Land Lines

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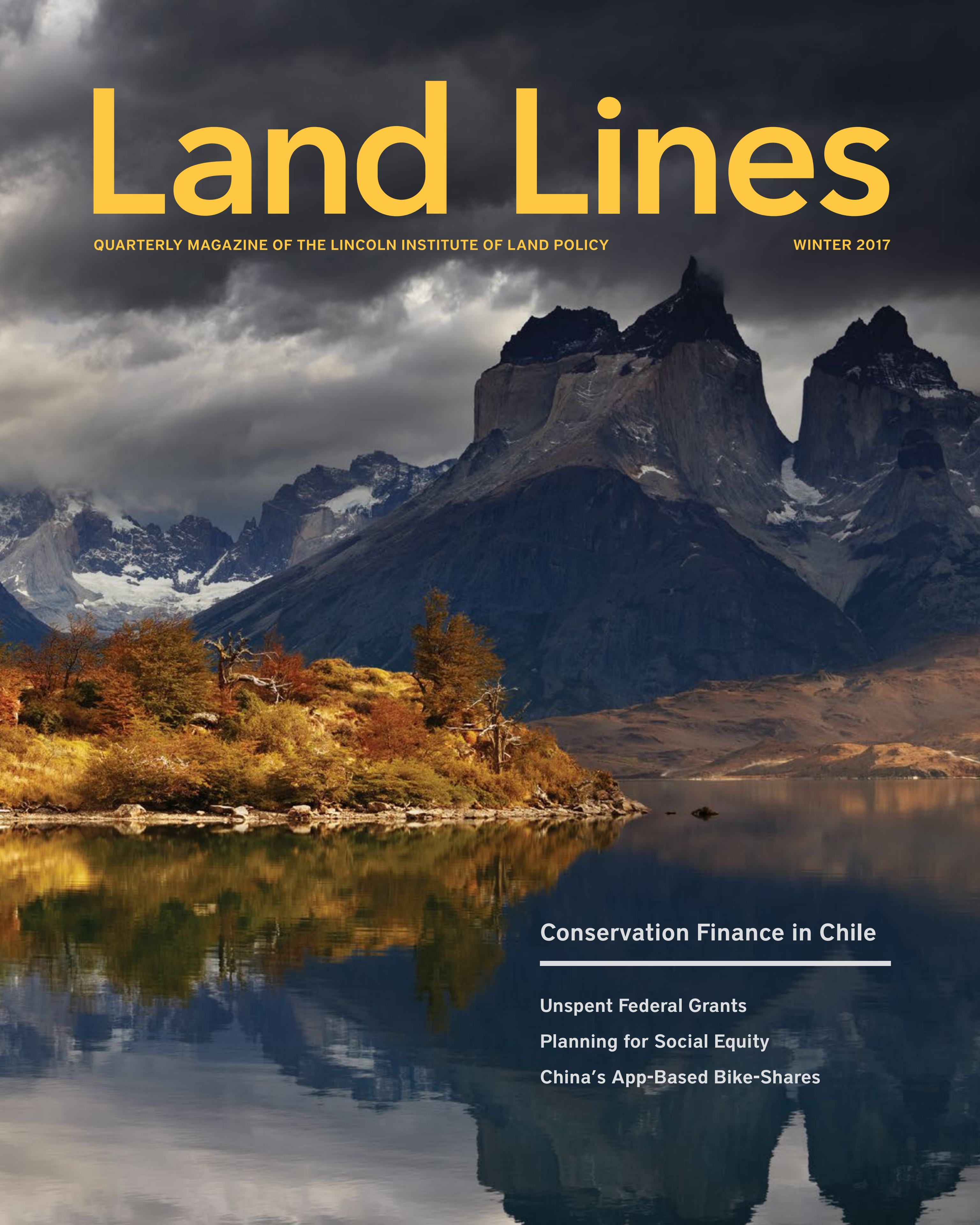

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THE LINCOLN INSTITUTE OF LAND POLICY is an independent, nonpartisan organization whose mission is to help solve global economic, social, and environmental challenges to improve the quality of life through creative approaches to the use, taxation, and stewardship of land. As a private operating foundation whose origins date to 1946, the Lincoln Institute seeks to inform public dialogue and decisions about land policy through research, training, and effective communication. By bringing together scholars, practitioners, public officials, policy makers, journalists, and involved citizens, the Lincoln Institute integrates theory and practice and provides a forum for multidisciplinary perspectives on public policy concerning land, both in the United States and internationally.

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LINCOLN INSTITUTE
OF LAND POLICY

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Torres del Paine National Park in Patagonia, Chile. Credit: DMITRY PICHUGIN / 500PX/National Geographic

Transplanting Urban Innovation

WHEN WE ORGANIZE MEETINGS IN LATIN AMERICA, WE SOMETIMES HIRE SIMULTANEOUS TRANSLATORS TO ALLOW THOSE OF US WITH LIMITED PROFICIENCY IN SPANISH TO FOLLOW THE CONVERSATION. These translators are a gifted bunch, capable of processing words, context, meaning, and nuance in nanoseconds. From time to time, they get tripped up in amusing ways. One commonly used word in our meetings is *suelo*. It comes up frequently when we discuss *políticas de suelo*, which translates as "land policies." But *suelo* also translates as "soil," and, as some translators would have it, we've participated in high-level discussions of "urban soil policies." This left me reflecting on whether urbanists might learn something from agronomy.

It is fairly easy to scour the globe for innovations and only a tad more difficult to construct a hypothetical account for their success. But it is really hard to transplant a novel policy, tool, or practice, and it can be costly to relocate creative new measures and watch them wither on foreign soil.

Like many of our partners, the Lincoln Institute of Land Policy has ambitious goals. For example, we hope to use innovative land policy to mitigate or adapt to global climate change. We seek to promote financially resilient cities. We plan to help governments at all levels find the revenues needed to invest trillions of dollars annually in infrastructure. Our goals are embedded in the New Urban Agenda (NUA), an agreement signed by United Nations member states at Habitat III, UN Habitat's recent Conference on Housing and Sustainable Urban Development. They also are aligned with the Sustainable Development Goals (SDGs) that replaced the Millennial Development Goals in 2015 to guide global efforts to achieve sustainable development that balances environmental, economic, and social objectives by 2030.

There are an estimated 650,000 jurisdictions on our planet. These range from around 30 megacities with populations over 10 million people; to 4,321 cities with populations exceeding 100,000; to more than a half-million places with fewer than 10,000 inhabitants. Implementing the NUA and achieving the SDGs will require reaching most of these places. How is it possible to change the path of development in so many locations?

Organizations trying to improve social, economic, or environmental outcomes at a global level typically work through theories of change—logic models that outline a process through which specific tactics and activities align to produce a desired outcome. A simplified theory of change might be: 1) find a successful social or policy innovation; 2) study it to understand why it succeeds; 3) export the innovation to new places; 4) measure its success; 5) repeat steps 3 and 4 until no longer necessary.

Most theories of change include ways to scale successful interventions through replication and other means. But there are fundamental problems with this "franchising change" model. First, we are not very good at learning from success or even accounting for it. We can observe *whether* a project or program is successful, but we usually provide only untested hypothetical accounts for *why* it works. Often our hypotheses are wrong, and attempts at replication wither and die. In other cases, it is impossible to replicate key elements of a program. Thus, for example, the celebrated successes of the Harlem Children's Zone have not been repeated elsewhere. We have yet to see the scale or impact of the Champlain Housing Trust copied in other cities that face insurmountable affordable housing shortages. And although there is increasing interest from cities around the world, we have yet to see any that have successfully imported Sao Paulo's practice of institutionalizing land value capture in its stock exchange.

Perhaps we fail to transplant these successes because we can't clone the unique leaders who drove them. Or maybe we can't mobilize the kinds of resources that one can find in New York, Burlington, or Sao Paulo. Or perhaps it is simply much harder to replicate success than we think.

I've spent the last three decades trying to address global challenges like poverty, inequality, and climate change with interventions that could grow sufficiently to meet the scale of these problems. I believed in the promise of innovation—social, scientific, or policy-related. I, like many of my colleagues and contemporaries, believed that my job was to find a magical idea or practice that could spread virally, by replication, or through spontaneous combustion, whatever it took. I thought of myself as an explorer looking for a sturdy potato to bring back from the far reaches of the Andes to feed the teeming masses of Europe.

I've only recently come to understand how badly I misconceived my job. It is fairly easy to scour the globe for innovations and only a tad more difficult to construct a hypothetical account for their success. But it is really hard to transplant a novel policy, tool, or practice, and it can be costly to relocate creative new measures and watch them wither on foreign soil.

If we paid more attention to preparing the ground to receive new tools, practices, or policies, we might have more luck at replicating success. This is where we can take a page from the agronomist's playbook.

Looking back, it is not surprising that we were unable to scale social or policy innovations through replication. Each new approach unfolds in a complex social, political, and legal ecosystem. We reduce this complexity by guessing at the salient elements of each complicated context to account for success. It is difficult, if not impossible, to do controlled tests to confirm our hunches. So instead we use trial and error, uprooting successful projects, programs, or policies and planting them elsewhere, hoping that they will take root. And they rarely do. When replications fail, it is easy to attribute failure to a deficiency in the destination. But if we paid more attention to preparing the ground to receive new tools, practices, or policies, we might have more luck at replicating success.

This is where we can take a page from the agronomist's playbook. Soil, too, is a complex ecosystem. It is composed of minerals, organic matter, and trace elements that offer plants sustenance. But the process through which different plants extract nutrients from the soil is a very complicated process.

It starts with the roots. In natural settings, the stems, leaves, and flowers of plants and their roots evolve to adjust to the complexity of the soil and the variability of climate. With the invention of agriculture, we interrupted this evolutionary process in order to cultivate non-native species in new environments. Through trial, error, and scientific inquiry, agronomists learned a lot about how to cultivate plants that are native to one place in new terrains. Thus, the potato, imported from the New World, became a

We are learning that successful local people or organizations are the "root stock" that will sustain imported innovations and allow them to thrive. And we are learning that grafting an imported innovation onto this local root stock is a delicate task.

staple in the Old World in the 18th century. But failure to account fully for the complexity of soil and environment generated some terrible unintended consequences, such as widespread blights that led to mass starvation in Ireland and Finland.

Uprooting a vegetable and planting it elsewhere is a crude way to replicate success. Growers of certain crops have more sophisticated ways to overcome the joint challenges of soil and climate complexity. They do this by treating a plant as two systems—the root system that delivers sustenance from the soil and the fruit system, or scion, that produces the desired output. Vintners find successful local varieties of a plant and combine their root stock with the fruit stock of a different desired variety of the plant. Skilled practitioners help them to weave these two systems together. This job was celebrated by John Steinbeck in *The Grapes of Wrath*:

> *The men who graft the young trees, the little vines, are the cleverest of all, for theirs is a surgeon's job, as tender and delicate; and these men must have surgeons' hands and surgeons' hearts to slit the bark, to place the grafts, to bind the wounds and cover them from the air. These are great men.*

For example, a winery in Sonoma, California, that wants to produce wine using a Sangiovese varietal might import the fruit stock from Tuscany and graft it to the root stock of a Zinfandel vine that thrives in the local soil. The California vintners do not need to be soil scientists to replicate a successful Tuscan grape, but they do need to identify the vines that have successfully adapted to the complexities of the local soil and use their root systems to sustain and promote the growth of their chosen varietal. And they need skilled practitioners to graft the two parts of the plant together.

As we think more expansively about the practice of introducing new policies, tools, and approaches to the thousands of places that want help finding answers in land, we are learning a lot. We are learning about ways to prepare the ground to adopt new practices—understanding the "rules of the game" that define the local policy space, for example, and proposing revised rules to enable new policies. Or studying the local institutional ecosystem to identify all of the important stakeholders and inviting them to the table to help initiate new practices. We are learning that successful local people or organizations are the "root stock" that will sustain imported innovations and allow them to thrive. And we are learning that grafting an imported innovation onto this local root stock is a delicate task.

Many organizations focus on identifying and rewarding urban innovation—the magical interventions that help us overcome problems that result from our insistent efforts to urbanize the planet. At the Lincoln Institute, we are paying more attention to the *process* of replicating success. We will continue to document and share what we learn from transplanting innovation. Whether cities use land value capture to pay for infrastructure, create permanently affordable housing through community land trusts, or improve public schools with more resilient public finance systems buttressed by the property tax, each intervention will need to take root in local soil to succeed. We hope to be there to monitor and report on this success.

China's App-Based Bike-Share Market

IMPLEMENTING A BIKE-SHARING SERVICE THAT HAS A REAL IMPACT ON CITY TRANSPORTATION USUALLY MEANS, among other things, getting the underlying system of docking stations right.

You'll need a "dense network of stations across the coverage area," advises *The Bike-share Planning Guide*, published by the Institute for Transportation & Development Policy. "The utility of dock-based bike-sharing systems depends on the presence of a fairly continuous network of stations," agrees the Shared Mobility Toolkit, from the Shared-Use Mobility Center, "and building the network is a relatively capital- and labor-intensive task." The process also requires careful planning to make sure the stations are arranged in the most effective locations—and that they don't have negative side effects on their built environs.

