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Abstract
This report explores disparities in traffic safety among different race-ethnicity groups in the United States. The report also examines economic disparities in traffic safety. The foundation of this analysis is the Fatality Analysis Reporting System (FARS), which collects detailed information on fatal police-reported motor vehicle traffic crashes on public roadways. We used data from several Federal agencies in conjunction with FARS to investigate and assess potential disparities. The findings contribute to a growing body of evidence of racial-ethnic and economic disparities in travel outcomes. Principally, the analysis finds roadway travel is less risky for white people than for people of most other race-ethnicity groups. This disparity persists even when accounting for the amount and mode of travel. Among all travel modes, we found a particularly pronounced disparity for pedestrians. Considering the relationship between income and fatal crashes, traffic fatality rates decreased as income rates increased in 8 of the 50 States. The remaining 42 States showed no strong or moderate correlation between fatality and income rates. We caution that all data and results have limitations and encourage the reader to consult the limitations section of this report.

17. Key Words FARS, race, ethnicity, economic, NOPUS, NSUBS, travel, income, alcohol use, restraint use, handheld electronic device use, speeding, crash characteristics, pedestrians	18. Distribution Statement This document is available from the National Technical Information Service, www.ntis.gov.

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Executive Summary

Roadway travel is inherently risky, but is this risk borne equally among all members of U.S. society? In this report we undertake an examination of data collected by the National Highway Traffic Safety Administration and other Federal agencies to consider the following questions.

- Are there racial-ethnic disparities in travel outcomes?
- If so, have these disparities changed in recent years?
- What factors might be contributing to racial-ethnic disparities?
- Are there economic disparities in travel outcomes?

Our findings contribute to a growing body of evidence of racial, ethnic, and economic disparities in travel outcomes. This report investigates the disparity between various race-ethnicity groups as compared to white[1] people, unless otherwise noted. We compare to the white population as it is the largest race-ethnicity group and to highlight the historical disparities in transportation decisions, resources, and outcomes. For instance, when we present values as "disproportionate," we mean in relation to white people. Principally, we found that:

- By several measures, roadway travel is less risky for white people than for most other race-ethnicity groups; this disparity persists, even accounting for the amount and mode of travel. Among all travel modes, we found a particularly pronounced disparity for pedestrians. American Indian and Alaska Native people have by far the highest traffic fatality rates per mile and per population. They were five times more likely to die walking than white people and close to three times as likely to die in passenger vehicles, on a per-mile basis. Asian people are about half as likely to die as white people per mile. But out of total Asian fatalities, 29 percent were pedestrians; this was the largest pedestrian makeup across race-ethnicity groups, roughly double the makeup for white fatalities. Black or African American people were roughly twice as likely to die per mile as white people (fatality rates of 1.70 versus 1.04 per 100M person miles traveled).

- Traffic fatalities per 100K population decreased for American Indian and Alaska Native people relative to white people between 2014 and 2018 in the subset of States studied (2.52 to 2.07). In comparison, traffic fatalities per 100K population increased for Black or African American people relative to white people (1.05 to 1.27).

- Risky behaviors and amount of travel can contribute to traffic fatality rates. Black or African American occupants have lower observed seat belt use levels. Less than half of their passenger vehicle occupant fatalities used restraint systems (44%), compared to 55 percent for white people. American Indian and Alaska Native people traveled by passenger vehicle more than any other group, about 30 percent more than white people; this increased their risk exposure. Almost half of American Indian and Alaska Native driver fatalities and over half of their pedestrian fatalities had blood alcohol concentrations (BACs) of .08 grams per deciliter (g/dL) or above, the largest percentages across race-ethnicity groups. American Indian and Alaska Native fatalities also had lower levels of restraint system use, with only about one-third of their passenger vehicle occupant fatalities restrained.

[1] The text in this report follows the Associated Press Stylebook (AP Stylebook) to lowercase "white."

- In 8 of the 50 States, traffic fatalities[2] per population decreased as the per population income of a county increased. The remaining 42 States showed no strong or moderate correlation (≥0.5) between traffic fatality and income rates or had too few counties to compute a reliable correlation.

Our findings have several caveats.

- Readers should interpret conclusions about American Indian and Alaska Native people with a degree of caution, as 33 percent of the race and ethnicity reporting on their death certificate classifications didn't match their responses to the Current Population Survey (Arias, Heron, & Hakes, 2016). Also, Indian reservations do not always report traffic fatalities to the State or NHTSA.
- We cannot reliably estimate the impact of traffic fatalities on multi-racial people during the period studied. Through 2018, the Fatality Analysis Reporting System (FARS) categorized fatalities identified by multiple, individual races only by the first race listed; this categorization could misrepresent some or all race-ethnicity groups.
- The FARS contains unknown values for race and ethnicity. The number of unknowns varies by State and year.
- Puerto Rico is home to 5 percent of the total Hispanic or Latino population in the 50 States, the District of Columbia, and Puerto Rico. However, we effectively treated Puerto Rico as a separate entity in this report, a common reporting practice used at most Federal agencies.
- We assessed observed seat belt use based on race observations made by data collectors. Consider the observation bias when interpreting these data or comparing them with FARS.
- Traffic fatality rates combine self-reported race-ethnicity with race-ethnicity identified by others. The answer to race and ethnicity questions for one person could vary depending on who answers.

We cover more detailed caveats in the Limitations section. These caveats notwithstanding, our report reinforces the need to address the disproportionate impact of traffic crashes throughout all segments of society. We note that the Bipartisan Infrastructure Law contains funds to improve several of NHTSA's crash data collection systems that have the potential to improve analyses like this one.

[2] Fatalities in motor vehicle traffic crashes are referred to as "traffic fatalities" in this report. The terms "motor vehicle traffic crash" and "traffic crash" are used interchangeably throughout this report.

Introduction

The United States is home to stark and persistent racial and ethnic disparities. About 36,000 fatalities occur annually on public trafficways. Do all race and ethnicity groups bear these fatalities equally? President Biden issued Executive Order 13985 on January 20, 2021, on *Advancing Racial Equity and Support for Underserved Communities Through the Federal Government*. In accordance with the Executive order, our study aims to assess disparities with respect to traffic fatalities based on race, ethnicity, and income. This report presents a summary of prior research, analysis data and methodology, and our own findings regarding the following questions.

- Are there racial-ethnic disparities in travel outcomes?
- If so, have these disparities changed in recent years?
- What factors might be contributing to racial-ethnic disparities?
- Are there economic disparities in travel outcomes?

Taxonomy

A fundamental issue in studying race and ethnicity is how to categorize people. Different institutions use different race and ethnicity categorizations, and these categorizations change over time as public opinion evolves. Some researchers consider race and ethnicity separately.

Federal data collection and reporting have standards to which we adhere in this report. In 1997 the Office of Management and Budget (OMB) issued revised Race and Ethnicity Standards for Federal Statistics and Administrative Reporting. This classification provides a minimum standard for maintaining, collecting, and presenting data on race and ethnicity for all Federal reporting purposes. The categories in this classification are social-political constructs and the reader should not interpret them as being scientific or anthropological in nature. OMB developed the standards to provide a common language for uniformity and comparability in collecting and using data on race and ethnicity by Federal agencies (62 Fed. Reg. 58782, 1997).

The standards have five categories for data on race: “American Indian or Alaska Native,” “Asian,” “Black or African American,” “Native Hawaiian or Other Pacific Islander,” and “White.” There are two categories for data on ethnicity: "Hispanic or Latino," and "Not Hispanic or Latino." Under the 1997 OMB race and ethnicity reporting standards, ethnicity is a distinct concept from race. Therefore, people of “Hispanic or Latino” ethnicity may be of any race. OMB defines the minimum categories for data on race and ethnicity as follows (62 Fed. Reg. 58782, 1997):

- **American Indian or Alaska Native, AIAN**. A person having origins in any of the original peoples of North and South America (including Central America), and who maintains tribal affiliation or community attachment.
- **Asian**. A person having origins in any of the original peoples of the Far East, Southeast Asia, or the Indian subcontinent, including Cambodia, China, India, Japan, Korea, Malaysia, Pakistan, the Philippine Islands, Thailand, and Vietnam.
- **Black or African American**. A person having origins in any of the Black racial groups of Africa.

- **Hispanic or Latino**. A person of Cuban, Mexican, Puerto Rican, South or Central American, or other Spanish culture or origin, regardless of race.
- **Native Hawaiian or Other Pacific Islander, NHPI**. A person having origins in any of the original peoples of Hawaii, Guam, Samoa, or other Pacific Islands.
- **White**. A person having origins in any of the original peoples of Europe, the Middle East, or North Africa.

A person may fall into any or all of these categories.

Fatality data in this report come from death certificates from 2014 to 2018. Based on the 1997 OMB revised race and ethnicity reporting standards, the 2003 revision to the U.S. Standard Certificate of Death provided for the reporting of more than one race (multiple races) and increased the race categories from four to five by separating the Asian and Pacific Islander groups. Starting in 2018 all 50 States and the District of Columbia reported deaths using the 2003 revision for the entire year (Murphy et al., 2020).

Throughout this report, the term "race-ethnicity" refers to the combined classification of race and ethnicity information used. We outline the race-ethnicity categorizations this report uses in the Data and Methodology section.

How to assess disparity is another fundamental issue. In our analysis, we compare to the white population. We do so because that population is the largest race-ethnicity group, and the comparison highlights the lack of equity in transportation.

Literature Review

This literature review focuses on race and ethnicity disparities in an environment's infrastructure, personal income, access to healthcare, individual behaviors, and reporting of race and ethnicity. This review doesn't cover all race- and ethnicity-related disparities. However, it shows a broad picture of disparities that may influence the likelihood and mortality of a traffic crash. Note this section retains terminology from the source material and reflects the terminology used (for example, "poor" or "low-income"). Not all sources in the Literature Review are Federal, so the categorizations and labels used don't necessarily align with the OMB race and ethnicity standards presented in the Introduction.

Per the World Health Organization (WHO), social determinants of health are factors that influence a person's health based on the conditions in which people are born, live, grow, work, and age, including their homes, educational institutions, places of work, neighborhoods, and communities (Office of Disease Prevention and Health Promotion, n.d.; WHO, n.d.). Transportation is a key determinant in influencing a person's health, including access to public transportation, the means to own personal transportation, and the outcomes of travel. Whether social or physical, environments should promote health for all to address the inequities found within various social determinants of health.

Infrastructure

The infrastructure of social and physical environments plays an important role in a person's health. Boehmer et al. (2013) found that poor people of any racial-ethnic category (4.2%), Black people (4.4%), Hispanic people (5.0%), and Asian or Pacific Islander people (5.4%) had higher percentages of living closer to high-traffic roads than nonpoor people of any racial-ethnic category (3.5%), white people (3.1%), and AIAN people (2.6%). Living closer to high-traffic roads can be dangerous to health as there is an increase in air pollution caused by traffic. Additionally, these areas may have limited access to safe transportation options (Boehmer et al., 2013; Smart Growth America, 2021).

Lower-income communities have some of the worst infrastructure for safe travel (Gibbs et al., 2012; Smart Growth America, 2021). Black or African American people, AIAN people, and people walking in low-income communities are disproportionately represented in fatal motor vehicle traffic crashes involving pedestrians (Smart Growth America, 2021). The Federal Highway Administration (FHWA) reported "roadways without sidewalks are more than twice as likely to have pedestrian crashes as sites with sidewalks on both sides of the street" (FHWA, n.d.). People living in lower-income areas are less likely to have access to safe walking and biking facilities.

For example, sidewalks, adequate lighting, crosswalk markings, and other safety features are not as common in low-income neighborhoods (Gibbs et al., 2012). Gibbs et al. (2012) found a statistically significant difference between the availability of sidewalks in high-income (89%) and low-income (49%) communities. Street or sidewalk lighting was more prevalent in the high-income areas (75%) compared to the middle-income (54%) or low-income areas (51%) (Gibbs et al., 2012).

Income

Low-income households are less likely to own vehicles and have access to transportation options in their community to perform daily tasks without personal cars (Harper, Charters, & Strumpf, 2015; Smart Growth America, 2021). However, Anderson (2016) found that low-income people, Black or Hispanic people, immigrants, or those under 50 years old, are more likely to use public transportation regularly and less likely to own their own vehicles. Owning a personal vehicle is not always accessible by all income levels. According to NHTSA's 2016 Motor Vehicle Occupant Safety Survey (MVOSS), based on self-reported data via questionnaire, 37 percent of lower-income people drove every day compared to 73 percent of higher-income people. When looking at race and ethnicity, Hispanic or Latino people drove every day 68 percent of the time compared to 63 percent for Non-Hispanic or Latino people. These daily driving percentages were 68 percent for NHPI people, 65 percent for Native American people, 64 percent for white people, 62 percent for Asian people, and 61 percent, the lowest, for Black or African American people (Spado et al., 2019).

Healthcare

Involvement in a traffic crash can result in the need for medical care or hospitalization; not all race and ethnicity groups have the same access to medical services or health insurance. Zhang et al. (2020) found that Black and Hispanic patients were less likely to have primary care providers and more likely to visit emergency departments for medical care than white patients. They also found uninsured rates were higher among Hispanic (24.2%) and Black (22.4%) patients, while uninsured rates were lowest among white (15.2%) and Asian patients (13.7%).

A person's income affects the type and amount of health care the person receives. Not only do health care plans differ based on the amount a person or family can afford, but some studies found race and ethnicity disparities in emergency care transportation, treatment, and prognosis. Hanchate et al. (2019) found Black or Hispanic patients less likely to be transported to the most frequented emergency department destinations that white patients were transported to, even if they reside in the same ZIP Codes. Additionally, people in these two race and ethnicity groups were more likely to be transported to emergency departments known for treating higher proportions of patients with Medicaid (Hanchate et al., 2019). When arriving at emergency departments, Black and Hispanic patients were less likely to receive immediate or urgent triage levels than white patients. However, Asian patients were more likely to receive immediate or urgent triage levels than white patients (Zhang et al., 2020).

Researchers noted disparities in hospital admittance following emergency department visits (Hamann et al., 2020; Zhang et al., 2020). Black and Hispanic patients were 10 percent less likely to be admitted into hospitals than white patients following their emergency department visits and Asian patients were 1.22 times more likely to be admitted into hospitals following their emergency department visits (Zhang et al., 2020). Hamann et al. (2020) found that Black pedestrians had the highest hospital mortality rate compared to white and Asian or Pacific Islander pedestrians per 100K population (2.78, 1.67, and 1.44, respectively). Haskins et al. (2013) found no race and ethnicity disparity in the odds of survival of seriously injured drivers in traffic crashes; however, for those treated at hospitals, Black drivers were 50 percent less likely to survive more than 30 days after the crash date than white drivers.

Behaviors

To better understand race and ethnicity disparities in traffic crashes, it's important to examine the behavior of drivers by race and ethnicity. The 2016 MVOSS reported that 94 percent of the people who self-identified as Hispanic or Latino used seat belts everyday while driving. Asian drivers reported the highest seat belt use at 97 percent, followed by both Native American drivers and NHPI drivers at 96 percent. The lowest rates were for Black or African American (92%) and white (93%) drivers (Spado et al., 2019).

In 2008 NHTSA collected data in the National Survey of Drinking and Driving Attitudes and Behaviors to understand the behaviors, knowledge, and attitudes of the driving public regarding drinking and driving. Twenty-three percent of white drivers reported driving 2 hours after drinking during the past year, compared to 10 percent of Black drivers, the lowest percentage reported. When looking at the people who reported driving 2 hours after drinking over the past 30 days, white drivers were still the highest at 15 percent compared to the Black drivers as the lowest at 6 percent (Drew et al., 2010). NHPI (15%), AIAN (13%), and Hispanic (12%) people reported riding with drivers who may have had too much alcohol more than any other race and ethnicity group (3% to 8%).

Alcohol-impaired-driving fatalities accounted for 28 percent of the traffic fatalities for 2019 (National Center for Statistics and Analysis, 2020). In 2016 the FBI reported that 82.2 percent of driving under the influence arrests were white drivers, while 13.6 percent were Black or African American drivers. The remaining 4.2 percent were people from other race groups (FBI, 2017).

General alcohol consumption may provide insight on driving behaviors. According to the 2019 National Survey on Drug Use and Health (NSDUH) from the Substance Abuse and Mental Health Services Administration, survey respondents across other race and ethnicity groups 18 to 25 years old reported lower alcohol use during the past month (from 41.9% to 48.1%) compared to white people (61.7%). When it comes to binge drinking, 40.2 percent of white people 18 to 25 years old reported binge drinking in the past month compared to other race and ethnicity groups (which ranged from 22.4% to 31.6%). The 2019 NSDUH results showed white people at higher alcohol use percentages than those from all other race and ethnicity groups (Han, 2020).

Reporting and Classification of Race and Ethnicity

The literature above showed there are disproportionate outcomes and effects throughout various topics related to traffic fatalities between different race and ethnicity groups. Studies focused on self-reported race and ethnicity found that researchers can easily fail to identify inequities because the way people see themselves differs from how others view them (Roth, 2010). People may also respond to Census questions differently. For instance, some people interpreted the questions in different ways. Parker et al. (2015) found that 67 percent of Hispanic or Latino adults believe their ethnic backgrounds are part of their racial backgrounds, which can skew questionnaires.

Additionally, race and ethnicity data reported on death certificates can be inaccurate. Per Arias, Heron, and Hakes (2016), for white and Black people, race and ethnicity reporting in their death certificate classifications matched their responses to the Current Population Survey nearly 100 percent of the time. When these do not match, the authors considered it a misclassification. The AIAN population had high misclassification (33%), while the Hispanic and Asian and Pacific Islander populations were at 3 percent, respectively.

Data and Methodology

The data used in this analysis come from several sources.

- NHTSA's Fatality Analysis Reporting System (FARS)
- NHTSA's National Occupant Protection Use Survey (NOPUS)
- NHTSA's National Survey of the Use of Booster Seats (NSUBS)
- Centers for Disease Control and Prevention's (CDC) National Center for Health Statistics (NCHS) National Vital Statistics System (NVSS) Mortality Data
- Census Bureau's Population Estimates Program (PEP)
- Census Bureau's Topologically Integrated Geographic Encoding and Referencing (TIGER)/Line Shapefiles
- Bureau of Economic Analysis (BEA) Regional Income Division
- Federal Highway Administration's (FHWA) National Household Travel Survey (NHTS)

Each data source has its strengths and limitations discussed in the following subsections. All tables and figures reflect data from all 50 States and DC in this report unless otherwise noted.

The data sources in this analysis base their data procedures for race and ethnicity on the OMB Race and Ethnicity Standards for Federal Statistics and Administrative Reporting.

Unless otherwise noted, for the remainder of this report, we combined race and ethnicity variables into a single race-ethnicity variable, categorized as follows:

- *Hispanic or Latino of any race* (Hispanic or Latino)
- *Non-Hispanic or Latino, or Unknown if Hispanic or Latino*, American Indian or Alaska Native (AIAN)
- *Non-Hispanic or Latino, or Unknown if Hispanic or Latino*, Asian (Asian)
- *Non-Hispanic or Latino*, Black or African American (Black or African American)

- *Non-Hispanic or Latino*, *or Unknown if Hispanic or Latino*, Native Hawaiian or Pacific Islander (NHPI)
- *Non-Hispanic or Latino*, White (White)

Total values presented in this report include reported race and ethnicity attributes such as "other," multiple races, or with unknown values. However, we do not always show these categories as separate line items in tables and figures. While this reporting methodology is one way of complying with the OMB guidelines, there are other ways.

