FEDERAL INTERAGENCY TECHNICAL WORKING GROUP ON RACE AND ETHNICITY STANDARDS

Annex 6. Bridging Team Methods Report

Contents

1. Introduction

For more than 25 years, the U.S Office of Management and Budget's (OMB) 1997 Statistical Policy Directive No. 15, *Standards for Maintaining, Collecting, and Presenting Federal Data on Race and Ethnicity* (SPD 15) has provided a common language to promote uniformity and comparability for data on race and ethnicity for the population groups it specifies.[1] Periodically, OMB reviews its Statistical Policy Directives to ensure the continued relevance and accuracy of Federal statistics.

In 2022, the Chief Statistician of the United States (CSOTUS), Dr. Karin Orvis, initiated the process to review and revise SPD 15.[2] An Interagency Technical Working Group (Working Group) of Federal Government career staff who represent programs that collect or use race and ethnicity data was convened by the CSOTUS.[3] The Working Group was tasked with evaluating the evidence available about race and ethnicity measurement since SPD 15 was last updated – identifying and filling any gaps in that research, considering stakeholder views, and then advising OMB on revisions to SPD 15 that will improve the quality of the Federal race and ethnicity data. The goal is for OMB to announce any revisions to SPD 15 by Summer 2024.

When OMB publishes new race and ethnicity data standards, Federal agencies require data bridging guidance to compare race and ethnicity data collected under the revised standards with data collected under the old standards. For example, bridging was needed for the 1997 revisions to 1977 SPD 15 to permit comparisons between data collected under 1977 SPD 15, which required respondents to select only one race category, and 1997 SPD 15 that allowed respondents to select *more* than one race category. The 2024 SPD 15 revisions are expected to present different challenges.

This report describes the Bridging Team's approach to creating an initial, basic bridging program for general use on all Federal data by Federal agencies and public data users. Complementary research and development of more robust methodology, once additional data are collected under the new standards, are expected to follow. Bridging programs, user guides, and test data sets will be made available to the public on the Working Group's website and will be updated as research continues. These tools are intended to help agencies estimate and compare race and ethnicity-specific statistics over time. Agencies are not required to use these tools and may choose to use their own program data to replace or supplement the bridging tools provided by the Working Group.

2. Background

In October 1997, OMB issued *Standards for Maintaining, Collecting, and Presenting Federal Data on Race and Ethnicity*, which superseded the original 1977 SPD 15. Since then, numerous Federal agencies have conducted methodological research to better understand how use of SPD 15 informs the quality of Federal statistics on race and ethnicity. In addition, Working Group members engaged extensively with key

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[1] U.S. Office of Management and Budget. (1997). Revisions to the Standards for the Classification of Federal Data on Race and Ethnicity. Federal Register, Vol. 62 (210). Retrieved from: https://www.govinfo.gov/content/pkg/FR-1997-10-30/pdf/97-28653.pdf.

[2] Orvis, K. (2022, June 15). Reviewing and Revising the Standards for Maintaining, Collecting, and Presenting Federal Data on Race and Ethnicity. The White House. Retrieved from: https://www.whitehouse.gov/omb/briefing-room/2022/06/15/reviewing-and-revising-standards-for-maintaining-collecting-and-presenting-federal-data-on-race-and-ethnicity/.

[3] U.S. Office of Management and Budget Interagency Technical Working Group on Race and Ethnicity Standards. (2023). spd15revision.gov. Retrieved from: https://spd15revision.gov/content/spd15revision/en/about.html.

stakeholders, data users, advocates, and the general public and developed a set of recommendations to revise the format of SPD 15's race and ethnicity questions.

There are three Working Group recommendations that address the format of the race and ethnicity questions:

1) Collect race and ethnicity using a single combined race and ethnicity question, allowing multiple responses.
2) Add "Middle Eastern or North African" (MENA) as a minimum reporting category, separate and distinct from the "White" category.
3) Require the collection of more detail beyond the minimum race and ethnicity reporting categories by default, unless an agency determines that the potential benefit of the detailed data would not justify the additional burden to the agency and the public or the additional risk to privacy or confidentiality. The data bridging methodology presented in this report will only address the minimum race and ethnicity reporting categories.

Figure 1 shows an example of the 1997 SPD 15 required format for collecting race and ethnicity data via self-response. In this two-question format, respondents are asked to select one of two options for the ethnicity question, and up to five options for the race question. The resulting combination of all possible selections from the separate questions format results in 62 total race and ethnicity categories—31 race combinations for the non-Hispanic or Latino category and 31 race options for the Hispanic or Latino category. Hereinafter, we abbreviate *Hispanic or Latino* simply as *Hispanic*.

Figure 1. 1997 SPD 15: Two Separate Questions Format for Self-Response, with Minimum Reporting Categories

Are you Hispanic or Latino?

☐ No, not Hispanic or Latino

☐ Yes, Hispanic or Latino

What is your race? *Select one or more.*

☐ American Indian or Alaska Native

☐ Asian

☐ Black or African American

☐ Native Hawaiian or Other Pacific Islander

☐ White

Figure 2 provides an example of how the Working Group recommendations for revising the format of the race and ethnicity questions could be implemented. In this combined question format, respondents are able to select up to seven race or ethnicity categories. The combination of all possible selections results in 127 total possible categories.

Figure 2. 2024 SPD 15: Combined Question Format for Self-Response, with Minimum Reporting Categories

> **What is your race and/or ethnicity?**
> *Select all that apply.*
>
> ☐ **American Indian or Alaska Native**
>
> ☐ **Asian**
>
> ☐ **Black or African American**
>
> ☐ **Hispanic or Latino**
>
> ☐ **Middle Eastern or North African**
>
> ☐ **Native Hawaiian or Pacific Islander**
>
> ☐ **White**

Enabling the comparison of data collected under 2024 SPD 15 with data collected under 1997 SPD 15 (bridging), is critical for Federal agencies and the public to measure changes over time. Federal agencies need to make data comparisons over time for race and ethnicity groups on economic, social, health, and other indicators. Comparisons of bridged data can assist in better understanding "true" change over time that is different from change due to methodological revisions.

Implementing changes to censuses, surveys, and administrative forms that collect race and ethnicity data is a significant and important undertaking for Federal agencies. It is expected that Federal agencies will transition to adhering to 2024 SPD 15 at different paces. For example, it may take some agencies who rely upon non-Federal data providers (e.g., states, school districts, local law enforcement agencies) longer to implement revisions to SPD 15 than agencies who administer their own surveys and data collection instruments. Therefore, a race and ethnicity data bridging methodology will be essential for Federal agencies in different stages of adopting 2024 SPD 15 to permit comparison/utilization of data across agencies and information collections.

The goal of the preliminary race and ethnicity bridging methodology is to provide:
- A national-level bridging method from 2024 SPD 15 to 1997 SPD 15 (bridging from 127 to 62 groups)
- A national-level bridging method from 1997 SPD 15 to 2024 SPD 15 (bridging from 62 to 127 groups)
- Bridging factors with accompanying SAS/Python programs and Technical Documentation

3. Foundational Guidelines

The Working Group's Bridging Team is composed of members from various agencies across the Federal statistical system. The Bridging Team developed a set of foundational guidelines for the preliminary method of bridging race and ethnicity data collected under 2024 SPD 15 and 1997 SPD 15.

1. The initial method will serve as a useful, but not final product and should be viewed as a starting point reflecting current data limitations. These methods will be refined and updated as more data become available and more research is conducted.
    a. The initial focus will be national in scope and will involve only limited demographic detail (e.g., broad age groups).
    b. The initial design will be to bridge distribution or count data only—not individual level responses.
    c. Only the minimum categories in 2024 SPD 15 will be bridged to the minimum categories in the 1997 standards. This includes 127 groups for 2024 SPD 15 or 62 groups for 1997 SPD 15 (31 race categories for Hispanics and 31 categories for non-Hispanics) based on both race and ethnicity and their resulting combinations.[4]
2. Wherever possible, race and ethnicity groups from one set of standards should map one-to-one (directly) with categories in the other set of standards.
    a. When bridging from 2024 SPD 15 to 1997 SPD 15, this includes the following categories and their two or more race/ethnicity combinations: White, Black or African American, Asian, American Indian or Alaska Native, and Native Hawaiian or Pacific Islander. The MENA and Hispanic categories, and any two or more-race/ethnicity combinations that include these groups, do not map one-to-one with categories in 1997 SPD and cannot be bridged directly.
    b. When bridging from 1997 SPD 15 to 2024 SPD 15, this includes the following non-Hispanic race groups and their two or more race combinations: Black or African American, Asian, American Indian or Alaska Native, and Native Hawaiian or Pacific Islander. Hispanic race combinations, and because of the introduction of a separate MENA category, the non-Hispanic White group and its two or more race combinations, do not map one-to-one with categories in 2024 SPD.
    c. Race and ethnicity groups that cannot be bridged directly will be bridged proportionally, where counts of a race or ethnicity group are divided proportionally between possible race or ethnicity groups in the other standard.
    d. Consistent with 1997 SPD 15 definitions, MENA responses will be bridged to White. Specifically, the 2024 SPD 15 MENA alone category will be bridged to White alone in the 1997 SPD 15, while MENA in combination will be bridged to White in combination.

