Public infrastructure for an equitable future
A guide for philanthropy

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Anyone who has driven on an interstate highway or ridden a subway system in the United States has benefited from decisions and investments made 70 or more years ago. In some regions, people drink water from systems that are over a century old. Much of our infrastructure is past its intended lifespan, with service deteriorating or outright failing on a daily basis. The American Society of Civil Engineers (ASCE) recently gave U.S. infrastructure a D+ grade, meaning that our infrastructure is in poor shape and showing signs of further deterioration. This situation reflects a 10-year, $2 trillion funding gap. Our infrastructure is further strained by extreme weather events and other intensifying environmental threats related to climate change.

The COVID-19 pandemic has revealed the critical nature of infrastructure in our lives, from water to wash our hands to broadband for maintaining social connections and distance learning. It has also exposed the fault lines—across race, class, and geography—in who does and doesn’t have access to adequate infrastructure and the life and death consequences of these disparities. A long legacy of discriminatory policies has left communities of color, low-income communities, and rural places excluded from the infrastructure workforce and burdened with poor infrastructure that harms people’s social and economic opportunity, health, and general quality of life. ASCE estimates that a failure to invest in infrastructure results in billions of dollars in lost economic activity and indirectly costs the average family $3,400 per year.

The coming months and years will be trying for all segments of society due to the pandemic and associated economic turmoil. If history is any guide, we know that governments at all levels will be making cuts and potential revenue sources will be limited. At the same time, infrastructure investment has historically been a means to create jobs and restart the country’s economic engine, and there have already been calls for a massive federal infrastructure investment. We have a responsibility to reimagine and rebuild infrastructure across the United States to correct the mistakes of the past and lay the foundation for all communities to thrive. This is an unprecedented chance to commit to a long-term vision of infrastructure aimed at improving the lives of everyone in the United States today, as well as those of generations to come.

A vision for robust, equitable infrastructure seeks to achieve a future in which infrastructure facilitates health, well-being, education, social connections, and economic opportunity for everyone. It means that who you are or where you live will not determine your experience of infrastructure. It means that our society will have an agreed-upon equitable minimum standard for infrastructure availability, affordability, quality, and safety that everyone deserves. It also means that the benefits and harms of infrastructure are shared fairly across all communities, rich and poor, white and of color, metropolitan and rural.

The process by which our society achieves these outcomes is also important: it must be inclusive, expand leadership and economic opportunities, and fairly balance the needs of all potential users of infrastructure, rather than the loudest or most powerful. If our society addresses these challenges neutrally, without accounting for structural racism, power dynamics, and cultural norms embedded in our current system, we are bound to perpetuate and exacerbate inequities past and present.

Philanthropy has a role to play in improving infrastructure and ensuring equity. Even though public infrastructure may seem like a technical topic best left to bureaucrats, engineers, and
corporations, it’s actually the connective tissue that enables—or impedes—so much of the societal good that philanthropy hopes to foster. We can’t have a strong workforce if workers can’t apply for jobs because they don’t have access to the Internet. We can’t get to economic justice if poor people are choosing between paying for heat or food every month. And we can’t achieve health equity if communities of color continue to be polluted and poisoned by our energy, transportation, and water systems.

In this report, we identify strategies that philanthropy is uniquely positioned to pursue to correct infrastructure inequities and complement the roles of government, private businesses, and the civic sector in infrastructure. Its role lies not so much in directly funding infrastructure, but rather in its ability to convene diverse interests, catalyze system change, and invest in new strategies that government or the private sector may not be ready to deploy. More than ever, philanthropy can hold a big-picture vision of equitable public infrastructure in focus and lead us toward solutions that address both our current crises and our need for a new public infrastructure that provides all members of our society the opportunity to thrive.
In order to craft effective solutions to achieve equitable infrastructure, it is essential to recognize how we got to the current state of inequity. In this section, we briefly review the racial, power, and cultural divides that have shaped American infrastructure as it stands today. Next, we explain what we mean by "infrastructure inequities" by defining them across six dimensions. Finally, we offer a framework tying together the causes and effects of infrastructure inequities.

Roots of infrastructure inequities

Race and place

Much of today's infrastructure was built at a time when racial discrimination was explicit. Wealthy white landowners maintained power after slavery in part through residential racial segregation, particularly in cities with significant African American populations. Myriad policies established at all levels of government in the 20th century kept people of color, and particularly Black families, out of white communities. Residential segregation was also infrastructure segregation, with communities of color receiving less public infrastructure investment ranging from street repair to running water to parks. These communities became the default choices for bearing the negative impacts of highways, power plants, wastewater treatment facilities, and other facilities unwanted by white communities. Today, these same communities are on the frontlines of the climate crisis, more likely to suffer from extreme heat, the impacts of climate-intensified natural disasters, and economic hardship. Longstanding racial segregation continues to be a defining part of neighborhoods across the country. The result is that race is indelibly tied to place. These place-based racial disparities lead to major differences in economic opportunity, life expectancy, and health outcomes, as evidenced during the COVID-19 pandemic by the disproportionate burden of illness and death borne by Black and Latinx communities.

Infrastructure inequities are a physical manifestation of structural racism, which entails all the ways racism has been baked into our institutions and societal norms. Discrimination is sometimes conscious, but it often results from deeply ingrained habits of institutions and their leaders, who have little incentive to disrupt a long tradition of business-as-usual that serves their interests. The result is that even well-meaning decisionmakers continue to build upon disparities and exclude people of color from enjoying not only the use of high-quality infrastructure but also the benefits of participating in the governance and economy of infrastructure. Even though explicit racial discrimination is ostensibly illegal today, race-neutral policies and practices that don’t take into account an unequal starting line continue to hold back communities of color.

Compounding our history of overt discrimination are modern barriers to civic engagement that may appear neutral but that severely limit the ability of people of color to control how infrastructure serves or harms them. These include onerous voter ID laws, purging of voter rolls, racial gerrymandering, and disproportionate incarceration combined with laws revoking voting rights for people with felony convictions.

Decisionmaking power

Exacerbating the racial injustices that have driven infrastructure inequities is the exclusion of low- and moderate-income people.
from having a voice in government and infrastructure decisions. Government is more responsive to the opinions of the “wealthy elite” and big businesses than those of the general public and even of organized groups representing a broader swath of the public like labor unions or the AARP.\textsuperscript{17} In general, government is not responsive to the needs of low- to moderate-income people, especially if they aren’t organized and communicating their interests through formal advocacy channels.\textsuperscript{18}

For infrastructure in particular, industry lobbyists have successfully persuaded policymakers to create a regulatory environment that favors business interests over what communities need. For example, private infrastructure operators in the broadband and energy sectors are allowed to function as monopolies, limiting competition that could keep rates affordable, while also working to minimize regulatory oversight. For broadband, the result is prices two-to-three times as high as those in Europe, making cost one of the most cited reasons for households to not have access to the Internet at home.\textsuperscript{19} Rural communities also lose out because large broadband providers, of which there are only three in the United States, have no profit or regulatory motive to serve them.\textsuperscript{20} The energy industry is able to work around fixed rates set by the state to increase profits by deferring maintenance.\textsuperscript{21} Meanwhile, state and local governments and the general public shoulder the economic, environmental, and public health costs of air pollution, blackouts, devastating fires, and other hazards caused by deteriorating utilities.

**Culture of individualism and limited government**

A culture of American individualism – emphasizing self-reliance, free enterprise, and limited government\textsuperscript{22} – further entrenches the racial and class power dynamics by contributing to a weakening of government in many ways, including in its ability to provide basic public infrastructure. In the 1980s, President Ronald Reagan promoted a political narrative that glorified individualism and wealth while arguing for reduced government intervention.\textsuperscript{23} Reagan was able to expand the Republican party’s base by bringing together a winning coalition of conservatives who shared views around some combination of low taxes, minimal regulation, the role of religion in politics, aggressive foreign policy, and racism.\textsuperscript{24} Their ideology minimized systemic inequality, instead blaming marginalized people for the existence of and inability to overcome harmful community conditions. Social safety net programs built to ensure shared economic security were recast as crutches for people too lazy to pull themselves up by their bootstraps. Race baiting was a key strategy for dismantling these programs – carrying over into the Clinton era welfare reform – as exemplified by the sensational story of Black “welfare queens” exploiting government programs, despite data showing whites as the largest beneficiaries.\textsuperscript{25} In recent decades, these narratives and strategies have fueled racial biases that drive policymaking – including about infrastructure – at all levels.

American individualism is part of the story of the American Dream, whose modern incarnation celebrates wealthy individuals and their material achievements.\textsuperscript{26} This attitude argues for free markets and limited government intervention, devaluing all of the social and physical infrastructure that can enable or prevent someone from achieving their dreams.\textsuperscript{27} The promotion of small government has resulted in a lack of governmental stewardship of our nation’s infrastructure, with disproportionate burdens borne by low-income communities and communities of color.

And yet, our nation has built much of our economic strength and success on projects that rely on the idea that everyone is in this together.\textsuperscript{19} This was the spirit underlying the last large-scale investment in infrastructure, the New Deal: the federal government funded projects identified by local and state governments as benefiting the public and requiring large numbers of workers to create (albeit the employment benefits largely flowed to white workers). The result was thousands of miles of roads, airports, electricity for rural places, abundant parks, and millions of jobs.

Despite decades of effective messaging about limited government, numerous polls show strong, bipartisan public support for improving infrastructure and spending large amounts of money to do so.\textsuperscript{28} Public opinion is less clear about where that money should come from, with strong partisan divides in terms of who, if anyone, should be paying more taxes and the potential spending tradeoffs if revenue weren’t substantially increased.\textsuperscript{29} The public is evenly split in terms of desired size of government and level of service, and holds mixed levels of trust in government to provide crucial services.\textsuperscript{30}

\textsuperscript{iv} Collectivism is a second dominant American value after individualism. Robert N. Bellah et al., Habits of the Heart: Individualism and Commitment in American Life (University of California Press, 2007).
Six dimensions of infrastructure inequities

Infrastructure perpetuates and enshrines in concrete and steel the longstanding structural racism, unequal decisionmaking power, and individualistic culture discussed in the previous section, leaving communities of color, low-income communities, and rural places to face substantial inadequacies compared to their whiter, wealthier, and urban counterparts. The following diagram summarizes the six dimensions of infrastructure inequities we identified our research, providing two examples of harms or unmet needs for each dimension. Appendix 3 expands on this diagram, with more details and citations for all data.
**Infrastructure inequities causal framework**

Structural racism, power, and the culture of American individualism underlie the health impacts and inequities that we have described. This framework depicts how those fundamental forces flow through decisions at the levels of government and policy, funding and financing, and day-to-day infrastructure operations, ultimately affecting communities’ health and wellbeing.

The impacts of infrastructure (red cross) arise most directly from the process of developing, maintaining, and providing infrastructure itself (yellow oval). That process is enabled by the funding and financing streams (green oval) that affect what and where infrastructure is built, how well it is maintained, and who can access it. Government and policy (blue oval) determine how infrastructure is allocated, managed, and regulated, and are responsible for ensuring the public good is served by infrastructure. Ultimately, these challenges flow from the societal forces of structural racism, power, and culture (purple oval). These concepts are interrelated: structural racism ingrains who does and doesn't have power in our society, and those in power tend to drive our cultural narratives, which in turn reinforce existing power and racial inequities. This framework underlies our approach to solutions, which address funding and financing; government and policy; and structural racism, power, and culture.

**Defining community**

Our report is focused on community-level solutions, and we refer to communities throughout. In general, we define communities as groups of people living in the same geographic area who by and large share common characteristics, such as race, income, and lived experience. For the purposes of this report, our focus is primarily on communities experiencing inequities in infrastructure, which are communities of color, low-income communities, and rural communities.
Philanthropy’s role in shaping our infrastructure future

To achieve a vision of robust, equitable infrastructure, philanthropy can pursue three goals that address the dynamics depicted in the causal framework presented in the previous section.

**Three goals to achieve a vision of robust, equitable infrastructure**

**Funding and financing** systems allocate infrastructure costs fairly and ensure that all communities have access to affordable public and private capital.

