

75  
YEARS

# Land Lines

QUARTERLY MAGAZINE OF THE LINCOLN INSTITUTE OF LAND POLICY

OCTOBER 2021

An aerial photograph of a city skyline at dusk. The sky is a mix of orange, yellow, and blue. In the foreground, a large, dark metal bridge with multiple tracks spans across the frame. Below the bridge, there are green spaces, trees, and a road with streetlights. In the middle ground, there are several large, modern buildings with glass facades, some of which are illuminated from within. In the background, more skyscrapers are visible against the twilight sky. The overall scene is a blend of urban infrastructure and greenery.

Infrastructure and Climate Change  
Equitably Developing Smaller Legacy Cities  
Sustainable Tools for Urban Recovery



# Land Lines

OCTOBER 2021 | VOL 33 | NO 4

## EDITOR

Katharine Wroth

## CONTRIBUTING EDITORS

Anthony Flint, Will Jason

## DESIGN & PRODUCTION

Studio Rainwater  
www.studiorainwater.com

## PRODUCTION EDITOR

Susan Pace

VICE PRESIDENT OF  
PUBLICATIONS, COMMUNICATIONS &  
LEARNING DESIGN  
Maureen Clarke

PRESIDENT & CEO  
George W. McCarthy

CHAIR & CHIEF INVESTMENT OFFICER  
Kathryn J. Lincoln

**THE LINCOLN INSTITUTE OF LAND POLICY** seeks to improve quality of life through the effective use, taxation, and stewardship of land. A nonprofit private operating foundation whose origins date to 1946, the Lincoln Institute researches and recommends creative approaches to land as a solution to economic, social, and environmental challenges. Through education, training, publications, and events, we integrate theory and practice to inform public policy decisions worldwide.

*Land Lines* is published as a digital monthly and print quarterly magazine to report on Institute-sponsored programs and related subjects.

Lincoln Institute of Land Policy  
113 Brattle St., Cambridge, MA 02138

T (617) 661-3016 or (800) 526-3873  
F (617) 661-7235 or (800) 526-3944

EMAIL FOR EDITORIAL CONTENT  
publications@lincolnst.edu

EMAIL FOR INFORMATION SERVICES  
help@lincolnst.edu

www.lincolnst.edu



## Contents

### FEATURES



---

## 14 Infrastructure and Climate Change

Four Governance Challenges in a Time of Disruption

This excerpt from the new Lincoln Institute book *Infrastructure Economics and Policy* outlines four challenges to climate mitigation and adaptation, from governmental inefficiency to stranded assets.

*By Henry Lee*

---

## 24 The Road to Revitalization

Equitably Developing America's Smaller Legacy Cities

How can legacy cities overcome economic and social challenges to ensure a healthy, sustainable future for all residents? A new Policy Focus Report maps out strategies for achieving durable, equitable growth.

*By Erica Spaid Patras, Alison Goebel, and Lindsey Elam*

---

## 34 A Sustainable Recovery

How Green Strategies Can Help Small Cities Confront Climate Change, COVID-19, and Systemic Racism

From creating parks in Richmond, Virginia, to investing in green infrastructure in Buffalo, New York, small cities are embracing sustainability as a tool that can address multiple challenges.

*By Emma Zehner*

## DEPARTMENTS

### 2 Letters to the Editor

75th Anniversary Greetings

### 4 President's Message

The Best and Worst of Humanity

*By George W. McCarthy*

### 7 City Tech

Managing the Curb

*By Rob Walker*

### 10 Mayor's Desk

Reflecting on Equity and Regeneration in Cleveland

*By Anthony Flint*

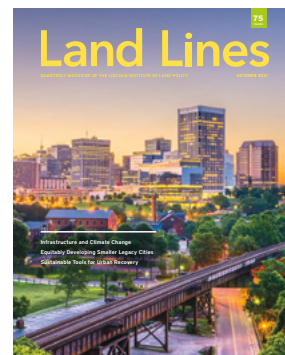
### 43 New Publications

*Property Tax Relief for Homeowners*

*Infrastructure Economics and Policy: International Perspectives*

*Megaregions and America's Future*

*Property Tax in Asia: Policy and Practice*



Richmond, Virginia.  
Credit: Sean Pavone  
via iStock.

# 75th Anniversary Greetings

We welcome letters to the editor. Letters may be edited for length and clarity. Please send your thoughts, ideas, and inquiries to [publications@lincolnst.edu](mailto:publications@lincolnst.edu).



I am delighted to know that this year marks the 75th year of the history of the Lincoln Institute of Land Policy. It is a time for us to celebrate its great achievements and contributions to the world, in particular in the area of land policy education.

As the director of the International Center for Land Policy Studies and Training (ICLPST), it is also a time for me to fondly reflect on the close collaboration between the Lincoln Institute and the ICLPST. . . . Being a partner of the Lincoln Institute's global efforts to improve quality of life, I feel both proud of its wonderful work and grateful for its generosity.

Your untiring support has helped us become a successful organization that benefits participants from around the world, bettering their countries and advancing their careers. On this auspicious moment, I would like to offer, together with my colleagues at the ICLPST, my congratulations on the Lincoln Institute's 75th anniversary. I anticipate earnestly that our collaboration will keep going strong and yielding abundantly in the future.

— **Dr. Jack Kuei-son Sheu**, Director,  
ICLPST, Taiwan

I've been participating in Lincoln Institute events since 2001 in cities like Cartagena, Quito, and others. The last one I attended was in 2020 in Madrid during the start of the pandemic—luckily, we weren't affected by COVID, but [we were] definitely affected positively by the knowledge we shared on land policies and our Latin American experiences between Ibero American countries. I am deeply grateful for that opportunity.

— **Carlos Alvarado**, Panama

So many favorite memories . . . . One unique one was the Ukrainian Parliament Study Tour on Private Land and Real Estate Markets in Boston, New York, and Washington, DC, where the Lincoln Institute brought the entire Ukrainian Parliament to learn about opportunities after their independence from the Soviet Union. Thank you to the leadership of the Lincoln Institute for creating this incredible program for an emerging democracy! Cheers to 75 years!

— **Mary-Helen Black**, Director, Alumni Clubs  
and Associations, Harvard Business School,  
Cambridge, Massachusetts

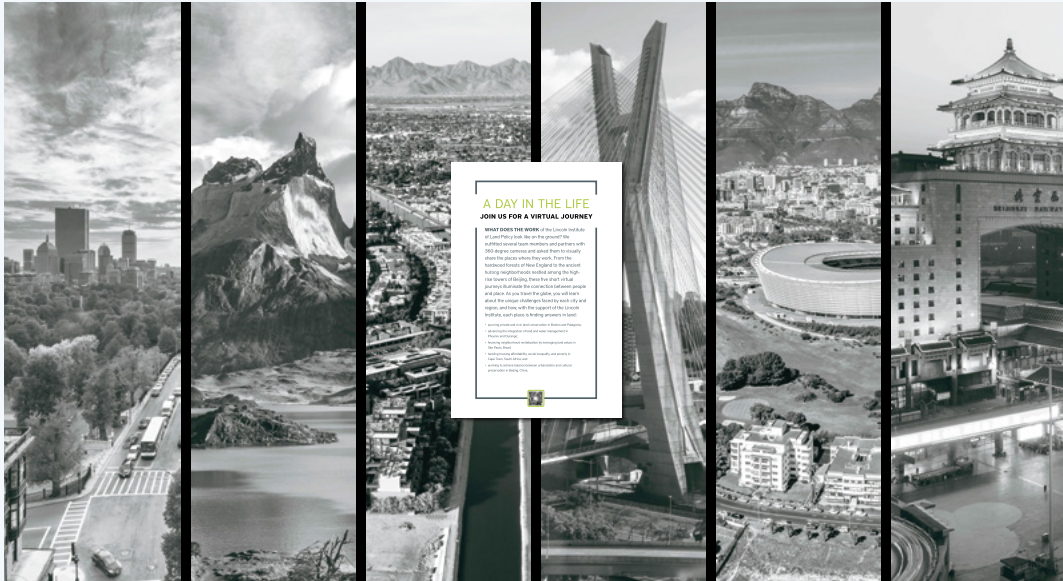
I am grateful for our partnership with the Lincoln Institute of Land Policy's Babbitt Center for Land and Water Policy. Together we offer our Growing Water Smart program to promote water conservation and efficiency in the West. I recall fondly the many workshops we have put on together across Colorado and Arizona. Here's a toast to many more years of reducing water demand and promoting holistic thinking around water and land use policy!

— **Waverly Klaw**, AICP, Director, Resilient  
Communities and Watersheds,  
Sonoran Institute, Denver, Colorado

I send my congratulations on the 75th anniversary of the Lincoln Institute. I am very grateful to you for making available such good information and access to publications. They have been very useful in my academic and consulting activities.

— **Marcelo Elucindo Ramírez Suárez**,  
Universidad de La Frontera, Temuco, Chile





To mark its 75th anniversary, the Lincoln Institute asked several staff members and partner organizations to create 360-degree virtual videos of the places where they work, including (from left) Boston, Patagonia, Phoenix, São Paulo, Cape Town, and Beijing. For details on the anniversary and related events, see [www.lincolnst.edu/75](http://www.lincolnst.edu/75). Credit: Pron Design.

In 1997, I was undertaking my Ph.D. in England. I applied to be a speaker at a very fancy conference in Rome, Italy. During the selection process, I was called for an interview in London with a conference organizer. It was a rainy day. I missed the subway, and I got there late. I was looking terrible since I had forgotten my umbrella. The person who interviewed me told me that my name had been recommended by the conference organizers. Trying to be honest, I said to him that it was impossible. I did not know anyone in England but my supervisor or anyone who could be organizing the meeting. He said that he was sure, and . . . he selected me. When I arrived at the conference, I saw Martim Smolka, who I did know from Brazil and never thought that he was working for the Lincoln Institute. Since then—that is, for more than 20 years—I have had the privilege of developing research projects and teaching for the institute.

— **Claudia De Cesare**  
Porto Alegre, Brazil

I remember seeing Henry George as just a “job requirement” when I started working at the Lincoln Institute [as director of publications]. But 20 years and several jobs (and now retirement) later, I am still explaining his basic ideas to people every day, most recently for thinking about how to reduce the cumulative wealth gap between Black and white Americans.

— **Alice E. Ingerson, Ph.D.**  
Newton, Massachusetts

Congratulations to the Lincoln Institute for sharing knowledge, exchange, and collegiality in Latin America. Thank you for giving us the opportunity to belong to this international community that makes it possible to solve challenges and propose solutions and innovations for our cities, environment, and natural resources. The Lincoln Institute has left its mark on many professionals and countries, and remains at the cutting edge of land policy and territorial management issues. The seed fell into fertile soil and grew to unimaginable heights.

— **Rudy Piedra Mena**  
San José, Costa Rica



## The Best and Worst of Humanity

This essay is adapted from the foreword to the forthcoming Lincoln Institute book *Infrastructure Economics and Policy: International Perspectives*. To learn more about the book, see the “Infrastructure and Climate Change” excerpt in this issue or visit [www.lincolninst.edu/publications/books/infrastructure-economics-policy](http://www.lincolninst.edu/publications/books/infrastructure-economics-policy).

THE LINCOLN INSTITUTE is preparing to launch a book about infrastructure, which you'll find excerpted in this issue of *Land Lines*. It is one of the very few books about infrastructure published in the last decade. It could not come at a better time.

Today, we are on the cusp of historic investments in global infrastructure. The World Bank estimates that we will need more than US\$90 trillion in new infrastructure by 2030 to prepare cities for 2 billion new inhabitants, primarily in sprawling metropolises in low-income countries. This total investment exceeds the current annual gross domestic product of all the countries on the planet by around 20 percent. In order to formulate new sustainability strategies and policies for cities in regions where populations are growing rapidly—and in regions where city structures continue to evolve to adjust to innovations in technology and commerce—we need to understand the relationship between urbanization and infrastructure.

The world also faces new challenges associated with the climate crisis, the sharing economy, and the fallout from COVID-19. If we want to protect ourselves from the impacts of the climate crisis, the World Bank suggests we add another US\$1 trillion per year to the global investment noted above. If we are to live in a “new normal” shaped by global pandemics, infrastructure design and usage must be modified.

For most people in developed countries, infrastructure is largely invisible, noticed only due to its absence or failure. We are chagrined when the power goes out or the Internet goes down. More distressingly, infrastructure failures can be catastrophic, such as when the Ponte Morandi collapsed into the Polcevera River in Genoa, Italy, in 2018; or when leaking, centuries-old gas pipes destroyed two apartment buildings in East Harlem, New York, in 2014; or when the levees failed and floodwater inundated New Orleans after Hurricane Katrina in 2005.

These awful events made headlines because infrastructure is supposed to be safe and reliable—and for a large portion of the world's population, it usually is. But most people in developing countries live with inadequate roads, unreliable power supplies, and a lack of safe drinking water and basic sanitation. They have a diminished quality of life and reduced life expectancies as a result, and the growth of their local and national economies is constrained.

When it works, infrastructure represents humanity at its best. Designing, developing, and financing infrastructure requires formidable technical expertise. But to get the job done, we also need to exercise our best social and political skills and work together to provide durable public goods that solve seemingly intractable social, economic, and environmental challenges.



Colossal dams spanning treacherous canyons are a great example: they demand exceptional engineering acumen and provide decades of flood prevention, crop irrigation, drinking water, and electricity. Planning and financing infrastructure requires us to dispose of short-term thinking and make investments with benefits that will span generations.

Infrastructure also represents humanity at its worst. We are at our worst when we allow opaque decisions about infrastructure to disadvantage or harm those without the economic or political power to influence those decisions—when new thoroughfares are forced through thriving communities of color to reduce drive times for suburban commuters, for example, or when public officials and beltway bandits strike sweetheart deals behind closed doors. Process is as important as, and sometimes more important than, outcomes. Infrastructure planning must include all stakeholders and account for their needs, aspirations, and rights.