Fatality Analysis Reporting System

FARS contains data on police-reported fatal motor vehicle traffic crashes in the 50 States, the District of Columbia, and Puerto Rico. To be included in FARS, a traffic crash must involve a motor vehicle traveling on a public trafficway and result in a fatality, including nonoccupants, within 30 days of the crash. FARS excludes crashes that did not occur on public trafficways, such as those that occurred on private property, including parking lots and driveways. Although FARS includes crashes on Tribal lands, it doesn't capture all fatal crashes as reporting varies depending on the specific jurisdiction. FARS captures all fatalities, regardless of residence. FARS doesn't have traffic fatality information for the other four permanently inhabited U.S. Territories (Guam, U.S. Virgin Islands, American Samoa, and the Northern Mariana Islands).

In a given crash year, NHTSA releases two versions of the FARS data files. After the crash year, NHTSA releases the first file, known as the Annual Report File (ARF). We replace the ARF about a year later with a "Final" File, which contains additional cases or updates to cases that become available after the ARF was released. Official guidance for NHTSA's FARS analysts is to obtain race and ethnicity data from death certificates. Although most updates in FARS between the ARF and Final File are minor, race and ethnicity data are prone to numerous changes since there is a time lag in receiving death certificate information. Therefore, any analysis with race and ethnicity data will use the most recent Final File. This report uses FARS 2014 to 2018 Final Files. Additionally, we use traffic fatality count data from the FARS 2019 ARF in this report when discussing overall fatalities, but not when looking at race and ethnicity specifically. For more information on the classification of race and ethnicity in FARS, see the Appendix at the end of this report.

The availability of race and ethnicity information differs from State to State and sometimes year to year, which could result in many unknowns. Consider these unknowns when comparing race and ethnicity data at the State level and throughout the years; see Table A-3 in the Appendix for specifics. To meet OMB minimum standards, National Center for Statistics and Analysis (NCSA) categorizes fatalities of Hispanic origin as "Hispanic or Latino" regardless of race. Subsequently, NCSA categorizes non-Hispanic fatalities or fatalities where Hispanic origin isn't known by race. as outlined above and further detailed in the Appendix. It's important to note that FARS codes the first race listed if the death certificate lists more than one race. However, the race category will be "NHPI," if the death certificate includes Native Hawaiian. The coding practice of selecting the first entry listed if the death certificate includes more than one race results in incomplete data for people of multiple races; this categorization could also misrepresent some or all race-ethnicity groups. Considering the incomplete data for people of multiple races in FARS, we don't show this group when presenting fatality data. In 2019 FARS revised the coding for race to allow for the coding of multiple races, allowing for more accurate data for this group of people going forward.

NCSA defines passenger vehicles to include passenger cars and light trucks (SUVs, vans, and pickup trucks) with a gross vehicle weight rating of 10,000 lbs or less. NCSA also defines pedalcyclists as bicyclists and other cyclists, including riders of two-wheel-nonmotorized vehicles, tricycles, and unicycles powered solely by pedals.

FARS uses FHWA-adjusted urban areas to code land use. The coding process relies on the FARS analyst; the analyst asks the State DOT if the land is urban or rural and codes the crash accordingly. Currently, Puerto Rico does not report latitude and longitude for fatal crashes.

State traffic fatality counts include fatalities on tribal lands in the State according to where the crash occurred. National total figures presented in this report include fatalities on tribal lands. Fatalities for Puerto Rico have traditionally not been included in NHTSA's National totals and we present them separately in this report.[3]

National Occupant Protection Use Survey

NHTSA's NCSA conducts the NOPUS annually, a nationwide probability-based survey. Two sub-surveys, the Moving Traffic Survey and the Controlled Intersection Study (CIS), comprise NOPUS. This analysis focuses on data from the NOPUS CIS. The CIS collects passenger vehicle (passenger cars, pickup trucks, SUVs, and vans) occupant data at intersections controlled by stop signs or stoplights from the roadside. Since the vehicles are stationary, data collectors have enough time to record occupants' characteristics such as race, age, gender, and seat belt use. Data collectors observe race characterization based on visual assessment. NOPUS only collects three race categories (White, Black, and Members of Other Races) and doesn't record ethnicity. NOPUS uses complex statistical sampling and data editing, imputation, and data estimation procedures. NOPUS derives its estimates of driver electronic device use from the CIS (Enriquez, 2020).

The population of interest includes all 50 States and DC, and excludes the U.S. Territories. The sample observation sites consist of Federal, State, and county highways and local roads, in rural and urban areas. The sampling frame included all counties in the United States except 37 counties and three areas in Alaska; the frame excluded these locations based on low traffic volume or geographic isolation. The sample frame of secondary sampling units excluded segments along unnamed roads, cul-de-sacs, private roads, and various other road types that traditionally had very low traffic volume. Observers collect data only during daylight (7 a.m. to 6 p.m.) when light is adequate to observe seat belt use through the vehicle windshield (Enriquez, 2020). In observational studies like these, there is observation bias in designating demographics such as race, age, and gender.[4] We used NOPUS CIS data from 2014 to 2019 in this analysis. We include the 2019 NOPUS CIS data to show the most recent data available.

National Survey of the Use of Booster Seats

In 2006 NHTSA conducted the first-ever nationwide probability-based survey of booster seat use in the United States: NSUBS. The survey population consisted of children 12 or younger riding in passenger vehicles that stop at the four types of data collection sites: gas stations, fast-food restaurants, daycare centers, and recreation centers. The survey excluded Alaska, Hawaii,

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[3] Tables and figures exclude Puerto Rico values from the national totals, as is done in most Federal agencies.
[4] Note that NOPUS and NSUBS collect gender and FARS collects sex. In NOPUS and NSUBS gender is based onthe observer's subjective assessment like with other demographics. In FARS sex is categorized from case material in the crash.

and U.S. Territories. Trained data collectors approached all passenger vehicles with child occupants who appeared under age 13 during daylight hours (7 a.m. to 6 p.m.), observed the restraint use of up to nine occupants in the first three rows of seats, and conducted interviews to obtain the race and ethnicity of all occupants as well as the heights, weights, and ages of child occupants who appeared younger than 13. Data collectors subjectively assessed the approximate ages of other occupants (expressed as an age range, such as 16 to 24 years old) and the genders of all occupants. Starting in 2019 collectors obtained the exact age of the driver (Enriquez, 2021).

NHTSA reported "NA" in NSUBS publications for data that met the following reporting guidelines:

- Estimates with numerators based on fewer than 5 observations in the sample,
- with denominators based on fewer than 30 observations in the sample, or
- that aren't statistically different from zero percent. (Enriquez, 2021)

CDC National Center for Health Statistics National Vital Statistics System

NCHS, a part of CDC, publishes detailed tabulations of the leading causes of death in its annual report on mortality. This report uses NCHS-defined motor vehicle traffic crashes[5] based on the cause of death reported in Internal Statistical Classification of Diseases Related to Health Problems, tenth revision (ICD-10) coding format on the death certificate. We use the 68 causes of death adopted by NHTSA's NCSA to rank the leading causes of death. This 68-cause listing closely agrees with the causes of death used by the NCHS to report statistics on leading causes of death in the United States. While NCHS uses the combined cause of unintentional injuries in its reports of leading causes of death, NHTSA separates out the various causes that comprise unintentional injuries, such as fatalities in traffic crashes, unintentional falls, unintentional poisoning, and unintentional drowning. Accordingly, the rankings of some causes of death will differ from those reported by NCHS (Webb, 2020).

All States have adopted laws requiring the registration of births and deaths. More than 99 percent of the births and deaths occurring in this country are registered. The death-registration system of the United States encompasses the 50 States, DC, New York City (which is independent of New York State for death registration), Puerto Rico, the Virgin Islands, Guam, American Samoa, and the Commonwealth of the Northern Mariana Islands. Tabulations for the United States and specified geographic areas are classified by place of residence unless stated as by place of occurrence. Beginning in 1970 mortality data for the United States excluded deaths of nonresidents of the United States (NCHS, 2004b).

We categorized NVSS mortality multiple race and ethnicity variables as outlined above with the added category of "multiple races," for any death with more than one race checked.

Census Bureau Population Estimates Program and TIGER/Line Shapefiles

The Census Bureau provides population data for the 50 States, DC, and Puerto Rico. The population includes all people who currently reside in the 50 States, DC, and Puerto Rico. Since they do not conduct the Census annually, PEP estimates the population data based on the most recent Census (for example the 2010 Census) each year. PEP revises the population data with each

[5] ICD-10 codes: V02-V04,V09.0,V09.2,V12-V14,V19.0-V19.2, V19.4-V19.6,V20-V79,V80.3-V80.5,V81.0-V81.1,V82.0-V82.1,V83-V86, V87.0- V87.8,V88.0-V88.8,V89.0,V89.2.

year's release of population estimates and updates all yearly population estimates from the most recent Census (that is April 1, 2010, to July 1 of the current year). There are three ways in which a population can change: people are born (births), people may die (deaths), and people may move (migration, domestic and international). The population estimate is based on an equation that adds births, subtracts deaths, and adds the net migration to the population base (Census Bureau, 2020).

Most race and ethnicity data reported to the Census Bureau comes from a person's self-identification on the race and Hispanic origin questions on the Census. Census derives race and ethnicity data from answers provided on the decennial Census. Starting in the 2000 Census, people could select multiple races as their response to the race question. The Census Bureau counts multi-racial people in the "Two or More Races" category, not shown in this report. On the 2010 Census the Census Bureau didn't report ethnicity for 3.9 percent of responses and didn't report race for 3.3 percent of responses (Rothhaas, Lestina, & Hill, 2012). The Census Bureau uses three methods to fill in a race or ethnicity when a person-level characteristic, like race or ethnicity, isn't reported: find the information in administrative records (such as tax returns and other government programs), ask a proxy representative (such as a neighbor), and imputation (Cantwell, 2021). Nationwide, 74 percent of households filled out and mailed back their 2010 Census forms (Census Bureau, 2010). We used population data for race and ethnicity from the Census Bureau between 2014 to 2018 for this analysis.

For the 2010 Census, an urban area comprised a densely settled core of census blocks that encompass at least 2,500 people, at least 1,500 of whom reside outside institutional group quarters, along with adjacent territory containing non-residential urban land uses as well as territory with low population density included to link outlying densely settled territory with the densely settled core. This territory consists of areas of high population density and urban land use, representing the urban footprint. Rural areas consist of territory, population, and housing units outside urban areas (Census Bureau, 2018). This report uses 2018 Census TIGER/Line Shapefiles prepared by the U.S. Census Bureau.

Bureau of Economic Analysis Regional Income Division

The Regional Income Division of the BEA collects per capita personal income for each county in the United States (excluding U.S. Territories) to estimate personal income and employment for local areas, including counties, metropolitan statistical areas, and other county clusters where the person lives regardless if the person works in another area. Local governments include the income for American Indian Tribal Councils. Personal income includes income received by or in the name of all people living in the area and doesn't include foreign nationals employed in the United States by their home government. Personal income includes the sum of wages, proprietors' income, interest, dividends, rents, and benefits given from the government for a person. BEA acquires the data primarily through administrative records that may originate from the income recipient or the income payer.

They calculate per capita personal income by dividing the residents' personal income in an area by the population of that area. They acquire annual population from the Census Bureau's midyear (July 1) population estimates. Use caution when using these income estimates as there may be several reasons for fluctuations in the personal income for a particular area in a given year. For example, a major construction project that attracts highly paid workers might increase the per capita personal income or a natural disaster such as a hurricane might decrease the per capita personal income in a given year. Data from the BEA do not separate per capita personal in come by race and ethnicity; therefore the data in the analysis include all people from 2015 to 2019 (BEA, 2020, 2021).

Federal Highway Administration National Household Travel Survey

FHWA's NHTS provides national data on daily personal and household travel for the 50 States and DC and includes non-commercial travel of all transportation modes for all circumstances. FHWA aims to administer NHTS every 5 to 7 years, but it conducted the most recent versions in 2017 and 2009. NHTS includes characteristics of the person's travel, household, and vehicles. These data provide information on demographic, economic, geographic, and cultural factors throughout the country and show how they change over time. The data are collected using a stratified random sample of households in the United States and includes people 5 or older; the survey didn't consider people under 5 eligible. NHTS excludes group housing where 10 or more unrelated people dwell and does not collect data for U.S. Territories.

The survey collects travel, household, vehicle, and personal data, including time of day, day of the week, trip's purpose, mode of transportation, vehicle occupancy, vehicle characteristics, demographic characteristics, and socioeconomic characteristics. NHTS estimates the travel route people take to gather the person miles traveled. They estimate the trip's distance based on the shortest route found on Google Maps, which may underestimate the actual distance taken by people. NHTS only collects data on privately owned vehicles.

As for race, the survey collects the same five minimum categories from the OMB guidelines in addition to an option for "Some other race." Additionally, NHTS allows respondents to select multiple races and groups people into the category "Multiple responses selected." NHTS collects "yes, Hispanic or Latino" and "no, not Hispanic or Latino" for ethnicity. In both questions, respondents can also answer "I do not know" or "I prefer not to answer."

We used data from the 2017 NHTS in this analysis as 2017 was the first data year that each respondent of the same household could answer their race and ethnicity. In prior years NHTS characterized all people of a household as the same race and ethnicity, which could have underestimated or overestimated counts for households. The 2017 NHTS survey collected data from March 31, 2016, and May 8, 2017, with designated travel dates from April 19, 2016, to April 25, 2017 (FHWA, 2019).

Since NHTS does not define bicycles, NHTS allows for the respondents' interpretation of bicycles, which may not align with the FARS pedalcycle definition. For instance, if an NHTS respondent considers an e-bike a bicycle, it would not be considered a pedalcycle in FARS. We categorized passenger vehicles in the NHTS data to include passenger cars, SUVs, vans, or pickup trucks (light/medium/heavy), slightly different than NCSA's standard passenger vehicle definition. NCSA does not include medium or heavy pickup trucks in passenger vehicles.

Results

This report investigates the disparity between various race-ethnicity groups as compared to white people, unless otherwise noted. We compare to the white population as it is the largest race-ethnicity group and to highlight the historical disparities in transportation decisions, resources, and outcomes. For instance, when we present values as "disproportionate," we mean in relation to white people.

Unless otherwise noted, in the tables and charts we list the race-ethnicity groups with Hispanic or Latino people first to emphasize that race-ethnicity categorization classifies all Hispanic or Latino people as such, regardless of race. Subsequently, we list the remaining race-ethnicity categories in alphabetical order.

Disparities in Travel

This section looks at disparities in traffic deaths by race-ethnicity group. We assess the extent of disparity using the most recent data available and, for disparities among race-ethnicity groups, whether these have changed since 2014. Traffic fatalities per population and traffic fatalities per mile measure different things. The traffic fatalities per population reflects the impact of traffic fatalities on a given race-ethnicity community. The traffic fatalities per mile reflects the risk of dying in a traffic crash for members of that race-ethnicity group.

Disparities Among Race-Ethnicity Groups for All Travel Modes

This section demonstrates that roadway travel is less risky for white travelers than for most other race-ethnicity groups by many measures. Not every measure will evidence a disparity for every race-ethnicity group. And in calculating the disparity measures, we do not perform any statistical modeling that might control for any contributing factors that could affect travel outcomes. But, the collective statistics in this section provide a first-glance demonstration of race-ethnicity disparities in travel outcomes.

Table 1 displays traffic fatalities in the United States on a per population basis in 2018. White people had the highest population and traffic fatalities in 2018. NHPI people had the lowest population and traffic fatalities. AIAN, Black or African American, and NHPI people had higher fatalities per 100K population than white people. The traffic fatality rates have a surprisingly large range, from 3.00 per 100K population for Asian people to 24.75 per 100K population for AIAN people.

We also looked at traffic fatalities in Puerto Rico on a per population basis in 2018. Of the 308 traffic fatalities in Puerto Rico in 2018, there were 307 who were Hispanic or Latino. In Puerto Rico the Hispanic or Latino traffic fatality rate was 9.73 per 100K population.

Table 1. National Traffic Fatalities, Population, and Traffic Fatality Rates, by Race-Ethnicity, 2018

Race-Ethnicity	Traffic Fatalities	Population	Traffic Fatality Rate per 100K Population
Hispanic or Latino	5,632 (15%)	59,639,869 (18%)	9.44
AIAN	599 (2%)	2,420,241 (1%)	24.75
Asian	557 (2%)	18,545,428 (6%)	3.00
Black or African American	5,503 (15%)	40,860,704 (13%)	13.47
NHPI	78 (0.2%)	586,163 (0.2%)	13.31
White	21,572 (59%)	197,535,202 (60%)	10.92
Total*	**36,835 (100%)**	**326,687,501 (100%)**	**11.28**

Sources: FARS 2018 Final File; Population – Census Bureau
**Includes other and unknown race-ethnicity groups.*
Note: See Limitations for additional caveats related to the data presented.

Table 1 does not account for the fact that some race-ethnicity groups may travel more than others. To address this, we use NHTS data representing miles traveled by the different race-ethnicity groups and compute fatalities on a per-mile basis. We adjusted the FARS data in Table 2 as indicated in its footnotes to account for differences in definitions and scope in FARS versus NHTS. Also, we used FARS 2017 data in this table to match the most recently available NHTS data. Puerto Rico is not in the scope of NHTS and not included in Table 2.

Table 2. Traffic Fatalities, Person Miles Traveled, and Traffic Fatality Rates per Person Miles Traveled, by Race-Ethnicity, 2017

Race-Ethnicity	Traffic Fatalities		Total Person Miles Traveled** (millions)	Person Miles Traveled (%)	Traffic Fatality Rate per 100M Person Miles Traveled
	Count*	(%)			
Hispanic or Latino	5,303	14.6	510,701	16.0	1.04
AIAN	699	1.9	22,264	0.7	3.14
Asian	513	1.4	132,525	4.2	0.39
Black or African American	5,276	14.6	310,157	9.7	1.70
NHPI	47	0.1	6,790	0.2	0.69
White	21,930	60.3	2,107,742	66.1	1.04
Total†	**36,315**	**100.0**	**3,190,742**	**100.0**	**1.14**

Sources: FARS 2017 Final File; 2017 NHTS
**Excludes occupants of medium and large (or over 10,000 lbs gross vehicle weight rating) trucks not identified as large or medium pickup trucks and people under 5 years old. Unknown age, vehicle type, and nonoccupant type are included in total.*
***Based on land travel (such as travel by passenger vehicle, bus, motorcycles, other vehicle types, bicycle, personal conveyance, and walking).*
†Includes other and unknown race-ethnicity groups.
Note: See Limitations for additional caveats related to the data presented.

Interestingly, accounting for miles traveled didn't change the picture much. In Table 2 white people had the highest traffic fatalities and traveled the most miles in 2017. NHPI people had the lowest traffic fatalities and miles traveled. AIAN and Black or African American people had higher fatalities per 100M miles traveled than white people. The per-mile traffic fatality rates in Table 2 point to a wide range in travel risk, with AIAN people having by far the greatest risk and Asian people having the least risk. For every 100M miles traveled collectively by AIAN people in 2017, slightly more than three AIAN people died. In comparison, the rate for Asian people was lower, at 0.39 deaths per 100M miles of travel.

In addition to confirming that walking and biking are much more dangerous modes of travel than traveling by passenger vehicle and quantifying how much more, Table 3 shows that the racial-ethnic disparity in travel outcomes persists even when you control for the manner of travel. AIAN people had the highest fatality rate for each mode of travel in Table 3, and Asian people had the lowest for each mode of travel. The other race-ethnicity groups with higher fatality rates than white travelers were Black or African American travelers for all three modes, Hispanic or Latino people for walking and biking, and NHPI for walking.

