTIONS FOR THE 2012 NATIONAL PROJECTIONS* (2012).

is relatively narrow, from 2040 (2009 “High” series) to 2045 (both the 2009 and 2012 “Low” series).

Table 5. Projected Year when the Minority Population has Greater than 50 Percent Share of the Nation’s Total²⁴

Series	Year
2008 National Projections	2042
2009 National Projections	
Low series	2045
High series	2040
Constant series	2050
2012 National Projections	
Middle series	2043
Low series	2045
High series	2041
Constant series	2046
2014 National Projections	2044

Additionally, the Census Bureau has produced illustrative projections under the assumption that net international migration remains constant at the then current level. Given the growth of the U.S. population and the world population, few demographers believe that future immigration to the United States will remain constant. This assumption can have an appreciable but still not extreme impact. The “Constant” projections from the 2012 series project a crossover only a year later than that of the “High” series (2046 versus 2045). The 2009 “Constant” projections series does project a relatively late crossover date: 2050.

These different projection series have consistently projected that the crossover date for the total population will occur in or near the decade of the 2040s. However, as illustrated in the previous section, the crossover date can and will vary greatly depending on which age groups are of interest. Equally

²⁴ 2014 National Projections, *supra* note 1; 2012 National Population Projections, U.S. CENSUS BUREAU, <http://www.census.gov/population/projections/data/national/2012.html> (last visited Apr. 3, 2015) [hereinafter 2012 National Projections]; 2009 National Population Projections (Supplemental), U.S. CENSUS BUREAU, <http://www.census.gov/population/projections/data/national/2009.html> (last visited Apr. 3, 2015); 2008 National Projections, U.S. CENSUS BUREAU, <http://www.census.gov/population/projections/data/national/2008.html> (last visited Apr. 3, 2015).

important is an understanding of the implications of the assumptions implicit in the projections, assumptions about racial and ethnic identity and classification.

V. UNDERSTANDING THE ASSUMPTIONS USED TO MAKE POPULATION PROJECTIONS

Projections illustrate possible courses of population change based on assumptions about future births, deaths, and net international migration. The projected values from the 2014 National Projections are one possible outcome for the future that would occur if all the assumptions hold true. All assumptions about the components of change are based on historical trends. Factors that might influence the levels of population components, policy decisions for example, cannot be predicted with any degree of certainty. Therefore, no attempts are made to incorporate these into the assumptions that produce the projections. Both the size and the composition of the projected population reflect the assumptions included in these projections and their accuracy will depend largely on how closely actual trends in fertility, mortality, and migration are to the assumptions used to generate these projections.

Trends in fertility and mortality have been relatively steady in recent decades, and similar for the United States and the developed world. Few, if any, demographers expect another baby boom. While it is certainly possible that a major epidemic could greatly alter mortality rates, there is no evidence to predict one. Major issues in projecting mortality concern trends among the elderly population, where medical advances and lifestyle changes could significantly affect trends in different ways.

The situation with international migration differs. Historically, immigration to the United States has come in unexpected waves. Among the most prominent are the wave of Irish in the mid-19th century and that of Eastern Europeans in the late 19th century. The wave of Asian immigrants in the 1980s and Hispanics in the 1990s were largely unanticipated. On a smaller scale, the 1980 Mariel Boat-lift brought over 100,000 Cuban immigrants to the United States within a few months, something almost no one anticipated even a few weeks before. The timing, scale, and origin of possible future waves of immigrants add considerable uncertainty to any projections, especially projections of racial and ethnic composition.

Beyond the limitations just discussed, which apply to all projections, projecting the population in race and Hispanic origin detail presents additional challenges associated with constructing these concepts in a meaningful and accurate way. Racial and ethnic categorization of an individual can change either because the individual changes his/her self-identification or because society (or the government) evolves new category definitions. The racial and ethnic categories used in U.S. population census, survey, estimates, and projections data published by the Census Bureau have changed over time and could be subject to change again in the future. This can be challenging to those

interested in projecting the population by race for a number of reasons, each of which is addressed in the sections that follow.