**Government** at all levels has the capacity, will, and policies to provide and ensure equitable infrastructure.

**Structural racism** no longer permeates infrastructure systems and decisionmaking, and **power** is balanced fairly between corporations and communities, the wealthy and low- and moderate-income people, and white people and people of color.

Philanthropy has tremendous power to leverage its financial and reputational capital to help the **public sector** do its job better. Philanthropy can partner with government to fill gaps that, for whatever reason ranging from bureaucratic

**Public sector**: All levels and functions of government that provide, fund, or regulate infrastructure.

**Private sector**: Companies providing infrastructure; contractors that plan, build, operate, and maintain infrastructure; private investors in infrastructure; and corporate lobbyists.

**Civic sector**: Community groups, advocacy organizations, research institutions, and other non-governmental entities with an interest in promoting robust, equitable infrastructure.

Philanthropy's role relative to other players

Determining philanthropy's contribution to shaping our infrastructure future requires an understanding of where it stands in relation to other key players, in other words, what competitive advantages it can bring to bear. Society is generally organized into three sectors — public, private, and civic — and infrastructure is no exception. Here, we break up the key infrastructure players into these categories:

vi The civic sector is also commonly known as the “social sector” or “third sector.” Scholars have identified four categories that belong in this sector: mutual associations, which serve their own members (book clubs); benefit associations, which serve other people (food banks); protection associations, which advocate for their own members (chambers of commerce); and activist associations, which advocate for the needs of others (Amnesty International). Henry Mintzberg et al., “The Invisible World of Association,” Leader to Leader, no. 36 (2005): 37–45, https://doi.org/10.1002/ll.126

vii According to this taxonomy, the civic sector includes philanthropy. Since we explicitly talk about the role of philanthropy throughout this report, we do not include philanthropy in the definition of civic sector.
inertia to budgetary constraints to risk aversion, government is not filling. And philanthropy can nudge government to be bolder by testing and disseminating new ideas for improving infrastructure in a way that centers equity.

What does it mean to center equity?

Throughout the report, we discuss the importance of centering equity. In the infrastructure context, centering equity means ensuring that everyone enjoys the benefits of high-quality infrastructure, regardless of race, income, or geography, and that unavoidable harms are distributed more fairly. The process to achieve this outcome should also be equitable, in that it prioritizes leadership and meaningful inclusion of people who do not currently have access to high-quality infrastructure and those who have experienced disproportionate harms from infrastructure. This requires shifting power dynamics and directly addressing how structural racism has led to current inequitable conditions.

Regarding the private sector, philanthropy can encourage publicly-traded infrastructure companies to center social equity in their work and to finance infrastructure businesses led by people of color. It can fund and lift up research and models that make the business case and pave the way for equitable approaches to developing, running, and paying for public infrastructure. Additional ways to influence corporate behavior are to publicly recognize equitable actions, bring to the surface counterproductive corporate behavior, and leverage philanthropy’s moral authority and the relationships of its executives and board members with infrastructure business leaders.

Through its grantmaking, philanthropy has a huge influence on civic sector organizations working toward equitable infrastructure. Other important ways for philanthropy to leverage its stature and relationships to support the civic sector include: using its reputation to open doors for advocates; convening diverse players; facilitating negotiations among various stakeholders in infrastructure decisionmaking; providing and funding technical assistance and professional guidance; and using its public voice to lift up the importance of robust, equitable public infrastructure.³³

How philanthropy complements other sectors

To advance robust, equitable infrastructure, philanthropy is well suited to play the following complementary roles to government, the private sector, and the civic sector:

• Convene diverse stakeholders to develop inclusive, viable solutions

• Fund civic sector groups advocating for equitable infrastructure

• Amplify and lend credibility to messages about equitable infrastructure in the public conversation

• Support and lift up the development of research and models that pave the way for equitable approaches to developing, running, and paying for public infrastructure

• Help launch and, where successful, replicate pilots and demonstration projects

• Evaluate programs to assess what does and doesn’t work

• Provide leadership development, technical assistance, and training to civil servants, elected officials, civic sector leaders, business leaders, and community members

• Participate in negotiations and dealmaking to balance the playing field

• Leverage investments to move public and private dollars where they’re needed most
Hundreds of ideas for attaining equitable infrastructure arose in our interviews and research, which focused on five major sectors: broadband, energy, parks and urban green space, transportation, and water. We explored a mix of publicly and privately managed sectors, and many of our findings apply broadly across these sectors and therefore, presumably, others as well. We organized and winnowed the ideas into six general solutions for philanthropy to pursue, with a set of suggested strategies listed under each solution.

To identify the solutions, we first clarified what goals our recommendations for philanthropy should aim to achieve. Next, we considered what role philanthropy is best suited to play to advance these goals. Finally, we developed the following criteria to ensure the recommended solutions apply across sectors, center equity, emphasize community power and participation, and provide local, state, and national points of intervention.

**Criteria for solutions**

- **They aim to address systemic cross-sectoral challenges.**
  Since our recommended solutions for philanthropy focus on the common drivers of inequitable infrastructure, we are highlighting systemic cross-sectoral solutions rather than looking for opportunities to change the day-to-day details of how specific sectors develop, maintain, and provide infrastructure.

- **They are equity-centered.** Many ideas we came across have to do with improving the overall state of American infrastructure, with no regard for the effect on marginalized communities. Without a deliberate effort to shore up American infrastructure in ways that benefit everyone, history teaches that existing inequities will only continue or worsen. Therefore, we focused on solutions and strategies that are explicitly equity-centered, and we intentionally highlighted many that directly address structural racism.

- **They emphasize community power and participation.**
  To ensure lasting change, it is essential to rebalance power so that everyone, but especially those who have been marginalized in our society and borne the harms of exclusionary decisionmaking, has the capacity and authority to make and sustain the change. Therefore, any strategy to advance equitable infrastructure should have a foreseeable impact on the power of communities to engage in infrastructure decisionmaking.

- **They can be pursued at the local, state, and national levels, but don’t necessarily rely on federal action.** A common refrain we heard from experts was that the federal government is playing less of a role in the infrastructure conversation and funding landscape than in the past, although there are signs that this may be changing with a major infrastructure stimulus bill under discussion as a response to the COVID pandemic. We also heard a great
deal of skepticism that the federal government would be a major actor any time soon. Therefore, we focused our recommendations on actions that can be taken at various levels of government, as well as actions that don’t rely solely on federal leadership.

How to approach these solutions

These solutions and strategies are interconnected and some are prerequisites for others. They provide entry points for funders interested in public health, good governance, social and racial justice, community power building, environment, housing, community economic development, and individual infrastructure sectors. That said, advancing equitable infrastructure calls for an ecosystem in which philanthropies work together across sectors and areas of expertise. Selecting which ideas to pursue requires careful consideration and coordination of strategies and their sequencing. Moreover, our research and conversations with experts revealed that deciding how to do the work is as important as deciding what work to do. Hence, we include in Appendix 1 a set of principles for philanthropy to follow in promoting robust, equitable infrastructure.
Infrastructure requires a commitment of dedicated, long-term funding to meet the $4.6 trillion 10-year projected need.\textsuperscript{15, 16} Funding and financing determines what infrastructure gets built, where it’s built, how well it’s maintained, and who can access it.\textsuperscript{10} However, decades of discriminatory financial systems and government policies have created an imbalanced playing field when it comes to accessing capital for infrastructure. This means individual users, low-income communities, communities of color, and smaller local governments often shoulder a disproportionate level of expense and can be caught in cycles of poverty and underinvestment.\textsuperscript{37, 38, 39} Philanthropy is well positioned to employ strategies that lower barriers to accessing capital and shift available public and private dollars to communities where they are most needed.

### Strategies in Solution 1

**Strategy 1.1:** Improve long-term budgeting and planning for equitable infrastructure

Politics and standard public budgeting practices tend to encourage short- over long-term planning for infrastructure. Much like the public health sector’s focus on prevention, taking care of infrastructure before it deteriorates can preclude expensive future repairs. But we have insufficient dedicated government funding for infrastructure, manifesting for some sectors in a lack of earmarked funds, and for others, a failure to adequately maintain existing funds like the Highway Trust Fund or the Clean Water and Drinking Water State Revolving Loan Funds.\textsuperscript{40} Moreover, elected leaders benefit politically when they can preside over a ribbon-cutting ceremony, while they receive few kudos for supporting ongoing funding to care for those projects into old age, leading to what’s known as the “ribbon versus broom” problem.\textsuperscript{41} The same problem applies to a failure to remove old infrastructure, like elevated highways, that create barriers to social and economic opportunity. Infrastructure spending often falls behind other seemingly more pressing priorities that will yield instant, tangible results. Maintenance of existing infrastructure is easy to put off in a given year when budgets are tight, since the infrastructure likely won’t fail or even show obvious signs of deterioration immediately.\textsuperscript{42}

For large capital projects, agencies tend to have detailed budgets that don’t account for subsequent operations and maintenance (O&M). O&M plans often are not required in advance of the project, and O&M is wrapped into annual budgeting cycles, rather than long-term capital planning.\textsuperscript{43} Federal and state grant funding criteria can also create incentives for new construction over maintenance of existing infrastructure.

**Strategy 1.2:** Ease access to public funding for under-resourced communities

**Strategy 1.3:** Make public bond and private financing markets more equitable

**Strategy 1.4:** Recalibrate how government raises revenue for infrastructure
Even when agencies do long-term planning, they face challenges estimating need, construction and O&M costs, and revenue because they lack quality projection tools and methods. Moreover, few economic models account for the indirect social costs and benefits of infrastructure, leading to decisions based purely on direct financial and productivity measures. Even if good tools and methods were to exist, many agencies don’t have sufficient cost data or an up-to-date catalog of their infrastructure assets to allow for reasonable cost projections.

Biased or non-existent metrics and formulas can impair the ability of infrastructure providers to understand and solve for inequities in their systems. For example, utilities in the energy and water sectors often don’t know much about their customers, including which ratepayers have incomes too low to afford their bills and therefore might benefit from reduced rates and other public assistance. In transportation planning, traditional project metrics focus on moving vehicles efficiently, which ignores other community priorities like pedestrian and bicycle safety and can lead to overbuilding roads. Outdated formulas for Community Development Block Grants, a key funding source for infrastructure in low-income communities, have led to an increasing share of dollars going to wealthy communities because, for example, their housing stock may be aging, meeting one of the funding criteria for the program.

Sample activities for philanthropy

- **Support efforts to build long-term dedicated funding for infrastructure**: Increasing designated pools of funding for infrastructure projects at the federal and state levels is essential for long-term planning that addresses equity. Philanthropy can support advocates seeking to develop new or increase existing protected infrastructure funding streams.

- **Provide accurate tools for projecting needs**: Infrastructure planners need better methods and tools for identifying community needs and forecasting costs. These would allow agencies to weigh a project’s true costs and benefits for different communities and ultimately drive towards more equitable outcomes.

- **Encourage lifecycle planning**: Lifecycle cost analysis – forecasting costs of infrastructure from planning to operations to decommissioning – allows agencies to budget for the true cost of new and existing infrastructure and discourages communities from building projects they can’t afford to maintain over time. Philanthropy can support the dissemination of lifecycle budgeting tools among planners as well as the idea of adding lifecycle-analysis requirements to public and private funding processes.

  - **Promote equitable and participatory budgeting**: Local governments need models and technical assistance to increase community participation in setting infrastructure budgeting priorities, which can help connect community needs to dollars spent and also bring the public into the process of weighing tradeoffs. Community organizing and capacity building (see Solution 4) complement this strategy, as do efforts to ensure that decisionmakers genuinely represent and reflect communities most in need of investment (see Solution 5).

