NCrowth



Democratizing Infrastructure

In the wake of the COVID-19 pandemic, two large infrastructure-related bills have been enacted. The Infrastructure Investment and Jobs Act (IIJA), signed into law in November 2021, provides funding for a wide range of activities including roads, rail, transit, broadband, water and electrical infrastructure. The Inflation Reduction Act of 2022 also included funding for energy infrastructure. Now is the time to maintain focus on how these new investments can increase wealth in communities with the greatest needs. Sustainable development will require attentiveness to who builds what, where. The placement, design, construction and operation of infrastructure should not impair social, ecological and economic progress for some communities while benefiting others. The coming weeks and months will provide additional opportunities for influence and impact. This document offers a set of principles that can inform how elected officials evaluate domestic investments of all kinds.

Empowering Communities with the Greatest Need

If we take federal legislators at their word, creating economic opportunity and long-term economic development are their top motivations for infrastructure development. Typically, this means repairing and building infrastructure to facilitate private sector economic growth. Considering the infrastructure itself, the choices regarding what and where rely heavily on the influence of large employers and state governments. How to build

(referring to the contracting process, the firms hired, the workers employed, etc.) is even lower on the priority list for federal legislators. However, in keeping with those two underlying economic motivations - opportunity and development - building infrastructure could be conducted to disproportionately benefit the least of those among us and achieve specific socioeconomic goals. It is possible to both create economic opportunity and business development during construction of broadband, for example, and have that completed broadband further support economic development. In discussions with a bipartisan group of congressional offices, it is clear that this framing is neither controversial nor new. There are many programs, e.g., the Small Business Administration's HUBZone, that tackle some aspect of this idea. The "Make it in ALL of America" section of the American Jobs Plan introduces the idea of community-led projects that build wealth and support development in places that have been overlooked, both rural communities and minority ethnic communities. However, those overlooked communities could be central to all aspects of infrastructure-related legislation. For those who point to employment, entrepreneurship and wealth creation as the cornerstones of economic mobility and social agency, the infrastructure bill and Inflation Reduction Act present transformative opportunities. This is not at all about so-called handouts, but about broadening access to financial and political power through wealth generation, job creation and self-determination.

The U.S. is replete with examples of policy preferentially treating different groups of people, from veterans to Alaskans to investors. And while income tax policy leaves much to be desired, at its core, it is a graduated tax system intended to benefit lower-wage earners with lower tax rates as compared to those with higher wages. Without listing all the ways that the wealthy manage to circumvent the philosophical underpinnings of the graduated income tax system, there is broad consensus that that tax rates should vary by income level. If we are comfortable with a low-wage earner (who is still paying sales taxes and property taxes) paying lower income taxes, then perhaps we can prioritize economically distressed communities, economically disconnected businesses, and the underemployed and low-wage earners in infrastructure development.

The potential impacts of infrastructure are as disparate as the positive and negative outcomes from past development. Now is the time to be wary of how infrastructure can be unintentionally harmful and even weaponized. And now is the time to explore how clear, long-term development goals can be brought to the center of infrastructure.

In the Netflix miniseries "High on the Hog," Gabrielle E. W. Carter, a chef, grower and cultural preservationist, discussed the depth of her connection to her family farm near Apex, North Carolina. Over the past century, her ancestors made difficult land productive, created a working farm and built a home for subsequent generations. As she describes how this once undesirable land might soon be lost to the widening of the adjacent highway, both pride and sadness are clearly evident. The arc of this family over the past 150 years is reminiscent of the experience of many communities across the

southeastern U.S. and other regions, where infrastructure, rurality, caste, race and economic development are deeply interwoven into the fabric of America.

The political boundaries of this country contain perhaps the most socially and geographically complex land on the planet, with layers upon layers of different types of diversity. Decisions made to fulfill the "needs of the people" will have complex outcomes, unintended and intentional negative consequences, and even pleasant surprises. By design, elected officials help determine what, where and how infrastructure is built. However, some people are more in need than others; there are communities who do not exert political or financial power; and there are geographies that are disconnected from the broader economy. It is in this context that infrastructure – be it a road, broadband or even eldercare – has the greatest potential to build pathways for us to fulfill our needs and achieve our aspirations.

Infrastructure for the people

Roads connect people to one another and to economic opportunity. The speed and ease at which people can move goods reduces friction within the economy, and transportation opens entirely new economic opportunities such as tourism. The interstate highway system, for example, has had a positive impact on urban employment and GDP. However, the impact has been geographically and sectorally uneven, with the benefit for rural places, for example, being much less clear. Here's an illustration of the complex relationships among road building, economic growth vs. economic development, and rurality – an example of how America's overlapping layers of diversity interplay in one place over time.

