GOVERNING

THE STATES AND LOCALITIES

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The International Issue


WHAT WE GUARANTEE IS AMERICA'S
ABILITY TO MAKE PROGRESS.

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INTERNATIONAL ISSUE

FEATURES

The Terrassenhaus apartments in Vienna are an example of the city's unique approach to public housing.

Cover: The skyline of Shanghai's booming Pudong area

PHOTO BY HEIMO AGA
COVER PHOTO BY TOPIC PHOTO AGENCY/CORBIS

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Governing Internationally

In our 25-year history, *Governing* has produced just a handful of internationally focused articles. One, written in the 1990s, examined Christchurch, New Zealand, when it was touted as the best-managed city in the world. Others have looked at Germany's regional consolidation, Canada's pension system, Great Britain's library system and infrastructure projects in Europe and Asia.

It's time, however, to recognize that good ideas occur globally at a much faster pace than is reflected in our prior coverage. That's why we've devoted this entire issue to international stories. From start to finish, the features and columns address what is going on in the world and the ideas that have relevance here in the United States. Our coverage ranges from local issues, such as housing in Vienna and Amsterdam's struggles to cope with its marijuana cafés, to major policy trends, such as performance funding in the United Kingdom and Singapore's use of data to become the smartest city in the world.

Erin Waters, Publisher

I was thinking about the intersection of international stories and U.S. states recently, when I had the opportunity to sit down with my home-state Gov. Dave Heineman and first lady Sally Ganem (who also happens to have been my first-grade principal). Like most state leaders, Heineman says economic development is a top priority for the coming year, and the route to a better economy is increasingly international. Nebraska is home to five Fortune 500 companies (Peter Kiewit Sons' Inc., Berkshire Hathaway, Union Pacific Corp., ConAgra Foods and Mutual of Omaha) that do major international business. Heineman believes the role of government is to start relationships and to open doors for its state's citizens and businesses.

Under Heineman, the state opened the Nebraska Center in Tokyo to be its "main point of contact for Japanese businesses looking for business opportunities in Nebraska." He led a delegation that recently returned from a trip to China, where it laid the groundwork for another center in Shanghai. Heineman also has hosted reverse trade missions to Nebraska, during which foreign visitors meet local business leaders and government officials to learn more about what the state offers in agriculture, health and other areas. In Heineman's view, the competitive landscape has expanded in the modern world. It now is "India, Pakistan and China, not Iowa, Kansas and Nebraska."

Let me know if this global issue introduces you to some good ideas that might end up as solutions for governing at home. You can always reach me at ewaters@governing.com.

GOVERNING

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What Mass Exodus?

Not to throw cold water here, but I was in public policy school 12 years ago and I remember the exhortations to go into public-sector work because 35 percent of the workforce was going to retire in the next five years [“Exit Strategy,” December 2012]. Once agencies start budgeting salaries like they will be funding positions for new hires and not decades-long vets, I’ll believe this.

—Paul Zurawski on Facebook

Less Than Perfect Metrics

I believe part of the challenge is that we look to metrics as a source of accountability rather than a source of learning [“Measure Beyond Measure” in Smart Management, January 2013]. While accountability for dollars spent is certainly important, we often ignore the importance of using data for real-time iterative learning and course correction. In this context, metrics don’t need to be perfect; they only need to be practical and actionable. Take for example PerformanceStat systems. In many instances, the metrics reported through these programs have been less than ideal. However, they have been sources of new value creation for the public specifically because they have brought together key players in a room on a frequent schedule to debate the effectiveness of different strategies using real-time evidence. I think we should perhaps find new (less than perfect) metrics that we can use to generate rapid cycle learning.

—Mark Sullivan
Seattle, Wash.

Thanks for that important insight. If we can shift everyone’s thinking towards lessons learned and how to make improvements, that would be so much better than obsessing about winners and losers, right and wrong, or black and white.

—Thinker on Governing.com

Call It a Wash

[“The Battle of the Roofs” in Green Government, December 2012]. In terms of temperature, these two roofs should be presented as testing out as equally effective.

—Meg Caprino on Governing.com

“Equally effective,” yes. “Equally cost effective,” no. That is how I read it. That said, a green roof gives the building more usable space or at least a different use.

—Willie Wilmette on Governing.com

One major point missing in the maintenance costs discussion is that the green roof will protect the membrane from UV degradation and other atmospheric damage for far longer than the white membrane will. The green roof may last 40, 50 years or longer. The white membrane will likely show signs of wear within 10 years (including patching and repair) and need replacing within 20 years.

—Joe Dicaprio on Governing.com

“Congratulations *Governing,* on the most authoritative summation yet of the challenges ahead as demographic and economic reality collide with the politics of denial [“‘Can You Imagine Being 85 and Homeless?’” January 2013].”

—Ben Brown of Franklin, N.C.

GOVERNING **generations**

Maybe you’ve heard: For the next two decades, baby boomers will turn 65 at a rate of 8,000 a day. In September, we launched a series of stories exploring this massive transition. Peruse all our articles on aging, as well as additional data and interactive content at governing.com/**generations**

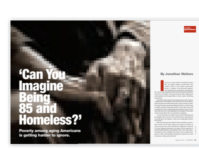
Reverberations

Here are the articles from the January issue of *Governing* that drew the largest response. Letters to the editor are still welcomed at mailbox@governing.com.

Most “likes” on Facebook: “Issues to Watch 2013” by Ryan Holeywell

Most Tweeted: “The Millennials in the Mayor’s Seat” by Dylan Scott

Most online comments: “Test Marketing Your Technology” by Steve Towns



Most media coverage: “‘Can You Imagine Being 85 and Homeless?’” by Jonathan Walters

PLAY MATTERS FOR THE HEALTH OF CHILDREN

APPLY BY MARCH 13

From Kenmore, Washington, to Rockledge, Florida, hundreds of cities have been recognized as Playful City USA communities for implementing policies and programs to make their kids happier, healthier, and more playful.

Building Playgrounds

Williamstown, Kentucky, a Playful City USA since 2011, was awarded a **Let's Play Construction Grant** to build a brand new playground. Thanks to the efforts of community volunteers and city leaders, hundreds of children now have a great place to play within walking distance.

Opening Playgrounds

A three-time Playful City USA honoree, Bethlehem, Pennsylvania, received a **Let's Play Joint Use Grant**, to open school playgrounds to the public. Now, kids in nine communities enjoy evening and weekend access to playgrounds that were formerly off-limits.

Over 50 Playful City USA communities have received Let's Play Grants.

Learn how your city can be honored and apply for grants:
grants.playfulcityusa.org.

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Observer

Tweet, the People

Unrest in Iceland led to the world's first crowd-sourced constitution.

SOCIAL MEDIA is connecting citizens to elected officials in unprecedented ways. But can that direct connection result in real legislative change? In Iceland, apparently the answer is yes.

Following the massive social unrest from Iceland's 2008 banking collapse, the country's political landscape changed drastically. Many officials left office, and the lack of political leadership dovetailed with a growing general distrust of legislative leaders. So when the country decided to modernize its outdated constitution (an effort that's been in talks for years), officials went straight to the citizens themselves. As a result, Iceland's new constitution is the first ever to be composed through crowdsourcing.

In a 10-month process culminating last fall, Iceland elected a 25-member Constitutional Advisory Council from more than 500 candidates, sought feedback through social media sites, and then drafted a new constitution based on that input. The document was approved by national vote in November. Parliament is expected to affirm it this spring.

Thorvaldur Gylfason, a professor at the University of Iceland and a member of the council, says the council's diversity led to many spirited debates. But the members developed a respect for one another through camaraderie and a common purpose, even ending many of their meetings in song. (One of the council members happened to be one of Iceland's premier entertainers.)

"Even so, it seemed possible a couple of times or so that the final vote on the bill as a whole might not reach 25 against zero, but we always found a way to keep everyone on board," Gylfason says. "We did this not by watering down the bill but rather through respectful argument, resulting in amicable agreement."

Some municipalities in the U.S. have dabbled in crowdsourcing, albeit on a much smaller scale. In Seattle, Budget Director Beth Goldberg enlisted the public's opinion during the budget writing process through an online game that challenged residents to pick funding priorities and then close a $31.7 million gap in the 2013 budget. Unlike in Iceland, the process served more as a way to compare the administration's budget proposal with the public's thinking. "The results ended up kind of mimicking what was allocated [in our budget]," Goldberg says. The city is now considering crowdsourcing policy decisions on issues like environmental action plans and greenspace planning.

Fully importing Iceland's experiment could be hard. In theory, says Gylfason, Iceland's approach could be replicated by any city or county considering major changes, such as school reform. "Whether the same process would work as a model for revisiting the U.S. Constitution is another matter," he says. The problem isn't just that the U.S. is so much bigger than Iceland, and has a much more heterogeneous population. "But rather perhaps because U.S. politics have become so polarized."

One commonality between the American constitutional convention and Iceland's online experiment? "From start to finish, the drafting of the bill took four months," says Gylfason, "just as in Philadelphia in 1787." —*Liz Farmer*

APIMAGES.COM

Filling Urban Spaces, One Gap at a Time

ON A MILD EVENING in May 2011 in Christchurch, New Zealand, a group of 150 teenagers crowded together in a downtown venue for a concert featuring local bands. The event seemed like any typical night out in the largest city on New Zealand's south island. In fact, the gathering was far from ordinary. For many of the teens, the concert marked their first foray into the city since a pair of quakes in September 2010 and February 2011 leveled nearly all of downtown Christchurch. And the venue—an empty lot temporarily equipped with a stage and other necessities like refreshment stands and bathrooms—was far from a hip music club.

The event was one of the many projects executed by a program called Gap Filler, which seeks to find temporary uses for Christchurch's many vacant spaces. The organization, which is funded through grants and private donations, kicked off its first project in November 2010 with a garden café and outdoor theater at the former site of a restaurant. Since then, Gap Filler has found quirky uses for more than a dozen spots around town—turning vacant lots and empty buildings into art galleries, retail shops and even, in one case, a sauna.

Coralie Winn, a co-founder of Gap Filler, says that the organization's projects have provided the locals a respite from the drudgeries of the slow rebuilding process after the earthquakes. "It was the first thing that was a positive, that people could see something real taking place," she says. "It gave people a sense of hope and excitement."

Gap Filler isn't a public-sector project, but there's no reason cities everywhere couldn't replicate the formula. Finding temporary uses for spaces awaiting redevelopment is a rising trend in the U.S., where pop-up stores and art installations are growing in popularity. "The idea is that any use is better than no use," says Ed McMahon, a senior resident fellow at the Urban Land Institute. "From the standpoint of a shopper, a place is better than a nonplace."

That's the thinking in Washington, D.C., where the city government is pursuing temporary creative uses for the campus of the former St. Elizabeth's Hospital, which has long been slated for redevelopment. The historic site in the city's southeast quadrant is being redeveloped in phases, but in the meantime officials want to put it to better use. The city hired a developer to construct a temporary pavilion to host a variety of endeavors, including lunchtime food vendors and evening concerts. In addition to providing new retail to a traditionally underserved section of D.C., the $5 million pavilion allows the city to build and test a market for a permanent project. "It's attracting partners that will ultimately make this site successful," says project manager Ethan Warsh.

A coordinated approach to pop-ups could be especially beneficial in places, like Christchurch, that are recovering from a natural disaster. After Hurricane Katrina, for example, artist Candy Chang turned vacant New Orleans buildings into community posting boards and gathering spaces. Winn says projects like Gap Filler could work well in cities in New York and New Jersey that were decimated by Hurricane Sandy. "After a disaster, the need for this kind of thing is 100,000 times stronger," she says. "It is very symbolic to use spaces that until recently used to be someone's home or business. I think this could absolutely be used all over the world."*—LF*

GAP FILLER

One project last year involved a cycle-powered cinema.

“Our version of the U.S. subprime crisis is the lending to local governments, which is causing defaults.”

—Cheng Siwei, a former deputy head of China’s top legislative body, speaking at the World Economic Forum last fall in the Chinese city of Dalian. Outstanding local government debt in China stands around 10.7 trillion yuan, or about $1.7 trillion. Officials worry the debt could derail China’s economic growth. Source: Bloomberg

Trading Trash for Tomatoes

MEXICO CITY IS BIG. With a sprawling metro population around 20 million, it’s one of the largest urban areas on the planet. And all those people produce a lot of trash—about 12,000 tons of solid waste every day.

Residents bring recyclables to exchange for farmers market vouchers.

SMA.DF.GOB.MX

Up until about a year ago, most of that trash was being sent to one landfill, a massive dump on the east side of the capital called Bordo Poniente. In use since 1985, the site had amassed some 76 million tons of waste. The national government began pushing to close the dump in 2008; the city finally shuttered the site in December 2011. But officials neglected to come up with an alternative solution. As a result, Mexico City faced a giant, filthy problem. Mountains of trash piled up at illegal dumping sites throughout the city, and garbage bags lined the streets. Many neighboring sites refused to take Mexico City’s trash, and those that did were overwhelmed. Garbage trucks waited six hours at some landfills; most of the trucks simply had nowhere to go.

Officials needed to cut waste and encourage recycling, but simply distributing blue recycling bins wouldn’t have been enough. They came up with an innovative idea: Let residents trade trash for food.

The city set up a massive farmers market—Mercado del Trueque, or “barter market”—in a large park west of the capital. Under a canopy of big trees, families gathered in the Bosque de Chapultepec park, hauling their paper, metals and other recyclable waste to exchange for “green point” vouchers based on weight. Under large white tents, government employees and volunteers sorted items and distributed vouchers. Residents then redeemed their points for seasonal produce from local farmers.

More than 3,000 families lined up with bags of trash on the market’s opening day. The city estimates the market brought in nearly 11 tons of recyclables in its first day. Since then it’s been held the first Sunday of every month. The government sells the raw materials to manufacturers, but doesn’t collect quite enough to cover all the food costs. Officials subsequently have expanded the program to include used electronics and other types of recyclables. In addition to mitigating the city’s waste problem, the market provides residents access to an array of fresh fruits and vegetables. At the September market, for example, shoppers chose from 8 tons of broccoli, onions, spinach and other healthy foods.

Despite the program’s success, it’s a small dent in Mexico City’s massive trash problem. But officials hope the experience of the Mercado del Trueque could encourage residents to recycle more regularly. (Only about 12 percent of Mexico City’s waste typically gets recycled.) It’s part of a larger wake-up call about handling urban waste, says Pierre Terras, a Greenpeace campaigner in Mexico City. “Now they know that it’s a big problem we need to solve very urgently.”

—Mike Maciag

THE BREAKDOWN

3

Estimated total number of years longer that Italian schoolchildren spend in school than Finnish schoolchildren do. Yet Finland recently placed No. 1 in a ranking of international education systems, while Italy ranked 24th. (The United States was No. 17.)

€1m

Amount set aside by the city of Amsterdam (about $1.3 million) to relocate its worst bullies and vandals to the outskirts of town in cramped housing units for a minimum of six months. The plan, described as "Orwellian" by *The Washington Post*, is scheduled to go into effect this year. Political opponents say the new developments amount to "scum villages."

22%

Average pay gap between men and women in families with one or more children across 30 industrialized countries. Much of the disparity stems from childbearing and parenting; the gap is much smaller, about 7 percent, in families without children.

56.5%

The proportion of parliamentary seats held by women in Rwanda in 2012, the highest rate in the world, according to the World Bank. The global average was 20.5 percent. In the U.S. Congress, the rate is 17 percent; about 23 percent of state legislators in the U.S. are women.

SOURCES: ECONOMIST INTELLIGENT UNIT/*NEW YORKER*, BBC NEWS, THE ORGANISATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT

A Safe Place to Shoot Up

IN THE UNITED STATES, there's perennial controversy surrounding harm-reduction programs—the idea that governments should try to mitigate the dangers of certain behaviors, even if those behaviors are inherently risky. Free condoms may reduce teen pregnancies, but critics argue that they encourage more kids to have sex. Needle-exchange programs might decrease drug addicts' risk of contracting HIV and other diseases, but opponents say they're a government-approved greenlight to shoot up.

In Canada, there's one public health facility that makes the debate over needle exchanges seem quaint. This year marks the 10th anniversary of a government-run facility in Vancouver that provides drug addicts a safe place to use heroin, cocaine and other illegal substances under the supervision of medical professionals. The facility, called Insite, is located in Vancouver's Downtown Eastside, one of the poorest parts of Canada. Funded by the British Columbia Ministry of Health, Insite is run by Vancouver Coastal Health, the regional health authority, in conjunction with the Portland Hotel Society, a nonprofit serving people with mental health and addiction issues. It was opened largely in response to rising HIV rates among intravenous drug users that were approaching developing-world levels.

The inside of the facility is simple, clean and well-lit, something like a cross between a test-taking facility and a dentist's waiting room. There's a central nurses desk and 12 booths where visitors can inject themselves. The facility doesn't provide illegal substances, but it does give drug users clean syringes, filters, tourniquets and other paraphernalia. Nurses and doctors don't inject the drugs, but they closely monitor visitors while they do. In 2010, the most recent year for which statistics are available, more than 12,000 people made 312,000 visits to the facility. There's typically a line to get in before the site opens its doors at 10 a.m.

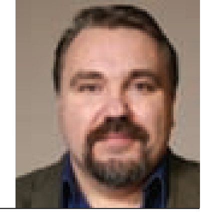
Safe injection sites have been around for a couple decades, mostly in Europe. But for years they operated largely in a legal gray area—funded perhaps by local health authorities and ignored by police, but lacking outright legal approval. In the past 10 years, that's begun to change. Starting around 2000, countries including Germany, Norway and Spain began granting full legal sanctions to safe injection sites. Today there are roughly 90 such facilities in Europe and Australia.

Insite has been controversial; Prime Minister Stephen Harper is a critic. There have been repeated efforts to shut it down. In 2011, however, a Canadian Supreme Court ruling essentially cleared all of the legal hurdles facing the facility.

Insite is the only facility of its type in North America.

APIMAGES.COM

Officials describe Insite as the "first rung on the ladder" from chronic drug addiction to recovery. Once drug users enter the facility, they may be likelier to take advantage of counseling, housing assistance, addiction services and mental health treatment—all of which Insite staff helps to arrange. No users have ever died at Insite, and in 2010 the staff helped intervene in 221 overdoses. "These are marginalized people," says Anna Marie D'Angelo of Vancouver Coastal Health. About half the patrons are homeless, living in shelters or suffering from untreated mental health conditions. "They've been disconnected from society in lots of ways for many years. The idea is to slowly build up their trust." *—Ryan Holeywell*



By Paul W. Taylor

A Steaming Slice of Privacy

Privacy, like pizza, means different things to Americans and Europeans.

ROME—In October, I stopped for lunch at an outdoor osteria on Via della Lungara just east of the Tiber River. The pizza served there—puffy Neapolitan crust with buffalo mozzarella and fresh San Marzano tomatoes—was just the early part of a multicourse meal that always includes wine. Compare that to the American pie, a main course with its chewy crust smothered in tomato sauce, cheese and a seemingly endless variety of toppings. It almost always is accompanied by beer. All sorts of pies and slices get called pizza in the U.S., while the name and geographical distinctiveness of Neapolitan pizza is protected under European Union law.