**IDEAS IN ACTION:**

**Greensboro uses a participatory budgeting process to select community projects**

Greensboro, North Carolina, uses a biennial participatory budgeting process in which residents 14 and older can vote on how to allocate $500,000 to projects or programs proposed by community members. Nearly 3,000 residents participated in the 2019 round of voting. Funded proposals included a new bus stop, youth job skills training, a farmers market pilot, playground upgrades, and a downtown weekend trolley pilot. The process increased the city’s understanding of residents’ needs and involved previously unengaged residents. In the first year of the program, 85 percent of participants had never attended a city budget meeting before. Several local funders gave matching grants for the administration and launch of Greensboro’s participatory budgeting process, and Greensboro received technical assistance from the Participatory Budgeting Project (PBP), which hired two local coordinators to provide outreach and facilitation support. Greensboro has counterparts across the country that have used participatory budgeting, many supported by PBP, which has helped more than 400,000 people allocate $300 million to more than 1,600 community-generated projects.
Strategy 1.2: Ease access to public funding for under-resourced communities

When state and federal grants are available for infrastructure, the process of applying for the funds and the associated requirements are often so arduous that only large, sophisticated, well-resourced communities have a chance at being successful. Other communities do not have the capacity or technical expertise to assemble the plans needed to apply for many government grants, and they don’t have money to pay for consultants to help them. Some grants mandate that agencies have specific staff in place or dedicate a full-time staff person to a grant, like transportation grants requiring communities to have traffic engineers, which are not feasible for smaller localities. Accessing funds for infrastructure often requires developing shovel-ready projects or contributing matching funds, which can be a prohibitive barrier for communities that don’t have the revenue for front-end investment.

Sample activities for philanthropy

- **Improve public funding conditions and criteria:** Government grantmaking agencies need help identifying and changing where grant conditions – such as requiring recipients to provide matching funds or accept funding as reimbursements – create barriers for under-resourced communities. Philanthropy can also seed the development of model formulas departing from the status quo of distributing funding regardless of need or impact of investment, and, instead, setting goals and criteria for directing resources to the most disinvested communities. For example, such formulas could account for savings captured through disaster prevention and public health initiatives. Introducing more equitable formulas would spare under-resourced communities from competing directly with high-resource communities for the same pot of money. Increasing the use of health impact assessments in the selection of infrastructure projects would help public funders more fully consider the health and equity implications of their decisions.

- **Provide incentives to direct public funding where it is most needed:** Philanthropic grants or program-related investments can offer incentives, such as matching grants, that encourage public agencies to award infrastructure dollars to under-resourced communities.

- **Shore up under-resourced communities to compete for public funding:** Philanthropy could fund expertise and surge capacity to help local governments with grant writing and other activities that improve communities’ eligibility for funding. Under-resourced communities could also benefit from pre-development funds to plan and kick-start projects that position them for grant opportunities. These resources could, for example, pay for an individual grants manager or community engagement team to serve a single region or a group of similar communities. Another approach could be funding intermediaries to provide applicants with technical assistance and bridge capital or grants to defray matching fund requirements.

IDEAS IN ACTION:

Rural Minnesotan communities build capacity to attract and sustain broadband

Across rural Minnesota, communities are seeking to obtain robust broadband access to take advantage of the benefits that high-speed Internet can provide. As part of its Community Broadband Program (CBP), the Blandin Foundation helps Minnesotan rural communities position themselves to attract and sustain broadband infrastructure. The CBP includes two-year intensive partnerships with select rural communities to advance local broadband initiatives; matching grants to support research on the feasibility of geographically-based broadband networks; and technical assistance to promote the active engagement of communities in ensuring their own telecommunications and technology vitality, ranging from market development activities to infrastructure and service improvements. Among other outcomes, the Foundation’s early stage support has helped communities position themselves to seek broadband funding from the state of Minnesota and other sources. In a study of five rural counties, the Blandin Foundation confirmed that the economic benefit resulting from quality broadband would exceed the public investment within a year in four counties, and within six years in the fifth county.

Strategy 1.3: Make public bond and private financing markets more equitable

Private dollars, in the form of bonds, loans, and direct investment, are often critical to infrastructure development, improvement, and operations. Similar to the challenges of accessing public grants, small and under-resourced communities often lack the expertise and capacity to assemble infrastructure financing packages, to effectively
that most investors undervalue equitable social benefit when making public infrastructure investment decisions. But private investors can still be moved to shift the infrastructure field toward greater equity. Some efforts, such as the benchmarking organization GRESB, provide infrastructure investors with information about environmental and social impacts of infrastructure assets to drive responsible investment. Promising new models are gaining traction from green banks, which provide low interest loans, to green bonds that prioritize sustainability and equity criteria, not just financial returns. However, a significant need remains to make a business case that investing in equitable infrastructure now will mitigate future expense and risk, similar to investing in climate and disaster resilience.

**Sample activities for philanthropy**

- **Serve as a model investor:** Through program-related investments (PRIs), foundations are uniquely positioned to experiment with equity-centered infrastructure investment strategies and to provide proofs of concept to other investors. Philanthropy can mitigate other investors’ risk through tools such as loan guarantees and can build large-scale model infrastructure funds in collaboration with private investors, anchor institutions, local financial institutions, and government entities. Moreover, as a shareholder, philanthropy can encourage publicly-traded infrastructure companies to center social equity in their work.

- **Support research to bolster social equity in private infrastructure investment:** To persuade infrastructure investors to incorporate social equity into their decisionmaking, researchers can develop viable models and metrics, building the business case for equitable investing, and generating a shared language between social equity advocates and investors. They can also evaluate and share existing and emerging models such as impact bonds, green banks, infrastructure trust funds, and innovative community development funds. Philanthropy can engage infrastructure investors to understand what it will take to make private infrastructure dollars more accessible to under-resourced communities in a way that is additive and not extractive.

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x Public-private partnerships (PPPs) are often heralded as a solution to improving infrastructure by attracting private capital and expertise when government alone is falling short, whether financially or logistically. PPPs take many forms, ranging from private companies providing services to publicly-owned and operated infrastructure to the public sector paying the private sector to build and maintain infrastructure for a period of time. The private entity receives some return on the investment, through markups on service pricing, subsequent operation of the infrastructure for a period of time, or development rights in the surrounding area. PPPs did not arise in our research as a crucial solution to inequitable infrastructure, but rather as one of many tools that could be used to create infrastructure.

xi Program-related investments (PRIs) are an under-used tool for philanthropic organizations to increase their impact, particularly when used to jump-start companies and projects that have profit potential but aren’t attractive to traditional investors. PRIs can be used as seed money for infrastructure projects to attract and reduce the risk for other investors. Richard Henriques et al., “Program-Related Investments: Is There a Bigger Opportunity for Mission Investing by Private Foundations?” (Center for High-Impact Philanthropy), accessed May 27, 2020, https://www.impact.upenn.edu/wp-content/uploads/2016/04/160415PRIFINALAH-print.pdf.
• **Develop equitable underwriting and credit rating alternatives:** New models for underwriting and creditworthiness could break the cycle of underinvestment in historically disinvested areas. Philanthropy could build on efforts led by a few community development financial institutions (CDFIs) to pilot more equitable underwriting criteria for municipalities. Using its PRI experience, philanthropy can refine and share fairer criteria for creditworthiness with other major investors and push for underwriting structures and fees that don’t disproportionately burden smaller municipalities.

• **Build public sector capacity to access private investment at fair terms:** Under-resourced jurisdictions need help shopping for and assembling fair infrastructure financing packages. Financial, environmental, and social science experts could assist governments in understanding and leveraging the full value of their infrastructure assets. Public agencies could use model investment criteria, including equity screens, for better evaluating different structures for accessing private capital, from loans to public-private partnerships. Philanthropy could fund community development organizations and local financial institutions to help public agencies negotiate financing deals that reduce high transaction costs and prioritize public benefits. In addition, agencies would benefit from training and resources on how best to protect the public interest in public-private partnerships.

### Ideas in Action:

**DC Water pioneers a new model for results-based returns in infrastructure investment**

After a federal enforcement action forced the District of Columbia to mitigate an aging sewer and stormwater system that frequently released toxic overflow into the Potomac River, DC Water, the agency serving the District, made a transformational shift to green infrastructure that promised environmental benefits and a major local jobs and workforce development program.⁶ The funding for this solution came in the form of a pioneering environmental impact bond (EIB), developed by the impact investment advisory firm Qualified Ventures in partnership with DC Water.¹⁶ This EIB made returns to investors contingent not only on good financial performance, but also on environmental performance measures, namely reducing stormwater runoff. DC Water’s EIB has become a model for water authorities in the United States and abroad, and philanthropy has played a role in elevating the model. For instance, the Chesapeake Bay Foundation has partnered with Qualified Ventures to provide pro bono support for Baltimore, Maryland, and Hampton, Virginia, to develop their own EIBs.¹⁹

### Strategy 1.4: Recalibrate how government raises revenue for infrastructure

The ways in which governments, particularly at the state and local levels, raise revenue are regressive, inequitable, and hinder critical investment in infrastructure. Federal spending has been declining across virtually every infrastructure sector for years, pushing the cost burden increasingly on states and localities.⁷ The federal government and many states have spending caps that limit budget growth regardless of economic conditions or costs, and 45 states have overall regressive tax structures that require low-income households to pay a larger share of their income in taxes than high-income households.⁵¹ Many states have supermajority requirements for raising taxes, property tax limits, and a heavy reliance on sales taxes. From a historical perspective, these latter three policies are rooted in the post-Reconstruction and Jim Crow eras, as ways to dilute Black people’s voting power and shift tax burdens from white property owners to Black people, who tended to not own property.⁷¹ Although laws like these have passed more recently without explicit racial intent, the effect has been to exacerbate racial inequities in government services, including infrastructure, and to increase the financial burden of people of color.

In addition to restrictions imposed on state budgets, states have complete control over how localities raise revenue. By withholding certain revenue authorities, states limit how local governments can raise money. For example, more than 20 states preempt localities from imposing local sales taxes, a critical source of infrastructure funding in many places.⁷² States also can take away local revenue to balance state budgets or even to benefit private companies.⁷³ Sometimes states pair the grant of new revenue authorities to localities with reductions in state funding flowing to the localities, thereby increasing pressure on local tax mechanisms to fill the gap.⁷⁴

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¹² The five states with progressive tax structures are California, Delaware, Minnesota, New Jersey, and Vermont, as well as the District of Columbia.
Finally, rural and smaller localities have a unique set of fiscal challenges that widen the gap between communities that are well- and under-resourced. This comes from a dearth of economic activity to generate tax revenue for infrastructure. Communities that don’t have many businesses or retail stores may not have much of a tax base because business and sales taxes are collected by neighboring jurisdictions where their residents work and shop.

Sample activities for philanthropy

• **Develop strategy through policy and economic research:** Philanthropy can support a research agenda that quantifies the relative financial burdens of how we currently pay for infrastructure, indirect costs of poor infrastructure (e.g., car maintenance costs or reduced employment opportunities), and the societal benefits of expanding infrastructure investment. Research can also help policymakers understand how different approaches to funding infrastructure can lead to equitable outcomes, such as sharing evaluations of the relative benefits of inverted rate structures as compared to rate assistance programs.

• **Supply policymakers with actionable research on equitable revenue generation:** Facilitating a bridge between researchers and organizations that inform and build capacity of public sector leaders (such as the National Conference of State Legislatures) can ensure that infrastructure investment research gets into the hands of decisionmakers and that decisionmakers’ questions inform research agendas. Research can be translated into feasible state and local revenue generation strategies, rate structures, and cost-offset strategies that don’t overburden low-income users.

• **Fund and connect advocates for fairer revenue generation:** Grassroots groups and statewide advocacy organizations are working around the country on fairer local and state tax measures, including through ballot measures. And national technical assistance centers and clearinghouses are engaged in various aspects of this issue, including promoting and protecting local control. All of these groups would benefit from financial support and chances to share data and strategies.

• **Shift mindsets about infrastructure investment:** Communications strategies linked to research can educate leaders and the general public on how large-scale, equitable infrastructure investment can benefit society as a whole and save money in the long run by preventing disaster and protecting public health. They can also help the public understand the connection between increasing public revenue and paying for public priorities (see Solution 6).

