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Here Comes the Sum

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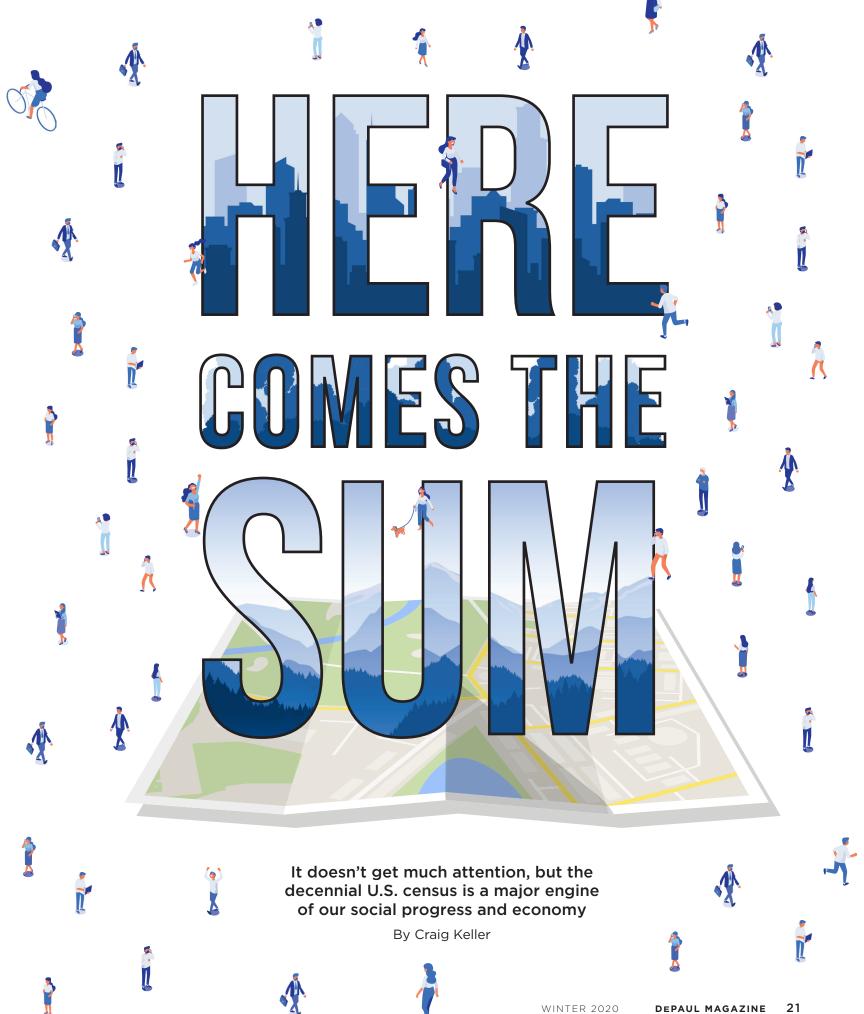


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s the nation gears up for what promises to be a highly A sthe nation gears up for what present and contentious U.S. presidential election on Nov. 3, another event taking place this year likely will have longer and more profound effects on affairs of state. April 1 marks the official start of the country's 24th decennial census.

Mandated by the U.S. Constitution, the once-a-decade count of the country's more than 325 million people in all 50 states, the District of Columbia, Puerto Rico and island territories is used to draw congressional and state legislative districts. It guides the distribution of \$675 billion in federal funding to local governments and communities for vital resources, including schools, hospitals, roads, fire departments, community centers and a multitude of social service programs. Information gleaned from the census provides detailed economic, demographic and geographic information to state and local governments, financial markets, for-profit and nonprofit entities, scholars—anyone who is in need of population data.

THE DEMON IN THE DETAILS

The decennial census is the responsibility of the U.S. Census Bureau, the federal government's largest statistical agency. It is the benchmark program that frames many other monthly, annual and five-year censuses and surveys the bureau performs. And Albert Fontenot Jr. (SCPS '79, MBA '85), a Chicago native and U.S. Army veteran, is the Census Bureau's associate director overseeing decennial programs.