On that trip, just two blocks from the osteria, an international gathering at John Cabot University, a private American liberal arts school in Rome, was considering another transatlantic divide—privacy in an era of big data—that has striking similarities to the different ways Americans and Europeans cook and serve pizza.

Restrictive, comprehensive data protection regulations safeguard the use of personally identifiable information throughout Europe, while privacy protections in the U.S. resemble a patchwork quilt of measures, with a tendency toward industry self-regulation in areas where the law is silent.

Many Americans use their personal information as a commodity that can be traded as currency in retail transactions to earn discounts on the purchase of groceries, gasoline and a wide variety of everyday goods. That practice angers Daniele Pica, a professor at John Cabot, who has worked with the nonprofit Privacy International to fight intrusions into private life by businesses and government across the world. “Commodification is insulting,” he says. “Consent is essential because control over personal data is a fundamental human right.”

Attempting to codify a fundamental human right is both daunting and contentious, as the European Commission is finding out as it works to finalize a new General Data Protection Regulation, which is due to take effect in 2015. The size, scope and complexity of the effort dwarfs America’s HIPAA privacy rule, which became law in the late 1990s. At root, the E.U. regulation must harmonize 27 member states, while not precluding country-specific add-on provisions.

In the proposed regulation, consent to the use of someone’s personal information will “not only have to be free, specific and informed, but also explicit.” European policymakers see the change as a small step forward in privacy protection, but it introduces greater uncertainty for international companies that anticipate significant global economic growth from big data, a term for the analysis and use of vast amounts of data to gain new insights into all kinds of behavior—climatic, societal, organizational, operational and consumer—at a once impossible scale.

Will Marshall, president of the left-leaning Progressive Policy Institute, which convened the forum, says big data is key to reviving economic competitiveness in the U.S. and Europe. He worries that disparate privacy rules pose a threat to a “robust ecosystem of innovation-based growth.”

American companies face the delicate task of expressing strong opposition to the privacy regulations sought by European officials in Brussels while being diplomatic about their approach. Among the potential openings for reconciling transatlantic differences over privacy are provisions in the proposed E.U. regulation for codes of conduct. Seen as stronger than self-regulation but less restrictive than full-on regulation, the codes could provide an innovative way to navigate the competing interests of privacy and big data.

Jacques Bughin, a director with McKinsey & Company, is among those who work with European parliamentarians and data protection officials. He sees the risks of both sides locking themselves into extreme positions. Bughin cautioned everyone to “go after their devils but don’t kill the golden goose.” G

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SHUTTERSTOCK.COM

By Donald F. Kettl

Tokin' Times

Worldwide, local pot laws are increasingly at odds with national policies.

Has The Dude, the pot-smoking character played by Jeff Bridges in the film "The Big Lebowski," become Seattle's new poster child? In December, using small quantities of marijuana became legal in Washington state, and the Seattle Police Department (SPD) responded by posting Bridges' picture on its website with the caption, "The Dude abides, and says 'take it inside.'"

Under the referendum passed by voters in November, state residents can possess small amounts of pot, but not in public. The SPD's advice: "Under state law, you may responsibly get baked, order some pizzas and enjoy a 'Lord of the Rings' marathon in the privacy of your home, if you want to."

Breckenridge, Colo., might have beaten them to it. For years, newspaper reporters have long referred to the town as "The Amsterdam of the Rockies," where some residents quietly encouraged tourists to come for "our great outdoor beauty—and then relax with a joint at the end of the day." Now, residents in Colorado have also joined with Washington, voting to legalize the possession of small quantities of pot.

But if voters in Colorado and Washington decriminalized the possession of marijuana, federal law remains clear and inflexible. National drug policy still classifies pot as a Schedule I drug, along with heroin, ecstasy and LSD, with "no currently accepted medical use in the United States" and "a high potential for abuse." That has left the Obama administration nothing but tough choices: invoking federal preemption and taking a tough enforcement stand, which would anger many members of the base that just returned the president to the White House; doing absolutely nothing; or artfully threading their way through the dilemma of strong state support for decisions that are in opposition to national policy.

Even Amsterdam has struggled with this tension. The Dutch capital is home to hundreds of "coffee shops," where customers can legally enjoy both java and ganja. In fact, tourist officials estimate that 35 percent of all visitors to Amsterdam stop by a coffee shop. However, the center-right Dutch government in May banned the purchase of pot without a "wietpas" or weed pass, a membership in the coffee shops that is only available to residents. "The objective is to combat the nuisance and crime associated with coffee shops and the trade in drugs," Prime Minister Mark Rutte explained.

The government's crackdown stirred a huge backlash. Amsterdam Mayor Eberhard van der Laan said the ban could push the marijuana trade from the coffee shops into the back alleys, as tourists "swarm all over the city looking for drugs." He said, "This would lead to more robberies, quarrels about fake drugs and no control of the quality of the drugs on the market—everything we have worked toward would be lost to misery."

Ultimately, the Dutch national government found a crack to squeeze through. It insisted on maintaining its policy but left implementation in the hands of local officials. Amsterdam's mayor quickly signaled that he wouldn't be enforcing the ban. The coffee shops were back in smoke-filled business. Lady Gaga celebrated during an Amsterdam concert by smoking a spliff onstage she called "wondrous."

But the national government hadn't finished. In November, it proposed a new ban on "skunk" pot, which contains more than 15 percent of THC (tetrahydrocannabinol, the magic in marijuana). The Dutch justice minister said it was a "hard drug" that created dangerous addiction. The coffee shop

FLICKR/SRI_THE_QUACK

Despite a national ban, Amsterdam's mayor will allow the city's famous coffee shops to continue selling marijuana to tourists.

industry countered that this could also lead to more danger and crime—"Weak weed in the coffee shops, strong weed on the streets," as a spokesman put it. Tourists would spill back into dangerous back alleys looking for the more potent high that the coffee shops could no longer provide.

For governments everywhere, toking up has raised some exceptionally tough issues. How far can national governments go in enforcing laws out of sync with local officials? How can local officials slide around national policies so they stay in sync with their citizens? In the Netherlands, as in most countries, the battle plays out among governments that are all part of the same (more or less) governmental system. Neighboring governments in France and Germany insisted they would keep their pot bans in place, and the Danish government refused a request from Copenhagen's city council to experiment with Amsterdam-style deregulation. In the Czech Republic, Portugal and Switzerland, the national governments have taken a more Breckenridge-like position. In all these cases, national policy rules the day—to the degree national officials can deal with intransigent local officials and the habits of their citizens.

In the United States, federalism puts an emphasis on local enforcement of laws. The dilemma comes when local laws—and practice—differ with national laws. Seattle's police dealt with this problem by suggesting users not "flagrantly roll up a mega-spliff and light up in the middle of the street," and instead, manage their munchies in the quiet of their own homes. But the Obama administration has to find a road that doesn't abandon federal law when state voters decide they oppose it.

Governing everywhere is much more about finding a common ground between policy goals and different levels—and charting a road to reconcile what officials want and what citizens will actually do. Our system of federalism, as always, adds a special twist. **G**

Email kettl@umd.edu

By Ryan Holeywell

A Revolution in the U.K.

The powerful central government loosens the reins.

The United Kingdom's national government is pursuing a bold, new program that will give unprecedented authority to its cities. The initiative, City Deals, is devolving some power and responsibility from the central government to cities across England. Already, the national government has crafted deals with England's eight largest cities (outside of London), and another 20 have been invited to apply.

The move may not seem dramatic to observers of American cities, which have long enjoyed directly elected mayors and the ability to generate most of their own revenue. But in England, power, including the power to tax, is largely centralized and cities have a very different role from those in the U.S. For example, London became the first city to directly elect a mayor in 2000, and there is still only a handful of elected mayors today. "It's a real culture shift for the English," says Bruce Katz, who leads the Metropolitan Policy Program at the Brookings Institution.

The change began in 2011 when a new national government office, the Cities Policy Unit, was created to help lead a different approach to governance. Deputy Prime Minister Nick Clegg has said City Deals is necessary because British cities are "lagging behind" their European counterparts in terms of job growth. By empowering them, he says, they'll be better positioned to close the gap. (Scotland and Wales are looking at the model but haven't taken any steps to implement a similar program.)

The effort gives local governments in England the chance to take unprecedented control of budgets and also provide hundreds of millions of pounds for infrastructure and broadband investment. City Deals emphasizes collaboration and consolidation between local governments, shifting of revenue power towards cities, and giving more flexibility to cities by combining programs and revenue streams. "This is the kind of policy change I think the U.S. could embrace," Katz says, referring to the idea of cities getting more flexibility and responsibility. Many experts have long argued that the federal government needs to loosen the reins and give states and localities more autonomy.

Under City Deals, Manchester, for example, can keep a portion of national tax revenue generated by increased development. The idea is to give cities a financial incentive to pursue ambitious growth. "In other countries, that doesn't sound revolutionary," says Alexandra Jones, chief executive of the Centre for Cities, a U.K. research and policy institute. "In the U.K., it really is." In Sheffield, public and private sources will be able to leverage their funds to help tap into a national pool of money used for job training. "The aim of these deals is to empower cities to forge their own path, to play to their own strengths and to find creative solutions to local problems," Clegg wrote in a recent report.

The U.K. is giving English cities more power.

FLICKR/THOR

Indeed, forging its own path is a familiar challenge for U.S. cities. But Katz is impressed, in particular, by job training and apprenticeship programs in the works. It is something that, he says, U.S. cities could certainly learn a lot from.

GOVERNING .com Find out what the feds are up to at governing.com/fedwatch

By David Levine

A New Health Home

The Mississippi Delta is taking a very Middle Eastern approach to treating its poor.

This past summer, *The New York Times* published a fascinating article about an agency in Mississippi called HealthConnect that is working to reduce admissions to the Central Mississippi Medical Center in Jackson, where most of the region's poor go for basic, and costly, primary medical care. The agency models itself after a health-care system created in the 1980s by, of all places, the Republic of Iran.

As it turns out, the Southern state and Middle Eastern country aren't all that different, at least in terms of providing health care for the urban and rural poor. In both places, doctors are hard to come by. But in the early '80s, the Iranians created "health houses" to care for their poor. Anyone who lived within an hour's walking distance of a large city or village had access to these houses, which had examination rooms and employed community health workers trained in preventive health care. When people required more complex care, they were referred to a regional health center, and if that wasn't enough, then to the hospital. When they returned home, the community health aides monitored their care to make sure they were doing what their doctors told them to do.

Iran's Dr. Zahra Sarraf speaks with volunteers who want to bring that country's health-house model to the poverty-stricken Mississippi Delta.

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Today, according to the *Times*, "17,000 health houses serve 23 million rural Iranians. Health disparities between rural and urban Iranians have narrowed; the Iranians have reduced rural infant mortality by 75 percent and lowered the birthrate. Iran's reforms won praise from the World Health Organization, which has long advocated preventive, primary care."

This system of care came to the attention of Dr. Aaron Shirley, chairman of the Jackson Medical Mall Foundation, a health-care complex that serves the urban poor. Shirley created HealthConnect in 2010 because "poor people in Mississippi still have health problems, even if they have Medicaid or health insurance, even if there are clinics in their communities, even if they get home health services," he told the *Times*. "They don't get better, and the diseases born of poverty and obesity are not prevented; thousands of people frequent emergency rooms for illnesses that could have been tackled by primary care. They need something more."

In an interview with *Governing*, Shirley explained that the "driving force" behind HealthConnect is Mohammad Shahbazi, a professor at Jackson State University. Shahbazi recognized Iran had similar health disparities, and that conditions were also similar: uncontrolled diabetes, hypertension, stroke, heart disease, asthma and infant mortality. Shahbazi saw how Iran had been able over a 20-year period to completely eliminate the disparities between urban and rural areas, and argued that the same model could be used to eliminate racial disparities in Mississippi.

Community-based care is not a new idea, of course, but what makes this program different is the way primary care and public health are integrated. "What was so intriguing was the simplicity," Shirley says. "The rural areas in Iran consisted of a typical village of 2,250 people, similar to a rural area in the Mississippi Delta. Community health workers became members of the health-care team that provided health services in the village. So if the villager ended up in the hospital, the community health worker at the village level was aware of that patient's diagnosis, treatment and needs for follow-up. And if the patient was discharged on a certain medication, or with certain instructions, then the community health worker would be aware."

Health-care organizations around the country are watching this model closely, Shirley says. The Affordable Care Act addresses hospital costs from readmissions, and if Shirley's model reduces readmissions by 15 percent over a year, he says, "they'll be promoting this model nationwide."

The main difference between Iran and Mississippi, explains Shirley, is the motivation. "Over there, the primary reason was health. Over here, the primary interest is saving money, which is all right, as long as it also improves health." **G**

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ENTERPRISE RESOURCE PLANNING WITH INFOR

Effective Public Sector Solutions

In the public sector, change is sometimes hard — but when it comes to modernizing your old legacy systems, change can also be very good.

Government entities continue to rely on legacy IT solutions and business processes. These outdated tools and methods — some of which were "born" before the individuals who are working on them — are insufficient to deal with the modern era's financial and informational challenges. For one, they consume an inordinate amount of physical and electronic resources. Secondly, they confine important data to individual silos that are hard for workers outside the immediate department or group to access, making communicating difficult and hampering workplace productivity. While more and more data is collected daily, the lack of an integrated administrative platform makes leveraging all that information a difficult proposition.

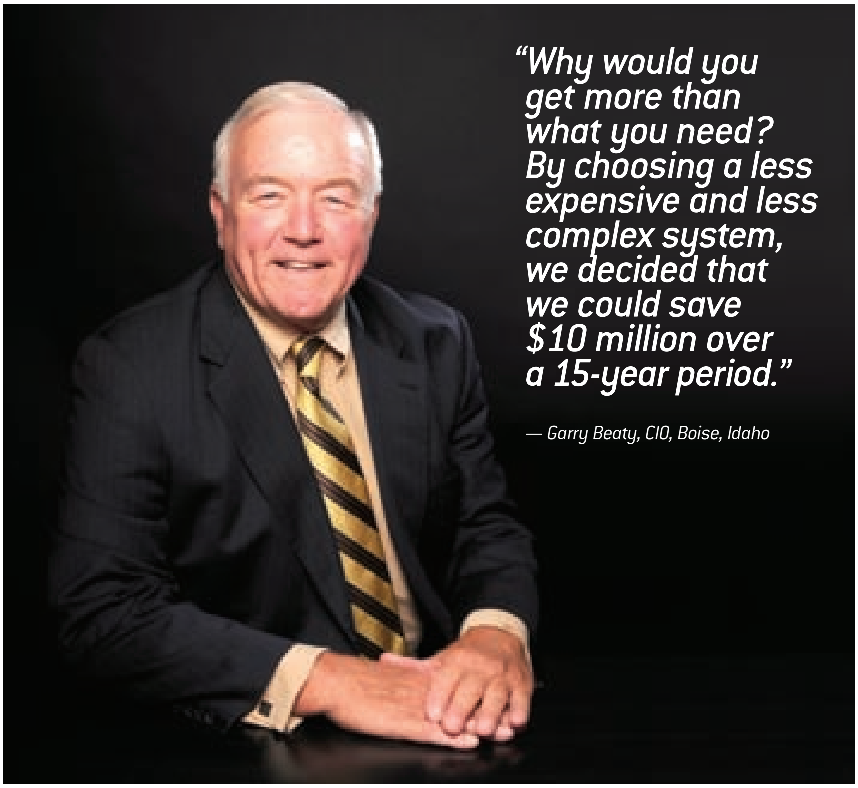
In this environment, one way for agencies to deliver better services at a lower cost is to implement an integrated enterprise resource planning

(ERP) system. An up-to-date ERP system can dramatically improve government operations by removing communication barriers, simplifying the reporting and transmitting of data, and reducing costs by putting several important administrative areas onto a single, easy-to-maintain platform. Infor helps make this a reality.

A partner of over 1,200 state and local government agencies and 70,000 customers, Infor's knowledge and wealth of experience with the public sector makes implementing a cutting-edge ERP system a more attractive option than ever. Infor Public Sector's expanding portfolio, including solutions from acquisitions like Lawson, provides the expertise and help government entities need to embrace ERP and reap the benefits of greater efficiency and lower costs.

Governments nationwide — from Long Beach, Calif., to Louisville, Ky., to Boise, Idaho, and everywhere between and beyond — leverage Infor technology to improve their processes, preserve revenue and deliver better services to citizens. The solutions can go well beyond ERP — Infor's public sector tools encompass areas as wide-ranging as asset management, regulatory and compliance management, community development, public safety and more. And Infor middleware connects Infor solutions with outside third-party applications, integrating them seamlessly and providing an even simpler and smoother user experience.

Consolidating enterprise applications with Infor offers agencies a plethora of benefits, including (but not limited to) improved operational efficiencies, greater transparency, better decision-making support and fewer manual processes. The following case study about Boise, Idaho, shows just how Infor solutions save public sector clients time and money by providing a more efficient, integrated user experience with its innovative ERP services.



CITY OF BOISE

Public Sector Challenges:

- **Lower tax revenues** and ongoing fiscal difficulties leading to shrinking budgets across several critical areas
- **Outdated legacy IT solutions** that waste time and resources while impeding communication, siloing information and hampering productivity
- **Frustrated constituencies** demanding better service provisioning

Infor ERP Solutions:

- **Serving over 70,000 customers** and 1,200 state and local government agencies
- **Providing improved performance** through consolidation and integration of critical information channels and processes
- **Saving agencies revenue** through greater efficiency

Better Fit

Boise, Idaho, makes big strides by switching to an ideal ERP system

CITY HALL PLAZA IN BOISE, IDAHO

CITY OF BOISE

A friendly and unassuming city located in the western portion of Idaho, the city of Boise doesn't neatly fit the term "large organization." With a population numbering just over 200,000 and a full-time workforce of around 1,600, Boise — like most municipalities — lacks the mammoth organizational structure of a metropolis like New York City, Chicago or Los Angeles.

As a result, Boise's administrative and organizational structure is significantly different than those of larger cities. Unfortunately, the city's old enterprise resource planning (ERP) solution was designed to fit the needs of a much bigger organization. It was a square peg jammed awkwardly into a round hole, and the results were predictably disappointing. The system's complexity and difficult functionality, designed with the interests of a Tier 1-sized enterprise, continually frustrated Boise's workforce.

"If you were a casual user, it was a complex system to use," says Garry Beaty, Boise's chief information officer. "We were looking for something that was simpler."

The system had another drawback — along with its size and complexity came a hefty price tag, as all those bells and whistles made it expensive to maintain. For a city of Boise's size, the system's financial requirements were especially onerous. "I'm not sure a city of 200,000 needed a solution that expensive or complex," says Beaty.

Lastly, the system simply hadn't been implemented very well in the first place. Different components had been launched separately and by various teams of IT personnel; as a result, its features were not well integrated and functionality suffered even further. "We didn't implement it very well, so we found ourselves in a spot where we didn't really have an enterprise solution. We had a human resources solution and an accounting solution," says Beaty. "And the two systems were implemented at different times and by different teams, so some of the very basic stuff you would expect to get out of it didn't exist."