But what if you could build a bike-share system with no stations at all, as some new enterprises in China are trying to do in a handful of major cities? One high-profile example is mobike, which launched last year and already has a fleet in the tens of thousands in Beijing. Its chief executive is a veteran of Uber's operations in Shanghai, and it is backed by more than $100 million in investments from financial firms such as Sequoia Capital and Warburg Pincus.

Mobike's approach relies heavily on its unique smartphone app and technology built into the bike's patented design. Most significantly, the bikes don't need a docking station or even a parking dock. Instead they are equipped with a special locking mechanism on the back wheel, meaning users can theoretically leave them almost anywhere except indoors and a few other locations. To locate an available bike, users consult the service's app, which presents a map that uses GPS technology to point out the nearest available mobikes; you can reserve one through the app to make sure nobody else snags it first. The app also generates a QR code that's used to unlock the cycle.

The company is still too new to be fully proven, and it faces competition—including another dock-free enterprise called ofo. But its stationless model may be as intriguing from a planning perspective as from a consumer's point of view.

What if you could build a bike-share system with no stations at all, as some new enterprises in China are trying to do in a handful of major cities?

Ofo, one of China's stationless bike-share companies, aims to attract students with low prices and high distribution near universities. Credit: ofo

Zhi Liu has tracked the development of bike-share programs in China for years. Formerly with the World Bank, where he focused in part on urban transportation issues, Liu is now director of the China program at the Lincoln Institute of Land Policy and the Peking University–Lincoln Institute Center for Urban Development and Land Policy in Beijing. He notes that it's important to understand the context in which these new businesses evolved.

Bikes are equipped with a special locking mechanism on the back wheel, meaning users theoretically can leave them almost anywhere.

China has a long history with cycling. But even for enthusiastic bike owners, rough and heavily trafficked roads make for a challenging long-distance commute in modern Chinese cities. So when bike-sharing schemes emerged in a few cities around 2008, as a complement to metro and bus options, the idea was quickly embraced. In 2011, the National Transport 12th Five Year Plan explicitly encouraged urban centers to develop bike-sharing as a useful addition to existing mass-transit systems.

"Planners and municipal governments now consider shared bikes a key component of public transport," Liu explains, "because it helps solve the problem of the so-called 'last mile.'" That is: You use public transport, and arrive at a station—and you still have another mile to reach your real destination.

Government programs in China didn't face the same land-use challenges that might arise in a U.S. city, because urban land is state-owned. But other challenges persisted. By 2011, when a World Bank conference focused on domestic and international experiences with shared bikes, the major discussion was around "management and sustainability," Liu says. "What business model makes sense?"

A mix of solutions emerged. In Hangzhuo, a government-led model involved setting up a state-owned company; today this is reportedly the largest bike-sharing system in the world. Other cities have experimented with various public/private hybrids, searching for a balance that would make bike-sharing cheap enough to attract users but profitable enough to cover costs.

The latest wrinkle is businesses such as mobike and ofo, both of which also operate in other Chinese cities. These will clearly need to find that same economic equilibrium. But, perhaps because they're both lavishly funded, each seems more focused for the moment on building ridership and acceptance.

Ofo overtly targets students, using lighter bikes with combination locks, university-centric distribution, and a very low deposit (13 yuan, or about $2). Mobike's target is more likely to be an urban professional and/or cycling enthusiast. The deposit is 299 yuan (a little less than $50); rental is 1 yuan per half-hour. Its cycles are heavier but also more durable and distinct. "I do hear a lot of people talking about it," says Hongye Fan, a Beijing-based consultant for the Asian Development Bank and investment manager for China Metro Corporation who has tracked bike-share programs. "It's an innovative model in China and spreading very fast."

Fan, previously an infrastructure finance and asset management consultant at The World Bank, points out some of the more intriguing side effects of the stationless models. Rolling out a major bike-sharing system can be, by necessity, a top-down process that doesn't leave much room for flexibility once dock locations are built out—or, she notes, for "really thinking about and analyzing: What is the real demand from the citizens?"

Bike-sharing is a useful response to the last-mile problem, she continues, but "there is no universal last mile." In fact, a station fixed in a spot that's out of a particular user's way could turn the last mile into the last mile and a half. An almost Uber- or Zipcar-like system that's more overtly shaped by demand could avoid that.

And there are at least some experiments along similar lines elsewhere. A striking example is Copenhagen-based AirDonkey, essentially an app-based sharing platform that allows bike owners (including, notably, bike shops) to rent out their cycles to others. The startup hopes its model can work in other cities, even those where traditional share systems are in place.

Dock-free bike-shares in China help riders cover the "last mile" between their destination and the nearest transit stop. Credit: ofo

Of course, such approaches involve other challenges and hurdles. Theft has been an issue for mobike, as it would surely be in almost any city in the world, although the company has said it's a containable problem. Also, the demand-driven model could mean lots of bikes end up clustered in spots that are more popular as destinations than as starting points—meaning they'd have to be physically redistributed.

And, as Fan points out, planning would still play a crucial role in addressing problems that startups can't—like designing and ensuring proper infrastructure, such as bike lanes, that makes bike riding safe and practical. But that's true everywhere. Bike-share programs have proliferated wildly in recent years—Africa just launched its first, in Marrakech—and with an estimated 600 systems in place around the world, funding and implementation strategies vary. "We have not found any particular model that fits all cities," Liu says.

In Hangzhuo, a government-led model is reportedly the largest bike-sharing system in the world. Other cities have experimented with various public/private hybrids, searching for a balance that would make bike-sharing cheap enough to attract users but profitable enough to cover costs.

Truth is, we probably never will find a universal solution. And that's precisely why mobike and other new models—taking shape in China, the country with the most extensive bike-sharing systems anywhere—matter. Exploiting tech innovations in clever ways offers some compelling new potential routes to follow. Let's see whether others take these ideas for a spin and where that leads.

Rob Walker (robwalker.net) is a contributor to Design Observer and *The New York Times*.

Astronomers regard Chile's Atacama Desert as one of the world's finest sites for stargazing. Credit: BABAK TAFRESHI/National Geographic Creative

SOUTH STAR

CHILE AND THE FUTURE OF CONSERVATION FINANCE

On September 27 to 29, 2016, the International Land Conservation Network (ILCN), a project of the Lincoln Institute of Land Policy, hosted the "Workshop on Emerging Innovations in Conservation Finance" at Las Majadas de Pirque, near Santiago, Chile. The workshop drew 63 participants from eight counties, who came together to discuss tools and concepts that are strengthening conservation finance in the Western Hemisphere and beyond.

The policies, practices, and case studies discussed at the workshop represented a broad spectrum of innovative financing mechanisms to address challenges posed by development and climate change. Topics included value capture in Latin America; the restructuring of insurance markets to make cities more resilient and financially sustainable in the face of intensified storm events; financial incentives for conservation as written into Chilean and U.S. law; compensatory mitigation; conservation finance-oriented networks; the role of civil society and conservation finance in carrying out the 2015 Paris Climate Agreement; the potential role that capital markets might play in addressing climate change; and, particularly, Chile's emerging global leadership in land conservation.

The workshop organizers greatly appreciate the productive contributions of all participants, as well as the collaboration of conference partners: the David Rockefeller Center for Latin American Studies at Harvard University; Fundación Robles de Cantillana; the Harvard Forest, Harvard University; Las Majadas de Pirque; Qué Pasa*; and Templado. The organizers also invite readers to access the official workshop proceedings and to learn more about the ILCN, which is connecting people and organizations around the world that are accelerating voluntary private and civic sector action to protect and steward land and water resources, at www.landconservationnetwork.org.*

Below follows renowned author Tony Hiss's experience at the workshop and observations of Chile's stunning natural resources and inspiring conservation efforts.

—Emily Myron, Project Manager, ILCN

By Tony Hiss

FOR NORTH AMERICAN CONSERVATIONISTS, EVEN A WHIRLWIND VISIT TO CHILE CAN FEEL LIKE ENCOURAGEMENT FROM THE FUTURE—an encounter with a strong beam of light shining northward. That's thanks to the nature of the place, a showcase of spectacular landscapes neatly arranged in a tall, tight stack along the country's narrow ribbon of land between the Pacific Ocean and the Andes Mountains. Equally it has to do with the people in that country and what groups and individuals have been doing during five-and-a-half centuries to protect these indispensable landscapes.

At a meeting I got to attend last fall at Las Majadas de Pirque, a kind of marzipan palace-turned-conference center outside Santiago, it became clear that a North and South American partnership, which got its start during several decades of quiet collaborations among conservationists in the United States and Chile, is already creating a sort of hemispheric force field of conservation concern. As a result, the partnership's co-anchor, Chile, a country whose name according to one derivation means "ends of the earth," feels like a close colleague though it remains more than 10 hours away from New York City on a plane.

Given how fast the biosphere is warming and changing, governments alone can't afford the trillions of dollars needed to secure and then care for the places that have to be held onto for all time.

Building on this affinity, the meeting—called the "Workshop on Emerging Innovations in Conservation Finance" and hosted by the Lincoln Institute's International Land Conservation

Network (ILCN)—gathered dozens of conservationists, officials, and investors from both countries, with further representation from around the Western Hemisphere, to think through an increasingly urgent challenge: Given how fast the biosphere is warming and changing, governments alone can't afford the trillions of dollars needed to secure and then care for the places that have to be held onto for all time to save biodiversity.

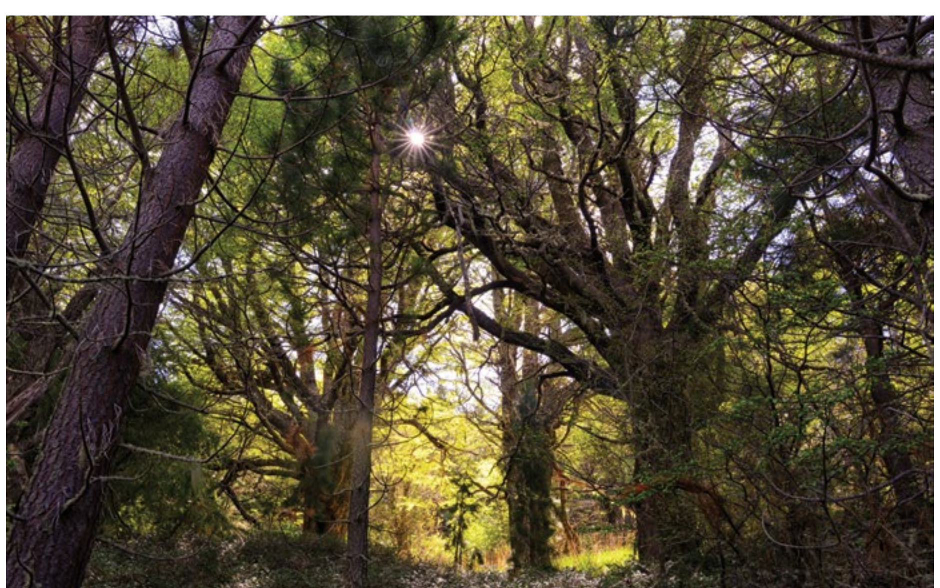
Despite the severity of the problem, it's a huge jump forward when two countries that strongly support conservation—and each with so much worthy of conserving—team up to find new solutions. "What good timing," Hari Balasubramanian, a Canadian consultant who thinks about the business value of conservation, said of the three-day conference. "Conservationists have always been in the perpetuity business. And now we need to work even harder at financing and managing protected lands so they will last."

Laura Johnson, director of the ILCN, concurred: "The idea that we can develop new tools for financing big visions for conservation is still relatively recent. Can we find the resources needed to meet the daunting challenge of creating lasting land and water conservation? The conference was intended to help answer that question."

Chile's Special Nature

Of course, not every visitor gets to stay in such an elegant setting as Las Majadas, but it's easy for North Americans to feel at home in Chile—and not just because of the abundance of bookstores in Santiago or the gleaming high-rises in the city's financial center, nicknamed "Sanhattan." The countryside's succession of landscapes and climates eerily echo those along our own Pacific coast west of the Sierras—though rather than being mirror images of each other, the relationship between the two countries is more like the upside-down reflection you'd see if you were standing on the edge of a lake: with deserts in the north, Patagonian glaciers and fjords far in the south, and in between a sunny Mediterranean area, like that of central and southern California, and a foggy temperate rainforest region, like in Oregon or Washington. Our fall is their spring. And Chile is as long as the distance from New York to San Francisco, but its western and eastern boundaries—the Pacific and the ridge line of the Andes—are always closer than the distance between Manhattan and Albany, New York.

