MORE THAN ROADS & BRIDGES

A comprehensive approach to sound infrastructure is an important counter to historic racial inequity

By Algernon Austin, PhD
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It should be obvious that a broad and deep investment in the nation’s long-neglected and now failing infrastructure is necessary to ensure the United States continues to be a leading, prosperous democracy among nations. A sound infrastructure helps us all — individuals, communities, businesses, and government—urban and rural. For those of us who have been long disadvantaged in this nation through structural racism and discrimination, however, a sound infrastructure in every community is especially critical as a bulwark against the pernicious harms of discrimination and segregation. Having a solid infrastructure on which everyone stands helps counter structural inequities driven by segregation and longstanding differences in investments in communities based on race.

Unequal investment is one of two types of inequities stemming from our historic and current infrastructure policies and practices. There is inequity directly via unequal and inadequate investments in Black communities, and there is also an indirect inequity because the harm from failing infrastructure is more severe for Black communities. Black communities are disproportionately low-wealth communities, and people with little wealth commonly lack the resources to protect themselves and to recover quickly from disasters resulting from infrastructure failures. When we fail to make adequate infrastructure investments, we subject African Americans to high risks of harm from infrastructure failures.

This brief provides an overview of the need for a broad range of infrastructure investments and provides examples of both types of inequities. While it focuses on African Americans, it should be clear that other groups, particularly Latinos, Native Americans, and low-wealth individuals, are also disproportionately harmed by our failure to invest adequately in America’s infrastructure.
When people hear the word “infrastructure,” they often think of roads and bridges. There is no question that roads and bridges are infrastructure, but as civil rights leaders have urged the nation to recognize, infrastructure entails far more than just these two things.

Some argue that infrastructure only encompasses roads, bridges, tunnels, and railroads and while those are all vital, this definition is woefully inadequate. Infrastructure includes sewer systems, water lines, waste facilities, and telecommunications. It also includes parks, housing, public squares, economic centers, and schools.¹

Every four years, the American Society of Civil Engineers (ASCE) assesses America’s infrastructure and produces a report card. ASCE evaluates 17 types of infrastructure and is beginning to recognize the importance of broadband.² Roads and bridges are only two of the 17. We argue for an even broader conception of infrastructure than ASCE and recognize that each form of infrastructure is important to the future of the United States broadly, but also of particular importance to African Americans. We will illustrate this point by focusing on ten types of infrastructure considered by ASCE and their relevance for African Americans. We will also address two types of infrastructure not evaluated by ACSE: affordable housing and the care economy.

¹ Roads and Bridges, and a Whole Lot More

TMI BRIEFS AUGUST 2021
ASCE’s current overall rating of America’s infrastructure is a C-minus.³ A C grade means that the infrastructure “shows general signs of deterioration and requires attention.”⁴ A D grade means that the infrastructure has “many elements approaching the end of their service life.”⁵ A C-minus grade, therefore, suggests that much of America’s infrastructure is deteriorating, and some of it is near the end of its service life.

ASCE estimates that the country needs to invest $2.59 trillion over the next ten years to bring all of the country’s infrastructure to a good condition.⁶ This expenditure is an investment that will contribute to future economic growth and not an expense that will simply drain our resources. If we fail to make these investments by 2039, ASCE estimates that our economy will lose $10 trillion in GDP, more than three million jobs, and $2.4 trillion in exports.⁷ These numbers do not account for the lives lost, the life expectancies reduced, and the suffering that is caused by poor infrastructure.

SOURCE: ASCE 2021 Report Card for America’s Infrastructure

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To appreciate the importance of roads and bridges for African Americans, it is useful to look at Mississippi, which is the state with the largest share of African American residents, at nearly 40%. ASCE gives the nation’s roads a D grade and the nation’s bridges a C grade. Mississippi’s roads and bridges are considerably worse than the national average, with both rated D-minus.

ASCE finds that only 24% of Mississippi’s major roads and highways are in good condition. Forty-three percent are in poor condition, and the remaining 33% are in mediocre or fair condition. Bad roads impose costs on motorists. For example, in Southaven, Mississippi, ASCE estimates that damage from bad roads costs the average driver $1,870 a year. This amounts to 6% of the median household income for Black Mississippians, and 3% for White residents of the state. ASCE values the lost time due to drivers being stuck in traffic in Southaven at an additional $1,080 per driver.