Beaty and other Boise officials decided that the city's ERP architecture needed a complete overhaul. After admitting the old system just wasn't fitting its needs, Boise started again from scratch. The city sketched out a comprehensive IT plan, a major component of which was to find and install a whole new ERP solution, one that provided all the functionality the city needed without breaking the bank. "Why would you get more than what you need?" says Beaty of the city's new mindset. "By choosing a less expensive and less complex system, we decided that we could save $10 million over a 15-year period."

After sending out RFPs, in November 2010 Boise selected Infor Lawson, an ERP solution from Infor. The solution included three suites to be integrated into a single final system: human resources management, enterprise financial management and supply chain management. The city subsequently contracted with Ciber, Inc. to perform the implementation of the Infor Lawson solution. The implementation project was dubbed "Vision 2020," and began in early 2011.

During the proposal stage, Infor impressed the city with the functionality and scale of its product, which were well suited for Boise's needs. The advantages allowed Infor to beat out several competitors for the project. "We like the product we saw from Infor — and we looked at several," says Beaty.

Infor also passed the all-important "people" test. "We felt that it was a people-oriented company," says Beaty. "It's turned out to be a good relationship."

Now using the Infor solution, Boise is doing things more efficiently — and more cost-effectively — than before. The new system has facilitated smoother operations and limited the complexity and confusion that plagued the old setup.

"We went back and looked at our processes and asked, 'Is this really the best way to be doing business?' We had several receivable

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systems, a fairly complex set of rules around purchasing, so we tried to address some of the process issues," says Beaty. "It's a little early to tell, but I personally believe the new system is easier to use, and I've got a lot of people using it who also think it is."

Making employees' jobs easier has been a major benefit of switching to Infor. Financial reporting and tracking for all users is now easier than ever. "We're very decentralized in the city of Boise," says Beaty. "There's a broad range of people that have to apply some fairly complex purchasing rules around how things get paid. We're trying to simplify those and have a broader cross-section of associates who are able to use these tools."

Additionally, switching to a properly integrated ERP solution also allows Boise to improve its internal communication and decision-making ability. While the old system's structure led to siloed information and difficulty relaying information across departments and technical areas, the Infor Lawson suite makes data sharing and collaboration simple.

"In the old system, it was very difficult to find very simple stuff, like finding out how many full-time equivalent people we had employed. That sounds ridiculous, but when you have two systems [referring to the old solution's HR/accounting divide], those simple things are hard to reconcile. That should be very different going forward," says Beaty.

"The same is true for financial numbers. We're trying to eliminate the number of 'shadow systems' that are out there so that we have one system of record. We think that's possible with this implementation," he adds.

Beaty believes the new system's integrated setup and ease of use is already allowing Boise to free up resources to deliver better services to its 200,000-plus citizens, and will continue to do so going forward. "We have some of the baseline system done internally, so now we get to focus outwardly," says Beaty. "We're paying a lot more attention to our websites, to how people want to pay utility bills and those kinds of things. A better 'customer experience' — that's where we're going now."

With its new ERP system providing a solid "baseline" for future action, Boise is preparing to keep moving forward. "I think we need to look at a continual investment in this project," says Beaty. "This isn't a one-time thing. We're going to continue to invest in the product and try to grow it and spread it across the enterprise. We're trying to take a broad view."

Conclusion:
The right solution for governments at all levels is within reach

Many cities and organizations are in a position similar to Boise. Their needs are impressive, but not overly expansive. A bare-bones system won't work for them, but neither will a Tier 1-optimized system with myriad features requiring a high level of acquired operational expertise. A middle ground must be found that offers the right combination of straightforward day-to-day functionality for casual users and sophisticated performance tools ready for use when needed.

The success Boise had with implementing such an ERP system is well within reach for other municipalities. With the right amount of planning and a productive relationship with a proven technology vendor/adviser, it is well worth making the move to a cost-effective system that provides all the functionality necessary without sacrificing performance and ease of use.

By Elizabeth Daigneau

A Tree Grows in Africa

A decades-long experiment shows the power of growing from seed.

The West African country of Niger is hot. And it's getting hotter. High temperatures in the landlocked country, which is nearly twice the size of Texas, average around 105 degrees Fahrenheit during the warm season. Climate change is expected to hit Niger and its African neighbors worse than any other nation or continent, according to the United Nations. Droughts in the Sahel—a strip of grassland that stretches like a belt across the width of Africa, just south of the Sahara Desert—have become more regular since the 1960s. And a 2009 study from Stanford University's Program on Food Security and the Environment predicted that six countries in the Sahel—Mali, Burkina Faso, Niger, Sierra Leone, Senegal and Chad—will face temperatures by 2050 that are "hotter than any year in historical experience."

Yet the Sahel is greener today than it has been in 40-plus years, in part because the region embraced a simple weapon against climate change: trees. Not planting trees, as Mark Hertsgaard wrote in his 2011 book, "Hot: Living Through the Next 50 Years on Earth," but growing them.

For generations, farmers throughout the Sahel had cleared tree saplings as they sprouted in their fields. The trees were a problem because they competed with crops. But as crop yields began to plummet in the 1970s and '80s, more farmers opted to let the trees grow. At the same time, they also implemented smarter farming methods: fortifying soil with manure, growing different crops on the same piece of land and relying on natural predators instead of pesticides to combat pests.

Ultimately, mixing trees and crops—a practice called "farmer-managed natural regeneration"—worked. As the trees grew, crop yields increased and the Sahel went from brown to green. Comparing satellite images from the 1970s to today shows just how successful the practice has been: Hertsgaard found that farmers in Niger have grown more than 200 million trees and rehabilitated 12.5 million acres of land.

The key here is that farmers didn't plant partially grown saplings; they grew the trees from seed. Planting trees, in general, is less successful (in the Sahel, studies found that 80 percent of planted trees died within the first two years). Trees that sprout naturally tend to be native species, and therefore, are more resilient. In the U.S., urban tree planting campaigns like MillionTreesNYC and Million Trees LA have struggled with high mortality rates due to heavy storms, disease and the rigors of urban life—pollution, rock salt, acidic soil and other assaults.

Should cities like New York and Los Angeles scrap their tree-planting programs? No. With some 4 million trees disappearing every year from American urban areas, according to the U.S. Forest Service, a commitment to planting new trees is essential for environmental health. But the experience in the Sahel region might be cause for urban arborists in the U.S. to think about growing more trees from seed.

Meanwhile, there's the question of preservation. Maintaining the health of mature trees can be as important as growing new ones. In the Sahel, that became a question of stewardship: Historically, trees were often considered property of the state, and individual farmers had little incentive to grow or protect them. When food production suffered, however, governments along the Sahel began changing their laws to recognize property rights. When farmers owned their trees, they began to see the benefits of growing and preserving them.

In the U.S., the opposite tack may be effective. Some cities, including San Francisco, treat mature trees like historic buildings. Removing or altering one—even on private land—is heavily regulated.

Trees are essential in the fight to mitigate climate change. They suck up harmful carbon dioxide. That's as important in San Francisco and New York as it is in Niger. And that may be good reason to start thinking about seeds. **G**

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By Alex Marshall

Essential Service

The time has come for direct government involvement with Internet access.

Traveling with my family recently through Uruguay, a middle-class country of well-tended farms, towns and cities, I found good Internet access in most public squares and plazas, for free. It was a project, I was told, of Uruguay's President Jose Mujica, the former leftist guerrilla.

Later on the same trip, we had a chance to send our 7-year-old son to a Uruguay school for a day. Thanks to another program, Plan Ceibal, schools enjoy near universal Internet access in classrooms. (The same program provides every child with a low-cost laptop.) Uruguay's widespread Internet connectivity has led to other advances, such as universal online payroll tax collections.

Shortly thereafter, I visited several cities in South Korea, including Daejeon and Seoul. If Uruguay's Internet policies were impressive, South Korea's were nothing short of miraculous. Internet usage has penetrated deep into the nooks and crannies of people's lives.

In Daejeon, a medium-sized city an hour away from Seoul by high-speed train, I was waiting one afternoon at a bus stop. Nervous about whether I was at the right spot, I checked with a young man next to me. He whipped out his smartphone and confirmed that the spot was correct. The bus I was waiting for would come in two minutes, he said. And indeed, when I looked up a minute later, it was arriving.

Later in Seoul, I was running late for an appointment, having miscalculated how long it would take me to cross the huge city by its excellent subway system. While on the train, I received multiple emails from my hosts with directions and advice; they just assumed I would be able to read them on the subway, which I could. Friends in that city told me of jogging in the streets while listening to Internet radio, with the service switching from one Wi-Fi hotspot to another without a problem.

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Wi-Fi is so ubiquitous in South Korea that transit riders can peruse their emails or websites uninterrupted.

When I returned to the U.S. from my travels, I was generally greeted with patchy, slow and expensive service everywhere I went, including in my own home in Brooklyn.

As the global Internet completes the switch from a slow-speed, dial-up network to ubiquitous wired and wireless broadband access, a crucial challenge for governments is whether and how to accelerate and deepen this process. There seems little doubt that Internet access has become a new form of essential communication and information, as much as the telephone or electricity was 100 years ago. The degree to which governments should help this process along is a major question.

The United States, which invented and still largely controls important technical aspects of the Internet, finds itself in an ironic and unhappy position. Various statistics and surveys now show that many other countries have surged ahead of us in providing their citizens fast, cheap and widespread Internet access.

South Korea, already a world leader in Internet access, aims to soon provide every citizen with broadband service that can achieve download speeds of one gigabyte per second. The country routinely installs fiber-optic lines, I'm told, making this an easy goal. The result will be a range of enhanced services, such as 3-D television and better video conferencing.

There are a number of ways to get to better Internet access and service in the U.S., but it's clear that much heavier government involvement is needed. Right now, many regions of the country are served principally by a few large private providers—Verizon, AT&T, Time Warner, Comcast, Cox and others—that hold semi-monopolies, which allows them to charge high prices for middling service, often bundled with other services such as telephone and cable television. In contrast, South Korea's private providers, such as Korea Telecom, provide the service, but government is heavily involved with policies and funding.

We can learn what works from looking at our own history regarding previous technological revolutions. In the case of roads and electricity, government has directly built and owned the medium. Sometimes, private companies have triggered development. But once universal access has been achieved—as was the case with electricity and telephones—government has either owned the services or regulated them more assertively.

A growing trend in this country and around the world is municipal ownership of Wi-Fi and broadband service. It makes sense. A city, which usually owns the streets, can set up a network and deliver fast, efficient and pervasive service, just as it does with water and sometimes, electricity. One American city that has taken the step of providing such service directly is Chattanooga, Tenn., where the publicly owned power company, the Electric Power Board (EPB), has begun supplying high-speed service, to great attention.

"We believe that if private providers aren't providing it, then government should," says EPB spokeswoman Danna Bailey, whose company won a lawsuit filed by Comcast to stop the venture. "We know that Internet is becoming critical infrastructure, much like electric power in the turn of the last century."

As countries like South Korea, Sweden, Japan and even Uruguay leap ahead of us, it's within our power to take back control of this essential service, one created after all by the U.S. Department of Defense with public dollars. At stake is our future. **G**

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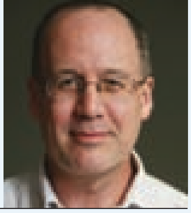

By Tod Newcombe

No Parking in the Platz

Cars are being kept out of popular pedestrian areas worldwide.

The Paradeplatz is a classic public square at the heart of a historic European city. It is surrounded by elegant buildings constructed in architectural styles that date back several centuries. Just as it was in the early 1900s, it is car-free.

Paradeplatz is in the center of Zurich, and it pulses with pedestrians, bicyclists and trams. Pleasantly missing are parked cars. No parking is allowed on the Paradeplatz or on other squares and streets in the city. It is the result of a parking policy that sets a maximum rather than a minimum number of spaces that the city center allows.

"In a place like Zurich, the idea of parking has been turned on its head," says Norman Garrick, an associate professor of civil and environmental engineering at the University of Connecticut. "What Zurich is saying is that the city will supply a certain amount of transportation infrastructure and then behavior will fit the type of supply."

Zurich has existed for nearly 2,000 years, but in the 1950s and '60s, increased car ownership began to change the city's character, congesting the streets and turning its once-elegant public squares into parking lots. In 1989, the city decided to regulate parking by setting a cap on the number of spaces allowed in certain districts.

As an example of the city's parking policy, Garrick cites the construction of a new 36-story building tower near Zurich's main train station that has just 250 parking spots. By comparison, zoning in American cities, which is based on parking minimums, would require such a structure to provide eight times as much parking.

A similar revolution is under way in Perth, Australia. The city has seen a surge in cars, traffic and parking demands since the 1970s. In 1999, the city council (with the state of Western Australia's approval) passed parking regulations that included a strict maximum limit on the number of parking spaces in the city's central districts. Regulations also included hefty levies on all nonresidential parking and high fees on tenant parking.

Since the policy went into effect, the city's seen the number of parking places reduced by 10 percent from its record high. Central Perth traffic is down significantly while public transit use surged by 67 percent.

Now the movement is coming stateside. Cambridge, Mass.; Nashville, Tenn.; Salt Lake City and Washington, D.C., are all considering setting maximum parking limits. It's a welcome change even if it's just a start, says Garrick. Before there had been no "attempt to establish how parking was used," he says. "[Even today] most American cities don't know how much parking they have. The results have been devastating to the livability of a city's urban core." **G**

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FLICKR/ROBERT SCARTH

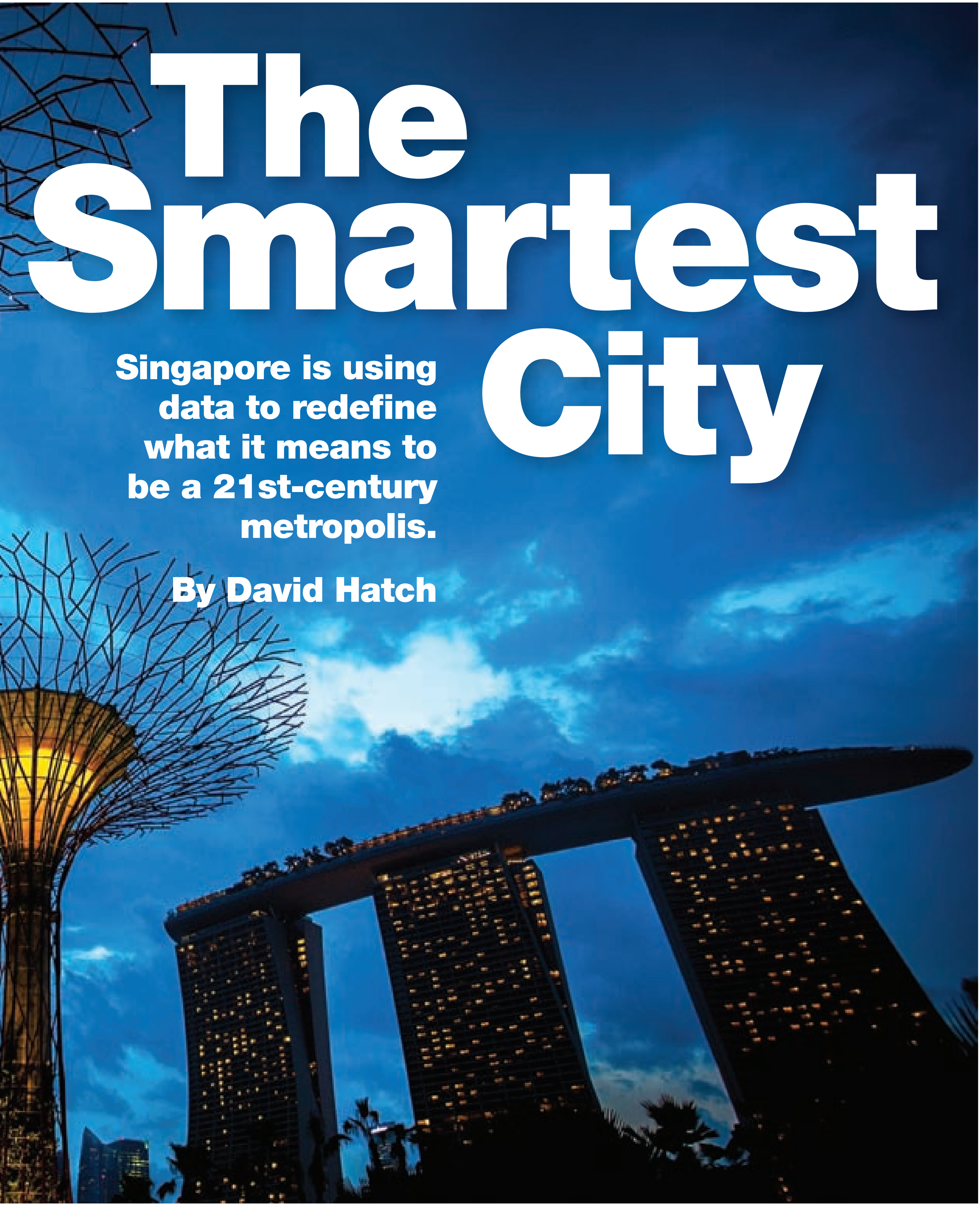
The city's 18 new "supertree" vertical gardens are part of its commitment to sustainability.

CHRIS MCGRATH/GETTY IMAGES

The Smartest City

Singapore is using data to redefine what it means to be a 21st-century metropolis.

By David Hatch



Singapore is strangled with vegetation. Walking around the Asian city-state, the greenery is so abundant that it's easy to forget you're in a densely populated metropolis of 5.3 million people in an area smaller than Charlotte, N.C. Tall trees form canopies along roadways and their branches thread through narrow gaps between highway ramps and overpasses. Palm trees cluster everywhere, and exotic ferns and flowering plants adorn the exteriors of office complexes, government ministries and the ubiquitous public housing high-rises that are home to 80 percent of the citizenry. Median strips brim with lush green hues of carefully maintained flora.

Rising above the downtown jungle are still more trees, these of an otherworldly height. They're 18 man-made "supertrees," some 50 meters tall, erected by the city last year as part of a new downtown development. The metal-frame sculptures are hung with vertical gardens, mimicking the fronds and blooms below. They're futuristic and bold: a perfect encapsulation of the Singapore of the moment.

Singapore teems with greenery, but it also pulsates with information—streams of data run through almost every part of the city's physical geography. The supertrees aren't merely aesthetic. They operate as temperature moderators, absorbing and dispersing heat. They collect rainwater and act as ventilation ducts for conservatories nearby. Several are outfitted with photovoltaic cells to generate solar power. A Biodiversity Index, launched in 2008, mines data on 23 indicators—such as the proportion of natural versus developed areas and the amount of carbon dioxide that trees convert to oxygen—to help balance development with green space.

HEIMO AGA

The 250-acre Gardens by the Bay, a massive $795 million public-private project, opened in June in an effort to redevelop the marina area south of downtown.