The stakes are high with infrastructure. We commit dizzying sums of money for decades to build and manage projects and systems of unimaginable scale and ambition. The very complexity of all aspects of infrastructure demands paramount integrity: conforming assiduously to engineering specifications, adhering to the rule of law, exercising fiscal discipline, and maintaining absolute transparency and accountability. Decisions to build infrastructure using public funds must be grounded in rigorous cost-benefit analysis. Although such methodologies are well developed in theory, in practice they can be abused with political pressure, intentional bias, or selective myopia. Moreover, public decision processes cannot



Demolition of the Ponte Morandi in Genoa, Italy, in 2019. One year earlier, a section of the bridge had collapsed. Credit: Gianluca Cichellero via iStock/Getty Images Plus.

always be trusted to produce optimal resource allocations. If we can understand the complexity of infrastructure within real-world constraints, we will make better spending decisions.

Despite the obvious need for infrastructure, developing countries struggle to pay for long-term investments. While these constraints are real, there are many ways to finance infrastructure, even in the most impoverished places. These methods include land value capture mechanisms, which have been used for millennia and which involve recovering the increased value of land associated with infrastructure improvements. For example, betterment levies were used by the Roman Empire to build roads, bridges, tunnels, and viaducts connecting a vast area from Portugal

The stakes are high with infrastructure. We commit dizzying sums of money for decades to build and manage projects and systems of unimaginable scale and ambition. The very complexity of all aspects of infrastructure demands paramount integrity.



Interstates 10 and 101 in Los Angeles. Credit: Art Wager via Getty Images.

to Constantinople. Land readjustment, in which parcels of land are pooled and improved with new infrastructure that is paid for through the sale of a small share of the land, has been used hundreds of times on multiple continents to build capital cities like Washington, DC, or rebuild towns and cities in countries ravaged by war.

How effectively infrastructure meets economic and social goals depends critically on the way it is managed and regulated. Both the public and private sectors are active in infrastructure development and service provision. The infrastructure industry has gone through a cycle of domination by the private sector followed by public takeover and public provision, then to privatization, and to the increasingly popular public-private partnerships. Who gets served by infrastructure, and how they are served, is determined by regulatory structures that protect the public interest and require absolute transparency and accountability of vendors and public officials.

We can learn a lot from international experiences related to the management and regulation of infrastructure. Some countries and regions develop and implement infrastructure plans and strategies to achieve specific social and economic

objectives. The European Union used infrastructure grants and loans to help integrate new members both politically and economically through two rounds of expansion. Chinese policy makers advanced high-speed rail development strategies that supported the formation of several major city clusters (or megalopolises) to drive the growth of the national economy. In contrast, Japan's rail policy relied mainly on the private sector to provide vital social services. The lessons from such experiences are important for countries that aspire to not only formulate effective infrastructure plans but also use infrastructure planning to achieve other important goals.

It is hard to exaggerate the importance of infrastructure for sustaining human habitation on this planet. Without it, to quote Thomas Hobbes, "there is no place for Industry; because the fruit thereof is uncertain; and consequently no Culture of the Earth; no Navigation, nor use of the commodities that may be imported by Sea; no commodious Building; no Instruments of moving, and removing such things as require much force . . . And the life of man, solitary, poore, nasty, brutish, and short."

At the Lincoln Institute, we have spent more than seven decades addressing social, economic, and environmental challenges using innovative land policies. Among those we have studied and recommended to address global challenges, none is more important than infrastructure. Without the lifeline goods and services delivered by effective and efficient infrastructure, human life would be nastier, more brutish, and shorter. If we can learn from the authors of this book, life will be better and longer for a multitude of people around the world. □

At the Lincoln Institute, we have spent more than seven decades addressing social, economic, and environmental challenges using innovative land policies. Among those we have studied and recommended to address global challenges, none is more important than infrastructure.



## Managing the Curb



Curb management has become a rising priority in cities including Las Vegas, where Cox Communications is piloting curbside kiosks that monitor dwell times in loading zones. Credit: Courtesy of Cox Communications.

**AMONG ITS MANY** consequences, the pandemic ushered in a period of experimental, rapid-fire adjustments to public space. Cities were suddenly tweaking zoning rules to allow more outdoor dining; blocking off streets to give pedestrians and bicyclists more space; and figuring out how to respond to dramatic upticks in food and retail pickup and delivery. It has been a pivotal stretch, in short, for managing the curb.

Even before the lockdowns began, the increasing popularity of transportation network companies—from ridesharing services like Uber and Lyft to scooter firms like Bird and Lime—had made curb management a rising priority for many cities. “In today’s urban fabric, few spaces are more contested than the curb,” the American Planning Association declared back in the before-times of 2019.

But the welter of recent experiments, some involving deployment of new technologies, seems even more significant. Consider the case of Aspen, Colorado. Aspen is an unusual municipality, with a downtown business district that is geographically modest, at just 16 square blocks. Nevertheless, it’s extremely busy: the retail and restaurant businesses there rack up a collective \$1 billion a year. The inevitable upshot is that demand for curb space—for parking, for deliveries—can outpace supply. And that makes Aspen a useful curb-management lab.

In February 2020, Aspen joined a group of municipalities exploring pilot programs with a start-up called Coord, one of a number of “smart city” tech companies with a curb-management bent. “I’m a data freak,” explains Mitch Osur, Aspen’s director of parking and downtown

services. He figured that at the very least, Coord's platform—which integrates “smart zones” with a payment app used by delivery drivers (and a separate app for enforcement officers)—could give him fresh insight into how the downtown streets are really being used.

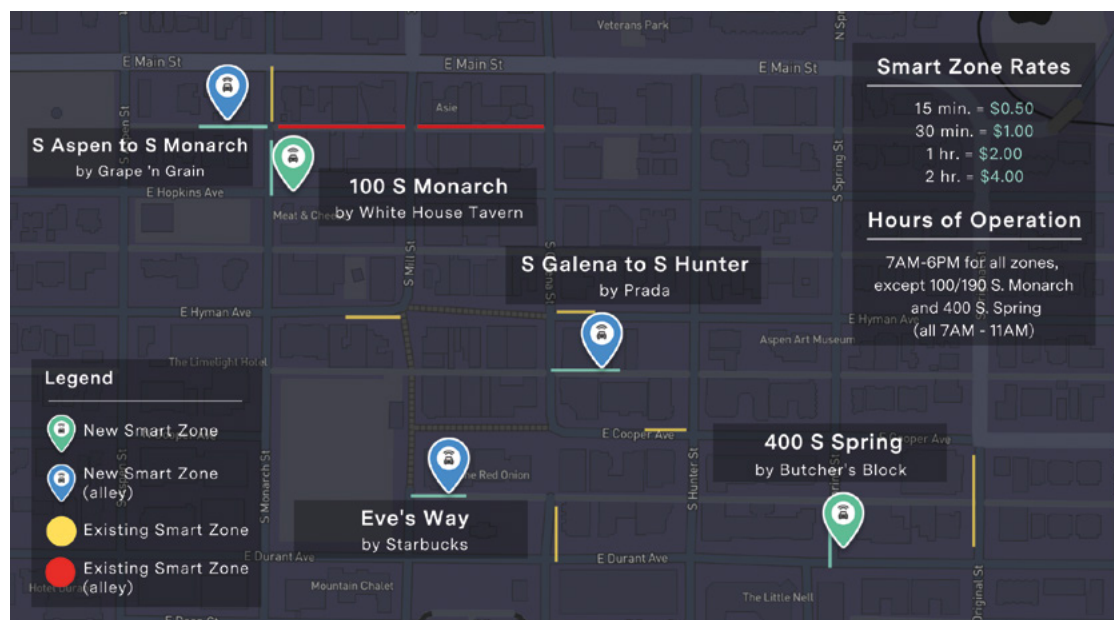
The city identified what it believed were its busiest loading zones. Starting in November 2020, using these zones required booking space through Coord's app, at a cost of \$2 an hour. While regular street parking in downtown Aspen can cost \$6 an hour, the city (like many others) had never previously charged for loading, but figured it was necessary to get delivery fleets' attention. In the end there wasn't much push-back; most drivers appreciated being able to capture a time slot. When one shipping fleet manager questioned the scheme, Osur explained that the shipper could use other loading zones, but the data Aspen was collecting would affect policy decisions about curbs across the downtown area. “If you're not part of the program, your data won't count,” he added. Moreover, he was sharing data with participants and soliciting their input. The shipper signed on.

Because the Coord platform tracks actual usage of the smart loading zones, Osur did indeed get plenty of fresh data. Some was expected, some surprising. He figured average “dwell times” were about 30 minutes, and found they were averaging 39 minutes and 13 seconds.

The dwell times were longer in the morning and shrank to about 15 minutes after 2 p.m. He was surprised to learn that the busiest days weren't Monday and Friday, as expected, but Tuesday and Thursday; Wednesday's loading zone use was half that of peak days. Based on these insights, Aspen is planning to change the rules for some zones, converting them to regular parking at 11 a.m. on some days rather than 6 p.m. (Osur has seen other changes as a result of adopting Coord; drivers have stopped snagging space early and eating lunch in loading zones, a previously routine practice.)

Coord has run similar pilots in Omaha, Nashville, and other cities. But it is just one entity involved in curb-management experiments. Cox Communications, through its Cox2M “internet of things” division, is testing curbside kiosks that can essentially monitor dwell times in loading zones and present a countdown clock warning drivers not to overstay their time on the curb; the technology can alert city enforcement when drivers linger. Las Vegas is running a pilot program with the technology, which can also be used to manage commercial deliveries, a Cox official told *Government Technology*. Columbus, Ohio, and Washington, DC, have run pilots with another app, curbFlow, designed to coordinate deliveries from multiple services along particularly busy curb stretches.

Aspen, Colorado, is one of several communities testing Coord, a platform that makes it easier to identify, use, and enforce loading zones. Credit: Courtesy of Coord.





Technology such as video kiosks and app-based location trackers adds both new options and new complexity to the business of managing curbs. Traditionally, defining curb use has involved signage and paint, which are hard to tweak quickly, notes Anne Goodchild, professor of civil and environmental engineering at the University of Washington, whose Urban Freight Lab has focused on public-private efforts to address evolving delivery logistics and planning. Perhaps because of the pandemic, cities have been more willing to try new options. Before the pandemic, a curb change would have entailed lengthy public processes. The crisis showed that a more nimble alternative was possible. “We did some things differently,” Goodchild says. “For example, we changed curb allocations literally overnight.”

The pandemic pushed a fast-forward button on both new patterns of street usage and policy responses to those patterns, says Heather Hannon, associate director of planning practice and scenario planning at the Lincoln Institute. During the pandemic, the organization’s Big City Planning Directors Institute shifted from a twice-yearly gathering to a monthly one (held virtually, of course). The pandemic, she points out, “was a reason to try new things.”

Hannon has observed a spike in interest in scenario planning for potential futures among U.S. communities since the pandemic began. She also points out that curb management isn’t merely an issue for downtowns or commercial districts, noting that it tilts into residential neighborhoods as well. The demand for home delivery has soared: food-delivery apps doubled their revenues in a six-month period during 2020 compared to the same period in 2019, and e-commerce in the United States grew 44 percent in 2020 compared to the previous year. These trends will only be complicated by the experiments with robots and drones that policy makers increasingly have to accommodate.

Aspen, meanwhile, has expanded its pilot program, adding new loading zones to the experiment as the number of participating



Designations like this one in Raleigh, North Carolina, popped up across the country during the early months of the pandemic as food and retail companies had to shift their operations. Credit: City of Raleigh via Flickr CC BY-NC 2.0.

While it is just one experiment in a small city, it overlaps with a singular moment in the way citizens and businesses use technology to interact with planned spaces, opening a window onto how planners and policy makers might think about the future of the curb.

drivers keeps growing. While it is just one experiment in a small city, it overlaps with a singular moment in the way citizens and businesses use technology to interact with planned spaces, opening a window onto how planners and policy makers might think about the future of the curb.

“This is totally scalable,” Osur says, referring not to any specific app or technology but to the general idea of cities using new tools to more actively manage the curb. “This is the future.” □

---

**Rob Walker** is a journalist covering design, technology, and other subjects. He is the author of *The Art of Noticing*. His newsletter is at [robwalker.substack.com](http://robwalker.substack.com).



Credit: Courtesy of City of Cleveland.

Cleveland native Frank G. Jackson, the city's longest-serving mayor, has been an advocate for building equity and opportunity in this postindustrial city since taking office in 2006. Mayor Jackson is a lifelong resident of the Central neighborhood, where he began his career in elected office as a City Council member. He later served as City Council president.

A graduate of Cleveland public schools, Cuyahoga Community College, and Cleveland State University—from which he earned bachelor's, master's, and law degrees—Jackson began his public service career as an assistant city prosecutor in the Cleveland Municipal Court Clerk's Office.

During his tenure as mayor, Jackson has focused on helping residents and businesses benefit from investments occurring in the city and on advancing the Downtown Lakefront Development Plan. He also spearheaded Sustainable Cleveland 2019, a 10-year initiative designed to build a stronger regional economy, encourage sustainable business practices, and improve air and water quality in this former manufacturing hub.

## Reflecting on Equity and Regeneration in Cleveland

Mayor Jackson recently spoke with Senior Fellow Anthony Flint for a series of conversations with mayors of cities that are especially significant to the history of the Lincoln Institute. The series is part of the organization's 75th anniversary celebration. An edited transcript follows; the full interview is available as a *Land Matters* podcast at [www.lincolninst.edu/publications/podcasts-videos](http://www.lincolninst.edu/publications/podcasts-videos).