Many Americans would struggle to pay for a vehicle repair bill of $1,870—or even half as much. For Black Mississippians, who have lower incomes than both average Americans and White Mississippians the struggle is likely to be considerably harder. These repair bills could easily cause lasting damage to Black households in the state. When people are unable to use their vehicles, there is considerable hardship because, for much of America, Mississippi included, many day-to-day activities...
require access to a private vehicle. The loss of access to a vehicle could lead to the loss of a job, the inability to access health care, or the inability to vote. Individuals might need to turn to high-interest loans to pay for repairs, leading to substantial debt. Alternatively, individuals might be forced to drive an unsafe vehicle and put their health and the health of others at risk.

There is another health risk from Mississippi’s bad roads. Mississippi has one of the highest automotive fatality rates in the country. The state’s bad roads are implicated in about a third of the deaths.19

As mentioned above, Mississippi’s bridges also received a D-minus grade. Among the reasons Mississippi’s bridges earn such a poor grade is because only 63% of them are in good condition. More than a quarter of them (28%) are in fair condition, and 9% of them need substantial repairs.20 Over 400 Mississippi bridges have been closed because they are unsafe. There are many weight-restricted bridges that cannot support a load heavier than a pickup truck.21

As illustrated, roads and bridges are important to African Americans, but these are not their only important infrastructure needs.
While Black people do not comprise a large percentage of the population of Texas, by the numbers, more Black people live in Texas than in any other state. This year, a severe winter storm shut down the electrical grid in Texas, causing many people to go without heat and water for several days. This caused a severe crisis, resulting in almost 200 deaths, including people freezing to death, dying from carbon monoxide poisoning when they were forced to rely on dangerous sources of heat, and people dying when their medical devices failed, or they were unable to get life-saving medical treatment. The Houston Chronicle reported that the deaths come from 57 counties in all regions of the state but are disproportionately centered on the Houston area, which at times during the crisis accounted for nearly half of all power outages. Of the known ages, races and ethnicities of the victims, 74 percent were people of color. Half were at least 65. Six were children.
The Texas blackout during a severe winter storm is a foreshadowing of future catastrophes, as climate change will bring more extreme weather. Power failures have increased by more than 60% across the nation since 2015. A sustained power failure during a heatwave could be more deadly than one during extremely cold weather. Already, in early June 2021, the Electric Reliability Council of Texas urged Texans “to turn down thermostats and cut back electricity use” after the reserve of available electricity had shrunk to near critical levels.

Our energy systems—our engines and our power plants—mainly rely on fossil fuels that produce greenhouse gases that lead to climate change. Climate change causes extreme weather events that are expected to exceed the capacity of our infrastructure. To address this problem, we need to move away from fossils fuels to help limit the damage from climate change, and we need to design our infrastructure with the awareness that weather that used to be seen as extreme will be increasingly normal.

Climate change will be more harmful to African Americans. The negative economic impact from climate change is expected to be most severe in the Southern United States, where the Black population is concentrated. Additionally, White Americans have greater wealth to endure natural disasters stemming from climate change, and the requirements for receiving government aid in disaster areas are structured in ways to disproportionately benefit wealthy White homeowners. Consequently, researchers are finding that natural disasters widen existing inequalities.

While there is much damage from climate change expected in the future, African Americans have been living with the harm from the pollution and toxins from burning fossil fuels for generations. African Americans are more likely to live near fossil-fuel power plants, and they are “exposed to 1.5 times as much of the sooty pollution that comes from burning fossil fuels as the population at large.” Exposure to fossil-fuel pollutants increases the risk of preterm births, asthma, cancer, and other ailments. Moving to clean renewable energy will bring significant health benefits to African Americans.
Our research confirmed that failing infrastructure is the biggest contributing factor to rising water costs. . . . Unsurprisingly, rising water rates are most likely to impact communities of color.

—Coty Montag, Water/Color

In 2014, Flint, Michigan, a majority Black city, experienced the mismanagement of its aging water infrastructure when state officials who had taken over city government allowed the release of contaminants, including the neurotoxin lead, into the city’s water.41 No level of lead is safe for children. Flint pediatrician Dr. Mona Hanna-Attisha estimates that 14,000 children under six years old may have been exposed to lead from Flint’s water, and many of them will likely suffer from disabilities for the rest of their lives because of it.42 African American lives, health, and prosperity rest on the quality of America’s infrastructure, and America’s infrastructure is failing.

Among U.S. states, Louisiana ranks second in the share of the population that is Black.
About a third of all Louisianians are Black. Like the country as a whole, Louisiana is not adequately investing in and caring for its drinking water infrastructure. Louisiana is also depleting its aquifers, which puts them at risk of saltwater intrusion and pollution from human sources. ASCE gives the nation’s drinking water a C-minus. Louisiana’s drinking water infrastructure is worse; it is rated a D-minus.

