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CLIMATE & ENVIRONMENT

Redlining means 45 million Americans are breathing dirtier air, 50 years after it ended

Boyle Heights, a heavily Latino area in Los Angeles singled out for its ‘detrimental racial elements,’ has one of the highest pollution scores in California



By [Darryl Fears](#)

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Decades of federal housing discrimination did not only depress home values, lower job opportunities and spur poverty in communities deemed undesirable because of race. It’s why 45 million Americans are breathing dirtier air today, according to a landmark study released Wednesday.

The practice known as redlining was outlawed more than a half-century ago, but it continues to impact people who live in neighborhoods that government mortgage officers shunned for 30 years because people of color and immigrants lived in them.

The analysis, published in the journal Environmental Science and Technology Letters, found that, compared with White people, Black and Latino Americans live with more smog and fine particulate matter from cars, trucks, buses, coal plants and other nearby industrial sources in areas that were redlined. Those pollutants inflame human airways, reduce lung function, trigger asthma attacks and can damage the heart and cause strokes.

“Of course, we’ve known about redlining and its other unequal impacts, but air pollution is one of the most important environmental health issues in the U.S.,” said Joshua Apte, a co-author of the study and an assistant professor in the School of Public Health at the University of California at Berkeley.

“If you just look at the number of people that get killed by air pollution, it’s arguably the most important environmental health issue in the country,” Apte said.

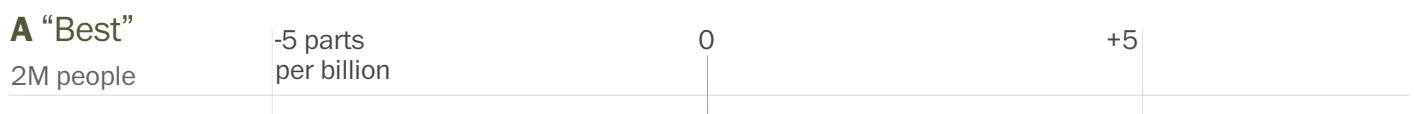
The federal Home Owners’ Loan Corporation (HOLC) marked areas across the United States as unworthy of loans because of an “infiltration of foreign-born, Negro, or lower grade population,” and shaded them in red starting in the 1930s. This made it harder for home buyers of color to get mortgages; the corporation awarded A grades for solidly White areas and D’s for largely non-White areas that lenders were advised to shun.