On the city's streets, a network of sensors, cameras and GPS devices embedded in taxi cabs tracks traffic, predicting future congestion and alerting all downtown drivers to alternate routes. Singapore was the first place in the world to implement congestion pricing. Today, its advanced system utilizes traffic data to adjust prices in real time; drivers' accounts are automatically deducted as they glide beneath electronic gantries. At intersections, elderly and disabled residents use special RFID cards that extend crossing times when tapped against traffic light poles. Subway commuters rarely wait more than a few minutes for a train. The city's water management system is among the world's most advanced, and the government is testing a new desalination technology for seawater that would be 50 percent more energy efficient than any current method. A super-fast, next-generation broadband network already reaches 95 percent of homes and businesses in Singapore.

"Singapore's success story is one that was driven by very strategic government investment" and a willingness to embrace emerging technologies, says Margaret O'Mara, associate professor of history at the University of Washington, who traveled to the city-state in December to research an upcoming book on the global chase to create the next Silicon Valley. The city-state has a desire, she says, "to be number one in everything."

HEIMO AGA

In many respects, Singapore really shouldn't exist at all. The small island nation sits just one degree north of the equator. It's a tropical rainforest, consistently hot and humid year round. Singapore's annual rainfall is about 50 percent higher than the Seattle area's. The island lacks basic resources: It has no energy deposits, no forests, no farms. For years, the country has had to import drinking water from neighboring Malaysia. "Singapore is not a natural country," says Chan Heng Chee, the city-state's ambassador to the United States from 1996 to 2012 and now chair of the Lee Kuan Yew Centre for Innovative Cities, part of the newly established Singapore University of Technology and Design. "For Singapore to survive, we have to be extraordinary," she says, paraphrasing the center's namesake, an urban visionary who served as Singapore's first prime minister from 1959 to 1990. "If we were ordinary, we would just disappear."

To keep from disappearing, Singapore long ago established its ambition to become the smartest city in the world. The government has engaged in a meticulous effort over the past half-century to transform the former British colony into one

The rooftop pool of Marina Bay Sands hotel looks out over the city.

of the most innovative, sustainable and tech-savvy cities on the planet. The smart metropolis that exists today was the vision of Lee Kuan Yew, who decades ago spoke of his dream to create "a city in a garden." Lee recognized early on the importance of English language education to fuel economic growth and to engage in the global conversation on science and technology—and to help unite a population drawn from Chinese, Malay and Indian heritages. He welcomed multinational companies in the 1960s, when many countries were leery of foreign investment. While his original goals were to strengthen the economy and beautify the city, over time he broadened his scope, working to foster a livable, healthy environment for Singapore residents.

Long-term planning and strategic partnerships with leading universities and corporations, and substantial government investments—in both money and manpower—have enabled Singapore to realize Lee's vision. Every 10 years since 1971, Singapore has issued a concept plan with a 40- to 50-year time frame. Every five years, most recently in 2008, it issues more detailed plans on smart growth. Lots of cities today engage in such master planning exercises. Unlike many of them, Singapore fully commits to transforming its plans into policy.

Such a singular vision has resulted in bold—and, by American standards, draconian—government regulations. Singapore's government is extremely centralized and famously authoritarian. It's hard to imagine many of its innovations being accepted in American cities. Take traffic. Lots of U.S. cities say they want to reduce downtown traffic congestion. But congestion pricing has been a nonstarter: When New York City Mayor Michael Bloomberg floated the idea in 2007, it was immediately shot down over cost and privacy concerns. Northern Virginia has tiptoed into congestion pricing in an effort to ease traffic for commuters into Washington, D.C.; in November, it introduced express lanes that charge higher tolls during rush hour. Singapore, in contrast, has implemented vastly more extreme measures, including strict limits on how many new vehicles can be added to roadways each year (currently at half a percent). The government requires pricey certificates for automobile ownership, which range from $77,000 to $93,000 depending on the car's size, and which expire after 10 years.

Officials are blunt about the reasons behind such policies: They want to penalize people for driving. Whereas U.S. cities aim to increase traffic flow, Singapore actively wants to dissuade people from using cars. "We want motorists to know that there is a price to pay even before they start off their journey," says Chin Kian Keong, group director for road operations and chief engineer for transportation with Singapore's Land Transport Authority. "We want to move people from cars, because cars are not such an efficient use of the limited road space that we have."

“Singapore, I’ve always maintained, is a pacesetter,” says Chan of the Centre for Innovative Cities. “If we do a solution for Singapore and it works, others will come and see how we’ve done it.”

Chan is right. Singapore’s smart innovations have been exported around the globe. Places like London and Stockholm have copied its congestion-pricing structure. More than 50 cities have adopted its Biodiversity Index, and hundreds more collect data on some of its indicators. Singapore is collaborating with China on development of the Tianjin Eco-city, an environmentally friendly urban area under construction 93 miles from Beijing that will house 350,000 residents upon completion in 2020. (Interestingly, Singapore’s influence has not extended to some of its closest South Asian neighbors. Despite a light rail system, Kuala Lumpur in nearby Malaysia is a traffic nightmare. Phnom Penh, Cambodia, not only lacks a subway system—not to mention traffic lights and signage—but is among the few major metropolises without a citywide bus system. The streets of Ho Chi Minh City in Vietnam are so thronged by motorbikes that crossing them can be incredibly dangerous for pedestrians.)

HEIMO AGA

The congestion-pricing program keeps traffic moving.

Of course Singapore isn’t alone as a smart-city pioneer. Places like Songdo, South Korea, and Masdar in the United Arab Emirates also deploy networks of sensors to monitor the urban environment and adjust as needed. Rio de Janeiro is another standout: For the past few years, all of Rio’s utilities, traffic flow and emergency management functions have been monitored from a massive “ops center” that pulls constant data from citywide sensors and more than 450 video cameras. Rio will surely redouble those efforts before the 2014 World Cup and the 2016 Olympics.

But Singapore remains a global leader, says Hiroaki Suzuki, lead urban specialist with the World Bank, and offers cities like the U.S. valuable lessons in areas such as high-density development, stepped up recycling and livability. “There are many, many things that cities can learn from Singapore.”

In addition to its extremely advanced data-mining, the city also has the rare combination of livability and density. Julian Goh, associate director at Singapore’s Centre for Liveable Cities, a government-sponsored think tank, says cities with ample open space, such as Vancouver, Melbourne and Vienna, tend to rank high for livability, while densely populated cities like Dhaka and Lagos usually rank low. Yet Singapore gets high marks for both. As more of the global population becomes urbanized over the next century, Singapore’s development scheme “is what will be needed,” says Goh. “You can’t have the model where it’s a bit more sprawling—you have to build denser. We would say that you can achieve a good quality of life even with density.”

Emulating Singapore’s approach certainly wouldn’t be easy. In addition to the authoritarian central government (despite one-party domination, Singaporean officials characterize the city-state as a democracy and note the existence of fledgling opposition groups), the amount of infrastructure investments the country has made is staggering for such a small area. The government set aside $13 billion for research and innovation from 2011 through 2015—a 20 percent increase over its previous five-year commitment—to solve “complex national challenges,” including energy resilience and environmental sustainability.

Singapore is not without its problems. Despite an unemployment rate of just 1.9 percent and one of the world’s highest per capita income rates at $56,000, income disparity is growing among the bottom 30 percent. Venture beyond the gleaming hotels and haute couture shopping arcades of downtown, and you’ll find outlying neighborhoods where the infrastructure is older and in need of repair. Sometimes, moves that are perceived as government overreach draw public criticism; the September 2011 decision to pave a highway through a historic cemetery sparked heated debates. Still, Singapore is proud of its transformation from polluted slum to gleaming metropolis in just a few generations. Local leaders eagerly show black-and-white photos of the impoverished people and filthy waterways that defined the city in the 1950s and ’60s. It’s almost hard to reconcile those images with the sparkling buildings, spotless public spaces and verdant landscape of modern Singapore.

In fact one often-voiced critique of Singapore is that it lacks an identifiable soul. It doesn’t have the sense of place of, say, New York or Paris. For a sleek urban center that essentially didn’t exist three decades ago, that’s understandable. But Singapore seems to be forging a new kind of identity, one based on data and innovation and on being infinitely well managed. “We became a global city way before it was fashionable to be a global city,” says Chan of the Centre for Innovative Cities. “We’re just trying to make this thing work.” G

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Karl Marx-Hof, one of Vienna's most famous government-owned housing developments, was built in the 1920s during the earliest days of the city's unique housing program.

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Vienna has figured out how to house its population—from poor to solidly middle class—in luxurious, low-rent apartments. By Ryan Holeywell

PHOTOGRAPHS BY HEIMO AGA

Back in 1996, residents of Vienna were clamoring to live in a coffin factory.

The apartment building—a redevelopment that kept the original structure's chimney—already had more than half of its 100 units rented out before construction was complete. Known as Sargfabrik, the development featured stunning amenities, including a restaurant, a swimming pool and even a Finnish sauna. It also had many popular "green" features, such as a parking area for car-sharing and plenty of storage for bicycles. Tenants were allowed to offer input throughout the development process on how the building would take shape—even on their individual floor plans.

This resident has lived at Karl Marx-Hof since 1930.

In the United States, Sargfabrik might resemble a high-end condo. But in Vienna, it's a subsidized housing project. And it's not unusual.

A unique system nearly a century in the making has created a situation today in which the city government of Vienna either owns or directly influences almost half the housing stock in the capital city. As a result, residents enjoy high-quality apartments with inexpensive rent, along with renters' rights that would be unheard of in the U.S. The Viennese have decided that housing is a human right so important that it shouldn't be left up to the free market. Advocates for the Vienna model say it's something U.S. policymakers should examine closely.

Vienna's highly regulated approach to housing, known as social housing or subsidized housing, is largely the result of what the city experienced in the late 19th century: deplorable living conditions in the wake of rapid industrialization. At the time, many Viennese resided in housing that was unregulated, uncomfortable and cramped. It wasn't unusual to have 10 people living in a small studio apartment—in addition to even more who would sublet the same unit during the daytime while the primary tenants worked. The overwhelming majority of apartments didn't have private bathrooms or sinks. Rents could be increased at any time, and one-month leases were common, resulting in unstable families and communities.

That started to change in the 1920s when the country's socialist government rose to power in the wake of World War I. It made housing, along with jobs and social services, a high priority during the period known as "Red Vienna." The goal was to create aesthetically pleasing housing complexes that would provide the working class with the sort of accommodations that had previously only been accessible to the well-to-do. "It was important that people in the housing felt they were enfranchised citizens of the city," says Eve Blau, an adjunct professor at Harvard's Graduate School of Design who has studied and written about the architecture of Vienna's public housing complexes.

There was also an economic reason to push for the public housing expansion. By subsidizing housing costs, rent would be kept low. That, in turn, meant wages could be kept low too—without negatively impacting living standards. Low wages allowed Vienna's industrial sector to be more competitive internationally. There was a political aspect to the effort as well: The new government expected improved living conditions would engender loyalty from citizens. The push for housing was so expansive that today, nearly 100,000 of the city's 220,000 city-owned apartment units were built in the 1920s and 1930s.

The idea that everyday citizens should have access to not just affordable apartments but also attractive ones—and that it's the city's responsibility to provide them—continues to this day. There's a mindset that housing is a way to link residents to their communities and the larger city through design. "It was never just about housing," Blau says. "It was always about the city. It was about not just providing private living space but also public living space to people for whom they were also providing housing."

Thus, in Vienna, public space and private space are interwoven. Case in point: The city's first libraries were part of the housing system. Kindergartens and day care, dental clinics and courtyard parks were all high priorities in the early days of public housing. "It made the division between housing and the city really kind of blurred," Blau says. That trend continues, with the government emphasizing amenities that encourage interaction among

The Hundertwasserhaus, a public housing project by Austrian artist and architect Friedensreich Hundertwasser
Left: A resident prepares to greet the day.

residents. Those amenities also happen to be the same type found in high-end American residences. "These places are incredible," says William Menking, an architectural historian, of the city's subsidized housing. "There are swimming pools and saunas and bicycle parking."

To understand just how pervasive public housing is in Vienna, compare it to a similar city in the U.S. Philadelphia, for example, has about the same population as Vienna. While Philadelphia's affordable housing agency owns and manages about 16,000 rental units, Vienna owns and manages 220,000 units, known as council housing. But the local government's impact on housing extends far beyond those city-owned buildings.

Eighty percent of Vienna residents rent. The city itself is the biggest landlord.

Another 200,000 units are owned and developed privately—primarily through limited-profit developers—as part of a process heavily influenced by the city. Combined, the two types of housing represent about 46 percent of the city's housing stock, making Vienna the largest landlord in Austria and one of the largest in Europe. Even within Austria, Vienna's housing is an unusual model. Social housing accounts for only about 25 percent of the nation's housing stock. The pervasiveness of subsidized housing in Vienna makes the city a place where the term "public housing" carries no stigma whatsoever, unlike in the United States.

Vienna's city-owned council flats, representing about 25 percent of the city's housing stock, are primarily for lower-income residents and have a waiting list of about a year. Residents face income restrictions to help ensure they go to families that are truly in need. But there's also a unique perk for anyone who snags a spot in council housing: As long as the families meet the income requirements when they first move in, they never have to move out—even if their income increases in subsequent years. That in turn means there's a sizable number of middle-income residents in city-owned housing, which is exactly the point—the buildings don't become ghettos. The arrangement is only possible because the stock of city-owned units is so large that middle-income residents typically don't crowd out others who need housing. A special program exists to ensure that those in imminent risk of homelessness get units.

During the 1980s, the city bought up a larger and larger share of the entire housing market. Vienna stopped creating its own developments and began partnering with the private sector. In part, the city wanted to influence the housing market without dominating it. But the policy switch also freed the city to use more of its resources on renovating its older, existing housing stock from the 1920s and 1930s.

Some of Vienna's earliest housing units are famous—the Karl Marx-Hof and George Washington-Hof, for instance, are well known for their huge courtyards. While many architects are familiar with those structures, some of the new models warrant attention too. "In the last five or 10 years, they've built an amazing amount of very high-quality housing units," Menking says. "The people who are making the decisions at the top really place an emphasis on architectural standards."

The city is able to put those standards in place through the control it has on land supply. The city government maintains a fund that aggressively buys up land throughout the city to be used for subsidized housing. Typically, if an area is suitable for residential development, the city already owns the land, which essentially gives Vienna a monopoly, says Wolfgang Förster, head of the city's Housing Research Department. Once the city determines it's time to develop residences on a piece of its property, it seeks proposals from various developers, who then present detailed plans that outline a development's architecture, floor plans, costs, proposed rent levels, green features and more.

A jury ultimately selects the projects based on four criteria—architectural quality, environmental performance, social sustainability and economic parameters—that are all weighed equally. That means it's just as important for the developers to create a building with a diverse group of engaged tenants as it is to create one that's economical and visually pleasing. "It's a way of avoiding ghettoization," says Mark Gilbert, a Vienna architect who serves as a member of the jury. "It's one of the problems American public housing has always faced."

Vienna's government takes an approach to residential development that's more rigorous and deliberative than many private-sector developers in America. That's because in the U.S., "cost is the No. 1 priority," Menking says. In Vienna, it's just one of four. At the same time, the competition among developers is so fierce—the result of the city's land monopoly—that the result is a very affordable development. "We were doing some comparisons of public housing in Los Angeles and public housing in Vienna," Menking says, "and Vienna was cheaper per square foot than L.A."

The jury's selection of a development triggers two events: First, the city agrees to sell the land at an affordable price, and second, the city agrees to give the developer an extremely favorable loan. Those loans cover 35 to 40 percent of a project's cost at an interest rate of just 1 percent. Developers have 35 years to pay the loans back, but the clock doesn't start until the last private loan has been paid off.

In exchange, developers who enter the arrangement must provide half their apartments to the city for rent. Those units generally go to lower-income Vienna residents—the same profile as those who are on the waiting lists for council housing. The other half goes to tenants selected by the developer, who are generally middle-class. But those units are still more affordable than they'd be in a free market system, since the project has been so heavily subsidized. In many cases, the tenants are selected before construction begins, and they have the right to participate in the planning process by making tweaks to floor plans and internal styling in each unit to suit their lifestyle and budget. As a group, residents can decide what type of communal spots they want, whether it's playrooms for children or conference rooms for professionals.

How does a city pay for such a massive undertaking? Vienna gets about 450 million euros a year in federal funds earmarked for housing. In addition, the city contributes its own funding to the effort, upping its total public housing spending to about 600 million euros per year. Vienna officials are quick to point out that they don't spend more than the U.S. on housing as a percentage of GDP. In addition, there is no mortgage interest deduction as there is in the U.S.—Vienna chooses to subsidize developments rather than residents. Consequently, city officials say, they can exert vastly more influence on housing than their American counterparts.

Vienna, like cities everywhere, has luxurious (and expensive) private homes available. Those are developed outside of the subsidy system. But there are also more modest homes, aimed toward middle-class consumers, that are developed outside the subsidy system as well. Because public housing is so expansive in Vienna, developers of unsubsidized units still must provide good prices and high quality to prospective tenants in order to remain competitive. "The city—without having direct control of the property market—has managed to keep the cost of new residential property down," explains Gilbert, the Vienna architect.

Indeed, rents across Vienna are low for a European capital. Families that are solidly middle-class are eligible for social housing, which generally caps monthly rent at 25 percent of a family's income. Förster of the city's Housing Research Department says Vienna's average rents are almost half the rates in European cities such as Barcelona, Berlin and Zurich. A recent study from the financial firm UBS backs up his assertion that Vienna's rents are among the lowest in Western Europe.

Meanwhile, tenants have vastly more rights than they do in the U.S., which is why 80 percent of Vienna residents rent. Rent typically can't be increased more than the rate of inflation, and rental agreements can be passed on to a tenant's descendants. Renters living in apartments are allowed to make major changes and renovations to their units, often against their landlords' wishes. Renters also have a sense of ownership for their buildings—even if they don't actually have ownership—because they pay a portion of the upfront costs of the building to help developers finance construction (they get the payments back, with interest, upon moving out). Renters have such strong rights that, in many cases, there may not be an advantage to being a homeowner. "European cities have been suffering from the whole shrinking cities thing," Blau says. "[Helping] people be able to invest in housing actually creates a stable situation."

But the system is being threatened by economic conditions. Austria's public housing program is largely funded with federal tax money that is administered at the state level (Vienna functions as a state). In 2008, the federal government made a change to its tax policy. It decided that the payroll taxes dedicated to the state housing program could now be used for other purposes, so that state governments could plug budget holes. Other states did that, but Vienna hasn't yet. Meanwhile, the city's public housing budget was cut by nearly 25 percent last year, though it has been returning to its pre-recession levels, Förster says.

Increased immigration, especially from Eastern Europe, is putting a strain on the public housing system as waiting lists are starting to grow longer. "We feel [the uptick] is not dramatic, but theoretically, it could be the beginning of a downward development in the social housing sector," Förster says. Regardless, there's still an enormous sense of pride among Vienna's citizens and policymakers about the system. "In European cities and countries, a lot of the welfare state structure has fallen away," Blau continues. "This is a remnant of it, and it's working well."

Could a similar system be reproduced in America? Gilbert is perhaps uniquely qualified to answer that question. The Vienna architect is an American citizen from Schenectady, N.Y., who went to college in the U.S. but has lived in Vienna so long that today he speaks English with a German accent. He is not particularly optimistic about a wholesale change. "The best thing that could happen to America," he says, "is that they start examining the possibilities of having some of these programs."