4. Data and Methods

2020 Census Dataset

The 2020 Census serves as the basis for the initial bridging approach.[5] Not only is the 2020 Census the most recent full enumeration of the population, but it has additional advantages over other data sources for use in bridging. The Census Bureau made several improvements to the two separate questions on

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[4] For a list of all race and ethnicity combinations in 2024 SPD 15 and 1997 SPD 15, see Section 3 in Technical Documentation.
[5] Note that the Working Group has plans to conduct further research using other sources of data from the Census Bureau and other Federal agencies in the near future.

ethnicity and race in the 2020 Census, based on research conducted on the combined question.[6] These improvements were focused on three specific areas: 1) design of the ethnicity question and the race question, 2) data collection and processing, and 3) coding procedures. Some of the key changes implemented in the 2020 Census included:

- A combined race and ethnicity code list, consisting of thousands of new additional codes following rigorous research as well as extensive stakeholder engagement and feedback. These critical efforts greatly improved the Census Bureau's ability to collect, code, and tabulate data for myriad detailed groups.
- New MENA codes, which allows us to disaggregate data for the MENA population from the White population.
- The new write-in response areas for the White racial category and the Black or African American racial category improved the data collection, coding, and tabulation for these groups.

Additionally, the 2020 Census serves as an optimal data source because it is a 100 percent enumeration of the U.S. population. By accounting for the entire population, we are able to use the full distribution of race and ethnicity to draw inferences about the population in a way that exceeds that of a survey reliant on just a sample of the population.

Race in the 2020 Census

The 2020 Census provides the dataset most robustly suited to meet the needs of this bridging effort in one other important area– the presence of an imputed race variable (henceforth referred to as IMPRACE), which reconciles the race categories that appear in the Census with the categories used by all other Federal agencies.[7]

1997 SPD 15 requires a minimum of five race categories: White, Black or African American, American Indian or Alaska Native (AIAN), Asian, and Native Hawaiian or Pacific Islander (NHPI). Although not part of 1997 SPD 15, the U.S. Congress has required that the U.S. Census Bureau's decennial census and the American Community Survey (ACS) include a "Some Other Race" (SOR) category in the race question.[8] The SOR category was intended as a residual category for respondents who could not find themselves in any of the minimum 1997 SPD 15 race categories. The Census Bureau also classifies responses to the race question as SOR if the response cannot be coded to one of the five minimum 1997 SPD 15 race categories. Over the past several decades, a large and increasing percentage of Hispanic respondents to the decennial census and the ACS either did not report a race or were classified as SOR; this was after providing their Hispanic identity in the ethnicity question. Results from the 2020 Census showed that 43.6 percent of those who self-identified as Hispanic either reported SOR instead of an OMB race, did not report a race, or were classified as SOR alone (over 23 million people).[9] The growth in the population reporting and

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[6] For an overview of these improvements, see https://www.census.gov/newsroom/blogs/random-samplings/2021/08/improvements-to-2020-census-race-hispanic-origin-question-designs.html.

[7] Imputed race data are made available after each decennial Census as part of the "Modified Race" file. The 2000 and 2010 Modified Race files can be found here: https://www.census.gov/programs-surveys/popest/technical-documentation/research/modified-race-data.html.

[8] Public Law 108-447, 118 Stat. 2876 (2004).

[9] Racial Identification of the Self-Reported Hispanic or Latino Population: 2010 and 2020 Censuses. (2023). U.S. Census Bureau. Retrieved from: https://www.census.gov/data/tables/time-series/demo/hispanic-origin/racial-identification.html.

being classified as SOR—a category that was intended to be a small residual group—was a motivating factor for the Working Group's review of 1997 SPD 15.

While the Census Bureau is required by statute to use the SOR category in its decennial Census and ACS, no other Federal data collection is permitted do so. Therefore, the Census Bureau must remove the SOR category from its data in order to generate population estimates that conform to the race and ethnicity collection standards used by every other Federal agency. This is done through the creation of the IMPRACE variable, where SOR responses are removed and/or replaced through a multi-step imputation process. This imputation occurs after all other census race processing has been completed. Responses of one or more of the five specified OMB races (White, Black or African American, AIAN, Asian, NHPI) are not modified. Responses that include SOR are modified as follows:

- If SOR is present with one or more OMB races, SOR is removed.
- If a response is SOR alone, race is allocated from another person within the housing unit or from a person in a nearby housing unit.

As will be discussed in greater detail in the section below, IMPRACE is a critical tool for use in creating the factors necessary for bridging.

2015 National Content Test
While we relied on the 2020 Census to calculate the initial set of bridging factors that accompany this report, we also utilized the 2015 National Content Test (NCT) to provide additional supporting evidence on the reporting patterns of the Hispanic population.

In an effort to provide empirical research to most accurately capture the changing ways in which people in the United States report their racial and ethnic identities, the U.S. Census Bureau conducted the 2015 National Content Test (NCT). This nationally representative survey of over 1 million households was designed to test different questionnaire designs in order to improve data quality and increase the accuracy and reliability of reporting of the major OMB racial and ethnic categories.

Three different questionnaire formats were tested to gauge Hispanic responses to race. These three questionnaire designs are as follows:

- A separate question approach where there is one question for ethnicity and another question for race. This design is similar to the 2020 Census (see Appendix B).
- A combined question format where respondents can write in their racial or ethnic response.
- A combined question format where respondents have detailed checkboxes to choose from and subsequent write in spaces available to provide detailed race or ethnicity responses.

The results from the 2015 NCT provide key insights into the changing racial distribution of Hispanic respondents based on questionnaire design. These findings lend support to the assumptions necessary for bridging race and ethnicity from 1997 SPD 15 to 2024 SPD 15 and inform future research decisions.

Methods
The following section details the development of the bridging factors for this initial phase of research. We define "bridging factor" as the proportion of a race/ethnicity category from one classification scheme that can be assigned to a corresponding race/ethnicity category in another classification scheme. Counts or

estimates of a race or ethnicity category in one classification can be multiplied by a bridging factor to calculate a comparable count or estimate of that population in another classification.

A factor can vary from 0 to 1, where 0 indicates that 0 percent of a given race/ethnicity category would be assigned to a corresponding race/ethnicity category, and a factor of 1 indicates that 100 percent of a race/ethnicity category would be assigned to a corresponding race/ethnicity category. Population *counts* or *percentages* can be used as inputs for the bridging process.

To provide an illustrative example, consider a survey that was conducted using 2024 SPD 15 categories which counted 500 individuals who reported their race or ethnicity as "Asian alone." Based on the foundational guidelines for bridging, this count would be bridged to a single corresponding race/ethnicity category from 1997 SPD 15 using a factor of 1:

Asian alone (2024 SPD 15)   **non-Hispanic Asian alone (1997 SPD 15)**
Original count   *Bridging Factor*   *New count*
500   x   1   =   500

This example demonstrates an instance of "direct bridging," where there is exact concordance between "new" and "old" race and ethnicity categories. With direct bridging, 100 percent (i.e., a factor of 1) of a population count or estimate for a given race or ethnicity group from 2024 SPD 15 can be bridged to a single category in 1997 SPD 15, or vice versa. Another way to understand direct bridging is through the analogy of a data "crosswalk." Crosswalks map the relationship between values of variables defined by different classification systems and are commonly used in census and survey data research.

Not all race or ethnicity categories in one format correspond directly to a single race and ethnicity combination in the other format. For example, the "Hispanic alone" category in 2024 SPD 15 possesses no direct analog in 1997 SPD 15, given that under 1997 SPD 15, all individuals are required to select both an ethnicity (Hispanic or non-Hispanic) *and* a race. Since the Hispanic alone category cannot be bridged directly to a single category, it must be split proportionally into more than one category in the 1997 SPD 15 format. We classify this second type of bridging as "proportional" bridging. In the following sections, we describe the role of these two methods in the context of bridging from 2024 SPD 15 to 1997 SPD 15 and bridging from 1997 SPD 15 to 2024 SPD 15.

Bridging from 2024 SPD 15 to 1997 SPD 15
Direct Bridging
Following the Bridging Team's foundational guidelines, all but one race and ethnicity category in 2024 SPD 15 can be bridged directly to a corresponding race and ethnicity combination from 1997 SPD 15. For example, the "White alone" category in 2024 SPD 15 can be bridged directly to the "non-Hispanic, White alone" category in the 1997 SPD 15. Similarly, the "Hispanic, Black or African American" race/ethnicity

group from 2024 SPD 15 can be bridged to the "Hispanic, Black or African American" race and ethnicity combination category from 1997 SPD 15[10].

Figure 3 below shows an example of the six single-race, or "race alone," categories from the 2024 SPD 15 format that have a direct one-to-one correspondence with a category in the 1997 format. The relationships between 2024 SPD 15 and 1997 SPD 15 categories in direct bridging are those that require minimal assumptions. For example, we assume that an individual who identifies as Asian alone in the 2024 SPD 15 question format, without specifying an additional race or ethnicity, would identify as non-Hispanic Asian alone in the 1997 SPD 15 format. The two categories — "Asian alone" and "non-Hispanic Asian alone" — are viewed here as identical categories.