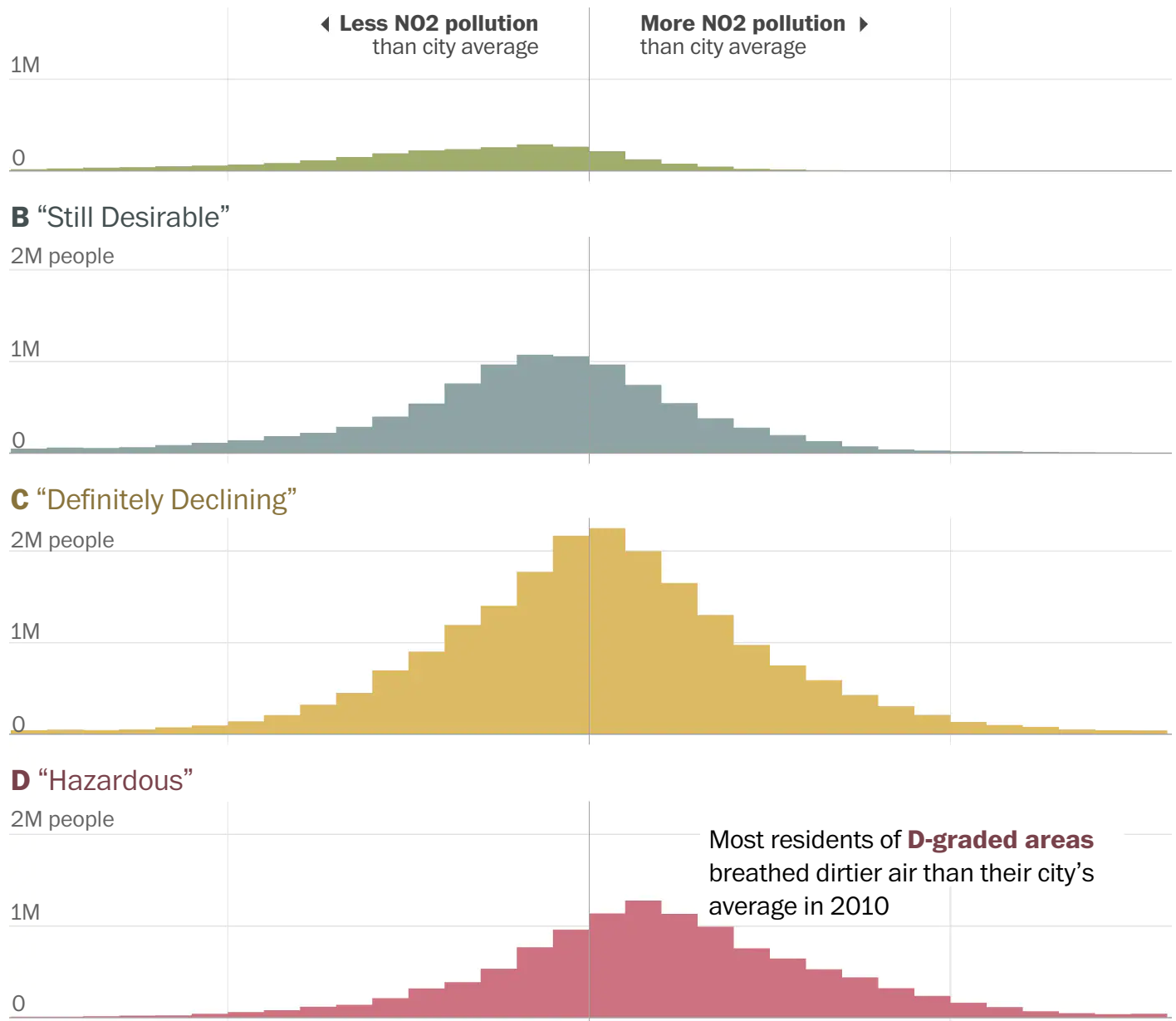
Throughout redlining’s history, local zoning officials worked with businesses to place polluting operations such as industrial plants, major roadways and shipping ports in and around neighborhoods that the federal government marginalized.

The researchers analyzed air quality data in 202 cities where communities were redlined and found a consistent disparity in the level of nitrogen dioxide, which forms smog, and PM2.5 pollution, the small particles that can become embedded in people’s lungs and arteries.

Redlining’s fingerprint lingers in the nation’s air

Levels of nitrogen dioxide pollution in 2010 tended to be worse in areas graded **C** or **D** than areas graded **A** or **B** on government mortgage maps dating to the 1930s.





Note: City averages are population-weighted mean values calculated for HOLC-graded blocks only.

Source: Lane et al., 2022

JOHN MUYSKENS/THE WASHINGTON POST

With nitrogen dioxide, pollution levels were higher in 80 percent of communities given D grades and lower in 84 percent of communities given A grades. That trend held regardless of whether a city was as large as Los Angeles or Chicago, or as small as Macon, Ga., or Albany.

Haley Lane, a graduate student in the civil and environmental engineering department at UC-Berkeley and the study's lead author, said the team embarked on the research to show that a "widespread, federally backed, and well documented" practice like redlining was indelibly linked to air pollution. The research took about two years.

“These maps allowed us to analyze conditions in cities across the country, and the consistency we found shows us how many of the pollution problems we have today are tied to patterns that were present in cities more than 80 years ago,” Lane said.

While air quality has improved in the United States overall, several recent studies — including the one released Wednesday — show that people of color, especially African Americans and Latinos, are still disproportionately affected by pollution.

A large body of research has already shown that redlined communities experience other environmental challenges, including excessive urban heat, sparse tree canopy and few green spaces. The new analysis, according to the authors, is the first look nationwide at how redlining leads to disparities within different cities.

“This groundbreaking study builds on the solid empirical evidence that systemic racism is killing and making people of color sick, it’s just that simple,” said Robert D. Bullard, a distinguished professor of urban planning and environmental policy at Texas Southern University and the author of “Dumping in Dixie: Race, Class and Environmental Quality.”

Bullard, who was not involved in the study, said that it “makes clear the elevated air pollution disparities we see today between Black Americans and White Americans have their roots in systemic racism endorsed, practiced and legitimated by the federal Home Owners’ Loan Corporation some eight decades ago.”