That means that American lawmakers must first ask themselves about their goals for housing policy. Whatever they are, Gilbert says, the American government is likelier to achieve them through a Vienna-style system of subsidies than the mortgage interest deduction to homeowners. A Viennese-style subsidy could also mitigate the impact a recession would have on the housing sector. Vienna can increase its level of housing subsidies and release more land for development during recessionary periods, acting as a cushion for the industry during economic swings. The Vienna method could also accelerate green building standards, as Vienna's housing developments have quickly made strides in energy efficiency as a result of city influence.

Still, despite being an advocate for the system, Förster is skeptical that it could take hold in the U.S. or even in cities in other countries. It is the program's history that has helped make it an ingrained part of city life, he points out. "You cannot just duplicate this. Vienna has a long continuity." **G**

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Culture Shi

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ft

China's urbanization is unlike anything else in history. And it could teach the U.S. a lot.

BY ALAN GREENBLATT

The three- and four-bedroom homes in Orange County were built with big open kitchens inside and feature yards and driveways with SUVs parked out front. It's a typical sort of American suburban development, only this Orange County isn't the one in California or the one in Florida. It's part of Beijing, one of many subdivisions built on American models and given a name—Park Avenue, Soho, Palm Springs—meant to evoke the affluence of the United States. "The developer of Orange County basically toured the U.S., looking for models for upscale single family McMansions, and fell in love with residential architecture in Southern California," says Thomas Campanella, a professor of urban planning and design at the University of North Carolina (UNC).

Chinese architects often study in the U.S., and China's urban planners for decades now have read American textbooks and used U.S. and European cities as models. Chinese cities that sought to reduce carbon footprints have emulated the green roofs of Chicago, while those looking to burn LED lights for a distinctive identity have had Vegas visions dancing in their heads. "There was a local group that said, 'You know Las Vegas?'" recalls Rich Kacenski, a landscape architect in St. Louis who has worked on numerous development projects in China.

But China's cities don't look like the U.S. However much China's builders and planners have looked to the West for examples, it's clear at this point they're carving out their own path. It's not just that more design work's being done by Chinese firms. China's cities are growing at a pace and scale that can make those in the West seem puny and outdated. Some are building transit systems at a rate that hasn't been seen in the U.S. for decades, if ever. Others have gone far beyond the United States in incorporating technology and environmental planning into cityscapes and individual structures.

What's true in China is also true to a certain extent in other parts of Asia, Africa and Latin America, where new cities are being thrown up essentially from scratch and older ones are becoming megalopolises that dwarf nearly anything in North America or Europe. It's a global shift, but China is definitely the epicenter right now. Last year, of the 20 fastest-growing cities in the world, 19 were in China.

If you want to see the future of urbanization, you have to look there, rather than Europe or the U.S. "It's the greatest building boom in human history, by far," Campanella says. "No society in human history has created more urban matter than China has in the last 25 or 30 years."

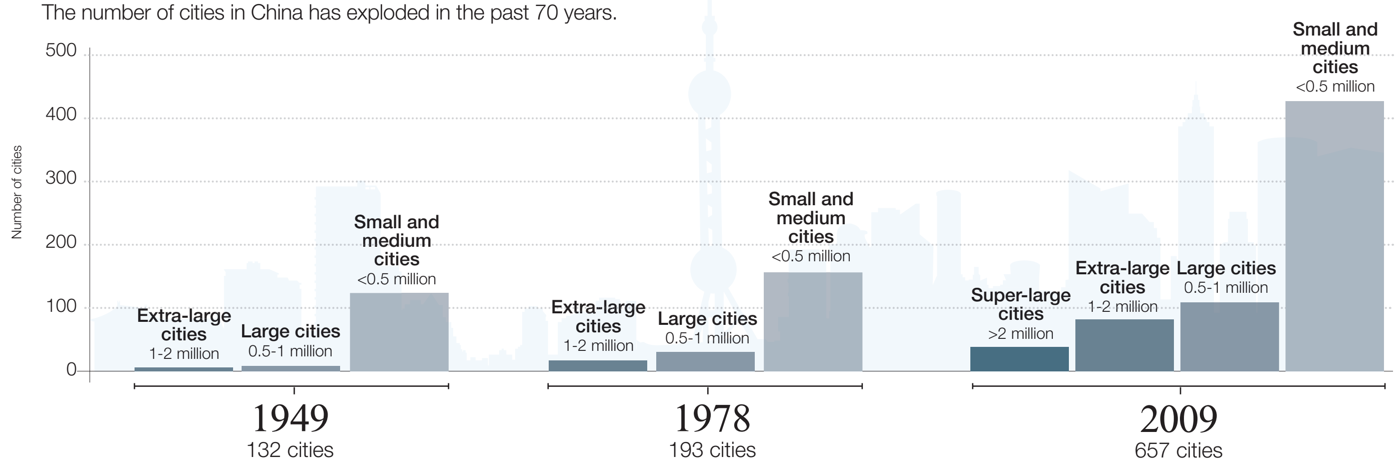
The developing world is truly developing. The world's population is fast becoming urban. Already, as of 2009, half the world's population is living in urban areas—an enormous change from, well, the whole of human history. The pace of urbanization is happening much more quickly than was true of the West during the Industrial Age. By 2030, two-thirds of the world's population will be living in metropolitan areas; by century's end, humans will be, journalist Doug Saunders writes in his book "Arrival City," "a wholly urban species."

This shift is going to have profound effects on the global economy and also on demographics, as urban families on the whole always end up being smaller than rural ones. Already, the 300 largest metro economies account for nearly half the global economy, according to the Brookings Institution, despite making up only 19 percent of the population. In today's world, urbanization goes hand in hand with economic development.

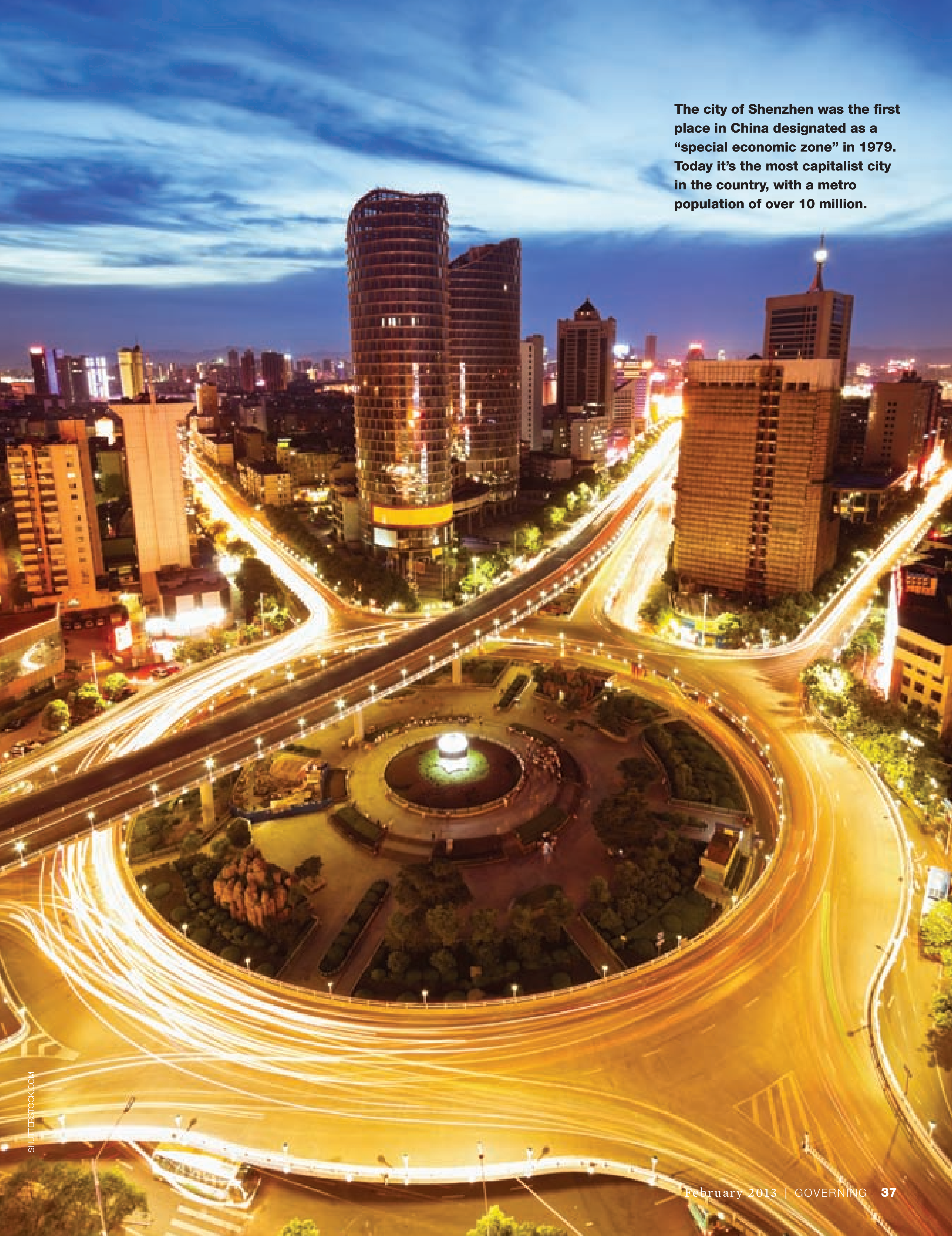
Not all of this is to the good. Millions of recent migrants to cities live in squalor, with inadequate housing and often a lack of access to basic necessities such as clean water. What is called development is often really just chaos. Urbanization is happening fastest exactly in those places where regulation and planning tends to be weakest, says Schlomo "Solly" Angel, an urban planning professor at New York University (NYU). "The annual growth rate of the urban population is inversely related to the quality of governance," he says.

Booming Cities, Large and Small

The number of cities in China has exploded in the past 70 years.



SOURCE: "THE CHINESE CITY" BY WEIPING WU AND PIPER GAUBATZ; DATA FROM THE NATIONAL BUREAU OF STATISTICS OF CHINA. IMAGE: SHUTTERSTOCK.COM



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The city of Shenzhen was the first place in China designated as a "special economic zone" in 1979. Today it's the most capitalist city in the country, with a metro population of over 10 million.

In part, that's what makes China so significant. It has things other fast-urbanizing societies do not. Its national and local governments, while imperfect, play outsized roles in planning and development. Its ability in recent years to make enormous investments in infrastructure is unparalleled. There's plenty of slapdash construction happening in China, to be sure. But there are also gigantic housing projects and university clusters and airports being built—just more spending on infrastructure on a per capita basis—than other countries can match. At the very end of 2012, Beijing opened up 43.4 miles of new subway track, including a new line, making its system the longest in the world. By the end of this decade, it will stretch for more than 600 miles—three times the length of the subway lines in New York. Intercity transit is also proceeding apace. The same week Beijing's new subway line opened, high-speed rail service opened between the capital and the southern commercial hub of Guangzhou, 1,200 miles away. It's the world's longest high-speed rail route, and now makes up roughly one-fifth of the miles of high-speed rail track in the entire country.

Not everything is going right in China's cities, by any means. There are enormous disparities of wealth within cities and between different metropolitan regions. Social services provided by the government are woefully inadequate for the challenges presented by such huge, rapid growth. There have been plenty of real-estate bubbles already during the country's recent experimentation with capitalist-style land use, and the country may not be able to repeat its success in urbanizing its coastal East when it comes to developing the still much more rural inland West.

Still, there's no question that the urbanization fervor in China is unrivaled anywhere else. "There's no precedent for this kind of growth," says Bruce Katz, who directs the Metropolitan Policy Program at Brookings. "The urbanization trends in the world are just at a pace and scale that boggles the mind."

China's urbanization has happened nearly overnight. The country's population became half-urban just in 2011. It's staggering to think how fast hundreds of millions of people have moved to the cities.

Some numbers: As recently as 1970, only 101 million Chinese lived in cities, representing 12 percent of the country's population. By the end of 2011, 691 million lived in China's cities—not just half the country, but 10 percent of the population of the entire world.

This incredible pace will slow but by no means stop. An additional 350 million Chinese—more people than the present population of the U.S.—will be living in cities by 2025, according to the consulting firm McKinsey & Company. "There is little doubt that this is the largest tide of migration in human history," Weiping Wu and Piper Gaubatz write in their new book, "The Chinese City."

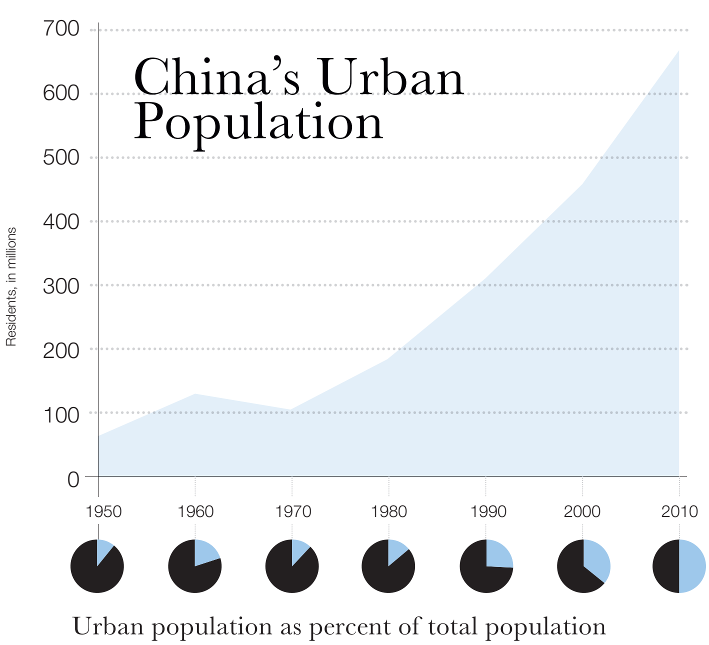
During the Maoist era in the mid-20th century, migration by peasants and farmers to the city was actively discouraged, the authors point out, through food rationing and a household registration system, known as *hukou*, which meant that only official urban residents could gain access to basics such as education for their children and health care. After Mao's death in 1976, his successors, led by Deng Xiaoping, began experimenting with a more open economy and foreign trade. Shenzhen, which borders on Hong Kong, was designated as the country's first "special economic zone" in 1979.

Proximity was Shenzhen's virtue. Ideas and inspiration—and investments—came pouring across from Hong Kong, which then still belonged to Great Britain. The Chinese took things from there, creating an industrial powerhouse out of practically nothing. "It's amazing," says UNC's Campanella, author of "The Concrete Dragon: China's Urban Revolution and What It Means for the World." "Shenzhen exploded from a fishing village of 68,000 or 70,000 people. Now, it's 10 million people."

Numerous other cities along China's East Coast have played a big role in the nation's transformation into the factory floor for the world. Some were traditional trading centers with the West, dating back to the "treaty ports" opened up as a result of the Opium Wars of the 19th century. Others were more like Shenzhen—former villages that today are denser than Manhattan. There are all kinds of cities in China you've never heard of that are bigger than Chicago.

China has gone from seeing urbanization as a symptom of success to a driver of success. "Chairman Mao reviled cities as symbols of unbridled consumption," Wu and Gaubatz write. "Today, cities are perceived as the primary mechanism for new economic growth."

People are flocking to China's cities for the same reasons urban populations are increasing all over the world. There's just more money to be made in cities, even at the low end of the income scale. In China, post-Maoist agricultural reforms have meant fewer farm workers are needed, which is one of the reasons enormous numbers of rural migrants are flocking to the nation's booming cities "like free-floating molecules," as Campanella says.



SOURCE: NATIONAL BUREAU OF STATISTICS OF CHINA

FLICKR/THE UNITED STATES ARMY BAND

China's high-speed rail network continues to expand. The newest line, a 1,200-mile route from Beijing to Guangzhou that opened in December, is the world's longest.

But something else is happening in China. There, urban development is very much a product of local governments. The structure of sub-national governments in China doesn't exactly align with the city-county-state hierarchy in the U.S., but it's analogous in many respects. One of the things that looks entirely different there is the revenue structure. There is still technically no private ownership of property in much of China. Thus, no property taxes. China's cities have other sources of revenue, but increasingly in recent years, they have relied directly on land deals. China changed its laws in 1988 to allow urban land rights to be leased at a profit for a fixed period of time, according to You-tien Hsing, author of "The Great Urban Transformation." A decade later, the land management law was revised again so that only local governments can officially convert agricultural land for urban uses. That has naturally made real estate into big business for cities. "They auction the land to developers," says Angel, the NYU professor. "That's the way municipalities in China earn their income."

It's not just that municipalities make land deals as middlemen with developers. Local governments function both as planners and investors directly involved in projects. The line between government and private enterprise can be difficult for an outsider to discern, says Kacenski, the St. Louis architect. Often, a local government official will be the main impresario behind an enormous development, overseeing the construction of office towers, university campuses (control of many universities has shifted to local governments) and, say, 25,000 housing units.

There's been a competitive edge to all this. Cities want either to outdo one another, or get in on the action. Many projects have a "Field of Dreams" quality: Construction happens in the belief that, if they build it, people will come. This has resulted in the appearance of "ghost cities," enormous speculative projects standing mostly or entirely empty, despite the pressing demand for commercial real estate and housing elsewhere.

In dozens of cities, however, growth is feeding on itself. Today, many Chinese cities are being reshaped along lines familiar to Americans. The center city is made up less of factories and more of high-rent facilities such as top-end hotels, condos and banks. Not only is manufacturing shifting to the urban periphery, but so is housing. In what is known as a strategy of "demolition and relocation," according to Hsing, older housing stock is bulldozed at the center, driving up demand at the outskirts. "Every square meter of housing that I demolish will create a demand of 2.5 to 3 square meters of new commodity housing," Chengdu Mayor Sun Ping has said.