A. Discrepancies Between Individual Perceptions and Official Measures

Starting in 1980, the decennial population census form has included questions asking individuals to classify themselves into one category (or more in the case of 2000 and beyond) representing their race and another representing their Hispanic origin. Self-identification has been the primary source of data for these two measures starting in the 1960 Census for race and the 1980 Census for Hispanic origin. The number and wording of the questions measuring race and Hispanic origin changes from one decade to the next, and the categories associated with each of these concepts are also subject to change in accordance with changes to OMB standards for classifying race and Hispanic origin. Despite all of the planning and testing involved in designing measures of race and Hispanic origin, though, these measures do not necessarily align with how individuals see themselves or how they might be viewed by society. To illustrate this point, consideration is given to the racial identification of the Hispanic population in the 2010 Census.

In the 2010 Census, 43.5 percent of individuals who identified as Hispanic did not select any of the official OMB race groups in response to the race question. Thirty percent of Hispanics wrote in their response in the Some Other Race (SOR) box, while 13 percent did not provide an answer. Of those Hispanics who wrote their response in the SOR box, the most common responses included countries of origin (e.g., Mexico at 44.3 percent), Hispanic (22.7 percent), and Latin American (10.0 percent).²⁵ The relatively high non-response rate for the Hispanic population on this question, coupled with the large proportion of respondents not associating with the standard OMB categories suggest that the OMB categories and wording offered on official forms might not be meaningful for many in the Hispanic population, especially newer immigrants. This is supported by other research.²⁶

Further, this has implications for the projected values of race and Hispanic origin in the population projections, as the U.S. Census Bureau's Population Projections and Population Estimates programs modify these responses in the SOR box to fit into the OMB designated categories.²⁷

No modification was made for race responses where only a specified OMB race was provided, alone or in combination with one or more OMB races (e.g., White alone, White and Black; White and Black and AIAN). In those

²⁵ Rios et al., *supra* note 20.

²⁶ See ELIZABETH COMPTON ET AL., U.S. CENSUS BUREAU, 2010 CENSUS RACE AND HISPANIC ORIGIN ALTERNATIVE QUESTIONNAIRE EXPERIMENT 71–74 (2013), available at http://www.census.gov/2010census/pdf/2010_Census_Race_HO_AQE.pdf.

²⁷ FILE METHODOLOGY, *supra* note 5.

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instances where a non-specified race response was provided in the “Some other Race” box, the response was modified by blanking the non-specified race response and allocating a specified OMB race alone or in combination.

When no OMB race was provided, race was allocated from a donor within the household that matched on Hispanic origin. If a donor could not be found within the household, a race was allocated from a hot deck matrix where the donor and donee matched on the specific Hispanic origin (Not Hispanic; Mexican; Puerto Rican; Cuban; Central American and Dominican; South American; other Spanish).

Race responses of both specified and non-specified races were modified by blanking the non-specified race and using the specified OMB race(s). For example, White and “Some Other Race” became White alone; White and Black and “Some Other Race” became White and Black.

This procedure shifts the racial distribution of the U.S. population in the 2010 Census, with the largest changes concentrated in the Hispanic population who were more likely to have their responses tabulated as “Some Other Race.” Through this procedure, the Hispanic White alone population is increased from 26.7 million to 44.6 million when responses of “Some Other Race” are modified, an increase of 67 percent. The revised distribution is the one from which the population is projected, meaning that the modifications to responses of some other race in the base population are carried forward through the projected years.

Table 6 shows the effects of this assignment of race for the total population and for Hispanics.

