



RESEARCH REPORT

# Charting Out a Next-Generation, Place-Based Federal Transportation Policy

Recommendations for More Equitable, Sustainable Mobility

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# Executive Summary

An effective, sustainable, and equitable transportation system is key to the economic, social, and environmental health of residents of the United States. Since the 1950s, the federal government has funded a large share of the costs of the national mobility network implemented by state governments and localities. Unlike most other wealthy countries, the US has focused its transportation policy and investment narrowly on automobility and has neglected to support patterns of growth that ensure convenient, safe, and affordable short trips that do not require travel by car.<sup>1</sup>

Most Americans now live in places where they need cars to access their daily needs. As a result, many people and communities lack access to quality employment, recreational, and educational opportunities and often have to travel long distances to work and other destinations. Transportation investments focused on automobility expose communities to high levels of air pollution and increase their vulnerability to acute and chronic health problems. And evidence shows that such investments worsen global climate change by growing transportation-related carbon emissions. These social, economic, and environmental outcomes are neither sustainable nor equitable, because people of color and families with low incomes disproportionately bear the brunt of these problems. Additionally, the focus on automobility depresses the economy by limiting workforce participation and reducing quality of life. A new federal place-based transportation policy, framed around promoting equitable and sustainable processes and outcomes, and undertaken through partnerships, is necessary to chart a path forward.

In this report, we discuss the shortcomings of the current federal approach to transportation policy and investment and propose strategies to improve it. The following table summarizes our proposed features of a next-generation, place-based transportation policy.

TABLE ES.1

**A Framework for a Next-Generation, Place-Based Federal Transportation Policy**

Program design decisions	Rationale
<b>Aspiration</b>	
<ul style="list-style-type: none"> <li>▪ Promote equity, sustainability, and robust economic recovery through lowered emissions and increased access.</li> <li>▪ Disrupt the pipeline of projects conceived without consideration of climate change, equity, or maintenance costs.</li> <li>▪ Expand the capacity of applicants to support better projects.</li> <li>▪ Create new partnerships.</li> <li>▪ Align funding from multiple sources.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Approach aims to improve existing practices and produce better access to jobs and other daily needs for the population at large.</li> <li>▪ Effort shifts institutions, selection criteria, and funding to change expectations of what constitutes effective transportation projects.</li> </ul>
<b>Institutional structure</b>	
<ul style="list-style-type: none"> <li>▪ The US DOT should play an essential role and assume primary responsibility through competitive grant programs.</li> <li>▪ DOT can work with local and state agencies, plus MPOs, to ensure positive outcomes, while building links with nontransportation groups to ensure broader co-investment, co-benefits and greater positive outcomes.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Historically, transportation policies have prioritized communities with wealthier and whiter inhabitants.</li> <li>▪ New structures are needed to ensure representativeness.</li> </ul>
<b>Selection criteria</b>	
<ul style="list-style-type: none"> <li>▪ Equity in process and outcomes must be a core principle by which grant recipients make choices.</li> <li>▪ Funded projects must demonstrate how they reduce carbon emissions and limit ecological impact.</li> <li>▪ Partnerships with nontransportation groups are key to producing effective plans and projects that build wealth, prevent displacement, and improve access.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Project selection processes should evolve to be increasingly inclusive, while maximizing benefits to those who have been historically excluded.</li> </ul>
<b>Funding</b>	
<ul style="list-style-type: none"> <li>▪ Current program funds and grants should be reallocated to prioritize equity and sustainability, not maintain the existing slate of projects that have been developed based on outdated and inequitable planning principles.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Additional funding should achieve broader aspirations for federal policy.</li> </ul>
<b>Program strategies</b>	
<ul style="list-style-type: none"> <li>▪ Significant additional capacity building and technical assistance are needed to fill gaps at the community, local, MPO, and state levels.</li> </ul>	<ul style="list-style-type: none"> <li>▪ More capacity and better technical assistance can ensure that all communities can complete effective, equitable, sustainable projects.</li> </ul>
<b>Monitoring and evaluation</b>	
<ul style="list-style-type: none"> <li>▪ Additional data and measurement programs are needed to ensure that projects fulfill the goal of increasing access and reducing carbon emissions,</li> </ul>	<ul style="list-style-type: none"> <li>▪ Monitoring efforts are necessary to show progress in achieving equitable and sustainable outcomes.</li> </ul>

Source: Authors' analysis of federal transportation policy.

Notes: DOT = Department of Transportation; MPO = metropolitan planning organization.

With such reforms, the federal government could lead policymakers and planners nationwide to a more effective transportation system.

# A Next-Generation, Place-Based Federal Transportation Policy

The federal government plays an essential role in supporting the nation's transportation system. Since the 1950s, Washington has spent more than \$2.3 trillion funding highway and transit construction and maintenance, and as of 2017, it covers a quarter of all surface transportation-related capital costs, adding to expenditures funded by state and local governments.<sup>2</sup> Over the past century, federal dollars have literally reshaped the nation, creating the massive Interstate highway network, building subway systems in cities like Atlanta and San Francisco, and encouraging not only the destruction but also the construction of whole neighborhoods (Mohl 2002).

The federal government's role is larger than just monetary: it also sets the tone with regard to standards for planning, environmental regulations, and project selection (Porcari 2010). The national highway network—perhaps the federal government's most substantial achievement—created impressive new connections across the nation, but it never guaranteed local access to regional job markets, set a new standard for ecological resiliency, or ensured opportunity for all. In fact, decades of choices by elected officials and bureaucrats in Washington have resulted in inequitable access to mobility for low-income households and people of color. They have also helped produce a car-dominated and unsustainable landscape in much of the country. And they have reduced the ability of all people to participate as effectively as possible in the workforce.

To a large degree, the federal government has rewarded massive failure. By failing to coordinate transportation and land use, it has promoted traffic congestion and limited access to jobs and other needs. More congestion, in turn, has encouraged the federal government to justify huge investments in highway expansion, an ineffective, inequitable, and unsustainable remedy to a larger problem. The federal government's transportation investments—focused on mobility infrastructure—have not encouraged the use of tools that are often more effective in addressing the public's need for access and mobility, like changes in land use that encourage a mix of uses and denser living and working environments.

A new federal approach to transportation policy is needed to guarantee affordable, reliable, effective, and environmentally beneficial transportation options for all Americans. In this piece, we argue that a next-generation, equity-focused, place-based federal transportation policy that coordinates transportation and land use could reverse previous poor outcomes and successfully

expand mobility for millions of the most vulnerable Americans, thereby increasing access to economic and social opportunity. We focus here on the potential role of the federal government in directing grant resources into communities and projects that can best achieve those goals. Key elements of such a policy—which should be integrated into program designs for competitive grants— should include several approaches:

- Further encouraging local and state governments, transportation agencies, and metropolitan planning organizations (MPOs) to prioritize equity and environmental sustainability in planning and then project selection through the implementation of metrics that link procedural equity with outcomes that reduce inequities in access to jobs and other daily needs by income, race, and ethnicity, while lowering greenhouse gas emissions.
- Supporting policies to align transportation and land-use planning to slow greenfield development, reduce vehicle miles traveled, and increase access for all. In so doing, disrupting the pipeline of current projects that will worsen these objectives while rewarding projects that best achieve those goals and are most cost-effective. This approach means directing more federal grants and funds to investments on the basis of their ability to respond to actual needs and produce a more livable society.
- Ensuring that planning efforts use equitable processes to identify problems and specify priorities. A key component of this effort must involve harnessing the power of communities to lead cross-sector approaches to planning and project selection; these groups can counter the status quo approach to transportation planning now led by agencies that reinforce previous choices—typically inequitable and unsustainable—about what projects to fund. Governing boards must also be representative of the people living in the areas they represent.
- Supporting local, regional, and state governments as they shift their approaches, priorities, and engagement practices with capacity building, best-practice sharing, and technical assistance to ensure that federal dollars are leveraged as effectively as possible, such as by building partnerships among public, nonprofit, and private entities and by leveraging a diversity of funding sources to complete or co-invest around transportation projects.

These elements can be articulated across a wide spectrum of program design decisions, in and out of the US Department of Transportation (DOT). One area where they may be particularly well suited for implementation is in association with the discretionary grants proposed to be distributed by the secretary of transportation as part of the recently passed federal infrastructure legislation. This law will give the secretary more than \$105 billion to allocate through competitive grants. As of November

2021, the proposed reconciliation bill would add an additional \$25 billion or more.<sup>3</sup> A significant portion of these allocations could be predicated on local, regional, and state governments taking steps to achieve the above-mentioned goals.

The federal government has a history of using its competitive grant programs to achieve ambitious outcomes. With the TIGER program (later transformed into the BUILD and then INFRA program), DOT announced it would prioritize shovel-ready infrastructure and projects with high benefit–cost ratios (Homan, Adams, and Marach 2014; Lowe and Sciara 2018). These programs attracted considerable interest from potential applicants—over 10 years, 24 times as much money was applied for as there was available (Peterman 2019). Similarly, the National Disaster Resilience Competition managed by the US Department of Housing and Development (HUD) engaged dozens of applicants interested in pioneering innovative processes in response to climate change. These programs have encouraged communities to demonstrate the effectiveness of their proposed investments, design approaches that achieve multiple benefits across a wide set of beneficiaries, form partnerships among public, private, and nonprofit groups, and leverage a variety of funding sources. Though there is work to be done to ensure that such programs maximize public benefits (Lowe 2014), the next generation of federal transportation policy could take advantage of lessons learned from these previous efforts to support the most effective, most equitable, and most sustainable plans and projects.