The majority African American town of St. Joseph, Louisiana, made the news when elevated levels of lead and copper were found in its water system. A resident stated, “It’s just a given fact that at some point during the week, you’re going to have brown or yellow water.” This problem has been going on in St. Joseph for years. The state health officer does not believe that St. Joseph’s water problem is unusual for a small town.

A fifth of Louisiana residents do not have reliable access to drinking water. A large share of the population is at risk of losing water in the event of a natural disaster like a hurricane. Much of the water infrastructure is over 60 years old and beyond its intended design life.

Of U.S. states, Georgia has the third largest share of its population that is African American. For the nation as a whole, the wastewater grade is D-plus, the same as for Georgia. Georgia’s wastewater infrastructure is old and failing to keep up with improved water quality standards. Hurricanes and other extreme weather events will be more common with climate change and could overwhelm the system and cause sewage spills that threaten public health.

In part because of the cost of maintaining a failing water infrastructure, water is becoming more expensive. Between 2010 and 2018, the average water bill in the United States increased by nearly 60% — faster than every other household expense. This steadily increasing cost is placing a burden on low-income households that are disproportionately African American. Studies have found that Black households are more likely than White households to have their water shut off.

Having the water shut off is not the worst that can happen to people who are unable to pay their water bills. A home without water can be deemed unsuitable for children, which can lead to legal charges and the removal of one’s children. Also, local governments commonly place liens on homes with unpaid water bills that can lead to foreclosure and eviction.
Many aspects of life in America are accessed and conducted online. Students need the internet to complete assignments. Jobseekers need the internet to apply for jobs. Citizens need the internet to learn the news and to communicate with their elected representatives. The infirm may be able to receive health care via internet-enabled telemedicine. Businesses need the internet to reach customers. More and more activities are being done only via the internet.

Access to high-speed internet—broadband—however, is not universal. In 2019, about eight-in-ten White people had access to broadband at home, but only two-thirds of Black people had broadband. A quarter of Black teens have said that they are sometimes unable to complete homework assignments because they lack a reliable computer or an internet connection.

States and school districts responded to the remote-learning requirements of the pandemic by providing internet and computing resources to students. These resources have helped to narrow the digital divide some, but substantial racial disparities remain. There is a need to continue and increase these investments if we wish to eliminate the racial divide in internet access.
ASCE rates America’s transit systems a D-minus, just above failing. Part of this grade is due to the aging and underfunded transportation infrastructure. Part of the grade is due to the low rate of access to public transit. Forty-five percent of Americans have no access to public transit. A recent study of rail public transit in rich countries further highlights the low rate of public transit access in the United States. The study examined 85 cities, including 14 U.S. cities. Of those 14 U.S. cities, 11 of them were ranked in the bottom 15 worst performing cities in terms of rail transit access.

African Americans rely on public transit more than other racial groups. Increased investments in public transit can improve both access and the transit experience, which would be a significant benefit for Black riders. Public transit is more fuel-efficient than private vehicle travel, and thus it can contribute to mitigating the effects of climate change. Public transit fueled by green energy not only increases the climate-change mitigating effects, but it also may tend to reduce African American exposure to the harmful toxins from burning fossil fuels. African Americans would also likely benefit from the reduced traffic fatalities that come with increased public transit usage.
A majority of America’s schools need to update or replace multiple building systems. More than a fifth of public schools need to repair or replace school windows, plumbing, electrical systems, or HVAC systems. Although our public schools need considerable repairs and investments, states have been reducing capital funding. For these and other reasons, America’s schools received a D-plus grade from the ASCE. For these and other reasons, America’s schools received a D-plus grade from the ASCE. 

While, on average, America’s schools are in bad condition, the hardship is not uniformly distributed. “[P]oor and minority children are still much more likely to attend schools that have unhealthy, unsafe, and educationally inadequate facilities in desperate need of modernization.” Additionally, investing in school infrastructure has been shown to produce “small but measurable impacts on student achievement, high school graduation, and college entry.” African American children, therefore, would likely see health, safety, and educational benefits if we made the needed repairs and investments in public schools.
Parks can deliver multiple benefits to communities. In addition to helping to promote physical activity and recreation, parks can reduce stress, improve mental health, and foster community interaction. Like most of America’s infrastructure, our parks are in poor condition. America’s public parks have a D-plus grade by the ASCE. The country is not adequately investing in the upkeep of its public parks.