Table 3. Traffic Fatalities per 100M Person Miles, by Race-Ethnicity and Travel Mode, 2017

Race-Ethnicity	**Traffic Fatality Rate per 100M Person Miles in a Passenger Vehicle***	**Traffic Fatality Rate per 100M Miles Walked****	**Traffic Fatality Rate per 100M Miles Bicycle****
Hispanic or Latino	0.69	16.06	12.90
AIAN	2.05	83.97	112.78
Asian	0.23	6.57	5.94
Black or African American	1.22	31.51	30.72
NHPI	0.46	18.64	†
White	0.72	15.17	7.02
Total††	**0.78**	**17.80**	**9.45**

Sources: FARS 2017 Final File; 2017 NHTS
**See Limitations for difference in passenger vehicle and bicycle definitions.*
***Includes all miles walked or bicycled, not just those near a road.*
†Insufficient data to make an estimate.
††Includes other and unknown race-ethnicity groups.

Likewise, because of the disproportionate representation of certain race-ethnicity groups among pedestrian deaths, we revisit the per population death rates for pedestrians. Table 4 presents these values. While the values in these tables don't consider differences in how much race-ethnicity groups walk, the per-population-based disparities are notable. For instance, nearly six AIAN pedestrians died in 2018 for every 100K population, and nearly one Asian pedestrian per 100K population. Aside from Asian people, all other race-ethnicity groups had lower pedestrian fatality rates than white people. White people had the largest total number of pedestrian fatalities and NHPI had the fewest. For Puerto Rico, Hispanic or Latino pedestrians had a fatality rate of 3.65 per 100K population.

Table 4. National Pedestrian Fatalities, Population, and Fatality Rates, by Race-Ethnicity, 2018

Race-Ethnicity	Pedestrian Fatalities	Population	Pedestrian Fatalities per 100K Population
Hispanic or Latino	1,233	59,639,869	2.07
AIAN	141	2,420,241	5.82
Asian	161	18,545,428	0.87
Black or African American	1,202	40,860,704	2.94
NHPI	12	586,163	2.05
White	2,956	197,535,202	1.50
Total*	**6,374**	**326,687,501**	**1.95**

Sources: FARS 2018 Final File; Population – Census Bureau
**Includes other and unknown race-ethnicity groups.*
Notes: See Limitations for additional caveats related to the data presented.

Finally, we add a slightly different statistic, namely, where motor vehicle traffic crashes rank as a leading cause of death. Table 5 shows that motor vehicle traffic crashes ranked in the top 10 causes of death (at number 7, 8, 9, and 10, respectively) for NHPI, AIAN, Hispanic or Latino people and people of multiple races in 2018. In contrast, motor vehicle traffic crashes ranked outside the top 10 in the other race-ethnicity groups and were highest for white people (at number 19). Black or African American and Asian people also saw motor vehicle traffic crashes rank outside of the top 10 leading causes of death (14th and 15th, respectively).

*Table 5. Traffic Crashes as a Leading Cause of Death, by Race-Ethnicity, 2018**

	Motor Vehicle Traffic Crashes (based on ICD-10)		All Causes
Race-Ethnicity	Rank	Deaths	Deaths
Hispanic or Latino	9	6,092 (2.9%)	206,585
AIAN	8	657 (3.7%)	17,893
Asian	15	860 (1.2%)	69,795
Black or African American	14	6,006 (1.8%)	342,285
NHPI	7	77 (2.3%)	3,350
White	19	24,208 (1.1%)	2,185,503
Multiple Races	10	349 (2.7%)	12,769
Overall	**15**	**38,410 (1.3%)**	**2,846,305**

Source: CDC NCHS NVSS 2018 Mortality Data
**Includes Puerto Rico, the Virgin Islands, Guam, American Samoa, and the Commonwealth of the Northern Mariana Islands.*

To assess disparity, we express our travel outcome metrics relative to those for white people.[6] For instance, Table 6 shows that AIAN people were 2.11 times as likely to die than white people per population. However, AIAN people were 2.80 times as likely to die per mile overall and 5.09 times as likely per mile traveled walking. Black or African American people and AIAN

[6] Except for the leading cause of death rankings, which don't make as much sense to express relatively.

people fared worse than white people in every measure. In contrast, Asian travelers fared better than white travelers in every measure.

Table 6. Summary of Travel Outcomes Relative to White Travelers, 2017 and 2018

Travel Outcomes	Hispanic or Latino	AIAN	Asian	Black or African American	NHPI
Fatalities per Person Mile Traveled (any mode), 2017	1.00	2.80	0.37	1.63	0.67
Fatalities per Mile Walked,* 2017	1.06	5.09	0.43	2.08	1.23
Fatalities per Person Mile in a Passenger Vehicle, 2017	0.96	2.64	0.32	1.71	0.64
Fatalities per Population, 2018	0.86	2.11	0.27	1.23	1.22
Pedestrian Fatalities per Population, 2018	1.38	3.42	0.58	1.97	1.37

Sources: FARS 2017-2018 Final Files; 2017 NHTS
**Includes all miles walked, not just those near a road.*

Changes in Travel Outcome Disparities Over Time

While we find per-mile rates more informative than per-population ones, we don't examine whether the per-mile rates have changed. Before 2017 the NHTS collected race-ethnicity only at a household level, not on an individual level. Following the recommendation of the CDC, we don't look to the leading cause of death statistics to assess whether race-ethnicity disparities have changed because of inconsistencies between certificates of death from 2018 and prior years.[7] Instead, we look to traffic fatality rates per population to assess whether the race-ethnicity disparities identified earlier changed.

In assessing traffic fatalities we limit to States that reported the race-ethnicity of at least 95 percent of *both* its traffic and pedestrian fatalities to NHTSA in *both* 2014 and 2018. We selected States in this manner to ensure the changes we see in disparity are due to actual changes, and not reflective of reporting anomalies in some States. For instance, Michigan reported race-ethnicity in:

- 79 percent of its traffic fatalities[8] in 2014,
- 66 percent of its pedestrian fatalities[9] in 2014,
- 99 percent of its traffic fatalities in 2018, and
- 98 percent of its pedestrian fatalities in 2018.

Not all these percentages exceed 95 percent, so Michigan does not meet the standard for this analysis.

[7] Before 2018 some States used an earlier U.S. Standard Certificate of Death that did not comply with OMB's 1997 standards for race and ethnicity reporting. See Data and Methodology for more information.
[8] Reminder: Fatalities in motor vehicle traffic crashes are referred to as "traffic fatalities" in this report.
[9] Pedestrian fatalities are a subset of traffic fatalities.

We present the 36 States that fit this standard in Table 7. In the following, we refer to these 36 States as the "36 Threshold States." In 2018 these States accounted for 70 percent of the U.S. population, 75 percent of the traffic fatalities, and 76 percent of the pedestrian fatalities, excluding Puerto Rico. Although Puerto Rico meets the above reporting thresholds, we cannot analyze disparity in Puerto Rico because no white people died in traffic crashes in 2014 or 2018.

Table 7. Traffic and Pedestrian Fatalities in the 36 Threshold States, 2014 and 2018

State	2014		2018	
	Traffic Fatalities	Pedestrian Fatalities	Traffic Fatalities	Pedestrian Fatalities
Alabama	820	96	953	107
Alaska	73	14	80	14
Arizona	773	142	1,011	236
Arkansas	470	37	520	62
California	3,102	709	3,798	978
Colorado	488	63	632	89
Delaware	124	26	111	23
District of Columbia	23	9	31	11
Florida	2,494	588	3,135	706
Hawaii	95	24	117	42
Idaho	186	13	234	17
Illinois	924	123	1,035	166
Kentucky	672	57	724	73
Louisiana	740	105	771	164
Minnesota	361	15	381	42
Mississippi	607	53	663	89
Missouri	766	65	921	95
Montana	192	10	181	15
Nebraska	225	9	230	24
Nevada	291	71	329	79
New Hampshire	95	12	147	9
New Jersey	556	168	563	173
North Carolina	1,284	172	1,436	224
North Dakota	135	9	105	6
Ohio	1,006	87	1,068	127
Oklahoma	669	50	655	60
Oregon	357	57	502	77
South Carolina	823	107	1,036	165
South Dakota	136	9	130	10
Tennessee	963	86	1,040	136
Texas	3,536	479	3,648	616
Vermont	44	5	68	6
Washington	462	75	539	99

State	2014		2018	
	Traffic Fatalities	Pedestrian Fatalities	Traffic Fatalities	Pedestrian Fatalities
West Virginia	272	19	294	22
Wisconsin	506	45	589	56
Wyoming	150	5	111	6

Source: FARS 2014 and 2018 Final File

Table 8 shows that the race-ethnicity of the 36 Threshold States closely matches that of the U.S. population in 2018.

Table 8. The Race-Ethnicity Population Distribution of the United States and the 36 Threshold States, 2014 and 2018

Race-Ethnicity	2014		2018	
	U.S. Population (%)	36 Threshold States Population (%)	U.S. Population (%)	36 Threshold States Population (%)
Hispanic or Latino	17.3	20.0	18.3	20.9
AIAN	0.7	0.8	0.7	0.8
Asian	5.2	5.5	5.7	5.9
Black or African American	12.4	11.6	12.5	11.6
NHPI	0.2	0.2	0.2	0.2
White	62.1	59.8	60.5	58.2
Multiple Races	2.0	2.1	2.2	2.3

Source: Population – Census Bureau
Note: Percentages may not add to 100 percent due to independent rounding.

We assess changes in travel outcome disparities over time by determining whether traffic fatality rates per population relative to white people changed for a given race-ethnicity group. For instance, in Table 9 the 2014 traffic fatality rate per population for Hispanic or Latino people relative to white people was 0.80. In 2018 the traffic fatality rate per population for Hispanic or Latino people relative to white people increased to 0.85. These relative rates mean that the number of Hispanic or Latino traffic fatalities per population went from 20 percent less than the white traffic fatalities per population to 15 percent less from 2014 to 2018.

Likewise, the 2014 pedestrian fatality rate per population for Hispanic or Latino people relative to white people was 1.30. In 2018 the pedestrian fatality rate per population for Hispanic or Latino people relative to white people increased to 1.35. These relative rates mean that the number of Hispanic or Latino pedestrian fatalities per population went from 30 percent more than the white pedestrian fatalities per population to 35 percent more from 2014 to 2018.

In 2014 and 2018, AIAN people had the highest traffic fatalities relative to white people and the highest pedestrian fatalities relative to white people. Similarly, in 2014 and 2018, Asian people had the lowest relative traffic fatalities and the lowest relative pedestrian fatalities.

Table 9. Traffic and Pedestrian Fatality Rates Relative to White Travelers in 2014 and 2018

Race-Ethnicity	Relative Traffic Fatalities per 100K Population		Relative Pedestrian Fatalities per 100K Population	
	2014	**2018**	**2014**	**2018**
Hispanic or Latino	0.80	0.85	1.30	1.35
AIAN	2.52	2.07	4.04	3.53
Asian	0.29	0.29	0.74	0.62
Black or African American	1.05	1.27	1.81	2.00
NHPI	0.77	1.19	1.74	1.41
White	1	1	1	1

Sources: FARS 2014 and 2018 Final File; Population – Census Bureau

Table 9 shows the AIAN total fatality and pedestrian fatality rates both improved relative to white travelers. In 2018 the AIAN traffic fatalities per population gap shrank by 45 percentage points relative to the white traffic fatality rate compared to 2014. The gap between AIAN and white travelers for pedestrian fatality rates decreased by 51 percentage points.

In contrast, the gap between the Black or African American and white travelers grew between 2014 and 2018 for both traffic fatality and pedestrian fatality rates; the gap increased by 22 percentage points for traffic fatality rates and 19 percentage points for pedestrian fatality rates. Hispanic or Latino pedestrian fatalities and Asian pedestrian fatalities were the only other groups whose distance from the white travelers' rate increased.

We made conclusions based on the 36 Threshold States examined and compared the years 2014 and 2018. Using other States or years may yield different conclusions. The Appendix presents a sensitivity analysis in which we:

- relax the 95 percent threshold to 90 percent, and
- consider alternative race-ethnicity assignments for fatalities of unknown Hispanic Origin in Texas, which had a particularly high rate of unknowns.

Travel and Traffic Fatality Characteristics Among Race-Ethnicity Groups

Several factors may contribute to the race-ethnicity disparities in traffic safety, including how and how much each race-ethnicity group travels. Other factors such as how, when, and where traffic fatalities occur among each race-ethnicity group may also contribute to disparities in traffic safety. This section discusses travel and traffic fatality characteristics and behaviors among each race-ethnicity group using NHTS, FARS, and NOPUS data. Given the disparity in pedestrian fatalities presented in Disparities in Travel, we also examine the characteristics and behaviors of pedestrian traffic fatalities. This section also discusses the demographics of traffic fatalities among different race-ethnicity groups.

We break down some travel characteristics into two sections: risky behaviors and community exposure. Risky behaviors are actions that may increase the likelihood of a traffic crash, the risk of fatal injury, or both. Community exposure includes those people participating in risky behaviors and those impacted by the people engaging in risky behaviors.

Travel Modes

In 2017 AIAN people traveled the most annual estimated miles per person compared to white people, as seen in Table 10. Asian people traveled the least annual estimated miles per person with an estimated 8,452 miles per person. AIAN people traveled the most per person, accordingly AIAN people also traveled the most in passenger vehicles.[10] Black or African American people traveled the least per person in passenger vehicles. Almost 97 percent of miles traveled by AIAN people were in passenger vehicles. Black or African American people traveled by passenger vehicles for a little less than 90 percent of their miles. When looking at travel by foot, Asian, Hispanic or Latino, and AIAN people walked more annually per person compared to white people. Asian people walked an estimated 153.3 miles per person, compared to white people who walked an estimated 103.8 miles per person. NHPI people walked an estimated 58.8 miles per person, which was the least number of estimated miles walked for any race-ethnicity group. As for travel by bicycle, NHPI people bicycled an estimated 35.5 miles per person, which is the most for all the race-ethnicity groups and about 1.4 miles more than white people. AIAN people bicycled the least estimated miles per person annually with an estimated 4.1 miles per person. For motorcyclists, Hispanic or Latino people traveled the most per person on motorcycles. They traveled on motorcycles an estimated 44 miles per person compared to white people with an estimated 37 motorcycle miles per person. Asian people only traveled about 6.9 miles per person on motorcycles, which is the least of all race-ethnicity groups.

Table 10. Estimated Annual Miles per Person Traveled, by Travel Mode and Race-Ethnicity, 2017

	Annual Miles per Person				
Race-Ethnicity	**Traveled in Passenger Vehicle**	**Walked***	**Bicycle***	**Traveled on Motorcycle**	**Traveled****
Hispanic or Latino	9,268.3	137.2	20.6	43.6	9,840.5
AIAN	14,371.1	118.4	4.1	16.4	14,755.7
Asian	7,775.4	153.3	27.9	6.9	8,452.2
Black or African American	7,678.7	102.4	9.5	9.6	8,572.1
NHPI	10,216.1	58.8	35.5	NA	10,619.9
White	10,887.9	103.8	34.1	37.0	11,399.5
Multiple Responses Selected	8,882.7	95.6	25.7	9.1	9,370.7
Overall†	**10,004.2**	**111.6**	**28.2**	**32.1**	**10,579.4**

Source: 2017 NHTS
**Includes all miles walked or bicycled, not just those near a road.*
***Based on land travel (such as travel by passenger vehicle, bus, motorcycles, other vehicle types, bicycle, personal conveyance, and walking).*
†Includes other and unknown race-ethnicity groups.
NA – Not available

As previously mentioned in Disparities in Travel, AIAN people had the highest fatality rates per 100K population. AIAN people's risk of a traffic fatality may be higher because they tended to travel more per person than any other race-ethnicity group. However, other factors may also contribute to the high traffic fatality rate. The previous section also determined Black or African

[10] See Limitations for the difference in passenger vehicle definitions.

American people have the second-highest traffic fatality rates. However, Black or African American people didn't travel nearly as much per person compared to other race-ethnicity groups, apart from Asian people; this could indicate Black or African American people's risk of dying in a traffic crash is from factors other than exposure. Additionally, Asian people's high amounts of walked miles may increase their exposure to the risk of a traffic fatality.

Table 11. Distribution of Estimated Person Miles Traveled, by Race-Ethnicity, 2017

Race-Ethnicity	Estimated Population (%)	Person Miles				
		Passenger Vehicle (%)	**Walked (%)**	**Bicycle (%)**	**Motorcycle (%)**	**Total* (%)**
Hispanic or Latino	17.2	15.9	21.2	12.6	23.4	16.0
AIAN	0.5	0.7	0.5	0.1	0.3	0.7
Asian	5.2	4.0	7.1	5.2	1.1	4.2
Black or African American	12.0	9.2	11.0	4.1	3.6	9.7
NHPI	0.2	0.2	0.1	0.3	NA	0.2
White	61.3	66.7	57.0	74.2	70.7	66.1
Multiple Responses Selected	2.8	2.5	2.4	2.5	0.8	2.5
Overall**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

Source: 2017 NHTS
** Based on land travel (such as travel by passenger vehicle, bus, motorcycles, other vehicle types, bicycle, personal conveyance, and walking).*
***Includes other and unknown race-ethnicity groups.*
NA – Not available

Table 11 details the distribution of the estimated person miles traveled by race-ethnicity from the 2017 NHTS. The table above shows the estimated population percentage based on NHTS instead of Census Bureau population. Census has a different target population than the NHTS data. Specifically, NHTS only includes a subset of the U.S. population, specifically civilian, non-institutionalized 5 years or older. If race-ethnicity did not play a role in how each group travels, the estimated population percentage and percentage of estimated person miles traveled for a specific travel mode would be relatively similar. However, Table 11 presents the disparity between certain race-ethnicity groups when it comes to traveling. The percentage of estimated miles walked was disproportionate to the population for Hispanic or Latino people (21.2 % versus 17.2%) and Asian people (7.1% versus 5.2%). The percentage of the estimated miles in a passenger vehicle was disproportionate compared to the AIAN population (0.7% versus 0.5%). In Table 11, the percentage of estimated miles in a passenger vehicle (66.7% versus 61.3%), on a bicycle (74.2% versus 61.3%), and on a motorcycle (70.7% versus 61.3%) were disproportionate compared to the white population. Additionally, the percentage of estimated miles on a motorcycle was disproportionate compared to the Hispanic or Latino population (23.4% versus 17.2%). The percentage of estimated miles on a bicycle was disproportionate compared to the NHPI population (0.3% versus 0.2%). Overall, the percentage of estimated land miles was disproportionate to the population for white (66.1% versus 61.3%) and AIAN (0.7% versus 0.5%) people.

All travel modes except for walking disproportionately involved white people. However, the risk of a traffic fatality was lower for white travelers compared to AIAN and Black or African American travelers.

Table 12. National Traffic Fatalities, by Race-Ethnicity, Person Type, and Vehicle Type, 2018

Race-Ethnicity	Occupants by Vehicle Type: Passenger Cars (%)	Occupants by Vehicle Type: Light Trucks (%)	Occupants by Vehicle Type: Large Trucks (%)	Occupants by Vehicle Type: Buses (%)	Motor-cyclists (%)	Nonoccupants: Pedestrians (%)	Nonoccupants: Pedal-cyclists (%)
Hispanic or Latino	35.0	25.6	2.5	0.1	10.4	21.9	3.0
AIAN	31.7	28.8	2.0	0.3	6.2	23.5	1.8
Asian	35.4	20.8	2.7	0.0	8.4	28.9	3.1
Black or African American	42.5	19.0	2.6	0.2	10.0	21.8	2.3
NHPI	30.8	32.1	1.3	0.0	20.5	15.4	0.0
White	33.5	29.9	2.4	0.1	16.1	13.7	2.1

Source: FARS 2018 Final File
Note: Percentages may not add up to 100 due to unknown occupants and nonoccupants not displayed.