In this paper, we lay out a vision for how such a next-generation, place-based federal transportation policy could be implemented. In table 1, we highlight the key elements of our proposed federal transportation policy, using an analytical framework inspired by Turner and colleagues (2021). We emphasize that the program design elements we describe should be applied to all federal transportation programs, but particularly to those involving competitive grants distributed by the secretary. These elements are applicable to a wide variety of potential investments.

TABLE 1

A Framework for a Next-Generation, Place-Based Federal Transportation Policy

Program design decisions	Rationale
<p><b>Aspiration</b></p> <ul style="list-style-type: none"> <li>▪ Promote equity, sustainability, and robust economic recovery through lowered emissions and increased access.</li> <li>▪ Disrupt the pipeline of projects conceived without consideration of climate change, equity, or maintenance costs.</li> <li>▪ Expand the capacity of applicants to support better projects.</li> <li>▪ Create new partnerships.</li> <li>▪ Align funding from multiple sources.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Approach aims to improve existing practices and produce better access to jobs and other daily needs for the population at large.</li> <li>▪ Effort shifts institutions, selection criteria, and funding to change expectations of what constitutes effective transportation projects.</li> </ul>
<p><b>Institutional structure</b></p> <ul style="list-style-type: none"> <li>▪ The US DOT should play an essential role and assume primary responsibility through competitive grant programs.</li> <li>▪ DOT can work with local and state agencies, plus MPOs, to ensure positive outcomes, while building links with nontransportation groups to ensure broader co-investment, co-benefits and greater positive outcomes.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Historically, transportation policies have prioritized communities with wealthier and whiter inhabitants.</li> <li>▪ New structures are needed to ensure representativeness.</li> </ul>
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<p><b>Program strategies</b></p> <ul style="list-style-type: none"> <li>▪ Significant additional capacity building and technical assistance are needed to fill gaps at the community, local, MPO, and state levels.</li> </ul>	<ul style="list-style-type: none"> <li>▪ More capacity and better technical assistance can ensure that all communities can complete effect, equitable, sustainable projects.</li> </ul>
<p><b>Monitoring and evaluation</b></p> <ul style="list-style-type: none"> <li>▪ Additional data and measurement programs are needed to ensure that projects fulfill the goal of increasing access and reducing carbon emissions,</li> </ul>	<ul style="list-style-type: none"> <li>▪ Monitoring efforts are necessary to show progress in achieving equitable and sustainable outcomes.</li> </ul>

Source: Authors' analysis of federal transportation policy.

Notes: DOT = Department of Transportation; MPO = metropolitan planning organization.

The elements we describe require local and state governments, transportation agencies, and MPOs to work in cooperation with a wide variety of partners to be successful. None of these government organizations will be able to reorient planning processes and project selection without connections made with groups like housing nonprofits, small-business agencies, employers, community development financial institutions, and others. These organizations can help identify

appropriate planning strategies that integrate land use and transportation, develop new funding approaches that combine infrastructure and housing, and promote better outcomes, such as reducing risks of displacement around new projects.

In the following sections, we begin by documenting the limitations of current approaches, then articulating an aspiration for who and what federal policies should prioritize. We then propose reforms to institutional structures, project selection, funding, program strategies, and evaluation programs in line with the broader suite of next-generation policies laid out as part of this initiative.

## The Place-Based Focus of Current Federal Transportation Policy

Unlike other aspects of federal policy, the transportation programs—almost entirely funded and overseen by DOT—have remained mostly place based over the past few decades. Although HUD, for example, gradually shifted housing funds away from urban renewal and public housing construction toward housing vouchers (Vale and Freemark 2012), the majority of DOT’s funding continues to target projects on the ground like new and renovated highways and rail lines, located in specific communities.<sup>4</sup>

Developing a next generation of place-based federal transportation policies must be a priority—even more so because of the massive expenditures now coming down the pike. The need for a new approach is manifest in the dramatic inequities in access to mobility present in communities throughout the United States (Stacy et al. 2020). Decades of federal investment in highways and subsidies for automobile users—combined with a limited interest in supporting integration between land-use and transportation planning—have produced an auto-dependent nation in which few Americans have any choice but to drive to get around (Freemark 2021b). The highway system’s planners routed its urban segments through hundreds of neighborhoods of predominantly low-income families and people of color, displaced to make way for faster commutes for whiter and wealthier people.<sup>5</sup> Now low-income families must devote a large share of their time and incomes to getting around.<sup>6</sup>

While explicitly racist covenants and “redlining” maps of creditworthy neighborhoods backed by both the federal government and the real estate industry are artifacts of the past, the place-based investments in transportation that began in those eras continue today to encourage and reinforce inequality. Transportation has too often overemphasized cost-efficiency modeling over equity, to the

detriment of social justice (Pereira, Schwanen, and Banister 2017). People who use automobiles, and those who live and work in car-dependent communities, have received disproportionate benefits from federal programs thus far (Bullard, Johnson, and Torres 2004; Wellman 2014).

In many cases, that means low-income, Black and brown, young and old, and disabled people have more limited ability to access the life opportunities that such mobility offers—including the ability to build intergenerational wealth. They are more likely to be injured or killed in traffic crashes (Daniels et al. 2002). And they are disproportionately exposed both to the negative impacts of climate change—the transportation sector is the largest contributor to greenhouse gas (GHG) emissions in the United States<sup>7</sup>—and to the public health harms caused by particulate matter emanating from vehicle exhaust, brake use, and tire wear, as well as other criteria air pollutants like nitrogen oxide and ozone (de Moura et al. 2020; Rowangould 2013).

But federal place-based transportation policies can be reoriented to promote racial equity and upward mobility. A well-funded, sustained commitment to transportation policies that are designed to reverse segregation, increase access to opportunity, and support the well-being of every member of every family would improve quality of life while expanding and lifting the economy. In this report, we describe key potential components of a new approach to such policies, with a focus on the mechanisms by which DOT can leverage competitive grants to support collaborative regional planning and project selection processes that emphasize expanded equity and sustainability.

## Aspirations

A transformative federal approach to transportation policy must make the link between achieving tangible benefits for all Americans, increasing social and racial equity, and constructing more sustainable infrastructure. We propose three overriding goals that can structure this effort:

1. Ensure affordable, reliable, and effective transportation options for all Americans, particularly those who have been historically excluded.
2. Promote a long-term effort to link transportation investments with walkable, transit-accessible communities where people of all means have access and where job centers are located.
3. Eliminate the transportation sector's contributions to global climate change-producing emissions and reduce the negative health impacts of particulate-based emissions from exhaust, tire wear, and brakes.

These goals are interlinked; as an example, more nonautomobile transportation options make more walkable communities more feasible and reduce the amount of GHG emissions per mile traveled. They are also each directly related to efforts to improve equitable access to mobility while prioritizing environmental sustainability. Achieving these goals would result in meaningful improvements in the lives of Americans, respectively:

1. By reducing the cost of living for low-income families by giving them the opportunity to take transit, walk, and bike to get to destinations, allowing more people to dedicate their hard-earned dollars to other needs. These reduced costs would give people who currently defer trips to address educational, occupational, health, and recreational needs more opportunity to improve their lives.
2. By easing access between homes, jobs, schools, and other needs, shortening travel times and allowing people to dedicate more of their days to spending time with families and friends, while increasing agglomeration effects—for the benefit of economic growth.
3. By cleaning the air, reducing rates of lung disease and premature death, especially for the people of color who disproportionately live and work in areas close to polluting transportation facilities.

And these goals, if pursued, would ultimately result in a transformation in the neighborhood impacts of transportation investments—meaning real outcomes related to the quality of life of places. A more equitable, sustainable transportation infrastructure would be one in which streets are walkable, vibrant, and verdant. And such transportation systems would reinforce the potential for small business-led economic development in town centers. Fundamentally, we are recommending a transformation in our transportation program from one that values the fast movement of polluting, space-occupying vehicles to one that promotes lower costs, greater efficiency, and better access for people.

Although the goals described earlier are shared by many elected officials and civil servants working at all levels of government in the United States, they are frequently undermined by the realities of funding formulas and grant policies that encourage the maintenance of an inequitable status quo, and by inadequate relationships formed across sectors outside of the transportation industry. The remainder of this paper identifies a series of mechanisms by which the federal government can lead an attack on these outcomes.

## Institutional Structure

Federal surface transportation programs are distributed through dozens of individual programs, some on the basis of formulas (meaning funds are allocated automatically to states, regional governments, local governments, and transportation agencies according to rules set by Congress in legislation), and some on the basis of competitive grants (meaning DOT allocates funds with some discretion, following congressional guidelines). As noted in the introduction, the secretary of transportation will have the ability to assign more than \$100 billion in project funds to eligible transportation entities over five years with the passage of the Infrastructure Investment and Jobs Act, signed by President Biden in November 2021. Discretionary programs under the secretary's direct oversight would include, among other programs, \$12.5 billion in national infrastructure investments; \$5 billion for street improvements; \$8 billion for railroad safety improvements; \$36 billion for intercity rail projects; and \$8 billion for new transit lines.<sup>8</sup> The secretary could allocate billions of additional funds to transportation projects under the proposed reconciliation bill, also under consideration in fall 2021, which would add \$10 billion in competitive grants for high-speed rail, \$10 billion for public transit linked to affordable housing, and more for other local street improvements.<sup>9</sup> Separately, or even better, together, these programs could be used to support investments that dramatically reshape communities and improve quality of life—if executed in an effective manner.