Land, of course, is cheaper on the outskirts of a city than at the center—10 times cheaper in Shenyang, for instance, according to one study. And despite the desire among the burgeoning upper middle class for Orange County-style tracts of single-family homes, Chinese suburbanization tends to be made up of dense pockets of high rises. Often, housing is unimaginably cramped by

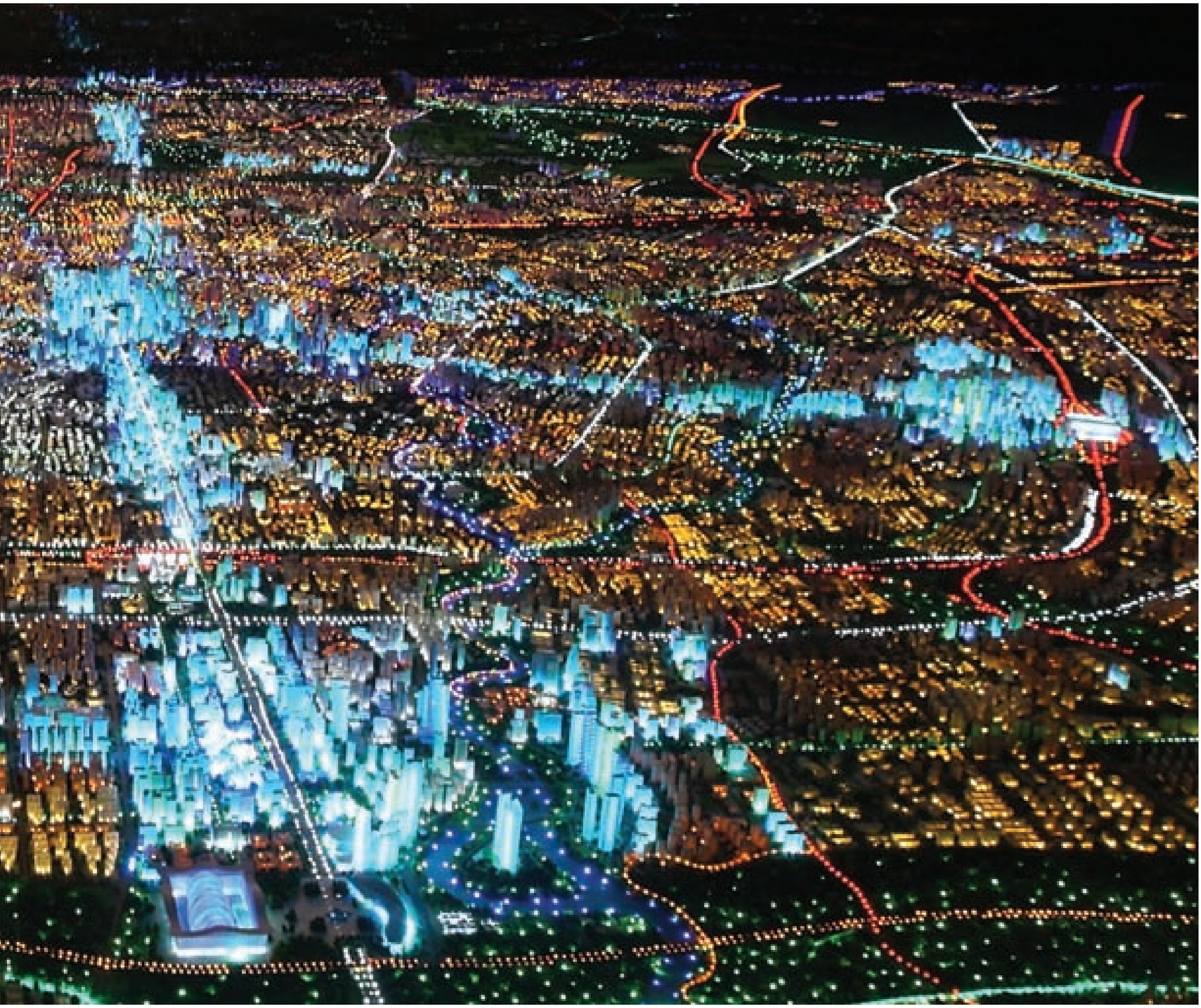
In 2011, the city of Chengdu, in western China, became the country's latest specially designated investment zone. Here, a worker walks across a planning model for the city's proposed growth.

American standards. A couple may live in a two-by-three meter room with just a handful of possessions.

The *hukou* system and the resulting lack of provision of social services for the unofficial urban population has kept China's labor costs at the low end of the global scale, but threatens to create a permanent underclass made up of the elderly poor and uneducated children of migrants. Unrest is real, with protests numbering in the tens of thousands triggered by the land-use decisions that have allowed and promoted development on the urban periphery. Changing *hukou*, though, has been slow. "Particularly for large cities, the concern about opening up the floodgates is very serious for local governments," says Weiping Wu, the urban scholar. "With a third of the total population migrant, migration is a national issue, but the consequences for providing services are local."

Aside from housing and human services—and despite China's enormous infrastructure investments—other services are lacking. The Ministry of Environmental Protection's own estimates are that 74 percent of urban well water isn't fit for drinking. Even in Beijing, 24 percent of the water is considered unfit for human consumption. And urban air quality can be astoundingly bad. One Saturday last month, the Air Quality Index in Beijing spiked to a staggering level of 755; the index, created by the U.S. Environmental Protection Agency, is only designed to go up to 500. (On the same day in New York, the index reading was 19.)

China's national leaders recognize the need for growth to become more sustainable and more green. Self-sufficient new "eco-cities" are being built with hopes of providing models for using more renewable energy and shifting more trips to transit and foot in a country



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that already has more than 170 million cars. "Eco-economic zones" have been established in Shandong, Jiangxi province and other regions, modeled on the hyper-successful special economic zones in Shenzhen and elsewhere that helped sparked China's historic boom.

At this point, China's experiments with smarter development offer more promise than success stories that can be imitated elsewhere. But they are a sign that cities being built today can and often must take a different approach than the urban areas built up by accretion over centuries. They also point to the ways in which China plans for development on a national scale that seems completely foreign for Americans—but might be worth thinking about.

Growing so rapidly, China's cities are still very much works in progress. Westerners still come home with stories about how they were struck by juxtapositions such as horse-drawn carts alongside new, eight-lane freeways. But cities there, as they have evolved thus far, hold lessons in development and economic planning for officials in the U.S., or at least food for thought.

Certain things are obvious. China's booming economy—and the paucity of funds it devotes to social services, as compared to the U.S.—allows it to devote enormous sums to infrastructure. It's not just transit, but that has been a key focus in places like Shanghai. Both the public and private sectors are engaged in trying to counter the tendency toward sprawl by investing heavily in central business districts to keep them attractive and productive.

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As cities overtake farmland, arable land has become more scarce. In some places, rooftop farming provides a solution.

In order to relieve the pressure on housing, China devoted $152 billion, through its local governments, to construction of affordable housing units. Nationwide, nearly 5 million units were completed by the end of September, toward the annual goal of 7 million. It's almost inconceivable that, say, the Obama administration could lead a nationwide push toward housing construction on that scale. But the federal government could encourage metropolitan areas to focus more on increasing housing stock in growth areas or using rental assistance to help families afford units that are lying vacant.

Perhaps the most transferable lesson—even if it's one that may not take root anytime soon—is China's devotion to long-range planning. Clearly, the U.S. will never have "five-year plans" on the old Maoist model. But China today thinks in terms of not just five- but 10- and 20-year time horizons, compared to the American way of quarterly reports, two-year election cycles and short-term economic gains. You can't plan for everything, but China's growth has shown that the future does arrive and it's worth trying to equip yourself for it.

In general, although China's cities definitely compete among themselves, there's a greater emphasis there than here on pushing different areas to specialize in certain industries, so that not everyone is trying to build the same malls or become the next Silicon Valley. Top-down planning, of course, doesn't always work. And much of China's development has proceeded along the lines U.S. cities have long since rejected. China is doing "good and bad in equal measure," says UNC's Campanella. They've cracked the infrastructure nut beautifully and are able to complete in a year or two projects that in the U.S. might take a generation or two. But that comes at a cost, both in terms of environmental impact and the huge numbers of people who have been displaced by highway projects and other construction. "We went from Robert Moses and slum clearance," Campanella says, "from the top-down authoritarian model of urban planning, and swung all the way to the other side."

In finding the right balance between tough controls that make building difficult versus the Chinese model of doing whatever it takes, there's some kind of happy medium. And that creates an opportunity for U.S. firms. With urban growth exploding around the globe, conferences about international cities are plentiful and constant. Many consultants and companies involved in development and spreading ideas between cities are American, or have American ties. This has the potential to create a whole new export market for the U.S., says Katz of Brookings. "American companies, small, medium or large, can play in these areas, particularly in sustainable development," he says. "Urbanization is creating large markets for new kinds of goods and services."

But many of the most influential ideas are not coming from the U.S. Bus rapid transit, for instance, was a hit in Latin America before being tried out in Boston and Seattle. As the human race becomes wholly urban, it may be that innovation will grow less out of the United States and more from places like China. "What you're seeing in Asia, in particular, may have huge lessons for the U.S.," Katz says. **G**

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KEEP CALM

AND

FIX COLLEGE

BY DYLAN SCOTT

FOR YEARS, STATES HAVE DITHERED OVER PAY-FOR-PERFORMANCE IN HIGHER EDUCATION. IN BRITAIN, THEY'VE BEEN DOING IT FOR DECADES.

SIX YEARS AGO, officials from the Higher Education Funding Council for England (HEFCE) came to the United States to share their vision for funding colleges and universities: The focus was how many students a school graduates instead of how many students a school enrolls. It was, in short, performance funding for higher education.

It was an idea that had confounded American states for years. Experiments in similar funding approaches, undertaken in fits and starts beginning in the 1970s, had been abandoned one by one. Perhaps most famously, South Carolina put all of its eggs in the performance basket in 1996, basing 100 percent of its higher education funding on metrics like graduation rates. There was a sense among legislative proponents and a business coalition that supported the change that public universities and colleges, like other branches of government, needed to become more efficient and that market-like incentives were the way to achieve this. Seven years later, South Carolina had to dump the formula, thanks to a fierce backlash from the university faculty as well as pushback from administrators who were overloaded from trying to implement the program.

That's why, when the English visitors from HEFCE arrived in Chicago in July 2007 to speak at an international forum hosted in part by the State Higher Education Executive Officers (SHEEO), their American counterparts were ready to listen.

"We're working on the same kind of problems. How do you get a wider level of educational attainment?" says Paul Lingenfelter, president of SHEEO. "There's no special wisdom in any other country, but what we've learned is there are intelligent people working on these issues all over the globe and it helps to be a part of the conversation."

Thanks to the SHEEO conference and the confluence of other pressures—sharply circumscribed budget limits and low course-completion rates—performance-based funding for higher ed is coming stateside. More than half of states have expressed an inter-

KELLY MARTINELLI

est in moving in that direction, a dozen or so are actively developing policies to fund higher education by making sure public dollars are incentivizing results and a few have already implemented new systems. In their pursuit of the best way to do that, states are looking for lessons from their English allies.

The specifics of the formula and the politics behind rewarding performance are only part of what makes the English model tick. It's also about the philosophical underpinnings. "The driver for these institutions is the pursuit of knowledge and the public benefit," says Steve Egan, director of finance and corporate resources at HEFCE. A lot of the English institutions were set up with those altruistic objectives, he points out, noting that those objectives remain a strong part of who they are—and they are buttressed by a performance funding model that rewards results. "It's about those larger social goods. That's the secret," he says. "You can't make that happen with a funding system or a regulatory system. The core of it is the universities themselves."

In other words, aligning funding streams with the fundamental goal of higher education—to educate students and do it well—allows universities to stop worrying about how many students they can send acceptance letters to and start concentrating on how they can better educate the students that they have.

One fundamental feature separates the U.S. system from the U.K. model: when the student counting starts. American public universities, by and large, receive a per-student allotment from the state based on how many students are enrolled at the beginning of the school year. In England, the counting takes place at the end of the school year. Schools receive funding only for the students that make it through, which is a more effective way of promoting student retention.

"Those that perform well get a lot. Those that don't get nothing," Egan says. That's the bedrock of the performance-based funding model that his country uses to ensure the £4.7 billion (about $7.6 billion) it spends on higher ed instruction at nearly 250 universities and further education colleges (similar to U.S. community colleges) is well spent.

The best universities in Great Britain, such as Cambridge and Oxford, have retention rates around 99 percent, the highest possible figures, comparable to Harvard and Yale in the United States. The British national mean sits above 80 percent, while America averages closer to 75 percent.

That means the U.S. is spending a lot of money—tuition fees and general spending have been on the rise for years—but only achieving middling results. More students are enrolling than graduating. That's led to a lot of interest in throwing out the whole U.S. system, which only rewards getting students in the door, and moving toward a model like the U.K.'s, which rewards getting them out. "There is all sorts of interest in emphasizing completion," says Aims McGuiness, senior associate with the National Center for Higher Education Management Systems, who has studied the U.K. higher education system. "But the question is: How do you do it?"

The United Kingdom has had a fair amount of practice. Dating back to the 1980s, the country has linked its funding allocations to an institution's performance on specific metrics. The formula was most recently revised in the mid-2000s, particularly to encourage schools to recruit and retain students from low-income geographic areas. Up to 10 percent of a school's teaching funding is connected to its ability to enroll those students, who are identified by their postal code. It's an unconventional performance metric, but one that U.S. policymakers have taken an interest in as access equity has become a major issue in this country as well. In a similar manner, England has introduced incentives for schools to enroll students in certain fields like science or medicine that are expected to have a high demand but currently have a shortfall in graduates entering the labor force.

Most of the other 90 percent of funding, however, is based on specific measurable criteria, most of it locked into completion rates. If a student enrolls in an institution at the beginning of the year and finishes there at the end, the school receives credit and full funding for that student. If the student doesn't finish, the school can be penalized and lose money.

That's one of the important lessons from the United Kingdom: leverage. Almost all funding for U.K. higher ed is founded on outcomes of some kind, and policymakers credit that wholesale approach to its success. U.S. experiments in performance-based funding have generally not been as bold. Aside from the example of South Carolina, which was a disaster for different reasons, most states have limited the performance-based portion of their higher education funding to 5 percent or so. What they found was that it wasn't enough money to encourage change. When up to 95 percent of their money was still wrapped up in recruiting and enrollment, schools continued to focus their efforts there.

"There's no magic number, but you've got to get into double-digits to get the institutions to pay attention," says Travis Reindl, program director for postsecondary education at the National Governors Association. "It gives you a better shot that you'll see the corresponding changes on the campus."

When South Carolina tried to move to a fully performance-based system, it encountered a vicious pushback from its schools and their staff. So how has England gotten its institutions on board? By using specifics. Before the beginning of every school year, HEFCE outlines its performance expectations with each individual school. Exact metrics are set. Then the school and the commission sign a contract, allowing both sides to acknowledge before the funding cycle even begins that they understand what's at stake and how it will be determined. "That's huge. That's worth trying to do," says Jane Wellman, executive director for the National Association of System Heads, which represents more than 50 systems of U.S. public colleges and universities. "The basic notion that there will be an understanding of the criteria and the performance expectations trumps everything else." The English, she says, "did that pretty well."

Not everyone is convinced. The U.K. model differentiates between teaching, research (which accounts for about $1.6 billion) and other funding (a little more than $1 billion). Within each of those spheres, there is a formula for determining funding. Research funding, for example, is based in part on how many peer-reviewed studies a university's faculty had published in the previous year. There is a concern among some in the United States that you could over-formulize, and by extension, take some of the discretionary power away from the school presidents and boards who have presumably been placed in those positions to make decisions about how money is being spent and whether it is being spent wisely.

"The passion for formulizing these things takes away from what I thought I was being paid for, which is making judgments," says D. Bruce Johnstone, professor of higher and comparative education at the State University of New York at Buffalo, and former president of that school. "You can formulize and formulize and formulize these things, but it sometimes takes away from the comprehensive judgment of the chancellors and school boards."

"HOW DO YOU GET A WIDER LEVEL OF EDUCATIONAL ATTAINMENT? THERE ARE INTELLIGENT PEOPLE WORKING ON THESE ISSUES ALL OVER THE GLOBE AND IT HELPS TO BE A PART OF THE CONVERSATION."

— PAUL LINGENFELTER OF SHEEO

Since that 2007 SHEEO meeting, the English tenets for higher education funding have begun to permeate U.S. education policymaking. States have begun rebooting their performance-based funding efforts in the last few years and building on lessons from the U.K. system: putting enough money at stake, having well-defined goals for institutions to work toward and awarding outcomes instead of inputs.

Tennessee perhaps moved closest to the English system when it revamped its funding model three years ago. Though state officials say they largely came up with their own formula from scratch—they were only vaguely familiar with the U.K. model—their result bears some striking similarities to the British pay-for-performance model. For starters, Tennessee decided to put all the money on the line. Like others, the state had experimented with a limited amount of performance-based funding (5 percent) 30 years ago. But also like others, the state found that wasn't enough to leverage change.

Tennessee's new formula puts 100 percent of a school's funding on the line and links it to specific outcomes, such as degree production, graduation rates and research output. Schools are rewarded for recruiting students from a lower socioeconomic background, much like the postal-code incentives in England. To ensure buy-in from the higher education community itself, faculty and administrators were brought into planning meetings and provided input on the specific metrics that they would be measured by. Outcomes for different schools are weighed differently, depending on the institution's population and academic mission, another idea that had already appeared in the English model. To ease the transition, the state limited the amount of money that an institution could lose or gain in the first few years. Early results are positive, according to Tennessee officials. Degrees awarded and graduation rates are on the rise.

"Trying to just tweak the status quo wasn't good enough, so we decided to go for it," says Russ Deaton, the Tennessee Higher Education Commission's associate executive director for finance and administration. "It's a new philosophy. The school's money is not its own. They have to relinquish it and earn it back."

If the initial success of Tennessee's new performance-based funding system is any indication, the British influence is likely to grow. The National Governors Association, which has studied the U.K. model at length, is working with states including Nevada to implement performance-based funding systems based on some of the same principles. Deaton reports that Tennessee has already fielded calls from some 30 states and had extensive conversations with 15 about how their model could be translated across the U.S.

The renewed interest in performance-based funding rests on the current confluence of three circumstances, says the National Governors Association's Reindl: The economy needs more people with a higher level of education, state governments' budget situation requires more fiscal discipline, and the disparity in college completion across different demographics demands an overhaul in incentives for higher education institutions. Those underlying factors don't seem to be going away, which likely will lead states to continue exploring the concept. As the Tennessee program already suggests, the standards upon which the English model is based indicate it is an improvement over America's past failures in performance-based funding.

As many as 20 states are expected to introduce performance-based funding legislation in the next two years. "The numbers are showing that we're well into version 2.0. It's in play," Reindl says. "It's got a lot of potential, and it could be a significant force toward achieving the changes we've been looking for." The U.S. similarities with the U.K. system, Reindl adds, "represent an evolution. We're getting better at this." **G**

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Canada's public-private partnerships have been very successful. This bridge in Kicking Horse Canyon was completed 21 months ahead of schedule.

LET'S MAKE A DEAL

WHY ISN'T THE U.S. BETTER AT PUBLIC-PRIVATE PARTNERSHIPS?

B.C. MINISTRY OF TRANSPORTATION AND INFRASTRUCTURE

BY RYAN HOLEYWELL

Officials in British Columbia have encountered a unique problem in recent years that most jurisdictions would be thrilled to have: Infrastructure projects are being completed not just on time, but early. Way too early. Builders have been finishing hospitals, for example, so far ahead of schedule that they haven't even been allocated operating funds. "We had to limit how early they could be built," says Sarah Clark, president and CEO of Partnerships British Columbia.

Clark's office is charged with helping the province navigate the world of public-private partnerships, to make sure deals are structured properly so the public gets the best return on its investment in infrastructure. So far, it appears to be doing just that, racking up a record number of projects that are finished on schedule and at significant savings to taxpayers.

Worldwide, Clark's office is just one of more than 85 similar offices in at least 31 countries tasked with reviewing proposed public-private partnerships, or P3s, to assess whether they're a good deal for taxpayers and governments, and to look at the long-term fiscal impact of the deals. It's a model American officials may want to consider. While P3s are already becoming an increasingly popular option among U.S. policymakers as a tool for financing infrastructure projects, only a handful of states have set up dedicated offices charged with examining how those deals are structured. And now a growing cohort of infrastructure experts say U.S. states should have more such dedicated offices—following in the footsteps of their foreign neighbors, where permanent, robust offices are staffed by experts who can navigate the legal, financial and technical complexities of public-private deals.