It is important to note that MENA is included in the list of categories that can be bridged directly. While the MENA category does not exist as a minimum race or ethnicity group within 1997 SPD 15, 1997 SPD 15 classifies MENA responses as part of the White category. Therefore, to achieve consistency with 1997 SPD 15, we bridge the MENA category (2024 SPD 15) to the non-Hispanic White category (1997 SPD 15) in a one-to-one direct manner.[11]

Figure 3. Direct bridging of single-race categories

Table 1 below shows an abridged version of the actual crosswalk developed for the direct bridging steps of this research. The left column shows the value and name of the 2024 SPD 15 race or ethnicity categories, while the two columns on the right show the 1997 SPD 15 ethnicity and race combination categories that correspond to each race/ethnicity value on the left. As is demonstrated in this table, all of the new race or ethnicity categories except for Hispanic or Latino alone (highlighted in gray)—including

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[10] We acknowledge that actual survey or census reporting patterns may not conform to the direct bridging assumptions in one hundred percent of cases. For example, while unlikely, someone who identifies as Hispanic and Black or African American under 1997 SPD 15 could change their identification and select Black or African American alone (non-Hispanic) under 2024 SPD 15.
[11] With continued research and the use of additional data sources (e.g., the 2015 National Content Test), the Bridging Team may develop a more complex approach to bridging the MENA category in the future.

the Multiracial and Multiethnic combinations—have a direct 1:1 correspondence to a category in 1997 SPD 15 format and can thus be bridged directly.

Table 1. Abridged crosswalk from 2024 SPD 15 to 1997 SPD 15 OMB race and ethnicity categories[12]

2024 SPD 15 categories		**1997 SPD 15 categories**	
Race or Ethnicity	**Bridging factor**	***Ethnicity***	***Race***
White alone	1	non-Hispanic or Latino	White alone
Hispanic or Latino alone	Non-direct		
Black or African American alone	1	non-Hispanic or Latino	Black or African American alone
Asian alone	1	non-Hispanic or Latino	Asian alone
American Indian or Alaska Native (AIAN) alone	1	non-Hispanic or Latino	AIAN alone
Middle Eastern or North African (MENA) alone	1	non-Hispanic or Latino	White alone
Native Hawaiian or Pacific Islander (NHPI) alone	1	non-Hispanic or Latino	NHPI alone
White, Hispanic or Latino	1	Hispanic or Latino	White alone
White, Black or African American	1	non-Hispanic or Latino	White, Black or African American
White, Asian	1	non-Hispanic or Latino	White, Asian
White, AIAN	1	non-Hispanic or Latino	White, AIAN
White, MENA	1	non-Hispanic or Latino	White alone
White, NHPI	1	non-Hispanic or Latino	White, NHPI
Hispanic or Latino, Black or African American	1	Hispanic or Latino	Black or African American
Hispanic or Latino, Asian	1	Hispanic or Latino	Asian alone
Hispanic or Latino, AIAN	1	Hispanic or Latino	AIAN alone
Hispanic or Latino, MENA	1	Hispanic or Latino	White alone
Hispanic or Latino, NHPI	1	Hispanic or Latino	NHPI alone
Black or African American, Asian	1	non-Hispanic or Latino	Black or African American, Asian
…	…	…	…
White, Hispanic or Latino, Black or African American, Asian, AIAN, MENA, NHPI	1	Hispanic or Latino	White, Black or African American, AIAN, Asian, NHPI

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[12] See Appendix A for the full crosswalk.

Proportional Bridging for "Hispanic alone" 2024 SPD 15 category

When bridging from 2024 SPD 15 to 1997 SPD 15, proportional bridging pertains exclusively to the Hispanic alone category in 2024 SPD 15 because the proposed "Hispanic alone" category possesses no direct analog in 1997 SPD 15 format, and there is no single race group to which the category can be logically bridged. So, the Hispanic alone group must be split *proportionally* into multiple possible categories.

Figure 4 illustrates how the Hispanic alone category maps to multiple possible ethnicity and race combinations from 1997 SPD 15. For purposes of illustration, all of the multiple race combinations have been collapsed into a single category (Hispanic, Two or More Races).

Figure 4. Proportional bridging for the Hispanic alone category, without factors
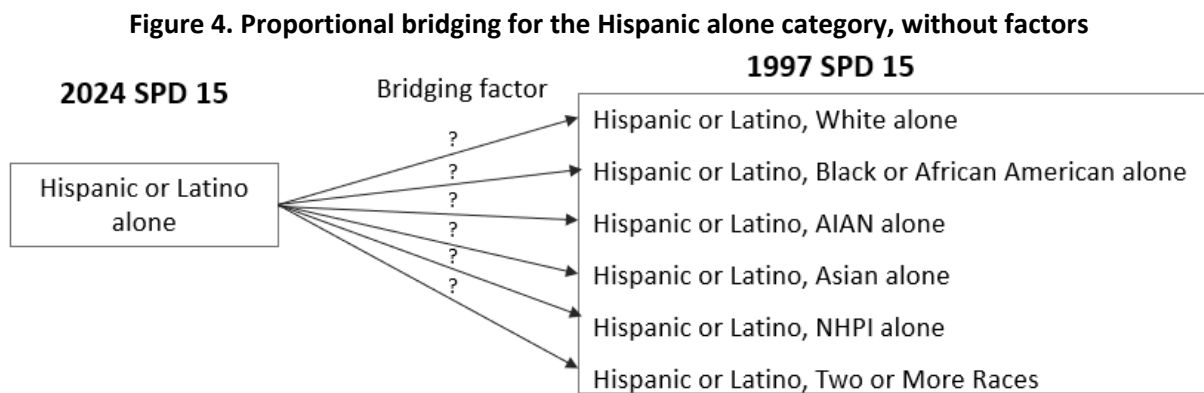
The first step in the calculation of proportional bridging factors is to determine the proportion of the Hispanic alone population that should be assigned to each possible race and ethnicity category from 1997 SPD 15. As an example, if we lacked any prior knowledge on how the Hispanic population may select a race response, one strategy would be to assign the group in equal proportions across all possible Hispanic and race categories. This would imply that among people who select the Hispanic alone category under 2024 SPD 15, an equal number under 1997 SPD 15 would select Hispanic in the Hispanic origin question and each of the possible race categories.

Instead, we employ a data-driven approach by utilizing a "known" prior race distribution of the Hispanic population from a population dataset to develop the proportional bridging factors. Specifically, we use the race distribution of the Hispanic population from the 2020 Census, shown in Table 2, to determine the proportion of the Hispanic alone category from 2024 SPD 15 to assign to each race and ethnicity combination from 1997 SPD 15. Note that we show the distribution of the IMPRACE variable from the 2020 Census, where SOR has been removed, since it includes the official categories from 1997 SPD 15 that are used in bridging. All of the multiple race combinations have been combined into a single row for this table.

In Table 2, we can observe that the Hispanic population is not evenly distributed among all possible race categories. In fact, an overwhelming majority fall into just one category—76.7 percent of Hispanic respondents identified as White alone in 2020—while 6 percent reported two or more racial identities.
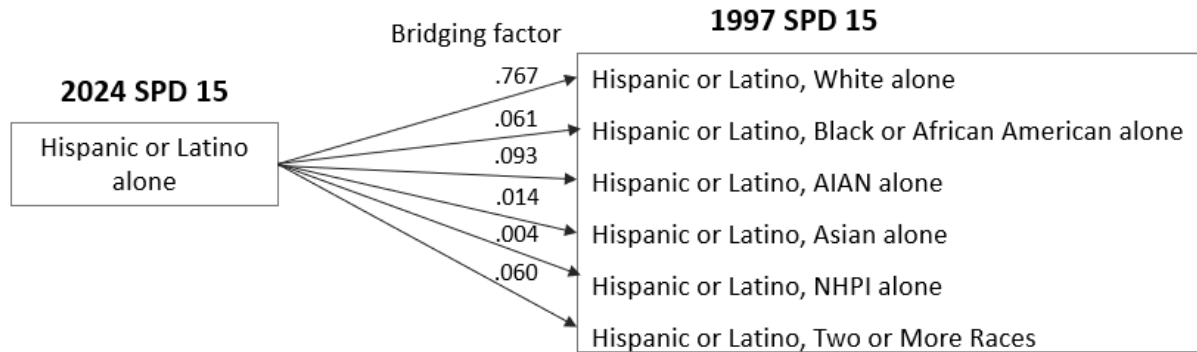
Table 2. Race distribution for the Hispanic population from the 2020 Census

	Number of people	Percent of people identifying as Hispanic
White alone	47,632,458	76.7
Black or African American alone	3,795,269	6.1
AIAN alone	5,799,859	9.3
Asian alone	874,391	1.4
NHPI alone	227,627	0.4
Two or More Races	3,750,454	6.0

The Census Bureau has reviewed this data product to ensure appropriate access, use, and disclosure avoidance protection of the confidential source data used to produce this product (Decennial Data Review Committee (DDRC) number: CBDDRC-FY24-002, Disclosure Review Board (DRB) approval number: CBDRB-FY24-0062). The counts and proportions displayed in this table will not exactly match the proportions shown in the bridging factors due to the independent application of differential privacy to each dataset.