### IDEAS IN ACTION:

**Phoenix uses progressive water rates and a citizens’ committee in pursuit of water equity**

As of 2019, water bills in Phoenix were the lowest among the 50 biggest U.S. cities. Phoenix has a progressive rate structure with a flat monthly service charge for water usage up to a set limit that is sufficient to meet basic household needs. Then, incrementally higher rates are charged for additional quantities used. The amount of annual water consumption per household generally falls within the baseline allowance, which means the water bill for a typical household is approximately $10 per month. A bill for someone using ten times that amount is close to $150 per month. One problem, however, is that water and other city services have been billed together, which increases the risk of water insecurity through fees for late payments, disconnects for non-payments, and penalties for utility starts and stops. In late 2019, the city launched a water equity initiative led by a citizens’ committee charged with making recommendations about billing procedures, the ratepayer assistance program, and other ways to reduce water-related disparities. Philanthropy can take inspiration from Phoenix to lift up progressive rate structures as models for other jurisdictions and to support citizens’ committees and other coalitions working with government to find more equitable ways to pay for infrastructure.
SOLUTION 2: STRONG FEDERAL AND STATE AGENDAS

Strong federal and state agendas

Federal and state policy, funding criteria, and oversight shape much of what is possible for infrastructure. National and state leadership on equitable infrastructure is essential, given the scope and cross-jurisdictional nature of infrastructure. We need a broad, national agenda that captures the public’s attention and sparks coordinated action in states and communities. As key regulators and funders, state leaders should also be making robust, equitable infrastructure a clear policy and budget priority. Stakeholders within and outside government can inspire and move national and state leaders to action.

Strategies in Solution 2

Strategy 2.1: Establish a national vision for equitable infrastructure

The Government Accountability Organization found that a critical ingredient for infrastructure success is starting with a vision. The United States, unlike many peer countries such as Australia and the United Kingdom, does not have such a vision. Regional and local leadership on infrastructure must accompany federal and state leadership, and, amidst current gridlock, much of the promise for spearheading progress lies in lower-level jurisdictions. Therefore, an equitable national or statewide infrastructure agenda would have to remove existing constraints on the ability of lower levels of government to finance, fund, own, and manage infrastructure under their purviews (see Strategies 1.4 and 4.3). While we focus here on the federal and state levels, the other five solutions contain numerous strategies to bolster the capacity of regional and local agencies and individual public servants to manage infrastructure effectively and fairly.

The highly distributed nature of infrastructure decisionmaking in the United States necessitates a unifying framework that could inspire coordinated action toward a system that articulates baseline quality standards and recognizes quality public infrastructure as a basic human right.

Without a clear equity-centered vision, the goals of profit and wealth accumulation will continue to drive infrastructure development, maintenance, and operations to the detriment of the majority of Americans. A national vision can be a unifying force to advance equitable infrastructure, as well as to address climate and environmental concerns, to increase disaster resilience, and to be ready should a major infrastructure bill become part of Congress’s COVID-19 recovery plan. This vision can guide a national strategy for civic sector groups, spark conversations in town halls and state legislatures, and provide a basis for engaging private sector partners. Current federal government dysfunction means that actors outside of the White House and Capitol Hill may be best positioned to develop a national infrastructure vision, and then bring the federal government along.

Sample activities for philanthropy

- Co-create a national vision for equitable infrastructure: Philanthropy has the clout and relationships to bring together diverse interests – from frontline communities to infrastructure agencies to engineering firms – to develop a shared, long-term vision for infrastructure. National and regional philanthropies can work together to ensure that a national vision encompasses regional needs and centers the participation and priorities of low-income and rural communities and communities of color.

- Stoke momentum for federal government action: Advocacy linked to a national vision for infrastructure has the potential to generate urgency for federal action.
Infrastructure advocacy should be two-pronged, with one strategy focused on aligning states, regions, and localities and a second focused on supporting national advocacy for equity that prioritizes the needs of the most affected communities. Constructive policy and budgetary changes at the scale required for equitable infrastructure can only happen when national vision, a policy agenda, community power, and technical expertise all align. This advocacy can build upon equity-inclusive models for infrastructure development within the federal government, such as the Partnership for Sustainable Communities, policy proposals like the Green New Deal, and lessons from previous infrastructure stimulus packages like the American Recovery and Reinvestment Act.

**Strategy 2.2: Encourage states to prioritize equitable infrastructure**

In the face of federal gridlock and declining federal funding, states have been picking up the slack. States have substantial control and influence over infrastructure. Each state government regulates the huge infrastructure systems under its jurisdiction;68 collects and directly spends revenue for infrastructure;69 distributes this revenue via direct transfers, grants, and/or loans to localities, infrastructure agencies, and private businesses;70 and defines the authority that municipalities have to raise revenue and govern infrastructure.71 States play a particularly crucial role in supporting smaller, under-resourced jurisdictions that may not have the capacity or economic means to tackle infrastructure.

In the absence of federal leadership, states not only have significant power over the direction of infrastructure under their purviews, but also have a major interest in wielding this power to shore up their infrastructure in order to ensure all their residents are well served. After all, infrastructure is essential to state-level concerns like the economy and education.72

**Sample activities for philanthropy**

- **Develop comprehensive, equity-centered state infrastructure agendas:** Just like at the federal level, philanthropy can use its financial and reputational resources to convene diverse state-level players and grassroots leaders around building a statewide vision and comprehensive plan to revitalize public infrastructure.

- **Strengthen advocacy to influence the design and implementation of state agendas:** Since a comprehensive, equitable state infrastructure agenda must include multiple sectors and must consider issues...
ranging from health to climate to housing, it is important for a wide range of frontline groups and advocacy organizations to participate meaningfully in creating and actualizing the agenda. Philanthropy can support the formation and capacity of coalitions, enabling their members to coordinate on research, strategy development, and policy campaigns.

- **Establish a state resource exchange for equitable infrastructure:** State governments across the country need access to high-quality research and best practices in order to implement equity-centered infrastructure agendas. National associations that support these decisionmakers could help disseminate information, create forums for leaders to come together to share common challenges and strategies, and provide clearinghouses for model policies and technical assistance.\[xv\]

\[xv\] One example of this is the West Coast Infrastructure Exchange, an organization formed by the states of California, Oregon, and Washington, as well as the province of British Columbia, to provide training and support to public officials on the West Coast on infrastructure project development and public-private partnerships. West Coast Infrastructure Exchange, “About Us,” accessed June 4, 2020, https://westcoastx.org/about/.

**IDEAS IN ACTION:**
Frontline communities collaborate with technical experts to achieve environmental and economic wins in New Mexico

On April 1, 2020, a coalition of New Mexico community advocates, faith leaders, Navajo Nation residents, and environmentalists celebrated the New Mexico Public Regulation Commission’s decision to approve the abandonment of the coal-fired San Juan generating station.\[92\] This was the result of a long-term advocacy campaign that led to the 2019 passage of New Mexico’s groundbreaking Energy Transition Act (ETA), requiring the state to be 100 percent fossil fuel-free by 2050. The ETA offers low-interest bonds to the owners of closing plants to mitigate costs and help reduce customer utility bills. Additionally the ETA provides millions of dollars to help coal-dependent communities transition to clean-energy jobs.\[93\] Western Resource Advocates (WRA) brought technical and regulatory expertise to the coalition that pursued the ETA.\[94\] Public utility commission processes can be difficult for grassroots organizations to navigate, and WRA’s understanding of utilities’ and regulators’ needs and constraints allowed the coalition to advance a win-win policy that improves community health, aggressively addresses climate change, and economically benefits utility owners and local communities. Philanthropy can fund diverse coalitions like this, including experts in complex regulatory processes, to advance trailblazing state infrastructure policy with significant benefits for frontline communities.
Infrastructure is a set of interconnected systems that function regionally across jurisdictional lines. This requires unified, not compartmentalized, decisionmaking and management to avoid inefficiencies, high costs, and inequitable distribution of benefits and harms. Better regional coordination among governance bodies and infrastructure sectors would allow adjacent and overlapping jurisdictions to pool resources, share costs, and align services to everyone’s needs. Involving neighboring sectors, such as housing, community development, and public health, will allow for holistic solutions that address the inequities people face in their day-to-day lives.

Strategies in Solution 3

**Strategy 3.1: Promote regional governance of infrastructure**

Infrastructure crosses city and county boundaries, and the governance bodies in these jurisdictions often struggle or refuse to work collaboratively. This is because the United States lacks a strong system of regional governance facilitating streamlined decisionmaking. For instance, the water sector has been described as an “adhocracy” of decentralized decisionmakers. The United States has more than 50,000 community water systems, with 83 percent of these entities serving fewer than 3,330 people. Regarding urban transportation planning, metropolitan planning organizations (MPOs, described by one key informant as the “quiet heroes in the system”) are meant to encourage regional collaboration, but they are stymied by a lack of authority to enforce agreements. It is quite rare for a region to have a governance body with the stature and funding to mandate alignment across infrastructure sectors.

Regional fragmentation leads not only to inefficiencies but also to inequities. For example, smaller and poorer jurisdictions find themselves in a weak position to negotiate with large bond investors and multinational planning and development firms. So, instead of a broad region garnering funds and affordable contractors for everyone’s infrastructure, one town may struggle to pay for essential services while a neighboring town accesses the capital and talent necessary to deliver top-notch amenities. This perpetuates the impact of lingering racial segregation because people of color are more likely to live in communities with deteriorating infrastructure.

When communities that have faced decades of systemic disinvestment are left on their own to shore up their infrastructure, users who are already financially strained often have to shoulder the costs through higher rates, taxes, or fees, exacerbating the wealth gap between them and their counterparts in whiter, richer parts of the region. Outside organizations and philanthropy can encourage the adoption of regional governance structures that balance power across local jurisdictions while centering health and equity.
Sample activities for philanthropy

- **Create demonstration projects testing regional infrastructure oversight bodies:** Building off the examples of MPOs for transportation, philanthropy can fund and promote demonstrations of varied models of equitable regional infrastructure planning and funding. Different projects could emphasize effective community leadership at a regional level; regional governance enabling rural areas to share expertise and fundraise together, and regional collaborations that include anchor institutions and other non-governmental partners.

- **Study and share effective mechanisms for regional cooperation on infrastructure:** Inspiring regionalism requires more diverse examples of successful regional governance of infrastructure and related issues, like housing and climate change, with a particular emphasis on strategies for achieving equitable processes and outcomes. Philanthropy can also help lift up models of regional partnerships, such as collective purchasing programs that allow municipalities to save time and money by negotiating as a unit for equipment and services.

- **Encourage regional consolidation and partnerships for small, struggling infrastructure providers:** Many providers including water utilities and transportation agencies that serve small populations, particularly in rural areas, don’t have the staffing or size to manage assets effectively. Regional philanthropies could convene stakeholders, centering frontline communities, to consider and plan for consolidation, while national philanthropies could share best practices and examples from areas that have successfully consolidated infrastructure.

- **Promote the need for regional infrastructure governance among civic sector organizations, anchor institutions, and local philanthropy:** Local non-governmental organizations, such as hospitals and community foundations, can catalyze regional collaboration by convening local conversations. National and regional philanthropy can share information and guidance with on-the-ground partners who may be looking for support for improving infrastructure.

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**IDEAS IN ACTION:**

Denver civic and private sector leaders advance regional, equitable transit development

In anticipation of billions of dollars flowing into the Denver region’s transit infrastructure through the 2020s, a group of prominent foundations, nonprofits, and financial institutions formed Mile High Connects (MHC) to prevent gentrification and displacement while supporting thoughtfully-designed, transit-rich neighborhoods throughout the region. MHC’s activities include grantmaking; building neighborhood-level engagement and leadership capacity in communities of color; partnering with community leaders in policy campaigns; and driving new investments in catalytic projects. MHC has laid the groundwork for innovative financing strategies for equitable first and last mile connections; advocated successfully for a regional low-income fare program; and fostered a learning cohort of regional anchor institutions aimed at expanding local hire and procurement opportunities. MHC has received funding and guidance from Strong, Prosperous, And Resilient Communities Challenge (SPARCC), which promotes local efforts in six regions to make sure that major new investments in the places people live, work, and play lead to equitable and healthy opportunities for everyone.

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**Strategy 3.2: Provide opportunities to collaborate and learn across sector boundaries**

The various infrastructure sectors face similar planning, operations, and funding challenges at a macro level, even though they provide different services from one another. But experts report that sector silos hamper holistic solutions. For example, public health and housing officials are rarely included in transportation planning even though the three issues have huge impacts on one another. Several key informants observed how foundations can exacerbate silos through restricted grants that keep nonprofit programs in narrow topical lanes. One funder described how a mix of project-based grants to one organization has resulted in isolated teams that reinforce silos within government by approaching different agencies with conflicting agendas.