Historically, these kinds of offices have flourished abroad because other nations began exploring P3s before American states did, says Robert Puentes, a senior fellow with the Brookings Institution's Metropolitan Policy Program. According to Brookings, from 1985 to 2011, U.S. spending on P3 infrastructure projects accounted for only 9 percent of the global total. That slower pace is largely due to the municipal bond market in the U.S., which traditionally has been the source of financing for public infrastructure projects.

Still, public financing strategies in the U.S. are starting to change, and a growing number of states are passing legislation that enables them to tap into the P3 market. Puentes touts the newly opened High Occupancy Toll lanes in Virginia, surrounding the Washington, D.C.-region's beltway, as a prime example of a P3 success story. Private-sector firms financed, designed and built new premium lanes and will now operate them, collecting toll revenue from Virginia drivers. "Fifteen years ago, a traditional approach would have been to widen the road; it would have cost billions of dollars and taken 10 years," Puentes says. Instead, the private partners absorbed most of the project's upfront costs. "It's a completely different approach."

The deal was largely possible, Puentes says, because Virginia is one of just a sliver of states—including California and Michigan—that has a dedicated P3 unit. Entities on the private-sector side maintain personnel devoted to these kinds of deals; states could find themselves at a disadvantage if they don't have similar in-house chops. Indeed, a recent report by the National Conference of State Legislatures (NCSL) warned of a "knowledge and experience gap" in the U.S., citing a 2009 McGraw-Hill survey that found 61 percent of state and local officials had no experience dealing with P3s and did not fully understand them. "In the United States," Puentes wrote in a recent paper, "many states lack the technical capacity and expertise to consider such deals and fully protect the public interest."

The federal government doesn't provide much help. The Federal Highway Administration's Office of Innovative Program Delivery can give states some guidance on P3s, but it's mostly only available on deals that have a significant federal role. A 2008 report from the Government Accountability Office warned that while the Department of Transportation has been promoting P3s for highways, it's done little in the way of helping states evaluate the potential costs and benefits of those deals.

A state P3 office could take various forms. Some foreign P3 units are housed within transportation departments, some are stand-alone entities, and still others are quasi-public corporations. But what's more important than their exact structure is that they provide governments with the capacity to handle P3 proposals that come their way, says Jaime Rall, a senior policy specialist at NCSL.

The British Columbia model in particular has been touted by many Americans who advocate for stateside P3 units. The genesis for Partnerships British Columbia developed in the 1990s, when the province was short on capital but saw an increasing need for facilities like hospitals, schools and correctional facilities. Policymakers took an increased interest in P3s to help finance that infrastructure, and they made a conscious choice to look abroad at places like the United Kingdom that already had dedicated P3 offices as they sought to develop one of their own. "When they government looked around," Clark says, "it saw the more successful jurisdictions had their own focused centers of expertise."

Launched in May 2002, Partnerships BC has an unusual structure. It's not a government agency; rather, it's a company that's wholly owned by the province and reports to its lone shareholder, the minister of finance. It's also governed by a seven-member board with representatives from both the public and private sectors. A World Bank report notes that the entity's unique structure allows it to offer salaries outside the normal range for civil servants, which helps attract financial experts from the private sector.

Partnerships BC functions like a consulting firm. The province, as well as municipal governments, must pay the entity in order to utilize the services provided by its 40-old employees, who hail from backgrounds in finance, engineering, project management and other fields. The company performs procurement analysis, structures contracts, selects bidders and helps implement P3 proposals under consideration by various public entities. The office is very active. Last month, for instance, the staff was handling nine projects in procurement and another eight that were under construction.

Interestingly, the office not only provides British Columbia and its cities with the know-how to structure and manage these deals, but the very existence of Partnerships BC acts as a sort of promotional tool that helps spur interest from the private sector in P3s. "When you're looking at valuable business development dollars, you want to look at a place where the projects will actually happen," Clark says. "[The office] shows support for the approach, and the projects and track record began to grow very quickly." A typical request for project quotes garners eight to 11 private-sector responses.

Prior to the creation of Partnerships BC, Clark says, many of the province's projects weren't adequately planned. Budgets didn't really consider every cost, she says, and the expertise wasn't in place to properly analyze the life cycle of infrastructure like roads and hospitals. "It was definitely due to a lack of experience," Clark says. One publicly financed project—a convention center in Vancouver—ended up costing nearly double its original budget. Today, Clark says, "we wouldn't have done that. We would have done a performance-based contract."

PARTNERSHIPS BC

This sports center in Prince George is indicative of the type of projects Partnerships British Columbia oversees. In fact, the firm has actually completed more health-care projects, like the Gordon and Leslie Diamond Health Care Centre, below left, than highway projects. The Sea-to-Sky Highway, below right, connects Vancouver and Whistler.

In a typical performance-based deal, a private contractor would be charged with designing, building, financing and maintaining the facility, and it would receive a flat fee from the province for doing so. If its costs came in higher than expected, the private-sector company—not taxpayers—would be on the hook. Take the Abbotsford Regional Hospital and Cancer Centre, a 300-bed facility just east of Vancouver that opened in 2008 to replace an older facility. Under the terms of that arrangement, the private partner agreed to meet certain standards over the duration of the 30-year, $424 million contract. It can earn more if it exceeds those standards, and it will earn less if it falls short. Partnership BC officials estimate that by transferring risks associated with the cost of construction, maintenance and operation to a private entity, they've saved $39 million over the course of the contract.

One of the P3 unit's most important roles, it turns out, is steering overeager governments away from projects that could have long-term pitfalls for taxpayers. "A lot of jurisdictions want to put a shovel in the ground," Clark says. "We've worked on being disciplined about upfront planning, what's the need, and how should it be procured." The office provides a reality check to public officials, what Clark calls "expectation management."

To date, Partnerships BC has actually completed more healthcare projects than highway projects. That's a marked difference from U.S. states, which have primarily focused their P3 efforts on transportation infrastructure. Another difference: The British Columbia office isn't involved in monetizing existing infrastructure, like the high-profile Indiana Toll Road deal in which the state offered future toll revenues to a company in exchange for a lump-sum payment. When it does become involved with highways, Partnerships BC typically utilizes availability payments, a P3 model in which a private entity finances, operates, maintains and sometimes builds and designs a road in exchange for periodic payments from the government based on performance.

Already, some U.S. states are paying close attention to Partnerships BC. One recently announced effort: the West Coast Infrastructure Exchange, in which California, Oregon, Washington and British Columbia will partner to find ways to finance projects. Dan Carol, Oregon's director of multistate initiatives, likens the effort to a dating website, matching up the right investors with the right public projects, such as broadband and water infrastructure. (The effort is in its early stages and no projects have been selected.)

Brookings' Puentes says one of the biggest problems resulting from the lack of many U.S. P3 offices is the absence of an understanding of how P3s fit into long-term plans. He says Partnerships BC—like other international P3 offices—plays a valuable role in linking financing strategies to policy goals. "That's the beauty of this," Puentes says. "It's not just a transactional thing. It's linked to a national policy on freight, on infrastructure, on everything." G

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The recently opened High Occupancy Toll lanes in Virginia are one example of a P3 project in the U.S.

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The $20 Could

At India's innovative Aravind hospitals, each doctor performs as many as 2,000 cataract surgeries annually.

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Eye Surgery that Save the World

By Dylan Scott

Thirty to 40 surgery patients pass through each of Aravind's five hospitals every day.

Efficiency is the golden goose, the Platonic ideal, the Holy Grail of health-care reform. But while the United States stutters, stumbles and stalls on its path toward a more efficient system—we spend two-and-a-half times more on health services than most developed nations in the world [see "Health Costs," page 58]—an eye hospital in India has already figured out how to provide the highest quality care at the lowest possible cost.

The Aravind Eye Hospital network, founded in 1976 in Madurai by Govindappa Venkataswamy, essentially performs just one kind of procedure: corrective cataract surgery. But it probably does it better than any other facility in the world. In 2011, this one hospital system completed 227,000 sight restoration surgeries, out of an estimated 20 million worldwide. Individual surgeons in the system perform upward of 2,000 surgeries annually, or more than five per day, compared to the national average in India of 250 per doctor per year. Even more striking is that the estimated average cost of those surgeries is less than $20. Compare that to the U.S., where the average cost is between $3,000 and $5,000. And according to a 2004 academic review, Aravind achieves health outcomes equivalent to their peers in developed countries.

So how do they do it? There are three secrets to Aravind's success. First, the hospitals have created an admission-to-release process for the surgeries that's almost industrial in nature. It's similar to the lean manufacturing approach employed by U.S. health systems like Denver Health, but taken to the extreme. The second piece is its culture. Physicians enroll in the network's own training institute, learn the Aravind way and stay for years. That knowledge base and familiarity with the network's system contributes to its production line-like approach to health-care delivery. And finally, Aravind has taken control of manufacturing the lenses that are needed for its cataract operations, establishing Aurolab in 1992 to craft lenses and surgical tools at a fraction of the cost it would take to purchase them from third-party vendors. The plant has reduced the average costs of lenses from $200 to

$10 in the two decades since it opened. Most analysts credit that innovation almost as enthusiastically as the health-care model itself for Aravind's ability to keep its costs low.

The model is so effective that the network has exploded from the 11-bed hospital that Venkataswamy founded more than 30 years ago to five hospitals with a combined 3,500 beds that accommodate nearly 2 million examinations each year. "This drive toward efficiency has resulted in not only effective coordination of care and patient management," said a 2008 *Health Affairs* article highlighting Aravind as a specialty health-care pioneer, "but also an annual financial surplus that has been used to fuel Aravind's growth."

Day after day, 30 to 40 surgery patients stream through each of Aravind's five hospitals. Most come from poor, rural villages, where Aravind-trained nurses identify people who might need cataract surgery. It takes a mere two minutes for clientele to clear a reception desk, where they fill out a short form with basic information, are assigned a patient tag number and placed in line at one of three outpatient departments located within the hospital. Patients are then taken two at a time for vision tests, with nurses ensuring the next patient is ready when the other is finished. In the operating room itself, one patient is constantly being prepped by the nursing staff for surgery while the surgeon operates on another. At the conclusion of one surgery, the physician need only walk a few feet to begin work on the next patient. And so it goes. The whole day's work takes just about five hours to complete.

This methodical approach comes courtesy of its training institute, which indoctrinates its surgeons and supporting staff in its practices as soon as their medical careers begin. In the last year, the network graduated more than 40 doctors. It's a holistic system—from the manufacturing of the lens to the discharge of the patients—and that's what makes it work.

"Given the urgent need to contain health-care costs, management ideas like [Aravind's] might well have applicability in the [United States]," wrote two of the network's doctors in the *Harvard Business Review* in 2010. "The broader point is this: Management ideas from poor countries can transform management practice in the rich world."

Take America. Delivering health care to America's poorer and more rural regions is a widely recognized problem. They often have greater health problems, are more likely to be uninsured and less likely to have easy access to cheaper preventive primary care. Aravind's patient base is also largely poor and rural—yet its model is so efficient and profitable that nearly half its patients pay a reduced price (or nothing at all), the difference being made up by those who can afford to pay the full cost.

Since Venkataswamy (who died in 2006) introduced the Aravind model to the world in 1976, its ideas have spread to many other countries. In 2011 alone, the network's staff provided consultations to hospitals in Bangladesh, Nigeria and elsewhere in India. Aravind also has working relationships with a Chinese eye hospital that has adopted its model wholesale, and its leaders have also been invited to join coalitions hoping to improve health-care delivery in sub-Saharan Africa. Over the past decade, Aravind has been cooperating with Project Impact, a U.S. nonprofit led by social entrepreneur David Green, to translate its lens manufacturing model to hearing aids. Today the project is producing hearing aids at a cost of $60, compared to an average of $1,500.

But for now, any plans to replicate the Aravind model are focused mostly on cataract surgeries. Those procedures are especially suited for the Aravind approach because they're not particularly risky, and patients heal quickly and usually without any complications. But other health-care delivery systems are starting to adopt aspects of the model, according to *Health Affairs*. A primary care network in Kenya and a pediatric clinic in India have seen success using some of the same economies of scales and efficiency principles that Aravind utilizes.

With that established track record, Aravind could be coming stateside. *Forbes* reported in 2010 that Green was in talks to open an eye hospital in San Francisco that would operate under the network's model. Those plans have continued, Green says, and he has found a partner in the Pacific Vision Foundation, a nonprofit composed of ophthalmologists dedicated to preventing blindness. The group last year purchased a building that will serve as the headquarters for its Aravind-based institute, and Green says, with enough funding, it could open by 2015. He's also worked with the Center for Health Care Strategies, a policy think tank, and met with Medicaid directors to discuss how a model similar to Aurolab's medical device production could replace the costly medical equipment that Medicaid currently purchases for its patients.

If health-care costs—particularly for government programs like Medicaid, which is the single largest payer in the country—are to be contained, greater efficiency is key. But efficiency in actual care delivery doesn't always drive policymaking. Accountability continues to be a focus, with the federal health-care reform law including a provision that penalizes hospitals for preventable readmissions. Cooperation has also taken center stage, as Medicaid managed-care initiatives and accountable care organizations encourage collaboration across the health-care provider spectrum. But despite some examples of success, efficiency remains an elusive goal. Aravind has achieved it with an industrial ruthlessness that never loses sight of its duty to its patients. Before his death, Venkataswamy was often quoted as saying his network was dedicated to "the humble demonstration of courtesy and compassion to each patient."

That melding of philanthropic dedication and financial sustainability is why some policymakers and advocates say the United States should look at models like Aravind's. "Increasingly, we're finding that the most amazing breakthroughs are delivered by groups that have found out how to combine self-interest with concern for others into one system that serves people who used to be left out," said William Gates Sr., Bill's father, when the Bill & Melinda Gates Foundation recognized Aravind with its 2008 Gates Award for Global Health. "This is creative capitalism—an approach where governments, businesses and nonprofits work together to stretch the reach of market forces so that more people can make a profit, or at least make a living, doing work that saves and improves lives." G

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Problem Solver

Total Health Expenditures Per Capita, 2010

< $100 · > $100 · > $500 · > $1,000 · > $4,000 · > $7,000

TOTAL PUBLIC AND PRIVATE EXPENSES IN U.S. DOLLARS AT AVERAGE EXCHANGE RATE. DATA UNAVAILABLE FOR COUNTRIES SHOWN IN WHITE.

Iceland

Iceland this year has implemented limits on maximum copayments for its pharmaceutical cost-sharing system in an effort to save money. The system, which gives consumers electronic access to their personal health-care data, can be accessed regardless of where a patient is treated.

Canada

Canada's cost control measures include required annual global budgets for hospitals, provider fee schedules and an independent review board that oversees introductory prices of new medications.

Health Costs

How does the U.S. compare to other countries?

Americans' health spending per capita topped all other countries in 2010, climbing to $8,362, according to the World Health Organization. The U.S. health tab, about half of which is publicly funded, more than doubles that of Great Britain, Japan and New Zealand—all of which provide universal health care.

One of the primary drivers of U.S. spending is the high cost of health goods and services. A report by the Organisation for Economic Co-operation and Development (OECD) found hospital services cost about 60 percent more here than 12 other member nations studied. By contrast, Japan tightly controls prices by setting caps on nearly all services.

Of course, the aging U.S. population has contributed to rising spending, but many countries are growing older even faster. The portion of Americans older than 65 is less than the OECD average. Americans also don't smoke any more than most other nations. If there's one area where the U.S. does stand out, it's our much higher obesity rates.

This map illustrates the disparity in countries' 2010 total health spending per person. Incomes strongly correlate with spending, so poorer countries generally have vastly lower expenses. **G**

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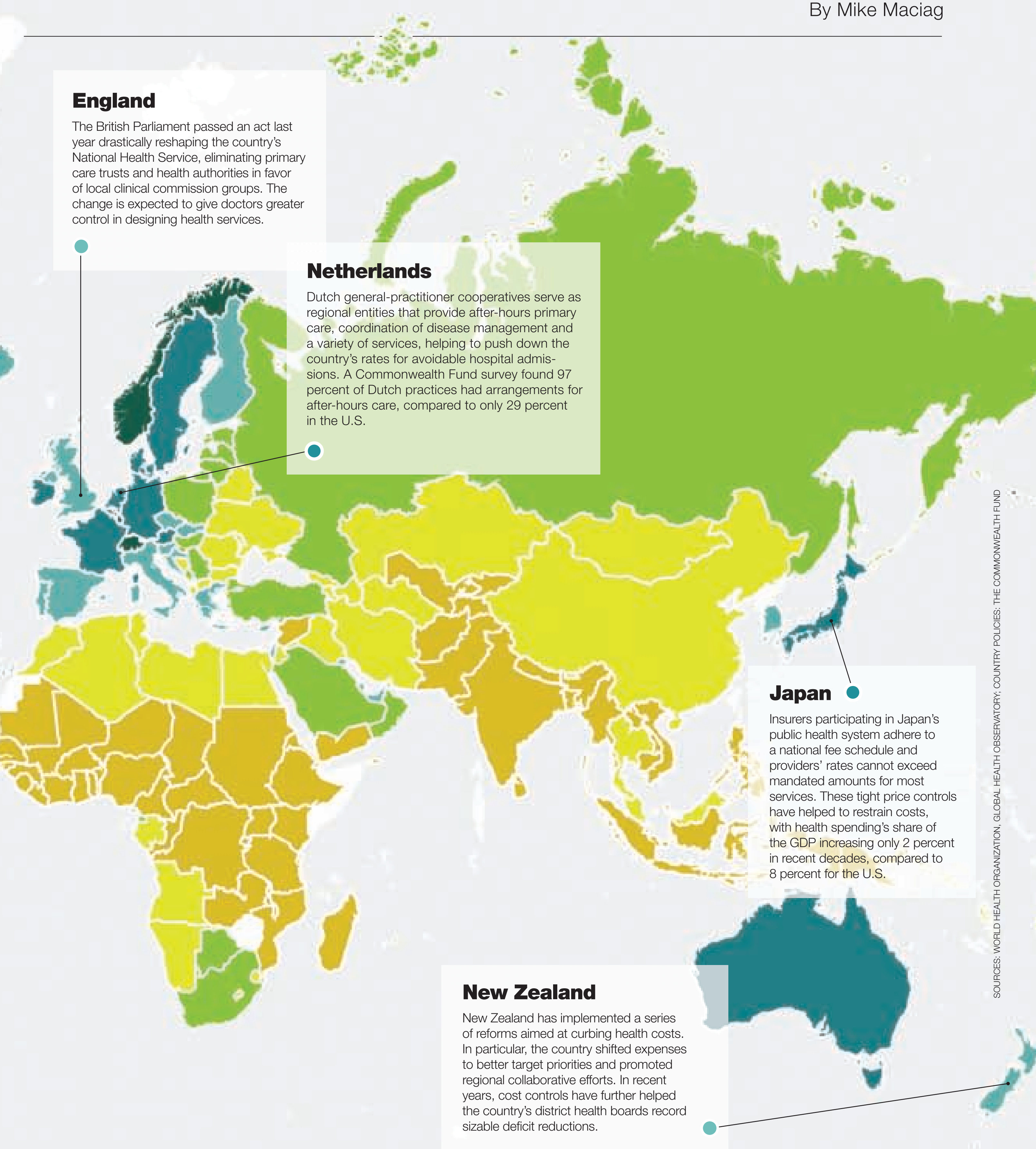
View an interactive map with spending data at governing.com/**healthmap**

By Mike Maciag



England

The British Parliament passed an act last year drastically reshaping the country's National Health Service, eliminating primary care trusts and health authorities in favor of local clinical commission groups. The change is expected to give doctors greater control in designing health services.