Table 12 shows the distribution of traffic fatalities for each race-ethnicity by travel mode for 2018. The percentages of Hispanic or Latino, Asian, and Black or African American passenger car occupant fatalities were disproportionate to white passenger car occupant fatalities. About 43 percent of Black or African American traffic fatalities occurred in passenger cars, which is the highest among all race-ethnicity groups. Almost 32 percent of AIAN traffic fatalities occurred in passenger cars, the lowest among all race-ethnicity groups. For light-truck occupant fatalities, the percentage of NHPI people disproportionately died compared to white people. Light-truck occupant fatalities accounted for 32.1 percent of NHPI fatalities; this is highest percentage for all race-ethnicity groups. For Black or African American traffic fatalities, 19 percent died in light trucks; this is the lowest percentage for any race-ethnicity group. When compared to the percentage of white large-truck occupant deaths, the percentages of Hispanic or Latino, Asian, and Black or African American large-truck occupant deaths were disproportionate. Asian people had the highest percentage of large-truck occupant deaths and NHPI people had the lowest percentage of large-truck occupant deaths. The percentage of AIAN bus occupant fatalities were slightly higher than the percentage of white bus occupant deaths with 0.3 percent for AIAN people and 0.1 for white people. For Asian and NHPI, there were no bus occupant deaths. As compared to the percentage of white motorcyclist fatalities, the percentage of motorcyclist fatalities were disproportionately NHPI. Over 20 percent of NHPI traffic fatalities occurred on motorcycles, which is the highest percentage among all race-ethnicity groups. Over 6 percent of AIAN traffic fatalities occurred on motorcycles, which is the lowest percentage among all race-ethnicity groups. The percentages of pedestrian deaths were higher for all other race-ethnicity groups as compared to white travelers. Asian people had the highest percentage of pedestrian fatalities with 29 percent. white people had the lowest percentage of pedestrian fatalities. Table 10 and Table 11 show Asian people walk more per person, and their miles walked were disproportionately higher than the NHTS estimated population in 2017. Assuming the travel patterns have not changed from 2017 to 2018, the high percentage of pedestrian fatalities for this race-ethnicity groups could be related to the number of miles walked. The percentages of Hispanic or Latino, Asian, and Black or African American pedalcyclists was disproportionately higher compared to white pedalcyclists. Asian pedalcyclists had the highest percentage with 3.1 percent. NHPI had the lowest with no pedalcyclist fatalities.

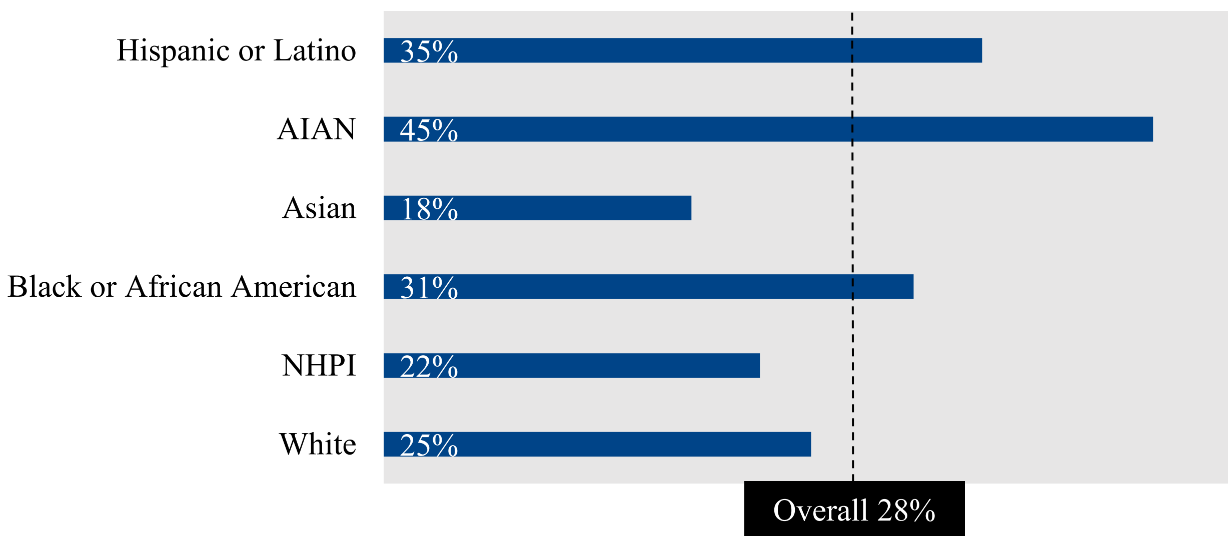
We assessed the distribution of traffic fatalities in Puerto Rico as well. For Puerto Rico Hispanic or Latino traffic fatalities, 29 percent were occupants of passenger cars; 14 percent were occupants of light trucks; 1 percent were occupants of large trucks, 14 percent were motorcyclists, 38 percent were pedestrians, and 3 percent were pedalcyclists. The one AIAN fatality in Puerto Rico was a pedestrian.

Risky Behaviors

Risky behaviors are actions that may increase the likelihood of a traffic crash, the risk of fatal injury, or both. This section details alcohol impairment, driver behaviors, and occupant restraint system use by race-ethnicity group.

Alcohol

NHTSA considers a driver with a BAC[11] of .08 g/dL or greater as alcohol-impaired. Figure 1 looks at alcohol-impaired-driver fatalities. Note these statistics don't imply that an alcohol-impaired driver caused a crash or fatality.



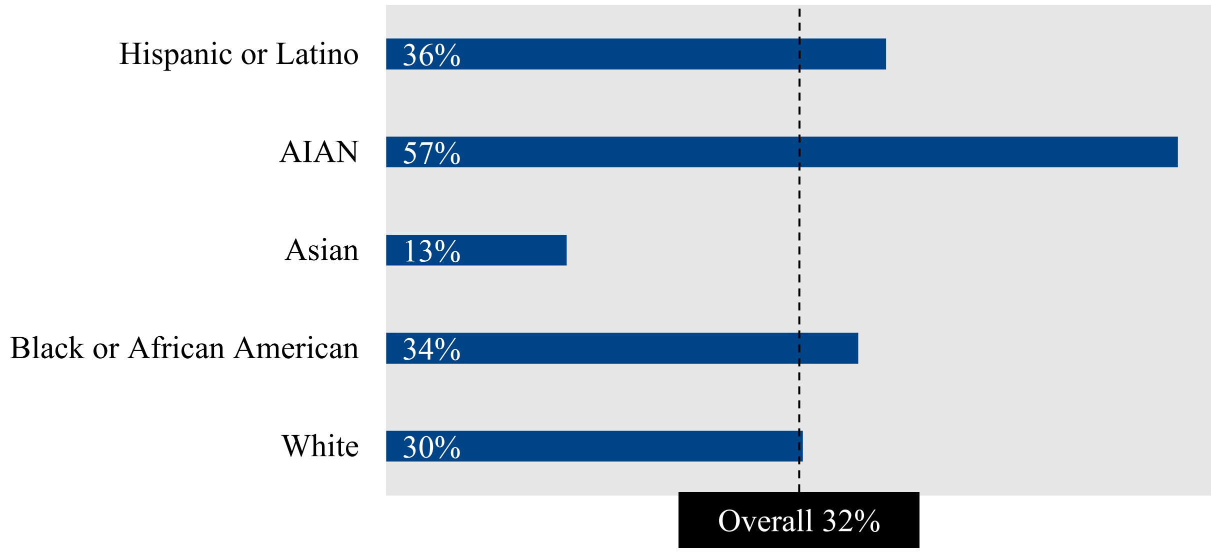
Source: FARS 2018 Final File
Note: NHTSA imputes alcohol test results when unknown. These statistics don't imply causation of crash or fatalities.

Figure 1. Alcohol-Impaired-Driver Fatalities, by Race-Ethnicity, 2018

As shown in Figure 1, the percentage of alcohol-impaired-driver fatalities were disproportionately higher for Hispanic or Latino, Black or African American, and AIAN compared to white driver fatalities. Forty-five percent of AIAN driver fatalities were alcohol-impaired; this was the

[11] NHTSA imputes alcohol test results when unknown. NHTSA uses multiple imputation to assign BAC values to drivers and nonoccupants involved in fatal crashes. More information on the multiple imputation method, including detailed tabulations of alcohol involvement in various categories (age, sex, time of day, etc.), is available in NHTSA Technical Report No. DOT HS 809 403, *Transitioning to Multiple Imputation: A New Method to Estimate Missing Blood Alcohol Concentration (BAC) Values in FARS*.

highest among all race-ethnicity groups. The percentage of Asian alcohol-impaired-driver fatalities was 18 percent; this was the lowest among all race-ethnicity groups. The percentage of alcohol-impaired-Hispanic or -Latino-driver fatalities in Puerto Rico was 47 percent. Alcohol-impaired driving can increase the risk of being involved in a fatal traffic crash; this could contribute to higher fatality rates among AIAN and Black or African American people as compared to white people.



Source: FARS 2018 Final File
Notes: NHTSA imputes alcohol test results when unknown. NHPI is not shown due to insufficient data. These statistics don't imply causation of crash or fatalities.

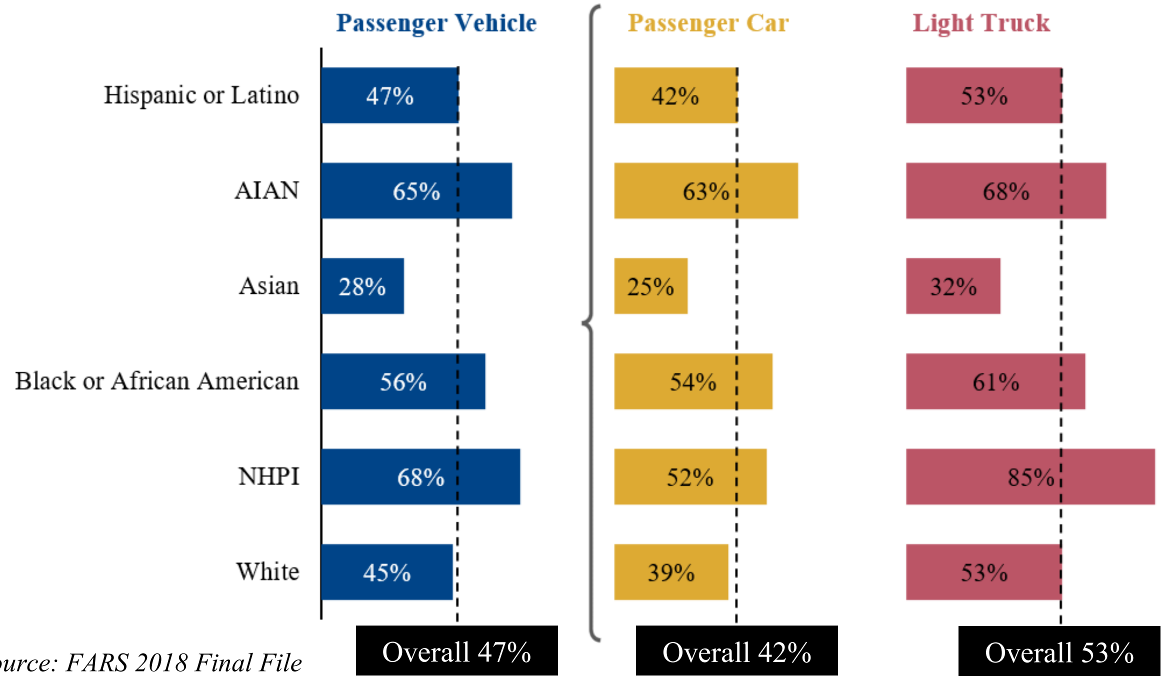
Figure 2. Pedestrian Fatalities With BACs of .08+ g/dL, by Race-Ethnicity, 2018

Figure 2 shows a higher percentage of AIAN, Hispanic or Latino, and Black or African American pedestrians had BACs of .08+ g/dL than white pedestrians. Fifty-seven percent of AIAN pedestrian fatalities had BACs of .08 g/dL or greater; this is considerably higher than any other race-ethnicity group. Thirteen percent of Asian pedestrian fatalities had BACs of .08+ g/dL; this is the lowest by far than any other race-ethnicity group. Over one-third of Hispanic or Latino pedestrian fatalities in Puerto Rico had BACs of .08 g/dL or greater. We remind the reader that Figure 3's pedestrian statistics don't imply the pedestrian caused the crash or fatality. Figure 2 shows alcohol may contribute to the higher pedestrian fatality rates for AIAN, Black or African American, and Hispanic or Latino pedestrians as compared to white pedestrians.

Restraint System Use

According to NHTSA, seat belt use is one of the most effective techniques that protect vehicle passengers during a traffic crash. In 2018 there were 9,845 unrestrained passenger vehicle occupant fatalities.[12] Unrestrained means the occupant was not using a seat belt or child restraint system.

[12] Includes passenger vehicle occupants of all ages.



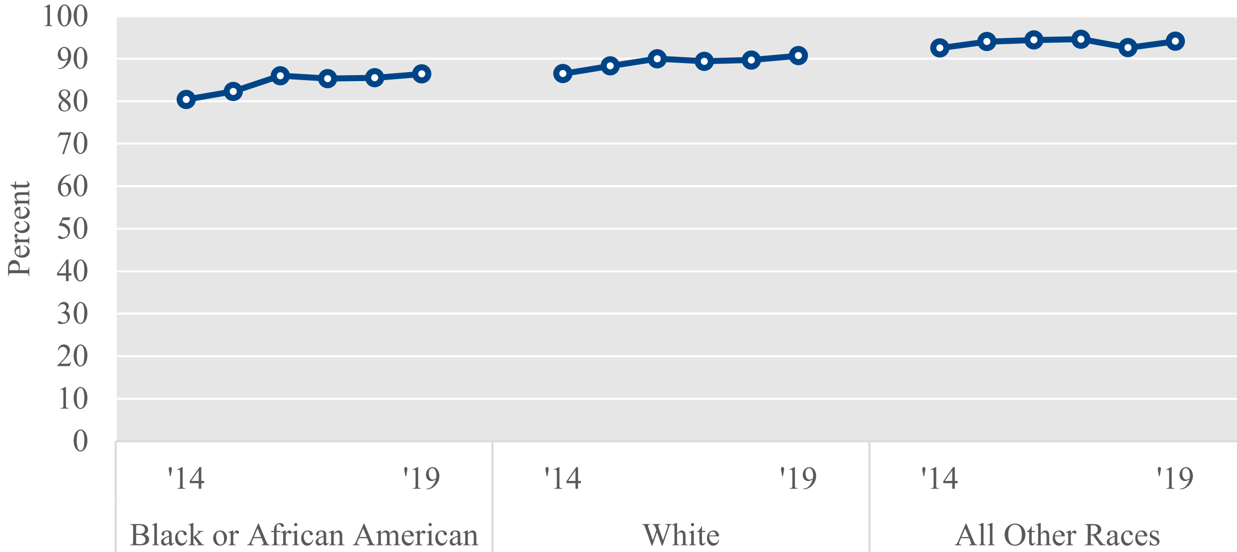
Source: FARS 2018 Final File
Note: Based on known restraint use.

Figure 3. Unrestrained Passenger Vehicle Occupant Fatalities, by Race-Ethnicity and Vehicle Type, 2018

Figure 3 shows the percentage of unrestrained passenger car occupant fatalities were disproportionately higher for AIAN, Black or African American, Hispanic or Latino, and NHPI fatalities compared to white passenger car occupant fatalities. The highest percentage of unrestrained passenger car fatalities were AIAN occupants at 63 percent. Of the Asian passenger car occupant fatalities, 25 percent were unrestrained; this was the lowest than the percentage of unrestrained passenger car occupant fatalities among any race-ethnicity group. Fifty-six percent of the Hispanic or Latino passenger car occupant fatalities in Puerto Rico were unrestrained.

The NHPI unrestrained occupant fatality percentage in light trucks was 85 percent, substantially higher than the percentage of white unrestrained light truck occupant fatalities; this is the highest percentage among all race-ethnicity groups. AIAN and Black or African American people also disproportionately used restraint systems less frequently in light trucks in fatal crashes compared to white people. Thirty-two percent of Asian light truck occupant fatalities were unrestrained; this is the lowest for all race-ethnicity groups. In Puerto Rico 61 percent of Hispanic or Latino light truck occupant fatalities were unrestrained.

Hispanic or Latino, NHPI, AIAN, and Black or African American fatalities were disproportionately unrestrained in passenger vehicles, compared to white fatalities. NHPI had the highest percentage of unrestrained passenger vehicle occupant fatalities. However, Asian passenger vehicle occupant fatalities tended to be restrained the most in traffic crashes; this may indicate that Asian passenger vehicle occupants used restraint systems more, which may contribute to lower traffic fatality rates among Asian travelers compared to white travelers. Among Hispanic or Latino passenger vehicle occupant fatalities in Puerto Rico, 57 percent were unrestrained.



Source: NOPUS 2014-2019

Figure 4. Estimated Observed Seat Belt Use Rate, by Race, 2014-2019

In 2019 the estimated observed seat belt use rate by adult front-seat occupants in the United States was 90.7 percent (Enriquez, 2020). From Figure 4, the estimated seat belt use rate for travelers of All Other Races consistently had the highest; specifically 94 percent in 2019. Black or African American travelers' estimated front seat belt use rate was about 86 percent in 2019, which was the lowest percentage of seat belt use. Black or African American travelers consistently had a lower front seat belt use rate than white travelers. These percentages may indicate that Black or African American travelers tended to buckle up less. Remember, the data collector observes NOPUS race information, and these observations are subjective, which creates observation bias. Additionally, NOPUS only observes race in vehicles stopped at stop signs and stoplights.

Child Restraint System Use

Children 14 and younger accounted for 1,049 fatalities, 3 percent of the 36,835 total fatalities in 2018. Of those children, white children (429) represented 41 percent of the fatalities as compared to 24 percent (248) of Black or African American children, 22 percent (231) of Hispanic or Latino children, 3 percent (30) of AIAN children, 2 percent (19) of Asian children, and 1 percent (6) of NHPI children. Of the 308 fatalities in Puerto Rico, children 14 and under accounted for a little over 2 percent (7) of the traffic fatalities.

Source: FARS 2018 File Final
Notes: Based on known restraint system use.
Consider the small fatality counts for AIAN, Asian and NHPI children, when interpreting; 19 Asian, 6 NHPI, and 30 AIAN children died in 2018.
NA- Not Available: FARS reported no fatalities in the given age and race-ethnicity group in 2018.

Figure 5. Unrestrained Child Passenger Vehicle Occupant Fatalities in Traffic Crashes, by Age and Race-Ethnicity, 2018

Consider the small fatality counts for AIAN, Asian and NHPI children, when interpreting Figure 5; 19 Asian, 6 NHPI, and 30 AIAN children died in 2018. For instance, one additional unrestrained NHPI child fatality, age 6 would change the 4-to-7-year-old estimate in Figure 5 from 33 percent to 50 percent. In 2018 the percentage of white child passenger vehicle occupant fatalities in traffic crashes who were restrained was higher than all other race-ethnicity groups, excluding Asian child passenger vehicle occupant fatalities from age 8 to 12, as shown in Figure 5. The percentage of Hispanic or Latino fatalities under age 1 who were unrestrained was the highest across all groups. The percentage of white fatalities under age 1 who were unrestrained was the lowest across all groups. Beginning at age 1, Black or African American children had the highest percentage of unrestrained traffic fatalities among all race-ethnicity groups, excluding the small count race-ethnicity groups. The percentage of white fatalities from age 1 to 14 were the lowest among any group, excluding the small count group. Overall, 51 percent of Black or African American children who died in traffic crashes were unrestrained compared to 24 percent of white children. Black or African American children had the highest overall percentage of unrestrained passenger vehicle fatalities and white children had the lowest overall percentage of unrestrained passenger vehicle fatalities (excluding small counts race-ethnicity groups). Lower restraint system usage among Black or African American children in traffic fatalities may contribute to the higher traffic fatality rates for Black or African American people compared to white people.