Because the African American population is disproportionately urban, public parks can be especially valuable to this population. Parks can be the only green spaces in an urban community, and therefore the only place to receive the mental health benefits of green spaces. Urban areas can become heat islands, and because of climate change, we can expect this dynamic to worsen. Trees and other vegetation found in parks can significantly cool areas. Parks that include raingardens, floodplains, and estuaries can help mitigate the effects of flooding, which is expected to worsen with climate change. Converting empty lots and abandoned, decrepit buildings into green spaces have been found to reduce crime. There are multiple benefits to increasing the park land in African American communities.
Plans to improve the hurricane-protection infrastructure for New Orleans were made as early as 1965, but because of budget cuts and a failure to fully appreciate the danger to the city, the project was never fully completed. In 2005, levees and floodwalls protecting New Orleans failed in more than 50 places because of the storm surge caused by Hurricane Katrina. This was one of the costliest “natural” disasters in U.S. history. The Black population in New Orleans was overrepresented among the dead, and the Black community suffered more economically, socially, and psychologically than other communities.

As discussed above, Texas and Mississippi are states with significant African Americans populations. Both states receive a D rating for their levees from the ASCE. Several levees in these states have a “strong risk of failure.” African Americans are more likely to live in floodplains, and as discussed above, are more severely harmed from disasters. These states have future Katrina-type disasters waiting to happen.
Imagine living in housing in New York City that has no heat, or that has lead paint, vermin, and mold—and you still consider yourself somewhat lucky because at least you have housing you can afford. This is the situation for many residents of public housing in New York City, which has the nation’s largest public housing authority. While most of America’s public housing is in better shape than the worst in New York City, public housing, like the rest of America’s infrastructure, has been underfunded and neglected for years. The repair and maintenance backlog for New York City’s public housing alone is estimated to be over $45 billion. Our failure to invest in public housing disproportionately affects African Americans. Their share of the public housing population is about four times their share of the population overall.

Although public housing has a very negative mainstream public image in the United States, the waiting lists for public housing units are typically filled with thousands of names or closed because they are too long. For example, one family waited eight years for a New York City public housing unit that has no heat. The family has not left the unit because they can find no other housing that they can afford. In 2014, the housing authority in charge of Chicago’s public housing opened its waiting list, and 280,000 families entered their names. That number was equivalent to a quarter of all households in Chicago.

Nearly a third of all American households live in housing that costs more than the recommended 30% of household income. These households are described as being cost-burdened. Most African Americans are renters, and more than half of African American renters are cost-burdened. America needs substantial investments to increase the supply of affordable housing. These investments will not only provide safe and clean housing to millions of families, but they will also add significantly to economic growth.
It is still the case that women do the vast majority of paid and unpaid care work in the American economy. This means that the health and strength of the care economy affect women in the labor force in two ways. First, the care economy’s low wages contributes to the overall lower economic position of women within the paid labor market. Second, the insufficient supply of paid care workers means that many women are not able to participate in the paid labor force because they cannot find workers to care for their children or elders.

Black women are overrepresented among care workers and are therefore disproportionately earning the low wages typical for care work. Because Black women are more likely to be unmarried parents or contributing substantially to their family’s income, they are more likely to need quality, affordable childcare than other women. The COVID-19 recession has forced the closure of schools and childcare centers, which has made it difficult for many women to continue working. As of May 2021, the labor force participation rate for Black women is down more than for White and Latina women. This may be the result of the lack of available childcare for Black women.

If we invest in our care infrastructure, we will benefit the entire society. We will have greater participation in the labor force by women of all races. We will have fewer employee absences and higher worker productivity. If we increase the wages and benefits in the care economy, we will increase the country’s GDP.
The United States as a whole is in dire need of significant infrastructure investments. All forms of infrastructure are especially important to African Americans. In many cases, African American communities suffer disproportionate harm from the nation’s failure to make needed infrastructure investments because they have limited income or savings to help endure the financial cost of injuries resulting from infrastructure failures. They are also more likely to have to endure the health risks from bad infrastructure. This could mean living with the toxic emissions from an oil refinery or living in areas most likely to be flooded when a hurricane hits.