**ANTHONY FLINT:** *When our founder, inventor and entrepreneur John C. Lincoln, got his start in the late 1800s, Cleveland was a booming place, arguably right up there with New York and Chicago, an incredible mix of innovation and jobs and homes and neighborhoods. Could you reflect on how that legacy has been on your mind as you've governed Cleveland over the last 15 years?*

**FRANK JACKSON:** Well, it's always good to know history so you can put yourself in the right frame of mind and have perspective. Cleveland was a booming place, with the Rockefellers and the [economic successes] of the Industrial Revolution . . . We were ideally located in terms of our ability to be a hub for the distribution of goods and materials throughout the Midwest. So we reflect back on those heydays, fully recognizing that what brought us to that moment is no longer here . . . and that there needs to be a relooking at where Cleveland is now and what could position Cleveland to be in a similar situation as a hub for economic opportunity and prosperity and quality of life.

**AF:** *At the statue in Public Square, former Mayor Tom Johnson is shown seated with his hand on a copy of Progress and Poverty by Henry George. Cleveland is where John Lincoln first heard George speak. Why do you think Cleveland was so receptive to the ideas of George, who believed the value of land should belong to everyone?*

**FJ:** I couldn't tell you for sure, but as you know, the body takes its direction from its head . . . and I think Tom L. Johnson was a mayor with progressive thoughts and with the fortitude to execute and implement [ideas]. So he wasn't just a conversationalist, he actually did things. This transition that Cleveland was in then—fast-forward, and we're in the same transitional kind of period now. The Industrial Revolution produced a certain level of prosperity and wealth, but also produced a certain social condition . . . that I believe that progressive era was attempting to change to create more equitable outcomes.

I admit I didn't really study Mr. George's philosophy. But what I do understand is this progressive notion of land use, and how land should not be controlled by a few entities that determine what happens. There should be broader input into what happens on that land.

**AF:** *As the city has steadily emerged from a period of decline and population loss during the second half of the 20th century, what have been the critical elements of its regeneration? What catalysts are you most hopeful about?*

**FJ:** Well, it's how you position yourself, how does Cleveland position itself for the future. . . . I look at it as, how do we have a sustainable economy? How do we deliver goods and services and how do we get into sustainable industries [like electric vehicles] . . . All of this includes technology, all of it includes education, all of it includes research and development. All these things are inclusive of each other. So there's not one thing we can pick and say we're going to do.

I think we need to go back to what Mr. George was talking about and what Tom L. Johnson was trying to do, which is to say that [progress] is only sustainable if we have equity, and if we eliminate the disparities and inequities in the way our social, political, and economic systems function. And as you know, particularly around the social unrest these days, if we fail to address issues of classism and racism, then all our efforts will be doomed.

Once an industrial powerhouse, Cleveland experienced decades of economic decline during the 20th century. Credit: benkrut via iStock/Getty Images Plus.





**AF:** *Race and economic development are very much on every mayor's mind these days, especially now that the pandemic has revealed so much entrenched inequity. What are some of the most effective ways Cleveland has addressed historic segregation and racial disparities?*

**FJ:** Before I answer that, let me just say that whatever we have done is not sufficient, because all of these things are institutionalized. . . . We've gone to the point of declaring violence and poverty as public health issues. We've gone to the point of establishing a new division in the Department of Health around social justice. We're trying to institutionalize some things.

We have also attempted to work with our private sector partners to address inequities, disparity, and racism within their organizations, helping to have a better outcome in terms of contracting for goods and services with lending institutions. Even though redlining is illegal, the actual practice of how investments are made and moneys are lent and developments occur is basically redlining. So we try to work with [private sector partners] to help them . . . take a risk where they normally would not take a risk.

Even though redlining is illegal, the actual practice of how investments are made and moneys are lent and developments occur is basically redlining. So we try to work with [private sector partners] to help them . . . take a risk where they normally would not take a risk.

That can only happen if you allow for wealth to occur among those who have traditionally been denied wealth. If you have leadership and career opportunities for those who had traditionally been denied those opportunities. So those are the kinds of things that we work on.

The real thing is what is the *culture* of Cleveland. How does Cleveland function, and what is its attitude toward these things. And that's a behavioral thing that bureaucracy cannot really regulate.

**AF:** *Can you tell us about recent zoning reform measures aimed at reducing barriers to housing production and other local economic activity?*

Cleveland residents at a neighborhood street fair. The population of the city is 381,000 today, compared to a high of nearly 915,000 in 1950. Credit: Mark Kanning/Alamy Stock Photo.



*How important are these rules and regulations to regeneration, and how has Cleveland made innovative use of vacant and abandoned land?*

**FJ:** As you know, land use is key. . . . We're moving toward having zoning more aligned with people and multiple mobility, the kind of approach where there's bikes, cars, scooters, walking, jogging. In that context, trying to create that type of city, it's very important to have zoning that will accommodate that and will accommodate it in a way that [minimizes conflict].

When I first came into government, there was no new housing development in Cleveland. . . . As a result of the negative impacts of federal and state policy around redlining and urban renewal and then the social impact of riots, [we had] acres and acres of vacant land in the central city, predominantly in African American communities. . . . Mayor [Michael White, who led the city from 1990 to 2001] was really a genius in this regard. He worked with the financial institutions and developers to create a network of neighborhood nonprofits whose primary purpose was to redevelop land for housing and to redevelop land at all price ranges, that would make it affordable. I'm familiar with it because I was councilman of Central, where I still live, which probably had the most negative impacts.

We continue this effort today with Recovery Act money; we're getting \$511 million and we're working with the private sector to develop tools. We're not talking about a project or initiative, we're developing tools. What we're working on now to really connect all these dots . . . a lot of that has to do with land and with the availability of land, whether it's lakefront or empty office space downtown or warehouses, old industrial sites that need environmental cleanup. It's not just housing, but also, how do we create entrepreneurship, commercial strips, retail strips that still have the bones—how do we bring them back and have ownership of goods and services being provided to the community by the people in that community or by someone who looks like the people of that community?

**AF:** *Well, if there's one thing that Cleveland has, it's good bones, right?*

**FJ:** That's exactly right. One of the things that culturally came out of that period that you talked about, the heyday of Cleveland, was Severance Hall [home of the Cleveland Orchestra], the museums, the whole University Circle area. . . . Now we're trying to use old industrial sites and lakefront or riverfront property in a new way since it's no longer used for commerce . . . [but] a freeway, railroad tracks, those kinds of things [are] almost impossible to remove, but they're barriers. So how do you overcome those barriers? One of the things we're looking at is a land bridge that would allow for green space and access to the riverfront, the lakefront, and to always have public access and not have private ownership of the waterfront.

*I've maintained that whatever we do, it will never be sustainable if we don't address the underlying issues that are really the issues of America: institutionalized inequity, disparities, racism, and classism, which has a lot to do with land.*

**AF:** *Sounds like there's a lot of reimagining going on.*

**FJ:** That's the advantage to where Cleveland is now. To have a blank canvas, so to speak, gives us that opportunity. Now the question is whether or not we mess it up. . . . I've maintained that whatever we do, it will never be sustainable if we don't address the underlying issues that are really the issues of America: institutionalized inequity, disparities, racism, and classism, which has a lot to do with land. □

---

**Anthony Flint** is a senior fellow at the Lincoln Institute, host of the *Land Matters* podcast, and a contributing editor to *Land Lines*.



**Four Governance Challenges  
in a Time of Disruption**

**INFRASTRUCTURE  
&  
CLIMATE  
CHANGE**



The following is an excerpt from a chapter in the forthcoming Lincoln Institute book *Infrastructure Economics and Policy: International Perspectives*, which includes contributions from leading international academics and practitioners addressing the latest approaches to infrastructure policy, implementation, and finance. Edited by José Gómez-Ibáñez of Harvard University and Zhi Liu of the Peking University–Lincoln Institute Center for Urban Development and Land Policy, the book is available for preorder at [www.lincolnst.edu/publications/books/infrastructure-economics-policy](http://www.lincolnst.edu/publications/books/infrastructure-economics-policy).

By Henry Lee

**AS THE WORLD FOCUSES** on the COVID-19 pandemic, the disruptive reality of global climate change looms on the horizon. Its implications for public infrastructure could be immense. Forest fires in Australia, Siberia, and California, record cold in Texas, droughts in southern India and South Africa, intense hurricanes and floods in the United States and the Philippines, and the melting of the Arctic ice sheet are all harbingers of what a changing climate has in store.

As pointed out by Martin Weitzman and Gernot Wagner in their book *Climate Shock*, “Climate change is unlike . . . any other public policy problem. It’s almost uniquely *global*, uniquely *long-term*, uniquely *irreversible*, and uniquely *uncertain*—certainly unique in the combination of all four” (2015).

The impact of climate change on infrastructure services will be integral to the world’s economy. How we power our factories, buildings, and homes; allocate and treat our water; and transport people and goods may look very different 30 years from now. Uncertainty surrounds both the impacts of and responses to climate change, but the direction is clear. The effects will be more disruptive in 2050 than today. More floods, droughts, fires, and heat waves will occur. While countries may struggle

to transition their economies, escalating climate impacts may force them to accelerate their efforts.

The biggest challenges to meeting national and local climate goals through infrastructure investments will not be in the realms of engineering or technology, but rather in the areas of governance and public policy. Key institutional issues include the broad governance issues that prevent governments at all levels from working together effectively; infrastructure siting; stranded economic and social assets; and the need for greater public investment in preventing damages as opposed to investing only in relief and recovery.

**The impact of climate change on infrastructure services will be integral to the world’s economy. How we power our factories, buildings, and homes; allocate and treat our water; and transport people and goods may look very different 30 years from now. Uncertainty surrounds both the impacts of and responses to climate change, but the direction is clear.**

Seyhan River, Turkey. Credit: tunart via Getty Images.

## Structural Inefficiency

Governments consist of multiple agencies, each with a defined portfolio of responsibilities. The water resources department provides water to consumers. Another department might provide sewerage services, while still another addresses water pollution. In many jurisdictions, irrigation is within the purview of the agriculture department, while the public health agency sets quality standards for drinking water. In many countries there are agencies that develop plans for coastal areas, while another agency has a similar responsibility for rivers and lakes. If the country requires desalination technologies to meet the demand for potable water, it must work with the agencies responsible for electricity, since such facilities consume substantial amounts of power. When these agencies want to make investments in new infrastructure, they must seek permits from a variety of other agencies. Finally, yet another group provides support services such as budget oversight, procurement, and human resources. This description is simply the governance structure for water infrastructure. The same complex map of complementary responsibilities exists for transport or energy.

In most cases, these water departments were established at different times to meet different public policy problems. Establishing a new department, as opposed to expanding an existing one, allowed public officials to demonstrate responsiveness to the public concern of the moment. In some countries, the existence of multiple agencies gives elected officials the ability to make more appointments, which is a key currency for elected officials. The result, however, is a balkanized system that does not effectively

**Interagency coordination and cooperation will be growing concerns for presidents, prime ministers, governors, and mayors as they address the underlying interconnections inherent in climate policy.**



The governance structure for issues related to water, energy, and transportation is typically complex and can be inefficient. Credit: Paul Sableman via Flickr CC BY 2.0.

manage problems that cross departmental responsibilities. Interagency coordination and cooperation will be growing concerns for presidents, prime ministers, governors, and mayors as they address the underlying interconnections inherent in climate policy.

Horizontal coordination challenges are replicated at the vertical level. What responsibilities should lie with national or central governments, and which should be given to mayors? Highways, transmission lines, pipelines, and possibly water lines are important to realizing national goals and priorities; however, their construction and management often require substantial cooperation between national and subnational governments. Permitting electric generating facilities is essential to meeting national targets for adequate power, yet this responsibility is usually allocated to subregional governments.

Climate change does not recognize jurisdictional boundaries. Most countries contain states or provinces, each with its own government, its own bureaucracies, and, in many cases, its own priorities. Many of these states or provinces contain metropolitan areas, each consisting of a large city surrounded by smaller cities and towns whose economies are closely linked, but whose governments are independent of each other. The challenge of managing climate change becomes very difficult when these jurisdictions do not share common goals and when their ability to cooperate is derailed by financial and political rivalries. The ability to develop new

and innovative intergovernmental structures will determine whether subregional governments can ensure the continuing operation of infrastructure services in a climate-constrained world.

Climate is the ultimate interagency issue, and it will impact a vast majority of the existing governance structures. To meet this challenge, governments will have to organize themselves so that responsibilities for responding to the threat and damages from climate disruptions are better assigned. Which climate-related activities are best handled by local governments, and which should be tackled by higher levels of governance? To what extent should the national government be able to overrule subnational governments when an infrastructure decision or climate investment falls within the jurisdiction of the subnational government but is deemed to be of national importance?

How can governments design and implement greater interagency coordination, both horizontally among agencies at the same level of government and vertically across those at different levels? To meet this need, some governments have established major decision-making bodies at their highest levels. For example, China has a State Council, and the United States has expanded the roles of the Domestic Policy

Council and the National Security Council. However, only issues of highest priority reach these bodies. Climate change will require thousands of decisions made by thousands of officials at all levels.

Finally, subnational governments have access to only certain revenues, while national governments almost always have access to a larger portfolio of revenue sources. Climate change will dramatically increase the fiscal burden on local, state, and provincial governments. It may do so in scenarios in which local fiscal revenues are decreasing, as investors move their money to regions less vulnerable to climate disruption.

Which climate-related activities are best handled by local governments, and which should be tackled by higher levels of governance? To what extent should the national government be able to overrule subnational governments when an infrastructure decision or climate investment falls within the jurisdiction of the subnational government but is deemed to be of national importance?



The construction and management of major infrastructure projects like highways, such as this interchange in Albuquerque, New Mexico, requires cooperation between federal and state governments. Credit: Mlenny via iStock/Getty Images Plus.