Figure 5 below demonstrates how the percentages from the race distribution above in Table 2 are converted to proportional bridging factors. For example, since 76.7 percent of the Hispanic population identified as White alone in the 2020 Census, we would assign 76.7 percent (proportion of .767) of the Hispanic alone population from a 2024 SPD 15 distribution into the Hispanic, White alone category for 1997 SPD 15. Likewise, since 6.1 percent of Hispanics in the 2020 Census identified as Black or African American alone (Table 2), we would assign 6.1 percent (a proportion of .061) of the Hispanic alone category to the Hispanic, Black or African American alone category in 1997 SPD 15 classification system.

Figure 5. Proportional bridging for the Hispanic alone category with factors, based on the 2020 Census

It is important to note that proportional factors for the Hispanic population also vary according to other characteristics.[13] In the 2020 Census, the race distribution of the Hispanic population varies according to age but shows very little variation by sex. Therefore, we have generated factors separately by age intervals

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[13] This is in contrast to direct bridging factors which do not vary by demographic characteristics; a population count for NHPI alone in 2024 SPD 15 will always bridge one-to-one to the non-Hispanic NHPI category in 1997 SPD format no matter the population's age or sex characteristics. Because of this, direct bridging factors do not need to be calculated separately for different race/ethnicity AND characteristic combinations. A distribution can be stratified by any number of additional variables and the same factors will apply.

(0-17, 18-64, and 65 and up) and single year of age, but not separately by sex. This stratification allows for greater precision in the resulting bridged estimates for agencies who seek to generate age-stratified race distributions.

However, we also acknowledge that the race distribution of the Hispanic population varies by additional characteristics that may be used by agencies to stratify their data. In particular, geographic variables such as state and county will be important characteristics to consider in future iterations of the working group's bridging factors. The omission of geographic detail (i.e., state and county) in bridging factor datasets that accompany this report can be considered a limitation of this preliminary stage of research, but will be explored in future research.

Bridging from 1997 SPD 15 to 2024 SPD 15

Bridging from 1997 SPD 15 to 2024 SPD 15 involves a mix of direct and proportional methodology, with the 2020 Census serving as the basis for generating proportional factors. As described in the Data and Methods section, the variable IMPRACE is crucial for this endeavor, as are additional variables that were not necessary for bridging from 2024 SPD 15 to 1997 SPD 15. These additional variables are described in detail below.

Direct Bridging

Non-Hispanic groups that do not include White responses will consist of a direct, one-to-one mapping of race and ethnicity groups between 1997 SPD 15 and 2024 SPD 15. For example, someone who is non-Hispanic, Asian alone in 1997 SPD 15 will map directly to Asian alone in 2024 SPD 15. Because non-Hispanic groups including White responses will require disaggregation of MENA responses, only those non-Hispanic groups that do not include White responses (i.e., Black or African American, AIAN, Asian, NHPI, and their two or more race combinations) are able to be mapped directly to their corresponding race/ethnicity value in the new standards.

Table 3. Direct bridging from 1997 SPD 15 to 2024 SPD 15 for non-Hispanic groups

1997 SPD 15	Bridging Factor	2024 SPD 15
Non-Hispanic or Latino		
Black or African American alone	x1	Black or African American alone
Asian alone	x1	Asian alone
AIAN alone	x1	AIAN alone
NHPI alone	x1	NHPI alone
Black or African American, Asian	x1	Black or African American, Asian
Black or African American, AIAN	x1	Black or African American, AIAN
Black or African American, NHPI	x1	Black or African American, NHPI
Asian, AIAN	x1	Asian, AIAN
Asian, NHPI	x1	Asian, NHPI
AIAN, NHPI	x1	AIAN, NHPI
Black or African American, Asian, AIAN	x1	Black or African American, Asian, AIAN
Black or African American, Asian, NHPI	x1	Black or African American, Asian, NHPI
Black or African American, AIAN, NHPI	x1	Black or African American, AIAN, NHPI
Asian, AIAN, NHPI	x1	Asian, AIAN, NHPI
Black or African American, Asian, AIAN, NHPI	x1	Black or African American, Asian, AIAN, NHPI

Fifteen of the 127 racial and ethnic combinations in 2024 SPD 15 will involve direct bridging for non-Hispanic groups (Table 3).

Proportional Bridging

Bridging for White groups (1997 SPD 15 to 2024 SPD 15)

Bridging the White alone or White in combination groups from 1997 SPD 15 to 2024 SPD 15 presents a challenge because MENA individuals are defined as part of the White population under 1997 SPD 15. To address this challenge, we use the eight 2020 Census variables QRACE1-QRACE8. The QRACE variables represent the detailed write-in responses provided to the race question using a numeric coding scheme that maps to specific detailed race responses.[14] These detailed responses allow parsing of the White population, separating MENA respondents from White, non-MENA respondents, in order to generate bridging factors and enable their placement into the new categories in a proportional manner.

Shown below in Table 4 is an example of this transformation of White in 1997 SPD 15 to its appropriate groups in 2024 SPD 15. For illustrative purposes, the example includes non-Hispanic White alone, as well as a non-Hispanic White in combination group, in this case White in combination with Black or African American. The leftmost column indicates not of Hispanic origin (CENHISP = 1). The next columns represent the 1997 SPD 15 IMPRACE value and 1997 SPD 15 race groups. The next column shows the QRACE codes that serve as the bridge between 1997 SPD 15 and 2024 SPD 15. QRACE values of 1000:1999 represent the code range for respondents who are White and are not MENA. QRACE values of 7000:7499 are for the MENA code range.

Creating bridging factors for White requires a two-step process, the first of which involves disaggregating White into the following categories to conform to 2024 SPD 15 standards: People who are White but who are not MENA; people who are MENA; and people who are both White and MENA. To do this, we rely on QRACE. For those who are White alone, respondents with QRACE codes 1000:1999 are used; for MENA alone, respondents with QRACE codes 7000:7499 are used; and for respondents in a two-race combination of White and MENA, QRACE codes from both the 1000:1999 range and the 7000:7499 range are used. Once this disaggregation is complete, we can carry out the next step by using the distribution of White, MENA, and White and MENA in 1997 SPD 15 to calculate factors necessary for bridging to 2024 SPD 15.

This process is repeated for all combinations that include White responses. As shown in the example above, to create bridging factors to the 2024 SPD 15 category of White and Black or African American, respondents with QRACE codes of 1000:1999 and 3000:3999 are used. To calculate bridging factors to Black or African American and MENA, respondents with QRACE codes 3000:3999 and 7000:7499 are used. Finally, to bridge to the three-race combination of White, Black or African American, and MENA, respondents with codes from all three code ranges are used. Because this last scenario includes codes from both the White and MENA ranges in combination with Black or African American, we are able to bridge to the 2024 SPD 15 category combination of White and Black or African American and MENA.

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[14] See QRACE definition in the Glossary for the codes associated with each race and ethnicity group. For QRACE codes that correspond to detailed race and ethnicity responses, see: https://www2.census.gov/programs-surveys/decennial/2020/technical-documentation/complete-tech-docs/detailed-demographic-and-housing-characteristics-file-a/2020-hispanic-origin-and-race-code-list.xlsx.

For every case where White is included either alone or in combination with another race, a total of three bridging factors are generated under 2024 SPD 15 guidelines based on their QRACE values; one for White, one for MENA, and one for White and MENA.

Table 4. Bridging from 1997 SPD 15 to 2024 SPD 15 for White

CENHISP	IMPRACE (current standards)	Current race group	QRACE	IMPRACE (proposed standards)	Proposed race group
1	01	White alone	1000:1999	001	White alone
1	01	White alone	7000:7499	006	MENA alone
1	01	White alone	1000:1999, 7000:7499	012	White; MENA
1	06	White; Black or African American	1000:1999, 3000:3999	009	White; Black or African American
1	06	White; Black or African American	3000:3999, 7000:7499	021	Black or African American; MENA
1	06	White; Black or African American	1000:1999, 3000:3999, 7000:7499	036	White; Black or African American; MENA

With QRACE serving as the crosswalk between the 1997 IMPRACE values and the 2024 ones, QRACE codes allow for the calculation of the proportion of the White category in 1997 SPD 15 that should be bridged to each of the possible categories in 2024 SPD 15: White; MENA; or White and MENA.

Hispanic Origin

Bridging individuals who are Hispanic in 1997 SPD 15 to those who would be Hispanic alone or Hispanic in combination under 2024 SPD 15 presents a second challenge. Unlike in bridging from 2024 SPD 15 to 1997 SPD 15, which relies on the IMPRACE variable where the SOR category is removed, for bridging from 1997 SPD 15 to 2024 SPD 15, these SOR codes are critical. For this approach, we must again rely on QRACE codes to provide insights into the race reporting of the Hispanic population.