Although DOT has some control over funding allocations, planning and programming decisions are largely up to state and local governments and agencies. Those subnational institutions, which often collect their own revenues in addition to federal support, have ultimate control over what projects they build and fund. They also work with MPOs. All are mandated to make short- and long-term transportation plans—the local governments, states, and transportation agencies for their respective jurisdictions and the MPOs for the urban regions in which most Americans live. MPOs work across a variety of programs and with a multiplicity of levels of government, involving hundreds or thousands of individual actors, both elected and civil servants (more details about a potential role for MPOs in box 1).

State governments, whose leaders have for decades overwhelmingly prioritized investment in highways, have an incentive not to redirect funds to other modes of transportation that are more sustainable and produce more equitable results (Pucher and Lefèvre 1996). Meanwhile, local governments are often too limited in their geographical scope to fully address regional travel needs, and their leadership, intending to expand the tax base—which pays for services like schools and parks—allows sprawling greenfield development and exclusionary zoning that prevents reasonable access to affordable housing (Freemark and Steil 2021). At the same time, the institutional structure of

MPOs, affirmed by current federal policy to prevent regional decisionmaking, deserves some of the blame (see the following section). From that perspective, it is not a surprise that American communities remain so car dominated, with racially and socially inequitable outcomes, and environmentally insensitive, opportunity-limiting, health-impairing development patterns.<sup>10</sup>

To enhance the possibility of achieving regional outcomes that achieve increased equity and sustainability, DOT should consider two general approaches. First, it should enhance local, regional, and state planning capacity; although some regions have this capacity, many do not have the ability to plan or analyze options for reducing disparities in access. Expanding capacity may involve increasing grant support for these needs, or, perhaps more importantly, redirecting federal support through competitive planning grants for new transportation infrastructure from state agencies to local governments, transit agencies, and MPOs. This transition process could take several years but would ultimately increase the ability of governments below the federal level not only to develop the currently mandated short- and long-term plans, but also to develop conceptual and ultimately final designs for infrastructure projects. Such planning capacity could be enhanced by increased federal support, laid out in detail in the “Program Strategies” section.

Second, the federal government should encourage recipients of federal transportation funds to construct durable partnerships among public, nonprofit, and private entities, working not only in transportation but also in housing, economic development, natural resources, and neighborhood advocacy. These partnerships could generate collaborative approaches that ensure that projects support community priorities, while building increasing local support for investment, similar to the experience from the TIGER program and National Disaster Resilience Competition. These partnerships could also be designed to promote co-investment from multiple sources.

## **Acknowledging the Connections between Transportation and Land Use**

The foregoing recommendations apply to transportation elements of federal policy. But as we stated, investing in transportation is inherently related to choices related to land-use development, and vice versa. Development patterns determine which modes of transportation can serve a community. Spread out development patterns that widely separate individual land uses—such as housing separated from schools, jobs and shopping—produce automobile-dependent communities where walking and biking are too arduous and unsafe, and transit is unfeasible. These automobile-dependent communities produce higher levels of per capita carbon emissions and are less likely to provide

accessibility to opportunities for people who do not have the ability or means to use cars. Thus, a normative argument can be made for the importance of linking the two policies.

Yet the current structure of decisionmaking at both federal and regional levels makes approaching these two issues simultaneously challenging. If transportation policy is disaggregated into a multitude of governmental entities, so are housing and land-use policies. Most choices about zoning are controlled by municipalities; decisions about affordable housing investment are often in the hands of state governments issuing Low-Income Housing Tax Credits or semi-independent public housing agencies. Even in the context of regional planning, individual exclusionary municipalities can affect outcomes negatively, such as by refusing to permit affordable housing (Marcantonio et al. 2017).

Federal transportation investments should promote joint transportation and land-use planning at local, regional, and state levels. Federally funded transportation projects of all sorts—and certainly those winning competitive grants—must incorporate a land-use plan for affected communities developed in partnership with local housing and development agencies. Such plans should be adopted by the relevant municipalities or other jurisdictions with land-use authority as amendments to their respective comprehensive plans, and such jurisdictions should revise their zoning regulations to support the proposed transportation projects. The incorporation of the land-use element should be integrated into project cost–benefit analyses, thus identifying potential effects on economic growth, pollution, and development. Acknowledging that the institutional structure of transportation extends beyond just those agencies that plan and operate transportation systems is an essential step forward for federal policy.

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#### BOX 1

##### **An Enhanced Role for MPOs?**

Under current federal policy, metropolitan planning organizations play an important role in defining regional transportation investment priorities.<sup>a</sup> Created to promote integrated regional planning (Freemark 2021b), MPOs are required under federal law to pursue “continuing, comprehensive, and cooperative” planning.<sup>b</sup> There are now more than 400 such organizations; they lead short-range transportation improvement plans and 20-year long-range plans, which must include all federally funded projects (Hessami et al. 2017). States and local governments representing 75 percent of each region’s population agree on MPO bylaws (Sciara 2017). MPOs could play an important role in leading the regional implementation of improved transportation policies, but their involvement is not obligatory if other government agencies take up the mantle, and there are several challenges inherent in existing MPO governance.

First, MPO decisions and regional plans do not always conform to democratic principles. Under federal guidelines, MPOs must incorporate equity analyses and comply with civil rights law. But MPO board members ultimately make planning decisions. MPO boards must be composed of elected officials and agency representatives; however, those boards do not have to represent the population overall. In a study of California MPOs, Lewis (1998) finds that boards often give each jurisdiction represented one vote—even when those jurisdictions have widely varying populations—meaning central cities frequently have limited control over regional priorities, and higher-income, whiter, and more automobile-dependent residents of suburban areas have more. This circumstance has consequences: nationwide, once controlling for other characteristics, each additional suburban member of an MPO board is associated with a 1 percent to 9 percent shift away in funding from transit to highway expenditures (Nelson et al. 2004).

Second, MPOs have structural limitations. Because local governments largely determine land-use policy, MPOs cannot manage development, even though development is closely related to transportation. They rarely impose taxes or fees (Sciara and Wachs 2007). And because they generally do not build or operate infrastructure, they often adopt the priorities of those that do (and those that receive most federal transportation funding): state and local departments of transportation, and local transit agencies (Sciara 2017). In most regions, MPOs largely “coordinate” between plans put forward by other agencies to minimize conflict (Karner et al. 2018). Ultimately, implementing agencies influence outcomes disproportionately (Lowe and Sciara 2018), and MPOs have thus far failed to lead the nation toward high-quality, coordinated mobility options.

Despite their limitations, MPOs are the only regional planning bodies extending across all US urban regions, and they offer opportunities for generating more equitable and sustainable transportation planning. Given that MPOs are the creature of federal policy, DOT could support MPO reform as a path toward better policy. Or states could advocate for their respective MPOs taking on a greater role. Reforms could be incentivized through competitive grants.

Federal action to reform could begin by encouraging MPOs to amend their charters and bylaws to make their governance, and the outcomes they promote, more equitable. To advance a more representative MPO board structure, federal rules could ensure that the board voting structure is representative of the overall population, as is constitutionally required of city councils and state legislatures. This change could be achieved either by weighting board votes proportionally to the distribution of the population or by developing a set of equal-population wards that board members represent. These board members could be directly elected.

One potential example is Oregon’s Metro Council, the Portland region MPO. The Metro Council has a regionally elected president and six elected, equal-population ward councilors. The council, empowered by the state beyond what is typical of other MPOs, oversees transportation investments, natural areas, and the regional land-use planning strategy. It also determines a regional growth boundary that shapes where development can occur—limiting unsustainable and inequitable exurban growth (Walker and Hurley 2011). There has been little momentum elsewhere to replicate Portland, however, suggesting that a next-generation federal transportation policy cannot be premised on institutional reforms promoting regional governance. On the other hand, competitive grants that

support MPO oversight of transportation and land-use planning could begin to produce such transformations. And the selection criteria for projects could apply not just to MPOs but to all agencies involved in the transportation planning process.

<sup>a</sup>Rural transportation planning organizations play similar roles outside urban areas.

<sup>b</sup>This is known as “3C” planning. Association of Metropolitan Planning Organizations, “A Brief History,” 2021, <https://ampopo.org/about-us/about-mpos/>.

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## Selection Criteria

A next-generation, place-based federal transportation program can be designed to achieve more equitable and sustainable communities. This could mean prioritizing the distribution of discretionary grants for planning and for projects to local governments, states, MPOs, and transportation agencies that have developed mechanisms to promote these goals. In this section, we describe some of the challenges now faced by all levels of government in the United States in harnessing their respective jurisdictional powers to achieve positive outcomes—and point to potential remedies that could be promoted by the federal government to aid them in doing so. We emphasize that grant recipients should demonstrate progress in achieving equitable processes, equitable outcomes, sustainable results, and creating new partnerships.

### Prioritizing Equity in the Planning Process

The federal surface transportation program has historically reinforced inequitable social and racial outcomes, in part through choices made about which transportation modes to prioritize and in part through the decision to promote state departments of transportation as the primary recipients of federal aid. People who use transit rather than drive are disproportionately people of color, people with lower incomes, and inhabitants of urban regions. Yet the federal government spends far more on highway infrastructure than on transit, and states themselves—with their governing bodies often underrepresentative of urban residents (Rodden 2019)—spend disproportionately fewer resources on urban areas (Sanchez, Stolz, and Ma 2003). Ultimately, a focus on exurban and rural highway development encourages sprawling development outside cities, creating a spatial mismatch and further exacerbating inequities.