Table 6. Reassignment of Race between Census and Estimates Base: Percent Distribution of Total Population and Hispanic Population²⁸

Race	Total		Hispanic	
	Census	Estimates	Census	Estimates
White alone	72.4	78.4	53	88.4
Black alone	12.6	13	2.5	4.6
AIAN alone	0.9	1.2	1.4	2.9
Asian alone	4.8	4.9	0.4	1
NHOPI alone	0.2	0.2	0.1	0.4
Two or More Races	2.9	2.3	6	2.7
Non-specified race only	6.2	(X)	36.7	(X)

²⁸ American Community Survey, *supra* note 21.

In preparation for the 2020 Census, there are ongoing efforts within the Census Bureau to improve the race and Hispanic origin questions. One of these, the Alternative Question Experiment (AQE), tested a variety of formats for soliciting data on individuals' race and Hispanic origin, including a version that combines the race and origin questions.²⁹ Results from the AQE suggest that combining the questions reduces the number of respondents selecting a specific OMB defined race as well as "Some Other Race." It remains to be seen whether these changes will be incorporated into future Censuses and, if they are, what impact they will have on the racial and ethnic distribution of the U.S. population.

B. Individual Changes in Self-Identification over Time

A fundamental assumption of all population projections by sub-group is that the same person shows up in the same category year after year, decade after decade. Humes and Hogan looked at the reporting of multi-race respondents, between 2000 and 2010, in two large groups: those reporting both White and Black and those reporting both White and Asian, to evaluate the extent to which individuals changed their race reporting from one decade to the next (see Table 7).³⁰ By tracking cohorts from 2000 to 2010, they were able to measure differences in race reporting. For example, one might consider those aged 40-44 who reported being both White and Black in 2000. This cohort, which would have been aged 50-54 in 2010 grew by 52 percent in the decade. Demographically, this could only have happened if there was a net immigration in this race and age group during the decade of over 8,000 people, enough to make up for losses due to mortality and still have the cohort grow. There is no evidence that this is the case. Based on their findings, Humes and Hogan concluded that a more plausible explanation for this growth is that a large number of people who chose only White or only Black in 2000, reported both races in 2010.³¹

²⁹ COMPTON ET AL., *supra* note 26.

³⁰ Karen Humes & Dr. Howard Hogan, *Do Current Race and Ethnicity Concepts Reflect a Changing America?*, in RACE AND SOCIAL PROBLEMS: RESTRUCTURING INEQUALITY 15–38 (Ralph Bangs & Larry E. Davis eds. 2015) [hereinafter Humes & Hogan, *Changing America?*].

³¹ *See id.*

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Table 7. Cohort Growth of Two “Two Race” Groups between 2000 and 2010³²

Age in 2000	White and Black	White and Asian
Total	31	27
Under 5	28	31
5 to 9	28	36
10 to 14	22	29
15 to 19	30	28
20 to 24	48	36
25 to 29	50	34
30 to 34	49	29
35 to 39	53	23
40 to 44	52	21
45 to 49	48	19
50 to 54	34	14
55 and Over	10	-10

Research into the racial reporting of AIAN in 2000 and 2010 also shows there is considerable change in race response of the individuals between the two censuses, though the characteristics of those joining and leaving the group are similar as are the numbers who changed their response between censuses.³³ The changes observed by Humes and Hogan as well as Liebler, Bhaskar, and Rastogi were over a single decade, while the projections are for the next five decades.³⁴ The projections make no allowance for people changing racial or ethnic groups.

VI. SHIFTS IN SOCIETAL PERCEPTIONS OF RACE AND ETHNICITY

Measures of race and Hispanic origin mirror the political and social setting of the period in which they are derived. Changes in the racial

³² Humes & Hogan, *Changing America?*, *supra* note 30.

³³ Carolyn A. Liebler et al., *Dynamics of Race: Joining, Leaving, and Staying in the American Indian/Alaska Native Race Category Between 2000 and 2010* (Ctr. for Admin. Records Research and Applications, Working Paper No. 2014-10, 2014), *available at* https://www.census.gov/srd/carra/Dynamics_of_Race.pdf.