The Outer Banks are a thin, hurricane- and climatesusceptible chain of barrier islands off the Atlantic coast of North Carolina. The islands have become a tourist destination for more than 2.5 million annual visitors who travel over highways built to bypass the small- and medium-size towns of Eastern North Carolina. According to the National Park Service, the Outer Banks support more than 2,800 jobs and \$225 million in economic impact. Coincidentally, the rise of the Outer Banks as a tourism powerhouse coincides with the economic demise of those bypassed, tobacco-dependent towns of the region. Additionally, one of the most expensive highways in the United States, NC-12, runs for 148 miles, roughly north-south, connecting the islands of the Outer Banks, often running only a few feet from the ocean waves and frequently in need of repair after storms. The estimated cost of maintaining NC-12 has been more than \$200 million over the past 20 years. To be clear, the highways are not the primary reason for the economic decline of Eastern North Carolina; however, the investment made to support Outer Banks tourism has struggled to integrate its small and medium-size towns. Nor have the highways been successful in supporting local development alongside the urbanization of the Raleigh-Durham region. For example, the Outer Banks support a large seasonal immigrant workforce whose presence is facilitated in large part through the J-1 visa program. The nature of this tourism also creates a perverse incentive to continually rebuild roads and other infrastructure that belies the environmental costs. Infrastructure could have been developed to benefit the rural communities that are now more disconnected from the broader economy than a generation ago. And tourism could have been developed in ways that anticipated and adapted to the shifting morphology of barrier islands and climate change.

While the interstate highway system contributed to America's globalizing economy over the last century, the future will rely on more fiber and less asphalt. Beyond roads, I would argue that nearly every component of an infrastructure bill could be focused on short- and long-term empowerment of the people, places and communities that are economically distressed and disconnected. The potential of a digital economy to support the movement of ideas rather than bodies was proved during the past year of COVID-19. Many have written how the quarantine clarified serious disadvantages for communities without broadband access such as the difficulty participating in virtual K-12 education; inability to support the kinds of jobs that went remote; and dependence on industries that were shuttered. And while poor access is a characteristic of the South, of rural places, and of communities of color, its potential to make places more desirable to stay and work was revealed in the boon for many rural communities that did have broadband access. Broadband should be considered a tool that will empower people in place, to learn, to work, to create and to build.

The guarantine also revealed the environmental impacts of restructuring our economy. While many industries and transportation tanked, CO2 emissions declined and the fauna and flora flourished. In the struggle to conquer COVID-19 as quickly as possible, these lessons could easily be overlooked. Energy, environment, climate and the economy are often talked about in terms of tradeoffs. But our world is a system - not a series of binary decisions – with the components interacting in complex ways and on different time scales. Only if we ignore the entire system and if we are very shortsighted can we justify ignoring the environmental and climate impacts of infrastructure. On longer time scales, however, the negative impacts of ignoring the environment and climate are clear. And the benefits of thinking more circularly in terms of reuse, recycling and waste management reveal themselves.

Public transit can help low-wage workers capture more wealth by helping them reduce transportation and housing costs. But recent crises have also shown how public transit could have saved lives and treasure. It can be difficult to recognize and accept the gift of knowledge that is revealed as a result of death and hardship. I recall the inability to evacuate New Orleans residents without access to personal transportation as Hurricane Katrina approached. And one month later, the traffic disaster as cars clogged the roads during the evacuation of Houston because of Hurricane Rita. Transit has the power to save lives during disasters and significantly reduce transportation costs. And alongside broadband access and the changing nature of work, all can benefit both people and the planet.

This time, do no harm

Roads have a long history of being used to intentionally destabilize economically vibrant places, particularly in the South and in the "Southern diaspora" (the urban communities established during the Great Migrations of Blacks north and west,). Tulsa's Greenwood neighborhood has rightfully entered the national consciousness because of the 100th anniversary of the state-sanctioned destruction of that Black community and the murder of hundreds of its residents. However, less well-known is that "Black Wall Street" was rebuilt by the Black community despite property owners receiving no compensation for the travesty. Rather it was the construction of Interstate 244 (known with bitter irony as "Martin Luther King Jr. Memorial Expressway") that eventually destroyed Greenwood as a Black-owned business district. Similar tales can be told in the urban renewal projects in Tupelo, Mississippi; Durham, North Carolina's Hayti neighborhood; New Orleans' Treme; and Los Angeles' Chavez Ravine (the latter an example of the removal of a Mexican-American community). These are all examples of weaponizing infrastructure to target "uppity" communities of color whose social and business success challenged the political and economic hegemony of the ruling caste. While these are clearly illustrations of what not to do, they do, however, illustrate the raw power of targeted infrastructure development. Fortunately, the American Job's Plan fact sheet does include a plan to "reconnect neighborhoods cut off by historic investments."