Breaking down these silos at a sector or industry level could allow for information sharing, coordinated planning and maintenance, stronger advocacy for large-scale national
investment in infrastructure, and even the chance to develop projects together. For example, the technical expertise needed to build and maintain energy systems is quite different from that needed to build water systems, yet both sectors have similar difficulties structuring rate and billing systems that are affordable to low-income customers. If they were better about sharing data and strategies – or perhaps even about coordinating community engagement and program design for low-income customers – they might find themselves with more functional systems and their customers with more stable service.

Sample activities for philanthropy

- **Foster interagency collaboration across sectors:** Public agencies often have little time or money for experimenting with new practices, like collaborating across sectors. Philanthropy can provide financial resources and political capital to create the space for interagency collaboration and can elevate the need for collaboration with the national and state associations that support infrastructure professionals.

- **Convene broad-base local and regional collaborations for equitable infrastructure:** Local and regional philanthropy can use their convening power to bring together diverse stakeholders, including infrastructure agencies, private sector infrastructure providers, public health agencies, planning agencies, community development organizations, anchor institutions, and community groups. If successful, these collaborations can be a voice for better, equitable infrastructure, and members can hold each other accountable for making change.

- **Model cross-sector collaboration:** Funders can model cross-sector approaches. An easy start might be talking to grantees about cross-sector partnerships and asking how the foundation can support such work. Funders can review their current grantmaking portfolios with an eye toward connecting existing work that resides in different program areas. They can also do collaborative grantmaking with peers working on related issues. General operating support and flexible program grants can allow grantees to break down silos.

IDEAS IN ACTION:
Philanthropy sparks cross-sector actions toward an equitable recovery in New Orleans

In recovering from a series of devastating hurricanes compounded by the largest oil spill in U.S. history, the greater New Orleans region is channeling billions of dollars in federal funding and spill-related penalties into its communities and landscapes. With a comparatively small investment, the Greater New Orleans Funders Network (GNOFN) has had an outsized influence on the recovery process. This coalition of local, regional, and national philanthropists is committed to elevating the importance of correcting historic injustices and incorporating equity into recovery planning and implementation. GNOFN uses its convening power and its grantmaking to facilitate collaborations across sectors, across industries, and with genuine participation and leadership from community members. GNOFN's contributions include facilitating meaningful community participation in decisionmaking regarding the expenditure of recovery dollars; helping write equity as a specific growth strategy into the New Orleans economic development plan; and providing opportunities for marginalized people and businesses to join the local water and climate-resilience economies.
To ensure everyone benefits from public infrastructure investment, frontline communities should play a leadership role in setting priorities and making key decisions, from the early stages of planning infrastructure through its long-term operations and maintenance. Building the power and leadership of communities of color and low-income communities is crucial to ensuring infrastructure corrects historic inequities and effectively meets community needs. Local ownership and control of infrastructure can also contribute to increased power through shared prosperity and resilience.

**Strategies in Solution 4**

- **Strategy 4.1:** Invest in community organizing and coalition building
- **Strategy 4.2:** Advance more inclusive decisionmaking processes
- **Strategy 4.3:** Increase the viability of local control and ownership

**Strategy 4.1: Invest in community organizing and coalition building**

Grassroots civic sector organizations have a critical role to play in building the power of communities who are often excluded or taken for granted. These groups are well positioned to equip residents with the knowledge and tools to participate in public processes; register and engage voters; convene stakeholders with aligned interests; and provide a strong advocacy voice for those who have traditionally been sidelined. Communities experiencing inequities need to have a seat at the table and hold government and private sector actors accountable in order to ensure their needs are reflected in infrastructure policies, plans, and decisions.

Organizations working to build power and voice in marginalized communities need long-term, general operating support. These groups have historically been underfunded by philanthropy and now are in demand more than ever to connect people and meet community needs in a time of social distancing, mass unemployment, and the disproportionate health outcomes related to COVID-19. This work often focuses on the most pressing issues for community members, which may or may not align with funders’ priorities. Still, organizing around one issue, like increasing the minimum wage, builds power and momentum that transfers to subsequent issues. Philanthropy at the local, regional, and national levels can convene nontraditional partners to build coalitions that enable community groups to increase their power and reach.

**Sample activities for philanthropy**

- **Fund community organizing:** Grassroots groups can work to heighten community power by growing and strengthening their membership bases, advocating for change on critical infrastructure issues, and creating opportunities to build relationships and trust between community members and infrastructure decisionmakers.

- **Cultivate community leadership in infrastructure:** Local organizations can equip community members

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xviii One reason community advocacy groups are underfunded may be philanthropy’s wariness of lobbying. Advocacy work is necessary to achieve the level of systemic change required for an equitable future. There are many ways to support groups pushing for policy change without jeopardizing a foundation’s tax-exempt status. For more guidance on this topic see: Bolder Advocacy, “Private Foundations May Advocate,” accessed June 5, 2020, https://www.bolderadvocacy.org/wp-content/uploads/2018/06/Private_Foundations_May_Advocate.pdf.
with advocacy skills and technical information, enabling everyday users to lift up the value of their own expertise and engage with engineers and planners in technical discussions.\textsuperscript{xxi}

- **Promote strategic coalition building:** Coalitions magnify the power of individual organizations – at the local level by forging alliances among dispersed stakeholders affected by the same infrastructure problems, and across geographies by sharing knowledge and generating momentum for large-scale change. Power mapping can identify key players who can cooperate to win better local and regional infrastructure or advance state and national policy.

- **Pursue voter protection, education, and registration:** Even though battling disenfranchisement and engaging voters are not infrastructure-specific strategies, voting is a crucial avenue to shaping infrastructure decisions, which are often made by elected officials and agencies they oversee. Voter turnout campaigns led by organizers with roots and relationships in a community equip historically marginalized people not only to participate in specific elections but also to wield ongoing power beyond the ballot box.

**IDEAS IN ACTION:**

Sustained philanthropic investment enables Kentucky power building group to spring into action

The 2015 federal Clean Power Plan rule required each state to propose a plan for meeting federally-set limits on carbon emissions from power plants. Kentucky’s state government declined to develop a plan so a statewide base-building and campaign organization, Kentuckians for the Commonwealth (KFTC), convened more than 1,200 stakeholders to develop a plan that met the federal requirements.\textsuperscript{106} Philanthropic investment in KFTC over the decades provided the civic infrastructure for the community to rapidly respond and develop a policy framework when the state government declined to play that role.\textsuperscript{107} The resulting plan centered the voices and experience of people who have been harmed by the coal industry and have the most to lose when coal plants shut down, creating a transition to clean energy that benefits local communities with a cleaner environment and a path to good jobs.\textsuperscript{108}

**Strategy 4.2: Advance more inclusive decisionmaking processes**

Community members generally have few opportunities to offer input and perspective to infrastructure planners and decisionmakers, and when they do, they face multiple barriers to full and genuine participation.

Where formal mechanisms do exist for community involvement, they generally are more symbolic than substantive, often engaging residents only after the majority of decisions have been made in consultation with powerful stakeholders and technical experts.\textsuperscript{109} When contrasted with the technical planning and engineering expertise required to design and build a complex piece of infrastructure, the experience of community members, particularly people of color and low-income people, is rarely valued as a form of expertise, if it’s even sought through a public process at all.\textsuperscript{110} Decisionmakers often rely on metrics, targets, and rubrics focused on technical goals, omitting community needs. Another major barrier to participation in decisionmaking for many individuals and grassroots organizations is simply time and money. For instance, a parent may not be able to pay for a babysitter in order to attend an evening meeting. And many nonprofits aren’t able to fund staff time and travel for important meetings if they aren’t directly relevant to a grant deliverable.\textsuperscript{111}

By contrast, affluent residents and large companies that stand to benefit from infrastructure decisions have the money, time, and relationships to sway decisionmaking processes in ways that many community members often do not.\textsuperscript{112} At the individual level, this manifests in complaint-driven maintenance systems that direct resources to wealthy neighborhoods with residents who have the capacity and sense of empowerment to demand attention.\textsuperscript{113} At the industry level, as described earlier, lobbyists wield tremendous influence over the enactment and implementation of policies that support corporate profits. Further tipping the scales towards business interests, planners tend to coordinate with economic and sometimes environmental interests, discounting social good and community considerations.\textsuperscript{114} The result can be infrastructure that is mismatched or even dangerous to a community, such as bike share programs that are unaffordable to low-income residents, or parks that become magnets for crime because they do not provide the amenities needed by local residents.\textsuperscript{115}

To develop and maintain systems that serve everyone well, public infrastructure agencies must make their decisionmaking processes more genuinely inclusive to people of color and low-income people. Given that public sector entities are often risk-averse and have little time or money for experimenting with new ways of doing business, philanthropy is well positioned to nudge them toward a more community-centered approach. This strategy complements investments in community organizing by creating conditions receptive to community leadership and input.

Sample activities for philanthropy

- **Promote community-centered planning, decisionmaking, and implementation:** Many infrastructure agencies require a fundamental shift toward understanding community desires and needs as the foundation—rather than afterthoughts—for equitable and effective infrastructure. Philanthropy can fund civic sector groups and peer-to-peer sharing to help government identify and address the structural, cultural, and informational barriers that keep people out of infrastructure processes. Agencies also need training and models on centering frontline communities in all of their activities, including new metrics that track who participates in processes and whether these processes produce equitable outcomes (see Strategy 5.1).

- **Make sure grassroots groups have the financial resources to participate:** Grants to grassroots organizations should be ample and flexible enough to allow staff and members to sit at the table with key infrastructure players, even if it means paying for babysitting, technology, or travel.

- **Develop infrastructure decisionmakers who represent disinvested communities:** Education and training programs can help equip local leaders who are people of color, women, people with disabilities, or members of other under-represented groups to assume leadership positions on governance bodies such as water boards or planning commissions. Philanthropy could also invest in sharing best practices for designating seats on decisionmaking bodies to ensure diverse communities are fairly represented. Another way to build local capacity to engage in technical infrastructure decisionmaking is to promote access to infrastructure careers through avenues including workforce development programs and local and targeted hiring preferences (see Strategy 5.2).

- **Explore the power of citizen ballot initiatives:** State or local ballot initiatives can be powerful tools to set policy, raise bond revenue, and create equity requirements for infrastructure. For example, Portland, Oregon, used them to create revenue streams for clean energy development, water, and parks that provide environmental, social, and economic benefits to communities of color and low-income communities. While the ballot measure process can be complicated and fraught with influence from powerful interests, direct democratic participation in creating equitable policy is an important avenue to explore and strengthen. Philanthropy can invest in researching the effective use of ballot measures and building capacity of local power-building groups to use them as a tool.

**IDEAS IN ACTION:**

**Diverse community leaders in Milwaukee shape downtown development**

Milwaukee, Wisconsin, is experiencing a renaissance of development in and around downtown. But poverty and racial segregation have left some residents feeling disconnected from the city's growth and fearful that they will be pushed or left out. In response, a group of business, government, philanthropic, and grassroots leaders launched the MKE United initiative, which has convened dozens of diverse community leaders from across the downtown and adjacent neighborhoods to have a say in shaping the city's future. MKE United developed a 10-year strategic action agenda and is now implementing strategies including securing financing for a $50 million neighborhood development fund and building local fluency around racial equity.

**Strategy 4.3: Increase the viability of local control and ownership**

Communities that find themselves poorly served or not served at all by private infrastructure providers often face barriers to taking control of their own infrastructure. This generally applies to broadband and energy, which are the most common infrastructure provided by the private sector. Local jurisdictions and community organizations seeking paths to infrastructure ownership have limited examples of viable
business models to pursue. They also face policies that inhibit or prohibit community-owned infrastructure. For example, as of 2019, 25 states had enacted laws advanced by corporate Internet service providers that preempt or strongly discourage municipalities from building their own broadband networks. And states often have other requirements imposed on broadband service providers that make small-scale projects infeasible. Similarly, only seven states allow community choice aggregation, which permits local governments to negotiate with utility companies for wholesale residential energy prices and to source from alternate providers, who often supply green energy. Community solar projects, which provide distributed ownership and local decisionmaking over power generation and make solar more accessible to low-income communities, often face regulatory and permit barriers at all levels of government.