Over time, investments in transportation have produced increasing inequities in accessibility (Martens, Golub, and Robinson 2012). Wealthier people with a car on hand, especially those living in suburban locales, have benefited from increased access as the highway network has ensured quick,

easy, and relatively cheap travel to school, jobs, retail, and other destinations. Yet those with lower incomes and who are reliant on transit for their daily needs—a population that is predominantly people of color—have arguably experienced *reduced* access over time. Job centers and other loci of activity were largely within a reasonable distance by walking or from public transit a century ago; however, that is no longer the case (Fogelson 2001), as decisionmakers have affirmatively encouraged employers to seek out the cheapest land for offices, warehouses, retail, and manufacturing, and further rewarded them with publicly subsidized road infrastructure accessible only to some. The transportation system has relentlessly encouraged this yawning inequality. In essence, we have systematically substituted “automobility” for proximity as the default in most land-use and transportation planning (Urry 2004).

That is not to say that efforts have not been made for programs funded by Washington to be undertaken in an equitable manner. Three major federal policies define standards for achieving more equitable transportation investment (Marcantonio et al. 2017):

1. Title VI, an element of the 1964 Civil Rights Act, has been interpreted to mean that DOT has oversight authority to affirmatively integrate equity-promoting initiatives in federal regulations. Local governments, transportation agencies, MPOs, and states are required to conduct equity assessments that identify “communities of concern,” and the federal government has the ability to judge compliance with Title VI goals. Title VI prevents the use of federal funding in a discriminatory way, and a 1970 DOT regulation emphasized that “a recipient [of DOT assistance] in determining the types of services, financial aid, other benefits, or facilities which will be provided under any such program . . . may not . . . utilize criteria or methods of administration which have the effect of subjecting persons to discrimination” (Williams and Golub 2017, 8).
2. President Bill Clinton’s 1994 Environmental Justice Executive Order 12898 applies the goal of increased equity to “populations,” allowing transportation investments to be judged not just on their neighborhood-by-neighborhood impacts but also on their effects on demographic groups spread across a geography. This order amplifies Title VI by requiring federal agencies to identify disproportionate health and environmental impacts of investments (Ezike, Tatian, and Velasco 2020).
3. The 1968 Fair Housing Act mandates affirmative action to reduce segregation and promote fair housing for entities receiving funding from HUD. Though this requirement does not directly apply to transportation funds, in 2016, Secretary of Transportation Anthony Foxx

joined other federal colleagues to encourage this planning process as a basis for future transportation planning and project selection decisions.<sup>11</sup>

In January 2021, President Joe Biden signed an executive order designed to reaffirm the government's interest in achieving racial equity and support for underserved communities. This order, whose official interpretation by DOT is still a work in progress, requires that "executive departments and agencies (agencies) must recognize and work to redress inequities in their policies and programs that serve as barriers to equal opportunity." All federal agencies are expected to undergo an assessment of equity within their current programs and spend resources accordingly.<sup>12</sup>

Together, these standards could be leveraged to encourage a much more equitable allocation of federal funds for transportation projects and more equitable planning processes to determine how those funds are used—as part of both new standards that apply to all federally funded projects and those targeting competitive grants. Unfortunately, federal policies thus far have proved underperforming from the perspective of achieving either of these goals. The Supreme Court has limited the ability of the federal government to define discrimination in relation to disparate impact (Marcantonio et al. 2017). As such, the standard of proof for an agency discriminating against a historically underinvested group is relatively high. The identification of "communities of concern," too, varies considerably among transportation agencies. For MPOs, though they define them within long-range transportation plans, little federal guidance exists on whether these communities are particularly in need of prioritization or not (Ezike, Tatian, and Velasco 2020).

Similarly, the ability of governments and agencies in the federal system to ensure that equity permeates the entire transportation planning and selection process has been limited. Most projects are conceived of, and proposed by, a small cadre of experts who design their proposals around what has worked in the past and what they expect to meet the needs of preexisting grant guidelines. For the most part, public involvement processes have limited influence on policy, meaning that discussions are had (often, many discussions are had), but ultimately, choices about what to fund disproportionately benefit wealthier and whiter people. This problem is not limited to transportation policy; see Einstein, Glick, and Palmer (2019) for similar issues in land use. The result is that for many people, the costs of being involved in a planning process (as currently administered) outweigh the benefits of doing so (Karner and Marcantonio 2018). And it means that the projects that enter the planning process are not designed with a broad spectrum of views about planning goals in mind.

These facts on the ground indicate that there is room and federal precedent for local governments, transportation agencies, MPOs, and states to prioritize achieving social and racial equity

in processes to select investments. Fully promoting equity, though, must emphasize both the promotion of equitable planning processes *and* the promotion of equitable outcomes. These two concepts are related but not the same (Fainstein 2010).

## EQUITABLE PROCESSES

Achieving the goals of more equitable regions requires all levels of government involved in planning to target the location of priority populations; to develop a well-funded public process to understand the needs and concerns of these populations, building and supporting the capacity of communities to engage in a transportation-related community development planning process; and to identify the distributional effects of transportation projects on outcomes, and to incorporate these findings into short- and long-range transportation plans, as well as plans for individual projects (Williams and Golub 2017). Participation in and of itself—the “public involvement” typical of required public outreach—often does not result in “meaningful involvement,” which is to say that people involved in planning processes often have little influence on actual decisions (Karner et al. 2018).

To build a meaningfully equitable process, the federal government should work to ensure that affected communities take a role in defining problems, can design approaches that generate multiactor solutions, and co-lead selection processes. This action would represent a big leap forward, promoting the idea that transportation investment choices cannot be limited to those identified independently by departments of transportation. That means, in some instances, discarding preexisting lists of potential investments and aligning around new approaches that are not limited to just transportation performance. Communities must have the resources both to maintain active participation *and* to complete near-term projects (Karner and Marcantonio 2018).

Many groups must be engaged in the process of identifying problems and shaping solutions.<sup>13</sup> Krapp, Barajas, and Wennick (2021) helpfully lay out a set of categories of potential transportation project impacts worthy of consideration, both in the problem-identification stage of investments and in the project-selection stage:

- *Location-burdens based:* A project will have disproportionately detrimental impacts on certain communities. This could include being displaced because of construction, gentrification surrounding infrastructure, increased air pollution, reduced access to nearby jobs, and so on.
- *Location-benefits based:* A project will have disproportionately positive impacts on certain communities. This could include economic development surrounding infrastructure, increased mobility options, a renewed public space, and so on.

- *Impacts based:* A project will have both burdens and benefits.
- *Access to destinations:* A project will result in improved accessibility.
- *User based:* A project will have a certain set of people who are likely to use it.
- *Community-engagement based:* A project will have certain sponsors who are promoting it.

This list implies a large set of potential communities affected by transportation infrastructure, and potentially implicated in its planning: neighborhoods hurt and helped by projects; people who gain accessibility from projects; people who use projects; and people who promote projects. Each of these groups must have the opportunity to identify problems that affect them, explore the potential benefits of new projects, and co-lead throughout the entire planning process.

The federal government can take steps to enhance its requirements for federal grant recipients such that they provide a diversity of community stakeholders the resources to identify problems, develop multisector responses to these issues (including but not exclusively transportation investments), and ensure that plans and projects ultimately reflect the needs and desires of disproportionately burdened communities. Discretionary grants distributed to individual projects by the secretary of transportation could be predicated on those projects meeting needs identified after the rollout of equitable planning processes.

One specific approach the federal government could recommend to agencies and governments as they undertake planning processes is determining whether those involved are representative of communities affected overall. This approach depends on each project. In some cases, multisector groups of communities, nonprofits, transportation agencies, and businesses can demonstrate how they reflect a spectrum of society and thus and appropriately can respond to local needs. On transportation agency–led projects, staff should consider weighting for representativeness and conducting representative surveys as key elements of planning approaches. The federal government should consider allocating planning grants to MPOs and other agencies to develop best practices to ensure a link between who is actually affected by transportation problems and projects, and whose input is prioritized.

## EQUITABLE OUTCOMES

In determining the appropriate allocation of benefits of investments in transportation projects with regard to outcomes, we must acknowledge that achieving social and racial equity is undoubtedly a contested concept; no single metric or mechanism can identify the degree to which equitable processes or outcomes are being achieved. Moreover, different people may have different needs for

which differences in measuring equity have different consequences. The list of potentially affected communities in the previous section points to the difficulty of asserting who or which groups most need assistance, or protection from the burdens of infrastructure construction. Nevertheless, the federal government should work to ensure that the plans and projects it funds can demonstrably increase social equity.

From the perspective of transportation, we might understand equitable outcomes as those that maximize accessibility—“the potential to access a range of activities within a predefined effort in terms of time, money, comfort, and so on” (Martens and Golub 2018, 2). A transportation system is fair, Martens (2016) argues, if and only if it provides every member of the society a sufficient level of accessibility, an issue to which we return shortly.

Equally relevant is evaluating the steps necessary to build toward achieving increased equity. Martens and Golub (2018) note that equity can be understood as a “ladder” of increasing justice for different groups in a society, which could mean demographic populations or specific neighborhoods. This ladder extends from meeting the minimum textual requirements to steps akin to reparations for historic harms:

1. *Fulfillment of the law textually* by interpreting Title VI as meaning banning explicit discrimination in actions made by agencies. This act of nondiscrimination is just the bottom rung.
2. *Pareto improvement* would allow some to benefit as long as no one else is hurt; *Pareto plus* would mean that benefits would extend to all groups being measured, though to different extents.
3. *Proportional equity* suggests that all groups affected by a policy receive benefit weighted toward their approximate share of the population.
4. *Restorative justice* would account for the fact that previous policies have been inequitable; thus, any new policy must correct past wrongs by disproportionately investing in historically negatively affected groups.