"We might say the census is about three things," Fontenot explains. "It's about political power. It's about money. And it's about knowledge, because the census data is then used by corporations and governments to determine where they're going to build plants and make new expansions. It really helps drive the economic engine of the country."

Fontenot's own economic savvy supported a career in



DePaul alumnus Albert Fontenot Jr. directs decennial census operations for the U.S. Census Bureau.

corporate finance and marketing in the toy and office supply industries. A postretirement volunteer stint helping with the 2010 decennial census spurred Fontenot to a second career in public service. "They asked me if I could stay on," he recalls. "One thing led to another, and here I am today, running the census program."

En route to his current role, Fontenot held several field operation positions. He was on the team that created the operational plan for the 2020 census. "I brought in the real-world experience of being on the ground—what you have to do to actually manage the census from a practical standpoint—and in collaboration with the statisticians, mathematicians and other experts on survey methodology and the census's more theoretical side."

Japanese eth-

from Chinese

category. 1890

nicity separated

Only heads of household named in count of free white males and females, other "free persons," and slaves (recorded as three-fifths of a person). Native Americans excluded until 1860.

1790

First census of agriculture. First state and local government data (stats on schools) collected.

1840



Slave status appears for the last time. "Civilized Indians" not living on tribal lands counted.

1860

Explore Census Bureau operational innovations at depaulmagazine.com.



1810

Manufacturing data collected for first time. 1850

Names of all free persons, occupation, birthplace and school enrollment tallied. Social-issue questions address taxation, churches, pauperism and crime.

1870

Names of every person in households recorded. All African Americans listed by name. Native Americans on reservations counted; "nomadic" population estimated. Chinese ethnicity added.



1910

Questions asked about Civil War veteran status and "mother tongue" of foreign-born.

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COUNTING THE POPULATION

The Census Bureau comprises 12 regional data collection centers, with additional temporary processing centers for the decennial census and a national processing center in Jeffersonville, Ind., that maintains microfilmed copies of census records from 1910 to 2010. The census was still an entirely paper affair in 2010, with questionnaires mailed by respondents and delivered by 150,000 employees walking every street in the country; the 2020 census is adding online technology to streamline efficiencies and more effectively target populations susceptible to undercounting. "We're going to give people three options to self-respond," says Fontenot. "Any way you want, basically. Online, on the phone, or on paper."

The 2020 census started back in 2015 with address canvassing, the process by which the Census Bureau updates and develops its master address list and geospatial database. By using proprietary software that compares satellite images of housing changes over time, the bureau was able to verify nearly 70% of addresses before field canvassing began in August 2019. "We only had to send about 40,000 people on the ground to verify the remaining 30%," says Fontenot.

After the master address list was cross-referenced with the U.S. Postal Service, snow-booted enumerators began counting in January 2020 in remote areas of Alaska, where mail service is unreliable and roads scarce. The rest of the country will start receiving invitations in March to respond online, by phone or by mail. Both the web form and call-in center support 13 different languages.

Besides mailed invitations, a robust communications campaign will use social media and targeted marketing to encourage communities that are hard to reach, not responding or prone to undercounting. Apple and Amazon will support the effort with chatbot responses via digital assistants Siri and Alexa.

Technology doesn't entirely replace door-to-door canvassing. Intensive, separate data-collection operations cover nontraditional "group quarters," including military bases, prisons, nursing homes and college dorms; transitory locations like RV parks, marinas, motels and even circuses; and the island territories of American Samoa, Guam and the U.S. Virgin Islands. People experiencing homelessness, invariably undercounted, are tallied in soup kitchens, shelters and other accommodations.

Fontenot's organizational strengths will come in handy in May, when he'll oversee some 500,000 temporary hires



Photo courtesy of the U.S. Census Bureau

The 1980 census achieved impressive accuracy through mailed-back responses.

First censuses of retail and wholesale trade.

1930

Census Bureau assumes responsibility for collecting foreign-trade import and export data.

1941

First census of transportation.

1963

Multiple responses to race question permitted.

2000





1940

Territorial enumerations added for Alaska, American Samoa, Guam, Hawaii, Panama Canal, Puerto Rico and American Virgin Islands. Questions about housing become more detailed.