Hispanic alone

To bridge to the Hispanic alone category, key insights from the U.S. Census Bureau's 2015 National Content Test (NCT) can be used.[15] In the 2015 NCT, different question formats were tested, including the two-question format where race and ethnicity are collected separately, and a combined question format where Hispanic was offered as a distinct response category. In the two-question format, 39 percent of Hispanic respondents chose SOR alone to the race question. When offered a Hispanic option in the combined question, the SOR alone responses dropped to just 0.7 percent of all Hispanic responses. Similarly, only 2 percent of Hispanic respondents provided no other major race categories by simply not selecting any race checkboxes in a separate question format, while 72.1 percent of Hispanic respondents chose "Hispanic" alone in the combined question format. A large majority of Hispanics chose to select Hispanic alone *without* an additional race/ethnic group in the combined question format, even though most Hispanics who received the separate question format chose either a major OMB race or the SOR category.

Based on these results, we offer the first of four assumptions for bridging Hispanic responses from 1997 SPD 15 to 2024 SPD 15.

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[15] For the Race Distribution of Hispanic Respondents by Question Format, see Appendix C.

Assumption 1: Those who identified as Hispanic in the separate ethnicity question and identified as SOR alone in the separate race question are more likely to select the Hispanic alone category in a combined question compared to other Hispanics.

While Hispanics who are SOR alone in race may be likeliest to select Hispanic alone in a combined question format, the 2015 NCT shows Hispanic respondents who identified with multiple race responses in the separate race question were also likely to identify as only Hispanic when the option was available. In the 2015 NCT, under the two-question format, 38.2 percent of Hispanic respondents selected multiple responses---nearly the same percentage of Hispanics who selected SOR alone. When Hispanic was offered as a response option in a combined question, just 4.8 percent of Hispanic respondents chose Multiple Responses. This indicates that some of the Hispanic population who select more than one race under 1997 SPD 15 will select Hispanic alone under 2024 SPD 15.

2020 Census results indicate that nearly 94 percent of SOR respondents are Hispanic.[16] The SOR in combination population is the fastest-growing Multiracial population in the U.S.[17] When taken together with the 2015 NCT showing a large drop in Hispanics choosing Multiracial responses when a Hispanic response option is available in a combined question, we offer our second assumption.

Assumption 2: Under 1997 SPD 15, Hispanic respondents in a two-race combination including SOR and a single White, Black or African American, AIAN, Asian, or NHPI checkbox only are likely to select Hispanic alone in a combined question format.
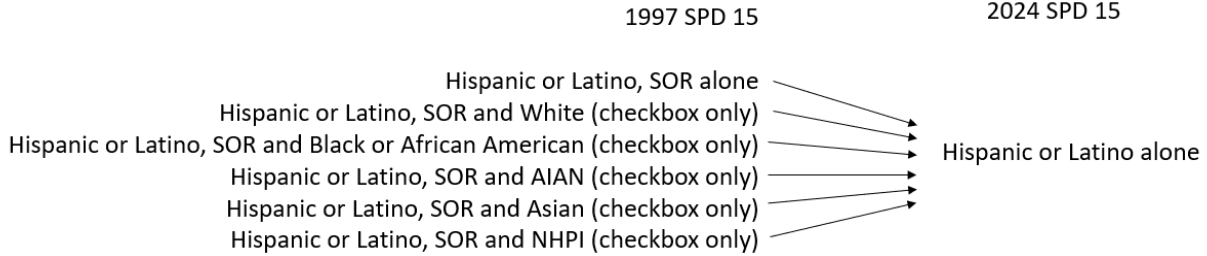
During 2020 processing, a respondent who checks one of the checkboxes and writes in a single Hispanic term on the corresponding write-in line is tabulated as Multiracial. For example, someone checking the White checkbox and writing "Cuban" on the White write-in line is counted as both White (for checking the White checkbox) and as SOR because Hispanic responses such as Cuban are coded as SOR. Absent a Hispanic checkbox in a separate question format, Hispanic respondents are confronted with having to choose from race options that may or may not reflect their racial identity, as reflected in the fluidity of race responses among Hispanics from one census to the other.[18] Assumption 2 is premised on this same respondent being likely to select the Hispanic checkbox *and no other checkboxes* when given the option to do so in a combined question format.

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[16] U.S. Census Bureau. "HISPANIC OR LATINO ORIGIN BY RACE." *Decennial Census, DEC Demographic and Housing Characteristics, Table P5,* 2020. Retrieved from https://data.census.gov/table/DECENNIALDHC2020.P5?q= HISPANIC OR LATINO, AND NOT HISPANIC OR LATINO BY RACE&g=010XX00US&y=2020.

[17] Rico, Brittany, Paul Jacobs, and Alli Cortez. (June 1, 2023). "2020 Census Shows Increase in Multiracial Population in All Age Categories.: U.S. Census Bureau. Retrieved from https://www.census.gov/library/stories/2023/06/nearly-a-third-reporting-two-or-more-races-under-18-in-2020.html.

[18] Liebler, Carolyn A., et al. (August 4, 2014). "America's Churning Races: Race and Ethnic Response Changes between Census 2000 and the 2010 Census." CARRA Working Paper Series: Working Paper #2014-09. Retrieved from https://www.census.gov/content/dam/Census/library/working-papers/2014/adrm/carra-wp-2014-09.pdf.

Figure 6. Proportional Bridging for Hispanic alone

1997 SPD 15   2024 SPD 15

Hispanic or Latino, SOR alone
Hispanic or Latino, SOR and White (checkbox only)
Hispanic or Latino, SOR and Black or African American (checkbox only)
Hispanic or Latino, SOR and AIAN (checkbox only)   Hispanic or Latino alone
Hispanic or Latino, SOR and Asian (checkbox only)
Hispanic or Latino, SOR and NHPI (checkbox only)

Under these assumptions, only people who identify as Hispanic and SOR alone or Hispanic, SOR and a single race checkbox in the 2020 Census are expected to select Hispanic alone under 2024 SPD 15. Therefore, we use 2020 Census population counts from these groups to calculate the proportional bridging factors for the Hispanic alone group in 2024 SPD 15.

For Hispanic respondents who select a single race checkbox in a two-question format, it is not possible to tease apart in a combined question format those who will select Hispanic alone from those who will select Hispanic and that race group. While NCT results indicate the majority of Hispanics choose Hispanic alone without an additional race group when presented with the opportunity to do so in a combined question, some Hispanics who are intentionally signaling their race by selecting a single race checkbox are bridged to Hispanic alone. We acknowledge the limitations that this methodology has for Hispanics who identify as Black or African American or another race group, however, initial comparisons to other data sources provide support for this method. For example, when we apply the bridging method to 2020 Census data, the resulting 2024 SPD 15 race distribution is comparable to the race distribution of respondents who received the combined question in the 2015 NCT.[19] Future research will further refine this methodology to examine how best to bridge data for Hispanics who also identify as a race in the separate question format.

Hispanic in combination with another race
The presence of QRACE lends itself to bridging to Hispanic in combination with another race. The presence of detailed write-in data allows for our third assumption.

Assumption 3: If a Hispanic respondent provides a detailed non-Hispanic response on any of the write-in lines in the race question, their Multiracial/Multiethnic identity is preserved.

This includes respondents who are in a two-race combination with SOR so long as a detailed write-in response is present. For example, someone who identifies as Dominican in the ethnicity question and writes "Afro-Latino" on the Black or African American write-in line would, in the calculation of the bridging factor, be counted as Hispanic and Black or African American because their detailed race response included a write-in term (Afro) that falls within the Black or African American code range.

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[19] See Appendix C.

Bridging factors for Hispanic in combination are also developed based on having multiple checkboxes to the race question, as underlies our fourth and final assumption.

Assumption 4: If a Hispanic respondent selects more than one of the checkboxes associated with the five minimum race reporting categories, their Multiracial/Multiethnic identity is preserved.

As an example, a Hispanic respondent who checked both the Black or African American and AIAN checkboxes would be considered an intentional, deliberate Multiracial response. Hispanic respondents who have two or more of the five minimum race categories represented in their race response under 1997 SPD 15 will be directly bridged given there is no need to parse Hispanic responses in these cases.

Figure 7 below illustrates how these assumptions relate to race responses from Hispanics. The first row lists the assumptions undergirding each scenario. The second and third rows indicate which race groups are included for 1997 SPD 15 and 2024 SPD 15, respectively. The row for logic describes the rationale for bridging respondents to Hispanic alone or Hispanic in combination with another race. The examples of checkbox and write-in responses provide important context in practical terms for how individual responses are transformed into inputs for bridging factors.