One way to achieve restorative outcomes is to push for minimization of difference in a manner that prioritizes improvements for the most vulnerable, while boosting conditions for all. Martens, Golub, and Robinson (2012) propose judging transportation investments using what they refer to as the “maximax” approach. Under this system, plans or projects should maximize the average accessibility of people throughout the affected area, while limiting inequality of access, defined as the

gap in accessibility between the groups with the highest and lowest levels of access. This definition can apply to neighborhoods—different parts of a city should have similar levels of accessibility (again, meaning ability to access a range of activities within a reasonable time, cost, and level of comfort)—or to regions as a whole. They argue that accessibility must account for differences in access to modes, as well, meaning that people with transit access only should benefit as close as possible to the levels of access made available to people with car availability. Ultimately, note Pereira, Schwanen, and Banister (2017, 170),

In policy evaluation, a detailed analysis of the distributional effects of transport policies should take account of the setting of minimum standards of accessibility to key destinations and the extent to which these policies respect individuals' rights and prioritize disadvantaged groups, reduce inequalities of opportunities, and mitigate transport externalities.

The federal government can take to heart the goal of building equity on the way to restorative justice by significantly ramping up requirements on federal grant recipients to demonstrate how their short- and long-term plans—plus the individual projects encompassed within them—can realistically be associated with improved quality of life for the most historically disenfranchised. One solution would be for DOT to develop tools that aid communities in assessing access, with the ability to weight specifically for racial minorities and people with low incomes.<sup>14</sup> Indeed, TransitCenter's recent proposals for ensuring more equitable outcomes in the transportation system merit consideration on this front. The organization emphasizes that DOT should require regional analyses of equity in access, such as by measuring access to opportunity.<sup>15</sup>

All recipients of federal aid should expand on their Title VI–required equity assessments. All funding recipients should detail how access currently differs within their respective regions and across populations by age, race, ethnicity, ability, and income, and should demonstrate how equitable planning processes have successfully integrated leadership and meaningful impact in communities of concern. They should then show how the plans themselves can successfully result in the “maximax” outcomes of increased equity for all with more limited differences between people with the most and least access, ideally through an integration of land-use planning with transportation projects. All of these issues must be evaluated over the long term, an issue we revisit in the final section of this paper.

## **Sustainable Results**

If building more equitable communities has been a challenge for all governments involved with transportation planning, so has the achievement of policies that promote more sustainable regions. Cities, regions, and states throughout the country have been challenged in their ability to reduce

transportation-related carbon emissions. Many such entities have committed to cutting down on vehicular pollution, and, on average, organizations that commit to climate change mitigation in their plans fund more projects that actually reduce emissions (Mullin, Feiock, and Niemeier 2020). As part of its future funding programs, the federal government must expand and enforce its selection criteria related to emissions reduction and ecological protection.

Under President Biden, the need to address environmental concerns has been heralded as a top priority of the administration. The president's executive order on tackling the climate crisis instructs the secretary of transportation to join a national task force to identify key mechanisms to reduce emissions, and recommends that the government fleet be shifted to zero emissions.<sup>16</sup> This policy fits with the administration's goal of reducing US GHG emissions by 50 percent from 1990 levels by 2030. Reaching this goal will require major changes in the way Americans move around, since the transportation sector is the largest contributor to American climate emissions.<sup>17</sup> Local governments, transportation agencies, MPOs, and states can contribute to this effort through three approaches, all of which DOT should mandate as key to short- and long-range transportation plans and necessary for individual regions to win federal transportation grants, particularly through competitive programs:

1. Reduce the carbon intensity of the existing transportation system
2. Reduce miles driven on the transportation system
3. Reduce the growth of the ecological footprint of urban land use

Achieving the first goal—reducing the current system's carbon intensity—requires regional efforts to electrify the vehicular fleet. This change can take a variety of forms, including prioritizing funding for electric bus facilities, public charging stations for personal cars, and electrification of existing rail lines. Local and state governments can also support a conversion of the freight system to electrification, with the goal of spurring electrified last-mile deliveries. The result would be reduced carbon emissions and a massive reduction in particulate pollution, which is of particular concern to communities of color.

One option is for the Environmental Protection Agency to collaborate with DOT to regulate carbon production at the regional level. Weatherall (2020) argues that the agency could mandate reductions in such pollutants through federal national ambient air quality standards. The EPA could designate nonattainment regions in relation to GHG emissions, including from transportation sources; those regions not showing reductions in line with the goal of meeting the nation's planned emissions reductions would become nonattaining. DOT could ensure that local, MPO, and state plans—and the

projects that result from them and are implemented by transportation agencies—comply with the goal of reducing such emissions.

Reducing the carbon intensity of the current system, however, would be inadequate because it will take many decades to shift to a fully electrified transportation system, and even a fully electrified transportation network—with today’s planning characteristics—and will continue to encourage sprawl, which is itself carbon intensive. Yet the majority of trips taken are three miles or less; despite most of them currently being taken by automobile, most of these trips could relatively easily shift to walking, biking, and transit if the appropriate strategy is developed. DOT should require local governments, MPOs, and state governments to develop a clear strategy to reduce vehicle miles traveled as a core element of their local, regional, and state transportation plans, respectively. They should be able to show how the investments they propose will shift regional residents from cars to less polluting modes, including walking, biking, and transit. Any projects funded by the DOT must demonstrate their adherence to these plans for vehicular mileage reduction.

Finally, the DOT should mandate that grant recipients show how they will reduce the growth of the ecological footprint of urban land use. Doing so requires all levels of government to show how their plans and projects will result in better joint regional land-use and transportation planning. One possibility, for example, could be to encourage the MPO-produced short- and long-range plans to incorporate minimum density levels around transit stations, set growth limits, and establish neighborhood-level affordable housing goals. State governments could mandate that such regional plans are executed by local municipalities, which is similar to the rules now established in Minnesota’s Twin Cities region by the Metropolitan Council.<sup>18</sup> The federal government could mandate that states adopt such regulations in exchange for being able to receive the discretionary grants distributed by the DOT.

One option is to require a higher local or state match for federal aid for those communities with policies that are least supportive, and a lower match for communities with supportive land-use policies. As an example, when coauthor Harriet Tregoning worked as Maryland’s planning secretary, she developed an approach that prioritized cost-effectiveness in the state budget for farmland preservation. Counties that worked to develop land-use programs that met the state’s goals were rewarded with more funding.

## Creating New Partnerships

The goal of improved joint land-use and transportation planning can be aided significantly if the federal government encourages transportation grant recipients to develop partnerships with nontransportation organizations at the core of their plans. These partnerships can incorporate housing agencies and nonprofits, groups promoting economic development, environmental advocates and stewards of natural spaces, major employers, and community groups, among many others. The primary goal of these partnerships must be to ensure that plans reflect an interdisciplinary perspective about how to respond to the joint imperatives of increasing equity and sustainability.

Such partnerships can build on the success of previous federal programs, such as the National Disaster Resilience Competition. As part of the program, applicants submitted joint proposals reflecting needs across a wide variety of sectors. The state of Connecticut, for example, worked in partnership with the Red Cross, the Audubon Society, the Connecticut Green Bank, several councils of government, Eversource Energy, and several other organizations to develop plans to protect coastal communities from sea-level rise.<sup>19</sup> The combination of many partners helped ensure pickup from the many stakeholders involved in environmental planning in the communities affected. As such, it better reflected public needs, and the projects were better able to fulfill federal objectives. As will be described, these types of partnerships also aided in the funding of projects.

## Funding

Sixty-five years after the 1956 passage of the Interstate Highway Act, the United States has proved its ability to fund major public works of transportation infrastructure. The act and associated projects funded by local and state departments of transportation have helped Americans become some of the most mobile people in the world—at least in the number of miles they traverse daily. Americans drive 32 percent more than Canadians, and almost twice as much as people in France, Germany, or the United Kingdom.<sup>20</sup> But in other ways, the United States' systematic investment in roadway infrastructure has been to the detriment of other transportation choices. Although many other wealthy countries have developed well-used public transit and intercity rail systems, Americans hardly use those services at all.<sup>21</sup> Moreover, because of the hostility of street design and the length between destinations, Americans are hesitant to take advantage of nonmotorized modes of transportation, such as walking and biking. The results, as discussed, are high carbon emissions and inequitable access to mobility for too many.

From this perspective, the Senate-passed infrastructure bill would take a step forward, increasing the share of overall surface transportation funding devoted to nonautomobile modes compared with previous federal expenditures. But it would continue to provide state departments of transportation hundreds of billions of dollars over five years to expand highways and build new roads, each of which would worsen the problematic elements of the built environment in many US urban regions. Working with DOT, though, local governments, transportation agencies, MPOs, and states could play a major role in redressing this issue.

First, DOT should require local and state government, MPO, and transportation agency short- and long-range plans to demonstrate how they will prioritize the maintenance of the existing roadway system before its expansion. In other words, there should be a baseline requirement for transportation plans to target allocations at fixing problems with the highway network, such as degraded infrastructure or failing bridges, before funds are expended on expansion. Prioritizing maintenance in this way could encourage conflict with state departments of transportation, traditionally focused on roadway expansion, but federal grants could be structured to prioritize this approach.

Second, all agencies should work to identify funding that can be “flexed” from highway accounts to transit accounts. Since 1991, the federal government has allowed local and state transportation agencies to transfer billions of dollars of funds originally designated for roadways into transit and other uses. Yet few agencies have leveraged this allowance. In the 1990s, only 12.5 percent of such funds were transferred, leaving the vast majority of highway spending in highway accounts (Puentes 2000). Between 2007 and 2011, the situation worsened. Although 29 percent of the total of \$184 billion in federal highway program funds could theoretically be flexed to other accounts, only \$5 billion, or 3 percent, was.<sup>22</sup> In other words, while the federal government has given its grantees the ability to expand support for nonroad projects, they have frequently chosen not to take advantage of the opportunity. MPOs specifically could play a large role in encouraging this flexing by identifying sources of revenues available, targeting them for nonroads use, and reallocating support to them.