Decentralized infrastructure can better serve community needs, make green energy more accessible to low-income households, increase accountability, and provide local job opportunities. It can also improve resilience in the face of climate change and natural disasters. Public control over energy infrastructure, as in Nebraska, can result in lower user costs and higher reinvestment into maintenance and other community needs, since profits need not be paid to investors.

**Sample activities for philanthropy**

**Expand community ownership models**: Local governments and organizations need models that demonstrate the viability and scalability of community ownership of broadband and energy systems. Demonstration projects and opportunities to share resources and expertise can assist communities considering becoming infrastructure providers. Philanthropy can leverage program-related investments to help fill the need for pre-development funds and for access to essential affordable funding and financing streams.

**Tackle policy barriers**: The extent to which public policy prohibits or hinders community ownership of infrastructure is not fully known. Philanthropy can fund research and advocacy to help communities overcome policy barriers to community ownership and locally controlled infrastructure projects. Demonstration projects – whether successful or not – may be a good starting point for understanding both policy and practical barriers and improving strategies.

**Help keep technical expertise local**: Community control over infrastructure means retaining the know-how to build and repair local infrastructure. When public contracting processes favor large firms headquartered elsewhere, the community loses technical expertise and the economic benefits that come with it. Philanthropy can help disseminate procurement best practices, giving businesses that are local, small, or owned by underrepresented groups a fair shot at competing for infrastructure contracts. It can also offer these businesses capacity building opportunities and even seed money or capital investment.

**IDEAS IN ACTION**: An entrepreneur from the Pine Ridge reservation brings solar energy and career opportunities to tribe members

Many residents of the Pine Ridge reservation in remote South Dakota, home to the Oglala Lakota Sioux tribe, live without electricity in their homes. Pine Ridge received its first transmission line in 2018, but the cost of installing lines and meters has been prohibitive for many households, given that more than half the reservation lives below the poverty line. In the late 1990s, community member and entrepreneur Henry Red Cloud partnered with the Colorado nonprofit Trees, Water & People (TWP), which had foundation funding for Red Cloud to install portable solar heating systems in Pine Ridge at no cost to homeowners. As of November 2019, 500 homes had Red Cloud’s off-grid solar furnaces and have reduced their heating costs by up to 30 percent.

Red Cloud’s vision of building one of the first 100-percent Native-owned renewable energy companies was hindered by a lack of household connections to the grid, which can accept excess energy, and resistance by the South Dakota Public Utilities Commission (PUC) to adopting a “net metering” policy, which would allow small solar generators to sell excess electricity back to the utility company. As of early 2020, advocates are still attempting to move the PUC on this issue.

In addition to their solar furnace work, Red Cloud and TWP established the Red Cloud Renewable Energy Center, which has led hundreds of training sessions for indigenous people from over 50 tribes interested in working in the solar industry. This program positioned its trainees for jobs on the $100 million solar project approved by the PUC in February 2020 to be constructed on leased Pine Ridge land.

The challenges and successes of Red Cloud and his partners show that philanthropic investments in locally-driven infrastructure initiatives can drive change by helping identify and shift policy barriers, and by supporting broader economic benefits in the form of lower bills, access to jobs, and the ability to rely on local expertise to maintain quality infrastructure in the long run.
Closing racial gaps across health, wealth, and opportunity is not only a moral imperative, but also a means to greater long-term growth and prosperity for everyone. The pressing need to improve huge swaths of our nation’s infrastructure presents a chance to envision a new way forward that centers equity and dismantles structural racism in the governance, procurement, and provision of infrastructure. Identifying racism embedded in policy and systems, centering the leadership of people of color, and expanding the inclusion of communities of color in the infrastructure economy are essential to setting a course toward a healthier, more equitable future.

### Strategies in Solution 5

**Strategy 5.1:** Spotlight, eliminate, and correct for structural racism in infrastructure

A common barrier to addressing structural racism is the organizational cultures of public agencies, elected bodies, advocacy organizations, and private sector contractors. Leaders and staff may be unwilling to champion efforts to create racial equity because it may seem too difficult or not an organizational priority. They may also not have the language, data, or tools necessary to start and sustain an organizational conversation. Implicit bias and racial blindspots can also compound organizational inertia by keeping leaders and staff from seeing the urgency of racial inequities in infrastructure. Many organizations are implementing diversity, equity, and inclusion (DEI) trainings for staff and even creating DEI positions and committees within organizations. However, without sufficient resources and authority, these practices and roles alone aren’t sufficient to generate the internal structural change necessary to truly create inclusive work environments and work plans that effectively dismantle structural racism.

**Strategy 5.2:** Forge pathways for people of color to infrastructure leadership and jobs

Without facing structural racism head-on, we will never heal its harms and achieve racial equity in infrastructure. All sectors of infrastructure need a clear analysis of how structural racism continues to operate, specific strategies to address structural racism, support for implementing those strategies, and organizational cultures that support these efforts.

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**Gentrification and Displacement**

Infrastructure improvements, particularly in cities and metropolitan areas, are often associated with rising property values, gentrification, and displacement. These improvements, when made in neighborhoods that have been ignored for decades, can attract new residents, often white people who have higher incomes and education levels than current residents. Greater demand for housing and rising property values can then lead to displacement of lower-income residents and residents of color. Research shows that displacement is not always a foregone conclusion with neighborhood revitalization, but existing residents of color can become socially and economically isolated in their own communities.

In order to ensure the benefits of infrastructure improvements are shared by all neighbors, philanthropy can incentivize those working on equitable infrastructure to integrate housing and economic development strategies that allow low-income communities and communities of color to remain and thrive in their communities.
Sample activities for philanthropy

- **Educate infrastructure workers to identify, talk about, and correct structural racism:** Intensive outcome-based training could be provided to staff in government agencies, trade associations from different sectors, and technical fields like engineering and construction. Curricula could address how to identify the ways structural racism operates in infrastructure, how to talk about the link between structural racism and infrastructure inequities (see also Solution 6), and how to use policies and practices that advance racial equity.

- **Expand a culture of practice in infrastructure agencies to dismantle structural racism:** Infrastructure agencies need a menu of strategies to eliminate structural racism and promote racial equity in their internal practices and external work. To deploy these strategies, they also need tools, metrics, model policies and plans, and examples of successful implementation. Communities of practice could provide space to share progress, exchange ideas, and troubleshoot together.

- **Center racial equity and leaders of color in civic sector organizations:** Funders can use grant requirements – paired with resources for technical assistance, trainings, and peer learning – to encourage advocacy and policy organizations in the infrastructure space to have diverse boards and management, align their missions with racial equity, and adopt clear strategies for incorporating racial equity into their work.

- **Support legal advocacy:** It’s important to take action when racial inequities in infrastructure violate the law. Philanthropy can support public interest groups representing individuals seeking either redress for harms they have suffered or pursuing impact litigation to address widespread discriminatory practices.

- **Build private sector alignment with racial equity goals:** Given the significant role of the private sector in infrastructure, it’s important to bring companies into the racial equity conversation and help them see how racial equity is good for business. This could be done by engaging private sector players in defining equity targets, providing professional development opportunities, or developing a recognition program for infrastructure contractors that perform well on racial equity criteria.

IDEAS IN ACTION:

*Minneapolis uses equity criteria to direct funding to parks in communities of color*

The Minneapolis Parks and Recreation Board (MPRB) follows a Racial Equity Action Plan that targets funding where needs are greatest instead of reinforcing current racial disparities. The plan includes formal accountability and performance measures. For instance, MPRB has applied an equity matrix for selecting parks improvement projects and has used an equity framework to allocate staff funding across city recreation centers. In addition, MPRB's budget process assesses new requests and proposed cuts through an equity lens. Since every home in Minneapolis is within a 15-minute walk of a park, community members can quickly appreciate the impact of MPRB's investments. In piloting and shaping its approach to equity, MPRB received guidance from the Government Alliance on Race and Equity (GARE), a national network that works with local and regional jurisdictions on "pathways for entry" into racial equity work. GARE has worked in 171 different places, including Seattle, which in 2005 pioneered its Race & Social Justice Initiative focused explicitly on tackling institutional racism in government. Seattle's Racial Equity Toolkit has served as a model for other cities including Minneapolis.

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**Strategy 5.2: Forge pathways for people of color to infrastructure leadership and jobs**

People of color, as well as women and other marginalized groups, are underrepresented in public decisionmaking bodies and in management-level positions. A lack of diversity among decisionmakers can result in policies and practices that don't account for the full range of stakeholder interests, as well as exclusion from economic opportunities associated with infrastructure development and maintenance.

Myriad government contractors that support public infrastructure lack diversity. The trade unions and large, often multinational firms that dominate the infrastructure economy are disproportionately male and white due to their long histories of discrimination and exclusion. Fewer contracts go to smaller businesses located in the communities where the infrastructure is being built, and fewer job opportunities go to local community members, particularly people of color. A recent federal study found that businesses owned by women and people of color are particularly underrepresented in contracts in the construction, professional services, architecture, and engineering sectors – all of which are crucial to infrastructure development and maintenance.
Numerous barriers thwart people of color who stand ready to plan, build, maintain, and operate infrastructure.\textsuperscript{xxii} Infrastructure businesses are often subject to onerous contracting processes and tough insurance and bond requirements that tend to favor trade unions and big firms. Meanwhile, businesses owned by people of color face systemic inequities when competing for infrastructure contracts. Racial wealth and pay gaps limit their access to capital, and lending institutions limit access to credit, impeding business investment and bonding. People of color are also left out of business networks with the potential to yield new leads, which means they often don’t receive timely, or any, notification about bidding opportunities.\textsuperscript{146}

Efforts to remediate contracting inequities have included federal preferences for “minority-owned businesses” that date back to the 1970s, but according to the Department of Commerce, these have “barely moved the needle” on overcoming disparities.\textsuperscript{147} Some racially diverse municipalities have pursued local or targeted hiring policies that incentivize or require businesses to employ workers living in a particular geographic area or who are from specific populations within the community.\textsuperscript{148} But state legislators representing wealthy, predominantly white districts have begun taking notice, with some seeking to preempt such policies under pressure from powerful business interests.\textsuperscript{149}

To ensure everyone has a voice in infrastructure decisionmaking and has equal access to economic opportunities in infrastructure, philanthropy can spur the creation of intentional pathways to leadership, jobs, and contracts for people of color, along with other underrepresented groups.\textsuperscript{xxii}

Sample activities for philanthropy

Expand the pool of people of color for infrastructure jobs:

Strategies to increase racial diversity in the infrastructure workforce could include professional development opportunities for early career infrastructure professionals, job training and apprenticeship programs that bring people of color into the sectors, and programs preparing people to serve on elected and appointed infrastructure bodies (see Strategy 4.2).

**Implement equitable procurement processes:** Procurement staff in infrastructure agencies need information about how to craft fair processes that don’t create unnecessary barriers to smaller businesses owned by people of color. This includes making sure these businesses receive timely notification of RFPs and adequate time to assemble and prepare proposals.

**Protect and promote local and targeted hiring and contracting policies:** Philanthropy can support groups working on expanding or enacting local and targeted hiring and contracting preferences, and track states that are seeking to outlaw them. These efforts can connect to national and state policy initiatives (see Solution 2) and other efforts to address preemptive state laws that quash local rights to build, fund (see Solution 1.4), and maintain infrastructure.

**Invest in infrastructure-related businesses owned by people of color:** Recognizing that the racial wealth gap makes it harder for people of color to start and expand businesses, philanthropy could help these businesses position themselves to be more competitive when bidding on government contracts. This could take a variety of forms, from direct grants to pay for needed equipment or other capital investments, to technical assistance on packaging bids, navigating complex contracting processes, marketing, and other topics.