Figure 7. Assumptions and 2020 Census Questionnaire Response Scenarios

Assumption	Assumption 1	Assumption 2	Assumption 3	Assumption 4
1997 SPD 15	SOR Alone	SOR and 1 OMB Race	SOR and 1 OMB Race	SOR and 2 or more OMB Races
2024 SPD 15	Hispanic alone	Hispanic alone	Hispanic in combination	Hispanic in combination
Logic	Hispanic responses alone on the SOR write-in or alone on any line without a checkbox selected	Single race checkbox selected with an SOR alone term on the corresponding write-in line	A detailed response from another major Race group signifying Hispanic in combination	More than one OMB race groups (by checkbox or write-in) indicating Hispanic in combination
Checkbox and write-in responses to the race question in the 1997 SPD 15 separate question format				

In the first example, a respondent checks the SOR checkbox and provides the response of "Mexican." Consistent with Assumption 1, this respondent is most likely to select "Hispanic alone" in a 2024 SPD 15 format. This also applies to respondents who write in a Hispanic origin response without checking any race checkboxes.

In the second example, a respondent checks the White checkbox and provides the response of "Mexican." This response relates to assumption 2 where the respondent may be selecting a race checkbox only because of the lack of a Hispanic category from which to check.

The third example shows a respondent who checks the Black or African American checkbox and provides a response of "Mexican, African American." This respondent is providing more than a checkbox by affirmatively indicating another OMB race group, in this case African American which falls under the Black or African American race category, along with their SOR response of Mexican. For that reason, Assumption 3 logic applies to preserve their multiracial identity.

And lastly, the final example, which is consistent with Assumption 4, shows a respondent providing a response of "Mexican" on the SOR write-in line while checking the SOR, Black or African American, and AIAN checkboxes. Given the conscious selection of more than one OMB race group, this respondent's Multiracial identity is preserved.

5. Bridging Products

This section provides a high-level overview of the products developed by the bridging team using the methods described above. First, we provide general details of the bridging factors contained in a comma separated value (CSV) dataset that are included with this report. Second, we describe the accompanying SAS and Python programs that can be used by agencies and data users to apply our bridging factors to their data. For detailed instructions and technical specifications of these programs, please see our supplementary "Technical Documentation."

Bridging factors

2024 SPD 15 to 1997 SPD 15

All factors for bridging from 2024 SPD 15 to 1997 SPD 15 (i.e., both direct and proportional) are contained in a single CSV dataset. To allow for some flexibility in the structure of a user's input dataset, we have included three sets of factors at the national level: Factors for (1) the total population; (2) the total population stratified by a three-category age variable (0-17, 18-64, 65 and up); and (3) the total population stratified by single year of age. In the bridging programs, described below, a user will specify how their race distribution is structured, and the program will select the appropriate set of factors that match the input data. For example, a count distribution of 2024 SPD 15 race and ethnicity categories with no age stratification would be bridged with the first set of factors that do not break out factors by age.

The columns, or variables, in the bridging factor dataset are defined below in Table 5.

Table 5. Variable Names and Descriptions in Bridging Factor Dataset: "bridging_2024_to_1997_factors"

Variable/Column Name	Description
NEW_RACE_ETHNICITY	2024 SPD 15 race or ethnicity variable with 127 categories
NEW_RACE_ETHNICITY _LABEL	Text label for NEW_RACE_ETHNICITY values
AGECAT	Three-category age variable
SYA	Single year of age variable ranging from 0 to 85 and up
CENHISP	1997 SPD 15 Hispanic origin variable
IMPRACE	1997 SPD 15 Race variable
IMPRACE_LABEL	Text label for IMPRACE values
BRIDGING_FACTOR	Bridging factor

The NEW_RACE_ETHNICITY variable and, if present in the input distribution, one of the age variables are used to merge the factors onto a user's dataset. The BRIDGING_FACTOR variable indicates the proportion of the count in a given 2024 SPD 15 race or ethnicity category that is bridged to the corresponding values of CENHISP and IMPRACE, the ethnicity and race variables from the 1997 SPD 15 format.

1997 SPD 15 to 2024 SPD 15
Factors for bridging from 1997 SPD 15 to 2024 SPD 15 are also contained in a single CSV file, however, they do not allow for age stratification. Rather, the reverse bridging factors are based on a single, national count. Later research will inform the decision on how to allow for variation in race reporting by age or geographic location.

The columns, or variables, in the bridging factor dataset are defined below in Table 6.

Table 6. Variable Names and Descriptions in Bridging Factor Dataset: "bridging_1997_to_2024_factors"

Variable/Column Name	Description
CENHISP	1997 SPD 15 Hispanic origin variable
IMPRACE	1997 SPD 15 Race variable
IMPRACE_LABEL	Text label for IMPRACE values
NEW_RACE_ETHNICITY	2024 SPD 15 race or ethnicity variable with 127 categories
NEW_RACE_ETHNICITY_LABEL	Text label for NEW_RACE_ETHNICITY values
BRIDGING_FACTOR	Bridging factor

The existing race and ethnicity variables (IMPRACE and CENHISP, respectively) are used to merge the factors onto the user's dataset. The BRIDGING_FACTOR variable indicates the proportion of the count in a 1997 SPD 15 race and ethnicity category that is reverse bridged to the 2024 SPD 15 race and ethnicity values of the NEW_RACE_ETHNICITY variable.

Programs

2024 SPD 15 to 1997 SPD 15
We have provided user-friendly programs in two statistical languages—SAS and Python—to allow data users with varying levels of statistical programming competency to bridge their data with minimal user input. These programs, included as supplementary materials with this report, do require a base-level familiarity with one of the two programming languages. While we provide a general overview of the programs below, please see the Technical Documentation for a more in-depth discussion of the programs and the steps required to prepare a dataset for use with the bridging algorithm.

Each program is annotated to provide a user with detailed instructions on how to set up and run the bridging program with their data. Upon opening either program, a data user will scroll to the "User Input" section and respond to six queries required for program setup. For example, a user will specify the file path of the folder that contains their data and the bridging factors, and the location where they want the bridged distribution to be output. These locations could be on a user's computer or on a remote server (i.e., the "cloud"). Next, a user will specify the name of their input dataset. It is important to note that the

input data must be in CSV format. If data are in a different format (e.g., Excel, Python, SAS, R, etc.), please reference the user guide of the software that corresponds to their file format to convert the data to CSV.

The final queries in the User Input section require input of the variable names in a user's race and ethnicity distribution, as well as a "yes" or "no" indication of whether the data are stratified by age. The program allows data to use no age stratification, stratification by a three-category age variable (ages 0-17, 18-64, 65 and older, or stratification by single year of age (where age is top coded at 85). These different age stratification options are designed to allow data users to customize the output in a way that best suits their needs. If an input distribution is stratified by additional variables, such as sex or county, a user must run the bridging program separately for each stratum. For example, if a user's data includes a race and ethnicity distribution broken out by males and females (i.e., the data are stratified by sex), the user must run the bridging program twice—once for males and once for females.

Example Datasets

We have also provided three mock datasets for bridging from 2024 SPD to 1997 SPD 15 to serve as examples for how data can be structured for use with the bridging programs and to allow data users to become familiar with the operation of the programs prior to using them with "real" data. The first mock dataset is a race and ethnicity distribution in 2024 SPD 15 format with no age stratification, where each row corresponds to one of the 127 total possible race and ethnicity categories in the 2024 SPD 15 format, accompanied by a corresponding population count for that group. The second mock dataset is stratified by a three-category age variable. Instead of one row per race and ethnicity category, there are three rows for a total of 381 race/ethnicity-age combinations. Finally, the third mock dataset is stratified by single year of age, where there are 86 rows (ages 0 to 85 and older) for each race or ethnicity category, resulting in 10,922 rows of data. Users can follow instructions in the included program(s) to read one of the three mock datasets into either SAS or Python and output a bridged (mock) distribution. Users should reference the supplementary Technical Documentation for additional guidance.

1997 SPD 15 to 2024 SPD 15

We have provided one user-friendly program in SAS to allow data users to bridge data from 1997 SPD 15 to 2024 SPD 15.

The program is annotated to provide a user with detailed instructions on how to set up and run the program with their data. Upon opening the program, a data user will scroll to the "User Input" section and respond to four queries required for program setup. First, a user will specify the file path of the folder that contains their data and the bridging factors, and the location where they want the bridged distribution to be output. Next, a user will specify the name of their input dataset. It is important to note that the input data must be in CSV format. If data are in a different format (e.g., Excel, Python, SAS, R, etc.), please reference the user guide of the software that corresponds to their file format to convert the data to CSV.

The final queries in the User Input section require input of the variable names in a user's race and ethnicity distribution. If an input distribution is stratified by variables such as age, sex, or county, a user must run the bridging program separately for each stratum. Please see the Technical Documentation for a more in-depth discussion of the program and the steps required to prepare a dataset for use with the bridging algorithm.

Example Dataset

We have also provided one mock dataset for bridging from 1997 SPD 15 to 2024 SPD 15. The mock dataset is comprised of a race/ethnicity distribution in 1997 SPD 15 that can be used in conjunction with the bridging program to increase user familiarity with the bridging procedure. See the Technical Documentation for more information.