As discussed earlier, subnational jurisdictions will face substantial infrastructure costs. They will look to national governments for financial assistance, but what will be the political and structural cost demanded in exchange for those funds? For example, if the federal government provides substantial assistance, should it take on greater responsibility for the provision of local services? Will local governments voluntarily allow national governments to micromanage services that heretofore were their exclusive responsibility? Or will national governments provide substantial incremental assistance with no strings attached? Will national governments be willing to experiment with creative pilots that encourage effective coordination at the subregional level? How the institutions of governance are structured and operate will have a major impact on the provision of more resilient infrastructure services.

## Infrastructure Siting

In the first half of the 20th century, western countries embarked on ambitious infrastructure programs. Intercity highways were constructed. Impressive boulevards and parkways were built as dilapidated neighborhoods were demolished to be replaced by modern downtown areas. Many countries initiated efforts to develop power-generation complexes and transmission grids to move electricity. Airports and seaports were built, and global trade was expanded. While these achievements were impressive, they often happened without much consultation with the people affected by these investments. Environmental considerations were ignored. Too often, the infrastructure seemed to be built because it could be built. Bigger and more modern projects crowded out smaller and more appropriately scaled facilities. Alternative options were not considered.

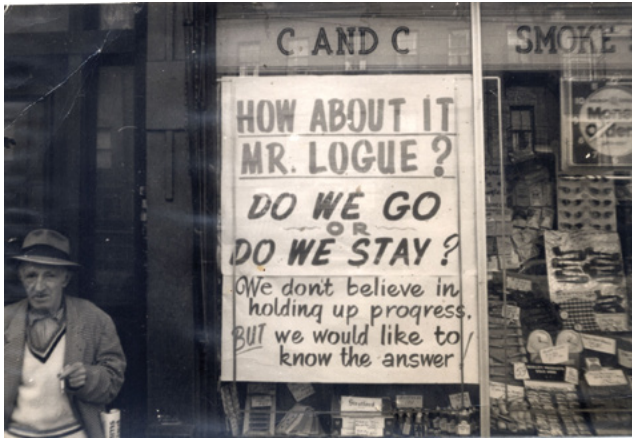
The backlash that ensued resulted in the establishment of rigorous siting procedures to ensure that critical externalities and social concerns would no longer be ignored. Stakehold-

Too often, the infrastructure seemed to be built because it could be built. Bigger and more modern projects crowded out smaller and more appropriately scaled facilities. Alternative options were not considered.

ers with a wide spectrum of interests were given multiple opportunities to raise their concerns. Often developers not only had to demonstrate a regional need for a project, but also had to show that it met the specific needs of each jurisdiction affected by the proposed project. A power line moving electricity from point A to point B that crossed region C had to demonstrate a benefit to the populations of all three jurisdictions.

In many instances, this process became very expensive and time-consuming. Developers (and their lenders) became reluctant to invest the time and money needed to guide a project through the labyrinthine permitting process, obtain support from multiple stakeholders, and survive legal challenges. While siting may be more difficult in democracies, even authoritarian governments such as China have encountered strong public opposition to certain infrastructure projects, forcing them to forgo or amend those investments.

It would be hard to argue against stakeholder involvement or the merits of greater sensitivity to the environmental and social consequences of large infrastructure projects. No one is suggesting that governments return to the first half of the 20th century, when officials imposed large public works projects on an uninformed, and sometimes skeptical, public. However, the infrastructure requirements to transition to a decarbonized economy will be huge. In 2019, global electricity generation consisted of 9,824.1 terawatt-hours (TWh) of coal, 825.3 TWh of oil, and 6,297.9 TWh of natural gas (BP Statistical Review of World Energy 2020). In a decarbonized world, a significant proportion of this fossil fuel capacity will be replaced by renewables that have approximately half the capacity of an equally sized fossil fuel facility, which means



The forces behind major infrastructure projects have often overlooked the concerns of those most affected by them, as evidenced by protests against urban renewal in mid-20th-century Boston (left) and against the recently constructed Dakota Access Pipeline (right). Credits (l–r): Boston City Archives via Flickr CC BY 2.0, Victoria Pickering via Flickr CC BY-NC-ND 2.0.

nations will need to build many more generating stations than they have today. Further, renewable systems will require substantially more land and significantly expanded transmission and distribution systems.

In the United States alone, an analysis by Wu (2020) found that achieving net-zero greenhouse gas emissions by 2050 would require about the land area of New Mexico for new onshore wind capacity and about the land area of Vermont for new solar photovoltaic capacity. The probability that these investments can be successful under today's siting regimes is, unfortunately, low. The consequences of not making these investments will be to fail to transition public infrastructure to meet national climate goals and to suffer ever greater climate disruption.

Transitioning water and sewerage infrastructure (to manage ever more droughts and floods) and transportation infrastructure (to meet the realities of climate disruption) may require less investment in the siting process than energy infrastructure. However, over the next 30 years, significant infrastructure siting will be needed across all three of these sectors. Identifying this problem is easier than solving it. Many reform policies and programs have been suggested, but most have failed to improve the siting process. Any meaningful reforms must have several characteristics.

First, reforms will require a renewed trust in the public sector. The magnitude and scope

of infrastructure investments required will not happen without significant government involvement. Second, the number of government agencies involved in permitting and siting will need to be compressed, which means that existing siting laws will have to be amended. A comprehensive one-stop siting shop may be too difficult to achieve, but narrowing down the fifteen to twenty involved agencies to four to five could significantly expedite the process for new infrastructure.

The biggest and most important step will be to establish siting institutions across different levels of government while incentivizing officials from the national and subregional governments to conduct joint assessments with a prior agreement that both will abide by the joint decision. For example, in the United States, offshore wind projects require permits from the federal, state, and, in some situations, local governments. Under the present system, opponents can strive to sequence the three siting processes until the developer runs out of money and leaves. Identifying processes to encourage the three levels of government to review siting in a collaborative process could significantly reduce the cost and timeline.

Third, the entire siting process for a project must be concluded in a reasonable time frame. Drawing the process out for years is a luxury that societies could afford in a non-climate-constrained world, but it will not be feasible if

countries desire to effectively respond to the looming climate threat. Stakeholders need to be listened to, and environmental concerns need to be assessed; at some point, however, infrastructure decisions must be made, and appeals to the courts limited. One idea is to establish a compressed review process for only a subset of projects that meet certain criteria, such as zero greenhouse gas emissions. The challenge will be reaching agreement on the appropriate criteria.

Fourth, societies must accept that this process will produce a few bad projects and a few projects in which new facts and problems will emerge after decisions have been made. The present system minimizes the number of such projects. The siting process described above could increase that number, but the trade-off may be necessary for countries to benefit from being better prepared to manage emerging climate disruptions.

Block Island Wind Farm, the first commercial offshore wind farm in the United States, began operating in 2016. Credit: Chris Bentley via Flickr BY-NC-ND 2.0.



## Stranded Assets

Investments to decarbonize the energy sector and adapt to climate change will result in human dislocations (for example, climate refugees, workers who lose their jobs, and communities that lose their sources of employment) and economic dislocations (for example, unamortized physical assets). These problems may be less urgent in the cases of transportation and water infrastructure, since the existing assets are unlikely to be replaced by an entirely new system. Energy, however, will be a different case, as countries replace the existing fossil fuel system with one that relies heavily on renewables, storage, and possibly sequestration.

Past efforts to deregulate portions of the vertically integrated electric industry give us a sneak preview of the importance of managing the stranded asset problem. High-cost generating facilities were not competitive in the new deregulated market. The utilities that owned these assets would not accept the proposed deregulation policies unless regulators allowed them the opportunity to recover the cost of their previous investments, approved by past regulatory bodies.

If countries intend to decarbonize their electricity sectors, the magnitude and cost of the stranded assets will be much larger than those in recent history, as will the pressure on regulators to compensate the owners of fossil-fueled generating assets. This problem will be larger in countries such as China and India, where a significant portion of their coal-fired generation was built in the last 20 years and will not be fully amortized until 2040 to 2055.

The labor-force dislocation associated with climate mitigation and infrastructure adaptation may prove to be even more challenging to manage. Millions of men and women are employed in the fossil-fuel-intensive electricity sector, and their prospects for finding work in another industry may be limited because of age or geography. Some countries have no social security net for retired workers, who are instead simply retained on their company's payroll. If the



A worker from the U.K.–based energy company Petrofac on a gas and oil rig in the North Sea. Credit: Lee Ramsden/Alamy Stock Photo.



plant is closed, their pensions evaporate. There will be understandable political opposition to retiring these facilities without a funded plan to take care of these employees. Simply retraining them to install solar collectors or build transmission lines will not be politically sufficient or practically feasible at a meaningful scale. One creative approach is an effort championed by the Evergreen climate group, inspired by Washington State Governor Jay Inslee and established in 2020, which advocates a GI Bill of sorts to assist fossil fuel workers and communities through pensions, health care, and other training and financial support. While the governance solution to these stranded communities and workers may not be quite so drastic, equity considerations demand that they be addressed in any national climate-infrastructure policy.

## Invest in Disaster Relief or Prevention?

Historically, governments have placed significantly more emphasis on responding to disasters than on disaster preparation and resilience. In the United States, the Federal Emergency Management Agency (FEMA) spends billions on disaster relief and recovery while

spending negligible amounts on avoiding or minimizing those damages in the first place. Why do governments so rarely prioritize climate disaster prevention?

Some state and local governments, often in partnership with nonprofit organizations, purchase coastal barriers or create artificial wetlands or mangrove swamps; these investments are often driven by the cobenefits (in the form of habitat protection, biodiversity, or parklands) as opposed to climate adaptation. Governments in some earthquake-prone regions have inserted requirements for more resilient building practices into city zoning regulation, but those cities are frequently the ones that have repeatedly experienced severe earthquake damage, making the public more enthusiastic about investments in greater resilience. Research has shown some cases in which the government bought up land to reduce the costs of damages (both human and economic) from a future earthquake; these cases are the exceptions, not the rule.

Governments are concerned that tax revenues be spent on activities for which the benefits can be documented and the public can be assured that their tax dollars have not been misused. If FEMA were to spend millions buying private properties in areas vulnerable to significant flooding, but no floods occurred for

the next 15 years, the agency would be accused of having wasted taxpayer money. But if FEMA were to spend nothing on resilience and a flood were to occur a few years later, FEMA would be judged on its response to the victims of that flood and its willingness to help that community recover. Few would point out after a disaster that the recovery costs would have been far less if FEMA had bought out the most vulnerable of the buildings prior to the disaster. The incentives are clearly skewed toward investing in recovery rather than in preparation or resilience.

To put this dilemma in perspective, southern Australia has experienced forest and bushfires that were especially severe because of years of droughts and unusually hot weather. After the 2009 Black Saturday fires, the government of Victoria implemented a housing buyback program. Its offer received considerable publicity at the time, since here was an example of a government trying to get ahead of a future problem. However, it took a year to get the program passed because of bureaucratic delays, and few homeowners were interested in pursuing the government's offer thereafter (Herscher and Rizzo 2020). In 2019 and 2020, the same areas experienced even more severe bushfires. Interestingly, few criticized the government for its inability to implement the buyback program, and there has been no clamor from the public to develop a new program. Some experts suggest measures such as more stringent building codes, expanded voluntary buyback programs, and enhanced early warning systems; thus far, these policies have not been pursued (Henriques-Gomes 2020; Hill and Martinez-Diaz 2020).

Will this dilemma change? It is unlikely, without a significant push from the public. Admittedly, the financial costs of relief and recovery efforts are skyrocketing as disaster intensity increases. The Wharton Risk Management and Decision Processes team at the University of Pennsylvania found that postdisaster spending in response to 2017 events in the United States was more than \$130 billion—a record high (Lingle, Kousky, and Shabman 2018). Perhaps



The Federal Emergency Management Agency opened several disaster recovery centers in Harris County, Texas, after Hurricane Harvey hit in 2017. Credit: michelmond via iStock Editorial/Getty Images Plus.

as this number increases, pressure will increase for greater national governmental investment in climate preparation.

Most future investments in preparation and resilience will be made by property owners who will do their own cost-benefit analyses, realizing that government assistance in the best of circumstances will be inconsistent and difficult to predict. This outcome is not necessarily bad, but it ignores lower-income communities and households, many of which are located in the most vulnerable locations. It might be more effective to direct incremental government adaptation funds to these lower-income neighborhoods than to attempt to convince the major public and private relief organizations to fund large-scale infrastructure adaptation and resilience. Perhaps those agencies responsible for housing and urban development should lead the national government's efforts to promote preparation in concert with their sister institutions at the subnational level.

## Conclusions

The climate problem is real, and its impacts will be severe. These impacts will be neither homogeneous nor temporally or spatially predictable. In light of these uncertainties, many governments will hesitate to invest in low-carbon infrastructure without economic and financial assistance at scales that exceed normal political comfort.