### **More Carefully Directed Funds Are Necessary**

The expansion in federal infrastructure funding that could be made possible through the passage of the bipartisan infrastructure bill and the reconciliation package would dramatically expand support for transportation programs, particularly those related to intercity rail. These bills would also, as noted, significantly expand the amount of funding to be directed through competitive programs by the secretary of transportation. These bills could, as we have described, be instrumental in redirecting

federal priorities toward plans and projects that promote equity and sustainability. The bipartisan infrastructure bill, however, would also direct hundreds of billions in formula programs to state departments of transportation, many of which would likely choose to spend their funds on new or expanded roadways.

To some degree, the projects funded by those formula programs could result in the promotion of access and environmental resilience if the federal government requires that short- and long-term transportation plans developed by local, regional, and state actors meet minimum equity and sustainability criteria. Yet even if that funding were allocated more effectively, it would still likely be far less than what is needed to meet the goal of a transformative transportation system. After all, the federal government has spent trillions of dollars on transportation infrastructure since the 1950s, mostly on highways. A few hundred billion in new spending over the next few years will not be enough to close the gap.

Clear opportunities exist to move the needle through additional programs. For example, \$20 billion in new federal support for transit operations funding would be enough to roughly double the level of service provided by the typical public transportation operator in the United States (Freemark 2021a). The federal government has shied away from funding pedestrian and bicycling infrastructure for decades; a new infusion of support could be essential for communities that want to alter their priorities. The Congestion Mitigation Air Quality Improvement Program, metropolitan Surface Transportation Program, and Transportation Alternatives Program are oriented directly toward projects that are intended to reduce car dependence (Sciara 2017). The federal government could expand these initiatives. And additional provisions could be provided for cities that want to redesign existing transportation infrastructure to achieve better access in neighborhoods with many low-income families and people of color. Even if additional funding is not provided, the approaches we promote in this paper to leverage competitive grants offer a route to maximizing positive outcomes among dollars that are being distributed.

## USING PARTNERSHIPS TO EXPAND FUNDING OPTIONS

The partnerships we described in the “Selection Criteria” section could also serve as a key tool to expand funding for equity- and sustainability-expanding transportation initiatives. An applicant for a competitive transportation program, for example, could develop a partnership with a local housing agency and a local health care company as part of the application. In exchange for the federal government’s providing funds to construct a transit line, the housing agency could agree to orient a share of its community development block grant funding to projects along the route. And a local

health care company could agree to provide transit passes to patients to help ensure that they can get to their appointments, as well as to their employees, in lieu of paid parking. Together, a collaborative approach will produce more creative, exciting outcomes and projects that better meet the needs of communities.

## Program Strategies

We have detailed the ways that local governments, transportation agencies, MPOs, and states could generate a growing role in regional planning focused on equity and sustainability in the previous sections. Yet any initiative in this direction depends on effective leadership from the federal government, which can provide the overriding support necessary to ensure effective regional planning. To fill these gaps, we recommend a major expansion in federal technical assistance, combined with a new emphasis on developing partnership.

Additional technical assistance is needed to address major problems that affect the ability of urban regions throughout the country to achieve their goals. First, construction projects in the United States are significantly more expensive than in other countries. Compared with cities in wealthy European and Asian countries, US cities can build only about half as much public transportation infrastructure for the same cost (Aevaz et al. 2021). Second, because the nonautomobile transportation system is so much less advanced than those abroad, standards for facilities are often implemented haphazardly, and transportation planners are routinely unable to commit the resources to develop reliable future plans (Freemark, Hudson, and Zhao 2019). As a comparison, France's SNCF national railway carries more than eight times as many passenger kilometers per year than the United States' Amtrak—despite the United States having almost five times as many residents—meaning SNCF can leverage economies of scale in engineering and development.<sup>23</sup> Third, the transportation industry has reinforced racial inequities. Only a small share of transportation construction contractors are people of color, for example (Sanchez, Stolz, and Ma 2003). This fact suggests that the current approach that US transportation planners and agencies are taking to ensure social and racial equity on the job remains ineffective.

To address these issues, DOT should significantly expand its capacity, both internally and in the provision of technical assistance to local governments, transportation agencies, and states. Lowe and Sciara (2018) emphasize that the achievement of regional goals requires MPOs to have the ability to staff up, expand, and take on new initiatives; the same can be said for virtually all local and state government agencies. This federal capacity building should include hiring new staff with expertise in

construction, engineering, and planning, as well as dedicated employees intended to work with localities to improve the performance of their plans. This technical assistance program could focus on best practices for reducing construction costs, standardizing project elements (such as allowing agencies nationwide to leverage similar tools to get the job done), creating a long-term supply chain that ensures the effective completion of projects, and taking approaches to building racial equity in the planning and construction trades.

To maximize the impact of this capacity-building approach, the federal government should work with states, MPOs, localities, and transit agencies to pilot federal-regional partnerships. Such partnerships could integrate the involvement of other public-sector, nonprofit, and private entities in a fashion similar to those applicants from the TIGER program and National Disaster Resilience Competition. One possibility could be to develop a cohort of organizations working on their short- and long-range transportation plans in direct collaboration with federal officials. This cohort could improve the performance and equity of the system while highlighting where future improvements can be made.

## Monitoring and Evaluation

Today, local governments, MPOs, transportation agencies, and states often use project selection processes that fail to incorporate the needs of communities of concern—and select projects that reinforce preexisting inequities. They allow a huge share of public funds to be used on carbon-emitting highway projects and are often limited as they do so by inadequate capacity. Our public sector, in other words, is failing to achieve the goal of building urban regions with higher quality of life, more equitable outcomes, and better sustainability. Despite the expenditure of trillions of federal dollars—and even more in local and state revenues—communities have failed to expand access equitably, they have produced massive congestion on all forms of transportation, and they have worsened the climate crisis. More of the same would be unacceptable.

We have laid out several approaches that the federal government could leverage to help address each of these problems. In the end, these changes would make it more feasible for all lower-level governments and states to ensure that their projects match the national goal of building a more equitable, sustainable society. But any such initiative must also incorporate improved monitoring and evaluation systems. Today, many planners fail to account for the travel behavior and needs of disadvantaged people—sometimes even ignoring race as being relevant to issues like accessibility (Karner and Niemeier 2013).

DOT should develop a clear mechanism for monitoring the performance of state and local jurisdictions against goals for achieving racial equity, equitable processes, equitable outcomes, and sustainable infrastructure. A nationwide mapping tool produced by the DOT could measure access to jobs and other daily needs across every jurisdiction receiving federal support, focused on the needs of low-income residents and people of color, and acknowledging differences across different points in time and by different modes of mobility. It could create an online scorecard measuring GHG emissions produced by the transportation section at a similar scale.

The good news is that DOT already has an extensive set of metrics from which to build, such as the National Transit Database, which incorporates information from providers throughout the United States. The secretary of transportation should prioritize funding projects that include strong data collection programs as part of the choice they make for the discretionary programs over which they have control. Ultimately, local governments, transportation agencies, MPOs, and states should be judged according to a uniform set of measurements collected by DOT that monitor the performance of such organizations over time. These statistics should be publicly available and used as a mechanism to inform choices about which regions receive funding for their preferred projects.

In addition, new data are necessary. A recent TransitCenter report notes that calculating equity measures relies on better and more detailed estimates of transport costs, pedestrian conditions, accommodations for people with disabilities, and data on outreach.<sup>24</sup> A similar proposal jointly authored by researchers from the National League of Cities, the Urban Institute, and several other organizations makes the case that to achieve effective equity analysis, the federal government should ramp up aid for programs that directly measure people's movements, such as travel diaries, which currently are rare.<sup>25</sup>

The DOT also has a responsibility to lead efforts to link our understanding of how transportation investments are affecting such important individual outcomes as workforce participation and health. New data can aid in connecting these outcomes with the specific transportation plans and projects implemented within regions. Ideally, the DOT-developed online tool would integrate such outcome measures as well over the long term, allowing conclusions to be made about the degree to which different investments had different effects.

Such expanded data collection—combined with judicious and long-term monitoring of federally funded project planning and implementation—could radically alter the trajectory of the transportation system. Long the domain of the wealthy and the white, the car driver and the abled, the US transportation network is ripe to become more inclusive and more sustainable. Keeping track of how quickly the country is moving on the path toward achieving those outcomes is vital.