**Ideas in Action:**

Los Angeles helps equip people of color to pursue infrastructure careers and win contracts

In partnership with the Emerald Cities Collaborative (ECC), the County of Los Angeles has implemented a suite of economic and workforce development programs that create career paths in infrastructure for students and adults of color and that boost the ability of small and people-of-color-led businesses to compete for construction contracts.\textsuperscript{150} For example, the ACES Pathway Program gives economically disadvantaged high schoolers an onramp to jobs in architecture, construction, and engineering by enrolling them in community college courses, providing paid summer internships, and covering the costs of everything from work gear to enrollment fees. And the E-Contractor Academy’s seven-week course prepares contractors of color to obtain and perform the types of energy efficiency retrofit projects that are poised to generate billions of dollars of contracting opportunities locally and throughout California. ECC has helped launch similar sets of programs in New York, Oakland, San Francisco, and Seattle.

xxi Similar barriers face women and other marginalized groups but, as described earlier, we focus here on race because of its unique relationship to infrastructure in the American landscape.

xxii See research and recommendations from PolicyLink and Emerald Cities to advance racial equity in procurement and contracting: https://www.policylink.org/resources/tools/inclusive-procurement-and-contracting
Broad support for public infrastructure provides a solid foundation to move public will toward investing in this century’s equitable version of the New Deal. Yet, finding consensus among policymakers and stakeholders on how to get there is a major challenge due to cultural divisions across political party, race, and national origin in the United States. An effective and tested communications strategy, operating in tandem with the other strategies highlighted in this report, needs to be backed by solid data that illustrates the problem of inequities as well as the possibilities of evidence-based solutions.

**Strategies in Solution 6**

**Strategy 6.1:** Shift the public’s mindset on equitable infrastructure as a public good

**Strategy 6.2:** Fund a research agenda for equitable infrastructure

**Strategy 6.1: Shift the public’s mindset on equitable infrastructure as a public good**

America needs a strong and compelling case for public infrastructure – as a public good, a human right, a social determinant of health, an opportunity for mass employment, and a vehicle to carry our society and economy into the future. This case needs to speak directly to America’s deep lack of trust in government, which is at its highest point in more than half a century. The mistrust of Black and Latinx people toward government is accompanied by an expectation that white officials will make decisions that are racially biased, likely due to a lifetime of experience with structural racism. Well-publicized infrastructure failures may feed into existing distrust of government. For example, residents of Flint, Michigan, reported extremely low levels of trust in the state and local government, compared to other Michigan residents and Americans in general, during the height of the water crisis in 2016. Similarly, New Orleans residents expressed extremely low levels of trust in government authorities after Hurricane Katrina, in part because of perceptions of the level of competence in the immediate response to the disaster, as well as awareness of the Great Mississippi Flood of 1927, during which poor neighborhoods were flooded intentionally to save banks in downtown New Orleans.

Mistrust in government is not only a result of but also a contributor to government’s inadequate leadership on infrastructure (see Solution 2). According to the Organization for Economic Cooperation and Development, trust in government is critical to infrastructure institutions’ ability to operate effectively and equitably. Yet we see a self-perpetuating cycle in which the public’s disappointment with infrastructure is compounded by small-government narratives, which leads to decline in support for taxes and other means of revenue generation to fund infrastructure (see Solution 1), which decreases the government’s ability to work effectively, which in turn fuels public mistrust.
Past efforts to elevate the profile of infrastructure in the national conversation have not focused sufficiently on equity nor have they been consistent or coordinated enough to cut through public mistrust in government or partisan gridlock among our political leaders. The communications strategy should share a vision for infrastructure and equity (see Solution 2) and attempt to build trust in government to manage a large-scale initiative. It should also connect infrastructure to other major concerns, including climate change, affordable housing, disaster resilience, mass unemployment, and income inequality. People need to see how infrastructure helps, or hinders, their and their communities’ futures. A well-designed national strategy will center frontline communities and connect their issues to the common good and will have elements that can be adapted in different places and sectors.

Sample activities for philanthropy

- **Help infrastructure agencies build trust:** Philanthropy can build the capacity of public agencies to use modern and effective ways to engage regularly with constituents. Agencies need help honing skills and strategies to communicate compelling, tailored information to their communities – whether the infrastructure messages are about mitigating dangers, seizing benefits, or participating in decisionmaking. This might include supporting participatory planning and budgeting processes or professional development opportunities in effective public communications. Convening community stakeholders and public officials around important infrastructure breakdowns or opportunities could bridge gaps in trust and understanding.

- **Incentivize excellence:** Public recognition for excellence, as well as strategic shaming of poor performance, have long been used to incentivize the adoption of best practices. Prizes for excellence in public infrastructure leadership could be created for both individual leaders and agencies, which in effect establish public standards for the skills and mindsets needed to manage infrastructure toward equity and sustainability. Prizes can also be paired with the chance to attend leadership academies that teach skills needed to effectively manage infrastructure for the long-term. Rankings or score cards are another way to celebrate agencies doing a good job, spark competition among low-scoring organizations, and publicize criteria for excellence.

- **Bolster campaigns to shift broad support for infrastructure into action and investment:** Philanthropy with expertise in different sectors and regions could work together to develop a communications strategy – with elements for the public, private, and civic sectors – that supports grassroots campaigns and moves the public and decisionmakers toward action on infrastructure. This strategy could connect to other campaigns that have momentum, such as climate justice. It should elevate the voices of those most negatively affected by infrastructure and make the connection between reversing inequities and shared benefits for all.

- **Elevate conversations to advance racial equity in infrastructure:** A major push for infrastructure investment is a once-in-a-generation opportunity to address racial inequities and structural racism in the United States. Racial justice organizations need support to continue both bringing these issues to the forefront of the national conversation and building broad support for racial equity in infrastructure. Additionally, communications experts can develop and rigorously test messaging with different audiences to determine how best to productively navigate conversations on race.

**IDEAS IN ACTION:**

A simple message about ZIP code disparities helps shift media coverage and research priorities

In 2010, as part of a $1 billion comprehensive, community-centered initiative to transform 14 California communities devastated by health inequities, The California Endowment launched a media campaign aimed at shaping the norms and beliefs about who matters in our society and how to invest in health for all. A key component of this campaign used ZIP codes to illustrate major disparities in longevity, showing that as many as 15 years could separate the California neighborhoods with the longest life expectancies from those with the shortest. The simple message that your ZIP code matters as much if not more than your genetic code when it comes to health has helped reframe media coverage around the country about the link between our physical and social environments and our health. It has also permeated the academic literature, becoming a common lens for researching health disparities.
Strategy 6.2: Fund a research agenda for equitable infrastructure

Having a clear understanding of a problem is essential to finding an effective solution. But in our own research for this report, we found a surprising lack of consistent, reliable demographic and geographic data for most sectors on access to safe, high-quality infrastructure. Furthermore, there is a dearth of research into effective strategies, particularly around funding, financing, and governance. Infrastructure needs a coordinated, cross-sector research agenda that provides both data illustrating the nuances of the problem as well as evidence for potential solutions. Important types of research-related activities range from developing tracking systems and metrics to translating existing research into information for decisionmakers, analyzing the economic and policy consequences of solutions, and evaluating demonstration projects.

Some of the specific research gaps that we identified include:

- What are the racial, socioeconomic, and geographic inequities in infrastructure, broken down by infrastructure sector?
- What are the true economic, social, and health costs of inequitable infrastructure?
- Who really pays for infrastructure? How does the burden fall along the lines of race, socioeconomic status, and geography, and across individual, government, and corporate sources of revenue?

In terms of how research gets done, research agendas are often set outside of the communities they target for investigation. Then, community power groups are frequently asked to support the research without receiving compensation or any assurance that the findings will serve the frontline communities they represent. Funding and inviting these groups to set and implement research agendas can provide fodder for their campaigns while giving everyone a clearer picture of infrastructure inequities.

Sample activities for philanthropy

- **Develop an infrastructure inequities clearinghouse:** Philanthropy could develop and maintain a tracking system for infrastructure inequities across geography, socioeconomic status, and race, combining existing datasets and generating new systems where needed. It could also overlay information about infrastructure spending and governance at different levels of government.

- **Connect infrastructure inequities with broader social inequities:** Funders could integrate questions about infrastructure into existing research programs that focus on other societal issues, like climate change, public health, and economic opportunity.

- **Source research priorities from communities most affected by inequities:** Philanthropy can wield influence by mandating in research grant requirements the inclusion of groups working with frontline communities.

**IDEAS IN ACTION:**

Strategically framed and disseminated research influences healthy transportation policy

The Convergence Partnership, a network of over 80 local and regional foundations, commissioned, published, and distributed The Transportation Prescription and Healthy, Equitable Transportation Policy: Recommendations and Research to inform advocates and policymakers about the connections between transportation and health, and to highlight policy levers for healthy transportation. The Partnership conducted extensive outreach around these reports, which ultimately influenced transportation investments and legislation at all levels of government. This research, along with other work like the Equity Atlas from the Partnership’s program director PolicyLink, informs equity guidance provided by the U.S. Department of Transportation.
Throughout our research and conversations, a set of
more general principles for solving our infrastructure
challenges kept coming up. These principles are about
how to do the work as opposed to what work to do. Most
of these principles are related to equity in both process and
outcomes of philanthropy in general, and have been described
in detail elsewhere by experts in this space. Nonetheless,
we share these principles because of how frequently and
strongly key informants stressed their importance to any
endeavor used to promote equitable public infrastructure. We
feel compelled to be respectful messengers of the input our
key informants wanted to provide to philanthropy.

Take bold action, now: Philanthropy, perhaps more so than
any other entity in this country, has the money and the clout
to catalyze large-scale change. Listen to what the people
and groups on the frontlines of racial justice, the climate
crisis, and economic justice need and fund them at a large
scale. Use your platform and access to amplify the messages
of these frontline groups. Support efforts to strengthen
accountability in the public sector and make sure everyone
has access to the ballot box. Our current infrastructure
problems are symptoms of systemic injustices and therefore
require more than narrowly-tailored solutions.

Maintain community power building as a central tenet
of any strategy: To attain lasting change, it is essential to
redistribute power so that everyone, but especially those
who have been marginalized in our society and borne the
harm of exclusionary decisionmaking, have the capacity
and authority to make and sustain the change. Therefore, any
strategy to advance equitable infrastructure should have a
foreseeable impact on the power of communities to engage in
infrastructure decisionmaking.

Center racial justice in every strategy: For every strategy,
ask who benefits and who is harmed, and ensure that the
strategy will enhance racial equity and won’t perpetuate or
deepen inequities. We specifically name racial equity because
it tends to be the dimension of equity that is most challenging
for white people in power to discuss and address directly. Use
explicit racial equity criteria to select strategies, portfolios,
and specific investments. Make sure proposal processes and
reporting requirements don’t exacerbate structural racism.

Let communities lead: Don’t be prescriptive with funding
priorities. Ask communities what their infrastructure priorities
are and give them the money and support they need. Be ready
to hear that infrastructure isn’t the top priority.

Align measurement with equity goals: Current approaches
to and metrics for program evaluation used by many
foundations are not conducive to the type of work and length
of time needed for systemic change and community power
building. Identify or develop equity-centered approaches to
evaluation.

Invest for the long term: Infrastructure is years in the making
and its impact is felt for generations. Therefore, achieving
equitable infrastructure requires playing the long game.
Donors often want immediate results, but providing what
one key informant called “patient capital” over years or even
decades allows changemakers in the space the time and
consistency needed to achieve long-term success.

Partner with other philanthropies: Communicate with other
funders to build complementary and shared strategies.
Bridge traditional funder silos, collaborating on strategies
with multiple benefits (e.g., at the intersection of climate
and infrastructure). Far more can be achieved when
philanthropies are working in coordinated fashion toward
shared outcomes.
Our work began with a cursory infrastructure field scan to understand the key players, legal and policy environment, funding streams, and current state of each of RWJF’s five focus sectors. We also surveyed public health and related literature to better understand the harms of infrastructure. From the field scan, we identified challenges and tensions that cut across infrastructure sectors. We then developed the causal framework to make sense of the cross-cutting themes and conducted further research to flesh out the framework.

Next, we conducted our first of two rounds of key informant interviews. The first focused on understanding the major challenges to equitable infrastructure in the United States. We selected some informants with broad expertise that touched on infrastructure as well as others with focused expertise in one type of infrastructure. These interviews validated our research thus far, as well as added nuance to the problem definition, and began to inform solutions. During this same timeframe, we attended a meeting with sector-specific experts who were also funded by the Foundation to share and build on our respective research. This meeting also helped to validate our set of challenges.