Controlled Rounding

Due to the use of proportional factors in proportional bridging, some of the resulting population counts in the bridged data will include decimals. To allow users to preserve whole number (i.e., integer) values for population counts in their distributions, we have also incorporated an optional rounding step within our bridging programs. Rather than simply rounding to the nearest integer, which could result in the loss or gain of individuals from the sum of the original, pre-bridged population, the optional rounding program uses a methodology that preserves the population total from the original input distribution. Specifically, we use a greatest-mantissa rounding algorithm to round all non-integers to whole numbers while minimizing the total amount of change to the numbers, and thus reducing rounding error. This method is also used by the Census Bureau's Population Estimates Program in the rounding of their annual population estimates for the nation, states, and counties.[20] For additional details on the rounding algorithm, see the Technical Documentation included with this report.

While the default selection in the bridging program is to run the rounding algorithm, users have the option of omitting this step to output non-integer population counts to their resulting bridged distributions. This option may be preferable if users plan to convert the counts in their distribution to percentages and wish to retain the maximum level of precision until that final calculation.

6. Next Steps

This report presents preliminary race and ethnicity data bridging methodology from the Working Group's Bridging Team. As this report is published, research on bridging methodology continues. Future iterations of the Working Group's bridging factors and programs are expected to be more expansive and flexible, allowing data users to bridge race and ethnicity distributions separately by state and county, and to incorporate other stratifying variables. Additional data sources will also be integral to the development and validation of future iterations. Most notably, we will utilize data from the 2015 NCT[21] -- an innovative, nationally-representative survey conducted by the U.S. Census Bureau to empirically test and compare different questionnaire design strategies for content areas such as race and ethnicity. During NCT data collection, a subset of respondents received a questionnaire with the separate race and ethnicity questions (i.e., the questions that were used in the 2020 Census), while others received a questionnaire similar to the 2024 SPD 15 combined race and ethnicity question. The NCT also included a reinterview operation where a subset of respondents was followed-up with an additional series of questions about how they self-identify in terms of race and ethnicity. These features of the NCT allow us to identify how different people respond to the two different question formats, and they also provide valuable insight

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[20] U.S. Census Bureau. (2023). "Methodology for the United States Population Estimates: Vintage 2023: Nations, States, Counties, and Puerto Rico – April 1, 2020 to July 1, 2023." Retrieved from https://www2.census.gov/programs-surveys/popest/technical-documentation/methodology/2020-2023/methods-statement-v2023.pdf.

[21] Mathews, Kelly, et al. (February 28, 2017). "2015 National Content Test: Race and Ethnicity Analysis Report." U.S. Census Bureau. Retrieved from https://www.census.gov/programs-surveys/decennial-census/decade/2020/planning-management/plan/final-analysis/2015nct-race-ethnicity-analysis.html.

from certain respondents who answered either the separate or combined question and then provided supplementary information about how they self-identify.

Additional data sources from several federal agencies will also be used as they become available. For example, the National Center for Health Statistics (NCHS) completed data collection using the 2024 SPD 15 combined question format in the Fall of 2023, and data should be available for analysis in the Spring of 2024. This and other data sources will allow the further refinement and extension of these preliminary bridging factors.

Appendix A. Crosswalk of 2024 SPD 15 categories to 1997 SPD 15 categories with direct bridging factors

2024 SPD 15 categories/values		Bridging factor	1997 SPD 15 categories/values	
Race or ethnicity value and label			Ethnicity value (CENHISP)	Race value (IMPRACE)
1	White alone	1	1	1
3	Black or African American alone	1	1	2
4	Asian alone	1	1	4
5	American Indian or Alaska Native (AIAN) alone	1	1	3
6	Middle Eastern or North African (MENA) alone	1	1	1
7	Native Hawaiian or Other Pacific Islander (NHPI) alone	1	1	5
8	White, Hispanic or Latino	1	2	1
9	White, Black or African American	1	1	6
10	White, Asian	1	1	8
11	White, AIAN	1	1	7
12	White, MENA	1	1	1
13	White, NHPI	1	1	9
14	Hispanic or Latino, Black or African American	1	2	2
15	Hispanic or Latino, Asian	1	2	4
16	Hispanic or Latino, AIAN	1	2	3
17	Hispanic or Latino, MENA	1	2	1
18	Hispanic or Latino, NHPI	1	2	5
19	Black or African American, Asian	1	1	11
20	Black or African American, AIAN	1	1	10
21	Black or African American, MENA	1	1	6

22	Black or African American, NHPI	1	1	12
23	Asian, AIAN	1	1	13
24	Asian, MENA	1	1	8
25	Asian, NHPI	1	1	15
26	AIAN, MENA	1	1	7
27	AIAN, NHPI	1	1	14
28	MENA, NHPI	1	1	9
29	White, Hispanic or Latino, Black or African American	1	2	6
30	White, Hispanic or Latino, Asian	1	2	8
31	White, Hispanic or Latino, AIAN	1	2	7
32	White, Hispanic or Latino, MENA	1	2	1
33	White, Hispanic or Latino, NHPI	1	2	9
34	White, Black or African American, Asian	1	1	17
35	White, Black or African American, AIAN	1	1	16
36	White, Black or African American, MENA	1	1	6
37	White, Black or African American, NHPI	1	1	18
38	White, Asian, AIAN	1	1	19
39	White, Asian, MENA	1	1	8
40	White, Asian, NHPI	1	1	21
41	White, AIAN, MENA	1	1	7
42	White, AIAN, NHPI	1	1	20
43	White, MENA, NHPI	1	1	9
44	Hispanic or Latino, Black or African American, Asian	1	2	11
45	Hispanic or Latino, Black or African American, AIAN	1	2	10
46	Hispanic or Latino, Black or African American, MENA	1	2	6

47	Hispanic or Latino, Black or African American, NHPI	1	2	12
48	Hispanic or Latino, Asian, AIAN	1	2	13
49	Hispanic or Latino, Asian, MENA	1	2	8
50	Hispanic or Latino, Asian, NHPI	1	2	15
51	Hispanic or Latino, AIAN, MENA	1	2	7
52	Hispanic or Latino, AIAN, NHPI	1	2	14
53	Hispanic or Latino, MENA, NHPI	1	2	9
54	Black or African American, Asian, AIAN	1	1	22
55	Black or African American, Asian, MENA	1	1	17
56	Black or African American, Asian, NHPI	1	1	24
57	Black or African American, AIAN, MENA	1	1	16
58	Black or African American, AIAN, NHPI	1	1	23
59	Black or African American, MENA, NHPI	1	1	18
60	Asian, AIAN, MENA	1	1	19
61	Asian, AIAN, NHPI	1	1	25
62	Asian, MENA, NHPI	1	1	21
63	AIAN, MENA, NHPI	1	2	20
64	White, Hispanic or Latino, Black or African American, Asian	1	2	17
65	White, Hispanic or Latino, Black or African American, AIAN	1	2	16
66	White, Hispanic or Latino, Black or African American, MENA	1	2	6
67	White, Hispanic or Latino, Black or African American, NHPI	1	2	18
68	White, Hispanic or Latino, Asian, AIAN	1	2	19
69	White, Hispanic or Latino, Asian, MENA	1	2	8
70	White, Hispanic or Latino, Asian, NHPI	1	2	21
71	White, Hispanic or Latino, AIAN, MENA	1	2	7

72	White, Hispanic or Latino, AIAN, NHPI	1	2	20
73	White, Hispanic or Latino, MENA, NHPI	1	2	9
74	White, Black or African American, Asian, AIAN	1	1	26
75	White, Black or African American, Asian, MENA	1	1	17
76	White, Black or African American, Asian, NHPI	1	1	28
77	White, Black or African American, AIAN, MENA	1	1	16
78	White, Black or African American, AIAN, NHPI	1	1	27
79	White, Black or African American, MENA, NHPI	1	1	18
80	White, Asian, AIAN, MENA	1	1	19
81	White, Asian, AIAN, NHPI	1	1	29
82	White, Asian, MENA, NHPI	1	1	21
83	White, AIAN, MENA, NHPI	1	1	20
84	Hispanic or Latino, Black or African American, Asian, AIAN	1	2	22
85	Hispanic or Latino, Black or African American, Asian, MENA	1	2	17
86	Hispanic or Latino, Black or African American, Asian, NHPI	1	2	24
87	Hispanic or Latino, Black or African American, AIAN, MENA	1	2	16
88	Hispanic or Latino, Black or African American, AIAN, NHPI	1	2	23
89	Hispanic or Latino, Black or African American, MENA, NHPI	1	2	18
90	Hispanic or Latino, Asian, AIAN, MENA	1	2	19
91	Hispanic or Latino, Asian, AIAN, NHPI	1	2	25