Yet Chile's "sister landscapes" can still be humbling to North Americans: Chile doesn't just have deserts, it has the world's driest desert—the Atacama, known as Mars on Earth, with clear night skies that will make it the first "starlight reserve" in the Western Hemisphere. Within a year, this professional astronomer's paradise will be home to 70 percent of the world's great telescopes: an ELT (Extremely Large Telescope) the size of a football stadium now under construction will supplement an existing VLT (Very Large Telescope), amid talk of an OWL (an Overwhelmingly Large Telescope) that could someday, according to the European Southern Observatory, "revolutionize our perception of the universe as much as Galileo's telescope did."



Chile's Valdivian rainforest is home to some of the most ancient trees on earth, including the alerce, which can live for 3,600 years. Credit: Kike Calvo/National Geographic/Getty Images

In the more southerly Valdivian temperate rainforest region, foggy and chilly and with dense understories of ferns and bamboos (our "cold jungle," as Pablo Neruda, the Nobel Prize-winning Chilean poet, called it, "fragrant, silent, tangled"), many of the trees are among the world's most ancient. "Today," said one awed visitor (Ken Wilcox, author of *Chile's Native Forests: A Conservation Legacy*), "the opportunity to walk for days among living things as old as the Sphinx is possible only in Chile."

Araucaria araucana—the national tree of Chile, commonly known as the monkey puzzle—is an ancient species often described as a living fossil for its close resemblance to its prehistoric ancestors. Credit: GERRY ELLIS/ MINDEN PICTURES/National Geographic Creative

"Today, the opportunity to walk for days among living things as old as the Sphinx is possible only in Chile."

The monarch of these cathedral-like forests of evergreens—*siempreverdes*, in Spanish—is the alerce, a shaggier, slightly shorter but much longer-lived cousin of the North American giant sequoia. Even more striking is the 260-foot-tall monkey puzzle tree, which like the alerce towers over the surrounding forest canopy, where its dead-straight, spindly trunk is topped by an intricately snarled crown of thickly overlapping branches entirely covered with sharp, prickly leaves. Think of an umbrella with too many ribs blown inside out by a thunderstorm. "It would puzzle a monkey to climb that," said Victorian lawyer Charles Austin—though it might be more accurate to call it a dinosaur puzzle tree since there are no monkeys in Chile, and the tree's thorny leaves, unchanged over eons, evolved to repel the giant herbivore reptiles that roamed Gondwana, the ancient southern supercontinent that began to break up 180 million years ago.

Then there's Patagonia. The sparsely populated southernmost third of Chile is a place of uncompromising immensities and what's been called "extreme geography," where everything is outsized and stunning—peaks, glaciers, islands, fjords, forests. The landscapes look retouched in photographs and leave even the best writers gasping for adequate descriptions. The iconic logo of the Patagonia clothing line—which I had once supposed to be a fanciful, Shangri-La concoction of jagged, imaginary peaks silhouetted against bands of unlikely-looking orange and purple horizontal clouds—is actually a rather oversimplified, understated, subdued sketch. In fact, the mountains, clouds, and light are all quite real. And the graphic doesn't begin to convey the 5,000-square mile Southern Patagonian Ice Cap right next to the ridgeline (an ice cap is to a glacier as a paragraph is to a word), or what one mountaineer, Gregory Crouch, author of *Enduring Patagonia*, calls "the wind, the gusting wind, the ceaseless, ceaseless wind." It's a landscape still so unknown that for 50 miles to the south the border separating Chile and Argentina has yet to be established. Many visitors to the region sense a return to a time just after the beginning of things.

Threats to the Landscape

This extraordinary country was a fitting backdrop for the energy in our Las Majadas conference room. The passion that these extravagant landscapes have evoked in Chileans is transformational, enduring, and contagious. Conference organizer James N. Levitt, manager of land conservation programs at the Lincoln Institute, summed up the feeling in all of us when he said that Chile's "destined to become one of the most important green focus points on the planet."

The passion that these extravagant landscapes have evoked in Chileans is transformational, enduring, and contagious.

Of course, it's a complex story with overlapping currents. For the country's most powerful industry, mining—a mainstay of the national economy—the landscape has been a husk, something to peel away to reveal something else with greater value: copper. Chile exports a third of the world's copper and depends heavily on the $11 billion it brings in annually for the government. Since Spanish colonial times, what's underground has always trumped what's on the ground. Neruda said, "If you haven't been in a Chilean forest, you don't know this planet," yet until recently a forest would be felled if it impeded the development of a mine. It wasn't until this decade that a Chilean court ruled that a tree-clad, Mediterranean slope not far from Santiago has more value standing than excavated; protected in 2013, that area is now the San Juan de Piche Nature Sanctuary. During a visit there, we got to crush a pungent, clean-smelling leaf from a peumo tree, a 65-foot evergreen with cracked gray bark, allowing us to participate in an experience unforgettably captured by Neruda:

> I broke a glossy woodland leaf: a sweet aroma of cut edges brushed me like a deep wing that flew from the earth, from afar, from never… I thought you're my entire land: my flag must have a peumo's aroma when it unfurls, a smell of frontiers that suddenly enter you with the entire country in their current.

At the same time, environmentalism has been part of a national healing process in a country still emerging from the shadow of what it calls "a different 9/11"—September 11, 1973, the day the Chilean military overthrew the democratically elected socialist government and set up a brutal dictatorship that lasted 17 years. Heraldo Muñoz, the country's current foreign minister, has written that for many it was "a crushing loss of innocence. We had believed that our country was different from the rest of Latin America and could not fall prey to the horrors of dictatorship." Conservation issues were one way for the country to start peacefully putting itself back to rights: widespread demonstrations in 1976 led to the alerce being proclaimed a national monument. "The military called us *sandías*—watermelons—green on the outside, red on the inside," Raphael Asenjo, a veteran of those days, said at our meeting. He's now chief justice of the new environmental court in Santiago. "But if we went to court, it was harder for judges to rule against us since we weren't political." The military, which championed free market reforms, unintentionally rallied new conservationists by subsidizing owners of ancient, slow-growing forests to chop down hundreds of thousands of acres of these trees—repositories, according to Rick Klein, founder of Ancient Forest International, of the oldest genetic information above water—and replace them with monoculture plantations of imported North American pines. The substitute trees are such speedy growers they're ready to be mashed into wood pulp for export in as little as seven years. "Wood is Chile's new copper," was a boast of the early 1980s.

The most dramatic conservation successes have come since the restoration of democracy in 1990—and they continue. By happy chance, I was seated next to Foreign Minister Muñoz, now the country's champion of marine protection, on my flight down to Santiago. (He was one of the lucky ones during the dictatorship; his only scar from a single torture session is a finger that never healed properly.) Chile thinks of itself as a "tri-continental country" with claims on Antarctica and sovereignty over the Desventuradas, or Unfortunate Islands, a two-day boat ride west from the mainland, as well as over Easter Island, another five days farther away. In 2015, Chile created a no-take marine reserve the size of Italy around the Unfortunates. Illegal fishing is now, Muñoz told me, the world's third most profitable criminal activity (after drugs and illegal arms sales). A much bigger 278,000-square mile Marine Protected Area (MPA) around Easter Island being developed with the local Polynesian community will be one of the largest in the world. Professional divers who've started exploring the Desventuradas waters liken the area to a Patagonia of the deep: "The walls of brightly colored fish make it nearly impossible to see the hand in front of your face. It's only when we come to pristine places that we are reminded how it used to be before humans."

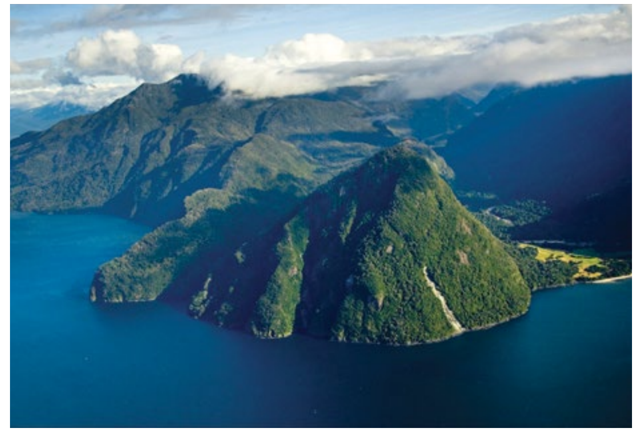
The peaks of Los Cuernos reflect on Lake Pehoé in Torres del Paine National Park in Patagonia, Chile. Credit: DMITRY PICHUGIN / 500PX/National Geographic

Global Conservation Leader

The first protectors of this exceptional country were the indigenous Mapuche people from south-central Chile and southwestern Argentina. These canny warriors kept three successive armies at bay for 400 years—forces sent by the Incas and then the Spanish and finally the newly independent Chilean government—bottling up a growing population in the center of the country, south of the northern deserts. Much of Patagonia had no permanent settlements until the 20th century, and today 85 percent of Chileans still live in the Central Valley, where land in between big cities like Santiago is intensively farmed. Longtime vineyards are growing in size and number, joined more recently by an array of avocado orchards spreading up hillsides like sprawling subdivisions ("avo-condos," we dubbed them as we drove past).

With 19 percent of its land in a designated public park or preserve (compared to 14 percent in the U.S.), Chile is a global conservation leader. But 85 percent of Chile's national parks and other protected areas are down south, while only one percent of the crowded center has that kind of security, though it is a special landscape in its own right, as one of the world's five species-rich and distinctively Mediterranean ecoregions. Considering that 90 percent of all the land outside the park system is privately owned, this might sound like a discouraging prospect for

Modern conservation biology has shown that undeveloped land has ever-increasing value when kept in its natural state. So rather than constraining landowners, not building frees up a way for them to amass natural capital.



Pumalín Park encompasses Andean peaks, Pacific coastline, and a quarter of the country's stock of ancient alerce trees within 715,000 acres run by Tompkins Conservation. Credit: Tompkins Conservation

conservation but in fact points the way to the future, thanks to a brilliant and unprecedented change to the laws of the country.

EL DERECHO REAL

Just months before our conference, after eight years of persuasion and debate, the Chilean Congress unanimously passed the *derecho real de conservación*, or "real right of conservation"—a new kind of property right, that had, as Raphael Asenjo remembers, been considered "a crazy idea." The law invites Chilean citizens to participate in conservation by setting up PPAs (privately protected areas) that will now have the same durability and legal standing as public parks. It democratizes the perpetuity business by making it a personal, voluntary act—and is also considerably cheaper. "We do not need to buy up the land to save it," William H. Whyte wrote in *The Last Landscape*, a reverberating 1968 open space manifesto, pointing to "the ancient device of the easement." Since medieval times, Whyte said, land ownership has been understood to be a "bundle of rights," which allows property owners to peel off the right to develop their land and then separately sell or donate that right for less than the full purchase price of a property to a parks agency or a nonprofit group called a land trust. In the decades since Whyte's clarion call, 24,700,000 acres of the U.S. landscape (an area nearly as big as Virginia) have come under easement. But though the idea has been spreading globally, the remedy wasn't available in Chile because it's a civil law country, such as Italy or Switzerland—unlike the U.S., which is a common law country.

Common law in the United States and other English-speaking countries got its start in England after the Norman Conquest, when the new government attempted to coordinate regional customs by giving judges considerable leeway to decide what it was the customs had in common—making judges the main source of law. By contrast, the rest of Europe looked to rules that had been established for all time, it was thought, by the Byzantine emperor Justinian in a 6th-century compilation of Roman law. Under civil law, a decision not to build on a piece of land is considered a restriction on the main purpose of holding property, which is to make money for its owner. But recently, Jaime Ubilla, a Santiago attorney with global experience (he has a Tokyo MA, a University of Edinburgh Ph.D., and also speaks Mandarin), proposed that a *derecho real de conservación* is consistent with this age-old understanding, because modern conservation biology has shown that undeveloped land has ever-increasing value when kept in its natural state. So rather than constraining landowners, not building frees up a way for them to amass natural capital. The result is a law and a rationale that other civil law countries can now adopt.

In Chile, the hope is that one of the first areas to benefit from a *derecho real* will be the San Juan de Piche Nature Sanctuary, whose owners went into debt to challenge the mining interests in court. And the timing of that arrangement might just coincide with another unprecedented development in Chilean private land conservation—the impending donation by a single landowner of a gargantuan, all-in-one-go contribution to the country's national park system.

TOMPKINS CONSERVATION

It began as a lark: young North Americans in a beat-up van—"conquistadors of the useless," as they later called themselves—driving through South America in 1968 for another six months of "peak experience" skiing, surfing, and climbing before "coming to grips with entering the industrial work force." They climbed Fitz Roy, the mountain now on the Patagonia label: one of them was Yvon Chouinard, who later founded the clothing company in 1973; another was Douglas Tompkins, also in the clothing business, who had started and just sold The North Face (financing the trip) and who, when he himself arrived back in California, founded Esprit, which he sold in 1989 to become what his detractors called an "eco-baron." Tompkins moved to Chile and, in 1993, married Kristine Tompkins, until then Chouinard's CEO at Patagonia. They bought two million acres of wild land in Chilean and Argentine Patagonia in chunks of tens or hundreds of thousands of acres, making them the largest private landowners in the world. Their aim was to build yet another brand, this one for perpetuity. The strategy: feed their land into Chile's national park system through a series of deals, cumulatively establishing it as an irresistible force—a "gold standard" of protected places Chile will still be holding in trust for the world 200 years from now.