NSUBS data collectors ask occupants to identify race, ethnicity, and age of child passenger vehicle occupants under 13 years old. This is different from the way NOPUS collects racial information of vehicle occupants, which is through visual assessment.

Table 13 shows the overall picture of child restraint system use by race-ethnicity groups across age groups. In 2019 white children less than 1 year old were always restrained. Hispanic or Latino and Black or African American children were unrestrained at higher percentages as compared to white children for all age groups. Black or African American children had the lowest observed restraint system use in every age group. Asian children over 1 year old were restrained more often than white, Black or African American, and Hispanic or Latino children.

Table 13. Child Restraint System Use, by Race-Ethnicity, 2019

Race-Ethnicity	Age Group			
	<1 Year Old (%)	**1-3 Years Old (%)**	**4-7 Years Old (%)**	**8-12 Years Old (%)**
Hispanic or Latino	99.4	91.4	83.2	84.6
AIAN	NA	NA	NA	NA
Asian	NA	99.3	95.9	94.6
Black or African American	89.4	85.3	66.3	79.3
NHPI	NA	NA	NA	NA
White	100.0	97.6	92.1	89.4

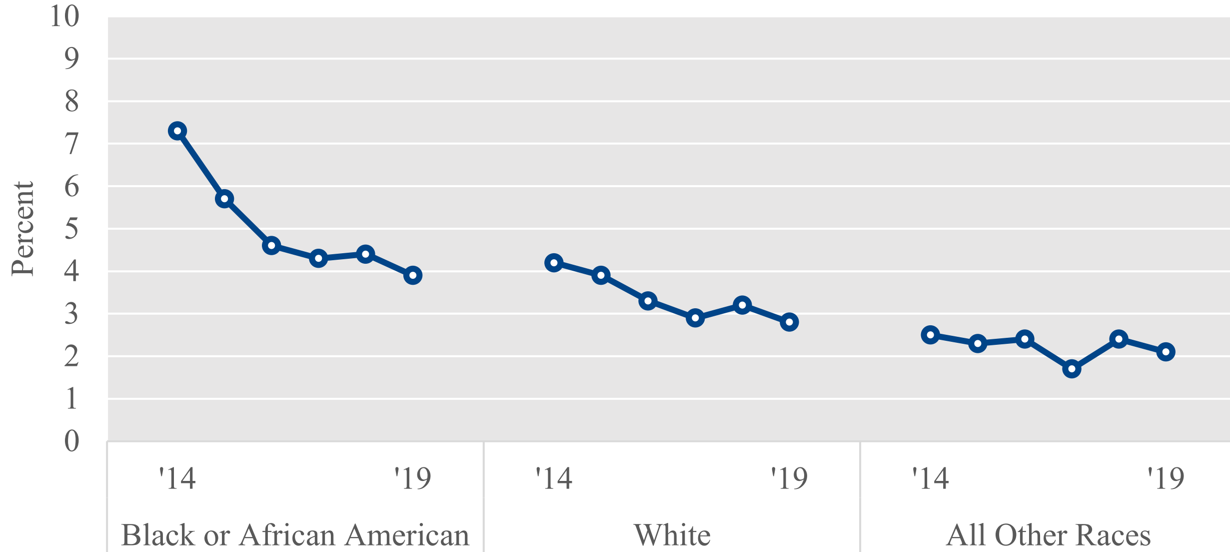
Source: NSUBS 2019
NA – data not sufficient to produce a reliable estimate, see Data and Methodology section.

Although we don’t have values in the AIAN and NHPI cells above, their combined values are 96.4 percent, 88.1 percent, and 97.8 percent for age groups 1 to 3, 4 to 7, and 8 to 12, respectively. Historically counts for multi-racial children were too small to estimate restraint system use within age groups.

Figure 5 showed the fatality percentages for unrestrained Black or African American children over age 1 as highest for all race-ethnicity groups, excluding AIAN, Asian, and NHPI children. Consider the small fatality counts for AIAN, Asian and NHPI children, when interpreting; 19 Asian, 6 NHPI, and 30 AIAN children died in 2018, while 248 Black or African American children died. The NSUBS data support our conclusion that lower restraint system usage among Black or African American children in traffic fatalities may contribute to the higher fatality rates for Black or African American people compared to white people.

Handheld Electronic Device Use

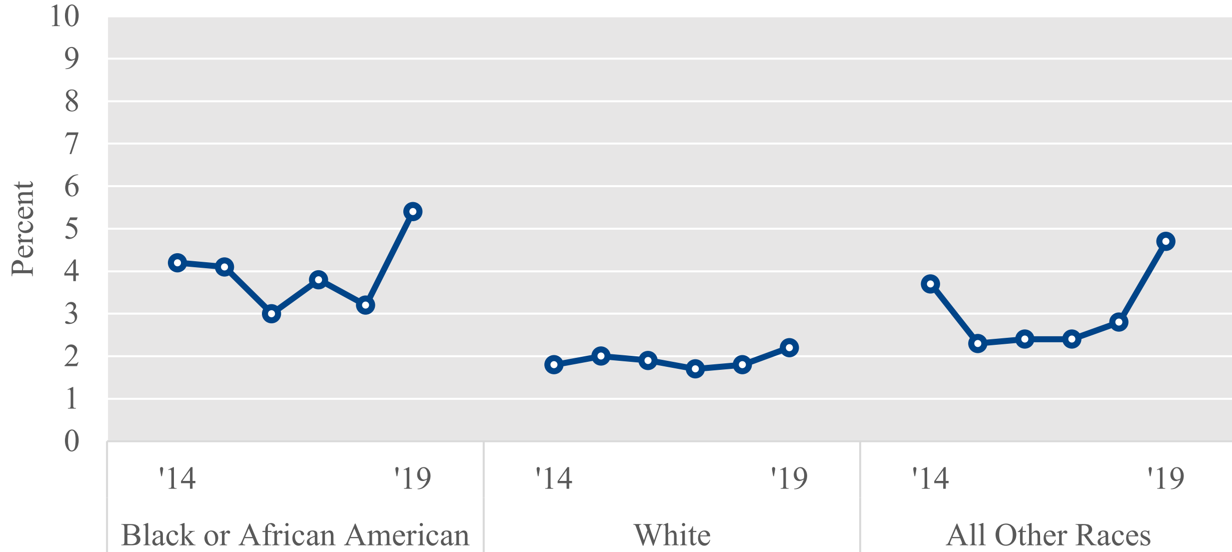
NHTSA defines distracted driving as “any activity that diverts attention from driving”— distracted driving includes activities such as texting and talking on the phone. In 2018 there were 2,858 people who died in traffic crashes involving distracted drivers. NOPUS does not decide whether the driver was distracted, but merely identifies that the driver used a handheld electronic device.



Source: NOPUS 2014-2019

Figure 6. Estimated Drivers Observed Holding Cell Phones to Their Ears While Driving Rate, by Race, 2014-2019

As seen in Figure 6, Black or African American drivers tended to hold cell phones to their ears more than white drivers. For example, in 2019 about 4 percent of Black or African American drivers observed at an intersection during the daytime held cell phones to their ears compared to almost 3 percent for white drivers. The lowest percentage of drivers observed holding cell phones were drivers of All Other Races with a little over 2 percent. Black or African American drivers may hold their cell phones to their ears at higher rates, but the race information collected contains observation bias and only captures controlled intersections.



Source: NOPUS 2014-2019

Figure 7. Estimated Drivers Observed Manipulating Handheld Devices Rate, by Race, 2014-2019

Figure 7 shows the percentage of drivers who manipulated handheld devices at an intersection during the daytime by race group in NOPUS. Manipulating a handheld electronic device includes texting or other instances when the person is visibly handling a cell phone. Black or African American drivers and drivers of All Other Races tended to manipulate their cell phones more often than white drivers. In 2019 the percentage of Black or African American drivers who manipulated handheld devices was 5.4 percent, which was the highest percentage of all groups. The percentage of white drivers who manipulated handheld devices was 2.2 percent, which was the lowest of all groups.

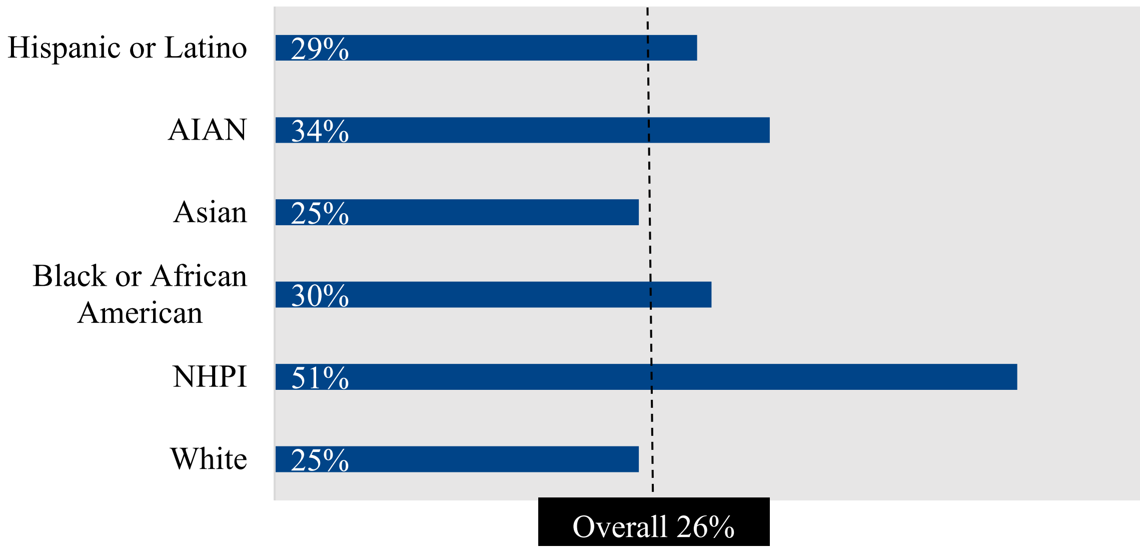
Engaging in behaviors like manipulating handheld devices may indicate riskier driving behaviors for Black or African American drivers and drivers of All Other Races. However, these data may not reflect behaviors while the vehicle is in motion, as NOPUS limited data collection to vehicles stopped at stoplights or stop signs.

Speeding

Speeding is a risky driving behavior that is potentially deadly for the driver, other occupants, and nonoccupants in the crash. NHTSA defines speeding drivers as those whom a police officer:

- charged with a speeding-related offense, or
- indicated that racing, driving too fast for conditions, or exceeding the posted speed limit was a contributing factor in the crash.

In 2018 there were 6,034 speeding-driver fatalities. Note that these statistics don't imply a speeding driver caused a crash or fatality.



Source: FARS 2018 Final File
Note: These statistics don't imply causation of crash or fatalities.

Figure 8. Speeding-Driver Fatalities, by Race-Ethnicity, 2018

Hispanic or Latino, Black or African American, AIAN, and NHPI speeding-driver fatality percentages were higher than white speeding-driver fatality percentages. More than half of NHPI driver fatalities were speeding; this was the highest for any race-ethnicity group. A quarter of Asian and white driver fatalities were speeding; this is the lowest for any race-ethnicity group. Figure 8 indicates speeding driving fatalities may contribute to fatality rates for certain race and ethnicity groups. In Puerto Rico 38 percent of Hispanic or Latino driver fatalities in traffic crashes were speeding.

Community Exposure

Community exposure includes those people participating in risky behaviors and those impacted by the people engaging in risky behaviors. More than the driver is impacted by a risky behavior; the statistics in this section present the collective impact of alcohol and speeding on the identified race-ethnicity group.

Alcohol

NHTSA defines alcohol-impaired-driving fatalities as any fatality in a crash involving a driver with a BAC of .08 g/dL or greater. Alcohol-impaired-driving fatalities include:

- Alcohol-impaired driver fatalities,
- Passenger fatalities riding with alcohol-impaired drivers,
- Occupant fatalities in other vehicles involved, operated by a driver who is not alcohol-impaired, and
- Nonoccupant (pedestrians/pedalcyclists/other) fatalities involved in a crash with an alcohol-impaired driver.

Table 14 shows the impact of alcohol-impaired driving on each race-ethnicity group in 2018. The values shown in Table 14 reflect all fatalities in each race-ethnicity group and do not necessarily indicate a risky driving behavior for that race-ethnicity group.

Table 14. Total Traffic Fatalities and Alcohol-Impaired-Driving Fatalities, by Race-Ethnicity, 2018

Race-Ethnicity	Total Traffic Fatalities	Alcohol-Impaired-Driving Fatalities (BAC=.08+ g/dL)	
		Number	Percent
Hispanic or Latino	5,632	1,974	35
AIAN	599	232	39
Asian	557	119	21
Black or African American	5,503	1,767	32
NHPI	78	24	30
White	21,572	5,802	27
Total*	**36,835**	**10,710**	**29**

Source: FARS 2018 Final File
**Includes other and unknown race-ethnicity groups.*
Note: NHTSA imputes alcohol test results when unknown. These statistics don't imply causation of crash or fatalities.

Except for Asian people, alcohol-impaired-driving crashes disproportionately involved all other race-ethnicity groups at higher rates than white people. Alcohol-impaired-driving fatalities were the highest for AIAN people. Thirty-nine percent of AIAN fatalities were alcohol-impaired-driving fatalities, the highest for any race-ethnicity group. Twenty-one percent of Asian fatalities were alcohol-impaired-driving fatalities, which is the lowest for any race-ethnicity group. Over a third of Hispanic or Latino fatalities were alcohol-impaired-driving fatalities. In Puerto Rico 42 percent of Hispanic or Latino fatalities were alcohol- impaired-driving fatalities.

Speeding

NHTSA defines a speeding-related fatality as any fatality in a crash where a police officer charged any driver involved with a speeding-related offense, or if a police officer indicated that racing, driving too fast for conditions, or exceeding the posted speed limit was a contributing factor in the crash. Speeding-related traffic fatalities include:

- Speeding driver fatalities,
- Passenger fatalities in speeding vehicles,
- Occupant fatalities in other vehicles involved, operated by drivers who are not known to be speeding, and
- Nonoccupant (pedestrians/pedalcyclists/other) fatalities involved in crashes with speeding drivers.

In 2018 there were 9,579 speeding-related traffic fatalities. Table 15 examines the percentages of speeding-related fatal traffic crashes in 2018.

Table 15. Total Traffic Fatalities and Speeding-Related Traffic Fatalities, by Race-Ethnicity, 2018

Race-Ethnicity	Total Traffic Fatalities	Speeding-Related Traffic Fatalities	
		Number	Percent
Hispanic or Latino	5,632	1,569	28
AIAN	599	168	28
Asian	557	136	24
Black or African American	5,503	1,550	28
NHPI	78	37	47
White	21,572	5,398	25
Total*	**36,835**	**9,579**	**26**

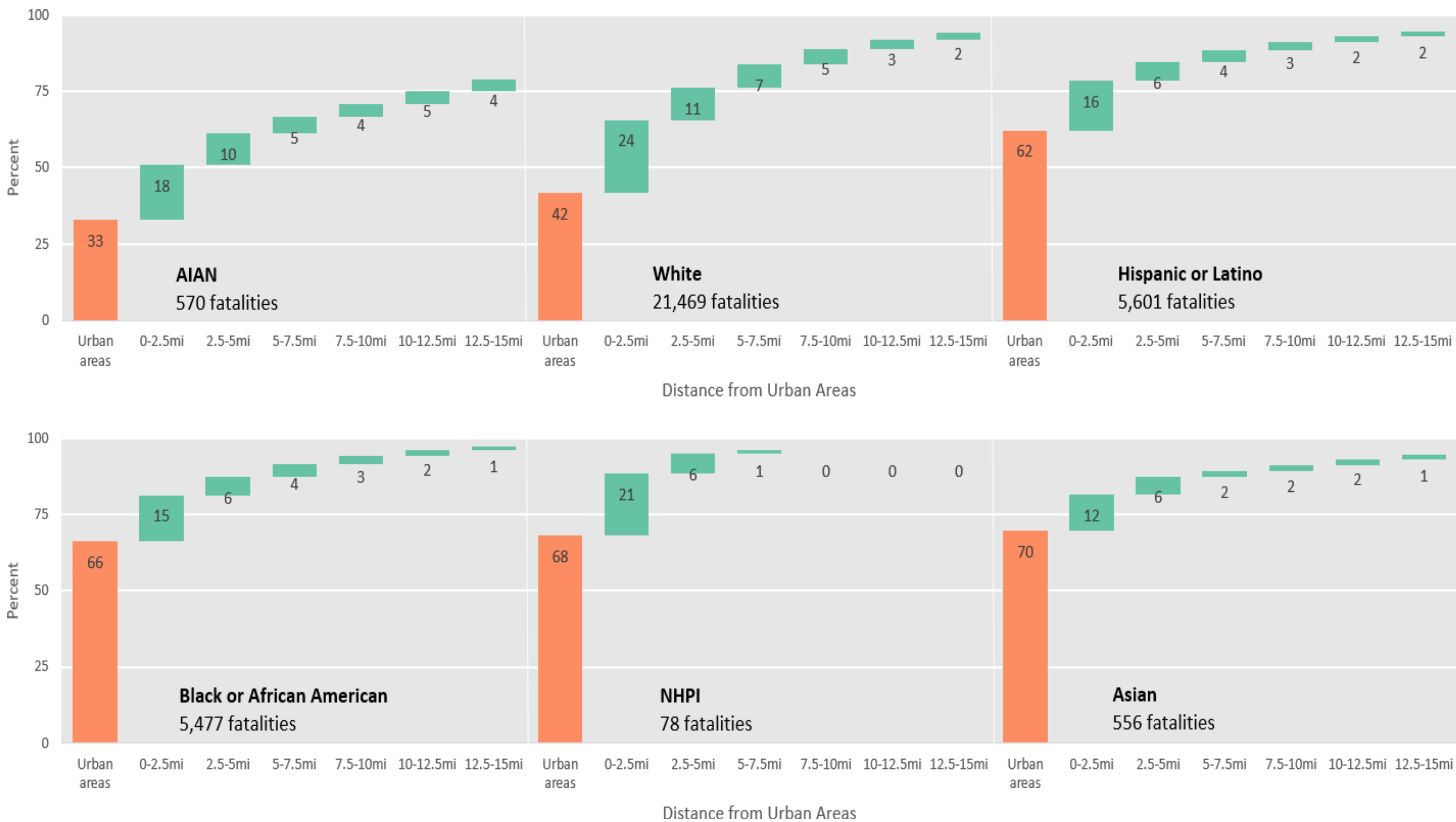
Source: FARS 2018 Final File
**Includes other and unknown race-ethnicity groups.*
Note: These statistics don't imply causation of crash or fatalities.