Once we had a honed set of challenges to equitable infrastructure, we conducted a second round of key informant interviews focused on understanding promising solutions. We carefully selected key informants with expertise related to the key challenges to equitable infrastructure identified in the areas of power, culture, and racism; governance; and funding and financing. In addition to academic and research-oriented experts we also sought representation from philanthropy, the private sector, government, and civic and community organizations.

In total, we interviewed 54 experts (see Acknowledgments). In both rounds of interviews we conducted semi-structured interviews guided by a protocol that included a standard set of questions, along with specific questions based on the informant’s expertise. In addition to their insights about challenges and solutions to equity in infrastructure, key informants also provided feedback regarding our frameworks and shared their perspectives on the role of philanthropy in creating equitable infrastructure.

We drew out hundreds of ideas that our key informants recommended for philanthropy to pursue and organized them into categories based on the challenge(s) they would address. Ultimately, we winnowed these ideas into six large solution categories, composed of 15 individual strategies and dozens of examples of how those strategies might take shape. In addition to telling us what they think philanthropy should support, our key informants also talked about how philanthropy should go about promoting equity in infrastructure. We captured these ideas in Appendix 1: Principles for Philanthropy.
APPENDIX 3:
Six dimensions of infrastructure inequities

Here we identify six dimensions of inequities linked to public infrastructure. As with any system problem, these inequities are interrelated and defy mutually exclusive categories, but breaking them up into six dimensions can help elucidate how they operate. These inequities are harmful and unfair in and of themselves, and on top of that, they compound larger social, economic, educational, and health inequities. For each dimension, we provide examples from two different sectors. For each example, in the first column we explain an infrastructure inequity, and in the second column we share illustrations of the associated harms and unmet needs.

Availability of basic infrastructure

Some high-poverty communities, especially in rural areas and Native American lands, lack basic infrastructure that many of us take for granted.

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<thead>
<tr>
<th>Examples of inequities</th>
<th>Associated harms and unmet needs</th>
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| **Transportation:** Forty-five percent of Americans have no access to public transportation. Only 0.5% of commute trips are made via transit in rural places. Even in cities with robust public transit systems, "transit deserts" exist as a result of current and historic disinvestment and discrimination in low-income communities and communities of color. Transit deserts occur when there’s no physical public transportation infrastructure at all or when the service that is provided doesn’t meet the needs of the residents in the area. As gentrification and displacement push long-time residents out from urban centers and away from access to transit, the need for transit options outside of city centers is growing. | • Lack of public transit, particularly for families that do not have access to a car, are major barriers to employment for people in urban, suburban, and rural places.  
• There is some evidence from urban areas that Black students and low-income students travel farther to attend school than white or Latinx students and affluent students. The complexity, length, and expense of a student’s commute to school affects their attendance, ability to arrive on time, and ability to participate in extracurricular activities, all of which affect academic performance.  
• School consolidation trends make transportation difficult for students in rural communities, driving up absenteeism rates.  
• Transportation is a major barrier to accessing healthcare, particularly for people of low socioeconomic status and people in poor health, affecting chronic disease maintenance and ability to fill prescriptions. |
| **Energy:** Even though the U.S. Census Bureau does not provide estimates of unelectrified households, there is a prevailing assumption that 100% of U.S. households have access to electricity. But the American Public Power Association counts approximately 20,000 households in the United States without electricity, the majority of which are located on Navajo Nation lands. Different sources also estimate that 14% of Native Americans living on reservations and 4% of households in the colonias along the Texas-Mexico border do not have electricity. The lack of systematic tracking, likely due to the assumption that everyone who wants electricity has it, makes it difficult to understand the extent of this access inequity. | • Energy is essential to all aspects of everyday life, including:  
• pumping water from wells  
• heating and cooling of homes  
• refrigeration and cooking of food  
• use of critical medical devices  
• use of computers and the Internet for work, education, socialization.  
• Due to its centrality to modern life, the United Nations considers access to affordable, reliable, sustainable, and modern energy a sustainable development goal. |
Affordability of acquiring or using infrastructure

Even when infrastructure is available in a community, it can often be unaffordable for low-income residents, many of whom are Black and Latinx.

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<tr>
<th>Examples of inequities</th>
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<td><strong>Broadband</strong>: Half of people without access to broadband are people of color, and a major driver of this inequity is affordability. Sixty-two percent of households earning less than $20,000 per year have broadband, compared to greater than 80% of households earning more than $20,000 per year.</td>
<td>• People without broadband are much more likely to report the lack of connectivity as a barrier to seeking employment. Broadband allows people to find and apply for jobs and may decrease the length of time people are unemployed. Broadband may be associated with increased civic engagement, including increased probability of voting. The Internet is also a major source of information about elections for 65% of adults. The U.S. Census is now prioritizing collecting responses online, which could lead to undercounting of people without adequate Internet access – shortchanging them in terms of representation in Congress and access to federal funding for their communities and states.</td>
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<td><strong>Water</strong>: An estimated 12% of households struggle to afford their water bills because water and wastewater prices have more than doubled in the last two decades, rising faster than incomes and many other necessities, like electricity and rent. The percentage of households that can’t afford water is expected to triple to more than 35% by 2022. Affordability is a challenge particularly for low-income households, people in small and mid-sized cities with shrinking populations, and Black and Latinx households.</td>
<td>• A common result of unpaid water bills is water shutoffs. When water is shutoff, many states consider homes to be uninhabitable, which may threaten housing stability for families. Water shutoffs made households more vulnerable to COVID-19 because they couldn’t wash their hands easily, as recommended by public health officials. When water is shut off, people dependent on medical devices that need water, such as CPAP machines, can no longer use these critical devices. Water shutoffs can be considered by child protective service agencies as a factor for removing children from a family. Water utilities can place liens on property and local jurisdictions can even put property up for tax sale when unpaid water debt accumulates past a certain level. At least one state has criminalized not having proper household sanitation systems and at least two jurisdictions have criminalized hooking up one’s own home to a water system after a shutoff.</td>
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Quality of available infrastructure

Many communities, particularly low-income people, people of color, and rural communities, live with sub-par infrastructure that negatively affects daily life.

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| **Broadband:** Current broadband infrastructure in most places is a legacy of telephone and cable infrastructure, which are not as fast or reliable as fiber optic lines. Broadband providers are upgrading to fiber optic lines, but this is happening first and most quickly in wealthier, suburban communities,\(^{196}\) which tend to be predominantly white communities. Low-income people, rural communities, and people of color are more likely to rely on lower-speed and less reliable means of Internet access, such as wireless and satellite.\(^ {197}\) | • Students in rural communities without high-speed Internet connectivity do not have access to a variety of modern educational resources, including online testing and daily homework assignments.\(^ {198}\)  
• The lack of access to quality broadband made it difficult for rural and urban school districts to transition to online learning during the COVID-19 pandemic.\(^ {199}\)  
• Lack of high-speed connectivity in rural communities prevents access to various government services and websites, such as being able to file taxes online.\(^ {200}\)  
• Broadband expansion is associated with an increase in regional employment growth, with larger effects in less densely populated areas,\(^ {201}\) implying less broadband means missed economic development opportunities.  
• Use of broadband may be associated with increased wages, including for people in rural areas.\(^ {202}\)  
• Lack of broadband connectivity has been identified as a barrier to healthcare access in rural communities.\(^ {203}\) |
| **Parks:** Parks in low-income communities of color are more likely to be in disrepair and have less programming than those in higher-income white communities.\(^ {204}\) | • People are less likely to use parks for physical activity if they are poorly maintained.\(^ {205}\)  
• Parks that are under-used due to disrepair may be more likely to attract crime.\(^ {206}\)  
• Social cohesion is positively associated with quality of neighborhood parks in urban areas. Therefore, when parks fall into disrepair, social cohesion may be negatively affected.\(^ {207}\) |
### Safety of using infrastructure

The design, management, and quality of infrastructure often directly endangers the people who use it, with low-income communities and communities of color disproportionately harmed.

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| **Transportation:** Low-income neighborhoods are less likely than higher income neighborhoods to have roadways with safety features, like sidewalks, traffic calming features, and marked crosswalks. There is also some evidence that low-income neighborhoods and communities of color are less likely to have marked or protected bike lanes. Low-income neighborhoods are also more likely to have major, higher-speed thoroughfares than high-income neighborhoods. | • Unsafe walking and biking infrastructure discourages people from using these modes of transportation, as well as from using public transit, since many transit trips include walking or biking; this makes it harder for people to get to work, school, or appointments and denies people more healthful modes of transit.  
• Low-income people and people of color are more likely to die being struck by cars when walking than higher income people and white people, due at least in part to unsafe conditions for pedestrians.  
• Black and Latinx bicyclists have fatality rates 30% and 23% higher than white bicyclists, respectively.  
• People who use wheelchairs are significantly more likely to die in crashes with cars than other pedestrians. |
| **Water:** Low-income and communities of color are more likely to be exposed to unsafe drinking water from a variety of sources. Rural communities also have higher rates of health violations by water systems. | • Lead in drinking water affects brain development in children and is associated with increased risk from heart disease in adults. Black children are at least three times more likely than white children to have elevated blood lead levels, and adult health effects of lead poisoning are particularly concerning for non-Hispanic Black populations, who are 20 to 30% more likely to die from heart disease than non-Hispanic white populations.  
• Nitrates, a common contaminant in rural agricultural areas, are associated with miscarriages, thyroid problems, and potentially deadly blood conditions in infants. |
Exposure to harmful environmental impacts of infrastructure

Infrastructure can generate pollution and other environmental problems that are usually disproportionately borne by communities of color and low-income communities.

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| **Transportation:** People of color and immigrants are more likely to live within 150 meters of major highways, which is where exposure to harmful emissions is highest. 216 | • Children who live near major highways have significantly higher risk of a variety of respiratory problems, including asthma and decreased lung function. 217  
  • Air pollution may harm mental health, increasing anxiety and exacerbating existing mental illness. 218  
  • Air pollution is associated with decreased productivity through increased absenteeism, with people staying home to protect themselves or care for family members affected by pollution. 219  
  • There are early indications that long-term exposure to fine particulate matter, including from motor vehicles and power generation, is associated with an increase in mortality from COVID-19. 220 |
| **Water:** Climate change threatens water systems that were not built to withstand increasingly extreme and destructive storms. 221 Many low-income communities are located in low-lying areas or near waterways susceptible to flooding, which is exacerbated in disinvested urban areas by a concentration of impervious surfaces and a lack of green spaces to absorb flood waters. 222 Communities of color and low-income communities are more likely to be located near polluting industrial facilities. 223 | • In natural disasters, when wastewater treatment sites fail, thousands of gallons of contaminants from these facilities can flow into floodwaters and nearby waterways, exposing residents to hazardous toxins. 224  
  • Frequent flooding damages homes, discourages economic development, and creates myriad disease risks, compounded by communities in vulnerable zones not always receiving sufficient aid and relief funding. 225  
  • Contaminated floodwaters and waterways threaten traditional livelihoods in tribal and rural communities, such as farming and fishing. 226 |
**Access to economic opportunities in developing and providing infrastructure**

Public infrastructure requires people power throughout its lifecycle and often is a source of good, stable jobs. However, especially in the private sector, these jobs have not gone to economically marginalized communities.

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<td><strong>Energy</strong>: The clean energy economy is growing and creating good jobs with relatively minimal educational requirements, making them a prime opportunity for reducing income inequality. Thus far, though, the sector has skewed white, male, and older.227</td>
<td>• Nearly 30% of the growth in the wealth gap between white families and families of color in the last 25 years can be explained by labor market and unemployment inequities.228</td>
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<td><strong>General</strong>: Businesses owned by people of color are underrepresented in engineering, architecture, construction, and other professional services firms winning public contracts.229</td>
<td>• Communities of color miss out on a critical means of wealth creation when their businesses are excluded from public contracting opportunities.230 • People of color-owned firms employ higher percentages of people of color than white-owned firms.231</td>
</tr>
</tbody>
</table>
Endnotes


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