Doug Tompkins unfortunately died in a freak kayak accident over a year ago, so it's been left to Kris Tompkins to complete their project, which will be announced within the year, according to a report at our conference from Hernán Mladinic, a sociologist and executive director of one of the future national parks and the Tompkins team member negotiating final details with the Chilean government. Kris Tompkins will donate her last million acres, the biggest-ever single donation of land to a country; in return, the government will add 9.1 million acres of state land, creating five new national parks and expanding three others—all in the same moment. A couple of the new parks have until now been Tompkins showcases: Pumalín, which shelters a quarter of the country's remaining stands of never-logged alerce, and Patagonia Park, the largest grassland restoration project in the world, along with its keystone species like pumas and Andean condors—a project that also, as Kris Tompkins

Pumalín Park will soon become part of Chile's national park system. Credit: Antonio Vizcaino, America Natural says, can remind people "what the world used to be like everywhere and might be again."

What does conservation look like from a 23rd-century perspective? In an unusually candid talk Kris Tompkins gave at Yale last spring, she explained that she and her husband had always thought at the largest scale. "Leverage for us is everything—every time you have a transaction in front of you, you're looking at the possibilities of expansion, thinking where is the hustle in there to leverage?" They took the long view in order to plant an even farther-reaching vision. "Considering that you're spending a few hundred million dollars on protecting land, you want to make sure your investment is as protected as possible. . . . I'm not going to work that hard if something's only going to last 25 to 50 years."

The Tompkins bought two million acres of wild land in Patagonia, making them the largest private landowners in the world. The strategy: feed their land into Chile's national park system through a series of deals, cumulatively establishing it as an irresistible force.

They've always thought of themselves as developers, though on a different trajectory. This means working among people and within them, showing them that parks are a competitive business ("more profitable than copper," as Mladinic says), but at the same time doing something internal that only takes effect gradually. In Kris Tompkins' words: "When you're dealing in large landscapes, the number-one thing you have to do, before you leave or kick the bucket, is get it so that the citizenry itself has fallen in love with and therefore become protective of their national park system. That takes maybe a generation, a generation and a half. A park's a huge money-maker, but much more important, it becomes a point of pride. And then if some knucklehead comes along, which they do every so often, and attempts to fill the edges of, say, Olympic National Park, people will go berserk."

The Cost of Saving Paradise

For almost every species, the natural world is a kind of fixer-upper rather than a ready-made dream home—a storehouse of raw materials that can be raided and refashioned. So we have birds' nests and beaver dams, changes to surroundings that make life easier and strengthen the odds of survival. Medical anthropologists call such species-specific infrastructure *ipsefacts*—meaning "things they make themselves." It goes beyond the realm of artifacts, our word for the changes humans make to the environment, by showing that what we do is a shared impulse; the urge to feather one's nest is universal and inevitable. But weaving twigs and feathers into a small, shallow bowl has a minimal effect on the environment, and even beaver dams are disruptive and productive at the same time, creating large wetlands, upstream and down, that benefit many more species than they harm—whereas our reshaping of the world has brought Garden of Eden-like living conditions to many while casting out too many others and even destroying paradise.

One of the thorniest and most critical subjects at the conference came up during conversations about paying for perpetuity. Government and private donors have been traditional mainstays of land conservation, but they've pulled back since the worldwide 2008 recession. Getting the business and investment community more involved has to be the next step. They control $16 to $18 trillion in global savings, which, as David Boghossian, managing director of a Massachusetts-based socially responsible investment firm, told us, makes them "the most potent force for change available." This is 30 times more than what's in the hands of generous global philanthropists—money that seems like "decimal dust" in comparison.

Boghossian spelled this out in a presentation called "Making Impact Investment Boring." Impact investing, a term only coined within the last decade, means hoping to do well financially while also doing the world a good turn. It's a growing trend but remains years away from dullness and dependability—Boghossian's desired state for impact investing, as an everyday transaction that feels as safe and comfortable as opening a bank account.

Douglas Tompkins fell in love with Chile during a 1968 expedition that included a trek up Mount Fitz Roy, which his climbing companion Yron Chouinard later memorialized in the Patagonia label. Credit: Art Wolfe

The thorn has to do with the "opportunity cost," the likelihood that an investor can make more money by creating an adverse impact on the landscape, since in this regard businesses have traditionally been set up on a semi-ipsefactual basis. Under business as usual, any inadvertent damage to the environment won't affect the bottom line. It's an externality, considered an acceptable trade-off; the planet takes the risk, not the investor. In this regard humanity has acted like other species, as if the landscapes we tinker with are as inexhaustible as the sun above, as unchangeable as gravity.

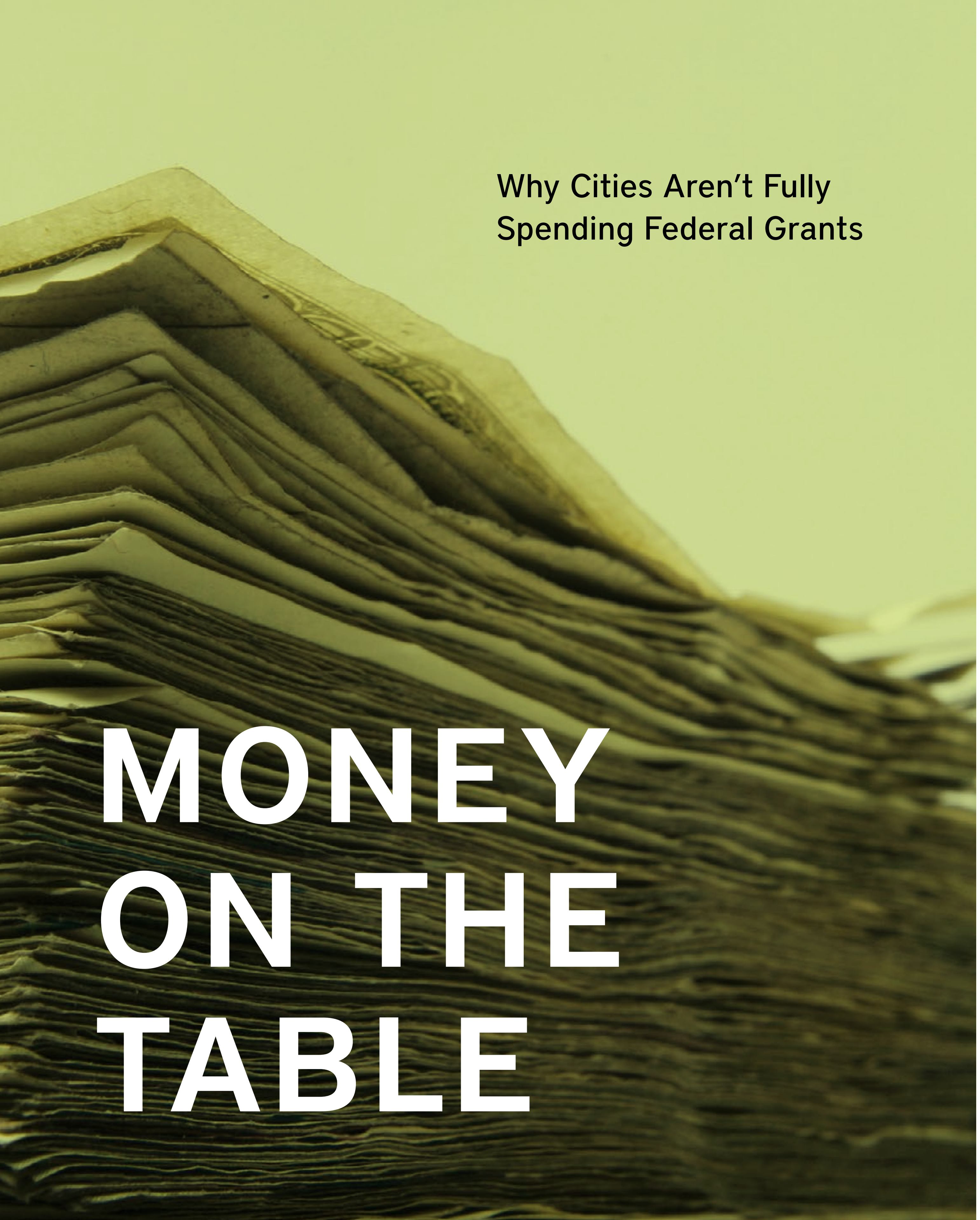
But thirty years ago, it began to sink in that the world has only a finite supply of raw materials, and sustainability became a watchword. Ten years ago, as climate change turned into something people noticed firsthand, it has been hitting home that long before oil and coal run out, their widespread use will warm the planet in a way that could compromise everything—"the landscapes, the waterscapes, and the skies that provide our common foundation," Levitt said.

Until now, conservationists and the business community have always shared a kind of long and unspoken chess game. Businesses use up certain pieces of land before conservationists can counter by putting flanking pieces off limits, in effect taking them out of the game. But now it's not only the players at risk; it's the room where the game is being played. The externalities are coming indoors, and the business community will need to bolster conservation efforts just to protect its own interests.

That is what we experienced at the conference—a shift in the nature of reality, a realignment of focus that was more than just a shift in the underpinnings of conservation finance.

A rose beneath the thorn: if it takes a village to raise a child, maybe it'll take a hemisphere to shepherd the environment, with business leaders and conservationists working together to save the planet.

Tony Hiss was a *New Yorker* staff writer for more than 30 years and is now a visiting scholar at New York University. He is the author of 13 books, including *The Experience of Place* and most recently *In Motion: The Experience of Travel*.



Money on the Table

Why Cities Aren't Fully Spending Federal Grants

By Loren Berlin

EVERY YEAR, U.S. STATE AND LOCAL GOVERNMENTS ARE LEAVING HUNDREDS OF MILLIONS OF FEDERAL GRANT DOLLARS ON THE TABLE. The national government allocates these funds to states and municipalities, frequently on a competitive basis, to help pay for many of a community's most basic and critical local services, including education, transportation, and public safety. In fiscal year 2015 alone, the U.S. Government Accountability Office (GAO) identified roughly $994 million in undisbursed funds—money that had been allocated but not yet drawn down by recipients—in expired grant accounts in the Payment Management System, the nation's largest platform for dispensing federal grant monies, responsible for making about 77 percent of all federal civilian grant payments. More than half of the accounts were at least one to three years past their expiration date (U.S. GAO 2016).

This trend would be perplexing in the best of circumstances, but it's confounding in the current environment, when so many U.S. communities are struggling economically. More than 50 municipalities have filed for bankruptcy since 2010. Chicago Public Schools are in such tight financial straits that Moody's Investors Services recently downgraded the district's debt to B3, which is "six notches below investment grade," said Moody's Vice President Rachel Cortez in an interview with *Marketplace* (Scott 2016). In Petersburg, Virginia, a community of 32,000 located fewer than 30 miles from Richmond, the city is so far behind on its debt payments that fire and rescue equipment has been repossessed, lenders have stopped making loans to the city, and officials have approved measures to both cut public services and raise taxes.

These dollars are a critical funding stream for state and local governments. Absent federal grant funds, states and localities may have to withhold essential goods and services, secure loans, or cover costs by increasing taxes and fees for their residents, thus diminishing the pool of available local dollars to pay for a community's critical needs.

In fiscal year 2015 alone, the U.S. Government Accountability Office identified roughly $994 million in undisbursed funds—money that had been allocated but not yet drawn down by recipients—in expired grant accounts in the Payment Management System.

"Counties and cities are limited by state mandates in how they can raise revenue. While they can collect property taxes and potentially income or sales taxes, it's not a free-for-all where they can do whatever they want to get the money they need," says Jenna DeAngelo, a program manager at the Lincoln Institute of Land Policy. "Federal funds are essential to help fill in that funding gap, to pay for the services that make up the fabric of a community, such as bridges, teachers' salaries, fire departments, pothole repairs. The list goes on and on."

Intergovernmental Grants

In 2016, the U.S. government allocated approximately $666 billion in federal grants to support state and local programs. Funded with federal tax dollars, these intergovernmental grants are designed to promote economic efficiency, redistribute resources, stabilize the economy, and foster innovation. There are grants to incentivize local governments to invest in infrastructure and other goods and services that benefit residents beyond their jurisdiction, grants to assist in the adoption of federal policy priorities, and grants to pilot initiatives that would be difficult to test in a single national program. In other words, the federal government uses the money to assist states and localities to build strong, vibrant communities that can attract and retain residents and, in turn, establish their own thriving local tax bases.