# Notes

- <sup>1</sup> Americans drove 20,173 kilometers per capita in 2017, considerably more than other G7 countries, including Canada (15,308 in 2007), France (12,657 in 2019), Germany (11,809 in 2019), Italy (13,986 in 2019), Japan (7,202 in 2019), and the United Kingdom (11,523 in 2019). Organisation for Economic Co-operation and Development, “Passenger Transport,” accessed December 28, 2021, <https://data.oecd.org/transport/passenger-transport.htm>.
- <sup>2</sup> Over that same period, states and localities spent \$2.8 trillion of their own funds on transportation infrastructure (all in 2018 dollars). “Transportation Spending in the U.S.,” *The Transport Politic*, 2021, <https://www.thetransportpolitic.com/databook/transportation-spending-in-the-u-s/>. Note that the average “consumer unit” in the United States spent \$10,472 on transportation costs in 2019. There were about 132,000 consumer units in that year, meaning people spent about \$1.4 trillion in that year alone on transportation. Of these transportation expenditures, 93 percent were automobile related. US Bureau of Labor Statistics, Consumer Expenditure Surveys, 2019, <https://www.bls.gov/cex/tables.htm#topline>.
- <sup>3</sup> Jessica Wehrman, “Infrastructure Bill May Give Buttigieg Final Say over \$105 Billion,” CQ Roll Call, August 2, 2021. <https://www.rollcall.com/2021/08/02/infrastructure-bill-buttigieg/>.
- <sup>4</sup> Efforts have been made in recent years to shift the framework of transportation investment away from projects toward people, following the example of the older housing programs. The concept of Mobility as a Service theorizes that transport policy should redirect its focus toward funding individuals to allow them to make the best choices among a variety of potential modal options, such as driving, transit, bicycling, or scooting (Jittrapirom et al. 2017; Smith and Hensher 2020). Others similarly suggest that “mobility wallets” could allow people to make decisions for themselves, relying of course on the already-existing, place-based infrastructure, but maximizing existing resources rather than prioritizing expansion (Ho et al. 2021). These frameworks could build on the much-heralded rise of vehicular automation, which could change the relationship between the automobile system, drivers, and the streetscape—reducing the “windshield perspective” now held by many Americans (Fagnant and Kockelman 2015; Freemark, Hudson, and Zhao 2020). But such approaches are marginal at the federal level. The congressional debate over a new infrastructure bill in 2021, for example, barely touched on this issue.
- <sup>5</sup> Sarah J. Peterson, “Justice and the Interstates: A Proposal for a National Project of Truth and Accountability,” *The Metropole* (blog), April 2021, <https://themetropole.blog/2021/04/28/justice-and-the-interstates-a-proposal-for-a-national-project-of-truth-and-accountability/>.
- <sup>6</sup> Institute for Transportation and Development Policy, “The High Cost of Transportation in the United States,” *Transport Matters* (blog), May 23, 2019, <https://www.itdp.org/2019/05/23/high-cost-transportation-united-states/>.
- <sup>7</sup> US Environmental Protection Agency, Sources of Greenhouse Gas Emissions web page, 2021, <https://www.epa.gov/ghgemissions/sources-greenhouse-gas-emissions>.
- <sup>8</sup> Infrastructure Investment and Jobs Act, H.R. 3684, passed by the US Senate on August 16, 2021. <https://www.congress.gov/bill/117th-congress/house-bill/3684>.
- <sup>9</sup> US House Transportation and Infrastructure Committee, “After a More than 15-Hour Markup, Committee Advances Legislation to Invest in More Equitable and Sustainable Transportation Systems and Infrastructure,” news release, September 15, 2021, <https://transportation.house.gov/news/press-releases/after-15-hour-markup-committee-advances-legislation-to-invest-in-more-equitable-and-sustainable-transportation-systems-and-infrastructure>.
- <sup>10</sup> Yonah Freemark, “Throughout history, the US failed to integrate transportation and land use. It’s still hindering policymaking today,” *Urban Wire* (blog), Urban Institute, May 17, 2021, <https://www.urban.org/urban->

wire/throughout-history-us-failed-integrate-transportation-and-land-use-its-still-hindering-policy-making-today.

- <sup>11</sup> Julian Castro, John B. King, and Anthony R. Foxx, Dear Colleagues Letter, June 3, 2016, <https://www2.ed.gov/documents/press-releases/06032016-dear-colleagues-letter.pdf>.
- <sup>12</sup> The White House, Executive Order on Advancing Racial Equity and Support for Underserved Communities through the Federal Government, January 20, 2021, <https://www.whitehouse.gov/briefing-room/presidential-actions/2021/01/20/executive-order-advancing-racial-equity-and-support-for-underserved-communities-through-the-federal-government/>.
- <sup>13</sup> Working with the communities affected is a challenging concept because transportation infrastructure, while built in physical places, not only spans many neighborhoods (unlike, say, a housing development, fixed in one location), but also typically serves people traveling to and from even more neighborhoods. Moreover, residential mobility means that people who might have lived in one location during the planning phase of a project could move to another by the time a project is completed, and vice versa.
- <sup>14</sup> Such tools could replicate approaches similar to those in the Affirmatively Furthering Fair Housing (AFFH) rule established by HUD in 2015. The AFFH built on the goals of the 1968 Fair Housing Act and mandated that agencies receiving federal housing or development funds develop plans incorporating assessments of racial inequity, while showing how changes in the future would aid them in addressing those historic differences.
- <sup>15</sup> TransitCenter, Comment on DOT “Request for Information on Transportation Equity Data” (Docket No. DOT-OST-2021-0056), July 22, 2021, <https://www.regulations.gov/comment/DOT-OST-2021-0056-0188>.
- <sup>16</sup> The White House, Executive Order on Tackling the Climate Crisis at Home and Abroad, January 27, 2021, <https://www.whitehouse.gov/briefing-room/presidential-actions/2021/01/27/executive-order-on-tackling-the-climate-crisis-at-home-and-abroad/>.
- <sup>17</sup> US Environmental Protection Agency, Sources of Greenhouse Gas Emissions web page, 2021, <https://www.epa.gov/ghgemissions/sources-greenhouse-gas-emissions>.
- <sup>18</sup> The Metropolitan Council incorporates both MPO and regional government functions—thus making it somewhat different in governance from MPOs elsewhere in the country except Portland, Oregon. As such, replicating its approach may prove difficult without certain institutional reforms proposed in this section. Metropolitan Council, “Community Policies and Planning: Coordinating Regional and Local Plans,” 2021, <https://metrocouncil.org/Communities/Planning.aspx>.
- <sup>19</sup> US Department of Housing and Urban Development, “National Disaster Resilience Competition: Grantee Profiles,” January 2016, <https://www.hud.gov/sites/documents/NDRCGRANTPROFILES.PDF>.
- <sup>20</sup> Americans drove 20,173 kilometers per capita in 2017, considerably more than other G7 countries, including Canada (15,308 in 2007), France (12,657 in 2019), Germany (11,809 in 2019), Italy (13,986 in 2019), Japan (7,202 in 2019), and the United Kingdom (11,523 in 2019). Organisation for Economic Co-operation and Development, “Passenger Transport,” accessed December 28, 2021, <https://data.oecd.org/transport/passenger-transport.htm>.
- <sup>21</sup> Yonah Freemark, “US public transit has struggled to retain riders over the past half century. Reversing this trend could advance equity and sustainability,” *Urban Wire* (blog), Urban Institute, June 25, 2021, <https://www.urban.org/urban-wire/us-public-transit-has-struggled-retain-riders-over-past-half-century-reversing-trend-could-advance-equity-and-sustainability>; Yonah Freemark, “Congress’s infrastructure plan could be a major step toward improved intercity rail—but long-term commitment and targeted investments are necessary to build ridership,” *Urban Wire* (blog), Urban Institute, August 10, 2021, <https://www.urban.org/urban-wire/congresss-infrastructure-plan-could-be-major-step-toward-improved-intercity-rail-long-term-commitment-and-targeted-investments-are-necessary-build-ridership>.

- <sup>22</sup> Tanya Snyder, "GAO: States 'Flexing' Fewer Federal Dollars to Transit." Streetsblog USA, November 21, 2012, <https://usa.streetsblog.org/2012/11/21/gao-states-flexing-fewer-federal-dollars-to-transit/>.
- <sup>23</sup> International Union of Railways, "Railway Statistics: 2015 Synopsis," June 2016, [https://uic.org/IMG/pdf/synopsis\\_2015\\_print\\_5\\_.pdf](https://uic.org/IMG/pdf/synopsis_2015_print_5_.pdf).
- <sup>24</sup> TransitCenter, Comment on US DOT "Request for Information on Transportation Equity Data" (Docket No. DOT-OST-2021-0056), July 22, 2021, <https://www.regulations.gov/comment/DOT-OST-2021-0056-0188>.
- <sup>25</sup> Brittney Kohler, Yonah Freemark, Christina Stacy, and Alena Stern, Comment on US DOT "Request for Information on Transportation Equity Data" (Docket No. DOT-OST-2021-0056), July 22, 2021, <https://www.regulations.gov/comment/DOT-OST-2021-0056-0286>.