During the early days of the coronavirus pandemic, public health officials said underlying diseases suffered by people of color as a result of air pollution and other conditions in marginalized communities contributed to their disproportionate hospitalization and death from covid-19.

President Biden addressed that concern after taking office by signing an executive order to help marginalized communities that are overburdened by pollution. He established the Justice40 Initiative to direct 40 percent of federal resources to those communities and established the White House Environmental Justice Advisory Council to help guide the administration’s decisions.

Beverly Wright, the founder and executive director of the Deep South Center for Environmental Justice, said the research confirms what she and other activists have said for decades: Redlining led to zoning decisions that exposed people of color to pollution.

“Any time we can get a study that takes the anecdotal stories of communities and we end up having scientific findings to support those anecdotal stories, that’s a good thing,” said Wright, who, like Bullard, sits on the White House Environmental Justice Advisory Council. “It supports community claims on the ground.”

Julian D. Marshall, a professor of civil and environmental engineering at the University of Washington and one of the study’s co-authors, said the research provides the kind of information that helps societies move toward solutions.

“One way is to document that the disparities we see today have a long history,” Marshall said. “The decisions and the actions we’re talking about were made by people who are no longer alive, and yet we’re suffering the consequences of this structural, race-based planning.”

Racial inequality is so baked into redlined communities that even when it shouldn’t matter, it did, the study said. Black and Latino Americans who live within the very same HOLC grade as White people still breathe dirtier air because of their closer proximity to pollution.

“This point is really key,” said Lane, the lead author. “People of color can be living in the same cities, and even in neighborhoods with the same redlining grade as nearby White residents, and they will still tend to experience worse pollution on average.”

The finding suggests that redlining added to inequities that developed from long-standing racial discrimination, Lane said. “Racist segregation was always essential to redlining, but there is a long history and a wide range of factors contributing to the disparities we see today. We can’t point to any single decision or program which brought about current conditions because the problem is systemic.”

The disproportionate impact of smog and particulate matter is more pronounced in four major metropolitan areas: Los Angeles, Atlanta, Chicago and Essex County/Newark, said Rachel Morello-Frosch, a co-author who is a professor of environmental and community health sciences at UC-Berkeley.

In Boyle Heights, a community just east of downtown Los Angeles, federal map drawers ostracized the people who lived there before marginalizing their community in the late 1930s.

“It is seriously doubted whether there is a single block in the area which does not contain detrimental racial elements,” they wrote, “and there are very few districts which are not hopelessly heterogeneous in type of improvement and quality of maintenance.”

Following its designation as one of the city’s least desirable communities for investment, Boyle Heights was encircled by four major freeways — Interstates 5, 10, 710 and 110 — in a city with some of the heaviest automobile traffic in the world.

CalEnviroScreen, a [mapping tool](#) that tracks state pollution by census tracts, gives large parts of Boyle Heights the highest pollution burden score available, 100 percent. More than 86,000 people live there, most of them Latino.

“It’s not like one part of Los Angeles is considered, you know, necessarily less polluted than another,” said Cyrus Rangan, director of the toxics epidemiology program for the Los Angeles County Department of Public Health. “We have these air quality problems all over.”

But areas that hug freeways, such as Boyle Heights, get the worst of around-the-clock diesel truck traffic that spews fine particulate matter. “When it comes to the ports and the ways our freeways are situated, in the way we kind of squeezed in a lot of residential areas in and around all of those economic developments, that’s what’s created a major issue,” Rangan said.

Government planning and zoning officials gravitate toward Boyle Heights and underprivileged communities where inexpensive real estate is easier to purchase for freeway projects or site-polluting industries that wealthier residents would manage to resist.

“The land and housing tends to be cheaper, so people who tend to live there tend to be people of lower-cost origins,” Rangan said.

Paul Simon, the Los Angeles health department’s chief science officer, said Long Beach and San Pedro, where mostly Latino and Black residents live near major shipping ports, have pollution levels similar to Boyle Heights.

Simon praised the redlining study, calling it something he’s never seen. “It ... highlights the challenges moving forward in trying to address these disparities and inequities to change the pattern of land use and transportation planning to sort of alter the built environment,” Simon said.

“The agency that concocted the racist grading system itself deserved an F grade,” Bullard said.

It discriminated against mostly Black and Latino families, robbed them of the wealth their homes could have generated, he said, “and created pollution magnets that threatens the health, well-being and quality of life of families who settle in formerly redlined neighborhoods.”