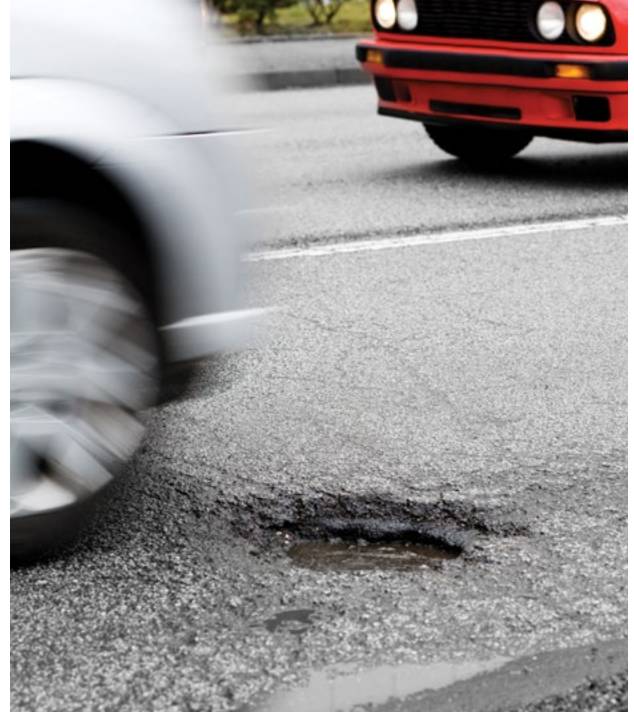
Navigating the landscape of federal grants can be complicated. There are more than 1,700 intergovernmental grant programs and two primary types of grants.

Categorical grants constitute the bulk of federal grants and can be used only for a specific purpose. Some are distributed on a formula basis, such as the Federal Transportation Administration's Urbanized Areas Formula Grant, which provides funding to urban communities for transportation-related planning activities based on population density. Others are distributed through a competitive application process, such as the Department of Transportation's Transportation Investment Generating Economic Recovery Program (TIGER), a $5 billion initiative that funds transportation projects most likely to produce significant economic and environmental benefits to a metropolitan area, a region, or the nation.

The other primary type of grant is block grants, which are pegged to broadly defined functions such as community development or social services, and afford state and local recipients more flexibility in how to use the funds to meet the program goals. An example of a prominent block grant is the Department of Housing and Urban Development's Community Development Block Grant (CDBG), which supports affordable housing, job creation, and the provision of services to vulnerable populations. As of 2014, the federal government has awarded $144 billion in CDBG funds to cities, counties, and states.

"Federal funds are essential to help pay for services that make up the fabric of a community, such as bridges, teachers' salaries, fire departments, pothole repairs."

Dozens of federal departments and independent agencies administer the grants, but the largest is the Department of Health and Human Services (HHS), which is responsible for 22 percent of the grants and hosts the Payment Management System (PMS), which is used primarily by HHS but also by the departments of Labor, Agriculture, Homeland Security, and the Treasury, among others. There's no centralized system across agencies and programs for



Federal grants help cities pay to fix potholes and other street damage in U.S. municipalities. Credit: Justin Sullivan/Getty Images

reporting and tracking grant allocations against outlays, so it's virtually impossible to know precisely what percentage of intergovernmental transfers remain unspent in a given year. The GAO and other researchers can illuminate only disparate pieces of the puzzle.

What happens to unused funds is also unclear, as it depends on the parameters of the grant program. "Unlike federal contracts, federal grants aren't governed by a single set of rules when it comes to the question of 'clawbacks,'" explains Robert Cramer, managing associate general counsel at the GAO, referring to the recovery of funds that have already been disbursed. "The terms vary depending on how the grant is structured. One grant may allow for provisions that another does not. What is ultimately done with the funds that are not spent by a grantee and recovered by an agency can vary as well." In some instances, money must be returned to the Department of the Treasury, which maintains a database of allowable uses for spending it. In other cases, it can be redeployed by the original grant-making agency. Some funds can remain unused for decades if they were allocated without an expiration date.

Many government officials are reluctant to publicly disclose challenges they face in using their federal grants, which muddies the picture further. "No one wants to appear incompetent," explains George W. McCarthy, president and chief executive officer of the Lincoln Institute.

According to McCarthy, a city's failure to spend federal dollars can result in an increase in local taxes. Local governments commonly use the property tax as a "residual" source of revenue, meaning once they have collected all other revenues, including federal grant funds, they set their property tax rates to make up the difference between what they've collected and the total revenues needed. Thus, any revenue source that is not collected and deployed additionally burdens property tax payers. "If beleaguered taxpayers hear that their local government isn't using all of its available funding and conclude that they're making it up by increasing property tax rates, they are likely to get very angry and express it in the polls," says McCarthy. "It also translates to decisions by local governments to defer maintenance of infrastructure, rather than raising property taxes, which will eventually translate to lower property values or much higher property tax burden when the inevitable crisis occurs in the form of some sort of infrastructure failure."

But bureaucratic dysfunction or even corruption are inadequate explanations for the preponderance of unused federal funds, says Erika Poethig, director of urban policy initiatives at the Urban Institute and a leading architect of President Obama's Strong Cities and Strong Communities initiative, which seeks to help struggling localities to better utilize their resources, including federal grants. "There is an array of reasons, good and bad, why a state or local government leaves federal money on the table. And sure, there's no question that there are other issues that come with bureaucracy. But generally these are well-meaning people trying to do the right thing with programs that may not necessarily be attentive to community differences. Fundamentally, the primary driver is that federal policies are not necessarily as adaptable to the full range of cities and their status on a continuum from healthy to recovering to deeply distressed."

Program Design and Management

In order to deploy intergovernmental funds effectively, both the grant-making agencies and the grant recipients have to do their part. The federal government needs to design programs that grantees can use on the ground. State and local governments need to comply with the grant requirements. All parties need to diligently track and manage the funds. While the vast majority of federal grant dollars are successfully deployed, there nonetheless are instances when this all proves easier said than done.

FLAWED PROGRAM DESIGN

For starters, it's complex to create a grant program that works well. In February 2010, President Obama established the Hardest Hit Fund (HHF), a $7.6 billion initiative to fund foreclosure prevention programs in 18 states and the District of Columbia by providing assistance to struggling homeowners. Designed to leverage the expertise of state and local partners, the HHF aimed to support solutions that were tailored to a community's specific situation. As a result, it relied on a massive network of state and local partners to administer the program, which not only decentralized operations but also created tremendous red tape. The HHF and participating partners had to execute the program in a complicated framework of a half-dozen federal, state, and local laws, some of which varied by state or community. The U.S. Treasury was also responsible for negotiating individual agreements with each housing authority that was a partner in the program. Against this backdrop, the HHF was slow to gain momentum. Nearly two years after its creation, only three percent of the available funds—$217.4 million—had been used, despite good intentions and obvious need.

The HHF's early failure is not a secret. "At various junctures of the program, the Office of the Special Inspector General found that there were no centralized goals or targets for measuring the HHF program's effectiveness. Various reports noted that this lack of metrics resulted, in part, due to fears of impacting the 'dynamic nature' of the program. Instead, it led to a lack of accountability, effectiveness, and under-utilization of the grant funds," says Lourdes Germán, director of International and Institute-Wide Initiatives at the Lincoln Institute. In an unusual move, the Department of the Treasury implemented changes to course correct, including introducing blight remediation as an allowable program activity. Since then, the HHF has become a primary source of federal funds for blight remediation and has proven so effective that in 2016 an additional $2 billion was allocated to participating HFF states.

"The story of the HHF illustrates the crux of the problem," says McCarthy. "To the extent that unused grants are an artifact of defects in program design, there are few ways to bring these defects to light and address them because there is no forum for it. That's what is so unusual about the HHF. Extremely slow deployment of funds opened an opportunity for communities to relate to the Treasury why it was so hard to use money that was not fit for purpose. The Treasury used its regulatory discretion to make the program more useful and usable to the communities. But improving program design through regulatory discretion is rare. Instead, what usually happens is that programs remain as conceived whether or not they are effectively designed. The onus for program success rests with communities, and they are rarely asked whether the programs work for them."

POORLY MANAGED CLOSEOUTS

Yet it's not enough to design an effective program. It must also be managed correctly throughout the four-step life cycle followed by most federal grants: the pre-award stage, when the program is announced and applications are received and reviewed; the award stage, when parties agree on the terms of the grant, including the length of time the recipient has to deploy the funds; the implementation phase, when the recipient spends the money; and the closeout stage, when final reports are received and evaluated once funds have been deployed and/or the grant's end date has arrived. The "closeout" procedures are designed to ensure that the grantee has satisfied all financial requirements, submitted all required reports, and returned any unused money to the agency.

These closeout procedures are critical to maximizing available grant dollars, as this is the agency's opportunity to redirect unspent funds toward other projects or new grants, or to return the money to the Treasury, depending on the unique terms of the individual grant program. Failure to close out a grant in a timely manner can create opportunities for waste, fraud, or mismanagement by allowing grantees to continue drawing down the funds past the grant's end date or by leaving unspent funds idling in accounts and accruing administrative fees.

Nevertheless, grant making agencies sometimes fail to close out grants as soon as they should, jeopardizing hundreds of millions of dollars. In September 2011, the GAO reported $794.4 million in unspent grant funds from almost 400 different programs in PMS—approximately 3.3 percent of the total funds made available for these grants—and an additional $126 million in a second payments system. According to the GAO, this represents an improvement from fiscal year 2006, when the GAO last gathered comparable data. The unspent balances are more than $200 million less than the nearly $1 billion found in PMS in 2006, even as grant disbursements through PMS increased by roughly 23 percent, from $320 billion in 2006 to $415 billion in 2011 (U.S. GAO 2012). However, when the 2011 data is broken down by the individual agencies or by agencies' specific programs, the total amount of unused money can represent anywhere from 2.7 percent to a whopping 34.8 percent of the agency's or program's grant funding for the period.

At a variety of agencies, obstacles to correctly closing out grants include inadequate systems and policies for reconciling accounts, low prioritization of grant management processes, and unnecessary delays in making available the unused funds, according to independent reports by the GAO as well as the Inspectors General at the departments of Agriculture, Education, Energy, Health and Human Services, Homeland Security, and Labor.

In 2015, the U.S. Department of Transportation announced that more than 61,000 bridges are structurally deficient and need significant repair—work that is partially funded by federal grants (U.S. DOT 2014). Credit: Spencer Platt/Getty Images

LOCAL LACK OF CAPACITY

But the federal government is not solely responsible for ensuring federal grant dollars are used. The states and localities receiving the funds play an equally large role in determining outcomes. While there's a tendency to assume that only localities in fiscal distress fail to use the entirety of their grant allocation, this is not the case, says McCarthy. "You would be surprised by some of the cities that leave federal funds on the table. It's easy to think it's mostly an issue with distressed cities because they may have had to lay off staff or may lack other resources necessary to effectively administer the grants. But actually we've had numerous conversations with officials not only in distressed cities but also in thriving ones who report challenges in using their federal grant monies. The estimates we've received are that anywhere from 9 to 20 percent of allocated grant money goes unspent in any given year."

There are many reasons a locality may or may not succeed in spending federal grant money. A community may voluntarily forgo funds due to a philosophical disagreement with the policy priority that underlies the grant program. In response to President Donald J. Trump's assertion that he will withhold federal funds to so-called "sanctuary cities" (communities that choose not to prosecute undocumented immigrants solely for violating federal immigration laws), numerous cities and states have declared that they will risk losing the money rather than revise their policies—including New York City, which could lose nearly $10.4 billion, and Santa Fe, which stands to lose $6 million, roughly 2 percent of its annual budget.

Or a community may end up leaving money on the table due to changing circumstances, says McCarthy. "Sometimes the way the locality intended to use the money has changed. They received money for a project they are no longer undertaking, for example. Or the locality's financial position has changed. In such instances, it is perfectly legitimate not to spend the money."

Other times, the forfeiture of funds is unintentional, frequently due to errors related to the use or management of the monies. To successfully use a federal grant, the community must not only deploy the funds in accordance with the program guidelines but also provide consistent, accurate, and timely reports on how the money is being used. Failure to do so can result in an "audit finding," the term used to describe significant issues identified during an audit. Grant dollars affiliated with an audit finding are at risk of being clawed back by the federal government. To help avoid these sorts of mistakes, communities must invest in reliable reporting systems and staff with specialized grants management skills.

The federal government needs to design programs that grantees can use on the ground. State and local governments need to comply with the grant requirements. All parties need to diligently track and manage the funds.

Localities grappling with financial challenges frequently lack at least some of these resources. In the face of shrinking budgets and accumulating debts, they may be forced to reduce staff, which can significantly diminish their grants management capacity. This was the case in Detroit, which became the nation's largest municipal bankruptcy when it filed in 2013. In the years leading up to the bankruptcy, Detroit's ability to access and utilize federal grant funds plummeted. Between 2008 and 2013, the city's federal award spending dropped by more than 30 percent, even as the nation's federal grant spending increased by almost 20 percent over the same period. During roughly this same time, the city lost 34 percent of its full-time employees—about 4,500 people—including a third of its planning and development department staff, which administered the roughly $265 million in the Department of Housing and Urban Development's (HUD) CDBG and HOME Investment Partnerships Program grants received by the city during the period.