1950

First counts of Americans abroad, including U.S. armed forces and federal civilian employees.

1980

Hispanic origin asked of all households.

2020

Relationship option added for same-sex married spouses and unmarried partners.





Technological advances helped the Census Bureau refine its address canvassing for the 2020 census.

walking the streets to knock on nonrespondents' doors. The iPhone 8s they will use for enumeration also let field directors manage assignments and payroll electronically, and use GPS to direct staff along optimal travel routes. These efficiencies halved census field offices from 500 in 2010 to 248 in 2020.

In addition to questions about household inhabitants, family relationships, sex, age, race and homeownership, the 2020 questionnaire will include a new question that tallies same-sex marriages.

"We're trying to evolve the information we provide as our society evolves," says Fontenot, who thinks that information, as well as more detailed response options regarding ethnicities, "will help sociologists and demographers get a better picture of America."

SECURING THE DATA

Data collected via mobile app or computer is encrypted at every point of the process, from collection to tabulation, stresses Fontenot. "One of our foundational pillars is that your data is safe with the Census Bureau," he says. "The other is that it's secure. We will not, under any circumstances, and may not by law, share information we collect for anything but combined statistical purposes. When people give us their data, it won't be shared with INS, the IRS, the FBI, local police or any other government agency."

The bureau has contracted with Microsoft's Defending Democracy initiative to provide cybersecurity training support for the census staff. Google's reCAPTCHA verification tool will also be used to guard against cyberattacks, spam and bots when the online questionnaire is accessed and submitted.

Population counts, stripped of individual names and addresses, will be delivered to the president for congressional apportionment by Dec. 31, 2020, to the states for redistricting by April 1, 2021, and to the public beginning in December

2021. Complete census records held by the bureau's processing center are only released to the National Archives and Records Administration, where they are made available to the public, 72 years after a census. The 72-year metric was chosen in 1952 because it was then slightly higher than the average female life expectancy in the United States.

AIDING COMMUNITY-CENTERED CURRICULA

Social scientists, including DePaul faculty who draw on Census Bureau data for their research and classes, frequently glean data from the online database of the American Community Survey (ACS), which is among the programs Fontenot oversees.

The ACS is an ongoing survey that provides annual and 5-year estimates on a wide range of social, demographic, economic and housing categories. Its detailed information is collected monthly from a representative sample, about 3.5 million randomly chosen addresses, of the country's population. The Census Bureau claims a 90% confidence level in the margin-of-error, plus-or-minus figures provided with each report. The ACS grew out of the so-called "long form" questionnaires sent to a percentage of households beginning in the mid-20th century as part of the decennial census. Also intended to guide distribution of federal and state funds, the ACS replaced the long form in 2005.

Since 1910, beginning with New York City, the Census Bureau has also produced detailed geographic and demographic studies of metropolitan areas with populations of 50,000 and more. Sociology and geography faculty at DePaul examine these data down to census tract (averaging about 4,000 people) and smaller block group and block segments. Layering this information with various ACS findings, decennial census data, open-source government information from the Chicago Data Portal and their own research provides scholars with a rich, vast resource for study and pedagogy.

Roberta Garner, a professor of sociology, has used census data in her quantitative research methods class to examine migration patterns of ethnic and racial groups in the Chicago area.

"It's tremendously important to have this information to understand the dynamics of change in the country and these spatial dynamics," says Garner, "and to understand how those factors might relate to health equity, to education, to many other good things—really, universal rights—that people might not be fully getting."

Garner expects the 2020 census will reveal the city's residents are generally getting younger, while some populations, such as African Americans, are aging, in part due to suburban migration.

"There's been a huge loss of African Americans from Chicago, in the hundreds of thousands. We'll probably see that more clearly," she says. "There's been a big change, not just over the last 10 years, but over the last 20, to the suburban rings of metro areas becoming more diversified, economically and racially, moving away from the stereotype of predominantly white middle-class areas. I think the census will help us to understand that better."