Except for Asian people, all other race-ethnicity groups had higher percentages of speeding-related fatalities than white people in 2018. Forty-seven percent of all NHPI fatalities were speeding-related, which was noticeably more than any other race-ethnicity group. Twenty-four percent of Asian fatalities were speeding-related, which is the lowest for any race-ethnicity group. In Puerto Rico speeding-related traffic fatalities accounted for 27 percent of Hispanic or Latino traffic fatalities.

Where, When, and Who

Urban Areas

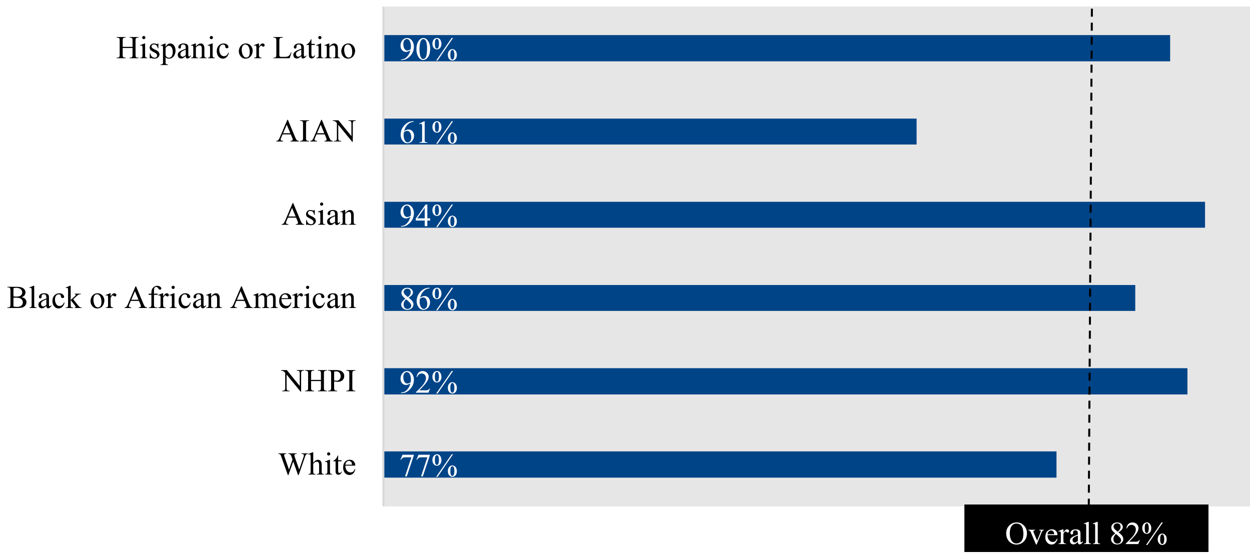
Figure 9 shows the spatial distribution of traffic fatalities based on Census defined urban areas by 2.5-mile increments ordered ascendingly by percentage of fatalities in urban areas. The orange bars represent fatalities in urban areas, while the green bars represent rural areas; the figure doesn't show all rural areas. This graph only includes traffic fatalities that have known latitude-longitude data; accordingly, it omits Puerto Rico. Hispanic or Latino, Black or African American, NHPI, and Asian travelers had higher percentages of traffic fatalities in urban areas compared to white travelers. Asian travelers had the highest percentage of traffic fatalities occur in urban areas. For AIAN travelers, most traffic fatalities occurred in rural areas. More than 20 percent of AIAN traffic fatalities occurred at least 15 miles outside urban areas, higher than any other race-ethnicity group. These percentages may indicate that all other race-ethnicity groups may travel more in urban areas compared to white people, except for AIAN people.



Sources: FARS 2018 Final File; Census 2018 TIGER/Line Shapefiles: Core Based Statistical Areas
**Race-ethnicity groups are ordered ascendingly by urban fatality percentages.*

Figure 9. Spatial Distribution of Traffic Fatalities, by Race-Ethnicity, 2018*

Based on a different urbanicity metric, FARS land use, Puerto Rico reported 42 percent of Hispanic or Latino traffic fatalities occurred in urban areas.



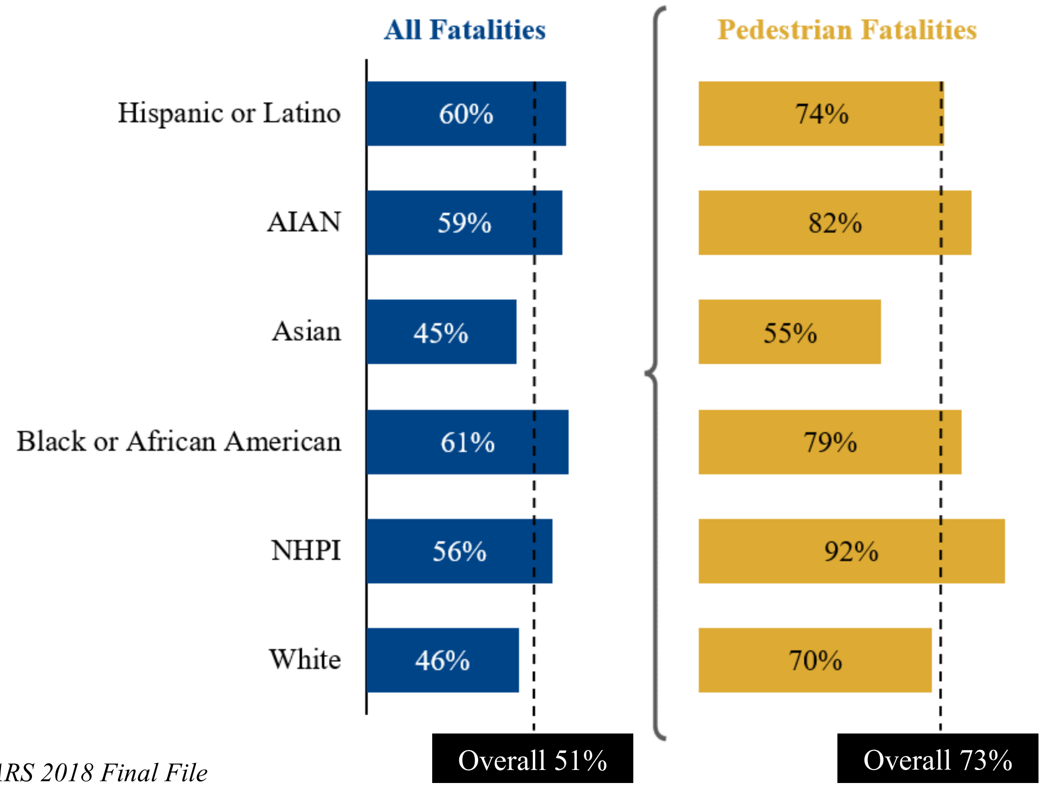
Source: FARS 2018 Final File

Figure 10. Pedestrian Traffic Fatalities in Urban Areas, by Race-Ethnicity, 2018

Using the same FARS land use element, Figure 10 shows Hispanic or Latino, Asian, NHPI, and Black or African American pedestrian fatalities occurred more in urban areas compared to white pedestrian fatalities. Ninety-four percent of Asian pedestrian fatalities occurred in urban areas; this is the highest for any race-ethnicity group. Sixty-one percent of AIAN pedestrian fatalities occurred in occurred in urban areas. This is lowest for any race-ethnicity group. Again, this may indicate that other race-ethnicity groups may travel more in urban areas than white travelers. In Puerto Rico 57 percent of Hispanic or Latino pedestrian fatalities occurred in urban areas.

Time of Day and Day of Week

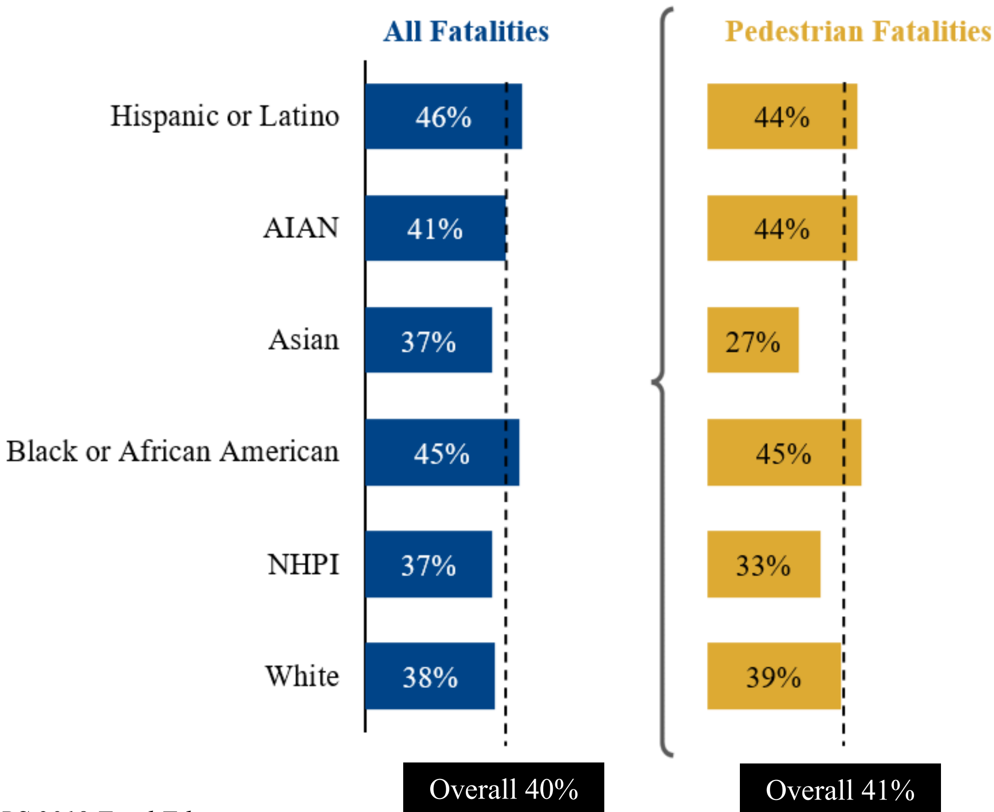
Shown in Figure 11, Hispanic or Latino, AIAN, Black or African American, and NHPI traffic fatalities occurred at nighttime (from 6 p.m. to 5:59 a.m.) at higher percentages than white traffic fatalities with Black or African American fatalities having the highest percentage. Forty-five percent of Asian traffic fatalities occurred at nighttime, the lowest percentage for all race-ethnicity groups. In Puerto Rico 71 percent of Hispanic or Latino traffic fatalities occurred at nighttime.



Source: FARS 2018 Final File
NHTSA defines nighttime to be between 6 p.m. to 5:59 a.m.

Figure 11. Traffic and Pedestrian Fatalities at Nighttime, by Race-Ethnicity, 2018

Nighttime pedestrian fatalities were disproportionately higher for Hispanic or Latino, Black or African American, AIAN, and NHPI pedestrians. The percentage of NHPI pedestrian fatalities at nighttime was much higher than any other race-ethnicity group. Over 90 percent of NHPI pedestrian fatalities occurred at nighttime. Only about 55 percent of Asian pedestrian fatalities occurred at nighttime, which is the lowest for all race-ethnicity group. In comparison, 70 percent of white pedestrians died at nighttime. In Puerto Rico 81 percent of Hispanic or Latino pedestrian fatalities occurred at nighttime.



Source: FARS 2018 Final File
NHTSA defines weekend to be Friday 6 p.m. to Monday 5:59 a.m.

Figure 12. Traffic and Pedestrian Fatalities on Weekends, by Race-Ethnicity, 2018

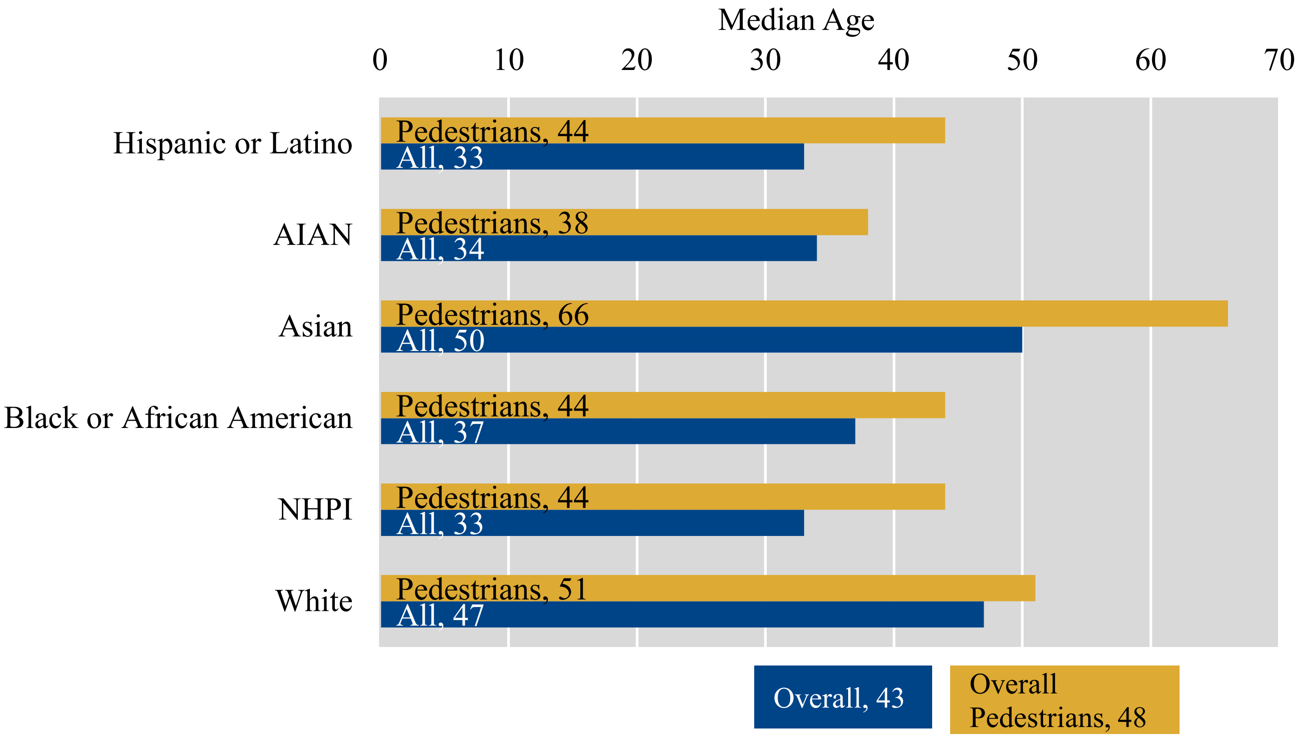
In 2018 the percentages of Hispanic or Latino, Black or African American, and AIAN traffic fatalities on the weekend (from Friday 6 p.m. to Monday 5:59 a.m.) were higher compared to white people, as seen in Figure 12. Forty-six percent of all Hispanic or Latino traffic fatalities occurred on the weekend; this is the highest for all other race-ethnicity groups. Asian and NHPI had the lowest percentage of weekend traffic fatalities. For both race-ethnicity groups, 37 percent of their traffic fatalities occurred on the weekend. In Puerto Rico 55 percent of fatalities occurred on the weekend.

Hispanic or Latino, Black or African American, and AIAN pedestrians disproportionately died at higher percentages on the weekend compared to white pedestrians. Black or African American pedestrians had the highest percentage of traffic fatalities occur on the weekend at 45 percent (Figure 12). Asian pedestrians had the lowest percentage of pedestrian fatalities on the weekend at 27 percent, followed by NHPI pedestrians at 33 percent. The percentage of Hispanic or Latino pedestrian traffic fatalities on the weekend was 47 percent in Puerto Rico.

Although some other race-ethnicity groups die more in crashes at nighttime or on weekends, it doesn't mean those groups travel less or more during those times. Other factors may contribute to the higher percentages of fatalities at nighttime or on weekends. For instance, certain risky behaviors (alcohol-impaired driving or not using restraints) may occur more often at nighttime or on weekends.

Other Demographics

Aside from Asian fatalities, all other race-ethnicity groups' traffic crash fatalities tended to be younger than white fatalities, as shown in Figure 13. Hispanic or Latino and NHPI people had the youngest median ages. The oldest median age was seen for Asian fatalities. The median age for Hispanic or Latino traffic fatalities in Puerto Rico was in the 40s.



Source: FARS 2018 Final File

Figure 13. Median Age of Traffic and Pedestrian Fatalities, by Race-Ethnicity, 2018

Asian pedestrian fatalities tended to be older than white pedestrian fatalities, with the median age at 66. Aside from Asians, all other race-ethnicity group pedestrian fatalities tended to be younger than white pedestrian fatalities. The median age for AIAN pedestrian fatalities was 38, the youngest age of any race-ethnicity group. Hispanic or Latino pedestrians in Puerto Rico also tended to be older, with a median age of 59.

Table 16. Traffic Fatalities, by Sex and Race-Ethnicity, 2018

Race-Ethnicity	All Fatalities		Pedestrian Fatalities	
	Male (%)	**Female (%)**	**Male (%)**	**Female (%)**
Hispanic or Latino	74	26	73	27
AIAN	66	34	74	25
Asian	61	39	52	48
Black or African American	73	27	72	28
NHPI	71	29	67	33
White	70	30	68	32
Total*	**71**	**29**	**69**	**30**

Source: FARS 2018 Final File
**Includes other and unknown race-ethnicity groups.*

As shown in Table 16, Hispanic or Latino, NHPI, and Black or African American traffic fatalities have higher percentages of males than white traffic fatalities. AIAN and Asian traffic fatalities report higher percentages of female traffic fatalities compared to white female traffic fatalities. Males accounted for 74 percent of Hispanic or Latino traffic fatalities, the highest of all race-ethnicity groups. Females accounted for 39 percent of Asian traffic fatalities, the highest of all race-ethnicity groups. Over 80 percent of Hispanic or Latino traffic fatalities in Puerto Rico were male. For pedestrians, Asian and NHPI female pedestrians disproportionately died in traffic crashes at higher rates than white female pedestrians. The highest percentage of female pedestrian fatalities were Asian females. AIAN, Hispanic or Latino, and Black or African American male pedestrians disproportionately died in traffic crashes at higher rates than white male pedestrians. AIAN males died in traffic crashes at a higher percentage than any other race-ethnicity groups. In Puerto Rico 83 percent of Hispanic or Latino pedestrian fatalities were male.

Economic Disparities in Traffic Fatalities

We investigated possible economic disparities in travel outcomes by combining FARS data with income data from BEA. BEA reports per capita income for every 5-digit FIPS code[13] in the United States.[14] FIPS codes identify counties and county equivalents. This paper will use the terms "county" and "5-digit FIPS code" interchangeably. Thus, we study the relationship between a county's per capita income and the number of traffic fatalities within its borders. Because the number of fatalities in a given county can fluctuate yearly, we averaged 5 years of economic data and 5 years of crash data (namely, 2015 to 2019) to make our comparisons. We do not compare economic disparities across race-ethnicity groups.

Specifically, Figure 14 contains one panel for each State. Each State's panel has one dot for each county in the State whose:

- average income per capita from 2015 to 2019 was at most $158,000, and
- average traffic fatalities per 100K population from 2015 to 2019 was at most 100.

The horizontal axes in Figure 14 are the average income per capita for the county from 2015 to 2019. The vertical axes are the average traffic fatalities per 100K population for the county from 2015 to 2019. The number in the upper right of the State's panel is the correlation between these two quantities for all counties in the State, not just those that met the above bulleted thresholds. We couldn't compute a correlation for DC because it only has one county equivalent.

There are no defined standards for considering a correlation strong or weak. For our analysis we considered a correlation to be strong (≥0.70), moderate (0.50-0.69), weak (0.30-0.49), or not linear (0-0.29) according to the absolute value of the correlation coefficient. The correlation coefficients for States with a small number of counties are not reliable due to small sample size; we didn't categorize the strength of correlation for States with fewer than 10 counties.