The staff reductions meant a loss of not only employees but also of critical knowledge, compounded by a lack of documented policies and procedures, says John Hill, the chief financial officer for the City of Detroit. "At the time, Detroit didn't have a good system for reporting and tracking grants," says Hill, who first began working in Detroit in September 2013 as part of a team tasked with assisting the city to clean up its grants management. "Had the city implemented a tracking and reporting compliance group, it could have helped guard against leaving grant money on the table and failing to close out old projects, for example. As it was in the past, when someone left, all that institutional knowledge left with her, because there were no documented policies and procedures that would allow us to transition the grants management duties to another staff member."

Information technology (IT) systems also play a critical role in preserving this kind of institutional knowledge and in successfully tracking and reporting grant funds. In the years preceding the bankruptcy filing, senior officials in Detroit "did not know the total amount of grant funds Detroit received from the federal government, because their various IT systems did not communicate with one another. . . . Grant account information appeared in numerous makeshift spreadsheets that did not necessarily match the city's central accounting system. And Detroit's general ledger did not update automatically with grant payroll or budgeting data . . . [making] it impossible for Detroit to capture reliable financial information," according to a 2015 GAO report on the impact of fiscal challenges on grants management in Detroit and Flint, Michigan; Camden, New Jersey; and Stockton, California (U.S. GAO 2015). The city failed to complete basic accounting practices, resulting in inconsistent records and funds that were at risk of expiring. These and other IT deficiencies led to audit findings that required Detroit to compensate for the errors with money from its already-strained general funds.

A basic lack of capital can compound these problems, limiting a municipality's ability to apply for federal grants, creating a negative feedback loop in which communities most in need of the funds can't access them. Officials in the city of Flint postponed for three years their application to the Department of Transportation for a competitive Transportation Investment Generating Economic Recovery (TIGER) grant, which is evaluated in part by the amount of nonfederal money the municipality can invest in the proposed transportation project, because they were doubtful they could provide the local funds in the near term. They also declined to apply for some federal grants that included "maintenance of effort" provisions, which would have required the city to maintain local investments in the project at a designated amount for a specific number of years, over concerns they may not be able to satisfy the requirement.

Detroit: Hard Times Demanded Solutions

Once the poster child for ineffective grants management, Detroit is now the model for other communities. When Hill and his team began their work in Detroit in the fall of 2013, every federal grant dollar the city received that year—more than $200 million—was potentially at risk of being clawed back due to a lack of effective grants management controls and procedures. Fast forward three years to today, and only $214,000 of funds are at risk at the end of the City's fiscal year 2015. Hill is quick to add that he thinks his team will be able to take the necessary steps to resolve the outstanding audit findings, reducing the total funds at risk to zero.

"When we first arrived, the controls were so lax that any grant we were dealing with had the potential for problems, and we would risk having to give grant funding back. Now there's less risk because we have better controls and a better understanding of the grants management process. We have fewer questioned costs and steps we can take when there is a questioned cost to gather the documentation so that we can resolve it," explains Hill.

To make fuller use of its grant monies, Detroit invested in a modern, centralized IT system, a centralized Office of Grants Management (OGM), and a chief development officer who coordinates efforts with staff across all city departments. Credit: ManaVonLamac

According to Hill, rebuilding the city's approach to grants management was very similar to developing a corporation's 'go to market' strategy. "You want to go to market or, in this case, ask for funding in a way that shows that the entire organization, including the mayor, supports the project at all levels. When I first got here, it was clear that our 'go to market' strategy, so to speak, was not at all cohesive. It was very disjointed. There were instances when we were competing with ourselves for grants because various divisions were applying for the same funds."

To better coordinate Detroit's approach to identifying and using grant monies, Hill invested in a modern, centralized IT system. He also created a centralized office of grants management (OGM). Whereas individual departments such as health and human services, workforce development, and public safety had previously relied on their departmental staff to identify, secure, and manage grants, all grant-related activities would now be the responsibility of, or done in coordination with, the centralized OGM. In this way, Detroit began to build subject matter expertise in grants management among OGM staff, who could then partner with program staff as needed throughout the grant life cycle.

Hill and his team also created a new position—chief development officer—to coordinate efforts with staff across all city departments, including the director of the centralized OGM and the office of the mayor, to help contextualize the work within the city's larger financial position. Integrating grant activities into the city's broader financial infrastructure has been critical to its success, says Hill. "There's a connection among grants, budgeting, procurement, et cetera. If you just implement a grants management office and still have an ineffective back of the house, you might get a couple of wins; but in terms of planning, procurement, budgeting—the strategic things that need to happen to support the mayor's agenda—you'd still have big holes." As an example, he offers how the city handles the issue of securing local funds to match grant dollars, as required under certain grant programs. "In the past, we would receive a grant and have no knowledge of where the funds would come from to match it. Eighty percent of the money to fund a project would go away, because we couldn't identify the funds to contribute our 20 percent. Now, before we even apply for a grant, we identify where the matching funds would come from as part of our planning process and set those funds aside."

If Detroit is the model for a successful reboot, that may be due in part to the city's unusual access to financial resources. While Detroit is infamous as the country's largest municipal bankruptcy, it is also beloved as the birthplace and epicenter of the nation's automobile industry and a major driving force behind the country's postwar economic boom. Mindful of—and grateful for—the city's place in history, private and public organizations have poured approximately $331 million into Detroit in the wake of the bankruptcy filing to assist in its recovery.

Once the poster child for ineffective grants management, Detroit is now the model for other communities.

CONTINUED ON P 36

PLANNING FOR SOCIAL EQUITY

How Baltimore and Dallas Are Connecting Segregated Neighborhoods to Opportunity

By Kathleen McCormick

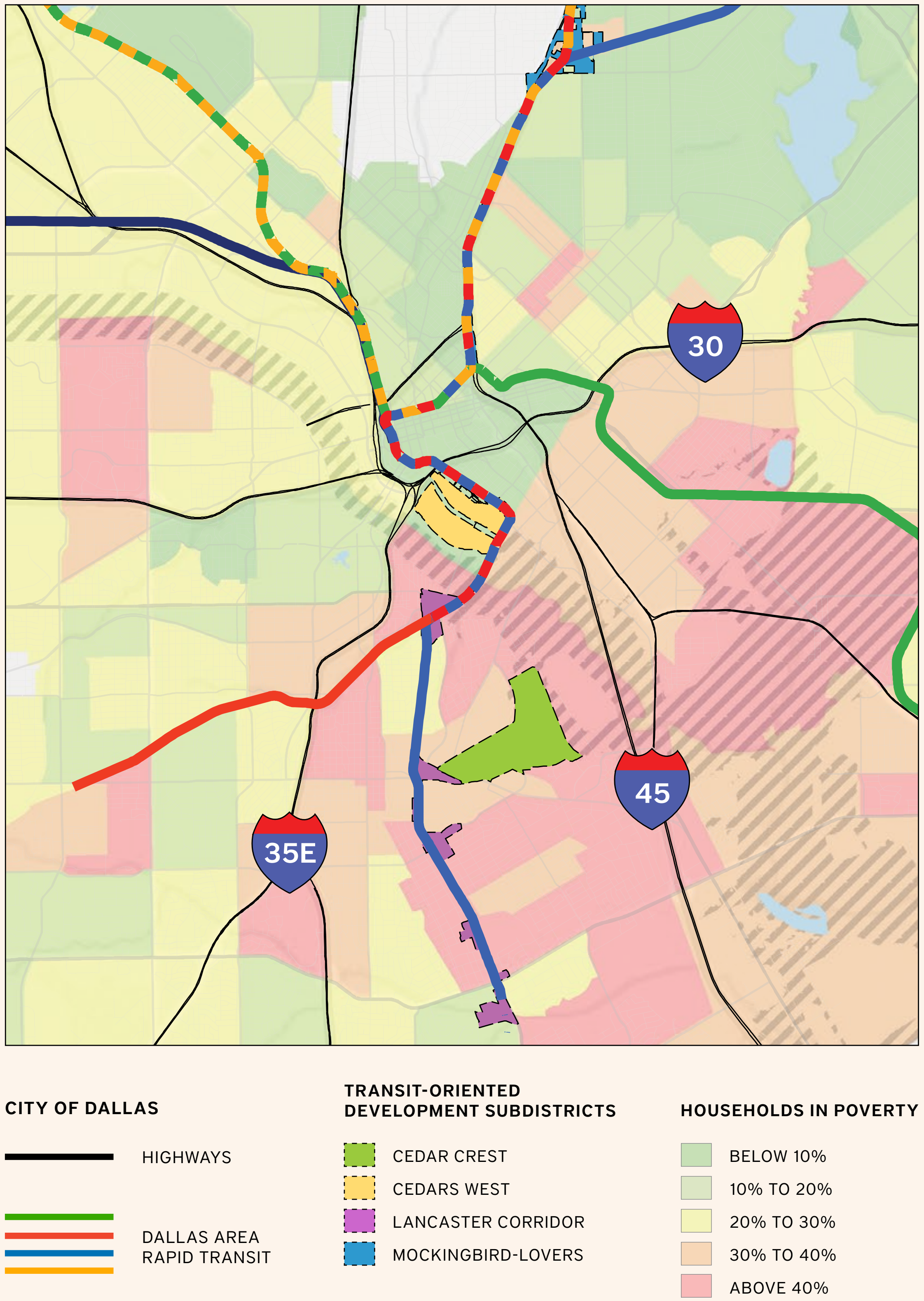
OVER THE PAST 40 YEARS, ECONOMIC INEQUALITY IN THE UNITED STATES HAS RETURNED TO LEVELS LAST SEEN IN THE 1920s, according to data from the National Bureau of Economic Research in Cambridge, Massachusetts (Saez and Zucman 2014). This gap has become more pronounced in many cities where wealth and poverty are concentrated geographically.

"In many cities, urban planners are examining old policies and writing new ones to achieve a more equitable distribution of public resources in the built environment."

In 1970, 15 percent of families in the United States lived in neighborhoods where most residents were either very rich or very poor. By 2012, this stratification had more than doubled, with more than a third of families living in neighborhoods that were mostly affluent or mostly impoverished, according to researchers from Stanford and Cornell universites (Reardon and Bischoff 2016). Poverty was the top economic concern of 100 mayors in 41 states, according to the 2016 Menino Survey of Mayors. Abundant data show that many poor neighborhoods have disproportionately high minority populations and lack access to jobs, good schools, and other opportunities necessary to help residents rise out of poverty.

Last October, at the Big City Planning Directors Institute in Cambridge, Massachusetts—hosted by the Lincoln Institute of Land Policy, the Harvard Graduate School of Design, and the American Planning Association—the issue of equity arose repeatedly as planning directors discussed their recent efforts. In many cities, urban planners are examining old policies and writing new ones to achieve a fairer, more balanced distribution of public resources in the built environment. Planners are collaborating with city residents as well as colleagues in economic development, transportation, education, housing, social services, and parks and recreation to plan strategically for greater opportunity in areas of concentrated poverty. Their goal is to make these communities more inclusive, resilient, and sustainable by providing transportation options, safe street networks, affordable housing, and access to jobs, good schools, health care, healthy food, and green space.

Dallas: Dispelling Concentrations of Poverty with Transit-Oriented Development



Over the past decade, Dallas and the Dallas Area Regional Transit (DART) agency have launched transit-oriented development (TOD) initiatives intended to bring jobs and investments to parts of the city that need a boost and have room to grow—particularly south of I-30, where poverty is concentrated.

Why is equity being addressed now, when many cities have been dealing for decades with service gaps between rich and poor neighborhoods? And how are cities approaching the challenge of planning to increase opportunity in disadvantaged areas?

"A growing body of research shows how regions that engage the entire community in economic opportunity are as a whole more successful," says Amy Cotter, manager of urban development programs for the Lincoln Institute. She says planning for equity in land use and development is becoming a priority for many municipalities and regions—especially those that are uncertain about their economic future and looking to strengthen it. "The way in which we choose to use our land either helps or hinders people's access to opportunity," Cotter says.

"The way in which we choose to use our land either helps or hinders people's access to opportunity."

The Obama Administration's 2009 Sustainable Communities Initiative and new Fair Housing rules in 2015 also brought the conversation to the national level. These federal efforts affirmed that housing location plays a big role in opportunity and that "it has to be accessible and connected," says Cotter.

The Healthy Cities movement has helped distressed communities create access to fresh food and safe walkable and bikeable routes to transit and schools.

And the planning profession itself has also been evolving in recent years from the "DAD" model (decide, announce, defend) to community engagement in collaborative planning from the ground up, notes Jessie Grogan, planning and urban form program manager for the Lincoln Institute. Planners "are doing innovative public engagement and asking questions differently," often with support from new data and mapping tools, to collaborate with communities that may not have been acknowledged in the past, she says. Planners are also learning that what data suggests about neighborhood needs and assets can be quite different from what the neighborhood residents perceive about needs and assets.