The current poor state of our infrastructure also means that all Americans, but especially African Americans, can receive substantial benefits when we make smart and equitable infrastructure investments. Investing in roads and bridges can save on expensive car repairs. Moving to clean, green energy sources can improve health. Modernizing our water infrastructure can ultimately save money and improve health. Investing in broadband and in our public-school infrastructure can improve educational outcomes. Investing in parks and transit can improve the quality of life. Repairing levees can prevent the next Katrina-style disasters. Building affordable housing will provide safe homes for many Black families and reduce the maladies of homelessness. Investing in the care economy will increase the wages of workers in the care economy, who are disproportionately Black women. When we fail to invest, our infrastructure deteriorates and we harm everyone, but disproportionately those harms fall the hardest on the communities that have been plagued by the disinvestment caused by racial discrimination and segregation. When we make smart, equitable infrastructure investments, we can improve the health and well-being of all Americans, and especially those suffering the most from the effects of historic and ongoing discrimination and inequity.

"The United States as a whole is in dire need of significant infrastructure investments."


ASCE, *Executive Summary*, supra note 3, at 3.

Id.

Id. at 6; see also ASCE, *Full Report*, supra note 2, at 5.

Id. at 6; see also ASCE, *Full Report*, supra note 2, at 5.


Id.

ASCE, *Executive Summary*, supra note 3, at 5.


Id. at 56.

Id.

The 2019 median household income for the White population in Mississippi was $57,191. For the Black population, it was $31,067. *Table ID: S0201. Selected Population Profiles in the United States: 2019: ACS 1-Year Estimates: Mississippi. U.S. Census Bureau*, https://data.census.gov/cedsci/ (select “Advanced Search”; select “Topics” then “Income and Poverty” then “Income and Earnings” then “Income (Households, Families, Individuals”); return to the “Topics” column, select “Race and Ethnicity” then “01 – All available basic races alone”; return to the “Browse Filters” column and select “Geography” then “State” then “Mississippi”; return to “Browse Filters” and select “Years” then “2019”; click “Search” in the bottom right; select the “Selected Population Profile in the United States” table. Scroll about two-thirds of the way down the table for the household income data.).

Mississippi’s Infrastructure 2020 Report Card, supra note 11, at 65.


At every educational attainment level, Black households are more likely than White households to be struggling to pay the bills. Consumer & Cmty. Research Section, Div. of Consumer & Cmty. Affairs, supra note 16, at 24 fig. 16.

Mississippi’s Infrastructure 2020 Report Card, supra note 11, at 64, 66.

Id. at 16.

Id. at 17.

Author’s analysis, supra note 8.


Flavelle et al., supra note 23.


Id. (“Heat is already the most dangerous type of severe-weather event, by one estimate killing some 12,000 Americans each year. And climate change is making heat waves more frequent and severe.”)


Author’s analysis, supra note 8.


ASCE, Executive Summary, supra note 3, at 5.

La. Section of the ASCE, supra note 44, at 28.


See id.

La. Section of the ASCE, supra note 44, at 29.

Id. at 31.

Id. at 29.

Author’s analysis, supra note 8.

ASCE, Executive Summary, supra note 3, at 5.


Id. at 102.

See id. at 106.


Id. at 31.

Id. at 4-5.


ASCE, Executive Summary, supra note 3, at 5.

ASCE, Full Report, supra note 2, at 142.

Vincent Verbavatz & Marc Barthelemy, Access to mass rapid transit in OECD urban areas, 7 Sci. Data 1-6 (2020), https://doi.org/10.1038/s41597-020-00639-3. Author’s analysis of data from Online-only Table 1 Population Near Transit values: Share of population living within catchment area from a MRT station at thresholds 500–m, 1,000–m and 1,500–m for 85 OECD Functional Urban Areas, using 1,000m access.


See ASCE, Full Report, supra note 2, at 146.

Id. at 118–19.

Id. at 4.


ASCE, Full Report, supra note 2, at 4.

Suttie, supra note 75.

See ASCE, Full Report, supra note 2, at 95.


Vivek Abhinav, Aakanksha Gaur, Gloria Lotha, John P. Rafferty, Michael Ray, Emily Rodriguez, Amy Tikkanen & Jeff Wallenfeldt, Hurricane Katrina [Damage, Deaths, Aftermath, & Facts, Encyclopedia Britannica, https://www.britannica.com/event/Hurricane-Katrina (last updated Sep. 23 2020). “Natural” is in quotations because there were several missed opportunities and bad decisions by humans that made the disaster as bad as it was. See also id.


ASCE, supra note 3, at 3.


95 Ferré-Sadurní, No Heat for 10 Years, and the City Is Their Landlord, supra note 88.

96 Austen, supra note 94.


98 Id.


105. Dresser, supra note 101.


109. See Jessen-Howard et al., supra note 104.

110. Gould & Schnieder, supra note 103.
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