What can be done to address these challenges? First, rational pricing for infrastructure services such as electricity and water will become substantially more important in a world dependent on renewable energy, electric vehicles, and water from distant aquifers or capital-intensive desalination facilities. Pricing that reflects the true social cost of these services is essential but by itself will not be enough. In addition, governments at all levels must develop interagency and intergovernmental institutions and processes to address adaptation and mitigation investments. These initiatives should be accompanied by a commitment to transfer funds to where they are needed. Traditional political rigidities must be superseded by a willingness to be creative and to take political risks based more on vision and less on historical stakeholder loyalties. Finally, this new sense of innovation must focus on governance reforms in areas such as siting, stranded assets, interagency coordination, and preventive investments. These reforms will occur only when key stakeholders become more aware of the looming risks of climate change and demand that their elected officials respond to these threats with considerably more urgency than shown to date. □

---

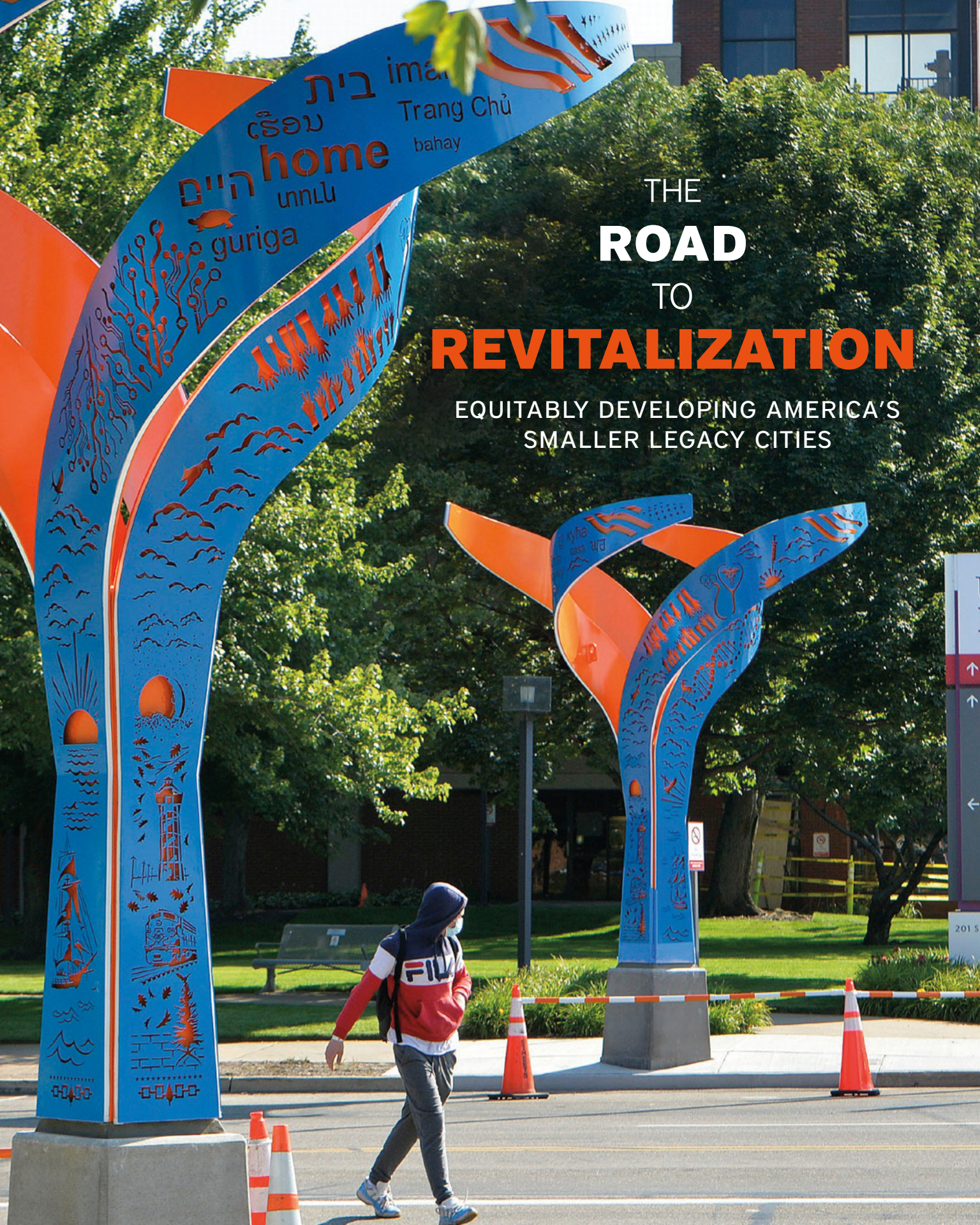
**Henry Lee** is the Jassim M. Jaidah Family Director of the Environment and Natural Resources Program within the Belfer Center for Science and International Affairs at the Kennedy School of Government, Harvard University. He also serves as faculty cochair of the Sustainability Science Program and a senior lecturer in Public Policy. He is the coeditor of a forthcoming book on the pathways to decarbonization in China, to be published by Cambridge University Press in late 2021.

---

## REFERENCES

- BP Statistical Review of World Energy. 2020. 69th ed., “Electricity—2019 in Review.” <https://www.bp.com/en/global/corporate/energy-economics/statistical-review-of-world-energy.html>.
- Henriques-Gomes, Luke. 2020. “Bushfire-destroyed Homes Should Not Be Rebuilt in Riskiest Areas, Experts Say.” *The Guardian*. January 18. <https://www.theguardian.com/australia-news/2020/jan/19/bushfire-destroyed-homes-should-not-be-rebuilt-in-riskiest-areas-experts-say>.
- Herscher, Rebecca, and Meredith Rizzo. 2020. “Sell or Stay? Australia’s Fire Zone Experiment.” NPR. February 25. <https://www.npr.org/2020/02/25/807084043/sell-or-stay-australia-s-fire-zone-experiment>.
- Hill, Alice, and Leonardo Martinez-Diaz. 2020. *Building a Resilient Tomorrow*. Oxford and New York: Oxford University Press.
- Lingle, Brett, Carolyn Kousky, and Leonard Shabman. 2018. “Federal Disaster Rebuilding Spending: A Look at the Numbers.” Wharton Risk Management and Decision Processes Center. <https://riskcenter.wharton.upenn.edu/lab-notes/federal-disaster-rebuilding-spending-look-numbers>.
- Weitzman, Martin L., and Gernot Wagner. 2015. *Climate Shock: The Economic Consequences of a Hotter Planet*. Princeton, NJ: Princeton University Press.
- Wu, Grace. 2020. “Spatial Planning of Low-Carbon Transitions.” Sustainable Development Solutions Network Deep Decarbonization Pathways Project for the United States. National Center for Ecological Analysis and Synthesis: The Nature Conservancy. <https://www.unsdsn.org/new-paper-and-webinar-spatial-planning-for-a-low-carbon-future>.





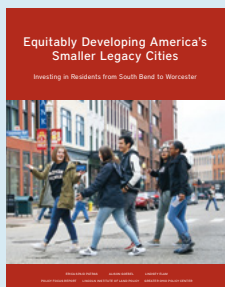
THE  
**ROAD**  
TO

# REVITALIZATION

EQUITABLY DEVELOPING AMERICA'S  
SMALLER LEGACY CITIES

↑  
↑  
←  
2015





The following is an excerpt from *Equitably Developing America's Smaller Legacy Cities: Investing in Residents from South Bend to Worcester*, a Policy Focus Report recently published by the Lincoln Institute. The full report is available at [www.lincolninst.edu/equitably-developing-legacy-cities](http://www.lincolninst.edu/equitably-developing-legacy-cities). The Lincoln Institute's Legacy Cities Initiative offers additional strategies and resources at [www.legacycities.org](http://www.legacycities.org).

By Erica Spaid Patras, Alison Goebel, and Lindsey Elam

IN 2020, LEADERS of smaller U.S. legacy cities confronted more than their usual challenges. The COVID-19 pandemic and the Black Lives Matter movement laid bare persistent racial and income segregation common in these postindustrial centers. A long history of discriminatory and failed policies contributes to these conditions. This report does not serve as a treatise on eradicating injustice from small legacy cities. Instead, the report focuses on the significant opportunity that these cities now have to combat inequity and increase economic competitiveness by embracing policies that support equitable development.

America's smaller legacy cities—such as Akron, Ohio; Erie, Pennsylvania; Kalamazoo, Michigan; and Worcester, Massachusetts—are well positioned to promote development that includes and benefits all residents while improving economic competitiveness.

This report shows local changemakers how to incorporate equity into the traditional suite of revitalization strategies by focusing on both physical development and investment in residents. The report makes a case for why local changemakers should care about equity and offers ways to shape development policies and

America's smaller legacy cities—such as Akron, Ohio; Erie, Pennsylvania; Kalamazoo, Michigan; and Worcester, Massachusetts—are well positioned to promote development that includes and benefits all residents while improving economic competitiveness.

actions to make them equitable. Most of these strategies are tailored to the unique conditions of smaller, weak-market legacy cities and can, for the most part, be implemented at the local level. Case studies further illustrate each of these strategies.

An earlier Policy Focus Report from the Lincoln Institute of Land Policy and Greater Ohio Policy Center, *Revitalizing America's Smaller Legacy Cities*, discusses smaller legacy cities and the economic and historical dynamics that shape them, including a detailed analysis of their demographics (Hollingsworth and Goebel 2017). The 2017 report provides a more detailed foundation for the equitable development strategies discussed here.

"Points of Reference," a new sculpture in Erie, Pennsylvania.  
Credit: Greg Wohlford/USA TODAY NETWORK.

Downtown placemaking efforts such as the 2nd Street Market in Dayton, Ohio, can support development in smaller legacy cities, but leaders have to work to ensure that development happens equitably. Credit: Rod Berry/Ohio Stock Photography.



## The Equitable Development Imperative: How Greater Equity Can Support Growth

Chris Benner and Manuel Pastor (2012, 2015) assert the economic imperative for addressing long-standing inequality by demonstrating that racial and income inequality are not just outcomes of a postindustrial world, but also drivers of current and future regional economic stagnation. Specifically, they found that “high inequality, measured in a variety of different ways, has a negative impact on growth and that these impacts are in fact stronger in regions with what many in the literature call ‘weak market’ central cities” (Pastor and Benner 2008).

While this “dragging effect” of inequality on financial strength is concerning, a growing and encouraging body of research offers a path forward, validating the economic advantages of improving equity (Pastor and Benner 2008). Research by the Federal Reserve Bank of Cleveland supports this, finding that “a skilled workforce, high levels of racial inclusion, and progress on income equality correlate strongly and positively with economic growth” (Benner and Pastor 2012; Eberts, Erickcek, and Kleinhenz 2006).

Persistent disparities can depress a city’s economy. Revitalization without a deliberate equity component does little to address underlying injustices. Alan Mallach’s 2014 analysis of traditional legacy city revitalization shows us how development designed for high-income residents in the downtown or central business district alone does not improve inequities citywide. Mallach found that traditional revitalization in some legacy cities failed to improve economic and quality-of-life indicators for the least advantaged residents: “Revitalization, at least at the scale and of the character that is being experienced in these cities, does not confer citywide benefits; if anything, it may even redirect jobs, resources, and wealth away from large parts of the city, concentrating them in a smaller area and leaving the rest worse off than before” (Mallach 2014).

Urban Institute researchers, in their analysis of how larger cities recovered from the Great Recession, concur with Mallach’s finding. They write, “Across all types of cities, local leaders are beginning to recognize that economic growth does not automatically lead to inclusion; rather, intentional strategies are needed” (Poethig et al. 2018). Federal Reserve researchers also weigh in on this, saying: “The pursuit of societal goals, such as racial inclusion and lower income dispersion, [is] very compatible with economic growth” (Eberts, Erickcek, and Kleinhenz 2006).



## WHAT ARE EQUITY AND EQUITABLE DEVELOPMENT?

This report uses the term “equity” broadly to refer to an overarching goal: to make opportunity accessible to all, regardless of background and circumstance, and to make a special effort to improve outcomes for low-income populations and communities of color to bring them into parity with other populations. Greater equity is possible when poverty and disparities in wealth, employment, and health shrink as incomes and access to employment increase. In equitable cities, decision makers value the perspectives of all residents and ensure that anyone who wants to participate in civic life can have a seat at the table.

“Equality” and “equity” are not synonymous. Many scholars of equity and inclusion have argued that equality means funding, access to support, and decision-making power are shared equally, and one solution applies to all (Blackwell 2016). But treating all issues equally does not correct underlying inequities; instead, it perpetuates them, because policies and practices impact individuals and communities differently. Committing to equity means tailoring solutions and supports to local needs and circumstances so that everyone thrives.

The process of equitable development must include diverse stakeholders who provide critical input and take leadership roles. Equitable development must also protect residents from being physically or culturally forced out of their homes while improving market strength and encouraging new market-rate development. Practitioners need to be patient and strategic, understanding that it takes time to realize the desired outcomes. In the meantime, changemakers can track progress with data and make course corrections as needed.

## Unique Challenges and Opportunities for Equitable Development in Smaller Legacy Cities

One major advantage that smaller legacy cities have when advancing equitable development is that their leaders often already have meaningful relationships with each other. When intentionally nurtured, these connections can lead to fruitful coalitions. The path to better economic times is through collaboration; this was true in the aftermath of the Great Recession, and it is likely to continue to be true in the pandemic era (Brachman 2020). Conversely, strained or poor relationships resulting from competition over scarce resources or other factors can impede progress for smaller legacy cities. Steps for dealing with these conflicts are addressed later in this report.

Another advantage is that the relative lack of market pressures in smaller legacy cities means leaders can take their time to get plans right without rapid development threatening to get ahead of the planning process. Additionally, the smaller size of these places makes them an ideal environment for testing ideas and changing paradigms, eloquently described in the Ferguson Commission report (2015) as encouraging a “culture of trying.” Smaller legacy cities can make course corrections and quick pivots—critical pieces of “trying”—by expeditiously seeking residents’ input and regularly checking back in for feedback.

The relative lack of market pressures in smaller legacy cities means leaders can take their time to get plans right without rapid development threatening to get ahead of the planning process. The smaller size of these places makes them an ideal environment for testing ideas and changing paradigms.

An equity agenda cannot be built entirely on a city's real estate market. This is especially true in smaller legacy cities, which often lack the market strength to support development impact fees or exactions—payments made by developers to local governments to deliver public goods associated with a project, such as infrastructure, open space, or affordable housing.