[13] The Federal Information Processing Standards (FIPS) codes are geographic codes assigned by the National Institute for Standards and Technology. These codes uniquely identify counties and county equivalents in the 50 States, DC, and certain U.S. Territories.
[14] The BEA data include data for DC but not for Puerto Rico, nor any other U.S. Territory. Since we use the BEA data throughout this section, we don't have any results to present for Puerto Rico when it comes to economic disparities.

The results are as follows:

- One State, Maine, had a strong negative correlation between fatalities and income;
- Seven States -- Massachusetts, New Hampshire, New Jersey, North Carolina, Pennsylvania, South Carolina, and Vermont -- had moderate negative correlations;
- 19 States had weak correlations, one positive and 18 negative;
- 19 States had correlations that indicated non-linear relationships between fatalities and income; and
- Four States -- Connecticut, Delaware, Hawaii, and Rhode Island -- have fewer than 10 counties, and so we did not classify their correlations.

In the 8 States with strong or moderate correlations, the correlations were negative, meaning that traffic fatality rates decrease as income rates increase.

Sources: FARS 2015-2018 Final Files, 2019 Annual Report File (ARF); 2015-2019 BEA
Note: We capped the axes in this figure to better show patterns. The plot for Virginia excludes the counties containing independent cities. The numbers displayed for each State is the correlation between the average income per capita and average fatalities per capita.
NA: not applicable.

Figure 14. Annual Traffic Fatalities per 100K Population and Income per Capita, by State, 2015-2019

Summary of Results

Our findings indicate that some race-ethnicity groups disproportionately bear roadway travel deaths. Our analysis answered the following questions.

- Are there racial-ethnic disparities in travel outcomes?
- If so, have these disparities changed in recent years?
- What factors might be contributing to racial-ethnic disparities?
- Are there economic disparities in travel outcomes?

Different race-ethnicity populations face different travel circumstances and risks. Some race-ethnicity groups tend to travel more, use different modes of travel, or may travel more often in urban areas. Risky behaviors like not using restraints, alcohol-impairment, and speeding, that affect the chances of safe travel may impact some populations more than others. As compared to white people, our investigation paints different pictures for the five other race-ethnicity groups we studied. Our findings summarized by race-ethnicity group are below:

- Hispanic or Latino people had similar fatality rates as white people. However, they walked about 30 percent more and rode motorcycles almost 20 percent more than white people. The percentage of Hispanic or Latino fatalities under the age of 1 who were unrestrained was the highest across all groups. In addition, the percentages of unrestrained Hispanic or Latino children was lower than white children in traffic fatalities for every age group. Hispanic or Latino deaths were generally younger (with a median age of 33, compared to 47 for white deaths), occurred much more in urban areas, and involved more alcohol-impaired driving.
- AIAN people had by far the highest fatality rates under any measure. They were five times more likely to die walking than white people, and close to three times as likely to die in passenger vehicles, per mile. They traveled by passenger vehicle about 30 percent more than white people did. AIAN travelers had low miles biked (4.1 miles per person annually) but their fatality rate per 100M miles biked was quite high (112.78). More than 20 percent of AIAN traffic fatalities occurred at least 15 miles outside urban areas; higher than any other group. Like Hispanic or Latino fatalities, AIAN fatalities were quite young (median age of 34). Almost half of AIAN driver fatalities and over half of their pedestrian fatalities had BACs of .08 g/dL or higher. AIAN fatalities also had low levels of restraint use, with only about one-third of their passenger vehicle occupant fatalities restrained. However, the fatalities per population gap between AIAN and white people narrowed between 2014 and 2018 in the Threshold States.
- Asian people had the lowest fatality rates under any measure and were only about half as likely to die as white people per mile. They walked about 50 percent more than white people, and didn't travel much by motorcycle, about one-fifth as many miles as white motorcyclists. Asian travelers had higher miles biked (27.9 miles per person annually) but displayed the lowest traffic fatality rate per 100M miles biked (5.94). Asian traffic fatalities had the lowest alcohol impairment by all ways considered and high levels of restraint use. Twenty-nine percent of Asian fatalities were pedestrians; this was the highest pedestrian percentage across race-ethnicity groups, roughly double the percentage for white fatalities. Asian fatalities were older than any other race-ethnicity group (with a median age of 50), especially for pedestrians (age 66).

- Black or African American people were roughly twice as likely to die per mile than white people. They had lower observed seat belt use levels and child restraint system usage, and less than half of Black or African American passenger vehicle occupant fatalities, including children were restrained. Their deaths tended to be younger (37 years old) and in urban areas (70%). Additionally, the Black or African American fatalities per population increased relative to white people between 2014 and 2018 in the Threshold States.
- NHPI people straddle the fatality risk; they were more likely to die walking and less likely to die in a passenger vehicle than white people per mile. They walked about 40 percent fewer miles than white people. They had low levels of restraint use, only about one-third of their occupant fatalities were restrained. They were more frequently involved in speeding-related crashes, about half of their fatalities were speeding-related. Their fatalities tended to be younger (median age 33) and in urban areas (73%).

In addition, we examined the relationship between income and traffic fatalities. We found in 8 of the 50 States, traffic fatalities per population decreased as the per population income of a county increased. The remaining 42 States showed no strong or moderate correlation (≥0.5) between fatality and income rates or had too few counties to compute a reliable correlation.

In summary, we presented evidence of race-ethnicity disparities in the risk of travel in this country, even when controlling for the mode and amount of travel. We presented evidence showing the large disparity for pedestrians, and we showed that the race-ethnicity disparities in travel changed for some groups in recent years. We also presented evidence of economic disparities in travel outcomes.

Although we investigated various factors that may contribute to differences, we can't identify why fatal traffic crashes have a greater impact on some race-ethnicity groups than others. Much more work needs to be done to better understand and counteract the challenges some communities face in the ongoing effort to make road travel safe for all. Additional research could help account for factors affecting travel safety and help isolate the extent to which demographic, economic, infrastructure-related, behavioral, and other factors contribute to the disparities identified in this report. But recognizing that knowledge will never be complete, we hope that the findings of our report will provide researchers, behavioral scientists, and others with helpful tools to improve travel outcomes.

Limitations

Studying race and ethnicity is inherently challenging. In this report we used the best data available to analyze disparity. Accordingly, we caution the reader to consider the limitations of our conclusions.

Adhering to the updated OMB guidelines provided Federal agencies a minimum standard to follow for providing race and ethnicity data to the public. Although guidance is important, it creates challenges for agencies, data users, data collection, and reporting.

- The OMB category of white people includes some people, such as people from the Middle East and North Africa, who do not necessarily identify as white (Awad, Hashem, & Nguyen, 2021).
- Consider the following responses submitted by either a person or reported on a death certificate answering Hispanic Origin and Race questions: *Yes, other Spanish/Hispanic/Latino* and *Black or African American*. We count this person's race-ethnicity as Hispanic or Latino when meeting the minimum OMB criterion; this categorization could misrepresent some or all race-ethnicity groups. Consequently, readers should not interpret the white, AIAN, Asian, Black or African American, and NHPI values as values for the *racial* groups; they represent the amalgamation of race and ethnicity. One can, however, interpret the Hispanic or Latino fatality rate as a rate for the *ethnicity*. Additional research would be necessary to look at disparities between other race and ethnicity combinations.
- For the FARS data used in this report, when the death certificate lists multiple races FARS reports the first race listed; this categorization could misrepresent some or all race-ethnicity groups. For example, consider the following race responses reported for a non-Hispanic or Latino person: "White" and "Black or African American." Until data year 2019 FARS counts this person with either white or Black or African American fatalities, not as "multiple races selected" depending on the order of the races listed in the FARS source material. We think this classification may affect traffic fatality rates per population, per mile, and fatality characteristics; we cannot quantify the impact. We can't reliably estimate the impact of traffic fatalities on multi-racial people. Starting in 2019 FARS collects all races reported on the death certificate, vastly improving the ability to analyze the effect of traffic crashes on multi-racial people.

We effectively treat Puerto Rico as a separate entity in this report. Although Puerto Rico accounts for 5 percent of the Hispanic or Latino population in the 50 States, DC, and Puerto Rico, the national traffic fatality rates, travel characteristics, and fatality characteristics do not include Puerto Rico. NHTS does not include Puerto Rico in the survey. The leading causes of death statistic is the only value that includes Puerto Rico.

Disparities in societal treatment may be a function of how people are perceived rather than how they self-identify, and our study involves both self-reported and observed race and ethnicity data.

- As mentioned in the Literature Review section of this report, Arias et al. (2016) found evidence of race and ethnicity misclassification on death certificates. These misclassifications range widely, from near zero for white and Black or African American people to 33 percent for AIAN people. In most cases the death certificate of these AIAN fatalities misclassified them as white. (Arias, Heron, & Hakes, 2016). If the Arias et al. findings from 1999 to 2011 hold true for 2014 to 2018 and for all types of fatalities, we can't reliably estimate the impact of traffic fatalities on AIAN people.

- Some respondents misinterpret the race and ethnicity questions on the Census (Arias, Heron, & Hakes, 2016; Parker et al., 2015).
- For fatalities per population and per mile, there is a mismatch in who identifies race and ethnicity. For example, a more accurate presentation of the AIAN traffic fatality per population rate of 24.75 is, "for every 100K self-identified AIAN people in 2018, there were 24.75 traffic fatalities had AIAN reported as the first race listed in the FARS source materials in 2018."
- Census population estimates and NHTS data reflect self-identified race and ethnicity survey responses. We combined them with FARS race and ethnicity values, identified by someone else.
- We assessed seat belt use and electronic handheld device use using NOPUS data. NOPUS only collects race based on observations made by data collectors. Consider the observation bias when interpreting NOPUS data or comparing it with FARS.
- NSUBS data collectors subjectively determined age in deciding whether to approach a vehicle for data collection. If the collector guesstimated the child's age incorrectly NSUBS may misestimate child restraint system usage. Unrestrained child passenger vehicle occupant fatality percentages came from race-ethnicity data derived from death certificates and NSUBS child restraint system usage race-ethnicity data came from interviews, consider this discrepancy when comparing these values.

As with any data collection system, FARS has reporting challenges.

- FARS contains unknown race-ethnicity values, specifically, 1,271 fatalities in 2018. NHTS also contains unknown race-ethnicity values. However, the Census population counts have no unknown race-ethnicity. The impact of these unknowns may incorrectly estimate the traffic fatality rates per population and per mile for each race-ethnicity group. The unknowns may impact some groups more than others.
- Race-ethnicity reporting varies widely by State and year. For instance, Pennsylvania reported the race-ethnicity for less than 1 percent of fatalities in 2014, compared to 90 percent of its fatalities in 2018. If a State tends to account for a substantial share of the fatalities from a particular race-ethnicity group, then a high number of unknowns for a given year in the State might substantially impact the fatality rate for that race-ethnicity group.
- Additionally, Indian reservations don't always report traffic fatalities on to the State or NHTSA. Consequently, we assume FARS underreports AIAN traffic fatalities.
- The statistics presented in this report for NHPI people are susceptible to fluctuations in the data; in 2018 there were 78 NHPI people who died in traffic crashes. In general, statistics involving smaller numbers can be prone to wider fluctuations than those involving larger numbers.

Different data systems define variables' attributes differently. These variations can lead to discrepancies.

- The Data and Methodology section mentioned that the NHTS bicycle definition and FARS pedalcyclist definition may not align due to potential classification differences of certain cycles like electronic bikes. We cannot quantify the impact of the potential definition difference.
- The NHTS data classifies a respondent's transportation mode type into categories such as passenger car, SUV, van, pickup, and rental car. We categorized certain vehicle types (specifically, passenger cars, SUVs, vans, pickups) as passenger vehicles using the NHTS data. However, our categorization includes medium and heavy pickups, which is different from NHTSA's typical passenger vehicle definition that includes passenger cars and light trucks under 10,000 lbs. Although it is possible to differentiate between light, medium, and heavy pickups with the NHTS data, NHTS respondents may be unaware of the difference between light, medium, and heavy vehicles. Thus, we did not exclude medium and heavy pickups from our analysis variable for NHTS data.

As mentioned in the Data and Methodology section, the Census and FARS urban definitions may not align. Keep this in mind when comparing Figure 9 and Figure 10.

We don't all travel the same way or amount. It's important to examine traffic fatality per mile rates by travel mode because some modes are riskier than others. Additionally, some conditions and social determinants impact certain communities more than others.

- Our estimates do not employ statistical modeling to control for age, restraint use, or other factors. Nor do they consider potential disparities in emergency medical care that could affect whether a traveler lives or dies. They also do not account for differences in local transportation infrastructure that could impact whether you get in a crash in the first place. For example, different States have different laws for seat belt use, motorcycle helmet use, distraction, and other traffic safety measures, and enforce them to varying degrees.
- We assessed community exposure measures: alcohol-impaired driving fatalities and speeding-related fatalities. These characteristics provide us with an overview of fatalities occurring for each race-ethnicity group. However, these measures do not identify the race-ethnicity of the driver in an alcohol-impaired or speeding-related crash. In FARS, if an alcohol-impaired or speeding driver does not die in a crash, FARS doesn't collect the race-ethnicity information. The reader should not interpret the alcohol-impaired driving and speeding-related fatalities to mean certain race-ethnicity groups participate in these risky behaviors or caused crashes or fatalities. Speeding and alcohol-impaired fatality counts could reflect race-ethnicity groups traveling in areas more exposed to these risky behaviors.
- We only studied fatal crashes. Patterns that we found in fatal crashes might not carry over to non-fatal travel. For example, while other race-ethnicity groups may die more frequently compared to white people in an alcohol-impaired driving crash, the FBI reported 82.2 percent of driving under the influence arrests were white drivers (FBI, 2017).
- When comparing race-ethnicity groups, it is important to note that disparities unrelated to traffic crashes affect the number of traffic fatalities per population and the leading cause

of death rankings. If cancer, heart disease, suicide, and other issues affected all race-ethnicity groups equally, this would not matter. But the fact that some risks befall certain groups more than others means that it would be good to be mindful that the degree of disparities we see when comparing traffic fatalities per population might overstate or understate reality.

- Racial-ethnic disparities in health care, health insurance, and the hospitals that emergency medical services take different racial-ethnic groups to may account for some of the disparities we see in traffic fatality rates. Possible racial-ethnic disparities in the presence of traffic safety features (such as sidewalks, street lighting, and crosswalks) in their communities may account for some of the disparities we see in fatality rates.

The NHTS has limitations.

- The NHTS is a sample, not a census. Thus, there is only a certain degree of precision to the NHTS data.
- Furthermore, the NHTS calculates the mileage figures based on the shortest distances between the origins and destinations of the respondents' reported trip segments, as determined by Google Maps. Consequently, the NHTS underestimates the true distance traveled.
- The NHTS predominantly covers non-commercial travel. We cannot fully assess the total miles traveled by each race-ethnicity group. If commercial travel skews toward certain race-ethnicity groups, our estimates may change.
- The NHTS data do not include children under 5, who may not have a large impact on person miles traveled, but the reader should consider this limitation.

The economic analysis also has limitations.

- We examined crash rates by the wealth of the county, not the wealth of the driver. Additionally, county income averages don't fully take into account large intra-county geographic disparities in per capita income by neighborhood.
- We capped the axes in Figure 14 to incomes of at most $158,000 per year and fatality rates of at most 100 traffic fatalities per 100K population. We subjectively limited the income and fatality rates to show patterns better and exclude outliers. The average annual traffic fatalities per 100K population was as high as 2,000 (Loving, Texas) and the per capita income was as high as $218,000 (Teton County, Wyoming).
- There may be other ways than using averages to analyze the relationship between income and fatality rates. Averages are susceptible to the influence of outliers. For example, if a high-fatality crash occurred in a county with relatively consistent fatalities counts, then the average skews toward the high-fatality crash. Other analyses may give different answers.
- The income data have sampling errors because BEA collects income from a sample of the U.S. population. Consequently, the income estimates are only known to a certain degree of precision.
- Further investigation is needed to understand what lies behind the curious economic findings we identified. We suspect demographic and environmental factors could play significant roles.

The leading cause of death rankings have their own limitations. Table 5 indicates that traffic crashes are a less common way for white people to die than people from other racial-ethnic groups. We caution that the leading cause of death ranks depend on the categories used for the cause of death. For instance, we grouped all types of cancer (malignant neoplasms). If we instead used two cancer categories, such as lung cancer versus other cancers, the ranking for motor vehicle crashes might move up or down in some race-ethnicity groups. Finally, a ranking is simply that. The difference between a rank of, say, 4 and a rank of 5 might be 100 deaths or 1,000 deaths.

The fatalities per mile metric provides a better measure of the risk of dying in a traffic crash than the fatalities per population, because some racial-ethnic groups travel more than others do. Table 2 presented our best estimates of travel risk by race-ethnicity.

Other than the NHTS data, data availability limited our study of travel characteristics to fatal crashes. Death is not the only impact of traffic crashes. Crashes also result in non-fatal injuries, property damage, years of life lost, medical bills, and lost income. We did not study these factors. Race-ethnicity disparities in these measures may differ from our findings.

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Appendix A

FARS Analytical Data Classification

The following describes each race and ethnicity category (terms) used in this analysis based on Hispanic Origin and Race data collected in FARS, while adhering to the OMB data reporting guidelines.

- **Hispanic or Latino:** Mexican, Puerto Rican, Cuban, Central or South American, European Spanish, or Other Hispanic Origin, regardless of race (or whether race is reported)
- **White**: White, Non-Hispanic
- **Black or African American:** Black or African-American, Non-Hispanic
- **American Indian or Alaska Native:** American Indian or Alaska Native, Non-Hispanic or Unknown if Hispanic
- **Asian:** Asian, Non-Hispanic or Unknown if Hispanic
- **Native Hawaiian or Other Pacific Islander:** Native Hawaiian (includes part Hawaiian) or Other Pacific Islander, Non-Hispanic or Unknown if Hispanic
- **Multiple Races**: Individual races not specified (for example: “mixed”), Non-Hispanic or Unknown if Hispanic
- **All Others**: Includes White, Unknown if Hispanic; African-American, Unknown if Hispanic; Non-Hispanic, Unknown Race; and all Other Races, Non-Hispanic or Unknown if Hispanic
- **Unknown**: Unknown which of the above

FARS collects two data elements that contribute to the data definitions for race and ethnicity. They are Hispanic Origin (*HISPANIC*) and Race (*RACE*). Table A-1 and Table A-2 show the attributes collected for Hispanic Origin and Race, while Table A-3 details the elements and attributes that define each race and ethnicity category presented in this document. Data collection for Race and Hispanic Origin can be challenging from year-to-year, especially for some States, resulting in high proportions of unknown data. Table A-4 shows the percentages of unknowns for both the Hispanic Origin and Race data elements. For more information, please see the 2018 FARS/CRSS Coding and Validation Manual.