Netherlands

Dutch general-practitioner cooperatives serve as regional entities that provide after-hours primary care, coordination of disease management and a variety of services, helping to push down the country's rates for avoidable hospital admissions. A Commonwealth Fund survey found 97 percent of Dutch practices had arrangements for after-hours care, compared to only 29 percent in the U.S.

Japan

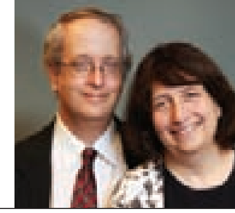
Insurers participating in Japan's public health system adhere to a national fee schedule and providers' rates cannot exceed mandated amounts for most services. These tight price controls have helped to restrain costs, with health spending's share of the GDP increasing only 2 percent in recent decades, compared to 8 percent for the U.S.

New Zealand

New Zealand has implemented a series of reforms aimed at curbing health costs. In particular, the country shifted expenses to better target priorities and promoted regional collaborative efforts. In recent years, cost controls have further helped the country's district health boards record sizable deficit reductions.

SOURCES: WORLD HEALTH ORGANIZATION, GLOBAL HEALTH OBSERVATORY; COUNTRY POLICIES: THE COMMONWEALTH FUND

By Katherine Barrett and Richard Greene



It's All Relative

Some places are strengthening the bond between sister cities.

For years, sister cities were the municipal equivalent of real sisters: They shared good vacation spots, enjoyed one another's tastes in films and books, and occasionally interceded in parental problems.

Don't get us wrong. We're not about to downplay the role of the basic model or suggest it's outlived its usefulness. It has real value. A city-matching program that focuses on learning from other cultures and building diplomatic and economic relationships has a lot to teach us. As Adam Kaplan, the membership director at Sister Cities International (SCI), puts it, "Everyone does student exchanges and cultural projects. That's the core of sister cities."

But now there's a new thrust to get these 2,000 international partnerships working together on concrete development programs, the kinds of projects that require good management and real dollars to build things.

SCI's mission, Kaplan says, "is no longer just to inform people about another culture but to provide a fruitful relationship. People are becoming more comfortable and are less intimidated about forging ahead with small-scale development relationships that target substantive project-based activities."

That hadn't always been the case for several reasons. One of the big ones was a lack of cash—particularly with sisters from developing countries.

Enter the Bill & Melinda Gates Foundation, which recognized that the established relationships between sister cities was an asset. It provided grants so that American cities can work as a go-between for its sister—a partner that can provide encouragement and guidance if the other city has a problem sustaining an effort.

"One of the things that makes a sister-city relationship work is to have a local American city support group—the people who have the contacts and know where the levers of influence are in your city," says Allan Levenberg, a key player on the Richmond, Va./Segou, Mali, sister-city team.

Los Angeles has 25 sister cities.

MATHEUS WAHL

Additionally, says Darryl Brown of the Boulder, Colo./Kisumu, Kenya, Sister City Committee, the American sister can "come up with a plan *with* the community rather than saying, 'You guys need a well.'"

The Gates Foundation envisioned that, given the opportunity to participate in real development, the relationships would continue long after a project is over, and that the project itself would be a sustained benefit to the recipient communities.

So how did these Gates Foundation grants work? The cities (sister-city pairs) submitted competitive applications. It was only after the grants recipients were selected that they drew up lists of potential projects. These were weeded out until final projects were announced. Those projects had to get approved by the SCI—including the building plans and a lot of the nuts and bolts of budgeting, contracting, purchasing and the like. Pretty much anyone involved went through training for program design monitoring and evaluation.

This last piece, to get on our own soapbox for a bit, is particularly crucial. Ensuring a good chance to know what works and what doesn't—and why—is often the missing link in all kinds of well intended efforts.

One of the biggest grants—$7.5 million—went to the Africa Urban Poverty Alleviation Program, which focuses on water, health and sanitation projects. One typical project was a toilet block at a Kenyan School, which was funded through the Boulder/Kisumu Sister City Committee. It's already been completed and provides sanitation facilities for more than 1,200 young people attending the Khudo School.

Similarly, thanks to the efforts of the Richmond/Segou team, a maternity ward at the Community Health Center is now complete and will offer health services to 28,000 people in Segou and surrounding communities.

With most of this funding going abroad, what's in it for the U.S. sister cities? There is, of course, the genuine sense of doing something good for the world. But more practically, to the extent that folks in Western cities are interested in working internationally, these experiences make everyone far savvier.

"You see things spin off from these relationships as well," Kaplan says. Fort Worth, Texas, for instance, worked with the Mbabane, Swaziland's City Council to have a Texas Christian University graduate student spend six months as an intern at Mbabane City Hall as part of his graduate program. "Piece by piece," Kaplan says, "it adds to your community." **G**

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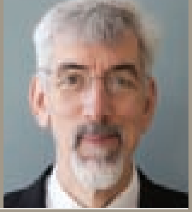
By Mark Funkhouser



The Emerging Power of China's Auditors

Cracking down on corruption is critical to the country's growth.

November's 18th National Congress of the Communist Party of China marked not only a key power transition for the nation but also signaled a new determination to go after the country's endemic corruption. "Party organizations should become more transparent to the public and be supervised by the people," party officials declared at the opening of the congress.

They have good reason to ramp up the fight. Malfeasance among government officials, especially among high-level officials and their family members, has become such a social problem that it endangers the party's power status. As a result, the Chinese National Audit Office (CNAO) already had been given powers that go well beyond those of most government audit organizations. The CNAO, along with other Chinese audit organizations, has the authority not only to expose wrongdoing but also "to deal with or punish" violations.

Liu Jiayi, auditor general of the CNAO, moved quickly to embrace the party's new stance on transparency. His department became the first to broadcast its party committee's conference live online. Eight audit officials introduced their working plans, and Liu promised that his office not only would ramp up investigation and punishment of crimes but also would scrutinize the exercise of official power; expand the use of performance auditing and performance evaluation; boost transparency by opening up audit information to the public; and promote government reform and innovation by evaluating systems and analyzing their barriers, flaws and loopholes.

It might seem surprising to find that an audit agency is a significant force in China, given the differences between it and Western democracies. But China's leaders have come to understand that managing their country's phenomenal economic growth—some observers expect that China will surpass the United States in nominal GDP in the next 10 to 20 years—requires an effective legal and regulatory structure.

Auditing is an important part of such a structure. The need for auditing is inherent in the human condition, and the concept spans millennia and cultures. Tiny marks made more than 5,500 years ago beside numbers in the records of the Mesopotamian civilization are evidence of a system of verification: One scribe prepared summaries of transactions, and another verified the assertions. In today's increasingly complex world, effective government auditing strengthens societal outcomes by limiting waste resulting from corruption and improving organizational learning, thereby increasing citizen trust and confidence.

The CNAO, which was created in 1983 by a constitutional amendment, has been working for years to meet the challenge it has been given by China's ruling party. It has been aggressively training staff, participating in conferences, submitting articles to professional journals and taking a big role in organizations such as the International Organization of Supreme Audit Institutions. This October in Beijing, for example, the CNAO will host the organization's international congress, at which new international audit standards will be adopted.

Gene Dodaro, head of the U.S. Government Accountability Office, even visited the CNAO in Beijing in November and signed a memorandum of understanding to encourage and promote technical cooperation between the two agencies.

These are all impressive developments. It remains to be seen whether China's newly empowered auditors really will play a major role in combating corruption and establishing a more democratic system, but the country and its leaders certainly seem to be moving in the right direction. **G**

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By Steve Towns

Ideas Worth Importing

These best e-government practices aren't from this side of the pond.

The U.S. may have invented the Internet and pioneered what's now known as e-government, but we haven't cornered the market on good ideas. Just ask Theresa Pardo, director of the State University of New York's Center for Technology in Government. Pardo, who routinely advises foreign governments on tech-related issues, says governments the world over are grappling with the same issues, including transparency and citizen services. As a result, a lot of good ideas come from abroad.

This past October, the center hosted a global conference on public-sector technology that drew more than 300 leaders from more than 50 countries. A number of best e-gov practices emerged during the three-day conference, and I asked Pardo to share a few of her favorites. Her picks run the gambit from educational applications to immigration issues:

- In the oil-rich, Mideast nation of Oman, primary and secondary education is free and widely available. But higher education isn't as accessible—at least not yet. Oman's Ministry of Education recently created a Web portal that gives students a central location for applying to the nation's colleges and universities. Among other things, the portal—the Higher Education Admission Center—was designed to give all applicants a fair shot at attending college, regardless of social status or where they live. To do that, the ministry created a standard admissions procedure for all higher education institutions and put everything related to college admissions online, eliminating the need to apply in person or have inside knowledge to navigate the process. The site awards college placement based on students' exam results and educational interest.
- Different terminology and measuring methods make data analysis a challenge anywhere. In Austria, the federal government wants to make that easier. That's why they've undertaken a project to establish a common "data language." Already, the Austrian federal government has developed standard data descriptions that must be used by states, ministries and agencies that contribute to the country's open data Web portal. These common descriptions—known as metadata—are crucial to the usability of the data, providing details like what subjects the data covers, the language in which it's written and how it was collected. While the concept may seem obvious, it's not easy to get multiple data contributors to agree to common terms. With the federal standards now in place, Austria is working on standardization agreements with Germany and Switzerland, which would make the Austrian portal a single source for comparable government data from all three nations.

This survey tool gauges opinion on E.U. immigration policies.

- In the European Union, immigration policy is largely set by each country. For that reason, it's not very coherent. That's where Puzzled by Policy comes into play. It's a website created by a coalition of European organizations to explain and engage citizens in the development of a more unified E.U. immigration policy. The site offers interactive and multimedia content that explains immigration issues and lets users voice their own opinions. For instance, an online poll gathers opinions on a series of immigration topics and then gives users a report on how their views compare to those of E.U. policymakers. Citizens can easily embed the survey tool in their own Facebook pages and blogs to prompt broader discussion. Poll results are forwarded to policymakers, who also are encouraged to participate in live online forums hosted by the site.
- For every kid who walks to and from school, there's a set of parents who worry about that kid's safety. Feet First, a website created by the New Zealand Transport Agency, aims to keep kids safer as they walk to school. The site offers safety-related course materials for teachers and collects student-submitted stories—all aimed at raising awareness of potential hazards. One of its more interesting activities is an annual competition for primary and secondary students. Kids submit multimedia depictions of how to make their journey to school safer, and the winners—and their schools—get cash prizes.

These sites have been tailored to meet the needs of their specific users, but the concepts are universal. School safety, educational equality and government transparency are critical issues for U.S. policymakers. Given those realities, there may very well be some ideas on this list worth importing. **G**

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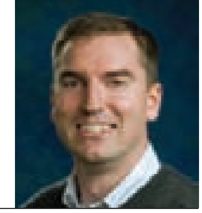
By Justin Marlowe



Will They Buy?

The future of municipal bonds may lie in the hands of investors from abroad.

There's a reason state and local governments are telling their voters how many roads, bridges and schools they may not be able to build. President Obama—as well as a clutch of members of Congress—has proposed scaling back the federal tax exemption for municipal bonds. Should that happen, states and localities fear they will face higher borrowing costs on the muni bonds they issue.

Ironically, if we want to understand how this proposed change might actually affect state and local governments, we should look to investors in other countries. Foreign investors matter to the municipal bond market for two reasons, one indirect and one direct.

Interest rates on U.S. Treasury bonds (or "Treasury yields") have sat at record low levels for nearly five years. For this, we can mostly thank foreign investors. According to the Federal Reserve's Flow of Funds statistics, as of the third quarter of 2012 a class of investors known (somewhat mysteriously) as the "Rest of the World" holds $5.5 trillion in U.S. Treasury bonds. That's roughly 48 percent of all the $11.3 trillion in outstanding Treasuries, up from just over 30 percent of $3.6 trillion in 2002. Each time the Treasury has needed to borrow more money, foreign investors—particularly from China and Japan, who currently hold about $1.1 trillion each—have been happy to write the check.

Treasury yields are a key benchmark for yields on municipal bonds. Predictably, municipal bonds have also sold at record low yields during this same period.

Meanwhile, international investors have also snatched up mass quantities of municipal bonds. According to those same Flow of Funds numbers, the Rest of the World tripled its holdings of municipal bonds during the past six years, from $29 billion in 2005 to $91 billion in the third quarter of 2012. That $91 billion is almost 5 percent of all the municipal bonds not held by U.S. households. By some estimates this growth in direct foreign holdings, while still a small portion of the overall municipal market, has propped up demand for municipal bonds. The net effect for state and local governments has been billions of dollars saved through lower borrowing costs.

It's counterintuitive that foreign investors—most of whom don't pay U.S. federal income taxes—have become so intrigued with bonds whose main advantage is an exemption from federal income taxes. But it makes sense when we consider the outsized influence of the Build America Bonds (BABs) program. This now defunct program was designed to draw investors who don't typically benefit from the tax exemption into the municipal market. The concept was simple: Instead of subsidizing tax-exempt bond investors, the U.S. Treasury paid a subsidy to states and municipalities that sold taxable bonds. BABs were tailor-made for foreign investors. They offered yields much higher than traditional municipal bonds, but with little to no additional credit risk. Not surprisingly, many foreign investors ramped up their municipal holdings in the form of BABs.

All this suggests that if the federal government tweaks the municipal bond tax exemption, one of the key questions going forward is: Will foreign investors continue their love affair with U.S. government debt? Some think not. As Bill Gross, co-founder of the enormous bond fund PIMCO, has said, foreign investors are buying U.S. government debt because we are the "cleanest dirty shirt" in the world. But this could change quickly. If the governments of Asian and European countries can address their own fiscal problems, investors in those countries might shift their money back home. U.S. interest rates would rise in response, and without the federal exemption, state and local governments could face much higher long-term borrowing costs.

On the other hand, the BABs experiment shows us that foreign investors will buy lots of municipal bonds if the circumstances are right. If municipal bonds become taxable in part or in whole, the circumstances might be more right than ever. Foreign investors might bolster demand and drive down yields. In that case, foreign investors can make losing some or all of the muni exemption a difficult but more manageable challenge for states and localities and the roads, bridges and schools they hope to build. **G**

> "Foreign investors tripled their holdings of municipal bonds during the past six years. That $91 billion is almost 5 percent of all the municipal bonds not held by U.S. households."

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Last Look

CHINAFOTOPRESS/GETTY IMAGES

When 67-year-old Chinese duck farmer Luo Baogen and his wife last fall refused to vacate their home to make way for a new highway, officials decided to build the new road anyway. Photos of Luo's home spread on Chinese social media sites and became a symbol of protest against forced property demolitions. As urbanization in China has increased in recent years, such demolitions have become more common—and more controversial. In December, however, Luo agreed to accept the compensation offered by authorities (roughly $41,000, less than half of what Luo had recently spent to build the just-completed home) and move out. His house has since been demolished. **—Zach Patton**

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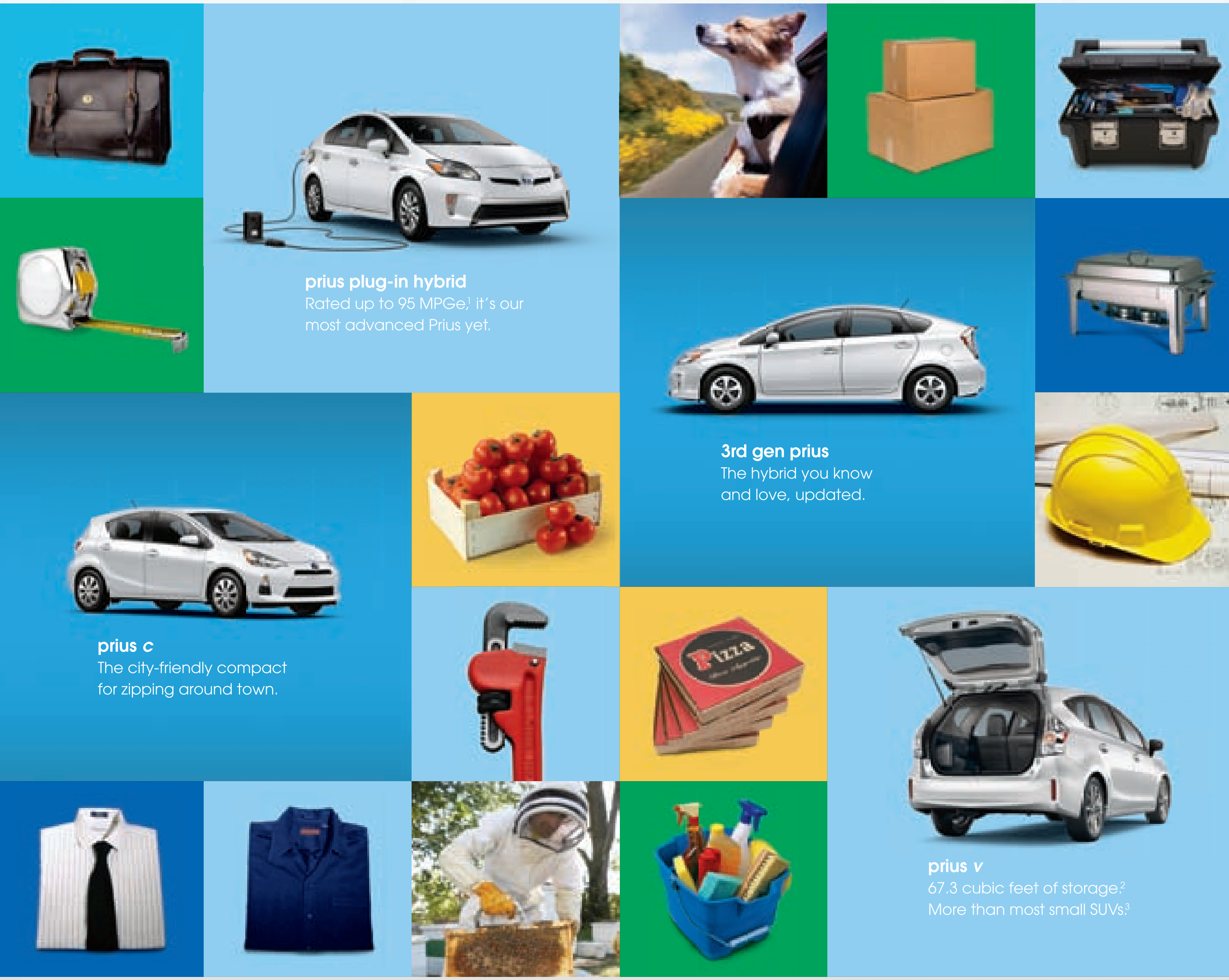

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