Because those strategies may not be suitable for all smaller legacy cities, this report describes alternative routes to equity that do not

require waiting for a strong real estate market. For example, leaders in Dayton, Ohio, co-located a number of similar community programs when they renovated the Dayton Arcade. This facilitated more coordinated, collaborative, and efficient delivery of small business development services. Because revitalization work must extend beyond the physical environment, many strategies presented in this report seek to increase human capital. Case studies focus on coalition building, planning, and workforce development. Research supports this need for a breadth of strategies. In an examination of how to improve upward mobility for low-income families and families of color in America's metro areas, researchers from the U.S. Partnership on Mobility from Poverty found, "The evidence suggests that full-scale transformation will result not from any single policy endeavor, but through a long-term process that extends beyond investments in the distressed neighborhoods themselves to also address the economic, political, and social systems that helped create and sustain neighborhood disparities" (Turner et al. 2018).

The case studies included here from larger cities or healthier markets can be adapted for smaller legacy cities. Many of the examples come from Ohio, which is home to 20 smaller legacy cities (a relatively high number for one state), and a state policy environment that is not particularly city-friendly. As such, Ohioans have been innovating at the local level for decades. Additionally, this report purposefully prioritizes equitable development strategies that can start at any time, regardless of market strength, and are primarily within the control of local leaders.

Developments like the renovated Dayton Arcade in Dayton, Ohio, can spur improved coordination of small business development and service delivery. Credit: Tom Gilliam/Cross Street Partners.



## Equitable Development in the COVID-19 Context

Without a doubt, the COVID-19 pandemic has heightened challenges faced by leaders in small legacy cities. Already weak housing markets are further strained as tenants and owners face job losses and increased financial instability. When limited resources force city leaders to make difficult strategic investment decisions, residents may sometimes view these choices as picking favorites. This dynamic erodes trust and underscores how essential it is to develop a defensible plan and an inclusive process to guide decision making.

COVID-19 has also increased food insecurity and presented public health challenges such as caring for sick residents and administering vaccines. These new fiscal demands, along with concurrent or projected declines in local tax revenue, make financing revitalization even more difficult in smaller legacy cities. Yet these challenges often provide the impetus for new partnerships. Constrained resources can motivate committed local leaders to forge a sense of common destiny and develop strategic partnerships. Today's conditions may further broaden awareness about existing challenges and generate momentum for new collaborations, while also encouraging leaders to strategically stretch every dollar to yield the most significant impact.

When the pandemic began, many local governments were already financially fragile. They had not yet recovered from the Great Recession, more than a decade after its official end. Nationally, cities anticipate losing 10 to 15 percent of their revenue in 2021, and the actual amount may be more significant, depending on the type of tax revenue cities depend on (Greater Ohio Policy Center 2020; McFarland and Pagano 2020).

When the pandemic began, many local governments were already financially fragile. They had not yet recovered from the Great Recession, more than a decade after its official end. Nationally, cities anticipate losing 10 to 15 percent of their revenue in 2021, and the actual amount may be more significant depending on the type of tax revenue cities depend on.

These revenue challenges are compounded by a dramatic need for initiatives to help support residents and retain small businesses, such as establishing non-congregate shelters, increasing food access, offering small business grants and loans, and expanding Internet access. Many local governments have already cut spending by shelving or scaling back scheduled capital projects and laying off staff, actions that then challenge their ability to undertake strategic investments.

COVID-19 has exacerbated racial disparities in both physical health and economic well-being. While low- and moderate-income people, many of whom are people of color, have benefited from various protections against eviction in the short term, renters worry that they may not be able to pay their accumulated debt. Local landlords who are financially dependent on rental income often dominate the rental market in smaller cities, and the pandemic puts their income at risk, too. The long-term consequences for the economies of smaller legacy cities are ultimately unknown—but worrisome.

Nevertheless, leaders of smaller legacy cities consider these challenges a setback, not a death knell. Many of Ohio's smaller legacy cities even report that their traditional economic development efforts were extraordinarily successful in 2020 despite the effects of the pandemic. Linking these economic development successes to



equity goals remains a challenge for some, but more stakeholders are growing aware of the issue thanks to an increasing number of conference panels, training sessions, and informal conversations.

The COVID-19 pandemic also creates a unique opportunity for legacy city leaders to prioritize equity through recovery. A growing national focus on racial justice is underscoring the pandemic's disproportionate impacts on communities of color. Racial justice protests have occurred in many smaller legacy cities, and many communities have declared racism a public health crisis (Walliser-Wejbe 2020).

Such protests hold the potential to build dialogue among residents and municipal governments, including police (Frolik 2020; Petersen 2020). Legacy city leaders can seize the moment and fully acknowledge long-standing racial and economic disparities within their cities, as well as the fact that recent economic growth has not benefited all residents equally (Economic Innovation Group 2020). This increased awareness in an environment of heightened urgency paves the way for a more equitable strategic plan for recovery from a pandemic-driven recession and a more inclusive future for smaller legacy cities.

## Racial justice protests have occurred in many smaller legacy cities, and many communities have declared racism a public health crisis.

Protesters in Grand Rapids, Michigan. The pandemic and growing national focus on racial justice have created opportunities for legacy city leaders to prioritize equity through recovery. Credit: Lennon Cheng via Unsplash.







Interns in the Bowman Creek Educational Ecosystem program in South Bend, Indiana, which brings students and residents together to restore mixed-income neighborhoods. Credit: Community Foundation of St. Joseph County.

## Addressing Concerns About Gentrification in Smaller Legacy Cities

An enduring tension within revitalization efforts is between the need for new market-rate housing and residents' fears of displacement. Declining populations and low incomes in small legacy cities prompt the need to attract new and higher-income residents to approach a healthy bell-curve distribution of incomes (Mallach 2018). Many smaller legacy cities in the Midwest have weak housing markets that require interventions to strengthen the market.

However, city leaders and developers must authentically acknowledge community concerns as they begin to bring investments to these neighborhoods. Leaders can build trust by bringing a community together to address the need for a mix of incomes, while also acknowledging and mitigating cultural changes and fear of displacement in an open, honest,

and transparent way—as in the case of the Bowman Creek Educational Ecosystem in South Bend, Indiana. Physical redevelopment can meet equitable development objectives and maintain a neighborhood's sense of cultural identity by preserving important community assets such as churches, parks, retail corridors and the long-standing merchants within them, and community and recreation centers. More strategies for addressing these dynamics are considered in the full report.

**City leaders and developers must authentically acknowledge community concerns as they begin to bring investments to these neighborhoods. Leaders can build trust by bringing a community together to address the need for a mix of incomes, while also acknowledging and mitigating cultural changes and fear of displacement in an open, honest, and transparent way.**

The redevelopment of Jackson Street Pier in Sandusky, Ohio, has helped attract visitors, new investments, and economic activity to downtown. Credit: City of Sandusky, Ohio.



## A Common Destiny

Today, smaller legacy cities continue to lose major employers, jobs, and in some cases residents. These trends are exacerbating long-standing racial and income disparities, which have been deepened by COVID-19's infection rates and economic impacts. The need to address the persistent racial and income segregation common in smaller legacy cities is more urgent than ever. Equitable development offers a new playbook to address inequality while increasing economic competitiveness.

Strategic work to improve these indicators will provide more opportunities for many residents and will increase potential for broader economic recovery. New investment needs to include deliberate interventions to correct these damaging inequalities. Some smaller legacy cities are experiencing revitalization, but the investments typically do not benefit the city as a whole (Mallach 2014). To reach everyone,

The need to address the persistent racial and income segregation common in smaller legacy cities is more urgent than ever. Equitable development offers a new playbook to address inequality while increasing economic competitiveness.

revitalization strategies need to be deliberately designed to improve equity outcomes.

This report offers numerous examples of how smaller legacy cities can enhance equitable development and set the stage for healthy, sustainable economic recovery. Our strategies acknowledge the importance of relationships and trust in sustaining meaningful, equitable development work. This work can lead to a sense of common destiny among diverse groups and help address disparities and improve economic prospects for the whole city.



---

## ABOUT THE AUTHORS

**Erica Spaid Patras** is the senior manager of special projects at the Greater Ohio Policy Center. She studies the impact of potential public policy changes on the real estate market, manages a community of practice focused on expanding access to capital in underinvested neighborhoods and communities across Ohio, and evaluates the impact of transportation policy in Ohio. She holds a master of city planning degree from the University of California, Berkeley, and a B.A. from Macalester College in St. Paul, Minnesota.

**Alison Goebel** is the executive director at the Greater Ohio Policy Center. She is responsible for charting the center's strategic direction; directing the research, advocacy, and outreach teams; and securing resources for this work. She is the author of numerous research reports and policy briefs on the revitalization of weak-market cities, transportation funding, and local governance structures in Ohio. She holds a Ph.D. and an M.A. in anthropology from the University of Illinois, Urbana-Champaign, and a B.A. from Miami University in Oxford, Ohio.

**Lindsey Elam** is the manager of research at the Greater Ohio Policy Center. She has a master's degree in city and regional planning and a B.S. in social work, both from the Ohio State University. She is a certified planner (AICP) with the American Planning Association and a LEED Green Associate through the U.S. Green Building Council, and she has completed trainings through the Form-Based Codes Institute.

---

## REFERENCES

- Benner, Chris, and Manuel Pastor. 2012. *Just Growth: Inclusion and Prosperity in America*. New York, NY: Routledge.
- . 2015. *Equity, Growth, and Community: What the Nation Can Learn from America's Metro Areas*. Oakland, CA: University of California Press.
- Blackwell, Angela Glover. 2016. "Equity Is . . ." Putnam Consulting Group. October 5. <https://putnam-consulting.com/practical-tips-for-philanthropists/equity-is>.
- Brachman, Lavea. 2020. *The Perils and Promise of America's Legacy Cities in the Pandemic Era*. Washington, DC: Brookings Institution.
- Eberts, Randall, George Erickcek, and Jack Kleinhenz. 2006. *Dashboard Indicators for the Northeast Ohio Economy: Prepared for the Fund for Our Economic Future*. Cleveland, OH: Federal Reserve Bank of Cleveland.
- Economic Innovation Group. 2020. "Neighborhood Poverty Project, Interactive Map." <https://eig.org/neighborhood-poverty-project/interactive-map>.
- Ferguson Commission. 2015. *Forward Through Ferguson: A Path Toward Racial Equity*. St. Louis, MO: St. Louis Positive Change.
- Frolik, Cornelius. 2020. "More Than 100 Volunteer to Help Dayton Develop Police Reforms." *Dayton Daily News*. June 30. [www.daytondailynews.com/news/local/100-people-agree-help-dayton-reform-police/lfxlZ7GOeZhZCVeXk663KK](http://www.daytondailynews.com/news/local/100-people-agree-help-dayton-reform-police/lfxlZ7GOeZhZCVeXk663KK).
- Greater Ohio Policy Center. 2020. *A Mortal Threat to Ohio's Economic Competitive-ness: SB352, HB754, and the Buckeye Institute Lawsuit*. Columbus, OH: Greater Ohio Policy Center.
- Hollingsworth, Torey, and Alison Goebel. 2017. *Revitalizing America's Smaller Legacy Cities: Strategies for Postindustrial Success from Gary to Lowell*. Policy Focus Report. Columbus, OH: Lincoln Institute of Land Policy and Greater Ohio Policy Center.
- Mallach, Alan. 2014. *The Uncoupling of the Economic City*. Washington, DC: Urban Affairs Review.
- . 2018. *The Divided City: Poverty and Prosperity in Urban America*. Washington, DC: Island Press.
- McFarland, Christina K., and Michael A. Pagano. 2020. *City Fiscal Conditions 2020*. Washington, DC: National League of Cities.
- Pastor, Manuel, and Chris Benner. 2008. "Been Down So Long: Weak-Market Cities and Regional Equity." In *Retooling for Growth: Building a 21st Century Economy in America's Older Industrial Areas*, ed. Richard M. McGahey and Jennifer S. Vey, 89–118. Washington, DC: Brookings Institution Press.
- Petersen, Anne Helen. 2020. "Why the Small Protests in Small Towns Across America Matter." *BuzzFeed News*. June 3. [www.buzzfeednews.com/article/annehelenpetersen/black-lives-matter-protests-near-me-small-towns](http://www.buzzfeednews.com/article/annehelenpetersen/black-lives-matter-protests-near-me-small-towns).
- Poethig, Erika, Solomon Greene, Christina Stacy, Tanaya Srini, and Brady Meisell. 2018. *Inclusive Recovery in U.S. Cities*. Washington, DC: Urban Institute.
- Turner, Margery Austin, Solomon Greene, Anthony Iton, and Ruth Gourevitch. 2018. *Opportunity Neighborhoods: Building the Foundation for Economic Mobility in America's Metros*. Washington, DC: U.S. Partnership on Mobility from Poverty.
- Walliser-Wejebe, Maria. 2020. "Communities Across the State Declare Racism as a Public Health Crisis, the State Considers It." Greater Ohio Policy Center blog. July 21. [www.greaterohio.org/blog/2020/7/16/communities-across-the-state-declare-racism-as-a-public-health-crisis-the-state-considers-it](http://www.greaterohio.org/blog/2020/7/16/communities-across-the-state-declare-racism-as-a-public-health-crisis-the-state-considers-it).



# A Sustainable Recovery

An aerial photograph of a city skyline. In the background, several modern skyscrapers with glass facades and vertical lines rise against a blue sky with scattered white clouds. In the middle ground, there are older brick buildings, some with gabled roofs, and a large green park area with many trees. In the foreground, a long, elevated bridge with a metal truss structure spans across the scene. Below the bridge, there is a parking lot with several cars and a road with a few people walking. The overall scene depicts a mix of urban development and green spaces.