This new orientation is translating into new policies and projects. Cash-strapped municipalities are likely to start with changes they can effect quickly and affordably to make assets more available, such as adding protected bike lanes or bus shelters in poor neighborhoods, or removing barriers that impede safety and walkability, says Cotter.

Some cities are approaching equity on a larger scale. Dallas and Baltimore share a legacy of segregation that was codified for generations along racial and economic lines, and continues to limit opportunities for growing poor and minority populations today. Recent tragic events thrust both cities into the forefront of a national dialogue about racial justice—the July 2016 shooting deaths of five police officers in Dallas and the April 2015 death of a black man, Freddie Gray, while in police custody. Behind the spotlight, both cities have focused for the past couple years on dispelling concentrated poverty by introducing connections and a better quality of life to disadvantaged neighborhoods.

Dallas

Disparities between rich and poor neighborhoods are greater in Dallas than in any other U.S. city, according to a 2015 Urban Institute analysis of U.S. Census data related to household income, educational attainment, homeownership rates, and median housing values (Pendall and Hedman 2015). With 1.3 million people in 340 square miles of land, Dallas is part of the nation's fourth-largest metro area. The region is rich with growth and prosperity, but critical socioeconomic problems have dramatically impacted neighborhoods citywide. Dallas has the highest child poverty rate of the 10 biggest U.S. cities; the Mayor's Task Force on Poverty found that the poverty rate rose by 42 percent in the previous 15 years (Clayton and Montoya 2016) and that, in some neighborhoods, 50 and even 70 percent of households were poor. Dallas has a low 3.7 percent unemployment rate but tremendous income disparity, declining middle-income households, blight in concentrated areas, and a mismatch between job locations and high-quality affordable housing, with high unemployment and poverty especially concentrated in southern Dallas neighborhoods.

These disparities may have been institutionalized: In 2014, the U.S. Department of Housing and Urban Development (HUD) issued a report accusing city officials of misusing federal housing funds in a manner that caused racial segregation between northern and southern Dallas. The city was also at the center of a 2015 U.S. Supreme Court ruling that declared that policies that led to segregating minorities into poor neighborhoods, even if unintentional, violated the 1968 Fair Housing Act.

Compared to other cities, Dallas may not appear more exclusionary. But because of its history of geographic segregation, disinvestment in poorer neighborhoods was more ingrained, says Peer Chacko, Dallas planning and urban design director. In the 1960s, desegregation of the Dallas public schools led to white flight to the suburbs, leaving concentrations of poor black families in the city. Interstate highway construction beginning in the 1960s led to further isolation and disinvestment. Interstate-30, for example, bisects Dallas into, broadly speaking, a more affluent and whiter northern hemisphere and a poorer and predominantly black and Latino southern hemisphere (half of the poor here are Latino). Spanning 185 square miles, southern Dallas is home to 45 percent of the city's population but produces only 15 percent of its tax base. Many neighborhoods are characterized by deteriorating industrial sites, run-down buildings, crumbling streets and sidewalks, many bars and liquor stores, and empty weed-choked lots.

"Other cities have been planning for equity for a longer period of time, but now we're dealing with it seriously," says Chacko. "It's a focused effort with clearly stated goals." And it's not easy: Any action the city takes is highly debated and polarizing, he says. "The conversation always starts with, 'Should the government be involved in this? How will it affect our taxes?'" For many reasons, he adds, "equity has been easy to ignore."

Equity, however, is "foundational" to the city's success, says Teresa O'Donnell, Dallas' chief resilience officer and former chief planning officer. The Dallas resilience office, funded by the Rockefeller Foundation's 100 Resilient Cities initiative, is in its third of four years of grant funding with a goal of addressing long-term

On the former site of a seedy motel in South Dallas (left), Lancaster Urban Village (right) introduced 192 new affordable and market-rate housing units in a mixed-use development near transit. Credit: GrowSouth Initiative

stressors of poverty, income inequality, and social issues. The resilience strategy focuses on four key areas: transportation equity, healthcare and access to medical services, decline and disinvestment in neighborhoods along racial lines, and economic resilience.

Dallas is the core city in the booming Dallas-Fort Worth metro region, says O'Donnell, but growth trends suggest that economic vitality could be drained from the urban core, as in Detroit. Dallas competes for workers with Fort Worth, Arlington, and many suburban centers. But because of social issues, low-wage jobs, lack of affordable housing within the city, and policies that prevented affordable housing in surrounding areas, Dallas has a greater concentration of poor neighborhoods and could find itself home to all the regional poor in the future. "We need to make sure that doesn't happen," O'Donnell says.

It's also unfair that people in Dallas' poorer neighborhoods don't have access to better schools, housing, and services, says O'Donnell. "Transit equity is key to that." She says that Dallas' $10 billion light-rail system does not reach many of the disadvantaged neighborhoods, and other options, such as enhanced bus and alternative-mode transportation, are needed for underserved areas.

GROWING SOUTH WITH TRANSIT

Over the past decade, the City and the Dallas Area Regional Transit (DART) agency have launched transit-oriented development (TOD)

The new Hatcher Station Health Center (top), located on a DART light-rail stop, makes quality medical care accessible to residents of a neglected neighborhood in southeast Dallas (bottom). Credit: City of Dallas

initiatives intended to bring jobs and investments to parts of the city that need a boost and have room to grow (see map p. 27). Dallas' light-rail system includes 92 miles of track and 62 stations—19 of them in southern Dallas, with more under construction. Helped by private investments and public financing strategies such as tax increment financing (TIF) districts, some southern Dallas TOD areas have welcomed jobs and housing by mixing market-rate and affordable workforce housing with amenities and new public investments in infrastructure.

In 2008, the Office of Economic Development created the TOD Tax Increment Financing (TIF) District, spanning from north Dallas along the red and blue light-rail lines to southern Dallas' VA Medical Center Station, an economic base with 3,000 jobs and millions of patient visits per year, located in the Lancaster Corridor seven miles south of downtown. The funding structure for the TOD TIF district, whose boundaries were extended in 2010, allows for an increment-sharing arrangement, in which some projected revenues are passed from higher-income station areas to lower-income areas to subsidize development. The TOD TIF budget—with a projected total of $415 million through 2038—is intended for development that attracts jobs and middle-income residents, including public infrastructure, environmental remediation, and parks and open space. Affordable housing is required (at least 20 percent per housing project), and high-quality design that blends market-rate and affordable housing is encouraged.

The city's GrowSouth initiative, launched in 2012 by Mayor Michael Rawlins to jumpstart investment with infrastructure and capital improvements, has brought attention to southern Dallas, which Rawlins has called "the greatest single opportunity for growth in North Texas." GrowSouth's 2016 report notes that southern Dallas' tax base increased nearly $1.6 billion from 2011 to 2015 (City of Dallas 2016). This includes revenues from redevelopment projects where adaptive reuse of historic buildings and new mixed-use development—with housing, offices, hotels, restaurants, and infrastructure such as sidewalks, street trees, and lighting around transit stations—have helped attract thousands of millennials and others to live and work in neighborhoods closer to downtown, such as Cedars and North Oak Cliff.

The Lancaster corridor is a priority area for both TOD TIF funding and the GrowSouth initiative. Across from the VA Medical Center and light-rail station, the $30 million 192-unit Lancaster Urban Village mixed-use apartment complex, opened and fully leased since 2014, is considered a model for development accomplished with TOD TIF and other public monies. The 3.5-acre site includes a resort-style pool, fitness and business centers, a parking garage, and 14,000 square feet of ground-level retail and restaurant space. Half the units are affordable and half are market-rate. The historically African-American neighborhood, now half-Latino with many seniors and immigrants, is fairly stable, though it has high poverty and unemployment rates and many dilapidated buildings. In partnership with the city, the developers—Dallas-based Catalyst Urban Development and City Wide Community Development Corporation—saw potential, especially in the site's location next to transit, the VA hospital, and the adjacent offices of the Urban League of Greater Dallas.

Neighborhood Plus "shines a spotlight on equity and makes it clear that it is important for the long-term health of Dallas."

The mixed-use housing project demonstrates how the TOD TIF, land acquisition, infrastructure development, and other public subsidies have helped inject greater economic and social wealth into the neighborhood, says Chacko. "The particular success of the market-rate component shows that."

NEIGHBORHOOD PLUS PLAN

Since 2015, a comprehensive new planning and urban design department that is more directly engaged in economic development, street planning, housing, and other key issues has addressed Dallas' revitalization efforts in areas of concentrated poverty through the Neighborhood Plus plan. Adopted in October 2015 with the endorsement of Mayor Rawlins and all 14 city council members, Neighborhood Plus reflects a new, more holistic "neighborhood by neighborhood" approach to improving quality of life for all Dallas residents, says Chacko. To draft the plan, the city partnered with many groups, including the U.S. Department of Housing and Urban Development (HUD) and the Inclusive Communities Project, the Dallas-based advocacy organization behind the Supreme Court case. The plan was intended to help respond to HUD's accusations of noncompliance with civil rights statutes.

Neighborhood Plus's key goals are to create a collective impact framework, alleviate poverty, fight blight, attract and retain the middle class, expand homeownership, and enhance rental housing options. Chacko says the city is making progress on all these goals. The planning department's Neighborhood Vitality division formed a core group from various city departments, including economic development, the police, the city attorney's office, and the code department. They developed an impact framework with 11 target areas throughout the city, half of them in southern Dallas, and they're developing interdepartmental teams and action plans for each target area with partners from the Dallas Independent School District, the business community, and nonprofit organizations.

The planning department is also working on the city's first inclusionary zoning strategy for affordable housing. With help from Southern Methodist University, planners are creating a strategic action plan for fighting blight, based on a report completed for the city by the Center for Community Progress, a national nonprofit dedicated to rebuilding vacant and abandoned properties. In southern Dallas, the city has created a tax rebate program to encourage property owners to invest in renovating homes to make distressed properties livable and code-compliant. In one target area, the city is also talking with Habitat for Humanity about building homes.

"The emphasis now is on a much greater degree of public involvement in improving quality of life," says Chacko. The city is trying to create priorities for infrastructure and funding for target areas. Chacko says the target areas have helped create a much broader consensus among city council members that equity "is a critical issue, and that we should make a concerted effort to align planning with investment decisions," including potential bond program requests that might be voted on in 2017. This is a shift for Dallas, where planning generally has focused on land use and development rather than strategic investments, says Chacko. Neighborhood Plus "shines a spotlight on equity and makes it clear that we can't ignore this issue. It is important for the long-term health of Dallas."

Baltimore

Baltimore, which ranked number three on the Urban Institute's list of inequitable cities (Pendall and Hedman 2015), has distinct "health and wealth gaps" between more affluent white neighborhoods and poorer black neighborhoods. The majority of Baltimore's high-poverty, low-opportunity neighborhoods are concentrated just east and west of downtown. This pattern traces back to redlining maps from the 1930s, when Baltimore spawned "a huge legacy of proactive disinvestment along racial lines, where city ordinances drew lines so black families couldn't move across the street," says planning director Thomas Stosur. These areas concentrated predominantly with poor black residents are a result of restrictive covenants, urban renewal, the Federal Housing Administration's system for mortgage loan approval, and other policies that "directly contributed to many of the economic and social challenges Baltimore City faces today," notes the *Baltimore City Department of Planning's 2015 Equity Action Plan.*

With a population of 622,000 within 81 square miles, Baltimore is also booming, with 15,000 mostly higher-end housing units built since 2010 and large mixed-use redevelopment projects under construction in the Baltimore Harbor area. The city's population is 63 percent black, and its predominantly black neighborhoods have higher unemployment rates, more children living in poverty, less access to goods and services, and lower educational attainment than the city's predominantly white neighborhoods. The Baltimore Neighborhood Indicator Alliance found a 22.4-year difference in life expectancy according to race and location within the city: a neighborhood with 96 percent black residents had the lowest life expectancy, and a neighborhood with only 20 percent black residents had the highest.

Undoing the city's legacy of segregation and inequity is now a big focus for the planning department. In March 2015, they held staff training on structural racism, often defined as the normalized and legitimized range of policies, practices, and attitudes that produce cumulative and chronic adverse outcomes for people of color. One month later, Freddie Gray was killed, and the riots that ensued in Baltimore's isolated poor neighborhoods "underscored a need to refocus on equitable development," says Stosur. In June 2015, the city announced the One Baltimore initiative, a public-private effort to support opportunities for children, families, and neighborhoods. Department staff created the Equity in Planning Committee and an internal action plan that calls for the use of an "equity lens."

In summer 2016, the Baltimore Green Network Plan held a public meeting to engage community members in the effort to repurpose vacant and abandoned properties into parks, stormwater management areas, and other green infrastructure. Credit: Andrew Cook

Inspired by the Urban Sustainability Directors Network, the equity lens requires the commitee to apply certain questions when considering potential policy changes and planning projects: What historic advantages or disadvantages do residents face? Are there policy barriers that can be removed to close health and wealth gaps? Are engagement and representation inclusive, accessible, and authentic? What policies are available to prevent displacement as neighborhoods change and to preserve opportunities for existing and low-income residents?