Table A-1. Hispanic Origin Element (HISPANIC) Attributes, FARS 2014-2018

Code	Description	Code	Description
01	Mexican	05	European Spanish
02	Puerto Rican	06	Hispanic, Origin not Specified or Other Origin
03	Cuban	07	Non-Hispanic
04	Central or South American	99	Unknown

Table A-2. Race Element (RACE) Attributes, FARS 2014-2018

Code	Description	Code	Description
01	White	28	Korean
02	Black	38	Samoan
03	American Indian (includes Alaska Native)	48	Vietnamese
04	Chinese	58	Guamanian
05	Japanese	68	Other Asian or Pacific Islander
06	Hawaiian (includes part-Hawaiian)	78	Asian or Pacific Islander, No Specific (individual) Race
07	Filipino	97	Multiple Races (Individual races not specified; for example: "mixed")
18	Asian Indian	98	All Other Races
19	Other Indian (includes South and Central America, any others, except American or Asian Indians)	99	Unknown

Table A-3. Race and Hispanic Origin Element Attributes Included in Race-Ethnicity Analytical Data Classifications, FARS 2014-2018

Race-Ethnicity	Data Classification (Elements and Attributes)		
	Hispanic Origin		**Race**
Hispanic or Latino: Mexican, Puerto Rican, Central or South American, European Spanish, or Other Hispanic Origin	***HISPANIC*** *is* Mexican (01), Puerto Rican (02), Cuban (03), Central or South American (04), European Spanish (05), or Hispanic, Origin not Specified or Other Origin (06)		
White: White, Non-Hispanic	***HISPANIC*** *is* Non-Hispanic (07)	AND	***RACE*** *is* White (01)
Black or African American: Black or African-American, Non-Hispanic	***HISPANIC*** *is* Non-Hispanic (07)	AND	***RACE*** *is* Black (02)
American Indian or Alaska Native: American Indian or Alaska Native, Non-Hispanic or Unknown if Hispanic	***HISPANIC*** *is* Non-Hispanic (07) or Unknown (99)	AND	***RACE*** *is* American Indian (includes Alaska Native) (03), or Other Indian (includes South and Central America, any others, except American or Asian Indians) (19)

<table>
<tr><th rowspan="2">Race-Ethnicity</th><th colspan="3">Data Classification (Elements and Attributes)</th></tr>
<tr><th>Hispanic Origin</th><th></th><th>Race</th></tr>
<tr><td>Asian: Asian, Non-Hispanic or Unknown if Hispanic</td><td>HISPANIC is Non-Hispanic (07) or Unknown (99)</td><td>AND</td><td>RACE is Chinese (04), Japanese (05), Filipino (07), Asian Indian (18), Korean (28), or Vietnamese (48)</td></tr>
<tr><td>Native Hawaiian or Other Pacific Islander: Native Hawaiian (includes part Hawaiian) or Other Pacific Islander, Non-Hispanic or Unknown if Hispanic</td><td>HISPANIC is Non-Hispanic (07) or Unknown (99)</td><td>AND</td><td>RACE is Hawaiian (include part-Hawaiian) (06), Samoan (38), or Guamanian (58)</td></tr>
<tr><td>Multiple Races: Individual races not specified (for example: “mixed”), Non-Hispanic or Unknown if Hispanic</td><td>HISPANIC is Non-Hispanic (07) or Unknown (99)</td><td>AND</td><td>RACE is Multiple Races (Individual races not specified; for example: “mixed”) (97)</td></tr>
<tr><td rowspan="2">All Others: Includes White, Unknown if Hispanic; Black, Unknown if Hispanic; Non- Hispanic, Unknown Race; and all Other Races, Non-Hispanic or Unknown if Hispanic</td><td>HISPANIC is Non-Hispanic (07)</td><td>OR</td><td>RACE is Other Asian or Pacific Islander (68), Asian or Pacific Islander, No Specific (individual) Race (78), or All Other Races (98)</td></tr>
<tr><td>HISPANIC is Unknown (99)</td><td>AND</td><td>RACE is White (01) or Black (02)</td></tr>
<tr><td>Unknown: Unknown which of the above</td><td>HISPANIC is Unknown (99)</td><td>AND</td><td>RACE is Unknown (99)</td></tr>
</table>

Table A-4. Percentages of Unknown for Race and Hispanic Origin Coding for Fatalities, FARS 2014-2018

	2014			2015			2016			2017			2018		
State	**Total Fatalities**	**Race**	**Hispanic Origin**	**Total Fatalities**	**Race**	**Hispanic Origin**	**Total Fatalities**	**Race**	**Hispanic Origin**	**Total Fatalities**	**Race**	**Hispanic Origin**	**Total Fatalities**	**Race**	**Hispanic Origin**
Alabama	820	3.5%	3.5%	850	2.2%	2.1%	1,083	2.5%	2.5%	948	2.1%	2.4%	953	1.2%	1.3%
Alaska	73	0.0%	0.0%	65	0.0%	0.0%	84	2.4%	0.0%	79	1.3%	0.0%	80	0.0%	0.0%
Arizona	773	2.1%	2.8%	897	2.1%	3.0%	952	3.6%	3.0%	998	4.0%	3.8%	1,011	9.4%	2.1%
Arkansas	470	0.9%	1.1%	550	0.7%	3.1%	561	0.4%	0.5%	525	0.8%	1.1%	520	0.8%	1.0%
California	3,102	0.2%	0.3%	3,387	1.2%	1.3%	3,837	2.7%	3.0%	3,884	2.9%	3.0%	3,798	3.9%	3.0%
Colorado	488	0.2%	0.2%	547	0.4%	0.4%	608	0.5%	0.5%	648	0.0%	0.0%	632	0.0%	0.2%
Connecticut	248	2.0%	2.0%	270	21.5%	20.7%	304	7.6%	3.9%	281	32.0%	31.3%	293	33.8%	34.1%
Delaware	124	0.0%	0.0%	131	0.0%	0.8%	119	0.8%	0.0%	119	0.0%	0.0%	111	0.0%	0.0%
District of Columbia	23	0.0%	0.0%	23	0.0%	4.3%	27	0.0%	7.4%	31	0.0%	0.0%	31	0.0%	0.0%
Florida	2,494	0.2%	1.6%	2,938	0.2%	2.0%	3,176	0.2%	2.2%	3,116	0.4%	2.4%	3,135	0.8%	3.1%
Georgia	1,164	24.0%	23.2%	1,432	12.1%	12.0%	1,556	17.7%	17.7%	1,540	10.0%	10.1%	1,505	11.0%	10.8%
Hawaii	95	1.1%	1.1%	93	1.1%	2.2%	120	0.8%	0.8%	107	0.9%	1.9%	117	0.9%	0.9%
Idaho	186	0.0%	0.0%	216	0.5%	0.9%	253	0.4%	0.4%	245	1.6%	1.6%	234	1.3%	0.9%
Illinois	924	2.4%	3.2%	998	1.3%	1.5%	1,078	0.6%	1.1%	1,090	0.6%	0.4%	1,035	0.4%	0.6%
Indiana	745	39.9%	39.6%	817	4.4%	4.2%	829	8.0%	7.5%	916	14.2%	14.0%	860	7.6%	7.4%
Iowa	322	41.6%	65.2%	320	6.9%	9.1%	402	3.7%	6.5%	330	3.6%	16.7%	319	0.9%	4.1%
Kansas	385	0.8%	0.8%	355	1.4%	1.4%	429	0.5%	0.5%	461	1.7%	2.0%	405	1.5%	1.2%
Kentucky	672	8.9%	0.1%	761	2.2%	0.4%	834	4.6%	0.1%	782	5.6%	0.1%	724	0.1%	0.0%
Louisiana	740	0.5%	62.4%	752	1.1%	78.1%	757	0.9%	44.4%	770	1.3%	64.7%	771	1.7%	73.8%
Maine	131	21.4%	51.9%	156	1.9%	0.0%	160	7.5%	28.8%	173	9.2%	100.0%	136	5.1%	100.0%
Maryland	442	12.7%	12.9%	520	20.2%	21.3%	522	7.7%	7.7%	558	8.4%	8.4%	512	5.5%	5.5%
Massachusetts	354	5.4%	6.2%	344	7.0%	7.0%	387	4.9%	4.7%	347	0.3%	0.9%	355	0.3%	0.3%
Michigan	901	20.9%	28.6%	967	2.4%	15.6%	1,065	1.8%	12.6%	1,031	1.5%	11.7%	977	1.5%	12.0%
Minnesota	361	2.8%	1.9%	411	2.2%	2.2%	392	2.8%	2.0%	358	1.1%	0.0%	381	0.8%	0.8%
Mississippi	607	0.0%	0.0%	677	0.1%	0.0%	687	0.3%	0.3%	685	0.1%	0.3%	663	0.2%	0.0%
Missouri	766	0.1%	0.3%	870	0.1%	0.1%	947	0.0%	0.1%	932	0.2%	0.5%	921	0.4%	0.5%
Montana	192	0.0%	0.0%	224	0.9%	0.9%	190	0.0%	0.0%	186	0.0%	0.0%	181	0.6%	0.0%
Nebraska	225	0.0%	0.0%	246	0.0%	0.0%	218	0.5%	0.5%	228	0.4%	0.4%	230	0.0%	0.0%
Nevada	291	4.8%	2.7%	326	3.7%	3.7%	329	5.5%	4.6%	311	7.7%	7.4%	329	2.1%	1.8%
New Hampshire	95	0.0%	0.0%	114	0.0%	0.0%	136	0.0%	0.0%	102	0.0%	0.0%	147	0.0%	0.0%
New Jersey	556	1.4%	1.1%	561	1.1%	1.1%	602	2.3%	2.3%	624	2.1%	2.6%	563	1.4%	1.1%
New Mexico	386	4.7%	23.3%	298	6.7%	11.1%	405	0.5%	0.2%	380	0.8%	0.5%	392	6.6%	7.1%
New York	1,041	7.7%	7.7%	1,136	12.5%	12.6%	1,041	16.2%	16.0%	1,006	10.7%	10.8%	964	49.8%	53.2%
North Carolina	1,284	0.0%	0.0%	1,379	0.3%	0.3%	1,450	0.3%	0.4%	1,412	0.4%	0.6%	1,436	0.3%	0.1%
North Dakota	135	0.7%	0.0%	131	0.8%	0.0%	113	1.8%	0.0%	116	1.7%	0.9%	105	1.9%	1.0%
Ohio	1,006	0.5%	0.5%	1,110	0.6%	0.7%	1,132	0.7%	0.6%	1,179	0.3%	0.2%	1,068	0.7%	0.5%
Oklahoma	669	0.0%	0.0%	645	0.8%	0.6%	687	0.0%	0.0%	657	0.3%	0.3%	655	0.3%	0.3%
Oregon	357	0.0%	0.0%	446	0.0%	0.0%	498	0.2%	0.2%	439	0.5%	0.5%	502	0.6%	0.6%
Pennsylvania	1,195	99.9%	99.9%	1,200	100.0%	100.0%	1,188	99.9%	99.9%	1,137	20.8%	21.9%	1,190	10.5%	10.7%
Rhode Island	51	2.0%	2.0%	45	4.4%	6.7%	51	0.0%	0.0%	84	0.0%	0.0%	59	3.4%	0.0%
South Carolina	823	0.0%	0.0%	979	0.0%	0.0%	1,020	0.1%	0.0%	989	0.0%	0.0%	1,036	0.0%	0.0%
South Dakota	136	0.0%	0.0%	134	0.0%	0.0%	116	0.0%	0.0%	129	0.0%	0.0%	130	0.0%	0.8%
Tennessee	963	0.3%	0.4%	962	0.4%	0.5%	1,037	0.6%	0.8%	1,024	0.3%	0.4%	1,040	1.4%	1.5%
Texas	3,536	0.7%	17.2%	3,582	1.1%	18.7%	3,797	0.6%	4.7%	3,732	0.6%	4.4%	3,648	0.8%	3.6%
Utah	256	0.4%	0.0%	278	11.9%	11.9%	281	1.8%	1.1%	273	1.8%	1.5%	260	1.2%	0.8%
Vermont	44	0.0%	0.0%	57	0.0%	0.0%	62	1.6%	1.6%	69	0.0%	0.0%	68	0.0%	0.0%
Virginia	703	13.4%	13.9%	754	1.7%	1.9%	760	3.4%	3.6%	839	4.8%	4.9%	820	5.1%	5.2%
Washington	462	1.3%	0.2%	551	0.5%	0.5%	536	1.1%	0.6%	563	1.4%	0.9%	539	0.7%	0.0%
West Virginia	272	0.0%	0.0%	268	0.0%	0.0%	269	0.0%	0.0%	304	0.0%	0.0%	294	0.0%	0.0%
Wisconsin	506	2.4%	2.0%	566	1.1%	0.5%	607	2.8%	3.1%	613	0.8%	0.8%	589	0.7%	0.5%
Wyoming	150	0.0%	0.7%	145	0.0%	0.7%	112	1.8%	1.8%	123	0.0%	0.8%	111	0.9%	0.0%
National	**32,744**	**8.0%**	**11.9%**	**35,484**	**5.9%**	**9.9%**	**37,806**	**5.8%**	**7.6%**	**37,473**	**3.3%**	**5.9%**	**36,835**	**4.0%**	**6.4%**
Puerto Rico	304	0.0%	0.0%	310	0.0%	0.0%	279	0.0%	0.0%	290	0.0%	0.0%	308	0.0%	0.0%

Note: Legend for Percent Unknown: White = under 5 percent; Blue = 5 to less than 10 percent; Yellow = 10 to less than 15 percent; Orange = 15 percent or higher.

Sensitivity Analysis

This section presents a sensitivity analysis to examine how much the conclusions from the section Changes in Travel Outcome Disparities Over Time change using different States. Specifically, we changed the criteria from States reporting *95 percent* to States reporting *90 percent* of race-ethnicity in both traffic and pedestrian fatalities to NHTSA for both 2014 and 2018.

There are 41 States, including DC, that meet these criteria. In addition to the 36 Threshold States, we added Kansas, Massachusetts, New Mexico, Rhode Island, and Vermont to the sensitivity analysis. In 2018 these 41 States accounted for 75 percent of the U.S. population, 79 percent of the traffic fatalities, and 79 percent of the pedestrian fatalities. Table A-5 shows that the racial-ethnic makeup of these 41 States closely matches that of the nation as a whole.

Table A-5. The Race-Ethnicity Population Distribution of the United States and the 41 States, 2014 and 2018

Race-Ethnicity	2014		2018	
	U.S. Population (%)	41 States Population (%)	U.S. Population (%)	41 States Population (%)
Hispanic or Latino	17.3	19.7	18.3	20.7
AIAN	0.7	0.9	0.7	0.9
Asian	5.2	5.4	5.7	5.8
Black or African American	12.4	11.1	12.5	11.2
NHPI	0.2	0.2	0.2	0.2
White	62.1	60.6	60.5	58.9
Multiple Races	2.0	2.1	2.2	2.2

Source: Population – Census Bureau

Table A-6 presents the results of the sensitivity analysis. They are like those from Table 9. They point to a narrowing of the disparity between AIAN and white people, and a widening disparity between Black or African American and white people. As with Table 9, Hispanic or Latino pedestrian fatalities and Asian pedestrian fatalities were the only other groups whose distance from the white travelers' rate increased. In 2014 and 2018, AIAN people had the highest traffic fatalities relative to white people and the highest pedestrian fatalities relative to white people. Similarly, in 2014 and 2018 Asian people had the lowest relative traffic fatalities and the lowest relative pedestrian fatalities.

Table A-6. Traffic and Pedestrian Fatality Rates Relative to White People in 2014 and 2018, for the 41 States

Race-Ethnicity	Relative Traffic Fatalities per 100K Population		Relative Pedestrian Fatalities per 100K Population	
	2014	**2018**	**2014**	**2018**
Hispanic or Latino	0.82	0.86	1.31	1.37
AIAN	2.72	2.17	4.86	3.88
Asian	0.29	0.29	0.73	0.62
Black or African American	1.07	1.28	1.84	2.03
NHPI	0.74	1.16	1.65	1.35
White	1	1	1	1

Sources: FARS 2014 and 2018 Final File; Population – Census Bureau

Next, we analyze a different type of sensitivity. Of the 36 Threshold States analyzed in the section Changes in Travel Outcome Disparities Over Time, one has a remarkably high percentage of fatalities of unknown Hispanic Origin. In 2014 there were 17.2 percent of Texas fatalities with unknown Hispanic Origin, compared to 3.6 percent in 2018. We looked at what happened to the assessment of whether disparities changed in the 90 or 95 percent States under two alternative scenarios:

Scenario 1: Categorize the Texas white and Texas Black or African American fatalities with unknown Hispanic Origin as *non-Hispanic or Latino* fatalities.

Scenario 2: Categorize the Texas white and Texas Black or African American fatalities with unknown Hispanic Origin as *Hispanic or Latino* fatalities.

Table A-7 presents how we categorized the Texas fatalities with unknown Hispanic Origin under these scenarios, compared to how FARS categorized them.

Table A-7. Traffic Fatalities in Texas With Unknown Hispanic Origin Under Two Scenarios, by Race-Ethnicity, 2014

Race-Ethnicity	FARS		Scenario 1		Scenario 2	
	2014	**2018**	**2014**	**2018**	**2014**	**2018**
Hispanic or Latino	0	0	0	0	589	121
White	0	0	588	119	0	0
Black or African American	0	0	1	2	0	0
AIAN	1	0	1	0	1	0
All Other	592	122	3	1	3	1
Unknown	14	11	14	11	14	11
Total	**607**	**133**	**607**	**133**	**607**	**133**

Source: FARS 2014 Final File

Table A-8 presents the results for the 36 States meeting the 95 percent threshold under two scenarios.

Table A-8. Traffic and Pedestrian Fatality Rates Relative to White People in 2014 and 2018, for the 36 Threshold States

Race-Ethnicity	Relative Traffic Fatalities per 100K Population		Relative Pedestrian Fatalities per 100K Population	
	2014	**2018**	**2014**	**2018**
Scenario 1				
Hispanic or Latino	0.77	0.84	1.25	1.34
AIAN	2.43	2.05	3.90	3.49
Asian	0.28	0.29	0.71	0.61
Black or African American	1.01	1.26	1.75	1.99
NHPI	0.74	1.18	1.68	1.40
White	1	1	1	1
Scenario 2				
Hispanic or Latino	0.92	0.87	1.40	1.38
AIAN	2.52	2.07	4.04	3.53
Asian	0.29	0.29	0.74	0.62
Black or African American	1.05	1.27	1.81	2.00
NHPI	0.77	1.19	1.74	1.41
White	1	1	1	1

Sources: FARS 2014 and 2018 Final File; Population – Census Bureau

Table A-9 presents the corresponding results for the 41 States.

Table A-9. Traffic and Pedestrian Fatality Rates Relative to White People in 2014 and 2018, for the 41 States

Race-Ethnicity	Relative Traffic Fatalities per 100K Population		Relative Pedestrian Fatalities per 100K Population	
	2014	2018	2014	2018
Scenario 1				
Hispanic or Latino	0.79	0.86	1.26	1.35
AIAN	2.62	2.16	4.70	3.84
Asian	0.28	0.28	0.71	0.62
Black or African American	1.03	1.27	1.78	2.02
NHPI	0.71	1.16	1.60	1.33
White	1	1	1	1
Scenario 2				
Hispanic or Latino	0.94	0.88	1.41	1.40
AIAN	2.72	2.17	4.86	3.88
Asian	0.29	0.29	0.73	0.62
Black or African American	1.07	1.28	1.84	2.03
NHPI	0.74	1.16	1.65	1.35
White	1	1	1	1

Sources: FARS 2014 and 2018 Final File; Population – Census Bureau

We find the results in the four previous tables remarkably consistent. They validate our findings, particularly the narrowing disparity between AIAN and white people and the widening disparity between Black or African American and white people. Hispanic or Latino pedestrian fatalities and Asian pedestrian fatalities were the only other groups whose distance from the white travelers' rate increased. In 2014 and 2018, AIAN people had the highest traffic fatalities relative to white people and the highest pedestrian fatalities relative to white people. Similarly, in 2014 and 2018 Asian people had the lowest relative traffic fatalities and the lowest relative pedestrian fatalities. Again, these results only apply to the States studied.

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