How Green Strategies Can Help Small Cities Confront Climate Change, COVID-19, and Systemic Racism



By Emma Zehner

IN NOVEMBER 2020, the City Council in Richmond, Virginia, adopted an ordinance to convert five city-owned lots into parks and green space. Under the leadership of Mayor Levar Stoney, the city had begun identifying potential park locations the previous January, prioritizing neighborhoods that lacked access to parks, had inadequate tree cover, and suffered the most from extreme heat. The effort took on new urgency with the arrival of COVID-19: the residents of these neighborhoods, who are predominantly Black, were more likely to have underlying health conditions stemming from air pollution and other environmental factors, which made them more vulnerable to the virus and more impacted by the pandemic.

“We have seen that there are so many interrelationships between the impacts of COVID-19 and the ongoing climate crises in our community,” said Alicia Zatcoff, sustainability manager for the City of Richmond. “This has made clear that the way to come out of COVID-19 and to be ready for the next version of COVID is to address both the climate crisis and these systemic inequities in our community.”

Richmond launched RVAgreen 2050, an equity-centered climate resilience planning initiative, in 2017. As part of this work, the city developed a climate equity index, conducting an assessment of the vulnerability of Richmond’s residents, built assets, and natural resources to extreme heat, extreme precipitation, and sea-level rise. The information from that index helped city leaders determine that the city’s Southside was the area most in need of open space. According to the city, 6 percent of its land is used for parks and recreation, compared to a national median of 15 percent. The new parks are being designed with neighborhood input.

Urban heat islands, air pollution, lead poisoning, and other environmental threats are common in postindustrial cities like Richmond, which was formerly a center for the tobacco industry. During the first half of the

“There are so many interrelationships between the impacts of COVID-19 and the ongoing climate crises in our community . . . . This has made clear that the way to come out of COVID-19 and to be ready for the next version of COVID is to address both the climate crisis and these systemic inequities in our community.”

20th century, many Black Americans moved from rural southern communities to urban manufacturing hubs, where they faced discriminatory housing policies that forced them into neighborhoods with high concentrations of industrial pollution and few green spaces. In many legacy cities, health disparities and economic inequality in communities of color were further exacerbated by decades of population loss, suburbanization, and urban disinvestment.

Investing in green strategies can help reverse these patterns, say Joseph Schilling and Gabriella Velasco of the Urban Institute, who wrote a working paper for the Lincoln Institute about sustainability in smaller legacy cities (Schilling and Velasco 2020). “A greening-focused strategy in legacy cities has the potential to produce material benefits for communities of color, low-income communities, and other marginalized groups, as these strategies can directly address the root cause of many environmental, social, and economic inequities,” Schilling and Velasco write.

Their work documents how cities with 20,000 to 250,000 people are investing in green infrastructure, creating green jobs, and taking other steps to combat climate change, address environmental injustice, and regenerate their local economies. (Richmond’s population, at 227,000, is on the upper end of this range.) While they see greening as a promising regeneration



A greening-focused strategy in legacy cities has the potential to produce material benefits for communities of color, low-income communities, and other marginalized groups, as these strategies can directly address the root cause of many environmental, social, and economic inequities.

strategy, Schilling and Velasco conclude that continued momentum in smaller legacy cities won't be possible without assistance from national, regional, and local intermediaries to expand city capacities, especially given the fiscal impacts of COVID-19.

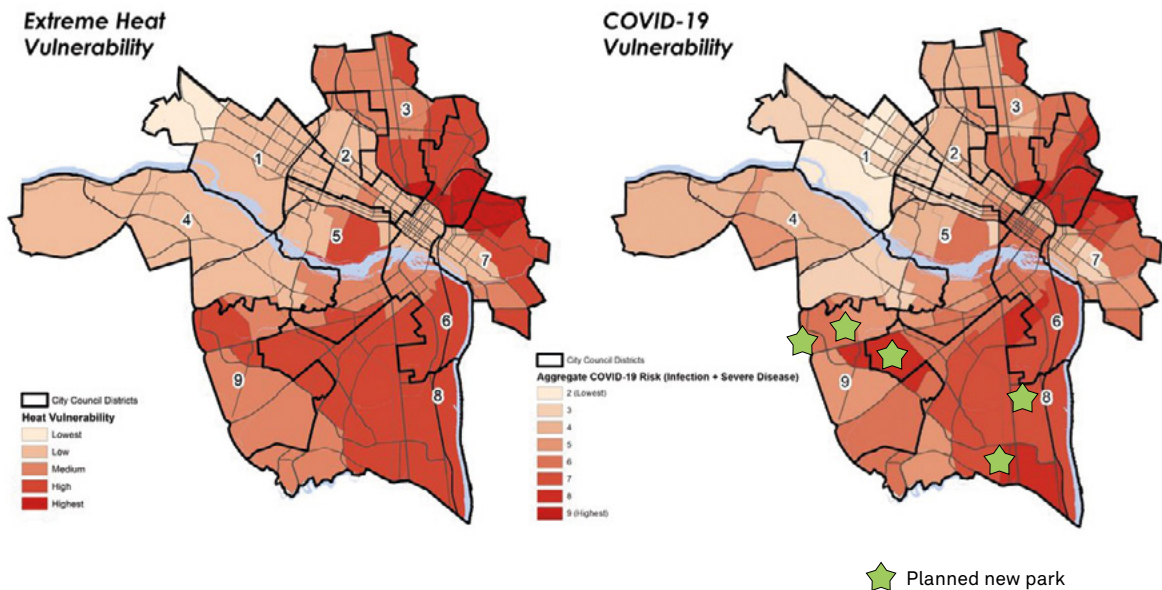
"The topic of greening smaller legacy cities is gaining more traction, especially with some of the proposed investments coming from the federal government and renewed attention at the state and local level on climate equity and resilience and regeneration," Schilling said.

The national policy conversation has increasingly emphasized the fact that most climate solutions also effectively address economic

and racial inequity. The Biden administration's ambitious infrastructure spending proposal introduced in 2021 included key elements such as urban transit upgrades and housing retrofits that would promote energy efficiency, equity, affordability, and opportunities for green businesses and jobs.

As Cecilia Martinez, senior director for environmental justice at the White House Council on Environmental Quality, told NPR, "the environmental justice community, and many of our Black and brown communities, have identified the connection between climate change and their own community infrastructure." These issues, she said, "can't be disconnected" (Charles 2021).

### MAPPING CLIMATE AND HEALTH RISKS



Maps prepared by the City of Richmond and several local partners reveal overlaps between vulnerability to extreme heat and to COVID-19. The maps helped guide decisions about where to locate several new parks. Credit: City of Richmond (VA) Office of Sustainability.



The city of Buffalo, New York, is investing in green infrastructure projects including porous pavement, bioswales, and green roofs. Credit: Andy Rosenblum via iStock/Getty Images Plus.

## Legacy Cities and Greening

Despite—or in some cases, because of—decades of disinvestment, small to midsize legacy cities have many of the building blocks they need to rebuild more sustainably and equitably. These assets include vacant lots, which can be used for green infrastructure or parks projects; walkable downtowns planned before the advent of cars; and proximity to fertile farmland and rivers.

In recent years, several of these cities, such as Buffalo, New York, and Duluth, Minnesota, have begun positioning themselves as “climate havens”—attractive locations for those seeking relief from the extreme temperatures, sea-level rise, wildfire, and other dramatic impacts of climate change felt in many other parts of the country. As a result of COVID-19, these cities also have an opportunity to attract new residents who are no longer tied by their jobs to more expensive, larger cities. Carefully planned green policies, accompanied by thoughtful strategies intended to avoid displacement of long-time residents, would help cities prepare for this possible influx while improving the quality of life for all.

Many of these cities are already implementing green strategies. A survey by the Urban

Small to midsize legacy cities have many of the building blocks they need to rebuild more sustainably and equitably. These assets include vacant lots, which can be used for green infrastructure or parks projects; walkable downtowns planned before the advent of cars; and proximity to fertile farmland and rivers.

Institute found that about 75 percent of 43 small to midsize legacy cities had green or sustainable projects or programs in place (Bieretz 2020). While the programs ranged widely in both focus area and scale, green infrastructure was the most common policy focus, followed by climate change and energy use. Examples include a green roof and permeable parking lot at the City Hall in Rochester, New York, and efforts to increase permeable surfaces in Buffalo, where city leaders recently closed on a \$54 million environmental impact bond—the largest issued in the United States to date—to fund green infrastructure and stormwater mitigation projects. Similar projects include tree planting, bioswale installations, and other climate adaptation initiatives in Providence, Rhode Island, and Worcester, Massachusetts (Moulton 2019).



In Philadelphia, community organizations are working with the city to transform vacant lots into green spaces that can help build climate resilience. Credit: Jeanine Pohlhaus.

Other cities are converting vacant land to open space; for example, the Lincoln Institute report *Revitalizing America's Smaller Legacy Cities* highlights Dayton, Ohio's "Green and Gold Strategy," which called for the conversion of vacant lots into parks and urban gardens (Hollingsworth and Goebel 2017). Flint, Michigan, adjusted its zoning code to allow for more green space, and in Philadelphia, the city works with the Pennsylvania Horticultural Society to repurpose vacant lots as public open spaces.

Building on this initial inventory, Schilling and Velasco interviewed municipal and civic sustainability stakeholders to draw lessons from the experiences of these cities and refine their analytical framework. The authors identified three phases in the development of urban sustainability initiatives. First-generation initiatives are fairly discrete and relate to core environmental services including recycling, water treatment, and brownfield redevelopment; second-generation initiatives, which often take the form of green land use plans or zoning/building codes, include stand-alone sustainability offices and focus on issues from climate mitigation to energy use; third-generation sustainability initiatives operate at the intersection of climate resilience, equity, and green economic development. Few cities the authors looked at were working on third-phase initiatives, though they cite Providence's 2019 Climate Justice Plan and Richmond's ongoing climate action planning process as two examples.

## What Works: Partners, Leadership, and Peer Learning

After identifying examples of what is working well and why—and what additional capacity, technical assistance, and funding support smaller cities will need to implement effective sustainability strategies—Schilling and Velasco offer these key findings.

### INTERMEDIARIES ARE KEY

Partners and intermediaries such as universities, nonprofits, and philanthropic organizations play a critical role in helping communities execute sustainability work and overcome capacity challenges. "Many of these cities don't have a large staff or a big budget, and these capacity-building groups and networks are helping smaller cities adopt or implement sustainability policies," Velasco said.

In Richmond, the mayor's Green Team is composed of a range of stakeholders, including representatives from the city's Parks and Recreation, Public Works, Public Utilities, and Planning and Development Review departments, the Office of Sustainability, and local nonprofits. The team based its recommendations for park locations on cross-sector research on urban heat islands conducted by partners including the Science Museum of Virginia, Virginia Commonwealth University, the University of Richmond,



the nonprofit Groundwork RVA, and the Office of Sustainability.

Other cities also work closely with universities, which can provide research on local issues and expand capacity with student support. In Muncie, Indiana, for example, the city works with Ball State University and Habitat for Humanity to design more resource-efficient homes, retrofit existing homes, and advise residents on reducing energy use. Schilling also found other intermediary organizations that can help build the capacities of smaller cities and move them closer to adopting and implementing third-generation sustainability policies such as climate equity and climate resilience plans, programs, and projects. He cites Groundwork USA and the Institute for Sustainable Communities as two nonprofit intermediaries that can effectively play this critical capacity-building role.

Partners and intermediaries such as universities, nonprofits, and philanthropic organizations play a critical role in helping communities execute sustainability work and overcome capacity challenges.

## COMMITTED LEADERS MAKE THE DIFFERENCE

Richmond's Zatcoff explains that buy-in from city leadership is crucial to maintaining a sustainability agenda, especially during COVID-19: "Our mayor understands the links between climate action, health, and equity. Our elected leaders see those connections. People are understanding more and more that there is a real connection between, for example, greenhouse gas emissions, particulate matter, and pollution . . . [and] how these can negatively affect our community's health in terms of our residents who suffer from high rates of asthma."

Lynn Armel, environmental sustainability coordinator for Erie County, Pennsylvania, a smaller county that does not have a dedicated sustainability department, expressed a similar sentiment. Since Erie County declared racism a public health crisis in 2020, she said, she has been able to "take an approach that centers environmental justice and allows me to point to this mandate as a justification." She has worked to more comprehensively incorporate an environmental justice component into the county's climate vulnerability assessment.

The ecoREHAB program in Muncie, Indiana, involves local students in projects that rehabilitate deteriorating homes, with a focus on sustainability and energy efficiency. Credit: Courtesy of ecoREHAB.





Mayor Levar Stoney announces plans to create new parks in Richmond, Virginia. The city identified five locations by analyzing data related to demographics, public health, and natural resources. Credit: City of Richmond.

Armel, whose job combines managing the county’s sustainability efforts with managing more traditional programs such as recycling, noted that there are still challenges to changing the culture around sustainability. “The sustainability practices aren’t as wide-reaching as ideally they would be. It would be really good to have a sustainability department on a higher level to integrate different departments across local government on ways to further economic development during COVID that are forward-thinking and sustainable.”

Even with committed leadership, these capacity challenges can prevent smaller cities from working on sustainability policies, programs, and projects that more fully integrate climate resilience, equity, and green economic development into all aspects of the city’s work, from housing to jobs programs.

Even with committed leadership, these capacity challenges can prevent smaller cities from working on projects that more fully integrate resilience and sustainability into all aspects of the city’s work, from housing to jobs programs.

### CITIES CAN LEARN FROM EACH OTHER

Schilling and Velasco recommend peer learning exchanges, such as the Urban Sustainability Directors Network, Sustainable States Network, and local government cohorts run by the National League of Cities, as valuable opportunities for cities to compare notes and support each other’s efforts. The Legacy Cities Initiative, a project of the Lincoln Institute, offers a centralized resource specific to these cities, including case studies of successful programs, demographic data on more than 100 cities, and a compilation of online resources, and convenes legacy city leaders (see sidebar).