The planning department is starting to use the equity lens for all programs and projects. For example, the city's recently released Food Environment Map, which addresses food access across Baltimore neighborhoods, examines ways that policies and programs impact low-income residents and people of color. The explicit focus of the lens is racial equity, but planners are applying it more broadly for women, youth, the elderly, recently arrived immigrants, and residents who are LGBT, low-income, homeless, or who have disabilities or limited English proficiency.

Especially in East and West Baltimore, which have the least green infrastructure, "It's time to look at how to change the paradigm in these neighborhoods. We all know the blight has to go, and we want to remove it in a responsible, well-planned way."

SUSTAINABILITY PLAN THROUGH AN EQUITY LENS

At the same time the planning department formed the equity committee, it began using an equity lens to update its 2009 Sustainability Plan "to hear more voices, and from people who aren't usually heard from," says Anne Draddy, sustainability coordinator for the city. The plan update is being overseen by the Commission on Sustainability and a sustainability committee, including commissioners and community members. It will use an equity lens to focus on environmental issues such as sustainable land use, biodiversity, energy efficiency, resiliency, and the overall economic climate of the city. The effort "will focus on our most vulnerable, historically disinvested neighborhoods" to help improve conditions "where the most severe racial inequities exist," notes the sustainability office website.

The city's outreach focuses on a new community engagement process. The sustainability office recruited 125 resident ambassadors at community meetings and through its website to ask Baltimoreans what they want to see changed in their neighborhoods. About 68 percent of ambassadors are African-American, reflecting planners' efforts to mirror the racial

The Baltimore City Department of Planning is leading the $5 million INSPIRE initiative to enhance neighborhoods with green space, safe routes to schools, and public art around each new 21st Century School. Credit: Baltimore City Department of Planning

demographics of the city. The planning department also hired an equity consultant to train staff and the ambassadors and developed a brief neighborhood survey. "As we went through training with the ambassadors," says Draddy, "we turned the [predetermined] survey questions around to: What are the three things you like best about your neighborhood and the three things you like least? We took a chance and stepped out of our comfort zone."

Planners divided the city into 10 random districts, depending on population, and designated a lead in each district. With grant funding from the Town Creek Foundation in Maryland and the Urban Sustainability Directors Network, they paid each lead $400 to create a team and gave team leaders an iPad and a $300 gift card to buy t-shirts, hats, or a meal for their teams. Planners also assembled a tool kit and binders and provided water bottles and thousands of pens for residents who attended meetings (the swag was very important to youth ambassadors and residents involved in this new kind of community outreach, notes Draddy). Planners and ambassadors also worked with 25 groups, including those involved in transportation, energy, urban design, and racial justice. They documented the race, age, sex, and neighborhood of people who attended meetings and responded to the survey online.

"The equity consultant urged us to go for metrics to understand and link responses," says Draddy. "That was an important element." She says the community has expressed appreciation for "being listened to." A draft survey report is due in early 2017.

INSPIRE COMMUNITY AND SCHOOLS PROGRAM

Partnering with the Baltimore City Public Schools, Maryland Stadium Authority, and the State of Maryland, Baltimore is investing $1 billion in the 21st Century Schools Initiative to renovate or replace 24 city schools over the next several years. The planning department is leading a $5 million initiative called INSPIRE (Investing in Neighborhoods and Schools to Promote Improvement, Revitalization, and Excellence) in neighborhoods within a one-quarter-mile radius around each school. Planners are conducting workshops and focus groups and working with neighborhood teams to develop individual vision plans outlining public and privately funded improvements to public infrastructure, transportation, housing, and open space around each INSPIRE school.

"We're attempting to take the catalyst of new $30- or 40-million school buildings to bring stakeholders together to build an improvement strategy," says Stosur. "This is huge, and we hope a game changer to market these neighborhoods to populations that might not be aware of the housing stock nearby. We want to engage residents around this school topic." INSPIRE teams are looking to improve students' routes to school with new sidewalks, lighting, green spaces, playgrounds, community gardens, and public art.

These efforts piggyback on another initiative by former Mayor Stephanie Rawlings-Blake to attract 10,000 families to inner-city neighborhoods. Rawlings-Blake also proposed a plan to spend more than $135 million to build or upgrade 40 recreation centers across the city, funded in part by leveraging the sale proceeds of four downtown parking garages. The plan would expand and upgrade small outdated recreation centers in underserved areas with swimming pools, gyms, and other facilities that more affluent neighborhoods have had access to, and would capitalize on investments made through INSPIRE. The new Baltimore mayor, Catherine E. Pugh, who took office in December 2016, along with a city council of 15 that includes eight new council members, will determine how these and other initiatives go forward.

GREEN NETWORK PLAN

The Baltimore planning department is the project manager for the Green Network Plan, launched in April 2016 to repurpose some of the city's 30,000 vacant and abandoned properties into new green infrastructure such as parks, community gardens, urban farms, open space, and stormwater management areas. The plan is intended to remove blight, stabilize neighborhoods, and fill in gaps in the city's existing green network. A consultant team led by Baltimore-based Biohabitats is assisting in the plan development process, using real estate data, computer mapping, and environmental planning techniques. Collaborating with the Parks and Recreation department, planners will assess opportunities to connect new green spaces to parks, trails, open space, and forests developed from a 1904 plan created by the Olmsted Brothers landscape architects. Planners will also analyze vacant parcels to identify those that could be assembled for future residential and mixed-use redevelopment.

The plan is "attempting to directly address equity in high-poverty, high-challenge neighborhoods," especially in East and West Baltimore, which have the least green infrastructure, says Stosur. "It's time to look at how to change the paradigm in these neighborhoods. We all know the blight has to go, and we want to do it in a responsible, well-planned way."

Four sites in East and West Baltimore have been identified for community charrettes for pilot greening projects. Like INSPIRE, the green network plan will be underwritten by capitalizing on other public funding streams. The State of Maryland is paying for demolition and stabilization projects throughout the city via Project C.O.R.E. (Creating Opportunities for Renewal and Enterprise). This funding, together with the city's Vacants to Value targeted code enforcement and redevelopment program, as well as the city's "MS4" Stormwater Permit funded through the water-ratepayer utility—potentially will invest tens of millions of dollars in federal, state, and local funds to develop the green network plan, says Stosur. A green network vision plan is due in 2017.

Planners in Dallas, Baltimore, and other cities acknowledge that planning-for-equity measures alone won't solve the deep-rooted problems that accompany poverty and racial discrimination in disadvantaged neighborhoods. But they say that collaboration with these communities, as well as carefully targeted investments, can begin to provide opportunity where little existed before.

Kathleen McCormick, principal of Fountainhead Communications, LLC, lives and works in Boulder, Colorado, and writes frequently about sustainable, healthy, and resilient communities.

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Money on the Table
CONTINUED FROM P 25

"In addition to restructuring grants management, we restructured the entire financial management organization. We identified the skills and competencies we needed and hired qualified new or existing people into new jobs. We now have more people in grants and financial management positions, and they possess the skills and competencies to do the jobs and are compensated accordingly. Having the authority to completely restructure an operation from top to bottom is a luxury I don't take for granted, and I know other cities might benefit from a similar approach," admits Hill.

Municipalities with less money have to address grant management challenges in less expensive ways. Many turn to partnerships with state and local organizations in an effort to streamline the process and offload some of the responsibility. For example, Flint, in Genesee County, looks to the Genesee County Land Bank to manage the demolition of blighted structures with state and federal funding. "It's a huge load off of the city," explains Christina Kelly, the land bank's director of planning and neighborhood revitalization. "In the past, the city had to do its own demolition, which is a major undertaking when state and federal grants are involved. They had their own demolition department and their own demolition crews. Now we manage the state and federal demolition grants and the demolition process instead." The land bank is also managing more than $6 million in federal grant funds tied to the redevelopment of a former General Motors manufacturing site in downtown Flint that is being cleaned up and converted into green space. "The city is still at the table," says Kelly. "We are following their master plan, and they give input into the decision making process. But the day-to-day grants management is off their shoulders, as is project management."

The federal government is also working to help grant recipients to more fully utilize the funds. In 2011, President Obama announced Strong Cities, Strong Communities (SC2), an interagency initiative to increase the capacity of local governments "to develop and execute their economic visions and strategies" by providing technical assistance across a wide range of areas, including grants management. "The idea behind SC2 is for the federal government to identify ways to have a more flexible relationship with local governments—one that is responsible and accountable but acknowledges that different communities may need different things," says Poethig. "For example, maybe the community has received a grant but doesn't quite have the full matching funds yet that the grant requires. We can look at that and ask if perhaps there are ways we can be flexible so that they can still use the grant money as they assemble the matching funds."

Additionally, some federal agencies are reviewing and revising their procedures to reduce the amount of funds that remain unspent. But efforts appear piecemeal. Individual entities—including the departments of Commerce, Justice, and Health and Human Services, along with the National Aeronautical and Space Administration (NASA) and the National Science Foundation (NSF)—have implemented policies to "elevate the issue of timely grant closeout internally," according to a 2016 report by the GAO. However, there's currently no movement toward introducing a single set of tracking, reporting, and closeout procedures that could be applied across all federal grants and granting agencies to streamline and standardize these critical activities.

More remains to be done, says McCarthy, who is especially interested in the question of program design. "If the federal government persists in concluding that the failure to use allocated funding is a local pathology, nothing will ever be done to address systemic defects built into the programs or policies," he says. "It's like a dysfunctional family. How do the problems get fixed if the parents claim that the dysfunction resides with the children, who are often the victims of the dysfunction? Someone else needs to intervene to get the parents to see their role in creating the dysfunction. Organizations like the Lincoln Institute can play the intervening role if they are able to use their access to policy makers and their convening power to create the forum for helpful discussion."

Loren Berlin is a writer and independent communications consultant in Chicago.

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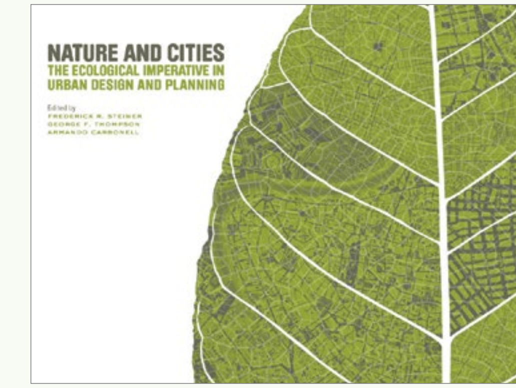
Nature and Cities: The Ecological Imperative in Urban Design and Planning

Edited by Frederick R. Steiner, George F. Thompson, and Armando Carbonell



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NAMED ONE OF THE BEST BOOKS OF 2016 BY THE AMERICAN SOCIETY OF LANDSCAPE ARCHITECTS, *Nature and Cities* calls for the integration of nature in urban design and planning to make cities and urban infrastructure truly green, sustainable, and resilient. This richly illustrated collection of essays by leading international landscape architects, architects, city planners, and urban designers, suggests that ecologically based urban designs and plans have become economically and environmentally critical as the world urbanizes and the effects of climate change grow more severe.

The authors include a range of practitioners and scholars who build on traditions by leading thinkers during the last century such as Aldo Leopold, Ian McHarg, and Patrick Geddes and the premise of *Ecological Design and Planning*, also edited by George F. Thompson and Frederick R. Steiner.

Harvard professor Charles Waldheim summarizes advances in the emerging field of landscape urbanism, showing how New York City's High Line, designed by chapter author James Corner, and Chicago's Millennium Park transformed derelict infrastructure into public amenities that "convene community, catalyze development, and remediate environmental conditions for a newly conceived public realm." Landscape architect Kate Orff describes the restoration of oyster reefs in New York Harbor to purify water and create a living breakwater to mitigate sea level rise. And Susannah Drake calls for a U.S. infrastructure upgrade—a WPA 2.0—to renovate failing highways and other public works so they soak up water and perform other ecological functions.

Each author in *Nature and Cities* offers a sense of direction, purpose, and model for how landscape architecture, architecture, and planning can ". . . be engaged in community life at every scale and in every city and town in the world," the editors write in the introduction. "This may well mean that a new generation of practitioners will need to become instruments of enlightenment and change in occupations still very much in need of such care: notably, engineering, transportation, utilities, agriculture, resource industries, and commercial development—which, with too few exceptions, remain behind the times.

"Imagine engineers embracing the tenets of ecological design and planning as they create roads, parking lots, interstates, impoundments, and other basic infrastructure. Imagine those engaged with municipal management as well as agricultural, industrial, transportation, and utility sectors abandoning single-purpose thinking. Imagine that."

ABOUT THE EDITORS

Frederick R. Steiner is dean of the School of Design and Paley Professor at the University of Pennsylvania. George F. Thompson is the founder of George F. Thompson Publishing. Armando Carbonell is chair of the department of Planning and Urban Form and a senior fellow at the Lincoln Institute of Land Policy.

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