At the same time, Garner lists several hard-to-count populations that academic and Census Bureau studies show are severely undercounted: "young children, people of color, rural

people, lower-income people, linguistically isolated people, frequent movers, foreign-born people below the poverty line, people who live in overcrowded housing, single parents." Those undercounts, of course, have funding and political implications, notably with regard to equitable voting representation.

"Urban researchers have understood for many years that in certain places there are undercounts, and that has always been true in neighborhoods with high immigrant populations, especially Latinx populations," says Professor Winifred Curran, an urban geographer who chairs DePaul's Department of Geography. That disparity can invite political opportunism. Regarding the controversial, proposed inclusion of a citizenship question on the decennial census questionnaire, Curran says "there was no doubt" about its intent to repress responses among Latinx communities, thereby diminishing voter representation and community resources. Although the question was not added, "it's already scared a lot of people away from the census," she says. "This is not just an arcane argument over data. This has real-world consequences, which we're living with every day."

Curran also mentions an attempt in Congress a few years ago to remove entirely the collection of racial and ethnic data on census responses. The intended result, she says, is that "you can't prove racial discrimination in housing. It's not subtle."

Despite finding census data useful in "setting the stage" for her research on gentrification in Chicago's Pilsen neighborhood, Curran notes the limitations of even annual ACS data in revealing discriminatory housing patterns in the community's declining Latinx population. "Gentrification is such a fast-moving process that by the time indicators show up in census data, it's already done."

Euan Hague, an urban geography professor who also studies Pilsen, has students correlate census block data with changes in the neighborhood's housing, which he's scrutinized over the past 15 years, to identify cause-and-effect patterns that may influence gentrification.

"We look at numbers," says Hague. "Is the number of families with children in this two-square-mile area of Chicago changing, and if so, what impact will that have on local schools? Or is the number of people who don't speak English at home changing in that neighborhood, and how is that going to impact schools and churches? We've seen the closure of a number of Catholic churches there. So, how do people identify religiously? Is that changing, and are we seeing an impact on how a city funds its various operations around the city as a result?"

IMPACT ON REAL LIFE

Julie Hwang, an associate professor of geography, uses geographic information systems (GIS) to design multilayered, interactive, digital maps to learn how metro areas are affected by segmented housing markets, travel behaviors, occupational structure, education attainment, income, race and other factors. Students in her classes channel census data into GIS maps created for community organizations connected with DePaul's Irwin W. Steans Center.

Kitti Quarfoot, who completed DePaul's GIS certificate program, and her classmate, Jason Rico, used ACS data on households where minimal English is spoken to create a map for the Coalition for Immigrant Mental Health to help its clients locate receptive mental health providers near public transportation.

"It's a good feeling to produce something that could potentially help somebody," says Quarfoot, who was swarmed after presenting the map at the organization's annual meeting. "All these people were saying, 'This would be so helpful to have when my clients come so that I can refer them to someplace close."

Another of Hwang's GIS students, **Alex Levin (LAS MA'16)**, studied sustainable urban development and now works as a senior analyst at Chicago's Resource Systems Group, where he continues using census data to model development plans for transit agency clients. As a student, Levin and his team worked with Slow Roll Chicago, a grassroots organization promoting equity for bicycle-sharing services. The GIS map he helped create aligned demographic census block data with Divvy stations and transit routes to clearly show more stations concentrated in white-majority North Side neighborhoods.

LEARN HOW TO COUNT

Such real-world applications in the pursuit of community improvement are one beneficial outcome of the Census Bureau's efforts to document the nation's progress through painstaking enumeration, statistical analysis and the dispersal of voluminous data. Fontenot, when asked for other examples, responds instead with a request.

"It's a great opportunity for people, from college students to retirees, to take temporary census jobs," says the DePaul alumnus. "It gives them an opportunity to make a valued contribution in the community in which they live. We have people who have worked for us three, four, five, even six censuses. We look for opportunities to take people who bring talents and skills into our permanent census family.

"And," he adds, "we pay well."

Visit 2020census.gov/jobs to take Fontenot up on his offer.



Census Bureau data helped Slow Roll Chicago promote bicycle equity.

Photo courtesy of Olatunji Oboi Reed Slow Roll Chicago and Equiticity