Several other factors can influence whether cities are positioned to achieve third-generation sustainability, Schilling and Velasco say, including location (whether cities are geographically clustered near other legacy cities, as they are in central Massachusetts and upstate New York, which makes it easier to share technical assistance and learning opportunities); political relationships among cities, regions, and states; capacity to collect data to track progress; and, of course, access to funding.

## ABOUT THE LEGACY CITIES INITIATIVE

In 2020, the Lincoln Institute of Land Policy launched the Legacy Cities Initiative to help policy makers, civic leaders, and other stakeholders build on their cities' strengths to create more equitable, sustainable, and prosperous futures. Legacy cities are places that were once drivers of industry and prosperity but have since experienced drastic economic and population losses. In the United States, legacy cities are home to nearly 17 million people and a collective economy worth \$430 billion.

In recent years, many legacy cities have advanced on a path of revitalization. Now they are being tested by unprecedented health and economic crises, which, together with demonstrations against police violence and increasing calls for addressing systemic racism, have shed light on long-standing inequities.

The Legacy Cities Initiative includes cutting-edge research and online tools, as well as opportunities for participants to connect with peers in other cities through a national network of governmental, civic, and philanthropic leaders.

"Research and ideas are important, but the success of legacy cities depends on people," said Jessie Grogan, the Lincoln Institute's associate director of reduced poverty and spatial inequality. "A big part of our mission will be to bring leaders and civic advocates from legacy cities together so they can learn from one another and achieve even greater impact. No city will have to rebuild alone."

**To learn more about the Legacy Cities Initiative, visit [www.legacycities.org](http://www.legacycities.org).**

## Next Steps in the Age of COVID-19

Though there are clear economic, environmental, and social benefits to adopting green policies, many cities are now facing COVID-related cuts to already constrained budgets. Some cities have been forced to delay projects such as greenhouse gas inventories and climate adaptation planning. In Erie, Armel confirmed, meetings about the adoption of Commercial Property Assessed Clean Energy (C-PACE) were delayed for some time following shutdowns due to COVID-19.

**Though there are clear economic, environmental, and social benefits to adopting green policies, many cities are now facing COVID-related cuts to already constrained budgets.**

Local funding pressures increase the need for state and federal support for green initiatives, especially for smaller cities. "Unlike large cities, even large legacy cities, [smaller legacy cities] have something of a scale problem. They are more dependent on state and federal support to fill capacity gaps," said Catherine Tumber, author of *Small, Gritty, and Green: The Promise of America's Smaller Industrial Cities in a Low-Carbon World*, which offered some of the first research on the intersection of legacy cities and sustainability (Tumber 2012).

Federal cross-agency collaboration could also help build capacity for legacy city sustainability. Schilling and Velasco point to the Sustainable Communities Initiative (SCI), a collaboration between the U.S. Department of Housing and Urban Development, U.S. Department of Transportation, and U.S. Environmental Protection Agency that offered grants from 2011 to 2015 for regional governments to design or implement sustainability plans and for local governments working on sustainability challenges. A similar federal



While the pandemic has introduced fiscal uncertainties, there appears to be a growing consensus in many smaller legacy cities that sustainability is an effective way to address the overlapping crises of COVID-19, systemic racism, and climate change.

program, Strong Cities, Strong Communities (SC2), provided resources, staff, and technical assistance to two cohorts of cities between 2011 and 2017.

Similar efforts have also emerged on a regional scale. In 2013, the Federal Reserve Bank of Boston launched the Working Cities Challenge, which offers peer learning and technical assistance and coordinates foundation and state funding for grants to smaller industrial cities in Massachusetts, Connecticut, and Rhode Island. The program aims to help cities improve collaborative leadership on issues that will change the lives of their low-income residents. “This is the kind of model we need on a policy level to compensate for the lack of capacity in these cities,” Tumber said.

While the pandemic has introduced fiscal uncertainties, there appears to be a growing consensus in many smaller legacy cities that sustainability is an effective way to address the overlapping crises of COVID-19, systemic racism, and climate change. Meanwhile, Schilling and Velasco are further developing their policy recommendations, which include using state community and economic development incentives to encourage green industries and business and expanding the power of local governments to conduct climate vulnerability assessments and greenhouse gas inventories.

Ultimately, they write, the crises in these cities could present an unexpected opportunity. “As we look out on the policy horizon, perhaps the current COVID-19 pandemic, coupled with the outcry for racial justice and the constant drumbeat of climate change, could generate the necessary policy convergence that could drive the green regeneration of small and midsize legacy cities.” □

---

**Emma Zehner** is the former communications and publications editor of the Lincoln Institute of Land Policy.

---

## REFERENCES

Bieretz, Brian. 2020. “Small to Midsize Legacy Cities Pursue Green and Sustainable Innovations.” Housing Matters blog. Washington, DC: Urban Institute. April 1. <https://housingmatters.urban.org/articles/small-midsize-legacy-cities-pursue-green-and-sustainable-innovations>.

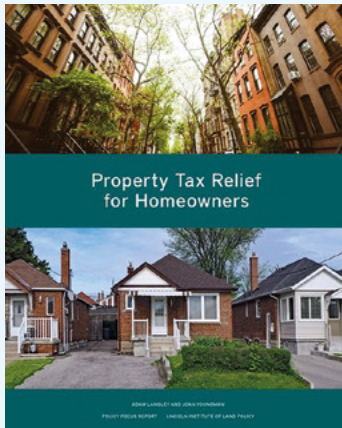
Charles, Dan. 2021. “The White House Wants to Fight Climate Change and Help People. Cleveland Led the Way.” *Morning Edition*. Washington, DC: National Public Radio. June 21. <https://www.npr.org/2021/06/21/1003227623/cleveland-wants-climate-justice-can-the-biden-administration-help>.

Hollingsworth, Torey, and Alison Goebel. 2017. *Revitalizing America's Smaller Legacy Cities: Strategies for Postindustrial Success from Gary to Lowell*. Policy Focus Report. Cambridge, MA: Lincoln Institute of Land Policy. <https://www.lincolnst.edu/publications/policy-focus-reports/revitalizing-americas-smaller-legacy-cities>.

Moulton, Cyrus. 2019. “Great Adaptations: How Two Smaller Legacy Cities Are Adopting Green Infrastructure.” *Land Lines* 32 (2). Cambridge, MA: Lincoln Institute of Land Policy. April. <https://www.lincolnst.edu/publications/articles/great-adaptations>.

Schilling, Joseph, and Gabriella Velasco. 2020. “Greenventory 2.0: Sustainability Lessons from Small and Midsize Legacy Cities.” Working paper. Cambridge, MA: Lincoln Institute of Land Policy. <https://www.lincolnst.edu/publications/working-papers/greenventory-20>.

Tumber, Catherine. 2012. *Small, Gritty, and Green: The Promise of America's Smaller Industrial Cities in a Low-Carbon World*. Cambridge, MA: MIT Press. <https://mitpress.mit.edu/books/small-gritty-and-green>.



October 2021 / Paperback  
\$20 / 64 pages  
ISBN: 978-1-55844-416-4

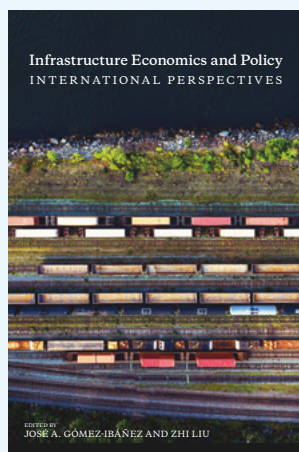
To order or download:  
[www.lincolinst.edu/publications/policy-focus-reports/property-tax-relief-homeowners](http://www.lincolinst.edu/publications/policy-focus-reports/property-tax-relief-homeowners)

## Property Tax Relief for Homeowners

By Adam H. Langley and Joan Youngman

This report is the go-to resource on the options that U.S. states have to provide property tax relief for homeowners without compromising municipal fiscal health or services. Policy makers frequently face political pressure to reduce property taxes, but many approaches undercut the success of the policies they adopt. The authors present the pros and cons of such measures, identifying those that can effectively provide relief without undermining the property tax system. By covering the full range of policies, this report is relevant in practically any state policy debate about property tax relief. This report will be an essential resource for state legislators, governors, students of public finance, and policy makers who help make decisions about property tax relief.

*“This expert, concise report . . . is very objective in nature, truthful regarding consequences, and very comprehensive.”* — Margaret Cusack, former Research Manager, International Association of Assessing Officers



January 2022 / Paperback  
\$50 / 516 pages  
ISBN: 978-1-55844-418-8

To order:  
[www.lincolinst.edu/publications/books/infrastructure-economics-policy](http://www.lincolinst.edu/publications/books/infrastructure-economics-policy)

## Infrastructure Economics and Policy: International Perspectives

Edited by José Gómez-Ibáñez and Zhi Liu

Sustainably built and funded infrastructure is indispensable to resilient, equitable, and livable communities and regions worldwide. In this rare comparison of infrastructure across countries and sectors, leading international academics and practitioners consider the latest approaches to infrastructure policy, implementation, and finance. Chapters cover land value capture and other funding mechanisms; the role of infrastructure in urban form, economic performance, and quality of life, especially for disinvested communities; and other essential concepts, economic theories, and policy considerations. The book presents evidence-based solutions and policy considerations for officials in government agencies and private companies that oversee infrastructure services; essential concepts and economic theories for students of infrastructure, planning, and public policy; and a current overview for policy-oriented lay readers.

*“The analysis and policy recommendations and lessons will be invaluable to developed and developing countries.”* — Ede Ijjasz-Vasquez, former Regional Director of Sustainable Development, Africa, World Bank





## Megaregions and America's Future

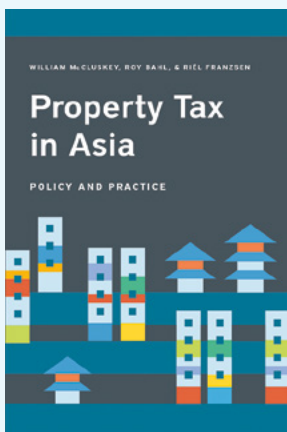
By Robert D. Yaro, Ming Zhang, and Frederick R. Steiner

Megaregions can help the United States contend with its mega-challenges. With shared economies, natural resource systems, infrastructure, history, and culture, these linked networks of metropolitan areas and their hinterlands—such as the Southwestern Sun Corridor or the Great Lakes—can strengthen climate resilience, natural resource management, economic competitiveness, and equity at the local, regional, and national levels. This source book provides updated demographic, economic, and environmental information on U.S. megaregions for urban and regional planners, policy makers, academics, and decision makers in transportation, environmental protection, and development agencies. The book reviews the origins of the megaregion concept and its economic, ecological, demographic, and political dynamics. Readers will understand trends, processes, and innovative practices within and between megaregions and identify the most pressing challenges that demand strategic decisions and actions.

January 2022 / Paperback  
\$60 / 376 pages  
ISBN: 978-1-55844-428-7

To order:  
[www.lincolnst.edu/publications/  
books/megaregions-americas-future](http://www.lincolnst.edu/publications/books/megaregions-americas-future)

*“Written by the leading experts on regional planning at this scale, this timely book will become a go-to source.”* — **Barbara Faga**, Professor of Professional Practice in Urban Design, Rutgers University



## Property Tax in Asia: Policy and Practice

Edited by William McCluskey, Roy Bahl, and Riël Franzsen

This contributed volume showcases the first comprehensive assessment of the property tax in Asia, including China, Hong Kong, India, Indonesia, Japan, Korea, Malaysia, Pakistan, Philippines, Singapore, Thailand, Taiwan, and Vietnam. It provides authoritative data on legislation, tax administration practices, revenue statistics, reform proposals, new technology, and political debate to raise awareness of the potential for land-based revenue throughout these regions. This volume is essential for advisors on tax reform and implementation; academics, teachers, and researchers in public finance; national ministries of finance and local government; and universities and libraries.

Spring 2022 / Paperback  
\$60 / 552 pages  
ISBN: 978-1-55844-423-2

To order:  
[www.lincolnst.edu/publications/  
books/property-tax-in-asia](http://www.lincolnst.edu/publications/books/property-tax-in-asia)

*“This forward-looking, authoritative review of the current status and likely future development of the property tax is very timely, [and] will allow readers within the region and beyond to reflect on how their own jurisdictions might benefit from the experiences documented here.”* — **Frances Plimmer**, Fellow, Royal Institution of Chartered Surveyors





# Groundbreaking Solutions

75 YEARS

For information on upcoming events  
and activities celebrating the 75th Anniversary  
of the Lincoln Institute of Land Policy, visit

[LINCOLNINST.EDU/75](http://LINCOLNINST.EDU/75)



LINCOLN INSTITUTE  
OF LAND POLICY



---

Land Lines  
113 Brattle Street  
Cambridge, MA 02138-3400 USA

RETURN SERVICE REQUESTED

---

**Land Lines is free. Visit our website to subscribe:**  
[www.lincolninst.edu/subscribe-land-lines](http://www.lincolninst.edu/subscribe-land-lines)



To order, visit [www.lincolninst.edu/dwnn](http://www.lincolninst.edu/dwnn).

"I highly encourage students, faculty, and practitioners to read this book and distill for themselves the overarching lessons. *Design With Nature Now* is timely because it reintroduces us to an essential approach as we face another critical environmental and social justice inflection point."

— Larissa Larsen, *Journal of the American Planning Association*

To celebrate the 50th anniversary of Ian McHarg's seminal book, *Design with Nature*, the University of Pennsylvania showcases some of the most advanced ecological design projects in the world today. Featuring vivid color images, *Design with Nature Now* prepares practitioners to contend with climate change and other 21st-century challenges.