# References

- Aevaz, Romic, Brianne Eby, Paul Lewis, and Robert Puentes. 2021. *Saving Time and Making Cents: A Blueprint for Building Transit Better*. Washington, DC: Eno Center for Transportation.
- Bullard, Robert D., Glenn S. Johnson, and Angel O. Torres, eds. 2004. *Highway Robbery: Transportation Racism & New Routes to Equity*. Boston: South End Press.
- Daniels, Fernando, Wayne Moore, Christopher Conti, Lucille C. Norville Perez, Beverly M. Gaines, Rodney G. Hood, Ian J. J. Swain, Rudolph Williams, and Chaka T. Burgess. 2002. "The Role of the African-American Physician in Reducing Traffic-Related Injury and Death among African Americans." *Journal of the National Medical Association* 94 (2): 108–18.
- De Moura, Maria Cecilia Pinto, David Reichmuth, and Daniel Gatti. 2020. *Inequitable Exposure to Air Pollution from Vehicles in Massachusetts*. Cambridge, MA: Union of Concerned Scientists.
- Einstein, Katherine Levine, David M. Glick, and Maxwell Palmer. 2019. *Neighborhood Defenders: Participatory Politics and America's Housing Crisis*. Cambridge: Cambridge University Press.
- Ezike, Richard, Peter Tatian, and Gabriella Velasco. 2020. *Defining 'Communities of Concern' in Transportation Planning: A Review of How Planners Identify Underserved Communities*. Washington, DC: Urban Institute.
- Fagnant, Daniel J., and Kara Kockelman. 2015. "Preparing a Nation for Autonomous Vehicles: Opportunities, Barriers and Policy Recommendations." *Transportation Research Part A: Policy and Practice* 77: 167–81.
- Fainstein, Susan S. 2010. *The Just City*. Ithaca, NY: Cornell University Press.
- Fogelson, Robert M. 2001. *Downtown: Its Rise and Fall, 1880–1950*. New Haven, CT: Yale University Press.
- Freemark, Yonah. 2021a. *In Search of Equitable Transit Operations: Examining Public Transportation Funding and Service across the United States*. Washington, DC: Urban Institute.
- . 2021b. "Promoting 'Orderly and Sound Growth': 1960s Debates over Administering Public Transportation in Service of Mobility or Regional Planning." *Journal of Urban History*. Online preprint.
- Freemark, Yonah, Anne Hudson, and Jinhua Zhao. 2019. "Are Cities Prepared for Autonomous Vehicles? Planning for Technological Change by U.S. Local Governments." *Journal of the American Planning Association* 85 (2): 133–51.
- . 2020. "Policies for Autonomy: How American Cities Envision Regulating Automated Vehicles." *Urban Science* 4 (4): 55.
- Freemark, Yonah, and Justin Steil. 2021. "Local Power and the Location of Subsidized Renters in Comparative Perspective: Public Support for Low- and Moderate-Income Households in the United States, France, and the United Kingdom." *Housing Studies*. Online preprint.
- Hessami, Amir R., Gabriel J. Odreman, Dazhi Sun, Xiaohuan Zhou, Ali Nejat, and Mohammadhossein Saeedi. 2017. *Project Scoping Guidebook for Metropolitan Planning Organization Transportation Projects*. Kingsville: Texas A&M University.
- Ho, Chinh Q., David A. Hensher, Daniel J. Reck, Sam Lorimer, and Ivy Lu. 2021. "MaaS Bundle Design and implementation: Lessons from the Sydney MaaS Trial." *Transportation Research Part A: Policy and Practice* 149 (1): 339–76.
- Homan, Anthony C., Teresa M. Adams, and Alex J. Marach. 2014. "A Statistical Analysis of the Role of Benefit-Cost Analysis in Awarding TIGER Grants." *Public Works Management & Policy* 19 (1): 37–50.

- Jittrapirom, Peraphan, Valeria Caiati, Anna-Maria Feneri, Shima Ebrahimigharehbaghi, Maria J. Alonso-Gonzalez, and Jishnu Narayan. 2017. "Mobility as a Service: A Critical Review of Definitions, Assessments of Schemes, and Key Challenges." *Urban Planning* 2 (2): 13–25.
- Karner, Alex, Aaron Golub, Karel Martens, and Glenn Robinson. 2018. "Transportation and Environmental Justice: History and Emerging Practice." In *The Routledge Handbook of Environmental Justice*, edited by Ryan Holifield, Jayajit Chakraborty, and Gordon Walker, 400–411. London and New York: Routledge.
- Karner, Alex, and Richard A. Marcantonio. 2018. "Achieving Transportation Equity: Meaningful Public Involvement to Meet the Needs of Underserved Communities." *Public Works Management & Policy* 23 (2): 105–26.
- Karner, Alex, and Deb Niemeier. 2013. "Civil Rights Guidance and Equity Analysis Methods for Regional Transportation Plans: A Critical Review of Literature and Practice." *Journal of Transport Geography* 33 (C): 126–34.
- Krapp, Agustina, Jesus M. Barajas, and Audrey Wennick. 2021. "Equity-Oriented Criteria for Project Prioritization in Regional Transportation Planning." *Transportation Research Record*. Online preprint.
- Lewis, Paul G. 1998. "Regionalism and Representation: Measuring and Assessing Representation in Metropolitan Planning Organizations." *Urban Affairs Review* 33 (6): 839–53.
- Lowe, Kate. 2014. "Rethinking Competition in TIGER: Lessons for Federal Funding and Public Administration." *Public Works Management & Policy* 19 (4): 345–50.
- Lowe, Kate, and Gian-Claudia Sciara. 2018. "Chasing TIGER: Federal Funding Opportunities and Regional Transportation Planning." *Public Works Management & Policy* 23 (1): 78–97.
- Marcantonio, Richard A., Aaron Golub, Alex Karner, and Louise Nelson Dyble. 2017. "Confronting Inequality in Metropolitan Regions: Realizing the Promise of Civil Rights and Environmental Justice in Metropolitan Transportation Planning." *Fordham Urban Law Journal* 44 (4): 1017–77.
- Martens, Karel. 2016. *Transport Justice: Designing Fair Transportation Systems*. New York: Routledge.
- Martens, Karel, and Aaron Golub. 2018. "A Fair Distribution of Accessibility: Interpreting Civil Rights Regulations for Regional Transportation Plans." *Journal of Planning Education and Research*. Online preprint.
- Martens, Karel, Aaron Golub, and Glenn Robinson. 2012. "A Justice-Theoretic Approach to the Distribution of Transportation Benefits: Implications for Transportation Planning Practice in the United States." *Transportation Research Part A: Policy and Practice* 46 (4): 684–95.
- Mohl, Raymond A. 2002. *The Interstates and the Cities: Highways, Housing, and the Freeway Revolt*. Washington, DC: Poverty & Race Research Action Council.
- Mullin, Megan, Richard C. Feiock, and Deb Niemeier. 2020. "Climate Planning and Implementation in Metropolitan Transportation Governance." *Journal of Planning Education and Research*. Online preprint.
- Nelson, Arthur C., Thomas W. Sanchez, James F. Wolf, and Mary Beth Farquhar. 2004. "Metropolitan Planning Organization Voting Structure and Transit Investment Bias: Preliminary Analysis with Social Equity Implications." *Transportation Research Record* 1875 (1): 1–7.
- Pereira, Rafael H. M., Tim Schwanen, and David Banister. 2017. "Distributive Justice and Equity in Transportation." *Transport Reviews* 37 (2): 170–91.
- Peterman, David Randall. 2019. *The TIGER/Build Program at 10 Years: An Overview*. Washington, DC: Congressional Research Service.
- Porcari, John D. 2010. "The Federal Role in National Transportation Policy." Statement before US Senate Committee on Commerce, Science, and Transportation, Washington, DC, September 15.

- Pucher, John, and Christian Lefèvre. 1996. "The United States: The Car-Dependent Society." In *The Urban Transport Crisis in Europe and North America*, 175–200. London: Palgrave Macmillan.
- Puentes, Robert. 2000. *Flexible Funding for Transit: Who Uses It?* Washington, DC: Brookings Institution.
- Rodden, Jonathan A. 2019. *Why Cities Lose: The Deep Roots of the Urban-Rural Political Divide*. New York: Basic Books.
- Rowangould, Gregory M. 2013. "A Census of the US Near-Roadway Population: Public Health and Environmental Justice Considerations." *Transportation Research Part D: Transport and Environment* 25: 59–67.
- Sanchez, Thomas W., Rich Stolz, and Jacinta S. Ma. 2003. *Moving to Equity: Addressing Inequitable Effects of Transportation Policies on Minorities*. Cambridge, MA: Civil Rights Project at Harvard University.
- Sciara, Gian-Claudia. 2017. "Metropolitan Transportation Planning: Lessons from the Past, Institutions for the Future." *Journal of the American Planning Association* 83 (3): 262–76.
- Sciara, Gian-Claudia, and Martin Wachs. 2007. "Metropolitan Transportation Funding: Prospects, Progress, and Practical Considerations." *Public Works Management & Policy* 12 (1): 378–94.
- Smith, Göran, and David Hensher. 2020. "Towards a Framework for Mobility-as-a-Service Policies." *Transport Policy* 89 (April): 54–65.
- Stacy, Christina, Yipeng Su, Eleanor Noble, Alena Stern, Kristin Blagg, Macy Rainer, and Richard Ezike. 2020. *Access to Opportunity through Equitable Transportation: Lessons from Four Metropolitan Regions*. Washington, DC: Urban Institute.
- Turner, Margery Austin, James Ladi Williams, Justin Milner, Jessica Pizarek, and Ashleigh Gardere. 2021. *A Blueprint for the Next Generation of Federal Place-Based Policy*. Washington, DC: Urban Institute.
- Urry, John. 2004. "The 'System' of Automobility." *Theory, Culture & Society* 21 (4–5): 25–39.
- Vale, Lawrence J., and Yonah Freemark. 2012. "From Public Housing to Public-Private Housing: 75 Years of American Social Experimentation." *Journal of the American Planning Association* 78 (4): 379–402.
- Walker, Peter A., and Patrick T. Hurley. 2011. *Planning Paradise: Politics and Visioning of Land Use in Oregon*. Tucson: University of Arizona Press.
- Weatherall, Grace. 2020. *Immediate Executive Action: Unexplored Options for Addressing Climate Change under the Existing Clean Air Act*. Cambridge, MA: Harvard Law School Environmental and Energy Law Program.
- Wellman, Gerard C. 2014. "Transportation Apartheid: The Role of Transportation Policy in Societal Inequality." *Public Works Management & Policy* 19 (4): 334–39.
- Williams, Kristine M., and Aaron Golub. 2017. *Evaluating the Distributional Effects of Regional Transportation Plans and Projects*. Portland, OR: National Institute for Transportation and Communities, Portland State University.

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