³⁴ See Humes & Hogan, *Changing America?*, *supra* note 30; Liebler et al., *supra* note 33.

classification system across decennial censuses have been documented by a number of researchers and will not be covered in extensive detail here, except to say that the categories used in the past do not necessarily align with the current classification system of race and Hispanic origin.³⁵ For instance, the 1960 Census included the following major race groups: “White,” “Negro,” “American Indian,” “Chinese,” “Japanese,” “Filipino,” “Hawaiian,” “Part-Hawaiian,” “Eskimo,” and “Aleut.” At that time, just over 50 years ago, no consideration was given to identifying individuals by Hispanic origin. Today, roughly 17 percent of the total U.S. population is classified as Hispanic. This coding of race, which was relevant in 1960, cannot, and does not, account for changes in the social construct of race over time.

In the same respect, the measures we are using today to classify the projected population by race and Hispanic origin will likely be outdated 45 years into the future. To illustrate this, one need only look at past series of population projections produced by the U.S. Census Bureau. The first series of population projections were produced in 1947 and included the categories of native-born White, foreign-born White, and non-White.³⁶ These projections covered the period through 1975. However, by the release of the 1966 projections, which projected the population out to 1990, these race groups had been replaced by the categories White and Black.

In 1986, Hispanic origin was introduced into the projections, and the population was projected out to 2080 by the categories Spanish Origin, White non-Hispanic, Black, and Other Races. While this series of projections included Hispanic origin, it did not account for the Asian population, which was the fastest growing racial group in the United States between 2012 and 2013.³⁷

One area of current discussion is whether data should be collected separately for the White population, which traces their origin to Europe, versus those who trace their origin to the Middle East and North Africa (MENA). We offer no particular insight as to how this discussion will evolve either with respect to official statistics or to civil rights law. We mention it only as an illustration of how the race response categories on census and survey forms might change in future years.

³⁵ See MICHAEL BENTLEY ET AL., U.S. CENSUS BUREAU, CENSUS QUALITY SURVEY TO EVALUATE RESPONSES TO THE CENSUS 2000 QUESTION ON RACE: AN INTRODUCTION TO THE DATA 2 (2003), available at <http://www.census.gov/pred/www/rpts/B.3.pdf>; Karen Humes & Howard Hogan, *Measurement of Race and Ethnicity in a Changing, Multicultural America*, 1 J. RACE & SOC. PROBS. 111 (2009); Sharon M. Lee, *Racial Classifications in the US Census: 1980-1990*, 16 ETHNIC & RACIAL STUD. 75 (1993).

³⁶ P.K. WHELPTON ET AL., FORECASTS OF THE POPULATION OF THE UNITED STATES 1945-1975 (1947).

³⁷ 2013 *Monthly National Population Estimates*, U.S. CENSUS BUREAU, <http://www.census.gov/popest/data/national/asrh/2013/2013-nat-detail.html> (last visited Feb. 23, 2015).

The purpose of this historic review is not to point out how badly past projections erred. Rather, it is to remind the reader that when projecting population by group generations into the future, one is making not only demographic and sociological assumptions, one is also making assumptions about the groups that will be considered important many years into the future. We are not just projecting population, we are also projecting a classification system decades into the future. There is little reason to believe that our insight into the society of 2060 is any better than that of those who produced the past series of population projections referenced above.

VII. CONCLUSION

While there is considerable uncertainty regarding the course of future events, past trends have shown increasing diversity within the U.S population and several projections series support the continuation of these trends into the future. We project that there will be notable increases in the percent of the population that belongs to a group other than non-Hispanic White alone. By 2044, the United States is projected to become a plurality nation, with no single race or ethnic group projected to have greater than a 50 percent share of the nation's total.

Throughout this paper, we have discussed the increasing diversity of the population on the basis of race and Hispanic origin. The 2014 National Projections also project the U.S. population by nativity, but do not take into account other factors like citizenship or geographic variation that may be of interest to legal scholars.