Leverage Talent and Insights from Across the Spectrum

Most people ultimately want the same things – access to great education, clean air, clean water, good job opportunities, etc. However, actions designed to deliver in one of these areas can unwittingly cause other problems for another. For example, regulations intended to reduce airborne sulfur emissions from barges has resulted in an increase in water pollution as ships dump wastewater effluent from engine exhaust scrubbers while in port. Similarly, the desire to reduce transportation-related CO2 emissions has helped accelerate a transition to electricpowered vehicles while creating a looming battery waste problem. However, most lithium batteries now end up in landfills, which are disproportionately located in and near low-income communities, and the production of raw materials required to power these vehicles, particularly through mining, carries its own environmental dangers. (https://www.sciencemag.org/news/2021/05/millionselectric-cars-are-coming-what-happens-all-dead-batteries https://www.nytimes.com/2021/05/06/business/lithiummining-race.html).

In September 2016, I helped introduce a collaboration between the leadership of Princeville, North Carolina, the first U.S. town chartered by formerly enslaved Africans, and Skanska, the multinational Swedish construction company. The town had plans for a new community center and other assets to support heritage tourism that could benefit from Skanska's technical advice. A month after our first meeting, Hurricane Matthew devastated Princeville leaving the town underwater for days. Fortunately, Skanska stayed engaged, led major fundraising efforts, and helped the town tell its story to a national audience. Many other

partners contributed to planning efforts that included a weeklong community planning workshop led by Professor Kofi Boone at North Carolina State University. And the people of Princeville led all these partnerships, from Mayor Bobbie Jones and Mayor Pro Tem Linda Joyner to residents of all ages, showing how Princeville's cultural assets had the power to build multisectoral partnerships. Despite these partnerships, the initial federal recovery effort failed to respond to short-term housing needs and, long term, failed to prioritize the employment of people located in the most impacted communities across the state. Fortunately, in the past few years, the tenacity of local Princeville leaders has led to significant gains, including new climate-resilient public infrastructure and civil engineering enhancements to dikes and floodgates. So while the initial federal-led recovery was not focused on livelihoods and long-term resiliency, subsequent locally led efforts have been productive.

All these examples show why leaving people, communities, and/or perspectives out of the policy conversation makes it nearly impossible to identify and implement sustainable solutions.

Focus on Long-Term Benefits

I am trained as an earth scientist, drawn to thinking about processes on very long time scales, understanding the root causes of current observations, and contemplating the future effects of today's choices. Democratically elected governments and free-market-based economies are tuned to short-term prioritizes, measurably beneficial actions on the six-, four- and two-year election cycles; the quarterly report; and the day-by-day of financial markets and political discourse. But infrastructure is about making near-term investments to support future economic development. It is very possible that these new laws could result in thousands of people being employed, thousands of acres of land impacted, and many new structures built to last for many decades. So, building

infrastructure presents a perfect opportunity to involve and prioritize people, from ideation to development to execution.

Affected communities should share control of infrastructure planning and production. This means going beyond elected officials and traditional power brokers to identifying and working with people who can genuinely represent the fullest diversity of peoples in a place, beginning, I would argue, with the least politically and financially powerful. Infrastructure can have a direct, positive impact on the most basic sustainable development goals. Infrastructure can create paths out of poverty by focusing business development, job creation and wealth generation on economically distressed communities, Indigenous communities and rural communities. It can create healthier environments for children by supporting transit, upgrading K-12 facilities, ensuring separation of highways from residential communities and guaranteeing access to clean water. Energy development that improves human health by reducing air pollution. Built infrastructure presents the opportunity to construct more resilient and sustainable places while reducing waste and greenhouse gas emissions.

Ten years from now, once all the roads, buildings and broadband are built, there will be people, communities and businesses that will benefit from the investments in infrastructure that are made today. Infrastructure investments have the possibility for transformative, sustainable development of people and communities, but only if humility and thoughtfulness are central to the decisions about what is built, where it's built and how it's built.

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