92	Hispanic or Latino, Asian, MENA, NHPI	1	2	21
93	Hispanic or Latino, AIAN, MENA, NHPI	1	2	20
94	Black or African American, Asian, AIAN, MENA	1	1	26
95	Black or African American, Asian, AIAN, NHPI	1	1	30
96	Black or African American, Asian, MENA, NHPI	1	1	28
97	Black or African American, AIAN, MENA, NHPI	1	1	27
98	Asian, AIAN, MENA, NHPI	1	1	29
99	White, Hispanic or Latino, Black or African American, Asian, AIAN	1	2	26
100	White, Hispanic or Latino, Black or African American, Asian, MENA	1	2	17
101	White, Hispanic or Latino, Black or African American, Asian, NHPI	1	2	28
102	White, Hispanic or Latino, Black or African American, AIAN, MENA	1	2	16
103	White, Hispanic or Latino, Black or African American, AIAN, NHPI	1	2	27
104	White, Hispanic or Latino, Black or African American, MENA, NHPI	1	2	18
105	White, Hispanic or Latino, Asian, AIAN, MENA	1	2	19
106	White, Hispanic or Latino, Asian, AIAN, NHPI	1	2	29
107	White, Hispanic or Latino, Asian, MENA, NHPI	1	2	21
108	White, Hispanic or Latino, AIAN, MENA, NHPI	1	2	20
109	White, Black or African American, Asian, AIAN, MENA	1	1	26
110	White, Black or African American, Asian, AIAN, NHPI	1	1	31

111	White, Black or African American, Asian, MENA, NHPI	1	1	28
112	White, Black or African American, AIAN, MENA, NHPI	1	1	27
113	White, Asian, AIAN, MENA, NHPI	1	1	29
114	Hispanic or Latino, Black or African American, Asian, AIAN, MENA	1	2	26
115	Hispanic or Latino, Black or African American, Asian, AIAN, NHPI	1	2	30
116	Hispanic or Latino, Black or African American, Asian, MENA, NHPI	1	2	28
117	Hispanic or Latino, Black or African American, AIAN, MENA, NHPI	1	2	27
118	Hispanic or Latino, Asian, AIAN, MENA, NHPI	1	2	29
119	Black or African American, Asian, AIAN, MENA, NHPI	1	1	31
120	White, Hispanic or Latino, Black or African American, Asian, AIAN, MENA	1	2	26
121	White, Hispanic or Latino, Black or African American, Asian, AIAN, NHPI	1	2	31
122	White, Hispanic or Latino, Black or African American, Asian, MENA, NHPI	1	2	28
123	White, Hispanic or Latino, Black or African American, AIAN, MENA, NHPI	1	2	27
124	White, Hispanic or Latino, Asian, AIAN, MENA, NHPI	1	2	29
125	White, Black or African American, Asian, AIAN, MENA, NHPI	1	1	31
126	Hispanic or Latino, Black or African American, Asian, AIAN, MENA, NHPI	1	2	31
127	White, Hispanic or Latino, Black or African American, Asian, AIAN, MENA, NHPI	1	2	31

Appendix B. Ethnicity and Race Questions from the 2020 Decennial Census

6. **Is this person of Hispanic, Latino, or Spanish origin?**

☐ **No**, not of Hispanic, Latino, or Spanish origin

☐ Yes, Mexican, Mexican Am., Chicano

☐ Yes, Puerto Rican

☐ Yes, Cuban

☐ Yes, another Hispanic, Latino, or Spanish origin – *Print, for example, Salvadoran, Dominican, Colombian, Guatemalan, Spaniard, Ecuadorian, etc.* ↙

7. **What is this person's race?**

Mark [X] *one or more boxes* **AND** *print origins.*

☐ White – *Print, for example, German, Irish, English, Italian, Lebanese, Egyptian, etc.* ↙

☐ Black or African Am. – *Print, for example, African American, Jamaican, Haitian, Nigerian, Ethiopian, Somali, etc.* ↙

☐ American Indian or Alaska Native – *Print name of enrolled or principal tribe(s), for example, Navajo Nation, Blackfeet Tribe, Mayan, Aztec, Native Village of Barrow Inupiat Traditional Government, Nome Eskimo Community, etc.* ↙

☐ Chinese   ☐ Vietnamese   ☐ Native Hawaiian

☐ Filipino   ☐ Korean   ☐ Samoan

☐ Asian Indian   ☐ Japanese   ☐ Chamorro

☐ Other Asian – *Print, for example, Pakistani, Cambodian, Hmong, etc.* ↙   ☐ Other Pacific Islander – *Print, for example, Tongan, Fijian, Marshallese, etc.* ↙

☐ Some other race – *Print race or origin.* ↙

Appendix C. Race Reporting among Hispanics, Comparison of 2015 National Contents Test and 1997 SPD 15 to 2024 SPD 15

Race Reporting among Hispanics, Comparison of the 2015 National Contents Test and 1997 SPD 15 to 2024 SPD 15

	White alone	Black alone	Asian alone	AIAN alone	MENA alone	NHPI alone	SOR alone	Two or more	No other major categories reported
2015 NCT Separate Question format	16.5%	1.4%	0.7%	1.0%	0.1%	0.1%	39.0%	38.2%	2.0%
2015 NCT Combined Question format with detailed checkboxes	18.4%	1.6%	0.9%	0.8%	0.1%	0.1%	0.7%	4.8%	72.1%
1997 SPD 15 to 2024 SPD 15 applied to 2020 Census	24.1%	2.3%	0.6%	2.5%	0.1%	0.2%	N/A	3.4%	66.7%

Note: The U.S. Census Bureau reviewed this data product for unauthorized disclosure of confidential information and approved the disclosure avoidance practices applied to this release. CBDRB-FY24-0155.

Glossary

CENHISP – Hispanic or Latino origin variable used in the 2020 Census with two categories: (1) non-Hispanic or Latino; and (2) Hispanic or Latino.

CENRACE – Race variable used in the 2020 Census with a total of 63 values based on all possible combinations of the following six single-race categories: (1) White; (2) Black or African American; (3) American Indian or Alaska Native; (4) Asian; (5) Native Hawaiian or Other Pacific Islander; and (6) Some Other Race (SOR). This variable is unique to the Census Bureau's decennial census and American Community Survey due to its inclusion of the SOR category, which is not a permissible category for federal race data collections according to 1997 SPD 15.

Controlled Rounding – Technique used to round non-integer values (i.e., numbers with decimal places) to whole numbers, while minimizing rounding error. In the context of this report, controlled rounding is used to round bridged population totals that have decimal places due to proportional bridging.

Direct Bridging – Bridging method used in instances where there is exact concordance between "new" and "old" race and ethnicity categories. One hundred percent of a category is bridged to a single identical category in the alternative classification system. For example, the non-Hispanic Asian alone category in 1997 SPD 15 can be bridged *directly* to the Asian alone category in 2024 SPD 15, where 100% of the population counted or estimated in that category in 1997 SPD 15 is moved to a single corresponding category in 2024 SPD 15. All *direct* bridging factors are equal to 1.

IMPRACE – Imputed race variable that conforms to the minimum categories required by 1997 SPD 15. This variable is constructed by taking the 2020 Census variable CENRACE and removing the Some Other Race (SOR) category through an imputation process that reassigns SOR responses to other 1997 SPD 15 categories.

Proportional Bridging – Bridging method used for race or ethnicity categories in one set of standards that do not have an exact analog in the other set of standards. Proportional bridging entails dividing a population count in a category from one classification system into multiple categories of the other classification system, based on proportions derived from the 2020 Census. For example, about 77% (a proportional bridging factor of 0.767) of the Hispanic or Latino alone category in 2024 SPD 15 is bridged to the Hispanic, White alone category from 1997 SPD 15, 6.1% is bridged to Black or African American alone, 9.3% is bridged to AIAN alone, 1.4% is bridged to Asian alone, 0.4% is bridged to NHPI alone, and 6.0% is bridged to Two or More Race categories. These percentages/proportions are derived from the race distribution for the Hispanic population from the 2020 Census.

QRACE1-8 – Race variables used in the 2020 Census that contained up to 8 codes for detailed write-in responses to the race question for every respondent. Codes are provided for over 1,500 detailed race and ethnicity groups as well as American Indian and Alaska Native tribes and villages. QRACE1-8 responses can be aggregated to the minimum race and ethnicity categories of the CENRACE variable.[22]

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[22] https://www2.census.gov/programs-surveys/decennial/2020/technical-documentation/complete-tech-docs/detailed-demographic-and-housing-characteristics-file-a/2020-hispanic-origin-and-race-code-list.xlsx.

The table below shows the QRACE1-QRACE8 codes that correspond to each race and ethnicity group.

Race/Ethnicity Group	Codes in QRACE1-QRACE8
White	1000-1999
Hispanic	2000-2999
Black	3000-3999
Asian	4000-4999
AIAN	5000-6999
MENA	7000-7499
NHPI	7500-7999
SOR	8000-8999

Statistical Policy Directive No. 15 (SPD 15) – The Office of Management and Budget's (OMB) *Standards for Maintaining, Collecting, and Presenting Federal Data on Race and Ethnicity.* These standards provide guidelines on the collection and tabulation of race and ethnicity data for all Federal Agencies, with the aim of ensuring "the comparability of race and ethnicity across Federal datasets and to maximize the quality of that data by ensuring that the format, language, and procedures for collecting the data are consistent and based on rigorous evidence."[23]

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[23] https://spd15revision.gov/content/spd15revision/en/history.html.